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## L

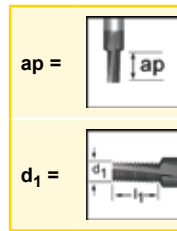
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|      | T100                                                                                | T101                                                                                | T110                                                                                | T105                                                                                | T106                                                                                | T115                                                                                | T116                                                                                | T120                                                                                |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | MF                                                                                  |
|      |    |    |    |    |    |    |    |    |
|      | HM                                                                                  | HM                                                                                  | HM                                                                                  | HM                                                                                  | HM                                                                                  | HM                                                                                  | HM                                                                                  | HM                                                                                  |
|      | TiAlN                                                                               | TiAlN Top                                                                           | TiAlN                                                                               |                                                                                     |                                                                                     | TiCN                                                                                | TiCN                                                                                | TiAlN Top                                                                           |
|      | DIN 371                                                                             | DIN 371±10<br>376±12                                                                | DIN 371                                                                             | DIN 371±10<br>376±12                                                                | DIN 371±10<br>376±12                                                                | DIN 2174                                                                            | DIN 2174                                                                            | DIN 374                                                                             |
|      |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |
|      | 6H                                                                                  | 6HX                                                                                 | 6HX                                                                                 | 6H                                                                                  | 6H                                                                                  | 6HX                                                                                 | 6HX                                                                                 | 6HX                                                                                 |
|      | 2xD                                                                                 | 2.5xD                                                                               | 2xD                                                                                 | 2xD                                                                                 | 3xD                                                                                 | 3xD                                                                                 | 3xD                                                                                 | 2.5xD                                                                               |
|      | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               |
|      |  |  |  |  |  |  |  |  |
|      |                                                                                     |  |                                                                                     |                                                                                     |  |                                                                                     |  |  |
|      | M3 - M12                                                                            | M5 - M16                                                                            | M3 - M12                                                                            | M3 - M12                                                                            | M5 - M12                                                                            | M3 - M10                                                                            | M5 - M12                                                                            | M8 - M14                                                                            |
|      |                                                                                     | <b>NEW</b><br>2007.09                                                               |                                                                                     | <b>NEW</b><br>2007.09                                                               | <b>NEW</b><br>2007.09                                                               | <b>NEW</b><br>2007.09                                                               | <b>NEW</b><br>2007.09                                                               | <b>NEW</b><br>2007.09                                                               |
|      | 262                                                                                 | 263                                                                                 | 264                                                                                 | 265                                                                                 | 266                                                                                 | 267                                                                                 | 268                                                                                 | 269                                                                                 |
| 1.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■60                                                                                 | ■60                                                                                 |                                                                                     |
| 1.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■60                                                                                 | ■60                                                                                 |                                                                                     |
| 1.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■60                                                                                 | ■60                                                                                 |                                                                                     |
| 1.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■40                                                                                 | ■40                                                                                 |                                                                                     |
| 1.5  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■30                                                                                 | ■30                                                                                 |                                                                                     |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 1.7  | ■6                                                                                  |                                                                                     | ●6                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 1.8  | ●4                                                                                  |                                                                                     | ■4                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■25                                                                                 | ■25                                                                                 |                                                                                     |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■25                                                                                 | ■25                                                                                 |                                                                                     |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■25                                                                                 | ■25                                                                                 |                                                                                     |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●25                                                                                 | ●25                                                                                 |                                                                                     |
| 3.1  | ●60                                                                                 | ■60                                                                                 |                                                                                     | ●40                                                                                 | ●40                                                                                 |                                                                                     |                                                                                     | ■60                                                                                 |
| 3.2  | ●30                                                                                 | ■25                                                                                 |                                                                                     | ●15                                                                                 | ●15                                                                                 |                                                                                     |                                                                                     | ■25                                                                                 |
| 3.3  |                                                                                     | ●38                                                                                 |                                                                                     | ■25                                                                                 | ■25                                                                                 |                                                                                     |                                                                                     | ●38                                                                                 |
| 3.4  |                                                                                     | ●33                                                                                 |                                                                                     | ■15                                                                                 | ■15                                                                                 |                                                                                     |                                                                                     | ●33                                                                                 |
| 4.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 5.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■35                                                                                 | ■35                                                                                 |                                                                                     |
| 5.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●15                                                                                 | ●15                                                                                 |                                                                                     |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 6.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●40                                                                                 | ●40                                                                                 |                                                                                     |
| 6.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 6.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●81                                                                                 | ●81                                                                                 |                                                                                     |
| 6.4  | ●7                                                                                  | ●10                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 |
| 7.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■70                                                                                 | ■70                                                                                 |                                                                                     |
| 7.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■80                                                                                 | ■80                                                                                 |                                                                                     |
| 7.3  |                                                                                     | ●50                                                                                 |                                                                                     | ■35                                                                                 | ■35                                                                                 | ■80                                                                                 | ■80                                                                                 | ●50                                                                                 |
| 7.4  | ●60                                                                                 | ■40                                                                                 |                                                                                     | ■30                                                                                 | ■30                                                                                 |                                                                                     |                                                                                     | ■40                                                                                 |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 8.2  | ●50                                                                                 | ●25                                                                                 |                                                                                     | ●25                                                                                 | ●25                                                                                 |                                                                                     |                                                                                     | ●25                                                                                 |
| 8.3  | ●30                                                                                 | ●15                                                                                 |                                                                                     | ●15                                                                                 | ●15                                                                                 |                                                                                     |                                                                                     | ●15                                                                                 |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 10.1 | ●25                                                                                 | ■25                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■25                                                                                 |

|      | J100                                                                              | J105                                                                                | J110                                                                              | J115                                                                                | J101                                                                              | J500                                                                                | J120                                                                              | J125                                                                                | J135                                                                                | J145                                                                                 | J160                                                                                | J170                                                                                | J180                                                                                |
|------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|      | M                                                                                 | M                                                                                   | M                                                                                 | M                                                                                   | M                                                                                 | M/MF                                                                                | MF                                                                                | MF                                                                                  | UNC                                                                                 | UNF                                                                                  | NPT                                                                                 | NPTF                                                                                | G                                                                                   |
|      |  |    |  |    |  |    |  |    |    |    |  |  |  |
|      | HM                                                                                | HM                                                                                  | HM                                                                                | HM                                                                                  | HM                                                                                | HM                                                                                  | HM                                                                                | HM                                                                                  | HM                                                                                  | HM                                                                                   | HM                                                                                  | HM                                                                                  | HM                                                                                  |
|      | TiAIN                                                                             | TiAIN                                                                               | TiAIN                                                                             | TiAIN                                                                               | TiAIN                                                                             | TiAIN                                                                               | TiAIN                                                                             | TiAIN                                                                               | TiAIN                                                                               | TiAIN                                                                                | TiAIN                                                                               | TiAIN                                                                               | TiAIN                                                                               |
|      | D                                                                                 | D                                                                                   | D                                                                                 | D                                                                                   | D                                                                                 | D                                                                                   | D                                                                                 | D                                                                                   | D                                                                                   | D                                                                                    | D                                                                                   | D                                                                                   | D                                                                                   |
|      | 2xD                                                                               | 2xD                                                                                 | 2xD                                                                               | 2xD                                                                                 | 1.5xD                                                                             | 2xD                                                                                 | 1.5xD                                                                             | 1.5xD                                                                               | 2xD                                                                                 | 2xD                                                                                  |                                                                                     |                                                                                     | 1.5xD                                                                               |
|      | 19°                                                                               | 19°                                                                                 | 21°                                                                               | 21°                                                                                 | 19°                                                                               |                                                                                     | 19°                                                                               | 19°                                                                                 | 19°                                                                                 | 19°                                                                                  | 19°                                                                                 | 19°                                                                                 | 19°                                                                                 |
|      | DN 8535 HA                                                                        | DN 8535 HB                                                                          | DN 8535 HA                                                                        | DN 8535 HA                                                                          | DN 8535 HA                                                                        | DN 8535 HA                                                                          | DN 8535 HA                                                                        | DN 8535 HB                                                                          | DN 8535 HB                                                                          | DN 8535 HB                                                                           | DN 8535 HB                                                                          | DN 8535 HB                                                                          | DN 8535 HA                                                                          |
|      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |  |  |                                                                                     |                                                                                     |                                                                                     |
|      | 4.0 - 16.0                                                                        | 8.0 - 16.0                                                                          | 6.0 - 16.0                                                                        | 6.0 - 16.0                                                                          | 6.0 - 16.0                                                                        | 5.0 - 16.0                                                                          | 6.0 - 24.0                                                                        | 10.0 - 24.0                                                                         | 1/4 - 3/4                                                                           | 1/4 - 3/4                                                                            | 1/8 - 1"                                                                            | 1/8 - 1"                                                                            | 1/8 - 1"                                                                            |
|      |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                     |                                                                                      |                                                                                     |                                                                                     |                                                                                     |
|      |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                     |                                                                                      |                                                                                     |                                                                                     |                                                                                     |
|      |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                     |                                                                                      |                                                                                     |                                                                                     |                                                                                     |
|      | 270                                                                               | 271                                                                                 | 272                                                                               | 273                                                                                 | 274                                                                               | 275                                                                                 | 276                                                                               | 277                                                                                 | 278                                                                                 | 279                                                                                  | 280                                                                                 | 282                                                                                 | 282                                                                                 |
| 1.1  | ■170B                                                                             | ■170B                                                                               | ■175B                                                                             | ■175B                                                                               |                                                                                   |                                                                                     | ■170B                                                                             | ■170B                                                                               | ■170B                                                                               | ■170B                                                                                | ■170B                                                                               | ■170B                                                                               | ■170B                                                                               |
| 1.2  | ■170B                                                                             | ■170B                                                                               | ■175B                                                                             | ■175B                                                                               |                                                                                   |                                                                                     | ■170B                                                                             | ■170B                                                                               | ■170B                                                                               | ■170B                                                                                | ■170B                                                                               | ■170B                                                                               | ■170B                                                                               |
| 1.3  | ■140B                                                                             | ■140B                                                                               | ■145B                                                                             | ■145B                                                                               |                                                                                   |                                                                                     | ■140B                                                                             | ■140B                                                                               | ■140B                                                                               | ■140B                                                                                | ■140B                                                                               | ■140B                                                                               | ■140B                                                                               |
| 1.4  | ■130B                                                                             | ■130B                                                                               | ■135B                                                                             | ■135B                                                                               |                                                                                   |                                                                                     | ■130B                                                                             | ■130B                                                                               | ■130B                                                                               | ■130B                                                                                | ■130B                                                                               | ■130B                                                                               | ■130B                                                                               |
| 1.5  | ■100B                                                                             | ■100B                                                                               | ■105B                                                                             | ■105B                                                                               |                                                                                   |                                                                                     | ■100B                                                                             | ■100B                                                                               | ■100B                                                                               | ■100B                                                                                | ■100B                                                                               | ■100B                                                                               | ■100B                                                                               |
| 1.6  | ■80B                                                                              | ■80B                                                                                | ■85B                                                                              | ■85B                                                                                |                                                                                   |                                                                                     | ■80B                                                                              | ■80B                                                                                | ■80B                                                                                | ■80B                                                                                 | ■80B                                                                                | ■80B                                                                                | ■80B                                                                                |
| 1.7  | ●50A                                                                              | ●50A                                                                                | ●50A                                                                              | ●50A                                                                                | ■50A                                                                              |                                                                                     | ●50A                                                                              | ●50A                                                                                | ●50A                                                                                | ●50A                                                                                 | ●50A                                                                                | ●50A                                                                                | ●50A                                                                                |
| 1.8  | ●30A                                                                              | ●30A                                                                                | ●30A                                                                              | ●30A                                                                                | ■30A                                                                              |                                                                                     | ●30A                                                                              | ●30A                                                                                | ●30A                                                                                | ●30A                                                                                 | ●30A                                                                                | ●30A                                                                                | ●30A                                                                                |
| 2.1  | ●50A                                                                              | ■50A                                                                                | ●50A                                                                              | ●50A                                                                                |                                                                                   |                                                                                     | ●50A                                                                              | ■50A                                                                                | ■50A                                                                                | ■50A                                                                                 | ■50A                                                                                | ●50A                                                                                | ●50A                                                                                |
| 2.2  | ●40A                                                                              | ■40A                                                                                | ●40A                                                                              | ●40A                                                                                |                                                                                   |                                                                                     | ●40A                                                                              | ■40A                                                                                | ■40A                                                                                | ■40A                                                                                 | ■40A                                                                                | ●40A                                                                                | ●40A                                                                                |
| 2.3  | ●30A                                                                              | ■30A                                                                                | ●30A                                                                              | ●30A                                                                                |                                                                                   |                                                                                     | ●30A                                                                              | ■30A                                                                                | ■30A                                                                                | ■30A                                                                                 | ■30A                                                                                | ●30A                                                                                | ●30A                                                                                |
| 2.4  |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                     |                                                                                      |                                                                                     |                                                                                     |                                                                                     |
| 3.1  | ■150B                                                                             | ■150B                                                                               | ■155B                                                                             | ■155B                                                                               |                                                                                   |                                                                                     | ■150B                                                                             | ■150B                                                                               | ■150B                                                                               | ■150B                                                                                | ■150B                                                                               | ■150B                                                                               | ■150B                                                                               |
| 3.2  | ■130B                                                                             | ■130B                                                                               | ■135B                                                                             | ■135B                                                                               |                                                                                   |                                                                                     | ■130B                                                                             | ■130B                                                                               | ■130B                                                                               | ■130B                                                                                | ■130B                                                                               | ■130B                                                                               | ■130B                                                                               |
| 3.3  | ■150B                                                                             | ■150B                                                                               | ■155B                                                                             | ■155B                                                                               |                                                                                   |                                                                                     | ■150B                                                                             | ■150B                                                                               | ■150B                                                                               | ■150B                                                                                | ■150B                                                                               | ■150B                                                                               | ■150B                                                                               |
| 3.4  | ■120B                                                                             | ■120B                                                                               | ■125B                                                                             | ■125B                                                                               |                                                                                   |                                                                                     | ■120B                                                                             | ■120B                                                                               | ■120B                                                                               | ■120B                                                                                | ■120B                                                                               | ■120B                                                                               | ■120B                                                                               |
| 4.1  | ■170B                                                                             | ■170B                                                                               | ■175B                                                                             | ■175B                                                                               |                                                                                   |                                                                                     | ■170B                                                                             | ■170B                                                                               | ■170B                                                                               | ■170B                                                                                | ■170B                                                                               | ■170B                                                                               | ■170B                                                                               |
| 4.2  | ■80B                                                                              | ■80B                                                                                | ■80B                                                                              | ■80B                                                                                |                                                                                   |                                                                                     | ■80B                                                                              | ■80B                                                                                | ■80B                                                                                | ■80B                                                                                 | ■80B                                                                                | ■80B                                                                                | ■80B                                                                                |
| 4.3  | ■50B                                                                              | ■50B                                                                                | ■50B                                                                              | ■50B                                                                                |                                                                                   |                                                                                     | ■50B                                                                              | ■50B                                                                                | ■50B                                                                                | ■50B                                                                                 | ■50B                                                                                | ■50B                                                                                | ■50B                                                                                |
| 5.1  | ●250B                                                                             | ■250B                                                                               | ●250B                                                                             | ●255B                                                                               |                                                                                   |                                                                                     | ●250B                                                                             | ■250B                                                                               | ■250B                                                                               | ■250B                                                                                | ●250B                                                                               | ●250B                                                                               | ●250B                                                                               |
| 5.2  | ●40A                                                                              | ■40A                                                                                | ●40A                                                                              | ●40A                                                                                |                                                                                   |                                                                                     | ●40A                                                                              | ■40A                                                                                | ■40A                                                                                | ■40A                                                                                 | ●40A                                                                                | ●40A                                                                                | ●40A                                                                                |
| 5.3  | ●25A                                                                              | ■25A                                                                                | ●25A                                                                              | ●25A                                                                                | ●25A                                                                              |                                                                                     | ●25A                                                                              | ■25A                                                                                | ■25A                                                                                | ■25A                                                                                 | ●25A                                                                                | ●25A                                                                                | ●25A                                                                                |
| 6.1  | ■400B                                                                             | ■400B                                                                               | ■405B                                                                             | ■405B                                                                               |                                                                                   | ●200H                                                                               | ■400B                                                                             | ■400B                                                                               | ■400B                                                                               | ■400B                                                                                | ■400B                                                                               | ■400B                                                                               | ■400B                                                                               |
| 6.2  | ■400B                                                                             | ■400B                                                                               | ■405B                                                                             | ■405B                                                                               |                                                                                   |                                                                                     | ■400B                                                                             | ■400B                                                                               | ■400B                                                                               | ■400B                                                                                | ■400B                                                                               | ■400B                                                                               | ■400B                                                                               |
| 6.3  | ■400B                                                                             | ■400B                                                                               | ■405B                                                                             | ■405B                                                                               |                                                                                   |                                                                                     | ■400B                                                                             | ■400B                                                                               | ■400B                                                                               | ■400B                                                                                | ■400B                                                                               | ■400B                                                                               | ■400B                                                                               |
| 6.4  | ■60A                                                                              | ■60A                                                                                | ■60A                                                                              | ■60A                                                                                |                                                                                   |                                                                                     | ■60A                                                                              | ■60A                                                                                | ■60A                                                                                | ■60A                                                                                 | ■60A                                                                                | ■60A                                                                                | ■60A                                                                                |
| 7.1  | ■800C                                                                             | ■800C                                                                               | ■805C                                                                             | ■805C                                                                               |                                                                                   | ■270H                                                                               | ■800C                                                                             | ■800C                                                                               | ■800C                                                                               | ■800C                                                                                | ■800C                                                                               | ■800C                                                                               | ■800C                                                                               |
| 7.2  | ■800C                                                                             | ■800C                                                                               | ■805C                                                                             | ■805C                                                                               |                                                                                   | ■270H                                                                               | ■800C                                                                             | ■800C                                                                               | ■800C                                                                               | ■800C                                                                                | ■800C                                                                               | ■800C                                                                               | ■800C                                                                               |
| 7.3  | ■700C                                                                             | ■700C                                                                               | ■705C                                                                             | ■705C                                                                               |                                                                                   | ■240H                                                                               | ■700C                                                                             | ■700C                                                                               | ■700C                                                                               | ■700C                                                                                | ■700C                                                                               | ■700C                                                                               | ■700C                                                                               |
| 7.4  | ■340B                                                                             | ■340B                                                                               | ■345B                                                                             | ■345B                                                                               | ■340B                                                                             |                                                                                     | ■340B                                                                             | ■340B                                                                               | ■340B                                                                               | ■340B                                                                                | ■340B                                                                               | ■340B                                                                               | ■340B                                                                               |
| 8.1  | ■340C                                                                             | ■340C                                                                               | ■345C                                                                             | ■345C                                                                               |                                                                                   |                                                                                     | ■340C                                                                             | ■340C                                                                               | ■340C                                                                               | ■340C                                                                                | ■340C                                                                               | ■340C                                                                               | ■340C                                                                               |
| 8.2  | ■210C                                                                             | ■210C                                                                               | ■215C                                                                             | ■215C                                                                               | ■210C                                                                             |                                                                                     | ■210C                                                                             | ■210C                                                                               | ■210C                                                                               | ■210C                                                                                | ■210C                                                                               | ■210C                                                                               | ■210C                                                                               |
| 8.3  | ■180C                                                                             | ■180C                                                                               | ■185C                                                                             | ■185C                                                                               | ■180C                                                                             |                                                                                     | ■180C                                                                             | ■180C                                                                               | ■180C                                                                               | ■180C                                                                                | ■180C                                                                               | ■180C                                                                               | ■180C                                                                               |
| 9.1  |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                   |                                                                                     |                                                                                     |                                                                                      |                                                                                     |                                                                                     |                                                                                     |
| 10.1 | ●200C                                                                             | ●200C                                                                               | ●210C                                                                             | ●205C                                                                               | ■200C                                                                             |                                                                                     | ●200C                                                                             | ●200C                                                                               | ●200C                                                                               | ●200C                                                                                | ●200C                                                                               | ●200C                                                                               | ●200C                                                                               |



| <b>M</b> |                           |                           |                           |                           |                           |                           |
|----------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Ø        | A                         |                           | B                         |                           | C                         |                           |
|          | ap=<br>1 x d <sub>1</sub> | ap=<br>2 x d <sub>1</sub> | ap=<br>1 x d <sub>1</sub> | ap=<br>2 x d <sub>1</sub> | ap=<br>1 x d <sub>1</sub> | ap=<br>2 x d <sub>1</sub> |
| 3,2      | 0,010                     | 0,005                     | 0,011                     | 0,006                     | 0,017                     | 0,012                     |
| 4,1      | 0,009                     | 0,007                     | 0,012                     | 0,008                     | 0,014                     | 0,011                     |
| 4,8      | 0,012                     | 0,009                     | 0,015                     | 0,010                     | 0,017                     | 0,014                     |
| 6,5      | 0,017                     | 0,014                     | 0,027                     | 0,017                     | 0,030                     | 0,025                     |
| 8,2      | 0,021                     | 0,018                     | 0,034                     | 0,029                     | 0,040                     | 0,033                     |
| 9,9      | 0,024                     | 0,020                     | 0,039                     | 0,024                     | 0,048                     | 0,032                     |
| 11,6     | 0,031                     | 0,025                     | 0,050                     | 0,031                     | 0,059                     | 0,035                     |
| 13,6     | 0,039                     | 0,032                     | 0,062                     | 0,051                     | 0,071                     | 0,048                     |
| 16       | 0,061                     | 0,033                     | 0,064                     | 0,036                     | 0,066                     | 0,033                     |
| 19       | 0,085                     | 0,044                     | 0,089                     | 0,048                     | 0,095                     | 0,044                     |



| <b>MF</b>      |      |                             |                             |                             |                             |                             |                             |
|----------------|------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| d <sub>1</sub> | P    | A                           |                             | B                           |                             | C                           |                             |
|                |      | ap=<br>3/4 x d <sub>1</sub> | ap=<br>1,5 x d <sub>1</sub> | ap=<br>3/4 x d <sub>1</sub> | ap=<br>1,5 x d <sub>1</sub> | ap=<br>3/4 x d <sub>1</sub> | ap=<br>1,5 x d <sub>1</sub> |
| 4,8            | 0,5  | 0,017                       | 0,014                       | 0,022                       | 0,018                       | 0,025                       | 0,021                       |
| 6              | 0,75 | 0,023                       | 0,018                       | 0,033                       | 0,027                       | 0,037                       | 0,030                       |
| 6              | 1    | 0,020                       | 0,016                       | 0,029                       | 0,023                       | 0,032                       | 0,026                       |
| 8              | 1    | 0,025                       | 0,020                       | 0,041                       | 0,033                       | 0,045                       | 0,037                       |
| 10             | 1    | 0,034                       | 0,028                       | 0,055                       | 0,045                       | 0,069                       | 0,056                       |
| 10             | 1,5  | 0,028                       | 0,023                       | 0,045                       | 0,037                       | 0,056                       | 0,046                       |
| 12             | 1    | 0,048                       | 0,039                       | 0,077                       | 0,065                       | 0,077                       | 0,075                       |
| 12             | 1,5  | 0,040                       | 0,032                       | 0,065                       | 0,053                       | 0,076                       | 0,062                       |
| 14             | 1    | 0,060                       | 0,049                       | 0,084                       | 0,079                       | 0,084                       | 0,084                       |
| 14             | 1,5  | 0,049                       | 0,040                       | 0,079                       | 0,064                       | 0,084                       | 0,074                       |
| 16             | 2    | 0,050                       | 0,041                       | 0,082                       | 0,066                       | 0,089                       | 0,077                       |
| 20             | 2    | 0,067                       | 0,055                       | 0,100                       | 0,093                       | 0,100                       | 0,100                       |

| <b>M</b>    |                           |                           |
|-------------|---------------------------|---------------------------|
| <b>MF</b>   |                           |                           |
| <b>J500</b> |                           |                           |
| Ø           | H                         |                           |
|             | ap=<br>1 x d <sub>1</sub> | ap=<br>2 x d <sub>1</sub> |
| 4,1         | 0,035                     | 0,031                     |
| 4,8         | 0,035                     | 0,032                     |
| 6,5         | 0,045                     | 0,040                     |
| 8,2         | 0,056                     | 0,045                     |
| 9,9         | 0,067                     | 0,062                     |
| 13,6        | 0,170                     | 0,157                     |

| UNC            |    |                           |                           |  |                           |                           |                           |
|----------------|----|---------------------------|---------------------------|-------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|
|                |    | A                         |                           | B                                                                                   |                           | C                         |                           |
|                |    | ap=<br>1 x d <sub>1</sub> | ap=<br>2 x d <sub>1</sub> | ap=<br>1 x d <sub>1</sub>                                                           | ap=<br>2 x d <sub>1</sub> | ap=<br>1 x d <sub>1</sub> | ap=<br>2 x d <sub>1</sub> |
| d <sub>1</sub> | P  |                           |                           |                                                                                     |                           |                           |                           |
| 4,8            | 20 | 0,003                     | 0,003                     | 0,012                                                                               | 0,006                     | 0,029                     | 0,014                     |
| 5,5            | 18 | 0,004                     | 0,003                     | 0,017                                                                               | 0,009                     | 0,041                     | 0,023                     |
| 7,5            | 16 | 0,008                     | 0,005                     | 0,029                                                                               | 0,016                     | 0,056                     | 0,043                     |
| 8              | 14 | 0,008                     | 0,006                     | 0,031                                                                               | 0,018                     | 0,060                     | 0,049                     |
| 10             | 13 | 0,009                     | 0,007                     | 0,040                                                                               | 0,032                     | 0,071                     | 0,071                     |
| 10             | 12 | 0,008                     | 0,006                     | 0,038                                                                               | 0,029                     | 0,071                     | 0,069                     |
| 12             | 11 | 0,009                     | 0,007                     | 0,036                                                                               | 0,026                     | 0,077                     | 0,077                     |
| 14             | 10 | 0,010                     | 0,008                     | 0,060                                                                               | 0,043                     | 0,084                     | 0,084                     |

|  |                           |                           |  |                           |                           |                           |
|-------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|
|                                                                                     | A                         |                           | B                                                                                     |                           | C                         |                           |
|                                                                                     | ap=<br>1 x d <sub>1</sub> | ap=<br>2 x d <sub>1</sub> | ap=<br>1 x d <sub>1</sub>                                                             | ap=<br>2 x d <sub>1</sub> | ap=<br>1 x d <sub>1</sub> | ap=<br>2 x d <sub>1</sub> |
| d <sub>1</sub>                                                                      |                           |                           |                                                                                       |                           |                           |                           |
| 4,8                                                                                 | 0,004                     | 0,003                     | 0,016                                                                                 | 0,008                     | 0,034                     | 0,021                     |
| 6                                                                                   | 0,006                     | 0,004                     | 0,028                                                                                 | 0,016                     | 0,055                     | 0,045                     |
| 8                                                                                   | 0,013                     | 0,007                     | 0,037                                                                                 | 0,025                     | 0,063                     | 0,058                     |
| 10                                                                                  | 0,022                     | 0,011                     | 0,046                                                                                 | 0,038                     | 0,071                     | 0,071                     |
| 14                                                                                  | 0,036                     | 0,018                     | 0,075                                                                                 | 0,061                     | 0,084                     | 0,084                     |

|  |                    |  |                    |                    |                    |                    |  |
|-------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------|--------------------|--------------------|--------------------|--------------------|--|
|                                                                                     |                    | A                                                                                   |                    | B                  |                    | C                  |  |
|                                                                                     | ap=                | ap=                                                                                 | ap=                | ap=                | ap=                | ap=                |  |
| d <sub>1</sub>                                                                      | 1 x d <sub>1</sub> | 2 x d <sub>1</sub>                                                                  | 1 x d <sub>1</sub> | 2 x d <sub>1</sub> | 1 x d <sub>1</sub> | 2 x d <sub>1</sub> |  |
| 3,2                                                                                 | 0,010              | 0,005                                                                               | 0,011              | 0,006              | 0,017              | 0,012              |  |
| 4,1                                                                                 | 0,009              | 0,007                                                                               | 0,012              | 0,008              | 0,014              | 0,011              |  |
| 4,8                                                                                 | 0,012              | 0,009                                                                               | 0,015              | 0,010              | 0,017              | 0,014              |  |
| 6,5                                                                                 | 0,017              | 0,014                                                                               | 0,027              | 0,017              | 0,030              | 0,025              |  |
| 16                                                                                  | 0,061              | 0,033                                                                               | 0,064              | 0,036              | 0,066              | 0,033              |  |
| 19                                                                                  | 0,085              | 0,044                                                                               | 0,089              | 0,048              | 0,095              | 0,044              |  |

| <b>NPT NPTF</b> |          |       |       |       |
|-----------------|----------|-------|-------|-------|
| d <sub>1</sub>  | Ap=      | A     | B     | C     |
| 7,9             | Standard | 0,026 | 0,044 | 0,069 |
| 9,9             | Standard | 0,029 | 0,046 | 0,070 |
| 15,9            | Standard | 0,053 | 0,087 | 0,089 |
| 19,9            | Standard | 0,064 | 0,1   | 0,1   |

- Strojní závitníky
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- strojni navojni sveder



## T100

bez krčku / áteső szárú / bez przewężenia chwytu / fara gat / без занижения / brez vratu na steblu



- 1.7
- 1.8 3.1 3.2 6.4 7.4 8.2 8.3 10.1

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | e-Code  |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|---------|
| 3  | 0.50    | 56                   | 10                   | 3.5                       | 2.7     | 6                    | 3 | 2.6  | T100M3  |
| 4  | 0.70    | 63                   | 13                   | 4.5                       | 3.4     | 6                    | 3 | 3.4  | T100M4  |
| 5  | 0.80    | 70                   | 16                   | 6                         | 4.9     | 8                    | 3 | 4.3  | T100M5  |
| 6  | 1.00    | 80                   | 20                   | 6                         | 4.9     | 8                    | 3 | 5.1  | T100M6  |
| 8  | 1.25    | 90                   | 25                   | 8                         | 6.2     | 9                    | 3 | 6.9  | T100M8  |
| 10 | 1.50    | 100                  | 30                   | 10                        | 8.0     | 11                   | 3 | 8.7  | T100M10 |
| 12 | 1.75    | 110                  | 36                   | 12                        | 9.0     | 12                   | 3 | 10.4 | T100M12 |

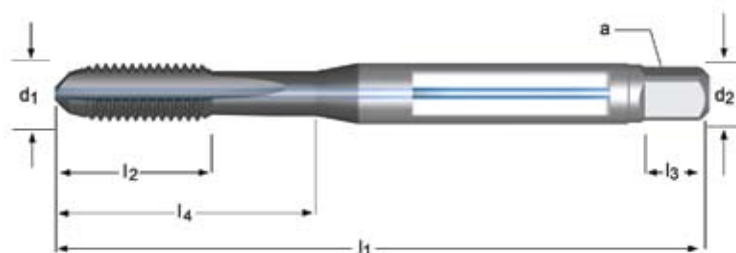
# T101

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

**NEW**

2007.09



T101



|   |     |     |     |      |     |     |
|---|-----|-----|-----|------|-----|-----|
| ■ | 3.1 | 3.2 | 7.4 | 10.1 |     |     |
| ● | 3.3 | 3.4 | 6.4 | 7.3  | 8.2 | 8.3 |

| M  | P    | $l_1$ | $l_2$ | $d_2$<br>Ø | $\square$<br>a | $l_3$ | z |       | $l_4$ | e-Code               |
|----|------|-------|-------|------------|----------------|-------|---|-------|-------|----------------------|
|    | mm   | mm    | mm    | mm         | mm             | mm    |   | ↔     | mm    |                      |
| 5  | 0.80 | 70    | 16    | 6          | 4.9            | 8     | 4 | 4.3   | 30    | T101M5 <sup>1)</sup> |
| 6  | 1.00 | 80    | 19    | 6          | 4.9            | 8     | 4 | 5.1   | 35    | T101M6               |
| 8  | 1.25 | 90    | 22    | 8          | 6.2            | 9     | 4 | 6.9   | 39    | T101M8               |
| 10 | 1.50 | 100   | 24    | 10         | 8.0            | 11    | 4 | 8.7   | 39    | T101M10              |
| 12 | 1.75 | 110   | 23    | 9          | 7.0            | 10    | 4 | 10.4  |       | T101M12              |
| 16 | 2.00 | 110   | 25    | 12         | 9.0            | 12    | 4 | 14.25 |       | T101M16              |

<sup>1)</sup> bez krčku / áteső szárú / bez przewężenia chwytu / fara gat / без занижения / brez vratu na stebłu

- Strojní závitníky
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- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## T110

<sup>1)</sup> bez krčku / áteső szárú / bez przewężenia chwytu / fara gat / без занижения / brez vratu na stebłu



■ 1.8  
● 1.7

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code  |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|------|---------|
| 3  | 0.50    | 56          | 10          | 3.5              | 2.7       | 6           | 4 | 2.6  | T110M3  |
| 4  | 0.70    | 63          | 13          | 4.5              | 3.4       | 6           | 5 | 3.4  | T110M4  |
| 5  | 0.80    | 70          | 16          | 6                | 4.9       | 8           | 5 | 4.3  | T110M5  |
| 6  | 1.00    | 80          | 20          | 6                | 4.9       | 8           | 5 | 5.1  | T110M6  |
| 8  | 1.25    | 90          | 25          | 8                | 6.2       | 9           | 5 | 6.9  | T110M8  |
| 10 | 1.50    | 100         | 30          | 10               | 8.0       | 11          | 5 | 8.7  | T110M10 |
| 12 | 1.75    | 110         | 36          | 12               | 9.0       | 12          | 6 | 10.4 | T110M12 |

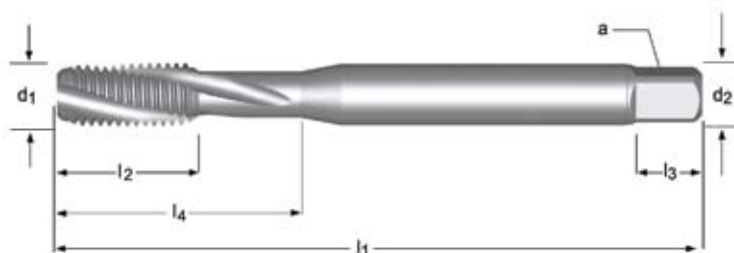
# T105

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

**NEW**

2007.09



T105



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.3 | 3.4 | 7.3 | 7.4 |
| ● | 3.1 | 3.2 | 8.2 | 8.3 |

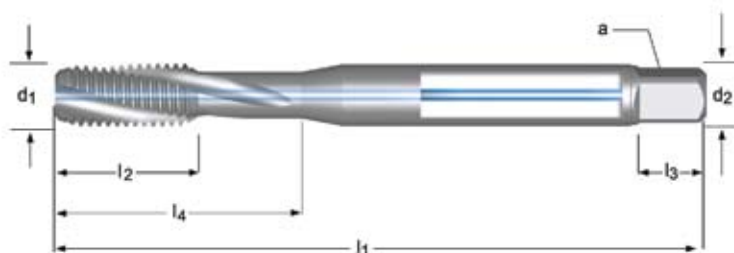
| M  | P    | $l_1$ | $l_2$ | $d_2$ | $\square$ | $l_3$ | $z$ | $\leftrightarrow$ | $l_4$ | e-Code               |
|----|------|-------|-------|-------|-----------|-------|-----|-------------------|-------|----------------------|
|    | mm   | mm    | mm    | mm    | a         | mm    |     |                   | mm    |                      |
| 3  | 0.50 | 56    | 10    | 3.5   | 2.7       | 6     | 3   | 2.6               |       | T105M3 <sup>1)</sup> |
| 4  | 0.70 | 63    | 13    | 4.5   | 3.4       | 6     | 3   | 3.4               |       | T105M4 <sup>1)</sup> |
| 5  | 0.80 | 70    | 16    | 6     | 4.9       | 8     | 3   | 4.3               |       | T105M5 <sup>1)</sup> |
| 6  | 1.00 | 80    | 19    | 6     | 4.9       | 8     | 3   | 5.1               | 30    | T105M6               |
| 8  | 1.25 | 90    | 22    | 8     | 6.2       | 9     | 3   | 6.9               | 35    | T105M8               |
| 10 | 1.50 | 100   | 24    | 10    | 8.0       | 11    | 3   | 8.7               | 39    | T105M10              |
| 12 | 1.75 | 110   | 23    | 9     | 7.0       | 10    | 3   | 10.4              |       | T105M12              |

<sup>1)</sup> bez krčku / áteső szárú / bez przewężenia chwytu / fara gat / без занижения / brez vratu na stebłu

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- strojni navojni sveder

**NEW**

2007.09



## T106



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.3 | 3.4 | 7.3 | 7.4 |
| ● | 3.1 | 3.2 | 8.2 | 8.3 |

| M  | P    | $l_1$ | $l_2$ | $d_2$            | $\square$ | $l_3$ | $z$ | $\leftrightarrow$ | $l_4$ | e-Code               |
|----|------|-------|-------|------------------|-----------|-------|-----|-------------------|-------|----------------------|
|    | mm   | mm    | mm    | $\varnothing$ mm | a mm      | mm    |     |                   | mm    |                      |
| 5  | 0.80 | 70    | 16    | 6                | 4.9       | 8     | 3   | 4.3               |       | T106M5 <sup>1)</sup> |
| 6  | 1.00 | 80    | 19    | 6                | 4.9       | 8     | 3   | 5.1               | 30    | T106M6               |
| 8  | 1.25 | 90    | 22    | 8                | 6.2       | 9     | 3   | 6.9               | 35    | T106M8               |
| 10 | 1.50 | 100   | 24    | 10               | 8.0       | 11    | 3   | 8.7               | 39    | T106M10              |
| 12 | 1.75 | 110   | 23    | 9                | 7.0       | 10    | 3   | 10.4              |       | T106M12              |

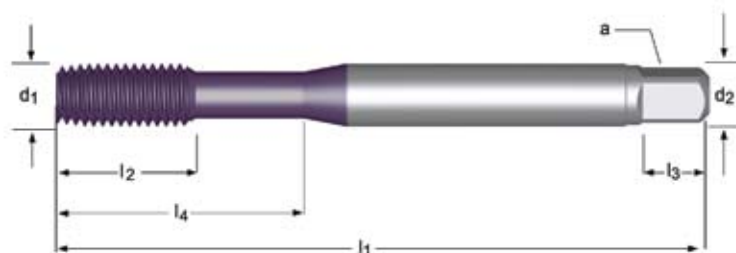
# T115

**DORMER**

- Strojní závitníky
- Gépi Menetformázó
- Wyginiaki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

**NEW**

2007.09



T115



- 1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 5.1 7.1 7.2 7.3
- 2.4 5.2 6.1 6.3

| M  | P    | $l_1$ | $l_2$ | $d_2$            | $\square$ | $l_3$ | $l_4$ | e-Code               |
|----|------|-------|-------|------------------|-----------|-------|-------|----------------------|
|    | mm   | mm    | mm    | $\varnothing$ mm | a mm      | mm    | mm    |                      |
| 3  | 0.50 | 56    | 10    | 3.5              | 2.7       | 6     | 2.8   | T115M3 <sup>1)</sup> |
| 4  | 0.70 | 63    | 13    | 4.5              | 3.4       | 6     | 3.7   | T115M4 <sup>1)</sup> |
| 5  | 0.80 | 70    | 16    | 6                | 4.9       | 8     | 4.6   | T115M5 <sup>1)</sup> |
| 6  | 1.00 | 80    | 19    | 6                | 4.9       | 8     | 5.5   | 30 T115M6            |
| 8  | 1.25 | 90    | 22    | 8                | 6.2       | 9     | 7.4   | 35 T115M8            |
| 10 | 1.50 | 100   | 24    | 10               | 8.0       | 11    | 9.3   | 39 T115M10           |

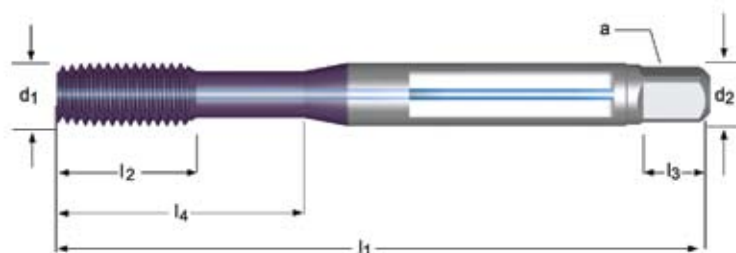
<sup>1)</sup> bez krčku / áteső szárú / bez przewężenia chwytu / fara gat / без занижения / brez vratu na stebłu



- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

**NEW**

2007.09



## T116



- 1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 5.1 7.1 7.2 7.3
- 2.4 5.2 6.1 6.3

| M  | P    | $l_1$ | $l_2$ | $d_2$            | $\square$ | $l_3$ | $\leftrightarrow$ | $l_4$ | e-Code  |
|----|------|-------|-------|------------------|-----------|-------|-------------------|-------|---------|
|    | mm   | mm    | mm    | $\varnothing$ mm | a mm      | mm    |                   | mm    |         |
| 5  | 0.80 | 70    | 16    | 6                | 4.9       | 8     | 4.6               |       | T116M5  |
| 6  | 1.00 | 80    | 19    | 6                | 4.9       | 8     | 5.5               | 30    | T116M6  |
| 8  | 1.25 | 90    | 22    | 8                | 6.2       | 9     | 7.4               | 35    | T116M8  |
| 10 | 1.50 | 100   | 24    | 10               | 8.0       | 11    | 9.3               | 39    | T116M10 |
| 12 | 1.75 | 110   | 23    | 9                | 7.0       | 10    | 11.2              |       | T116M12 |

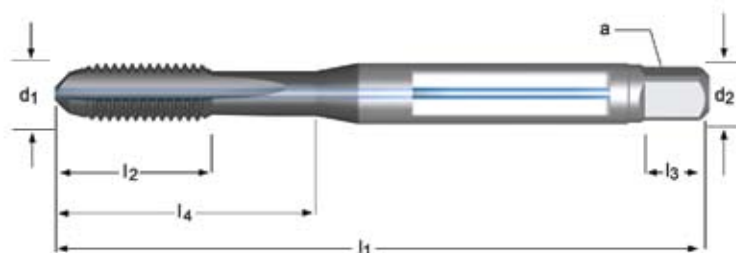
# T120

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

**NEW**

2007.09



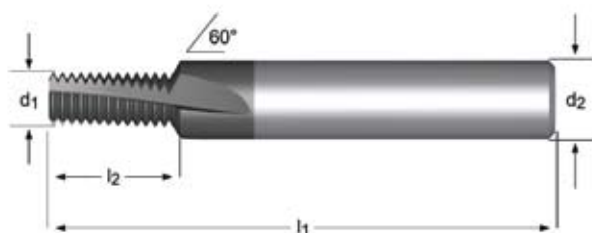
**T120**



|   |     |     |     |      |     |     |
|---|-----|-----|-----|------|-----|-----|
| ■ | 3.1 | 3.2 | 7.4 | 10.1 |     |     |
| ● | 3.3 | 3.4 | 6.4 | 7.3  | 8.2 | 8.3 |

|    | P    | $l_1$ | $l_2$ | $d_2$<br>Ø | $\square$<br>a | $l_3$ | z |      | $l_4$ | e-Code      |
|----|------|-------|-------|------------|----------------|-------|---|------|-------|-------------|
| MF | mm   | mm    | mm    | mm         | mm             | mm    |   |      | mm    |             |
| 8  | 1.00 | 90    | 12    | 6.0        | 4.9            | 8     | 4 | 7    |       | T120M8X1.0  |
| 10 | 1.00 | 90    | 14    | 7.0        | 5.5            | 8     | 4 | 9    |       | T120M10X1.0 |
| 12 | 1.50 | 100   | 20    | 9.0        | 7.0            | 10    | 4 | 10.5 |       | T120M12X1.5 |
| 14 | 1.50 | 100   | 21    | 11.0       | 9.0            | 12    | 4 | 12.5 |       | T120M14X1.5 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



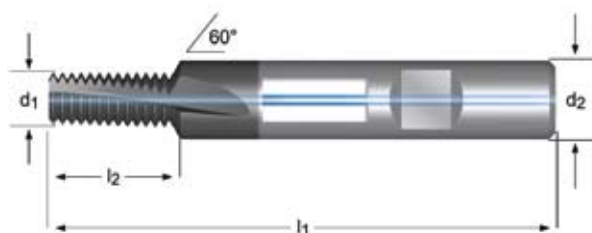
## J100



|   |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 3.1 | 3.2 | 3.3  | 3.4 | 4.1 | 4.2 | 4.3 | 6.1 | 6.2 | 6.3 | 6.4 | 7.1 | 7.2 | 7.3 |
|   | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 2.1 | 2.2 | 2.3 | 5.1 | 5.2 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |

| ≥   | P<br>mm | d <sub>1</sub><br>Ø<br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | z e-Code       |
|-----|---------|---------------------------|----------------------|----------------------|---------------------------|----------------|
| M4  | 0.7     | 3.2                       | 8.4                  | 57                   | 6                         | 3 J1003.2X.7   |
| M5  | 0.8     | 4.1                       | 11.2                 | 57                   | 6                         | 3 J1004.1X.8   |
| M6  | 1       | 4.8                       | 13                   | 63                   | 8                         | 3 J1004.8X1.0  |
| M8  | 1.25    | 6.5                       | 17.5                 | 72                   | 10                        | 3 J1006.5X1.25 |
| M10 | 1.5     | 8.2                       | 21                   | 83                   | 12                        | 3 J1008.2X1.5  |
| M12 | 1.75    | 9.9                       | 26.25                | 83                   | 14                        | 4 J1009.9X1.75 |
| M14 | 2       | 11.6                      | 30                   | 92                   | 16                        | 4 J10011.6X2.0 |
| M16 | 2       | 13.6                      | 34                   | 92                   | 18                        | 4 J10013.6X2.0 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



## J105



|   |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4  | 1.5 | 1.6 | 2.1 | 2.2 | 2.3 | 3.1 | 3.2 | 3.3 | 3.4 | 4.1 | 4.2 | 4.3 | 5.1 | 5.2 | 6.1 | 6.2 |
|   | 6.3 | 6.4 | 7.1 | 7.2  | 7.3 | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

| ≥   | P<br>mm | d <sub>1</sub><br>Ø<br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | z e-Code       |
|-----|---------|---------------------------|----------------------|----------------------|---------------------------|----------------|
| M8  | 1.25    | 6.5                       | 17.5                 | 75                   | 10                        | 3 J1056.5X1.25 |
| M10 | 1.5     | 8.2                       | 21                   | 83                   | 12                        | 3 J1058.2X1.50 |
| M12 | 1.75    | 9.9                       | 26.25                | 83                   | 14                        | 4 J1059.9X1.75 |
| M14 | 2       | 11.6                      | 30                   | 92                   | 16                        | 4 J10511.6X2.0 |
| M16 | 2       | 13.6                      | 34                   | 92                   | 18                        | 4 J10513.6X2.0 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



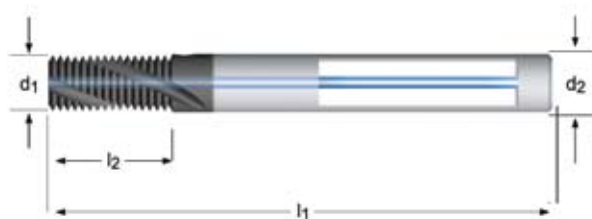
## J110



|   |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 3.1 | 3.2 | 3.3  | 3.4 | 4.1 | 4.2 | 4.3 | 6.1 | 6.2 | 6.3 | 6.4 | 7.1 | 7.2 | 7.3 |
|   | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 2.1 | 2.2 | 2.3 | 5.1 | 5.2 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |

| ≥   | P<br>mm | d <sub>1</sub><br>Ø<br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | z e-Code       |
|-----|---------|---------------------------|----------------------|----------------------|---------------------------|----------------|
| M6  | 1       | 4.5                       | 13                   | 57                   | 6                         | 3 J1104.5X1.0  |
| M8  | 1.25    | 6                         | 17.5                 | 65                   | 6                         | 3 J1106.0X1.25 |
| M10 | 1.5     | 7.5                       | 21                   | 72                   | 8                         | 3 J1107.5X1.5  |
| M12 | 1.75    | 9.5                       | 26.25                | 80                   | 10                        | 3 J1109.5X1.75 |
| M14 | 2       | 10                        | 30                   | 83                   | 10                        | 4 J11010.0X2.0 |
| M16 | 2       | 12                        | 34                   | 92                   | 12                        | 4 J11012.0X2.0 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



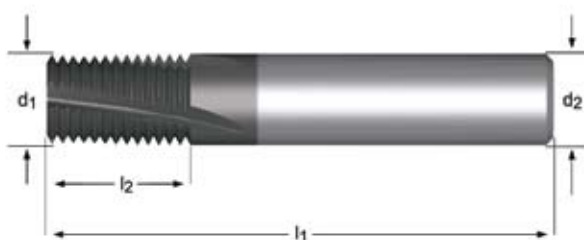
## J115



|   |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 3.1 | 3.2 | 3.3  | 3.4 | 4.1 | 4.2 | 4.3 | 6.1 | 6.2 | 6.3 | 6.4 | 7.1 | 7.2 | 7.3 |
|   | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 2.1 | 2.2 | 2.3 | 5.1 | 5.2 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |

|     | P    | d <sub>1</sub><br>Ø | l <sub>2</sub> | l <sub>1</sub> | d <sub>2</sub><br>Ø | z e-Code       |
|-----|------|---------------------|----------------|----------------|---------------------|----------------|
| ≥   | mm   | mm                  | mm             | mm             | mm                  |                |
| M6  | 1    | 4.5                 | 13             | 57             | 6                   | 3 J1154.5X1.0  |
| M8  | 1.25 | 6                   | 17.5           | 65             | 6                   | 3 J1156.0X1.25 |
| M10 | 1.5  | 7.5                 | 21             | 72             | 8                   | 3 J1157.5X1.5  |
| M12 | 1.75 | 9.5                 | 26.25          | 80             | 10                  | 3 J1159.5X1.75 |
| M14 | 2    | 10                  | 30             | 83             | 10                  | 4 J11510.0X2.0 |
| M16 | 2    | 12                  | 34             | 92             | 12                  | 4 J11512.0X2.0 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



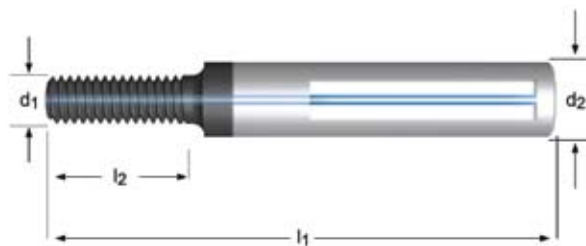
## J101



- 1.7 1.8 7.4 8.2 8.3 10.1
- 5.3

|     | P    | $d_1$<br>Ø | $l_2$ | $l_1$ | $d_2$<br>Ø | z e-Code       |
|-----|------|------------|-------|-------|------------|----------------|
| ≥   | mm   | mm         | mm    | mm    | mm         |                |
| M6  | 1    | 4.5        | 10    | 57    | 6          | 4 J1014.5X1.0  |
| M8  | 1.25 | 6          | 12.5  | 57    | 6          | 5 J1016.0X1.25 |
| M10 | 1.5  | 8          | 16.5  | 63    | 8          | 5 J1018.0X1.50 |
| M12 | 1.75 | 9          | 19.25 | 72    | 10         | 5 J1019.0X1.75 |
| M16 | 2    | 12         | 26    | 83    | 12         | 5 J10110.0X2.0 |

- Orbitální tvářecí fréza
- Ívályás menetmaró-formázó
- Wygniatak orbitalny
- Freza de filetare prin deformare orbitala
- Раскатник, метод винтовой интерполяции (Orbital Thread Former)
- Navojni rezkar



## J500



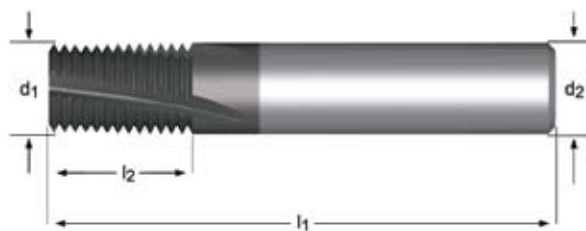
- 7.1 7.2 7.3 7.4
- 6.1

|     | P    | d <sub>1</sub><br>Ø | l <sub>2</sub> | l <sub>1</sub> | d <sub>2</sub><br>Ø | z  | e-Code                     |
|-----|------|---------------------|----------------|----------------|---------------------|----|----------------------------|
| ≥   | mm   | mm                  | mm             | mm             | mm                  |    |                            |
| M5  | 0.8  | 4.1                 | 10             | 54             | 6                   | 6  | J5004.1X.8                 |
| M6  | 1    | 4.8                 | 13             | 54             | 6                   | 7  | J5004.8X1.0                |
| M8  | 1    | 6.5                 | 18             | 58             | 10                  | 8  | J5006.5X1.0 <sup>1)</sup>  |
| M8  | 1.25 | 6.5                 | 18             | 58             | 10                  | 8  | J5006.5X1.25               |
| M10 | 1    | 8.2                 | 21             | 72             | 12                  | 10 | J5008.2X1.0 <sup>1)</sup>  |
| M10 | 1.5  | 8.2                 | 21             | 72             | 12                  | 10 | J5008.2X1.5                |
| M12 | 1.5  | 9.9                 | 24             | 83             | 12                  | 10 | J5009.9X1.5 <sup>1)</sup>  |
| M12 | 1.75 | 9.9                 | 24             | 83             | 12                  | 10 | J5009.9X1.75               |
| M16 | 1.5  | 13.6                | 33             | 92             | 16                  | 12 | J50013.6X1.5 <sup>1)</sup> |
| M16 | 2    | 13.6                | 34             | 92             | 16                  | 12 | J50013.6X2.0               |

<sup>1)</sup> MF / MF / MF / MF / MF / MF



- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



## J120

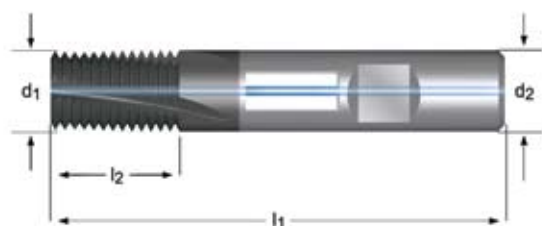


- 1.1 1.2 1.3 1.4 1.5 1.6 3.1 3.2 3.3 3.4 4.1 4.2 4.3 6.1 6.2 6.3 6.4 7.1 7.2 7.3
- 7.4 8.1 8.2 8.3
- 1.7 1.8 2.1 2.2 2.3 5.1 5.2 5.3 10.1

| ≥       | P    | d <sub>1</sub><br>Ø | l <sub>2</sub> | l <sub>1</sub> | d <sub>2</sub><br>Ø | z | e-Code       |
|---------|------|---------------------|----------------|----------------|---------------------|---|--------------|
| M6x0.5  | 0.5  | 4.8                 | 10             | 57             | 6                   | 3 | J1204.8X.5   |
| M8x0.75 | 0.75 | 6                   | 12             | 57             | 6                   | 3 | J1206.0X.75  |
| M8x1    | 1    | 6                   | 12             | 57             | 6                   | 3 | J1206.0X1.0  |
| M10x1   | 1    | 8                   | 16             | 63             | 8                   | 4 | J1208.0X1.0  |
| M12x1   | 1    | 10                  | 20             | 72             | 10                  | 4 | J12010.0X1.0 |
| M12x1.5 | 1.5  | 10                  | 20             | 72             | 10                  | 4 | J12010.0X1.5 |
| M14x1   | 1    | 12                  | 22             | 83             | 12                  | 4 | J12012.0X1.0 |
| M14x1.5 | 1.5  | 12                  | 22             | 83             | 12                  | 4 | J12012.0X1.5 |

| ≥       | P   | d <sub>1</sub><br>Ø | l <sub>2</sub> | l <sub>1</sub> | d <sub>2</sub><br>Ø | z | e-Code       |
|---------|-----|---------------------|----------------|----------------|---------------------|---|--------------|
| M16x1   | 1   | 14                  | 26             | 83             | 14                  | 5 | J12014.0X1.0 |
| M16x1.5 | 1.5 | 14                  | 26             | 83             | 14                  | 5 | J12014.0X1.5 |
| M20x2   | 2   | 16                  | 30             | 92             | 16                  | 5 | J12016.0X2.0 |
| M20x2.5 | 2.5 | 16                  | 42.5           | 105            | 16                  | 5 | J12016.0X2.5 |
| M24x2   | 2   | 20                  | 35             | 104            | 20                  | 5 | J12020.0X2.0 |
| M24x3   | 3   | 19                  | 50             | 125            | 20                  | 5 | J12019.0X3.0 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



## J125

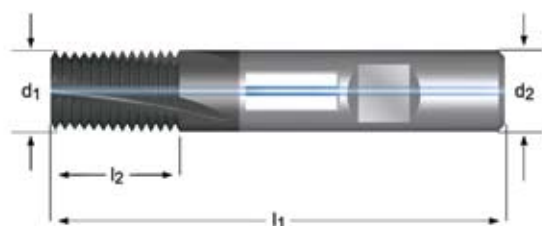


- 1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4 4.1 4.2 4.3 5.1 5.2 5.3 6.1
- 6.2 6.3 6.4 7.1 7.2 7.3 7.4 8.1 8.2 8.3
- 1.7 1.8 10.1

| ≥       | P   | d <sub>1</sub><br>Ø | l <sub>2</sub> | l <sub>1</sub> | d <sub>2</sub><br>Ø | z | e-Code       |
|---------|-----|---------------------|----------------|----------------|---------------------|---|--------------|
| M10x1   | 1   | 8                   | 16             | 63             | 8                   | 4 | J1258.0X1.0  |
| M12x1   | 1   | 10                  | 20             | 72             | 10                  | 4 | J12510.0X1.0 |
| M12x1.5 | 1.5 | 10                  | 20             | 72             | 10                  | 4 | J12510.0X1.5 |
| M14x1   | 1   | 12                  | 22             | 83             | 12                  | 4 | J12512.0X1.0 |
| M14x1.5 | 1.5 | 12                  | 22             | 83             | 12                  | 4 | J12512.0X1.5 |
| M16x1   | 1   | 14                  | 26             | 83             | 14                  | 5 | J12514.0X1.0 |

| ≥       | P   | d <sub>1</sub><br>Ø | l <sub>2</sub> | l <sub>1</sub> | d <sub>2</sub><br>Ø | z | e-Code       |
|---------|-----|---------------------|----------------|----------------|---------------------|---|--------------|
| M16x1.5 | 1.5 | 14                  | 26             | 83             | 14                  | 5 | J12514.0X1.5 |
| M18x1.5 | 1.5 | 16                  | 30             | 92             | 16                  | 5 | J12516.0X1.5 |
| M24x2   | 2   | 20                  | 35             | 104            | 20                  | 5 | J12520.0X2.0 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



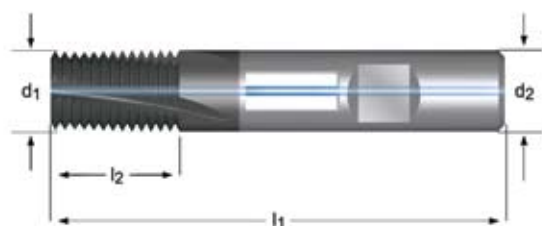
## J135



|   |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4  | 1.5 | 1.6 | 2.1 | 2.2 | 2.3 | 3.1 | 3.2 | 3.3 | 3.4 | 4.1 | 4.2 | 4.3 | 5.1 | 5.2 | 6.1 | 6.2 |
|   | 6.3 | 6.4 | 7.1 | 7.2  | 7.3 | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

| ≥    | TPI | d <sub>1</sub><br>Ø<br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | z e-Code      |
|------|-----|---------------------------|----------------------|----------------------|---------------------------|---------------|
| 1/4  | 20  | 4.8                       | 14                   | 57                   | 6                         | 3 J1354.8-20  |
| 5/16 | 18  | 5.5                       | 14                   | 57                   | 6                         | 3 J1355.5-18  |
| 3/8  | 16  | 7.5                       | 19                   | 63                   | 8                         | 4 J1357.5-16  |
| 7/16 | 14  | 8                         | 19                   | 63                   | 8                         | 4 J1358.0-14  |
| 1/2  | 13  | 10                        | 22                   | 72                   | 10                        | 4 J13510.0-13 |
| 9/16 | 12  | 10                        | 22                   | 72                   | 10                        | 4 J13510.0-12 |
| 5/8  | 11  | 12                        | 26                   | 83                   | 12                        | 4 J13512.0-11 |
| 3/4  | 10  | 14                        | 32                   | 83                   | 14                        | 5 J13514.0-10 |

- Závřtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



## J145



|   |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4  | 1.5 | 1.6 | 2.1 | 2.2 | 2.3 | 3.1 | 3.2 | 3.3 | 3.4 | 4.1 | 4.2 | 4.3 | 5.1 | 5.2 | 6.1 | 6.2 |
|   | 6.3 | 6.4 | 7.1 | 7.2  | 7.3 | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

| ≥         | TPI | d <sub>1</sub><br>Ø<br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | z e-Code      |
|-----------|-----|---------------------------|----------------------|----------------------|---------------------------|---------------|
| 1/4       | 28  | 4.8                       | 14                   | 57                   | 6                         | 3 J1454.8-28  |
| 5/16. 3/8 | 24  | 6                         | 14                   | 57                   | 6                         | 3 J1456.0-24  |
| 7/16. 1/2 | 20  | 8                         | 19                   | 63                   | 8                         | 4 J1458.0-20  |
| 9/16. 5/8 | 18  | 10                        | 22                   | 72                   | 10                        | 4 J14510.0-18 |
| 3/4       | 16  | 14                        | 32                   | 83                   | 14                        | 5 J14514.0-16 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



## J160

NPT

HM

TiAlN  
X

D



DIN  
6535 HB

|   |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 3.1 | 3.2 | 3.3  | 3.4 | 4.1 | 4.2 | 4.3 | 6.1 | 6.2 | 6.3 | 6.4 | 7.1 | 7.2 | 7.3 |
|   | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 2.1 | 2.2 | 2.3 | 5.1 | 5.2 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |

| ≥        | TPI  | $d_1$<br>Ø<br>mm | $l_2$<br>mm | $l_1$<br>mm | $d_2$<br>Ø<br>mm | z e-Code        |
|----------|------|------------------|-------------|-------------|------------------|-----------------|
| 1/8      | 27   | 7.9              | 9.88        | 58          | 8                | 3 J1607.9-27    |
| 1/4. 3/8 | 18   | 9.9              | 14.82       | 66          | 10               | 3 J1609.9-18    |
| 1/2. 3/4 | 14   | 15.9             | 19.05       | 82          | 16               | 4 J16015.9-14   |
| 1-2      | 11.5 | 19.9             | 23.19       | 92          | 20               | 5 J16019.9-11.5 |

# J170

**DORMER**

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



**J170**

**NPTF**

**HM**

**TiAlN  
X**

**D**

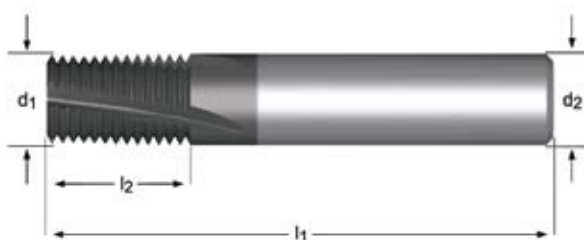


**DIN  
6535 HB**

|   |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 3.1 | 3.2 | 3.3  | 3.4 | 4.1 | 4.2 | 4.3 | 6.1 | 6.2 | 6.3 | 6.4 | 7.1 | 7.2 | 7.3 |
|   | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 2.1 | 2.2 | 2.3 | 5.1 | 5.2 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |

| ≥        | TPI  | d <sub>1</sub><br>Ø<br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | z e-Code        |
|----------|------|---------------------------|----------------------|----------------------|---------------------------|-----------------|
| 1/8      | 27   | 7.9                       | 9.88                 | 58                   | 8                         | 3 J1707.9-27    |
| 1/4. 3/8 | 18   | 9.9                       | 14.82                | 66                   | 10                        | 3 J1709.9-18    |
| 1/2. 3/4 | 14   | 15.9                      | 19.05                | 82                   | 16                        | 4 J17015.9-14   |
| 1-2      | 11.5 | 19.9                      | 23.19                | 92                   | 20                        | 5 J17019.9-11.5 |

- Závrtovací frézy
- Menetmaró
- Frezy do gwintów
- Freze pentru filetare
- Резьбовые фрезы
- rezkar navojni



## J180



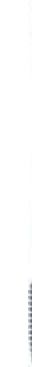
|   |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 3.1 | 3.2 | 3.3  | 3.4 | 4.1 | 4.2 | 4.3 | 6.1 | 6.2 | 6.3 | 6.4 | 7.1 | 7.2 | 7.3 |
|   | 7.4 | 8.1 | 8.2 | 8.3 |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |
| ● | 1.7 | 1.8 | 2.1 | 2.2 | 2.3 | 5.1 | 5.2 | 5.3 | 10.1 |     |     |     |     |     |     |     |     |     |     |     |

|           |     | $d_1$<br>Ø | $l_2$ | $l_1$ | $d_2$<br>Ø |   |             |
|-----------|-----|------------|-------|-------|------------|---|-------------|
| ≥         | TPI | mm         | mm    | mm    | mm         | z | e-Code      |
| G1/8      | 28  | 6          | 15    | 57    | 6          | 3 | J1806.0-28  |
| G1/4      | 19  | 10         | 20    | 72    | 10         | 4 | J18010.0-19 |
| G3/8      | 19  | 14         | 26    | 83    | 14         | 5 | J18014.0-19 |
| G1/2. 5/8 | 14  | 16         | 30    | 92    | 16         | 5 | J18016.0-14 |

|                |     | $d_1$<br>Ø | $l_2$ | $l_1$ | $d_2$<br>Ø |   |             |
|----------------|-----|------------|-------|-------|------------|---|-------------|
| ≥              | TPI | mm         | mm    | mm    | mm         | z | e-Code      |
| G5/8. 3/4. 7/8 | 14  | 20         | 35    | 104   | 20         | 5 | J18020.0-14 |
| G1-3           | 11  | 25         | 45    | 121   | 25         | 6 | J18025.0-11 |

|      | E201                                                                                | E252                                                                                | E446                                                                                | E447                                                                                | E462                                                                                | E463                                                                                | E352                                                                                | E353                                                                                | E200                                                                                | E250                                                                                | E237                                                                                  | E251                                                                                  | E303                                                                                  | E100                                                                                  | E102                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSS                                                                                   | HSCo                                                                                  |
|      | N                                                                                   | N                                                                                   | TiAIN                                                                               | TiAIN                                                                               | TiAIN                                                                               | TiAIN                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ST                                                                                    |
|      | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                               | DIN 376                                                                               | DIN 376                                                                               | DIN 367                                                                               | DIN 362                                                                               |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 6HX                                                                                 | 6HX                                                                                 | 6HX                                                                                 | 6HX                                                                                 | 6HX                                                                                 | 6HX                                                                                 | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6HX                                                                                   |
|      | 2xD                                                                                 | 2xD                                                                                 | 2xD                                                                                 | 2xD                                                                                 | 2.5xD                                                                               | 2.5xD                                                                               | 2xD                                                                                 | 2xD                                                                                 | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                                 | 1.5xD                                                                                 | 2xD                                                                                   | 1.5xD                                                                                 | 1.5xD                                                                                 |
|      | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | A 6-4<br>C 2-3                                                                      | A 6-4<br>C 2-3                                                                      | C 2-3                                                                                 | C 2-3                                                                                 | D 18-20<br>C 2-3                                                                      | C 2-3                                                                                 | C 2-3                                                                                 |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | M3 - M10                                                                            | M8 - M24                                                                            | M3 - M10                                                                            | M8 - M24                                                                            | M5 - M10                                                                            | M12 - M20                                                                           | M3 - M10                                                                            | M12 - M16                                                                           | M2 - M10                                                                            | M3 - M52                                                                            | M3 - M10                                                                              | M12 - M24                                                                             | M3 - M20                                                                              | M1.6 - M52                                                                            | M3 - M30                                                                              |
|      |  |  |  |  |  |  |  |  |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | 300                                                                                 | 300                                                                                 | 301                                                                                 | 301                                                                                 | 302                                                                                 | 302                                                                                 | 303                                                                                 | 303                                                                                 | 304                                                                                 | 305                                                                                 | 306                                                                                   | 306                                                                                   | 307                                                                                   | 308                                                                                   | 311                                                                                   |
| 1.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •25                                                                                 | •25                                                                                 | •12                                                                                 | •12                                                                                 | •12                                                                                   | •12                                                                                   | •12                                                                                   | •                                                                                     | •                                                                                     |
| 1.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •22                                                                                 | •22                                                                                 | •10                                                                                 | •10                                                                                 | •10                                                                                   | •10                                                                                   | •10                                                                                   | •                                                                                     | •                                                                                     |
| 1.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •18                                                                                 | •18                                                                                 | •8                                                                                  | •8                                                                                  | •8                                                                                    | •8                                                                                    | •8                                                                                    | •                                                                                     | •                                                                                     |
| 1.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •6                                                                                  | •6                                                                                  | •6                                                                                    | •6                                                                                    | •6                                                                                    | •                                                                                     | •                                                                                     |
| 1.5  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  | •5                                                                                  | •5                                                                                    | •5                                                                                    | •5                                                                                    | •                                                                                     | •                                                                                     |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  | ■15                                                                                 | ■15                                                                                 | ■22                                                                                 | ■22                                                                                 | ■22                                                                                 | ■22                                                                                 |                                                                                     |                                                                                     | •14                                                                                 | •14                                                                                 | •14                                                                                   | •14                                                                                   | •14                                                                                   | •                                                                                     | •                                                                                     |
| 3.2  | ■8                                                                                  | ■8                                                                                  | ■18                                                                                 | ■18                                                                                 | ■18                                                                                 | ■18                                                                                 |                                                                                     |                                                                                     | •8                                                                                  | •8                                                                                  | •8                                                                                    | •8                                                                                    | •8                                                                                    | •                                                                                     | •                                                                                     |
| 3.3  | ■15                                                                                 | ■15                                                                                 | ■25                                                                                 | ■25                                                                                 | ■25                                                                                 | ■25                                                                                 |                                                                                     |                                                                                     | •12                                                                                 | •12                                                                                 | •12                                                                                   | •12                                                                                   | •12                                                                                   | •                                                                                     | •                                                                                     |
| 3.4  | •8                                                                                  | •8                                                                                  | •18                                                                                 | •18                                                                                 | •18                                                                                 | •18                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | •                                                                                     | •                                                                                     |
| 4.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 5.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 5.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •                                                                                     |
| 6.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | •                                                                                     | •                                                                                     |
| 6.2  | •20                                                                                 | •20                                                                                 | •30                                                                                 | •30                                                                                 | •30                                                                                 | •30                                                                                 |                                                                                     |                                                                                     | •16                                                                                 | •16                                                                                 | •16                                                                                   | •16                                                                                   | •16                                                                                   | •                                                                                     | •                                                                                     |
| 6.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •20                                                                                 | •20                                                                                 | •12                                                                                 | •12                                                                                 | •12                                                                                   | •12                                                                                   | •12                                                                                   | •                                                                                     | •                                                                                     |
| 6.4  | •5                                                                                  | •5                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | •                                                                                     | •                                                                                     |
| 7.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •16                                                                                 | •16                                                                                 |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■35                                                                                 | ■35                                                                                 | •20                                                                                 | •20                                                                                 | •20                                                                                   | •20                                                                                   | •20                                                                                   | •                                                                                     | •                                                                                     |
| 7.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■20                                                                                 | ■20                                                                                 | •12                                                                                 | •12                                                                                 | •12                                                                                   | •12                                                                                   | •12                                                                                   | •                                                                                     | •                                                                                     |
| 7.4  | •15                                                                                 | •15                                                                                 | •20                                                                                 | •20                                                                                 | •20                                                                                 | •20                                                                                 | ■15                                                                                 | ■15                                                                                 |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | •                                                                                     | •                                                                                     |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.2  | ■10                                                                                 | ■10                                                                                 | ■15                                                                                 | ■15                                                                                 | ■15                                                                                 | ■15                                                                                 |                                                                                     |                                                                                     | •8                                                                                  | •8                                                                                  | •8                                                                                    | •8                                                                                    | •8                                                                                    | •                                                                                     | •                                                                                     |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       | •                                                                                     | •                                                                                     |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |



|      | E101                                                                                | E348                                                                                | E349                                                                                | E206                                                                                | E257                                                                                | E375                                                                                | E376                                                                                | E395                                                                                | E396                                                                                | E324                                                                                | E326                                                                                 | E344                                                                                  | E345                                                                                  | E454                                                                                  | E455                                                                                  | E358                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                    | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSS                                                                                 | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                              | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  |
|      |                                                                                     | Cr                                                                                  | Cr                                                                                  | TiN                                                                                 | TiN                                                                                 | TiN                                                                                 | TiN                                                                                 |                                                                                     | TiAlN Top                                                                           | TiAlN                                                                               | TiAlN                                                                                | ST                                                                                    | ST                                                                                    | TiCN                                                                                  | TiCN                                                                                  |                                                                                       |
|      | DIN 362                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371c10 376c12                                                                   | DIN 371c10 376c12                                                                   | DIN 371c10 376c12                                                                   | DIN 376                                                                              | DIN 371                                                                               | DIN 376                                                                               | DIN 371                                                                               | DIN 376                                                                               | DIN 371                                                                               |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 1.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 3xD                                                                                 | 3xD                                                                                 | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                                | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 |
|      | C 2-3                                                                               | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                              | B 3.5-5                                                                               | B 3.5-5                                                                               | B 3.5-5                                                                               | B 3.5-5                                                                               | B 3.5-5                                                                               |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |  |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | M4 - M16                                                                            | M3 - M10                                                                            | M12 - M30                                                                           | M3 - M10                                                                            | M4 - M30                                                                            | M5 - M10                                                                            | M12 - M20                                                                           | M3 - M20                                                                            | M3 - M20                                                                            | M3 - M10                                                                            | M12                                                                                  | M3 - M10                                                                              | M12 - M30                                                                             | M3 - M10                                                                              | M12 - M20                                                                             | M3 - M10                                                                              |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | NEW 2009.02                                                                         | NEW 2009.02                                                                         |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      |                                                                                     |  |  |  |  |  |  |  |  |  |   |  |  |  |  |  |
|      | 312                                                                                 | 313                                                                                 | 313                                                                                 | 314                                                                                 | 314                                                                                 | 315                                                                                 | 315                                                                                 | 316                                                                                 | 317                                                                                 | 318                                                                                 | 318                                                                                  | 319                                                                                   | 319                                                                                   | 320                                                                                   | 320                                                                                   | 321                                                                                   |
| 1.1  | •                                                                                   | ■25                                                                                 | ■25                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •25                                                                                   |
| 1.2  | •                                                                                   | ■22                                                                                 | ■22                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •22                                                                                   |
| 1.3  | •                                                                                   | ■18                                                                                 | ■18                                                                                 | ■32                                                                                 | ■32                                                                                 | ■32                                                                                 | ■32                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •18                                                                                   |
| 1.4  | •                                                                                   | •16                                                                                 | •16                                                                                 | •27                                                                                 | •27                                                                                 | •27                                                                                 | •27                                                                                 | ■16                                                                                 | ■30                                                                                 |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.5  | •                                                                                   | •10                                                                                 | •10                                                                                 | •13                                                                                 | •13                                                                                 | •13                                                                                 | •13                                                                                 | •10                                                                                 | ■20                                                                                 | ■17                                                                                 | ■17                                                                                  | •10                                                                                   | •10                                                                                   | •17                                                                                   | •17                                                                                   |                                                                                       |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  | •11                                                                                 | ■11                                                                                 | ■11                                                                                  | •5                                                                                    | •5                                                                                    | •11                                                                                   | •11                                                                                   |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      | ■8                                                                                    | ■8                                                                                    | ■14                                                                                   | ■14                                                                                   |                                                                                       |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      | ■7                                                                                    | ■7                                                                                    | ■10                                                                                   | ■10                                                                                   |                                                                                       |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      | ■5                                                                                    | ■5                                                                                    | ■6                                                                                    | ■6                                                                                    |                                                                                       |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      | ■5                                                                                    |                                                                                       | ■6                                                                                    |                                                                                       |                                                                                       |
| 3.1  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.2  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.3  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.4  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | ■25                                                                                   | ■25                                                                                   |                                                                                       |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •10                                                                                 | •13                                                                                 | ■13                                                                                 | ■13                                                                                  |                                                                                       |                                                                                       | ■13                                                                                   | ■13                                                                                   |                                                                                       |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■8                                                                                  | ■8                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | ■25                                                                                   | ■25                                                                                   |                                                                                       |
| 5.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  | •10                                                                                 | •5                                                                                  | •5                                                                                   |                                                                                       |                                                                                       | ■10                                                                                   | ■10                                                                                   |                                                                                       |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •3                                                                                  | •3                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  | •                                                                                   | ■12                                                                                 | ■12                                                                                 | ■18                                                                                 | ■18                                                                                 | ■18                                                                                 | ■18                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •12                                                                                   |
| 6.2  | •                                                                                   | •30                                                                                 | •30                                                                                 | •45                                                                                 | •45                                                                                 | •45                                                                                 | •45                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ■30                                                                                   |
| 6.3  | •                                                                                   | ■20                                                                                 | ■20                                                                                 | ■35                                                                                 | ■35                                                                                 | ■35                                                                                 | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ■20                                                                                   |
| 6.4  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ■16                                                                                   |
| 7.2  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ■35                                                                                   |
| 7.3  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ■20                                                                                   |
| 7.4  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •30                                                                                 | •30                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •15                                                                                   |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ■25                                                                                   |
| 8.2  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •2                                                                                  | •2                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E359                                                                                | E448                                                                                | E449                                                                                | E214                                                                                | E265                                                                                | E216                                                                                | E266                                                                                | E422                                                                                | E423                                                                                | E616                                                                                 | E215                                                                                  | E197                                                                                  | E247                                                                                  | E235                                                                                  | E236                                                                                  | E350                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                    | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                 | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  |
|      |                                                                                     | ZrN                                                                                 | ZrN                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | TiN                                                                                 | TiN                                                                                 | TSAN<br>TiAlN                                                                        |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       | Cr                                                                                    |
|      | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371+10<br>376+12                                                                 | DIN 371                                                                               | DIN 371                                                                               | DIN 376                                                                               | DIN 371                                                                               | DIN 376                                                                               | DIN 371                                                                               |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                   | 6HX                                                                                   | 6G                                                                                    | 6G                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    |
|      | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 3xD                                                                                 | 3xD                                                                                 | 3xD                                                                                 | 3xD                                                                                 | 3xD                                                                                  | 1.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 | 2xD                                                                                   | 2xD                                                                                   | 2xD                                                                                   |
|      | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                         | B<br>3.5 - 5                                                                          | B<br>3.5 - 5                                                                          | B<br>3.5 - 5                                                                          | A<br>6 - 8                                                                            | A<br>6 - 8                                                                            | C<br>2 - 3                                                                            |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      | M12 - M16                                                                           | M3 - M10                                                                            | M12 - M16                                                                           | M2 - M10                                                                            | M3 - M30                                                                            | M3 - M10                                                                            | M12 - M24                                                                           | M3 - M10                                                                            | M12 - M24                                                                           | M3 - M20                                                                             | M2 - M10                                                                              | M3 - M10                                                                              | M12 - M20                                                                             | M3 - M10                                                                              | M12 - M24                                                                             | M3 - M10                                                                              |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | <b>NEW!</b><br>2008.09                                                               |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      |  |  |  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |  |
|      | 321                                                                                 | 322                                                                                 | 322                                                                                 | 323                                                                                 | 324                                                                                 | 325                                                                                 | 325                                                                                 | 326                                                                                 | 326                                                                                 | 327                                                                                  | 328                                                                                   | 329                                                                                   | 329                                                                                   | 330                                                                                   | 330                                                                                   | 331                                                                                   |
| 1.1  | ●25                                                                                 | ■40                                                                                 | ■40                                                                                 | ●22                                                                                 | ●22                                                                                 | ●22                                                                                 | ●22                                                                                 | ●35                                                                                 | ●35                                                                                 | ■40                                                                                  | ●22                                                                                   | ●22                                                                                   | ●22                                                                                   |                                                                                       | ●20                                                                                   | ■25                                                                                   |
| 1.2  | ●22                                                                                 | ■40                                                                                 | ■40                                                                                 | ■20                                                                                 | ■20                                                                                 | ■20                                                                                 | ■20                                                                                 | ■35                                                                                 | ■35                                                                                 | ■40                                                                                  | ■20                                                                                   | ■20                                                                                   | ■20                                                                                   |                                                                                       | ■16                                                                                   | ■22                                                                                   |
| 1.3  | ●18                                                                                 | ■32                                                                                 | ■32                                                                                 | ■16                                                                                 | ■16                                                                                 | ■16                                                                                 | ■16                                                                                 | ■28                                                                                 | ■28                                                                                 | ■32                                                                                  | ●16                                                                                   | ■16                                                                                   | ■16                                                                                   | ■16                                                                                   | ■16                                                                                   | ■18                                                                                   |
| 1.4  |                                                                                     |                                                                                     |                                                                                     | ■12                                                                                 | ■12                                                                                 | ■12                                                                                 | ■12                                                                                 | ■24                                                                                 | ■24                                                                                 | ■30                                                                                  |                                                                                       | ■12                                                                                   | ■12                                                                                   | ■12                                                                                   | ■12                                                                                   | ●16                                                                                   |
| 1.5  |                                                                                     |                                                                                     |                                                                                     | ●7                                                                                  | ●7                                                                                  | ●7                                                                                  | ●7                                                                                  | ●10                                                                                 | ●10                                                                                 | ■17                                                                                  |                                                                                       | ●7                                                                                    | ●7                                                                                    | ●7                                                                                    | ●7                                                                                    | ●10                                                                                   |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●11                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●8                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●7                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  |                                                                                     |                                                                                     |                                                                                     | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●18                                                                                 | ●18                                                                                 | ●22                                                                                  |                                                                                       | ●12                                                                                   | ●12                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 3.2  |                                                                                     |                                                                                     |                                                                                     | ●7                                                                                  | ●7                                                                                  | ●7                                                                                  | ●7                                                                                  | ●15                                                                                 | ●15                                                                                 | ●18                                                                                  |                                                                                       | ●7                                                                                    | ●7                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 3.3  |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 | ●10                                                                                 | ●10                                                                                 | ●10                                                                                 | ●20                                                                                 | ●20                                                                                 | ●25                                                                                  |                                                                                       | ●10                                                                                   | ●10                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 3.4  |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  | ●5                                                                                  | ●5                                                                                  | ●5                                                                                  | ●15                                                                                 | ●15                                                                                 | ●18                                                                                  |                                                                                       | ●5                                                                                    | ●5                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 4.1  |                                                                                     | ■25                                                                                 | ■25                                                                                 | ●15                                                                                 | ●15                                                                                 | ●15                                                                                 | ●15                                                                                 | ●27                                                                                 | ●27                                                                                 |                                                                                      |                                                                                       | ●15                                                                                   | ●15                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●7                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.3  |                                                                                     |                                                                                     |                                                                                     | ●4                                                                                  | ●4                                                                                  | ●4                                                                                  | ●4                                                                                  | ●5                                                                                  | ●5                                                                                  |                                                                                      |                                                                                       | ●4                                                                                    | ●4                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 5.1  |                                                                                     | ■25                                                                                 | ■25                                                                                 | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●20                                                                                 | ●20                                                                                 |                                                                                      | ●12                                                                                   | ●12                                                                                   | ●12                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 5.2  |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  | ●5                                                                                  | ●5                                                                                  | ●5                                                                                  | ●8                                                                                  | ●8                                                                                  | ●8                                                                                   |                                                                                       | ●5                                                                                    | ●5                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  | ●12                                                                                 | ●18                                                                                 | ●18                                                                                 | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●18                                                                                 | ●18                                                                                 | ■18                                                                                  |                                                                                       | ●12                                                                                   | ●12                                                                                   |                                                                                       |                                                                                       | ■12                                                                                   |
| 6.2  | ■30                                                                                 | ■45                                                                                 | ■45                                                                                 | ●30                                                                                 | ●30                                                                                 | ●30                                                                                 | ●30                                                                                 | ●45                                                                                 | ●45                                                                                 | ●45                                                                                  |                                                                                       | ●30                                                                                   | ●30                                                                                   |                                                                                       |                                                                                       | ●30                                                                                   |
| 6.3  | ■20                                                                                 | ■35                                                                                 | ■35                                                                                 | ●20                                                                                 | ●20                                                                                 | ●20                                                                                 | ●20                                                                                 | ●35                                                                                 | ●35                                                                                 | ■35                                                                                  |                                                                                       | ●20                                                                                   | ●20                                                                                   |                                                                                       |                                                                                       | ■20                                                                                   |
| 6.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  | ■16                                                                                 | ■35                                                                                 | ■35                                                                                 | ●16                                                                                 | ●16                                                                                 | ●16                                                                                 | ●16                                                                                 | ●25                                                                                 | ●25                                                                                 | ●                                                                                    | ●16                                                                                   | ●16                                                                                   | ●16                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 7.2  | ■35                                                                                 | ■45                                                                                 | ■45                                                                                 | ●35                                                                                 | ●35                                                                                 | ●35                                                                                 | ●35                                                                                 | ●45                                                                                 | ●45                                                                                 |                                                                                      | ●35                                                                                   | ●35                                                                                   | ●35                                                                                   | ●30                                                                                   | ●30                                                                                   |                                                                                       |
| 7.3  | ■20                                                                                 | ■30                                                                                 | ■30                                                                                 | ●20                                                                                 | ●20                                                                                 | ●20                                                                                 | ●20                                                                                 | ●30                                                                                 | ●30                                                                                 |                                                                                      |                                                                                       | ●20                                                                                   | ●20                                                                                   | ●15                                                                                   | ●15                                                                                   |                                                                                       |
| 7.4  | ●15                                                                                 | ●20                                                                                 | ●20                                                                                 | ●15                                                                                 | ●15                                                                                 | ●15                                                                                 | ●15                                                                                 | ●20                                                                                 | ●20                                                                                 |                                                                                      |                                                                                       | ●15                                                                                   | ●15                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 8.1  | ■25                                                                                 | ■30                                                                                 | ■30                                                                                 | ●25                                                                                 | ●25                                                                                 | ●25                                                                                 | ●25                                                                                 | ●30                                                                                 | ●30                                                                                 |                                                                                      | ■30                                                                                   | ●25                                                                                   | ●25                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 8.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E351                                                                                | E213                                                                                | E264                                                                                | E460                                                                                | E461                                                                                | E392                                                                                | E393                                                                                | E394                                                                                | E342                                                                                | E343                                                                                  | E402                                                                                  | E314                                                                                  | E316                                                                                  | E346                                                                                  | E347                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo                                                                                | HSCo                                                                                  | HSCo                                                                                  | HSCo XP                                                                               | HSCo XP                                                                               | HSCo                                                                                  | HSCo                                                                                  |
|      | Cr                                                                                  | TiN                                                                                 | TiN                                                                                 | TiN                                                                                 | TiN                                                                                 |                                                                                     |                                                                                     | TiAlN Top                                                                           |                                                                                     |                                                                                       | ST TiAlN                                                                              | TiAlN                                                                                 | TiAlN                                                                                 | ST                                                                                    | ST                                                                                    |
|      | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371+10 376+12                                                                   | DIN 371                                                                             | DIN 376                                                                               | DIN 371+10 376+12                                                                     | DIN 376                                                                               | DIN 376                                                                               | DIN 371                                                                               | DIN 376                                                                               |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    |
|      | 2xD                                                                                 | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2xD                                                                                 | 2xD                                                                                   | 3xD                                                                                   | 1.5xD                                                                                 | 1.5xD                                                                                 | 2xD                                                                                   | 2xD                                                                                   |
|      | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                                 | C 2-3                                                                                 | C 2-3                                                                                 | C 2-3                                                                                 | C 2-3                                                                                 | C 2-3                                                                                 |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      |                                                                                     |                                                                                     |                                                                                     |  |  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | M12 - M30                                                                           | M3 - M10                                                                            | M12 - M30                                                                           | M5 - M10                                                                            | M12 - M20                                                                           | M3 - M10                                                                            | M5 - M36                                                                            | M3 - M20                                                                            | M3 - M10                                                                            | M12 - M20                                                                             | M3 - M30                                                                              | M3 - M10                                                                              | M12                                                                                   | M3 - M10                                                                              | M12 - M30                                                                             |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | <b>NEW</b><br>2009.02                                                               | <b>NEW</b><br>2009.02                                                               | <b>NEW</b><br>2009.02                                                               |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      | 331                                                                                 | 332                                                                                 | 332                                                                                 | 333                                                                                 | 333                                                                                 | 334                                                                                 | 334                                                                                 | 335                                                                                 | 336                                                                                 | 336                                                                                   | 337                                                                                   | 338                                                                                   | 338                                                                                   | 339                                                                                   | 339                                                                                   |
| 1.1  | ■25                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ■30                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.2  | ■22                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ■30                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.3  | ■18                                                                                 | ■32                                                                                 | ■32                                                                                 | ■32                                                                                 | ■32                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ■25                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.4  | ●16                                                                                 | ●27                                                                                 | ●27                                                                                 | ●27                                                                                 | ●27                                                                                 | ■16                                                                                 | ■16                                                                                 | ■30                                                                                 | ■16                                                                                 | ■16                                                                                   | ■20                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.5  | ●10                                                                                 | ●13                                                                                 | ●13                                                                                 | ●13                                                                                 | ●13                                                                                 | ●10                                                                                 | ●10                                                                                 | ■20                                                                                 | ●10                                                                                 | ●10                                                                                   | ■15                                                                                   | ■17                                                                                   | ■17                                                                                   | ●10                                                                                   | ●10                                                                                   |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  | ●5                                                                                  | ●11                                                                                 | ●5                                                                                  | ●5                                                                                    |                                                                                       | ■11                                                                                   | ■11                                                                                   | ●5                                                                                    | ●5                                                                                    |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ●14                                                                                   |                                                                                       |                                                                                       | ■8                                                                                    | ■8                                                                                    |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ●10                                                                                   |                                                                                       |                                                                                       | ■7                                                                                    | ■7                                                                                    |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ●6                                                                                    |                                                                                       |                                                                                       | ■5                                                                                    | ■5                                                                                    |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 | ●10                                                                                 | ●13                                                                                 | ●10                                                                                 | ●10                                                                                   |                                                                                       | ■13                                                                                   | ■13                                                                                   |                                                                                       |                                                                                       |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       | ■8                                                                                    | ■8                                                                                    |                                                                                       |                                                                                       |
| 5.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  | ●5                                                                                  | ●10                                                                                 | ●5                                                                                  | ●5                                                                                    |                                                                                       | ●5                                                                                    | ●5                                                                                    |                                                                                       |                                                                                       |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       | ●3                                                                                    | ●3                                                                                    |                                                                                       |                                                                                       |
| 6.1  | ■12                                                                                 | ■18                                                                                 | ■18                                                                                 | ■18                                                                                 | ■18                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.2  | ●30                                                                                 | ●45                                                                                 | ●45                                                                                 | ●45                                                                                 | ●45                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.3  | ■20                                                                                 | ■35                                                                                 | ■35                                                                                 | ■35                                                                                 | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ●16                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | ●35                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       | ●30                                                                                   | ●30                                                                                   |                                                                                       |                                                                                       |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       | ●2                                                                                    | ●2                                                                                    |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E404                                                                                | E360                                                                                | E361                                                                                | E354                                                                                | E355                                                                                | E450                                                                                | E451                                                                                | E208                                                                                | E259                                                                                | E195                                                                                 | E245                                                                                  | E615                                                                                  | E207                                                                                  | E258                                                                                  | E212                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                    | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo XP                                                                             | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                 | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  |
|      | Super                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ZrN                                                                                 | ZrN                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       | TSAIN Top                                                                             |                                                                                       |                                                                                       | TiN                                                                                   |
|      | DIN 371e10 376e12                                                                   | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                              | DIN 376                                                                               | DIN 371e10 376e12                                                                     | DIN 371                                                                               | DIN 376                                                                               | DIN 371                                                                               |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                   | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    |
|      | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 2xD                                                                                 | 2xD                                                                                 | 2.5xD                                                                                | 2.5xD                                                                                 | 3xD                                                                                   | 1.5xD                                                                                 | 1.5xD                                                                                 | 1.5xD                                                                                 |
|      | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                                | C 2-3                                                                                 | C 2-3                                                                                 | C 2-3                                                                                 | C 2-3                                                                                 | C 2-3                                                                                 |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | M3 - M20                                                                            | M3 - M10                                                                            | M12 - M20                                                                           | M3 - M10                                                                            | M12 - M16                                                                           | M3 - M10                                                                            | M12 - M16                                                                           | M2 - M10                                                                            | M6 - M30                                                                            | M4 - M10                                                                             | M12 - M24                                                                             | M3 - M20                                                                              | M2 - M10                                                                              | M4 - M36                                                                              | M3 - M10                                                                              |
|      | <b>NEW</b><br>2007.10                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | <b>NEW</b><br>2008.09                                                                 |                                                                                       |                                                                                       |                                                                                       |
|      |  |  |  |  |  |  |  |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | 340                                                                                 | 341                                                                                 | 341                                                                                 | 342                                                                                 | 342                                                                                 | 343                                                                                 | 343                                                                                 | 344                                                                                 | 345                                                                                 | 346                                                                                  | 346                                                                                   | 347                                                                                   | 348                                                                                   | 349                                                                                   | 350                                                                                   |
| 1.1  |                                                                                     |                                                                                     |                                                                                     | •25                                                                                 | •25                                                                                 | •40                                                                                 | •40                                                                                 | •22                                                                                 | •22                                                                                 | •22                                                                                  | •22                                                                                   | ■40                                                                                   |                                                                                       |                                                                                       | •35                                                                                   |
| 1.2  |                                                                                     | •22                                                                                 | •22                                                                                 | •22                                                                                 | •22                                                                                 | •40                                                                                 | •40                                                                                 | •20                                                                                 | •20                                                                                 | •20                                                                                  | •20                                                                                   | ■40                                                                                   | •20                                                                                   | •20                                                                                   | •35                                                                                   |
| 1.3  | •32                                                                                 | •18                                                                                 | •18                                                                                 | •18                                                                                 | •18                                                                                 | •32                                                                                 | •32                                                                                 | ■16                                                                                 | ■16                                                                                 | ■16                                                                                  | ■16                                                                                   | ■32                                                                                   | ■16                                                                                   | ■16                                                                                   | ■28                                                                                   |
| 1.4  | •27                                                                                 |                                                                                     |                                                                                     | •16                                                                                 | •16                                                                                 | •27                                                                                 | •27                                                                                 | ■12                                                                                 | ■12                                                                                 | ■12                                                                                  | ■12                                                                                   | ■30                                                                                   | ■12                                                                                   | ■12                                                                                   | ■24                                                                                   |
| 1.5  | •13                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •7                                                                                  | •7                                                                                  | •7                                                                                   | •7                                                                                    | ■17                                                                                   | •7                                                                                    | •7                                                                                    | •10                                                                                   |
| 1.6  | •11                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •11                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  | ■14                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •8                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 2.2  | ■10                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •7                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 2.3  | ■6                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •5                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 2.4  | ■6                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •22                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 3.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •18                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 3.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •25                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 3.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •18                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 4.1  |                                                                                     | ■15                                                                                 | ■15                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •7                                                                                    |                                                                                       |                                                                                       | •10                                                                                   |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | •7                                                                                    |
| 5.1  |                                                                                     | ■12                                                                                 | ■12                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •8                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     | •12                                                                                 | •12                                                                                 | •12                                                                                 | •12                                                                                 | •18                                                                                 | •18                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ■18                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 6.2  |                                                                                     |                                                                                     |                                                                                     | ■30                                                                                 | ■30                                                                                 | ■45                                                                                 | ■45                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •45                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 6.3  |                                                                                     | •20                                                                                 | •20                                                                                 | ■20                                                                                 | ■20                                                                                 | ■35                                                                                 | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ■35                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 6.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  |                                                                                     | ■16                                                                                 | ■16                                                                                 | •16                                                                                 | •16                                                                                 | •25                                                                                 | •25                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 7.2  |                                                                                     | ■35                                                                                 | ■35                                                                                 | ■35                                                                                 | ■35                                                                                 | ■45                                                                                 | ■45                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | •30                                                                                   | •30                                                                                   | •35                                                                                   |
| 7.3  |                                                                                     | •20                                                                                 | •20                                                                                 | ■20                                                                                 | ■20                                                                                 | ■30                                                                                 | ■30                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | •15                                                                                   | •15                                                                                   | •20                                                                                   |
| 7.4  |                                                                                     |                                                                                     |                                                                                     | ■15                                                                                 | ■15                                                                                 | ■20                                                                                 | ■20                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.1  |                                                                                     | ■30                                                                                 | ■30                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E263                                                                                | E199                                                                                | E249                                                                                | E198                                                                                | E248                                                                                | E301                                                                                | E302                                                                                | E305                                                                                | E306                                                                                | E308                                                                                 | E315                                                                                  | E313                                                                                  | E309                                                                                  | E310                                                                                  | E323                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                    | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | EGM                                                                                   |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                 | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  |
|      | TiN                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | TiN                                                                                 | TiN                                                                                 | CrN                                                                                 | TiN                                                                                  | TiN                                                                                   | Distal                                                                                | TiN                                                                                   | TiN                                                                                   | TiN                                                                                   |
|      | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 376                                                                             | DIN 2174                                                                            | DIN 2174                                                                            | DIN 2174                                                                            | DIN 2174                                                                            | DIN 2174                                                                             | DIN 2174                                                                              | DIN 2174                                                                              | DIN 2174                                                                              | DIN 2174                                                                              | DIN 40435                                                                             |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 6H                                                                                  | 6G                                                                                  | 6G                                                                                  | 6G                                                                                  | 6G                                                                                  | 6HX                                                                                 | 6HX                                                                                 | 6HX                                                                                 | 6HX                                                                                 | 6HX                                                                                  | 6HX                                                                                   | 6HX                                                                                   | 6GX                                                                                   | 6GX                                                                                   | 6H mod.                                                                               |
|      | 1.5xD                                                                               | 2xD                                                                                 | 2xD                                                                                 | 1.5xD                                                                               | 1.5xD                                                                               | 3xD                                                                                 | 3xD                                                                                 | 3xD                                                                                 | 3xD                                                                                 | 3.5xD                                                                                | 3.5xD                                                                                 | 3xD                                                                                   | 3xD                                                                                   | 3xD                                                                                   | 3xD                                                                                   |
|      | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3.5                                                                             | C 2-3.5                                                                             | E 1.5-2                                                                             | C 2-3.5                                                                             | C 2-3.5                                                                              | C 2-3.5                                                                               | C 2-3.5                                                                               | C 2-3.5                                                                               | E 1.5-2                                                                               | C 2-3.5                                                                               |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | M12 - M36                                                                           | M3 - M10                                                                            | M12 - M20                                                                           | M3 - M10                                                                            | M12 - M20                                                                           | M1 - M24                                                                            | M1 - M24                                                                            | M3 - M10                                                                            | M3 - M12                                                                            | M3 - M24                                                                             | M5 - M12                                                                              | M3 - M8                                                                               | M3 - M12                                                                              | M3 - M10                                                                              | M3 - M12                                                                              |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | 350                                                                                 | 351                                                                                 | 351                                                                                 | 352                                                                                 | 352                                                                                 | 353                                                                                 | 354                                                                                 | 355                                                                                 | 356                                                                                 | 357                                                                                  | 358                                                                                   | 359                                                                                   | 360                                                                                   | 361                                                                                   | 362                                                                                   |
| 1.1  | ●35                                                                                 | ●22                                                                                 | ●22                                                                                 |                                                                                     |                                                                                     | ●30                                                                                 | ■55                                                                                 | ■55                                                                                 | ■55                                                                                 | ■55                                                                                  | ■55                                                                                   |                                                                                       | ■55                                                                                   | ■55                                                                                   | ■55                                                                                   |
| 1.2  | ●35                                                                                 | ●20                                                                                 | ●20                                                                                 | ●20                                                                                 | ●20                                                                                 | ●27                                                                                 | ■50                                                                                 | ■50                                                                                 | ■50                                                                                 | ■50                                                                                  | ■50                                                                                   |                                                                                       | ■50                                                                                   | ■50                                                                                   | ■50                                                                                   |
| 1.3  | ■28                                                                                 | ■16                                                                                 | ■16                                                                                 | ■16                                                                                 | ■16                                                                                 | ●23                                                                                 | ■45                                                                                 | ■45                                                                                 | ■45                                                                                 | ■45                                                                                  | ■45                                                                                   |                                                                                       | ■45                                                                                   | ■45                                                                                   | ■45                                                                                   |
| 1.4  | ■24                                                                                 | ■12                                                                                 | ■12                                                                                 | ■12                                                                                 | ■12                                                                                 | ●20                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                  | ■40                                                                                   |                                                                                       | ■40                                                                                   | ■40                                                                                   | ■40                                                                                   |
| 1.5  | ●10                                                                                 | ●7                                                                                  | ●7                                                                                  | ●7                                                                                  | ●7                                                                                  |                                                                                     | ●20                                                                                 | ●20                                                                                 |                                                                                     | ●20                                                                                  | ●20                                                                                   |                                                                                       | ●20                                                                                   | ●20                                                                                   | ●20                                                                                   |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■18                                                                                 | ■18                                                                                 | ●18                                                                                 | ■18                                                                                  | ■18                                                                                   |                                                                                       | ■18                                                                                   | ■18                                                                                   | ■18                                                                                   |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■15                                                                                 | ■15                                                                                 | ●15                                                                                 | ■15                                                                                  | ■15                                                                                   |                                                                                       | ■15                                                                                   | ■15                                                                                   | ■15                                                                                   |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 | ●10                                                                                 |                                                                                     | ●10                                                                                  | ●10                                                                                   |                                                                                       | ●10                                                                                   | ●10                                                                                   | ●10                                                                                   |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■35                                                                                 | ■35                                                                                 | ■35                                                                                 | ■35                                                                                  | ■35                                                                                   |                                                                                       | ■35                                                                                   | ■35                                                                                   | ■35                                                                                   |
| 4.2  | ●10                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.3  | ●7                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■20                                                                                 | ■20                                                                                 | ■20                                                                                 | ■20                                                                                  | ■20                                                                                   |                                                                                       | ■20                                                                                   | ■20                                                                                   | ■20                                                                                   |
| 5.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●8                                                                                  | ●8                                                                                  | ●8                                                                                  | ●8                                                                                   | ●8                                                                                    |                                                                                       | ●8                                                                                    | ●8                                                                                    | ●8                                                                                    |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●25                                                                                 | ●25                                                                                 | ●25                                                                                 | ●25                                                                                  | ●25                                                                                   | ■25                                                                                   | ●25                                                                                   | ●25                                                                                   | ●25                                                                                   |
| 6.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●40                                                                                 | ●40                                                                                 | ●40                                                                                 | ●40                                                                                  | ●40                                                                                   | ■40                                                                                   | ●40                                                                                   | ●40                                                                                   | ●40                                                                                   |
| 6.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●22                                                                                 | ●40                                                                                 | ●40                                                                                 | ■40                                                                                 | ●40                                                                                  | ●40                                                                                   | ■40                                                                                   | ●40                                                                                   | ●40                                                                                   | ●40                                                                                   |
| 7.2  | ●35                                                                                 |                                                                                     |                                                                                     | ●30                                                                                 | ●30                                                                                 | ●38                                                                                 | ●55                                                                                 | ●55                                                                                 | ■55                                                                                 | ●55                                                                                  | ●55                                                                                   | ■55                                                                                   | ●55                                                                                   | ●55                                                                                   | ●55                                                                                   |
| 7.3  | ●20                                                                                 |                                                                                     |                                                                                     | ●15                                                                                 | ●15                                                                                 | ●22                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                 | ■40                                                                                  | ■40                                                                                   | ■40                                                                                   | ■40                                                                                   | ■40                                                                                   | ■40                                                                                   |
| 7.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●25                                                                                 | ●25                                                                                 | ●25                                                                                 | ●25                                                                                  | ●25                                                                                   |                                                                                       | ●25                                                                                   | ●25                                                                                   | ●25                                                                                   |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E650                                                                                | E269                                                                                | E268                                                                                | E242                                                                                | E290                                                                                | E105                                                                                | E365                                                                                | E411                                                                                | E364                                                                                | E366                                                                                 | E405                                                                                  | E363                                                                                  | E367                                                                                  | E219                                                                                  | E270                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                   | MF                                                                                    | MF                                                                                    | MF                                                                                    | MF                                                                                    | MF                                                                                    |
|      |    |    |    |    |    |    |    |    |    |     |     |    |    |    |    |
|      | HSS                                                                                 | HSCo XP                                                                             | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSS                                                                                 | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                 | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  | HSCo                                                                                  |
|      | ST                                                                                  | N                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | Cr                                                                                  | TiN                                                                                 | ST                                                                                  | Cr                                                                                   | ST TiAlN                                                                              | ST                                                                                    |                                                                                       |                                                                                       |                                                                                       |
|      | ISO                                                                                 | DIN 374                                                                             | DIN 374                                                                             | DIN 371                                                                             | DIN 374                                                                             | DIN 2181                                                                            | DIN 374                                                                             | DIN 374                                                                             | DIN 374                                                                             | DIN 374                                                                              | DIN 374                                                                               | DIN 374                                                                               | DIN 374                                                                               | DIN 371                                                                               | DIN 374                                                                               |
|      |    |    |    |    |    |    |    |    |    |     |     |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |     |     |    |    |    |    |
|      | 6H                                                                                  | 6HX                                                                                 | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                   | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    |
|      | 1.5xD                                                                               | 2xD                                                                                 | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2xD                                                                                  | 3xD                                                                                   | 2xD                                                                                   | 2.5xD                                                                                 | 1.5xD                                                                                 | 1.5xD                                                                                 |
|      | C                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | B                                                                                   | B                                                                                   | B                                                                                   | C                                                                                    | C                                                                                     | C                                                                                     | C                                                                                     | C                                                                                     | C                                                                                     |
|      |  |  |  |  |  |  |  |  |  |   |   |  |  |  |  |
|      | 7°                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      | 4°                                                                                    | 4°                                                                                    | 4°                                                                                    | 3°                                                                                    | 1°                                                                                    |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | M3 - M16                                                                            | M10 - M20                                                                           | M4 - M50                                                                            | M8 - M10                                                                            | M12 - M24                                                                           | M2.5 - M50                                                                          | M3 - M30                                                                            | M8 - M20                                                                            | M6 - M20                                                                            | M6 - M20                                                                             | M8 - M20                                                                              | M6 - M20                                                                              | M4 - M20                                                                              | M4 - M10                                                                              | M6 - M30                                                                              |
|      |                                                                                     |  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |  |  |  |  |  |  |                                                                                       |                                                                                       |
|      | 363                                                                                 | 364                                                                                 | 365                                                                                 | 367                                                                                 | 367                                                                                 | 368                                                                                 | 371                                                                                 | 372                                                                                 | 373                                                                                 | 374                                                                                  | 375                                                                                   | 376                                                                                   | 377                                                                                   | 378                                                                                   | 379                                                                                   |
| 1.1  | ●25                                                                                 |                                                                                     | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●                                                                                   | ■25                                                                                 | ■40                                                                                 |                                                                                     | ■25                                                                                  | ■30                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.2  | ●22                                                                                 |                                                                                     | ●10                                                                                 | ●10                                                                                 | ●10                                                                                 | ●                                                                                   | ■22                                                                                 | ■40                                                                                 |                                                                                     | ■22                                                                                  | ■30                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.3  | ●18                                                                                 |                                                                                     | ●8                                                                                  | ●8                                                                                  | ●8                                                                                  | ●                                                                                   | ■18                                                                                 | ■32                                                                                 |                                                                                     | ■18                                                                                  | ■25                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.4  | ●15                                                                                 |                                                                                     | ●6                                                                                  | ●6                                                                                  | ●6                                                                                  | ●                                                                                   | ●16                                                                                 | ●27                                                                                 |                                                                                     | ●16                                                                                  | ■20                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.5  |                                                                                     |                                                                                     | ●5                                                                                  | ●5                                                                                  | ●5                                                                                  | ●                                                                                   | ●10                                                                                 | ●13                                                                                 | ●10                                                                                 | ●10                                                                                  | ■15                                                                                   | ●10                                                                                   |                                                                                       | ●7                                                                                    | ●7                                                                                    |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  |                                                                                      |                                                                                       | ●5                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■8                                                                                  |                                                                                      | ●14                                                                                   | ■8                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■7                                                                                  |                                                                                      | ●10                                                                                   | ■7                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■5                                                                                  |                                                                                      | ●6                                                                                    | ■5                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  |                                                                                     | ■15                                                                                 | ●14                                                                                 | ●14                                                                                 | ●14                                                                                 | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.2  | ●8                                                                                  | ■8                                                                                  | ●8                                                                                  | ●8                                                                                  | ●8                                                                                  | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.3  |                                                                                     | ■15                                                                                 | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.4  |                                                                                     | ●8                                                                                  |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | ■15                                                                                   |                                                                                       |                                                                                       |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | ■12                                                                                   |                                                                                       |                                                                                       |
| 5.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   | ■12                                                                                 | ■18                                                                                 |                                                                                     | ■12                                                                                  |                                                                                       |                                                                                       | ●12                                                                                   |                                                                                       |                                                                                       |
| 6.2  | ●30                                                                                 | ●20                                                                                 | ●16                                                                                 | ●16                                                                                 | ●16                                                                                 | ●                                                                                   | ●30                                                                                 | ●45                                                                                 |                                                                                     | ●30                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.3  | ●20                                                                                 |                                                                                     | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●                                                                                   | ■20                                                                                 | ■35                                                                                 |                                                                                     | ■20                                                                                  |                                                                                       |                                                                                       | ●20                                                                                   |                                                                                       |                                                                                       |
| 6.4  |                                                                                     | ●5                                                                                  |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  | ●18                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      | ●16                                                                                   |                                                                                       | ■16                                                                                   |                                                                                       |                                                                                       |
| 7.2  | ●35                                                                                 |                                                                                     | ●20                                                                                 | ●20                                                                                 | ●20                                                                                 | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      | ●35                                                                                   |                                                                                       | ■35                                                                                   | ●30                                                                                   | ●30                                                                                   |
| 7.3  |                                                                                     |                                                                                     | ●12                                                                                 | ●12                                                                                 | ●12                                                                                 | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | ●20                                                                                   | ●15                                                                                   | ●15                                                                                   |
| 7.4  |                                                                                     | ●15                                                                                 |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.1  | ●30                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | ■30                                                                                   |                                                                                       |                                                                                       |
| 8.2  |                                                                                     | ■10                                                                                 | ●8                                                                                  | ●8                                                                                  | ●8                                                                                  | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E317                                                                                | E225                                                                                | E275                                                                                | E108                                                                                | E276                                                                                | E229                                                                                | E278                                                                                | E111                                                                                | E230                                                                                | E279                                                                                 | E115                                                                                  | L300                                                                                | L119                                                                                |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|      | MF                                                                                  | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNF                                                                                 | UNF                                                                                 | UNF                                                                                 | UNF                                                                                 | UNF                                                                                  | BSW                                                                                   |                                                                                     |                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |  |  |
|      | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSS                                                                                 | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSS                                                                                 | HSCo                                                                                | HSCo                                                                                 | HSS                                                                                   |                                                                                     |                                                                                     |
|      | TIN                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
|      | DIN 2174                                                                            | DIN 371                                                                             | DIN 376                                                                             | DIN 362                                                                             | DIN 376                                                                             | DIN 371                                                                             | DIN 374                                                                             | DIN 2181                                                                            | DIN 371                                                                             | DIN 374                                                                              | DIN 361                                                                               |                                                                                     |                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |                                                                                     |                                                                                     |
|      | 6HX                                                                                 | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                   | MEDIUM                                                                                |                                                                                     |                                                                                     |
|      | 3xD                                                                                 | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                                | 1.5xD                                                                                 |                                                                                     |                                                                                     |
|      | C 2-3.5                                                                             | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                                | C 2-3                                                                                 |                                                                                     |                                                                                     |
|      |  |  |  |  |  |  |  |  |  |  |  |                                                                                     |                                                                                     |
|      | M5 - M10                                                                            | No.2 - 1/4                                                                          | 5/16 - 1.1/2                                                                        | No.3 - 1"                                                                           | 1/4 - 1"                                                                            | No.2 - 1/4                                                                          | 5/16 - 1.1/2                                                                        | No.1 - 1"                                                                           | No.6 - 1/4                                                                          | 5/16 - 1"                                                                            | 3/32 - 2"                                                                             | Set 201 - Set 360                                                                   | No.17 - No.27                                                                       |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
|      | 380                                                                                 | 381                                                                                 | 382                                                                                 | 383                                                                                 | 384                                                                                 | 385                                                                                 | 386                                                                                 | 387                                                                                 | 388                                                                                 | 389                                                                                  | 390                                                                                   | 391                                                                                 | 392                                                                                 |
| 1.1  | ■55                                                                                 | ●12                                                                                 | ●12                                                                                 | ●                                                                                   |                                                                                     | ●12                                                                                 | ●12                                                                                 | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 1.2  | ■50                                                                                 | ●10                                                                                 | ●10                                                                                 | ●                                                                                   | ●20                                                                                 | ●10                                                                                 | ●10                                                                                 | ●                                                                                   | ●20                                                                                 | ●20                                                                                  | ●                                                                                     |                                                                                     |                                                                                     |
| 1.3  | ■45                                                                                 | ●8                                                                                  | ●8                                                                                  | ●                                                                                   | ■16                                                                                 | ●8                                                                                  | ●8                                                                                  | ●                                                                                   | ■16                                                                                 | ■16                                                                                  | ●                                                                                     |                                                                                     |                                                                                     |
| 1.4  | ■40                                                                                 | ●6                                                                                  | ●6                                                                                  | ●                                                                                   | ■12                                                                                 | ●6                                                                                  | ●6                                                                                  | ●                                                                                   | ■12                                                                                 | ■12                                                                                  | ●                                                                                     |                                                                                     |                                                                                     |
| 1.5  | ●20                                                                                 | ●5                                                                                  | ●5                                                                                  | ●                                                                                   | ●7                                                                                  | ●5                                                                                  | ●5                                                                                  | ●                                                                                   | ●7                                                                                  | ●7                                                                                   | ●                                                                                     |                                                                                     |                                                                                     |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 2.1  | ■18                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 2.2  | ■15                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 2.3  | ●10                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 3.1  |                                                                                     | ●14                                                                                 | ●14                                                                                 | ●                                                                                   |                                                                                     | ●14                                                                                 | ●14                                                                                 | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 3.2  |                                                                                     | ●8                                                                                  | ●8                                                                                  | ●                                                                                   |                                                                                     | ●8                                                                                  | ●8                                                                                  | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 3.3  |                                                                                     | ●12                                                                                 | ●12                                                                                 | ●                                                                                   |                                                                                     | ●12                                                                                 | ●12                                                                                 | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 3.4  |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 4.1  | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 5.1  | ■20                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 5.2  | ●8                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 6.1  | ●25                                                                                 |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 6.2  |                                                                                     | ●16                                                                                 | ●16                                                                                 | ●                                                                                   |                                                                                     | ●16                                                                                 | ●16                                                                                 | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 6.3  | ●40                                                                                 | ●12                                                                                 | ●12                                                                                 | ●                                                                                   |                                                                                     | ●12                                                                                 | ●12                                                                                 | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 6.4  |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 7.1  | ●40                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 7.2  | ●55                                                                                 | ●20                                                                                 | ●20                                                                                 | ●                                                                                   | ●30                                                                                 | ●20                                                                                 | ●20                                                                                 | ●                                                                                   | ●30                                                                                 | ●30                                                                                  | ●                                                                                     |                                                                                     |                                                                                     |
| 7.3  | ■40                                                                                 | ●12                                                                                 | ●12                                                                                 | ●                                                                                   | ●15                                                                                 | ●12                                                                                 | ●12                                                                                 | ●                                                                                   | ●15                                                                                 | ●15                                                                                  | ●                                                                                     |                                                                                     |                                                                                     |
| 7.4  | ●25                                                                                 |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 8.2  |                                                                                     | ●8                                                                                  | ●8                                                                                  | ●                                                                                   |                                                                                     | ●8                                                                                  | ●8                                                                                  | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 8.3  |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                     |                                                                                     | ●                                                                                   |                                                                                     |                                                                                      | ●                                                                                     |                                                                                     |                                                                                     |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                     |                                                                                     |





|      | E053                                                                                | E500                                                                                | E504                                                                                | E800                                                                                | E501                                                                                | E600                                                                                | E610                                                                                | E000                                                                                | E001                                                                                | E049                                                                                 | E045                                                                                  | E046                                                                                  | E509                                                                                  | E510                                                                                  | E606                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                    | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSCo                                                                                | HSS                                                                                 | HSS                                                                                 | CS                                                                                  | HSS                                                                                 | HSCo                                                                                | HSCo                                                                                | HSS XS1                                                                             | HSS XS1                                                                             | HSS XS1                                                                              | HSS XS1                                                                               | HSS XS1                                                                               | HSS                                                                                   | HSS                                                                                   | HSCo                                                                                  |
|      | TiAlN                                                                               |                                                                                     | TiN                                                                                 |                                                                                     |                                                                                     |                                                                                     | TiN                                                                                 | Gold                                                                                | ST                                                                                  | TiAlN                                                                                | ST                                                                                    | Super                                                                                 | ST                                                                                    |                                                                                       |                                                                                       |
|      | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                             | ISO                                                                                 | ISO 529                                                                             | ISO 2283                                                                            | ISO 2283                                                                            | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                              | ISO 529                                                                               | ISO 529                                                                               | ISO 529                                                                               | ISO 529                                                                               | ISO 2283                                                                              |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 6HX                                                                                 | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                   | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    | 6H                                                                                    |
|      | 2xD                                                                                 | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                                | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 | 1xD                                                                                   | 2.5xD                                                                                 |
|      | C 2-3                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | C 2-3                                                                               | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                              | B 3.5-5                                                                               | B 3.5-5                                                                               | B 3.5-5                                                                               | B 3.5-5                                                                               | B 3.5-5                                                                               |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      | M3 - M20                                                                            | M1 - M56                                                                            | M3 - M24                                                                            | M3 - M24                                                                            | M3 - M24                                                                            | M3 - M7                                                                             | M3 - M16                                                                            | M3 - M24                                                                            | M3 - M24                                                                            | M3 - M20                                                                             | M3 - M20                                                                              | M3 - M20                                                                              | M1.6 - M24                                                                            | M3 - M12                                                                              | M3 - M30                                                                              |
|      | MTE-X                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                                | MTE-X                                                                                 | MTE-X                                                                                 |                                                                                       |                                                                                       |                                                                                       |
|      | 399                                                                                 | 400                                                                                 | 403                                                                                 | 404                                                                                 | 406                                                                                 | 407                                                                                 | 408                                                                                 | 409                                                                                 | 410                                                                                 | 411                                                                                  | 412                                                                                   | 412                                                                                   | 413                                                                                   | 414                                                                                   | 415                                                                                   |
| 1.1  |                                                                                     | •7                                                                                  | •14                                                                                 | •                                                                                   | •7                                                                                  | •7                                                                                  | •14                                                                                 | ■25                                                                                 | ■25                                                                                 | ■40                                                                                  |                                                                                       |                                                                                       | •20                                                                                   |                                                                                       | •20                                                                                   |
| 1.2  |                                                                                     | •6                                                                                  | •12                                                                                 | •                                                                                   | •6                                                                                  | •6                                                                                  | •12                                                                                 | ■22                                                                                 | ■22                                                                                 | ■40                                                                                  |                                                                                       |                                                                                       | •18                                                                                   |                                                                                       | •18                                                                                   |
| 1.3  |                                                                                     | •5                                                                                  | •10                                                                                 | •                                                                                   | •5                                                                                  | •5                                                                                  | •10                                                                                 | ■18                                                                                 | ■18                                                                                 | ■32                                                                                  |                                                                                       |                                                                                       | •14                                                                                   |                                                                                       | •14                                                                                   |
| 1.4  |                                                                                     | •4                                                                                  | •8                                                                                  | •                                                                                   | •4                                                                                  | •4                                                                                  | •8                                                                                  | ■16                                                                                 | ■16                                                                                 | ■30                                                                                  |                                                                                       |                                                                                       | •10                                                                                   |                                                                                       | •10                                                                                   |
| 1.5  |                                                                                     | •3                                                                                  | •6                                                                                  | •                                                                                   | •3                                                                                  | •3                                                                                  | •6                                                                                  | ■10                                                                                 | ■10                                                                                 | ■17                                                                                  | •10                                                                                   | •17                                                                                   | •5                                                                                    | •7                                                                                    | •5                                                                                    |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  | •5                                                                                  | •11                                                                                  | •5                                                                                    | •11                                                                                   | •3                                                                                    | •4                                                                                    | •3                                                                                    |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •7                                                                                  |                                                                                      | ■8                                                                                    | ■14                                                                                   | •6                                                                                    | •7                                                                                    | •6                                                                                    |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •6                                                                                  |                                                                                      | ■7                                                                                    | ■10                                                                                   | •4                                                                                    | •5                                                                                    | •4                                                                                    |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •4                                                                                  |                                                                                      | ■5                                                                                    | ■6                                                                                    | •3                                                                                    | •7                                                                                    | •3                                                                                    |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      | ■5                                                                                    | ■6                                                                                    |                                                                                       |                                                                                       |                                                                                       |
| 3.1  | ■22                                                                                 | •12                                                                                 | ■18                                                                                 | •                                                                                   | •12                                                                                 | •12                                                                                 | ■18                                                                                 | •15                                                                                 | •15                                                                                 | •22                                                                                  |                                                                                       |                                                                                       |                                                                                       | •12                                                                                   |                                                                                       |
| 3.2  | ■18                                                                                 | •7                                                                                  | ■12                                                                                 | •                                                                                   | •7                                                                                  | •7                                                                                  | ■12                                                                                 | •8                                                                                  | •8                                                                                  | •18                                                                                  |                                                                                       |                                                                                       |                                                                                       | •7                                                                                    |                                                                                       |
| 3.3  | ■25                                                                                 | •10                                                                                 | ■22                                                                                 | •                                                                                   | •10                                                                                 | •10                                                                                 | ■22                                                                                 | •15                                                                                 | •15                                                                                 | •25                                                                                  |                                                                                       |                                                                                       |                                                                                       | •10                                                                                   |                                                                                       |
| 3.4  | •18                                                                                 | •5                                                                                  | •12                                                                                 | •                                                                                   | •5                                                                                  | •5                                                                                  | •12                                                                                 | •8                                                                                  | •8                                                                                  | •18                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •10                                                                                 |                                                                                     |                                                                                      |                                                                                       | ■15                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  |                                                                                     | •7                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •12                                                                                 |                                                                                     |                                                                                      |                                                                                       | •15                                                                                   | •10                                                                                   |                                                                                       | •10                                                                                   |
| 5.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  |                                                                                     | •8                                                                                   |                                                                                       | •8                                                                                    | •4                                                                                    |                                                                                       | •4                                                                                    |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     | •4                                                                                  |                                                                                     | •                                                                                   | •4                                                                                  | •4                                                                                  |                                                                                     | ■12                                                                                 |                                                                                     | ■18                                                                                  |                                                                                       |                                                                                       | •10                                                                                   |                                                                                       | •10                                                                                   |
| 6.2  | •30                                                                                 | •10                                                                                 | •20                                                                                 | •                                                                                   | •10                                                                                 | •10                                                                                 | •20                                                                                 | •30                                                                                 |                                                                                     | •45                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.3  |                                                                                     | •7                                                                                  | •14                                                                                 | •                                                                                   | •7                                                                                  | •7                                                                                  | •14                                                                                 | ■20                                                                                 |                                                                                     | ■35                                                                                  |                                                                                       |                                                                                       | •15                                                                                   |                                                                                       | •15                                                                                   |
| 6.4  | •4                                                                                  | •2                                                                                  | •4                                                                                  | •                                                                                   | •2                                                                                  | •2                                                                                  | •4                                                                                  |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■16                                                                                 |                                                                                     |                                                                                      |                                                                                       |                                                                                       | •10                                                                                   |                                                                                       | •10                                                                                   |
| 7.2  |                                                                                     | •12                                                                                 | •24                                                                                 | •                                                                                   | •12                                                                                 | •12                                                                                 | •24                                                                                 | ■35                                                                                 |                                                                                     |                                                                                      |                                                                                       |                                                                                       | •25                                                                                   |                                                                                       | •25                                                                                   |
| 7.3  |                                                                                     | •7                                                                                  | •14                                                                                 | •                                                                                   | •7                                                                                  | •7                                                                                  | •14                                                                                 | ■20                                                                                 |                                                                                     |                                                                                      |                                                                                       |                                                                                       | •13                                                                                   |                                                                                       | •13                                                                                   |
| 7.4  | •20                                                                                 | •5                                                                                  | •10                                                                                 | •                                                                                   | •5                                                                                  | •5                                                                                  | •10                                                                                 | ■15                                                                                 |                                                                                     |                                                                                      |                                                                                       |                                                                                       | •10                                                                                   |                                                                                       | •10                                                                                   |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •30                                                                                 |                                                                                     |                                                                                      |                                                                                       |                                                                                       | •20                                                                                   |                                                                                       | •20                                                                                   |
| 8.2  | ■15                                                                                 | •5                                                                                  | •10                                                                                 | •                                                                                   | •5                                                                                  | •5                                                                                  | •10                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  |                                                                                     | •3                                                                                  | •6                                                                                  | •                                                                                   | •3                                                                                  | •3                                                                                  | •6                                                                                  |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E002                                                                                | E003                                                                                | E050                                                                                | E051                                                                                | E047                                                                                | E048                                                                                | E044                                                                                | E052                                                                                | E507                                                                                | E605                                                                                 | E090                                                                                  | E097                                                                                  | E091                                                                                  | E098                                                                                  | E096                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                   | M                                                                                    | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     | M                                                                                     |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSSCo                                                                               | HSS<br>XS1                                                                          | HSS                                                                                 | HSSCo                                                                                | HSS<br>XS1                                                                            | HSS<br>XS1                                                                            | HSS<br>XS1                                                                            | HSS<br>XS1                                                                            | HSS<br>XS1                                                                            |
|      | Gold                                                                                | ST                                                                                  | TiAIN                                                                               | TiAIN                                                                               | ST                                                                                  | Super                                                                               | Gold                                                                                | Gold                                                                                | ST                                                                                  |                                                                                      | Gold                                                                                  | CrN                                                                                   | TiN                                                                                   | TiN                                                                                   | TiN                                                                                   |
|      | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>2283                                                                          | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                  | 6H                                                                                   | 6HX                                                                                   | 6HX                                                                                   | 6HX                                                                                   | 6HX                                                                                   | 6HX                                                                                   |
|      | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2xD                                                                                 | 2xD                                                                                 | 2xD                                                                                 | 2xD                                                                                  | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 |
|      | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                             | C<br>2-3                                                                              | C<br>2-3                                                                              | C<br>2-3                                                                              | E<br>1.5-2                                                                            | C<br>2-3                                                                              |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | M3 - M24                                                                            | M3 - M24                                                                            | M3 - M20                                                                            | M6 - M20                                                                            | M3 - M20                                                                            | M3 - M20                                                                            | M8 - M20                                                                            | M3 - M16                                                                            | M2 - M24                                                                            | M3 - M20                                                                             | M2 - M16                                                                              | M2 - M16                                                                              | M2 - M16                                                                              | M3 - M10                                                                              | M3 - M16                                                                              |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               |                                                                                     |                                                                                      | MTE-X                                                                                 | MTE-X                                                                                 | MTE-X                                                                                 | MTE-X                                                                                 | MTE-X                                                                                 |
|      | 416                                                                                 | 417                                                                                 | 418                                                                                 | 418                                                                                 | 419                                                                                 | 419                                                                                 | 420                                                                                 | 420                                                                                 | 421                                                                                 | 422                                                                                  | 423                                                                                   | 423                                                                                   | 424                                                                                   | 424                                                                                   | 425                                                                                   |
| 1.1  | ■25                                                                                 | ■25                                                                                 | ■40                                                                                 | ■40                                                                                 |                                                                                     |                                                                                     | ●25                                                                                 | ●25                                                                                 |                                                                                     |                                                                                      | ●30                                                                                   | ■55                                                                                   | ■55                                                                                   | ■55                                                                                   | ■55                                                                                   |
| 1.2  | ■22                                                                                 | ■22                                                                                 | ■40                                                                                 | ■40                                                                                 |                                                                                     |                                                                                     | ●22                                                                                 | ●22                                                                                 | ●18                                                                                 | ●18                                                                                  | ●27                                                                                   | ■50                                                                                   | ■50                                                                                   | ■50                                                                                   | ■50                                                                                   |
| 1.3  | ■18                                                                                 | ■18                                                                                 | ■32                                                                                 | ■32                                                                                 |                                                                                     | ●32                                                                                 | ●18                                                                                 | ●18                                                                                 | ●14                                                                                 | ●14                                                                                  | ●23                                                                                   | ■45                                                                                   | ■45                                                                                   | ■45                                                                                   | ■45                                                                                   |
| 1.4  | ■16                                                                                 | ■16                                                                                 | ■30                                                                                 | ■30                                                                                 |                                                                                     | ●27                                                                                 | ■16                                                                                 | ■16                                                                                 | ●10                                                                                 | ●10                                                                                  | ●20                                                                                   | ●40                                                                                   | ■40                                                                                   | ■40                                                                                   | ■40                                                                                   |
| 1.5  | ■10                                                                                 | ■10                                                                                 | ■17                                                                                 | ■17                                                                                 | ●10                                                                                 | ●13                                                                                 | ■10                                                                                 | ■10                                                                                 | ●5                                                                                  | ●5                                                                                   |                                                                                       |                                                                                       | ●20                                                                                   | ●20                                                                                   | ●20                                                                                   |
| 1.6  |                                                                                     |                                                                                     | ●11                                                                                 | ●11                                                                                 | ●5                                                                                  | ●11                                                                                 | ■5                                                                                  |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     | ●7                                                                                  |                                                                                     |                                                                                     | ■8                                                                                  | ■14                                                                                 |                                                                                     |                                                                                     | ●6                                                                                  | ●6                                                                                   |                                                                                       | ●18                                                                                   | ■18                                                                                   | ■18                                                                                   | ■18                                                                                   |
| 2.2  |                                                                                     | ●6                                                                                  |                                                                                     |                                                                                     | ■7                                                                                  | ■10                                                                                 |                                                                                     |                                                                                     | ●4                                                                                  | ●4                                                                                   |                                                                                       | ●15                                                                                   | ■15                                                                                   | ■15                                                                                   | ■15                                                                                   |
| 2.3  |                                                                                     | ●4                                                                                  |                                                                                     |                                                                                     | ■5                                                                                  | ■6                                                                                  |                                                                                     |                                                                                     | ●3                                                                                  | ●3                                                                                   |                                                                                       |                                                                                       | ●10                                                                                   | ●10                                                                                   | ●10                                                                                   |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■5                                                                                  | ■6                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.1  | ●10                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ■35                                                                                   | ■35                                                                                   | ■35                                                                                   | ■35                                                                                   |
| 4.2  | ●5                                                                                  |                                                                                     | ●7                                                                                  | ●7                                                                                  |                                                                                     |                                                                                     | ●5                                                                                  |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.1  | ●12                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ■20                                                                                   | ■20                                                                                   | ■20                                                                                   | ■20                                                                                   |
| 5.2  | ●5                                                                                  |                                                                                     | ●8                                                                                  |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  |                                                                                     | ●4                                                                                  | ●4                                                                                   |                                                                                       | ●8                                                                                    | ●8                                                                                    | ●8                                                                                    | ●8                                                                                    |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     |                                                                                     | ■18                                                                                 | ■18                                                                                 |                                                                                     |                                                                                     |                                                                                     | ●12                                                                                 |                                                                                     |                                                                                      |                                                                                       | ●25                                                                                   | ●25                                                                                   | ●25                                                                                   | ●25                                                                                   |
| 6.2  |                                                                                     |                                                                                     | ●45                                                                                 | ●45                                                                                 |                                                                                     |                                                                                     |                                                                                     | ■30                                                                                 |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.3  |                                                                                     |                                                                                     | ■35                                                                                 | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                     | ■20                                                                                 |                                                                                     |                                                                                      |                                                                                       | ●40                                                                                   | ●40                                                                                   | ●40                                                                                   | ●40                                                                                   |
| 6.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  | ■16                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●16                                                                                 | ●10                                                                                 | ●10                                                                                  | ●22                                                                                   | ■40                                                                                   | ●40                                                                                   | ●40                                                                                   | ●40                                                                                   |
| 7.2  | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■35                                                                                 | ●25                                                                                 | ●25                                                                                  | ●38                                                                                   | ■55                                                                                   | ●55                                                                                   | ●55                                                                                   | ●55                                                                                   |
| 7.3  | ■20                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■20                                                                                 | ●13                                                                                 | ●13                                                                                  | ●22                                                                                   | ■40                                                                                   | ■40                                                                                   | ■40                                                                                   | ■40                                                                                   |
| 7.4  | ■15                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■15                                                                                 | ●10                                                                                 | ●10                                                                                  |                                                                                       | ●25                                                                                   | ●25                                                                                   | ●25                                                                                   | ●25                                                                                   |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E099                                                                                | E080                                                                                | E620                                                                                | E621                                                                                | E054                                                                                | E513                                                                                | E010                                                                                | E011                                                                                | E012                                                                                | E013                                                                                 | E564                                                                                  | E059                                                                                  | E515                                                                                  | E517                                                                                  | E020                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | M                                                                                   | M                                                                                   | EGM                                                                                 | EGM                                                                                 | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                  | MF                                                                                   | MF                                                                                    | UNC                                                                                   | UNC                                                                                   | UNC                                                                                   | UNC                                                                                   |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS                                                                                 | HSS                                                                                 | HSSCo                                                                               | HSS                                                                                 | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                           | HSSCo                                                                                 | HSSCo                                                                                 | HSS                                                                                   | HSS                                                                                   | HSS<br>XS1                                                                            |
|      | TIN                                                                                 | Distal                                                                              |                                                                                     |                                                                                     | TiAlN                                                                               |                                                                                     | Gold                                                                                | ST                                                                                  | Gold                                                                                | ST                                                                                   | TIN                                                                                   | TiAlN                                                                                 |                                                                                       | TIN                                                                                   | Gold                                                                                  |
|      | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO                                                                                 | ISO                                                                                 | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                           | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 3xD                                                                                 | 2.5xD                                                                               | 1.5xD                                                                               | 2xD                                                                                 | 2xD                                                                                 | 1.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                                | 2.5xD                                                                                 | 2xD                                                                                   | 1.5xD                                                                                 | 1.5xD                                                                                 | 2.5xD                                                                                 |
|      | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            | C<br>2-3                                                                            |                                                                                     | B<br>3.5-5                                                                          | B<br>3.5-5                                                                          | C<br>2-3                                                                            | C<br>2-3                                                                             | C<br>2-3                                                                              | C<br>2-3                                                                              |                                                                                       |                                                                                       | B<br>3.5-5                                                                            |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      |  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | M4 - M16                                                                            | M2 - M8                                                                             | M3 - M16                                                                            | M3 - M16                                                                            | M8 - M16                                                                            | M3 - M52                                                                            | M4 - M24                                                                            | M4 - M24                                                                            | M4 - M22                                                                            | M4 - M22                                                                             | M4 - M16                                                                              | 1/4 - 3/4                                                                             | No.1 - 2"                                                                             | No.5 - 1"                                                                             | No.2 - 1"                                                                             |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | MTE-X                                                                               | MTE-X                                                                               |                                                                                     |                                                                                     | MTE-X                                                                               |                                                                                     | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                                |                                                                                       | MTE-X                                                                                 |                                                                                       |                                                                                       | MTE-X                                                                                 |
|      | 425                                                                                 | 426                                                                                 | 427                                                                                 | 427                                                                                 | 428                                                                                 | 429                                                                                 | 432                                                                                 | 433                                                                                 | 434                                                                                 | 435                                                                                  | 436                                                                                   | 437                                                                                   | 438                                                                                   | 440                                                                                   | 441                                                                                   |
| 1.1  | ■55                                                                                 |                                                                                     | ●7                                                                                  |                                                                                     |                                                                                     | ●7                                                                                  | ■25                                                                                 | ■25                                                                                 | ■25                                                                                 | ■25                                                                                  | ■55                                                                                   |                                                                                       | ●7                                                                                    | ●14                                                                                   | ■25                                                                                   |
| 1.2  | ■50                                                                                 |                                                                                     | ●6                                                                                  | ●18                                                                                 |                                                                                     | ●6                                                                                  | ■22                                                                                 | ■22                                                                                 | ■22                                                                                 | ■22                                                                                  | ■50                                                                                   |                                                                                       | ●6                                                                                    | ●12                                                                                   | ■22                                                                                   |
| 1.3  | ■45                                                                                 |                                                                                     | ●5                                                                                  | ●14                                                                                 |                                                                                     | ●5                                                                                  | ■18                                                                                 | ■18                                                                                 | ■18                                                                                 | ■18                                                                                  | ■45                                                                                   |                                                                                       | ●5                                                                                    | ●10                                                                                   | ■18                                                                                   |
| 1.4  | ■40                                                                                 |                                                                                     | ●4                                                                                  | ●10                                                                                 |                                                                                     | ●4                                                                                  | ■16                                                                                 | ■16                                                                                 | ■16                                                                                 | ■16                                                                                  | ■40                                                                                   |                                                                                       | ●4                                                                                    | ●8                                                                                    | ■16                                                                                   |
| 1.5  | ●20                                                                                 |                                                                                     | ●3                                                                                  | ●5                                                                                  |                                                                                     | ●3                                                                                  | ■10                                                                                 | ■10                                                                                 | ■10                                                                                 | ■10                                                                                  | ●20                                                                                   |                                                                                       | ●3                                                                                    | ●6                                                                                    | ■10                                                                                   |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  | ●5                                                                                  |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ●5                                                                                    |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  | ■18                                                                                 |                                                                                     |                                                                                     | ●6                                                                                  |                                                                                     |                                                                                     |                                                                                     | ●7                                                                                  |                                                                                     | ●7                                                                                   | ■18                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.2  | ■15                                                                                 |                                                                                     |                                                                                     | ●4                                                                                  |                                                                                     |                                                                                     |                                                                                     | ●6                                                                                  |                                                                                     | ●6                                                                                   | ■15                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.3  | ●10                                                                                 |                                                                                     |                                                                                     | ●3                                                                                  |                                                                                     |                                                                                     |                                                                                     | ●4                                                                                  |                                                                                     | ●4                                                                                   | ●10                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  |                                                                                     |                                                                                     | ●12                                                                                 |                                                                                     | ■22                                                                                 | ●12                                                                                 | ●15                                                                                 | ●15                                                                                 |                                                                                     |                                                                                      |                                                                                       | ■22                                                                                   | ●12                                                                                   | ■18                                                                                   | ●15                                                                                   |
| 3.2  |                                                                                     |                                                                                     | ●7                                                                                  |                                                                                     | ■18                                                                                 | ●7                                                                                  | ●8                                                                                  | ●8                                                                                  |                                                                                     |                                                                                      |                                                                                       | ■18                                                                                   | ●7                                                                                    | ■12                                                                                   | ●8                                                                                    |
| 3.3  |                                                                                     |                                                                                     | ●10                                                                                 |                                                                                     | ■25                                                                                 | ●10                                                                                 | ●15                                                                                 | ●15                                                                                 |                                                                                     |                                                                                      |                                                                                       | ■25                                                                                   | ●10                                                                                   | ■22                                                                                   | ●15                                                                                   |
| 3.4  |                                                                                     |                                                                                     | ●5                                                                                  |                                                                                     | ●18                                                                                 | ●5                                                                                  | ●8                                                                                  | ●8                                                                                  |                                                                                     |                                                                                      |                                                                                       | ●18                                                                                   | ●5                                                                                    | ●12                                                                                   | ●8                                                                                    |
| 4.1  | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 |                                                                                     | ●10                                                                                 |                                                                                      | ■35                                                                                   |                                                                                       |                                                                                       |                                                                                       | ●10                                                                                   |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  |                                                                                     | ●5                                                                                  |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ●5                                                                                    |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.1  | ■20                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●12                                                                                 |                                                                                     | ●12                                                                                 |                                                                                      | ■20                                                                                   |                                                                                       |                                                                                       |                                                                                       | ●12                                                                                   |
| 5.2  | ●8                                                                                  |                                                                                     |                                                                                     | ●4                                                                                  |                                                                                     |                                                                                     | ●5                                                                                  |                                                                                     | ●5                                                                                  |                                                                                      | ●8                                                                                    |                                                                                       |                                                                                       |                                                                                       | ●5                                                                                    |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  | ●25                                                                                 | ■25                                                                                 | ●4                                                                                  |                                                                                     |                                                                                     | ●4                                                                                  | ■12                                                                                 |                                                                                     |                                                                                     |                                                                                      | ●25                                                                                   |                                                                                       | ●4                                                                                    |                                                                                       | ■12                                                                                   |
| 6.2  |                                                                                     |                                                                                     | ●10                                                                                 |                                                                                     | ●30                                                                                 | ●10                                                                                 | ●30                                                                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ●30                                                                                   | ●10                                                                                   | ●20                                                                                   | ●30                                                                                   |
| 6.3  | ●40                                                                                 | ■40                                                                                 | ●7                                                                                  |                                                                                     |                                                                                     | ●7                                                                                  | ■20                                                                                 |                                                                                     |                                                                                     |                                                                                      | ●40                                                                                   |                                                                                       | ●7                                                                                    | ●14                                                                                   | ■20                                                                                   |
| 6.4  |                                                                                     |                                                                                     | ●2                                                                                  |                                                                                     | ●4                                                                                  | ●2                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ●4                                                                                    | ●2                                                                                    | ●4                                                                                    |                                                                                       |
| 7.1  | ●40                                                                                 | ■40                                                                                 |                                                                                     | ●10                                                                                 |                                                                                     |                                                                                     | ■16                                                                                 |                                                                                     | ■16                                                                                 |                                                                                      | ●40                                                                                   |                                                                                       |                                                                                       |                                                                                       | ■16                                                                                   |
| 7.2  | ●55                                                                                 | ■55                                                                                 | ●12                                                                                 | ●25                                                                                 |                                                                                     | ●12                                                                                 | ■35                                                                                 |                                                                                     | ■35                                                                                 |                                                                                      | ●55                                                                                   |                                                                                       | ●12                                                                                   | ●24                                                                                   | ■35                                                                                   |
| 7.3  | ■40                                                                                 | ■40                                                                                 | ●7                                                                                  | ●13                                                                                 |                                                                                     | ●7                                                                                  | ■20                                                                                 |                                                                                     | ■20                                                                                 |                                                                                      | ■40                                                                                   |                                                                                       | ●7                                                                                    | ●14                                                                                   | ■20                                                                                   |
| 7.4  | ●25                                                                                 |                                                                                     | ●5                                                                                  | ●10                                                                                 | ●20                                                                                 | ●5                                                                                  | ■15                                                                                 |                                                                                     | ■15                                                                                 |                                                                                      | ●25                                                                                   | ●20                                                                                   | ●5                                                                                    | ●10                                                                                   | ■15                                                                                   |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●30                                                                                 |                                                                                     | ●30                                                                                 |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       | ●30                                                                                   |
| 8.2  |                                                                                     |                                                                                     | ●5                                                                                  |                                                                                     | ■15                                                                                 | ●5                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ■15                                                                                   | ●5                                                                                    | ●10                                                                                   |                                                                                       |
| 8.3  |                                                                                     |                                                                                     | ●3                                                                                  |                                                                                     |                                                                                     | ●3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | ●3                                                                                    | ●6                                                                                    |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E021                                                                                | E057                                                                                | E055                                                                                | E022                                                                                | E023                                                                                | E058                                                                                | E056                                                                                | E523                                                                                | E596                                                                                | E524                                                                                 | E526                                                                                  | E030                                                                                  | E031                                                                                  | E060                                                                                  | E032                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNC                                                                                 | UNF                                                                                  | UNF                                                                                   | UNF                                                                                   | UNF                                                                                   | UNF                                                                                   | UNF                                                                                   |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS<br>XS1                                                                          | HSS                                                                                 | HSS                                                                                 | HSS                                                                                  | HSS                                                                                   | HSS<br>XS1                                                                            | HSS<br>XS1                                                                            | HSS<br>XS1                                                                            | HSS<br>XS1                                                                            |
|      | ST                                                                                  | TiAlN                                                                               | ST                                                                                  | Gold                                                                                | ST                                                                                  | TiAlN                                                                               | ST                                                                                  |                                                                                     | CrN                                                                                 |                                                                                      | TiN                                                                                   | Gold                                                                                  | ST                                                                                    | ST                                                                                    | Gold                                                                                  |
|      | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                          | ISO<br>529                                                                           | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            | ISO<br>529                                                                            |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2B                                                                                  | 2BX                                                                                 | 2BX                                                                                 | 2B                                                                                   | 2B                                                                                    | 2B                                                                                    | 2B                                                                                    | 2B                                                                                    | 2B                                                                                    |
|      | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2xD                                                                                 | 2.5xD                                                                               | 2.5xD                                                                               | 1.5xD                                                                                | 1.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 | 2.5xD                                                                                 |
|      | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | B<br>3.5 - 5                                                                        | C<br>2 - 3                                                                          | C<br>2 - 3                                                                          | C<br>2 - 3                                                                          | C<br>2 - 3                                                                          | C<br>2 - 3                                                                          | C<br>2 - 3                                                                          |                                                                                      |                                                                                       | B<br>3.5 - 5                                                                          | B<br>3.5 - 5                                                                          | B<br>3.5 - 5                                                                          | C<br>2 - 3                                                                            |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | No.2 - 1"                                                                           | No.6 - 3/4                                                                          | No.4 - 3/4                                                                          | No.2 - 1"                                                                           | No.2 - 1"                                                                           | No.6 - 3/4                                                                          | No.4 - 3/4                                                                          | No.4 - 3/8                                                                          | No.4 - 3/8                                                                          | No.0<br>- 1.1/2                                                                      | No.8 - 3/4                                                                            | No.8 - 1"                                                                             | No.8 - 1"                                                                             | No.10<br>- 3/8                                                                        | No.8 - 1"                                                                             |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               | MTE-X                                                                               |                                                                                     |                                                                                     |                                                                                      |                                                                                       | MTE-X                                                                                 | MTE-X                                                                                 | MTE-X                                                                                 | MTE-X                                                                                 |
|      | 442                                                                                 | 443                                                                                 | 443                                                                                 | 444                                                                                 | 445                                                                                 | 446                                                                                 | 446                                                                                 | 447                                                                                 | 447                                                                                 | 448                                                                                  | 450                                                                                   | 451                                                                                   | 451                                                                                   | 452                                                                                   | 453                                                                                   |
| 1.1  | ■25                                                                                 | ■40                                                                                 |                                                                                     | ■25                                                                                 | ■25                                                                                 | ■40                                                                                 |                                                                                     | ●30                                                                                 | ■55                                                                                 | ●7                                                                                   | ●14                                                                                   | ■25                                                                                   | ■25                                                                                   |                                                                                       | ■25                                                                                   |
| 1.2  | ■22                                                                                 | ■40                                                                                 |                                                                                     | ■22                                                                                 | ■22                                                                                 | ■40                                                                                 |                                                                                     | ●27                                                                                 | ■50                                                                                 | ●6                                                                                   | ●12                                                                                   | ■22                                                                                   | ■22                                                                                   |                                                                                       | ■22                                                                                   |
| 1.3  | ■18                                                                                 | ■32                                                                                 |                                                                                     | ■18                                                                                 | ■18                                                                                 | ■32                                                                                 |                                                                                     | ●23                                                                                 | ■45                                                                                 | ●5                                                                                   | ●10                                                                                   | ■18                                                                                   | ■18                                                                                   |                                                                                       | ■18                                                                                   |
| 1.4  | ■16                                                                                 | ■30                                                                                 |                                                                                     | ■16                                                                                 | ■16                                                                                 | ■30                                                                                 |                                                                                     | ●20                                                                                 | ●40                                                                                 | ●4                                                                                   | ●8                                                                                    | ■16                                                                                   | ■16                                                                                   |                                                                                       | ■16                                                                                   |
| 1.5  | ■10                                                                                 | ■17                                                                                 | ●10                                                                                 | ■10                                                                                 | ■10                                                                                 | ■17                                                                                 | ●10                                                                                 |                                                                                     |                                                                                     | ●3                                                                                   | ●6                                                                                    | ■10                                                                                   | ■10                                                                                   | ●10                                                                                   | ■10                                                                                   |
| 1.6  | ●5                                                                                  | ●11                                                                                 | ●5                                                                                  |                                                                                     |                                                                                     | ●11                                                                                 | ●5                                                                                  |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ●5                                                                                    | ●5                                                                                    | ●5                                                                                    | ●5                                                                                    |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  | ●7                                                                                  |                                                                                     | ■8                                                                                  |                                                                                     | ●7                                                                                  |                                                                                     | ■8                                                                                  |                                                                                     | ●18                                                                                 |                                                                                      |                                                                                       |                                                                                       | ●7                                                                                    | ■8                                                                                    |                                                                                       |
| 2.2  | ●6                                                                                  |                                                                                     | ■7                                                                                  |                                                                                     | ●6                                                                                  |                                                                                     | ■7                                                                                  |                                                                                     | ●15                                                                                 |                                                                                      |                                                                                       |                                                                                       | ●6                                                                                    | ■7                                                                                    |                                                                                       |
| 2.3  | ●4                                                                                  |                                                                                     | ■5                                                                                  |                                                                                     | ●4                                                                                  |                                                                                     | ■5                                                                                  |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       | ●4                                                                                    | ■5                                                                                    |                                                                                       |
| 2.4  |                                                                                     |                                                                                     | ■5                                                                                  |                                                                                     |                                                                                     |                                                                                     | ■5                                                                                  |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       | ■5                                                                                    |                                                                                       |
| 3.1  | ●15                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●12                                                                                  | ■18                                                                                   | ●15                                                                                   | ●15                                                                                   |                                                                                       |                                                                                       |
| 3.2  | ●8                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●7                                                                                   | ■12                                                                                   | ●8                                                                                    | ●8                                                                                    |                                                                                       |                                                                                       |
| 3.3  | ●15                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                  | ■22                                                                                   | ●15                                                                                   | ●15                                                                                   |                                                                                       |                                                                                       |
| 3.4  | ●8                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                   | ●12                                                                                   | ●8                                                                                    | ●8                                                                                    |                                                                                       |                                                                                       |
| 4.1  |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■35                                                                                 |                                                                                      |                                                                                       | ●10                                                                                   |                                                                                       |                                                                                       | ●10                                                                                   |
| 4.2  |                                                                                     | ●7                                                                                  |                                                                                     | ●5                                                                                  |                                                                                     | ●7                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ●5                                                                                    |                                                                                       |                                                                                       | ●5                                                                                    |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.1  |                                                                                     |                                                                                     |                                                                                     | ●12                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■20                                                                                 |                                                                                      |                                                                                       | ●12                                                                                   |                                                                                       |                                                                                       | ●12                                                                                   |
| 5.2  |                                                                                     | ●8                                                                                  |                                                                                     | ●5                                                                                  |                                                                                     | ●8                                                                                  |                                                                                     |                                                                                     | ●8                                                                                  |                                                                                      |                                                                                       | ●5                                                                                    |                                                                                       |                                                                                       | ●5                                                                                    |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     | ■18                                                                                 |                                                                                     | ■12                                                                                 |                                                                                     | ■18                                                                                 |                                                                                     | ●25                                                                                 | ●4                                                                                  |                                                                                      |                                                                                       | ■12                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 6.2  |                                                                                     | ●45                                                                                 |                                                                                     | ●30                                                                                 |                                                                                     | ●45                                                                                 |                                                                                     |                                                                                     | ●10                                                                                 | ●20                                                                                  | ●20                                                                                   | ●30                                                                                   |                                                                                       |                                                                                       |                                                                                       |
| 6.3  |                                                                                     | ■35                                                                                 |                                                                                     | ■20                                                                                 |                                                                                     | ■35                                                                                 |                                                                                     | ●40                                                                                 | ●7                                                                                  | ●14                                                                                  | ■20                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●2                                                                                  | ●4                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.1  |                                                                                     |                                                                                     |                                                                                     | ■16                                                                                 |                                                                                     |                                                                                     |                                                                                     | ●22                                                                                 | ■40                                                                                 |                                                                                      |                                                                                       | ■16                                                                                   |                                                                                       |                                                                                       | ■16                                                                                   |
| 7.2  |                                                                                     |                                                                                     |                                                                                     | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                     | ●38                                                                                 | ■55                                                                                 | ●12                                                                                  | ●24                                                                                   | ■35                                                                                   |                                                                                       |                                                                                       | ■35                                                                                   |
| 7.3  |                                                                                     |                                                                                     |                                                                                     | ■20                                                                                 |                                                                                     |                                                                                     |                                                                                     | ●22                                                                                 | ■40                                                                                 | ●7                                                                                   | ●14                                                                                   | ■20                                                                                   |                                                                                       |                                                                                       | ■20                                                                                   |
| 7.4  |                                                                                     |                                                                                     |                                                                                     | ■15                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●25                                                                                 | ●5                                                                                   | ●10                                                                                   | ■15                                                                                   |                                                                                       |                                                                                       | ■15                                                                                   |
| 8.1  |                                                                                     |                                                                                     |                                                                                     | ●30                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       | ●30                                                                                   |                                                                                       |                                                                                       | ●30                                                                                   |
| 8.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                   | ●10                                                                                   |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●3                                                                                   | ●6                                                                                    |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E033                                                                                | E095                                                                                | E530                                                                                | E597                                                                                | E570                                                                                | E531                                                                                | E534                                                                                | E533                                                                                | E536                                                                                | E539                                                                                 | E538                                                                                  | E542                                                                                  | E545                                                                                  | E544                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | UNF                                                                                 | UNF                                                                                 | UNF                                                                                 | UNF                                                                                 | UN                                                                                  | BSW                                                                                 | BSW                                                                                 | BSW                                                                                 | BSF                                                                                 | BSF                                                                                  | BSF                                                                                   | BA                                                                                    | BA                                                                                    | BA                                                                                    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSS X51                                                                             | HSS X51                                                                             | HSS                                                                                 | HSS                                                                                 | HSS                                                                                 | HSS                                                                                 | HSS                                                                                 | HSS                                                                                 | HSS                                                                                 | HSS                                                                                  | HSS                                                                                   | HSS                                                                                   | HSS                                                                                   | HSS                                                                                   |
|      | ST                                                                                  | ST                                                                                  |                                                                                     | CrN                                                                                 |                                                                                     |                                                                                     | ST                                                                                  | ST                                                                                  |                                                                                     | ST                                                                                   | ST                                                                                    |                                                                                       | ST                                                                                    | ST                                                                                    |
|      | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                             | ISO 529                                                                              | ISO 529                                                                               | ISO 529                                                                               | ISO 529                                                                               | ISO 529                                                                               |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | 2B                                                                                  | 2B                                                                                  | 2BX                                                                                 | 2BX                                                                                 | 2B                                                                                  | MEDIUM                                                                              | MEDIUM                                                                              | MEDIUM                                                                              | MEDIUM                                                                              | MEDIUM                                                                               | MEDIUM                                                                                | NORMAL                                                                                | NORMAL                                                                                | NORMAL                                                                                |
|      | 2.5xD                                                                               | 2xD                                                                                 | 2.5xD                                                                               | 2.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 2.5xD                                                                               | 2xD                                                                                 | 1.5xD                                                                               | 2.5xD                                                                                | 2xD                                                                                   | 1.5xD                                                                                 | 2.5xD                                                                                 | 2xD                                                                                   |
|      | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               |                                                                                     | B 3.5-5                                                                             | C 2-3                                                                               |                                                                                     | B 3.5-5                                                                              | C 2-3                                                                                 |                                                                                       | B 3.5-5                                                                               | C 2-3                                                                                 |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      | No.8 - 1"                                                                           | No.10 - 1/2                                                                         | No.10 - No.8                                                                        | No.8 - 7/16                                                                         | 1/4 - 13/16                                                                         | 1/16 - 3/32                                                                         | 1/8 - 9/16                                                                          | 1/8 - 3/4                                                                           | 3/16 - 2"                                                                           | 3/16 - 1"                                                                            | 3/16 - 3/4                                                                            | No.12 - BA9                                                                           | No.12 - No.2                                                                          | No.10 - No.2                                                                          |
|      | MTTX                                                                                | MTTX                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|      | 454                                                                                 | 455                                                                                 | 456                                                                                 | 457                                                                                 | 458                                                                                 | 459                                                                                 | 460                                                                                 | 461                                                                                 | 462                                                                                 | 463                                                                                  | 463                                                                                   | 464                                                                                   | 465                                                                                   | 465                                                                                   |
| 1.1  | ■25                                                                                 |                                                                                     | ●30                                                                                 | ■55                                                                                 | ●7                                                                                  | ●7                                                                                  | ■20                                                                                 |                                                                                     | ●22                                                                                 | ■20                                                                                  |                                                                                       | ●7                                                                                    | ■20                                                                                   |                                                                                       |
| 1.2  | ■22                                                                                 |                                                                                     | ●27                                                                                 | ■50                                                                                 | ●6                                                                                  | ●6                                                                                  | ■18                                                                                 | ■18                                                                                 | ●20                                                                                 | ■18                                                                                  | ■18                                                                                   | ●6                                                                                    | ■18                                                                                   | ■18                                                                                   |
| 1.3  | ■18                                                                                 |                                                                                     | ●23                                                                                 | ■45                                                                                 | ●5                                                                                  | ●5                                                                                  | ■14                                                                                 | ■14                                                                                 | ●16                                                                                 | ■14                                                                                  | ■14                                                                                   | ●5                                                                                    | ■14                                                                                   | ■14                                                                                   |
| 1.4  | ■16                                                                                 |                                                                                     | ●20                                                                                 | ●40                                                                                 | ●4                                                                                  | ●4                                                                                  | ■10                                                                                 | ■10                                                                                 | ●12                                                                                 | ■10                                                                                  | ■10                                                                                   | ●4                                                                                    | ■10                                                                                   | ■10                                                                                   |
| 1.5  | ■10                                                                                 | ●10                                                                                 |                                                                                     |                                                                                     | ●3                                                                                  | ●3                                                                                  | ●5                                                                                  | ●5                                                                                  | ●7                                                                                  | ●5                                                                                   | ●5                                                                                    | ●3                                                                                    | ●5                                                                                    | ●5                                                                                    |
| 1.6  | ●5                                                                                  | ●5                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●3                                                                                  |                                                                                     | ●4                                                                                  | ●3                                                                                   |                                                                                       |                                                                                       | ●3                                                                                    |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  | ●7                                                                                  | ■8                                                                                  |                                                                                     | ●18                                                                                 |                                                                                     |                                                                                     | ■6                                                                                  | ■6                                                                                  | ●7                                                                                  | ■6                                                                                   | ■6                                                                                    |                                                                                       | ●6                                                                                    | ■6                                                                                    |
| 2.2  | ●6                                                                                  | ■7                                                                                  |                                                                                     | ●15                                                                                 |                                                                                     |                                                                                     | ■4                                                                                  | ■4                                                                                  | ●5                                                                                  | ■4                                                                                   | ■4                                                                                    |                                                                                       | ●4                                                                                    | ■4                                                                                    |
| 2.3  | ●4                                                                                  | ■5                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■3                                                                                  | ■3                                                                                  | ●7                                                                                  | ■3                                                                                   | ■3                                                                                    |                                                                                       | ●3                                                                                    | ■3                                                                                    |
| 2.4  |                                                                                     | ■5                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●12                                                                                 | ●12                                                                                 |                                                                                     |                                                                                     | ●12                                                                                 |                                                                                      |                                                                                       | ●12                                                                                   |                                                                                       |                                                                                       |
| 3.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●7                                                                                  | ●7                                                                                  |                                                                                     |                                                                                     | ●7                                                                                  |                                                                                      |                                                                                       | ●7                                                                                    |                                                                                       |                                                                                       |
| 3.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 | ●10                                                                                 |                                                                                     |                                                                                     | ●10                                                                                 |                                                                                      |                                                                                       | ●10                                                                                   |                                                                                       |                                                                                       |
| 3.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  | ●5                                                                                  |                                                                                     |                                                                                     | ●5                                                                                  |                                                                                      |                                                                                       | ●5                                                                                    |                                                                                       |                                                                                       |
| 4.1  |                                                                                     |                                                                                     |                                                                                     | ■35                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●3                                                                                  |                                                                                     |                                                                                     | ●3                                                                                   |                                                                                       |                                                                                       | ●3                                                                                    |                                                                                       |
| 5.1  |                                                                                     |                                                                                     | ■20                                                                                 |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 |                                                                                     |                                                                                     | ●10                                                                                  |                                                                                       |                                                                                       | ●10                                                                                   |                                                                                       |
| 5.2  |                                                                                     |                                                                                     | ●8                                                                                  |                                                                                     |                                                                                     |                                                                                     | ●4                                                                                  | ●4                                                                                  |                                                                                     | ●4                                                                                   | ●4                                                                                    |                                                                                       | ●4                                                                                    | ●4                                                                                    |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     |                                                                                     |                                                                                     | ●25                                                                                 | ●4                                                                                  | ●4                                                                                  | ●10                                                                                 |                                                                                     | ■12                                                                                 | ●10                                                                                  |                                                                                       | ●4                                                                                    | ●10                                                                                   |                                                                                       |
| 6.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●10                                                                                 | ●10                                                                                 |                                                                                     |                                                                                     | ●30                                                                                 |                                                                                      |                                                                                       | ●10                                                                                   |                                                                                       |                                                                                       |
| 6.3  |                                                                                     |                                                                                     |                                                                                     | ●40                                                                                 | ●7                                                                                  | ●7                                                                                  | ●15                                                                                 |                                                                                     | ●20                                                                                 | ●15                                                                                  |                                                                                       | ●7                                                                                    | ●15                                                                                   |                                                                                       |
| 6.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●2                                                                                  | ●2                                                                                  |                                                                                     |                                                                                     | ●4                                                                                  |                                                                                      |                                                                                       | ●2                                                                                    |                                                                                       |                                                                                       |
| 7.1  |                                                                                     |                                                                                     | ●22                                                                                 | ■40                                                                                 |                                                                                     |                                                                                     | ●10                                                                                 | ●10                                                                                 |                                                                                     | ●10                                                                                  | ●10                                                                                   |                                                                                       | ●10                                                                                   | ●10                                                                                   |
| 7.2  |                                                                                     |                                                                                     | ●38                                                                                 | ■55                                                                                 | ●12                                                                                 | ●12                                                                                 | ●25                                                                                 | ●25                                                                                 | ●35                                                                                 | ●25                                                                                  | ●25                                                                                   | ●12                                                                                   | ●25                                                                                   | ●25                                                                                   |
| 7.3  |                                                                                     |                                                                                     | ●22                                                                                 | ■40                                                                                 | ●7                                                                                  | ●7                                                                                  | ●13                                                                                 | ●13                                                                                 | ●20                                                                                 | ●13                                                                                  | ●13                                                                                   | ●7                                                                                    | ●13                                                                                   | ●13                                                                                   |
| 7.4  |                                                                                     |                                                                                     |                                                                                     | ●25                                                                                 | ●5                                                                                  | ●5                                                                                  | ●10                                                                                 | ●10                                                                                 | ●15                                                                                 | ●10                                                                                  | ●10                                                                                   | ●5                                                                                    | ●10                                                                                   | ●10                                                                                   |
| 8.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●20                                                                                 |                                                                                     |                                                                                     | ●20                                                                                  |                                                                                       |                                                                                       | ●20                                                                                   |                                                                                       |
| 8.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●5                                                                                  | ●5                                                                                  |                                                                                     |                                                                                     | ●12                                                                                 |                                                                                      |                                                                                       | ●5                                                                                    |                                                                                       |                                                                                       |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ●3                                                                                  | ●3                                                                                  |                                                                                     |                                                                                     | ●7                                                                                  |                                                                                      |                                                                                       | ●3                                                                                    |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E416                                                                                | E282                                                                                | E119                                                                                | E284                                                                                | E040                                                                                | E041                                                                                | E362                                                                                | E283                                                                                | E042                                                                                | E043                                                                                  | E547                                                                                  | E562                                                                                  | E550                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | G                                                                                   | G                                                                                   | G                                                                                   | G                                                                                   | G                                                                                   | G                                                                                   | G                                                                                   | G                                                                                   | G                                                                                   | G                                                                                     | G                                                                                     | G                                                                                     | Rc                                                                                    |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | HSCo                                                                                | HSCo                                                                                | HSS                                                                                 | HSCo                                                                                | HSS X51                                                                             | HSS X51                                                                             | HSCo                                                                                | HSCo                                                                                | HSS X51                                                                             | HSS X51                                                                               | HSS                                                                                   | HSS                                                                                   | HSS                                                                                   |
|      | N                                                                                   |                                                                                     |                                                                                     |                                                                                     | Gold                                                                                | ST                                                                                  | ST                                                                                  |                                                                                     | Gold                                                                                | ST                                                                                    |                                                                                       | TIN                                                                                   |                                                                                       |
|      | DIN 5156                                                                            | DIN 5156                                                                            | DIN 5157                                                                            | DIN 5156                                                                            | ISO                                                                                 | ISO                                                                                 | DIN 5156                                                                            | DIN 5156                                                                            | ISO                                                                                 | ISO                                                                                   | ISO 2284                                                                              | ISO 2284                                                                              | ISO 2284                                                                              |
|      |    |    |    |    |    |    |    |    |    |    |    |    |    |
|      | ISO 5969                                                                            | ISO 5969                                                                            | ISO 5969                                                                            | ISO 5969                                                                            | NORMAL                                                                              | NORMAL                                                                              | ISO 5969                                                                            | ISO 5969                                                                            | NORMAL                                                                              | NORMAL                                                                                | NORMAL                                                                                | NORMAL                                                                                | NORMAL                                                                                |
|      | 2xD                                                                                 | 1.5xD                                                                               | 1.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                               | 2xD                                                                                 | 1.5xD                                                                               | 2.5xD                                                                               | 2.5xD                                                                                 | 1.5xD                                                                                 | 1.5xD                                                                                 | 1.5xD                                                                                 |
|      | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | B 3.5-5                                                                             | B 3.5-5                                                                             | B 3.5-5                                                                             | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                                 |                                                                                       |                                                                                       | C 2-3                                                                                 |
|      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|      | 1/8 - 1"                                                                            | 1/8 - 1.1/2                                                                         | 1/8 - 3"                                                                            | 1/8 - 1"                                                                            | 1/8 - 3/4                                                                           | 1/8 - 3/4                                                                           | 1/8 - 1"                                                                            | 1/8 - 1.1/2                                                                         | 1/8 - 3/4                                                                           | 1/8 - 3/4                                                                             | 1/8 - 3"                                                                              | 1/8 - 1"                                                                              | 1/8 - 2"                                                                              |
|      |                                                                                     |                                                                                     |                                                                                     |                                                                                     | MTTX                                                                                | MTTX                                                                                |                                                                                     |                                                                                     | MTTX                                                                                | MTTX                                                                                  |                                                                                       |                                                                                       |                                                                                       |
|      | 466                                                                                 | 466                                                                                 | 467                                                                                 | 468                                                                                 | 469                                                                                 | 469                                                                                 | 470                                                                                 | 471                                                                                 | 472                                                                                 | 472                                                                                   | 473                                                                                   | 474                                                                                   | 475                                                                                   |
| 1.1  |                                                                                     | •12                                                                                 | •                                                                                   | •22                                                                                 | ■25                                                                                 | ■25                                                                                 |                                                                                     |                                                                                     | ■25                                                                                 | ■25                                                                                   | •7                                                                                    | •14                                                                                   | •22                                                                                   |
| 1.2  |                                                                                     | •10                                                                                 | •                                                                                   | •20                                                                                 | ■22                                                                                 | ■22                                                                                 |                                                                                     | •20                                                                                 | ■22                                                                                 | ■22                                                                                   | •6                                                                                    | •12                                                                                   | •20                                                                                   |
| 1.3  |                                                                                     | •8                                                                                  | •                                                                                   | ■16                                                                                 | ■18                                                                                 | ■18                                                                                 |                                                                                     | ■16                                                                                 | ■18                                                                                 | ■18                                                                                   | •5                                                                                    | •10                                                                                   | •16                                                                                   |
| 1.4  |                                                                                     | •6                                                                                  | •                                                                                   | ■12                                                                                 | ■16                                                                                 | ■16                                                                                 |                                                                                     | ■12                                                                                 | ■16                                                                                 | ■16                                                                                   | •4                                                                                    | •8                                                                                    | •12                                                                                   |
| 1.5  |                                                                                     | •5                                                                                  | •                                                                                   | •7                                                                                  | ■10                                                                                 | ■10                                                                                 | •10                                                                                 | •7                                                                                  | ■10                                                                                 | ■10                                                                                   | •3                                                                                    | •6                                                                                    | •7                                                                                    |
| 1.6  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  | •5                                                                                  | •5                                                                                  |                                                                                     |                                                                                     | •5                                                                                    |                                                                                       |                                                                                       | •4                                                                                    |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •7                                                                                  | ■8                                                                                  |                                                                                     |                                                                                     | •7                                                                                    |                                                                                       |                                                                                       | •7                                                                                    |
| 2.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •6                                                                                  | ■7                                                                                  |                                                                                     |                                                                                     | •6                                                                                    |                                                                                       |                                                                                       | •5                                                                                    |
| 2.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •4                                                                                  | ■5                                                                                  |                                                                                     |                                                                                     | •4                                                                                    |                                                                                       |                                                                                       | •7                                                                                    |
| 2.4  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 3.1  | ■15                                                                                 | •14                                                                                 | •                                                                                   | •12                                                                                 | •15                                                                                 | •15                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •12                                                                                   | ■18                                                                                   | ■12                                                                                   |
| 3.2  | ■8                                                                                  | •8                                                                                  | •                                                                                   | •7                                                                                  | •8                                                                                  | •8                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •7                                                                                    | ■12                                                                                   | ■7                                                                                    |
| 3.3  | ■15                                                                                 | •12                                                                                 | •                                                                                   | •10                                                                                 | •15                                                                                 | •15                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •10                                                                                   | ■22                                                                                   | ■10                                                                                   |
| 3.4  | •8                                                                                  |                                                                                     | •                                                                                   | •5                                                                                  | •8                                                                                  | •8                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •5                                                                                    | •12                                                                                   | ■5                                                                                    |
| 4.1  |                                                                                     |                                                                                     |                                                                                     | •15                                                                                 | •10                                                                                 |                                                                                     |                                                                                     |                                                                                     | •10                                                                                 |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 4.3  |                                                                                     |                                                                                     |                                                                                     | •4                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.1  |                                                                                     |                                                                                     |                                                                                     | •12                                                                                 | •12                                                                                 |                                                                                     |                                                                                     |                                                                                     | •12                                                                                 |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.2  |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  | •5                                                                                  |                                                                                     |                                                                                     |                                                                                     | •5                                                                                  |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 5.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     |                                                                                     | •                                                                                   | •12                                                                                 | ■12                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •4                                                                                    |                                                                                       | ■12                                                                                   |
| 6.2  | •20                                                                                 | •16                                                                                 | •                                                                                   | •30                                                                                 | •30                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •10                                                                                   | •20                                                                                   | •30                                                                                   |
| 6.3  |                                                                                     | •12                                                                                 | •                                                                                   | •20                                                                                 | ■20                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •7                                                                                    | •14                                                                                   | •20                                                                                   |
| 6.4  | •5                                                                                  |                                                                                     | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •2                                                                                    | •4                                                                                    | •4                                                                                    |
| 7.1  |                                                                                     |                                                                                     |                                                                                     | •16                                                                                 | ■16                                                                                 |                                                                                     |                                                                                     |                                                                                     | ■16                                                                                 |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 7.2  |                                                                                     | •20                                                                                 | •                                                                                   | •35                                                                                 | ■35                                                                                 |                                                                                     | •30                                                                                 | ■35                                                                                 |                                                                                     |                                                                                       | •12                                                                                   | •24                                                                                   | •35                                                                                   |
| 7.3  |                                                                                     | •12                                                                                 | •                                                                                   | •20                                                                                 | ■20                                                                                 |                                                                                     | •15                                                                                 | ■20                                                                                 |                                                                                     |                                                                                       | •7                                                                                    | •14                                                                                   | •20                                                                                   |
| 7.4  | •15                                                                                 |                                                                                     | •                                                                                   | •15                                                                                 | ■15                                                                                 |                                                                                     |                                                                                     | ■15                                                                                 |                                                                                     |                                                                                       | •5                                                                                    | •10                                                                                   | •15                                                                                   |
| 8.1  |                                                                                     |                                                                                     |                                                                                     | •25                                                                                 | •30                                                                                 |                                                                                     |                                                                                     |                                                                                     | •30                                                                                 |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 8.2  | ■10                                                                                 | •8                                                                                  | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •5                                                                                    | •10                                                                                   | •12                                                                                   |
| 8.3  |                                                                                     |                                                                                     | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       | •3                                                                                    | •6                                                                                    | •7                                                                                    |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |                                                                                       |

|      | E735                                                                                | E736                                                                                | E714                                                                                | E710                                                                                | E721                                                                                | E711                                                                                | E712                                                                                | E709                                                                                | E720                                                                                  | E708                                                                                  | E243                                                                                  |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|      | NPT                                                                                 | NPT                                                                                 | NPT                                                                                 | NPT                                                                                 | NPT                                                                                 | NPT                                                                                 | NPTF                                                                                | NPSF                                                                                | NPSF                                                                                  | NPSM                                                                                  | PG                                                                                    |
|      |    |    |    |    |    |    |    |    |    |    |    |
|      | HSCo                                                                                | HSCo                                                                                | HSCo                                                                                | HSS                                                                                 | HSS                                                                                 | HSS                                                                                 | HSS                                                                                 | HSS                                                                                 | HSS                                                                                   | HSS                                                                                   | HSS                                                                                   |
|      | ST                                                                                  | ST                                                                                  |                                                                                     |                                                                                     | TIN                                                                                 |                                                                                     |                                                                                     |                                                                                     | TIN                                                                                   |                                                                                       |                                                                                       |
|      | DIN ANSI                                                                            | DIN ANSI                                                                            | ANSI                                                                                | ANSI B94.9                                                                          | ANSI B94.9                                                                          | ANSI B94.9                                                                          | ANSI B94.9                                                                          | ANSI B94.9                                                                          | ANSI B94.9                                                                            | ANSI B94.9                                                                            | DIN 40432                                                                             |
|      |    |    |    |    |    |    |    |    |    |    |    |
|      |    |    |    |    |    |    |    |    |    |    |    |
|      |                                                                                     |                                                                                     | ANSI B1.28.1                                                                        | NORMAL                                                                              | NORMAL                                                                              | NORMAL                                                                              | NORMAL                                                                              | NORMAL                                                                              | NORMAL                                                                                | NORMAL                                                                                | NORMAL                                                                                |
|      | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                               | 1.5xD                                                                                 | 1.5xD                                                                                 | 1.5xD                                                                                 |
|      | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               | C 2-3                                                                               |                                                                                     | C 2-3                                                                                 |                                                                                       |                                                                                       |
|      |  |  |  |  |  |  |  |  |  |  |  |
|      | 1/16 - 1"                                                                           | 1/16 - 1"                                                                           | 1/8 - 1"                                                                            | 1/16 - 3"                                                                           | 1/8 - 1"                                                                            | 1/8 - 1.1/2                                                                         | 1/16 - 1.1/4                                                                        | 1/8 - 3/4                                                                           | 1/8 - 3/4                                                                             | 1/8 - 1"                                                                              | Pg7 - Pg36                                                                            |
|      | NEW 2008.09                                                                         | NEW 2008.09                                                                         |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|      | 476                                                                                 | 476                                                                                 | 477                                                                                 | 478                                                                                 | 478                                                                                 | 479                                                                                 | 480                                                                                 | 481                                                                                 | 481                                                                                   | 482                                                                                   | 483                                                                                   |
| 1.1  |                                                                                     | •6                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                    | •4                                                                                    | •12                                                                                   |
| 1.2  |                                                                                     | ■6                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                    | •4                                                                                    | •10                                                                                   |
| 1.3  |                                                                                     | •7                                                                                  | ■6                                                                                  | •6                                                                                  | ■6                                                                                  | ■6                                                                                  | ■6                                                                                  | ■6                                                                                  | ■6                                                                                    | ■6                                                                                    | •8                                                                                    |
| 1.4  | ■6                                                                                  | ■6                                                                                  | ■5                                                                                  | •5                                                                                  | ■5                                                                                  | ■5                                                                                  | ■5                                                                                  | ■5                                                                                  | ■5                                                                                    | ■5                                                                                    | •6                                                                                    |
| 1.5  | ■4                                                                                  |                                                                                     | •3                                                                                  | •3                                                                                  | •3                                                                                  | •3                                                                                  | •3                                                                                  | •3                                                                                  | •3                                                                                    | •3                                                                                    | •5                                                                                    |
| 1.6  | ■3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 1.7  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 1.8  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 2.1  |                                                                                     | ■4                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 2.2  |                                                                                     | ■3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 2.3  |                                                                                     | ■3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 2.4  | ■3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 3.1  | ■9                                                                                  |                                                                                     | •6                                                                                  | •6                                                                                  | ■6                                                                                  | •6                                                                                  | •6                                                                                  | •6                                                                                  | ■6                                                                                    | •6                                                                                    | •14                                                                                   |
| 3.2  | ■4                                                                                  |                                                                                     | •4                                                                                  | •4                                                                                  | ■4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | ■4                                                                                    | •4                                                                                    | •8                                                                                    |
| 3.3  |                                                                                     | •7                                                                                  | •6                                                                                  | •6                                                                                  | ■6                                                                                  | •6                                                                                  | •6                                                                                  | •6                                                                                  | ■6                                                                                    | •6                                                                                    | •12                                                                                   |
| 3.4  |                                                                                     | •4                                                                                  | •4                                                                                  | •4                                                                                  | ■4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | ■4                                                                                    | •4                                                                                    |                                                                                       |
| 4.1  |                                                                                     | ■6                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 4.2  | ■3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 4.3  | ■3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 5.1  |                                                                                     | ■6                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 5.2  | ■3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 5.3  | ■3                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 6.1  |                                                                                     | ■9                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 6.2  | ■15                                                                                 |                                                                                     | •11                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                   | •11                                                                                   | •16                                                                                   |
| 6.3  | •11                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       | •12                                                                                   |
| 6.4  | ■4                                                                                  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 7.1  |                                                                                     | •11                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 7.2  |                                                                                     | •14                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       | •20                                                                                   |
| 7.3  | •16                                                                                 | •16                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                 | •11                                                                                   | •11                                                                                   | •12                                                                                   |
| 7.4  | •12                                                                                 |                                                                                     | •7                                                                                  | •7                                                                                  | •7                                                                                  | •7                                                                                  | •7                                                                                  | •7                                                                                  | •7                                                                                    | •7                                                                                    |                                                                                       |
| 8.1  |                                                                                     |                                                                                     | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                  | •4                                                                                    | •4                                                                                    |                                                                                       |
| 8.2  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       | •8                                                                                    |
| 8.3  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 9.1  |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| 10.1 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

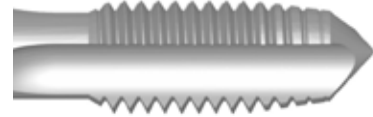
# NO1 ↔ NO9



**NO1 =**  6-8 x P



**NO2 =**  4-6 x P

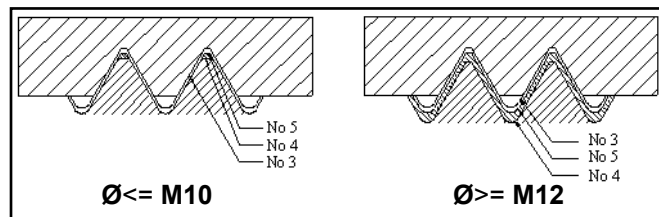


**NO3 =**  2-3 x P



**NO4 =**  3-5 x P

**NO5 =**  2-3 x P



**NO6 = NO1 + NO2 + NO3**

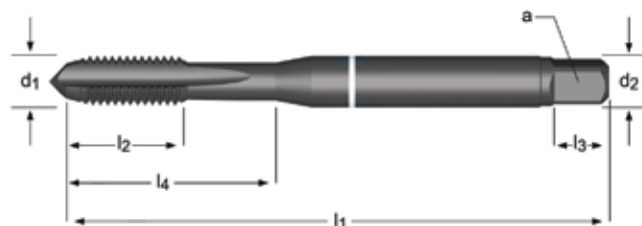
**NO7 = NO2 + NO3**

**NO8 = NO4 + NO5 + NO3**

**NO9 = NO5 + NO3**



- Strojní závitníky, bílý Shark
- Gépi Menetfűró, Fehér Shark
- Gwintowniki maszynowe, Białý Shark
- Tarozi de masina, Shark ALB
- Машинные метчики "White Shark" для чугунов
- strojni navojni sveder, White Shark



## E201



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E201M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 4 | 3.3         | 21 E201M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 4 | 4.2         | 25 E201M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 4 | 5           | 30 E201M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 4 | 6.8         | 35 E201M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 4 | 8.5         | 39 E201M10 |



## E252



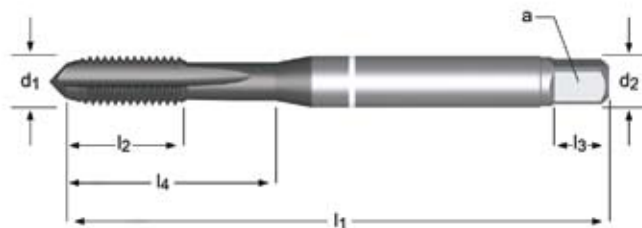
|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 8  | 1.25    | 90          | 18          | 6             | 4.9       | 8           | 4 | 6.8 E252M8   |
| 10 | 1.50    | 100         | 20          | 7             | 5.5       | 8           | 4 | 8.5 E252M10  |
| 12 | 1.75    | 110         | 23          | 9             | 7.0       | 10          | 4 | 10.3 E252M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9.0       | 12          | 4 | 12 E252M14   |
| 16 | 2.00    | 110         | 25          | 12            | 9.0       | 12          | 4 | 14 E252M16   |
| 18 | 2.50    | 125         | 30          | 14            | 11.0      | 14          | 4 | 15.5 E252M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12.0      | 15          | 4 | 17.5 E252M20 |
| 22 | 2.50    | 140         | 34          | 18            | 14.5      | 17          | 4 | 19.5 E252M22 |
| 24 | 3.00    | 160         | 38          | 18            | 14.5      | 17          | 4 | 21 E252M24   |

# E446 / E447

**DORMER**

- Strojní závitníky, bílý Shark
- Gépi Menetfűró, Fehér Shark
- Gwintowniki maszynowe, Biały Shark
- Tarozi de masina, Shark ALB
- Машинные метчики "White Shark" для чугунов
- strojní navojní sveder, White Shark



## E446



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E446M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 4 | 3.3         | 21 E446M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 4 | 4.2         | 25 E446M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 4 | 5           | 30 E446M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 4 | 6.8         | 35 E446M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 4 | 8.5         | 39 E446M10 |



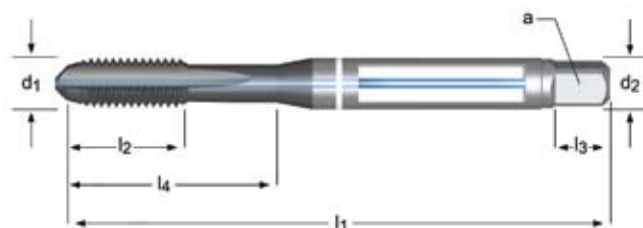
## E447



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 8  | 1.25    | 90          | 18          | 6             | 4.9       | 8           | 4 | 6.8 E447M8   |
| 10 | 1.50    | 100         | 20          | 7             | 5.5       | 8           | 4 | 8.5 E447M10  |
| 12 | 1.75    | 110         | 23          | 9             | 7.0       | 10          | 4 | 10.3 E447M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9.0       | 12          | 4 | 12 E447M14   |
| 16 | 2.00    | 110         | 25          | 12            | 9.0       | 12          | 4 | 14 E447M16   |
| 18 | 2.50    | 125         | 30          | 14            | 11.0      | 14          | 4 | 15.5 E447M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12.0      | 15          | 4 | 17.5 E447M20 |
| 22 | 2.50    | 140         | 34          | 18            | 14.5      | 17          | 4 | 19.5 E447M22 |
| 24 | 3.00    | 160         | 38          | 18            | 14.5      | 17          | 4 | 21 E447M24   |

- Strojní závitníky, bílý Shark
- Gépi Menetfűró, Fehér Shark
- Gwintowniki maszynowe, Biały Shark
- Tarozi de masina, Shark ALB
- Машинные метчики "White Shark" для чугунов
- strojni navojni sveder, White Shark



## E462



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔   | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|-----|----------------------|---------|
| 6  | 1.00    | 80                   | 15                   | 6.0                       | 4.9     | 8                    | 4 | 5   | 30                   | E462M6  |
| 8  | 1.25    | 90                   | 18                   | 8.0                       | 6.2     | 9                    | 4 | 6.8 | 35                   | E462M8  |
| 10 | 1.50    | 100                  | 20                   | 10.0                      | 8.0     | 11                   | 4 | 8.5 | 39                   | E462M10 |



## E463



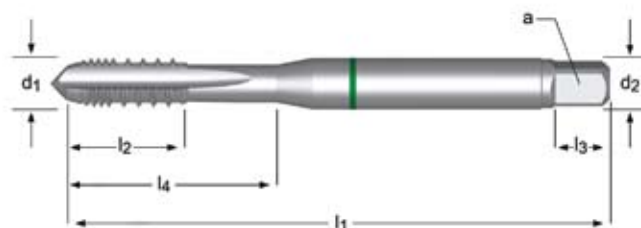
|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | e-Code  |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|---------|
| 12 | 1.75    | 110                  | 23                   | 9.0                       | 7.0     | 10                   | 4 | 10.3 | E463M12 |
| 14 | 2.00    | 110                  | 25                   | 11.0                      | 9.0     | 12                   | 4 | 12   | E463M14 |
| 16 | 2.00    | 110                  | 25                   | 12.0                      | 9.0     | 12                   | 4 | 14   | E463M16 |
| 20 | 2.50    | 140                  | 30                   | 16.0                      | 12.0    | 15                   | 4 | 17.5 | E463M20 |

# E352 / E353

**DORMER**

- Strojní závitníky, zelený Shark
- Gépi Menetfűró, Zöld Shark
- Gwintowniki maszynowe, Zielony Shark, z przerywanym nakrojem
- Tarozi de masina, Shark VERDE
- Машинные метчики "Green Shark" для цветных металлов
- strojní navojní sveder, Green Shark



**SHARK LINE**

L300  
391

## E352



- 7.2 7.3 7.4
- 1.1 1.2 1.3 6.3 7.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 18          | E352M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 21          | E352M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 25          | E352M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 30          | E352M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 35          | E352M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 39          | E352M10 |



**SHARK LINE**

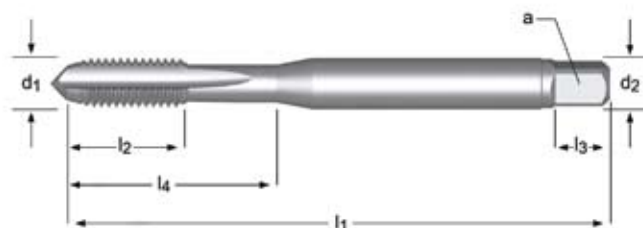
## E353



- 7.2 7.3 7.4
- 1.1 1.2 1.3 6.3 7.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|---------|
| 12 | 1.75    | 110         | 23          | 9             | 7         | 10          | 3 | E353M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9         | 12          | 4 | E353M14 |
| 16 | 2.00    | 110         | 25          | 12            | 9         | 12          | 4 | E353M16 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E200



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code     |
|-----|---------|-------------|-------------|------------------|-----------|-------------|---|------|-------------|------------|
| 2   | 0.40    | 45          | 6           | 2.8              | 2.1       | 5           | 3 | 1.6  | 9           | E200M2     |
| 2.2 | 0.45    | 45          | 7           | 2.8              | 2.1       | 5           | 3 | 1.75 | 12          | E200M2.2   |
| 2.5 | 0.45    | 50          | 8           | 2.8              | 2.1       | 5           | 3 | 2.05 | 12.5        | E200M2.5   |
| 3   | 0.50    | 56          | 9           | 3.5              | 2.7       | 6           | 3 | 2.5  | 18          | E200M3     |
| 3   | 0.50    | 56          | 9           | 3.5              | 2.7       | 6           | 3 | 2.5  | 18          | E200M3NO1  |
| 3.5 | 0.60    | 56          | 11          | 4.0              | 3.0       | 6           | 3 | 2.9  | 20          | E200M3.5   |
| 4   | 0.70    | 63          | 12          | 4.5              | 3.4       | 6           | 3 | 3.3  | 21          | E200M4     |
| 4   | 0.70    | 63          | 12          | 4.5              | 3.4       | 6           | 3 | 3.3  | 21          | E200M4NO1  |
| 5   | 0.80    | 70          | 13          | 6.0              | 4.9       | 8           | 3 | 4.2  | 25          | E200M5     |
| 5   | 0.80    | 70          | 13          | 6.0              | 4.9       | 8           | 3 | 4.2  | 25          | E200M5NO1  |
| 6   | 1.00    | 80          | 15          | 6.0              | 4.9       | 8           | 3 | 5    | 30          | E200M6     |
| 6   | 1.00    | 80          | 15          | 6.0              | 4.9       | 8           | 3 | 5    | 30          | E200M6NO1  |
| 7   | 1.00    | 80          | 15          | 7.0              | 5.5       | 8           | 3 | 6    | 30          | E200M7     |
| 8   | 1.25    | 90          | 18          | 8.0              | 6.2       | 9           | 3 | 6.8  | 35          | E200M8     |
| 8   | 1.25    | 90          | 18          | 8.0              | 6.2       | 9           | 3 | 6.8  | 35          | E200M8NO1  |
| 10  | 1.50    | 100         | 20          | 10.0             | 8.0       | 11          | 3 | 8.5  | 39          | E200M10    |
| 10  | 1.50    | 100         | 20          | 10.0             | 8.0       | 11          | 3 | 8.5  | 39          | E200M10NO1 |



- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E250

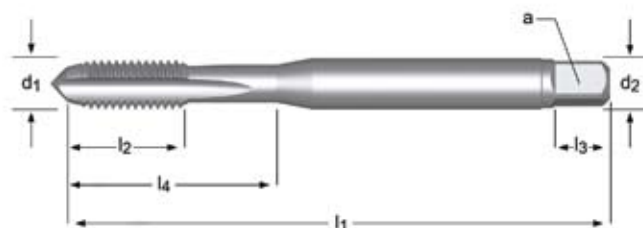


• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| M   | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code          |
|-----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|-----------------|
| 3   | 0.50    | 56                   | 10                   | 2.2                       | -       | -                    | 3 | 2.5 E250M3      |
| 3   | 0.50    | 56                   | 10                   | 2.2                       | -       | -                    | 3 | 2.5 E250M3NO1   |
| 3.5 | 0.60    | 56                   | 11                   | 2.5                       | 2.1     | 5                    | 3 | 2.9 E250M3.5    |
| 4   | 0.70    | 63                   | 12                   | 2.8                       | 2.1     | 5                    | 3 | 3.3 E250M4      |
| 4   | 0.70    | 63                   | 12                   | 2.8                       | 2.1     | 5                    | 3 | 3.3 E250M4NO1   |
| 5   | 0.80    | 70                   | 13                   | 3.5                       | 2.7     | 6                    | 3 | 4.2 E250M5      |
| 5   | 0.80    | 70                   | 13                   | 3.5                       | 2.7     | 6                    | 3 | 4.2 E250M5NO1   |
| 6   | 1.00    | 80                   | 15                   | 4.5                       | 3.4     | 6                    | 3 | 5 E250M6        |
| 6   | 1.00    | 80                   | 15                   | 4.5                       | 3.4     | 6                    | 3 | 5 E250M6NO1     |
| 7   | 1.00    | 80                   | 15                   | 5.5                       | 4.3     | 7                    | 3 | 6 E250M7        |
| 8   | 1.25    | 90                   | 18                   | 6.0                       | 4.9     | 8                    | 3 | 6.8 E250M8      |
| 8   | 1.25    | 90                   | 18                   | 6.0                       | 4.9     | 8                    | 3 | 6.8 E250M8NO1   |
| 10  | 1.50    | 100                  | 20                   | 7.0                       | 5.5     | 8                    | 3 | 8.5 E250M10     |
| 10  | 1.50    | 100                  | 20                   | 7.0                       | 5.5     | 8                    | 3 | 8.5 E250M10NO1  |
| 12  | 1.75    | 110                  | 23                   | 9.0                       | 7.0     | 10                   | 3 | 10.3 E250M12    |
| 12  | 1.75    | 110                  | 23                   | 9.0                       | 7.0     | 10                   | 3 | 10.3 E250M12NO1 |
| 14  | 2.00    | 110                  | 25                   | 11.0                      | 9.0     | 12                   | 3 | 12 E250M14      |
| 14  | 2.00    | 110                  | 25                   | 11.0                      | 9.0     | 12                   | 3 | 12 E250M14NO1   |
| 16  | 2.00    | 110                  | 25                   | 12.0                      | 9.0     | 12                   | 3 | 14 E250M16      |
| 16  | 2.00    | 110                  | 25                   | 12.0                      | 9.0     | 12                   | 3 | 14 E250M16NO1   |
| 18  | 2.50    | 125                  | 30                   | 14.0                      | 11.0    | 14                   | 3 | 15.5 E250M18    |
| 18  | 2.50    | 125                  | 30                   | 14.0                      | 11.0    | 14                   | 3 | 15.5 E250M18NO1 |
| 20  | 2.50    | 140                  | 30                   | 16.0                      | 12.0    | 15                   | 3 | 17.5 E250M20    |
| 20  | 2.50    | 140                  | 30                   | 16.0                      | 12.0    | 15                   | 3 | 17.5 E250M20NO1 |
| 22  | 2.50    | 140                  | 34                   | 18.0                      | 14.5    | 17                   | 4 | 19.5 E250M22    |
| 22  | 2.50    | 140                  | 34                   | 18.0                      | 14.5    | 17                   | 4 | 19.5 E250M22NO1 |
| 24  | 3.00    | 160                  | 38                   | 18.0                      | 14.5    | 17                   | 4 | 21 E250M24      |
| 27  | 3.00    | 160                  | 38                   | 20.0                      | 16.0    | 19                   | 4 | 24 E250M27      |
| 30  | 3.50    | 180                  | 45                   | 22.0                      | 18.0    | 21                   | 4 | 26.5 E250M30    |
| 33  | 3.50    | 180                  | 50                   | 25.0                      | 20.0    | 23                   | 4 | 29.5 E250M33    |
| 36  | 4.00    | 200                  | 55                   | 28.0                      | 22.0    | 25                   | 4 | 32 E250M36      |
| 39  | 4.00    | 200                  | 60                   | 32.0                      | 24.0    | 27                   | 4 | 35 E250M39      |
| 42  | 4.50    | 200                  | 60                   | 32.0                      | 24.0    | 27                   | 4 | 37.5 E250M42    |
| 45  | 4.50    | 220                  | 65                   | 36.0                      | 29.0    | 32                   | 6 | 40.5 E250M45    |
| 48  | 5.00    | 250                  | 70                   | 36.0                      | 29.0    | 32                   | 6 | 43 E250M48      |
| 52  | 5.00    | 250                  | 70                   | 40.0                      | 32.0    | 35                   | 6 | 47 E250M52      |



- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

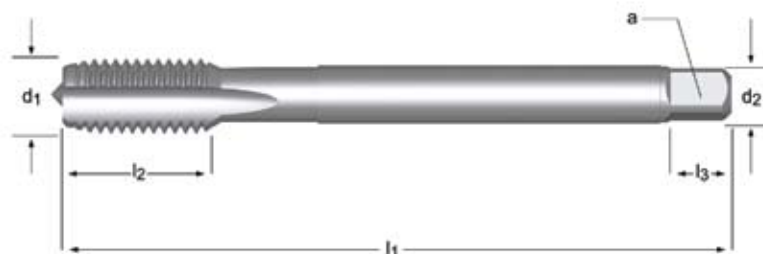


## E237



- 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |     | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|-----|-------------|---------|
| 3  | 0.50    | 56          | 9           | 3.5              | 2.7       | 6           | 3 | 2.5 | 18          | E237M3  |
| 4  | 0.70    | 63          | 12          | 4.5              | 3.4       | 6           | 3 | 3.3 | 21          | E237M4  |
| 5  | 0.80    | 70          | 13          | 6.0              | 4.9       | 8           | 3 | 4.2 | 25          | E237M5  |
| 6  | 1.00    | 80          | 15          | 6.0              | 4.9       | 8           | 3 | 5   | 30          | E237M6  |
| 8  | 1.25    | 90          | 18          | 8.0              | 6.2       | 9           | 3 | 6.8 | 35          | E237M8  |
| 10 | 1.50    | 100         | 20          | 10.0             | 8.0       | 11          | 3 | 8.5 | 39          | E237M10 |



## E251



- 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code  |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|------|---------|
| 12 | 1.75    | 110         | 23          | 9                | 7.0       | 10          | 4 | 10.3 | E251M12 |
| 14 | 2.00    | 110         | 25          | 11               | 9.0       | 12          | 4 | 12   | E251M14 |
| 16 | 2.00    | 110         | 25          | 12               | 9.0       | 12          | 4 | 14   | E251M16 |
| 18 | 2.50    | 125         | 30          | 14               | 11.0      | 14          | 4 | 15.5 | E251M18 |
| 20 | 2.50    | 140         | 30          | 16               | 12.0      | 15          | 4 | 17.5 | E251M20 |
| 22 | 2.50    | 140         | 34          | 18               | 14.5      | 17          | 4 | 19.5 | E251M22 |
| 24 | 3.00    | 160         | 38          | 18               | 14.5      | 17          | 4 | 21   | E251M24 |

- Strojní závitníky
- Gépi menetfűrő (Anyamenetfűrő)
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E303



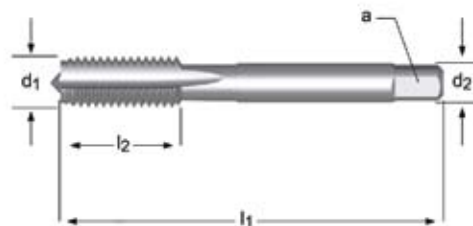
• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | a<br>mm | $l_3$<br>mm | z | e-Code          |
|-----|---------|-------------|-------------|-------------|---------|-------------|---|-----------------|
| 3   | 0.50    | 70          | 22          | 2.2         | -       | -           | 3 | 2.5 E303M3NO1   |
| 3   | 0.50    | 70          | 22          | 2.2         | -       | -           | 3 | 2.5 E303M3NO3   |
| 3.5 | 0.60    | 80          | 25          | 2.5         | 2.1     | 5           | 3 | 2.9 E303M3.5NO1 |
| 3.5 | 0.60    | 80          | 25          | 2.5         | 2.1     | 5           | 3 | 2.9 E303M3.5NO3 |
| 4   | 0.70    | 90          | 25          | 2.8         | 2.1     | 5           | 3 | 3.3 E303M4NO1   |
| 4   | 0.70    | 90          | 25          | 2.8         | 2.1     | 5           | 3 | 3.3 E303M4NO3   |
| 5   | 0.80    | 100         | 28          | 3.5         | 2.7     | 6           | 3 | 4.2 E303M5NO1   |
| 5   | 0.80    | 100         | 28          | 3.5         | 2.7     | 6           | 3 | 4.2 E303M5NO3   |
| 6   | 1.00    | 110         | 32          | 4.5         | 3.4     | 6           | 3 | 5 E303M6NO1     |
| 6   | 1.00    | 110         | 32          | 4.5         | 3.4     | 6           | 3 | 5 E303M6NO3     |
| 8   | 1.25    | 125         | 40          | 6.0         | 4.9     | 8           | 3 | 6.8 E303M8NO1   |
| 8   | 1.25    | 125         | 40          | 6.0         | 4.9     | 8           | 3 | 6.8 E303M8NO3   |
| 10  | 1.50    | 140         | 45          | 7.0         | 5.5     | 8           | 3 | 8.5 E303M10NO1  |
| 10  | 1.50    | 140         | 45          | 7.0         | 5.5     | 8           | 3 | 8.5 E303M10NO3  |
| 12  | 1.75    | 180         | 50          | 9.0         | 7.0     | 10          | 3 | 10.3 E303M12NO1 |
| 12  | 1.75    | 180         | 50          | 9.0         | 7.0     | 10          | 3 | 10.3 E303M12NO3 |
| 14  | 2.00    | 200         | 56          | 11.0        | 9.0     | 12          | 3 | 12 E303M14NO1   |
| 14  | 2.00    | 200         | 56          | 11.0        | 9.0     | 12          | 3 | 12 E303M14NO3   |
| 16  | 2.00    | 200         | 63          | 12.0        | 9.0     | 12          | 3 | 14 E303M16NO1   |
| 16  | 2.00    | 200         | 63          | 12.0        | 9.0     | 12          | 3 | 14 E303M16NO3   |
| 18  | 2.50    | 220         | 63          | 14.0        | 11.0    | 14          | 3 | 15.5 E303M18NO1 |
| 18  | 2.50    | 220         | 63          | 14.0        | 11.0    | 14          | 3 | 15.5 E303M18NO3 |
| 20  | 2.50    | 250         | 70          | 16.0        | 12.0    | 15          | 3 | 17.5 E303M20NO1 |
| 20  | 2.50    | 250         | 70          | 16.0        | 12.0    | 15          | 3 | 17.5 E303M20NO3 |

NO1  
NO3  
299



- Závítňíky ruční
- Kézi Menetfűró
- Gwintowniki reczne
- Tarozi de mana
- Ручные метчики
- sveder navojni ročni



## E100



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | a<br>mm | z | e-Code           |
|-----|---------|-------------|-------------|------------------|---------|---|------------------|
| 1.6 | 0.35    | 32          | 7           | 2.5              | 2.1     | 3 | 1.25 E100M1.6NO3 |
| 1.6 | 0.35    | 32          | 7           | 2.5              | 2.1     | 3 | 1.25 E100M1.6NO4 |
| 1.6 | 0.35    | 32          | 7           | 2.5              | 2.1     | 3 | 1.25 E100M1.6NO5 |
| 1.6 | 0.35    | 32          | 7           | 2.5              | 2.1     | 3 | 1.25 E100M1.6NO8 |
| 1.8 | 0.35    | 32          | 7           | 2.5              | 2.1     | 3 | 1.5 E100M1.8NO3  |
| 1.8 | 0.35    | 32          | 7           | 2.5              | 2.1     | 3 | 1.5 E100M1.8NO4  |
| 1.8 | 0.35    | 32          | 7           | 2.5              | 2.1     | 3 | 1.5 E100M1.8NO5  |
| 1.8 | 0.35    | 32          | 7           | 2.5              | 2.1     | 3 | 1.5 E100M1.8NO8  |
| 2   | 0.40    | 36          | 8           | 2.8              | 2.1     | 3 | 1.6 E100M2NO3    |
| 2   | 0.40    | 36          | 8           | 2.8              | 2.1     | 3 | 1.6 E100M2NO4    |
| 2   | 0.40    | 36          | 8           | 2.8              | 2.1     | 3 | 1.6 E100M2NO5    |
| 2   | 0.40    | 36          | 8           | 2.8              | 2.1     | 3 | 1.6 E100M2NO8    |
| 2.2 | 0.45    | 36          | 9           | 2.8              | 2.1     | 3 | 1.75 E100M2.2NO3 |
| 2.2 | 0.45    | 36          | 9           | 2.8              | 2.1     | 3 | 1.75 E100M2.2NO4 |
| 2.2 | 0.45    | 36          | 9           | 2.8              | 2.1     | 3 | 1.75 E100M2.2NO5 |
| 2.2 | 0.45    | 36          | 9           | 2.8              | 2.1     | 3 | 1.75 E100M2.2NO8 |
| 2.5 | 0.45    | 40          | 9           | 2.8              | 2.1     | 3 | 2.05 E100M2.5NO3 |
| 2.5 | 0.45    | 40          | 9           | 2.8              | 2.1     | 3 | 2.05 E100M2.5NO4 |
| 2.5 | 0.45    | 40          | 9           | 2.8              | 2.1     | 3 | 2.05 E100M2.5NO5 |
| 2.5 | 0.45    | 40          | 9           | 2.8              | 2.1     | 3 | 2.05 E100M2.5NO8 |
| 3   | 0.50    | 40          | 10          | 3.5              | 2.7     | 3 | 2.5 E100M3NO3    |
| 3   | 0.50    | 40          | 10          | 3.5              | 2.7     | 3 | 2.5 E100M3NO4    |
| 3   | 0.50    | 40          | 10          | 3.5              | 2.7     | 3 | 2.5 E100M3NO5    |
| 3   | 0.50    | 40          | 10          | 3.5              | 2.7     | 3 | 2.5 E100M3NO8    |
| 3.5 | 0.60    | 45          | 10          | 4.0              | 3.0     | 3 | 2.9 E100M3.5NO3  |
| 3.5 | 0.60    | 45          | 10          | 4.0              | 3.0     | 3 | 2.9 E100M3.5NO4  |
| 3.5 | 0.60    | 45          | 10          | 4.0              | 3.0     | 3 | 2.9 E100M3.5NO5  |
| 3.5 | 0.60    | 45          | 10          | 4.0              | 3.0     | 3 | 2.9 E100M3.5NO8  |
| 4   | 0.70    | 45          | 12          | 4.5              | 3.4     | 3 | 3.3 E100M4NO3    |
| 4   | 0.70    | 45          | 12          | 4.5              | 3.4     | 3 | 3.3 E100M4NO4    |
| 4   | 0.70    | 45          | 12          | 4.5              | 3.4     | 3 | 3.3 E100M4NO5    |
| 4   | 0.70    | 45          | 12          | 4.5              | 3.4     | 3 | 3.3 E100M4NO8    |
| 4.5 | 0.75    | 50          | 14          | 6.0              | 4.9     | 3 | 3.8 E100M4.5NO3  |
| 4.5 | 0.75    | 50          | 14          | 6.0              | 4.9     | 3 | 3.8 E100M4.5NO4  |
| 4.5 | 0.75    | 50          | 14          | 6.0              | 4.9     | 3 | 3.8 E100M4.5NO5  |
| 4.5 | 0.75    | 50          | 14          | 6.0              | 4.9     | 3 | 3.8 E100M4.5NO8  |
| 5   | 0.80    | 50          | 14          | 6.0              | 4.9     | 3 | 4.2 E100M5NO3    |
| 5   | 0.80    | 50          | 14          | 6.0              | 4.9     | 3 | 4.2 E100M5NO4    |
| 5   | 0.80    | 50          | 14          | 6.0              | 4.9     | 3 | 4.2 E100M5NO5    |
| 5   | 0.80    | 50          | 14          | 6.0              | 4.9     | 3 | 4.2 E100M5NO8    |
| 6   | 1.00    | 56          | 16          | 6.0              | 4.9     | 3 | 5 E100M6NO3      |
| 6   | 1.00    | 56          | 16          | 6.0              | 4.9     | 3 | 5 E100M6NO4      |
| 6   | 1.00    | 56          | 16          | 6.0              | 4.9     | 3 | 5 E100M6NO5      |
| 6   | 1.00    | 56          | 16          | 6.0              | 4.9     | 3 | 5 E100M6NO8      |
| 7   | 1.00    | 56          | 16          | 6.0              | 4.9     | 3 | 6 E100M7NO3      |
| 7   | 1.00    | 56          | 16          | 6.0              | 4.9     | 3 | 6 E100M7NO4      |



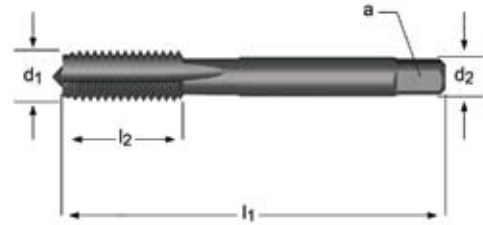
| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | z |  | e-Code     |
|----|---------|-------------|-------------|------------------|-----------|---|-------------------------------------------------------------------------------------|------------|
| 7  | 1.00    | 56          | 16          | 6.0              | 4.9       | 3 | 6                                                                                   | E100M7NO5  |
| 7  | 1.00    | 56          | 16          | 6.0              | 4.9       | 3 | 6                                                                                   | E100M7NO8  |
| 8  | 1.25    | 63          | 19          | 6.0              | 4.9       | 3 | 6.8                                                                                 | E100M8NO3  |
| 8  | 1.25    | 63          | 19          | 6.0              | 4.9       | 3 | 6.8                                                                                 | E100M8NO4  |
| 8  | 1.25    | 63          | 19          | 6.0              | 4.9       | 3 | 6.8                                                                                 | E100M8NO5  |
| 8  | 1.25    | 63          | 19          | 6.0              | 4.9       | 3 | 6.8                                                                                 | E100M8NO8  |
| 9  | 1.25    | 63          | 20          | 7.0              | 5.5       | 3 | 7.8                                                                                 | E100M9NO3  |
| 9  | 1.25    | 63          | 20          | 7.0              | 5.5       | 3 | 7.8                                                                                 | E100M9NO4  |
| 9  | 1.25    | 63          | 20          | 7.0              | 5.5       | 3 | 7.8                                                                                 | E100M9NO5  |
| 9  | 1.25    | 63          | 20          | 7.0              | 5.5       | 3 | 7.8                                                                                 | E100M9NO8  |
| 10 | 1.50    | 70          | 22          | 7.0              | 5.5       | 3 | 8.5                                                                                 | E100M10NO3 |
| 10 | 1.50    | 70          | 22          | 7.0              | 5.5       | 3 | 8.5                                                                                 | E100M10NO4 |
| 10 | 1.50    | 70          | 22          | 7.0              | 5.5       | 3 | 8.5                                                                                 | E100M10NO5 |
| 10 | 1.50    | 70          | 22          | 7.0              | 5.5       | 3 | 8.5                                                                                 | E100M10NO8 |
| 11 | 1.50    | 70          | 20          | 8.0              | 6.2       | 3 | 9.5                                                                                 | E100M11NO3 |
| 11 | 1.50    | 70          | 20          | 8.0              | 6.2       | 3 | 9.5                                                                                 | E100M11NO4 |
| 11 | 1.50    | 70          | 20          | 8.0              | 6.2       | 3 | 9.5                                                                                 | E100M11NO5 |
| 11 | 1.50    | 70          | 20          | 8.0              | 6.2       | 3 | 9.5                                                                                 | E100M11NO8 |
| 12 | 1.75    | 75          | 25          | 9.0              | 7.0       | 4 | 10.3                                                                                | E100M12NO3 |
| 12 | 1.75    | 75          | 25          | 9.0              | 7.0       | 4 | 10.3                                                                                | E100M12NO4 |
| 12 | 1.75    | 75          | 25          | 9.0              | 7.0       | 4 | 10.3                                                                                | E100M12NO5 |
| 12 | 1.75    | 75          | 25          | 9.0              | 7.0       | 4 | 10.3                                                                                | E100M12NO8 |
| 14 | 2.00    | 80          | 25          | 11.0             | 9.0       | 4 | 12                                                                                  | E100M14NO3 |
| 14 | 2.00    | 80          | 25          | 11.0             | 9.0       | 4 | 12                                                                                  | E100M14NO4 |
| 14 | 2.00    | 80          | 25          | 11.0             | 9.0       | 4 | 12                                                                                  | E100M14NO5 |
| 14 | 2.00    | 80          | 25          | 11.0             | 9.0       | 4 | 12                                                                                  | E100M14NO8 |
| 16 | 2.00    | 80          | 25          | 12.0             | 9.0       | 4 | 14                                                                                  | E100M16NO3 |
| 16 | 2.00    | 80          | 25          | 12.0             | 9.0       | 4 | 14                                                                                  | E100M16NO4 |
| 16 | 2.00    | 80          | 25          | 12.0             | 9.0       | 4 | 14                                                                                  | E100M16NO5 |
| 16 | 2.00    | 80          | 25          | 12.0             | 9.0       | 4 | 14                                                                                  | E100M16NO8 |
| 18 | 2.50    | 95          | 32          | 14.0             | 11.0      | 4 | 15.5                                                                                | E100M18NO3 |
| 18 | 2.50    | 95          | 32          | 14.0             | 11.0      | 4 | 15.5                                                                                | E100M18NO4 |
| 18 | 2.50    | 95          | 32          | 14.0             | 11.0      | 4 | 15.5                                                                                | E100M18NO5 |
| 18 | 2.50    | 95          | 32          | 14.0             | 11.0      | 4 | 15.5                                                                                | E100M18NO8 |
| 20 | 2.50    | 95          | 32          | 16.0             | 12.0      | 4 | 17.5                                                                                | E100M20NO3 |
| 20 | 2.50    | 95          | 32          | 16.0             | 12.0      | 4 | 17.5                                                                                | E100M20NO4 |
| 20 | 2.50    | 95          | 32          | 16.0             | 12.0      | 4 | 17.5                                                                                | E100M20NO5 |
| 20 | 2.50    | 95          | 32          | 16.0             | 12.0      | 4 | 17.5                                                                                | E100M20NO8 |
| 22 | 2.50    | 100         | 34          | 18.0             | 14.5      | 4 | 19.5                                                                                | E100M22NO3 |
| 22 | 2.50    | 100         | 34          | 18.0             | 14.5      | 4 | 19.5                                                                                | E100M22NO4 |
| 22 | 2.50    | 100         | 34          | 18.0             | 14.5      | 4 | 19.5                                                                                | E100M22NO5 |
| 22 | 2.50    | 100         | 34          | 18.0             | 14.5      | 4 | 19.5                                                                                | E100M22NO8 |
| 24 | 3.00    | 110         | 38          | 18.0             | 14.5      | 4 | 21                                                                                  | E100M24NO3 |
| 24 | 3.00    | 110         | 38          | 18.0             | 14.5      | 4 | 21                                                                                  | E100M24NO4 |
| 24 | 3.00    | 110         | 38          | 18.0             | 14.5      | 4 | 21                                                                                  | E100M24NO5 |
| 24 | 3.00    | 110         | 38          | 18.0             | 14.5      | 4 | 21                                                                                  | E100M24NO8 |
| 27 | 3.00    | 110         | 38          | 20.0             | 16.0      | 4 | 24                                                                                  | E100M27NO3 |
| 27 | 3.00    | 110         | 38          | 20.0             | 16.0      | 4 | 24                                                                                  | E100M27NO4 |
| 27 | 3.00    | 110         | 38          | 20.0             | 16.0      | 4 | 24                                                                                  | E100M27NO5 |
| 27 | 3.00    | 110         | 38          | 20.0             | 16.0      | 4 | 24                                                                                  | E100M27NO8 |
| 30 | 3.50    | 125         | 45          | 22.0             | 18.0      | 4 | 26.5                                                                                | E100M30NO3 |
| 30 | 3.50    | 125         | 45          | 22.0             | 18.0      | 4 | 26.5                                                                                | E100M30NO4 |
| 30 | 3.50    | 125         | 45          | 22.0             | 18.0      | 4 | 26.5                                                                                | E100M30NO5 |
| 30 | 3.50    | 125         | 45          | 22.0             | 18.0      | 4 | 26.5                                                                                | E100M30NO8 |
| 33 | 3.50    | 125         | 50          | 25.0             | 20.0      | 4 | 29.5                                                                                | E100M33NO3 |
| 33 | 3.50    | 125         | 50          | 25.0             | 20.0      | 4 | 29.5                                                                                | E100M33NO4 |
| 33 | 3.50    | 125         | 50          | 25.0             | 20.0      | 4 | 29.5                                                                                | E100M33NO5 |
| 33 | 3.50    | 125         | 50          | 25.0             | 20.0      | 4 | 29.5                                                                                | E100M33NO8 |
| 36 | 4.00    | 150         | 56          | 28.0             | 22.0      | 4 | 32                                                                                  | E100M36NO3 |
| 36 | 4.00    | 150         | 56          | 28.0             | 22.0      | 4 | 32                                                                                  | E100M36NO4 |
| 36 | 4.00    | 150         | 56          | 28.0             | 22.0      | 4 | 32                                                                                  | E100M36NO5 |
| 36 | 4.00    | 150         | 56          | 28.0             | 22.0      | 4 | 32                                                                                  | E100M36NO8 |
| 39 | 4.00    | 150         | 60          | 32.0             | 24.0      | 4 | 35                                                                                  | E100M39NO3 |
| 39 | 4.00    | 150         | 60          | 32.0             | 24.0      | 4 | 35                                                                                  | E100M39NO4 |
| 39 | 4.00    | 150         | 60          | 32.0             | 24.0      | 4 | 35                                                                                  | E100M39NO5 |
| 39 | 4.00    | 150         | 60          | 32.0             | 24.0      | 4 | 35                                                                                  | E100M39NO8 |
| 42 | 4.50    | 150         | 60          | 32.0             | 24.0      | 4 | 37.5                                                                                | E100M42NO3 |
| 42 | 4.50    | 150         | 60          | 32.0             | 24.0      | 4 | 37.5                                                                                | E100M42NO4 |
| 42 | 4.50    | 150         | 60          | 32.0             | 24.0      | 4 | 37.5                                                                                | E100M42NO5 |
| 42 | 4.50    | 150         | 60          | 32.0             | 24.0      | 4 | 37.5                                                                                | E100M42NO8 |



| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | z |  e-Code |
|----|---------|-------------|-------------|------------------|-----------|---|--------------------------------------------------------------------------------------------|
| 45 | 4.50    | 160         | 65          | 36.0             | 29.0      | 6 | 40.5 E100M45NO3                                                                            |
| 45 | 4.50    | 160         | 65          | 36.0             | 29.0      | 6 | 40.5 E100M45NO4                                                                            |
| 45 | 4.50    | 160         | 65          | 36.0             | 29.0      | 6 | 40.5 E100M45NO5                                                                            |
| 45 | 4.50    | 160         | 65          | 36.0             | 29.0      | 6 | 40.5 E100M45NO8                                                                            |
| 48 | 5.00    | 180         | 70          | 36.0             | 29.0      | 6 | 43 E100M48NO3                                                                              |
| 48 | 5.00    | 180         | 70          | 36.0             | 29.0      | 6 | 43 E100M48NO4                                                                              |
| 48 | 5.00    | 180         | 70          | 36.0             | 29.0      | 6 | 43 E100M48NO5                                                                              |
| 48 | 5.00    | 180         | 70          | 36.0             | 29.0      | 6 | 43 E100M48NO8                                                                              |
| 52 | 5.00    | 180         | 70          | 40.0             | 32.0      | 6 | 47 E100M52NO3                                                                              |
| 52 | 5.00    | 180         | 70          | 40.0             | 32.0      | 6 | 47 E100M52NO4                                                                              |
| 52 | 5.00    | 180         | 70          | 40.0             | 32.0      | 6 | 47 E100M52NO5                                                                              |
| 52 | 5.00    | 180         | 70          | 40.0             | 32.0      | 6 | 47 E100M52NO8                                                                              |



- Závítňíky ruční
- Kézi Menetfúró
- Gwintowniki reczne
- Tarozi de mana
- Ручные метчики
- sveder navojni ročni



## E102

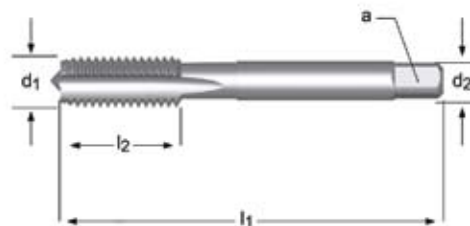


- 1.1 1.2 1.3 1.4 1.5 2.1 2.2 2.3 3.1 3.2 3.3 3.4 4.1 4.2 4.3 5.1 5.2 5.3 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | a<br>mm | z | e-Code          |
|----|---------|-------------|-------------|---------------|---------|---|-----------------|
| 3  | 0.50    | 40          | 9           | 3.5           | 2.7     | 3 | 2.5 E102M3NO8   |
| 4  | 0.70    | 45          | 11          | 4.5           | 3.4     | 3 | 3.3 E102M4NO8   |
| 5  | 0.80    | 50          | 13          | 6.0           | 4.9     | 3 | 4.2 E102M5NO8   |
| 6  | 1.00    | 56          | 15          | 6.0           | 4.9     | 3 | 5 E102M6NO8     |
| 8  | 1.25    | 63          | 19          | 6.0           | 4.9     | 3 | 6.8 E102M8NO8   |
| 10 | 1.50    | 70          | 22          | 7.0           | 5.5     | 4 | 8.5 E102M10NO8  |
| 12 | 1.75    | 75          | 25          | 9.0           | 7.0     | 4 | 10.3 E102M12NO8 |
| 14 | 2.00    | 80          | 25          | 11.0          | 9.0     | 4 | 12 E102M14NO8   |
| 16 | 2.00    | 80          | 25          | 12.0          | 9.0     | 4 | 14 E102M16NO8   |
| 18 | 2.50    | 95          | 32          | 14.0          | 11.0    | 4 | 15.5 E102M18NO8 |
| 20 | 2.50    | 95          | 32          | 16.0          | 12.0    | 4 | 17.5 E102M20NO8 |
| 24 | 3.00    | 110         | 38          | 18.0          | 14.5    | 4 | 21 E102M24NO8   |
| 27 | 3.00    | 110         | 38          | 20.0          | 16.0    | 4 | 24 E102M27NO8   |
| 30 | 3.50    | 125         | 45          | 22.0          | 18.0    | 4 | 26.5 E102M30NO8 |



- Závítňíky ruční
- Kézi Menettűró
- Gwintowniki reczne
- Tarozi de mana
- Ручные метчики
- sveder navojni ročni



## E101



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

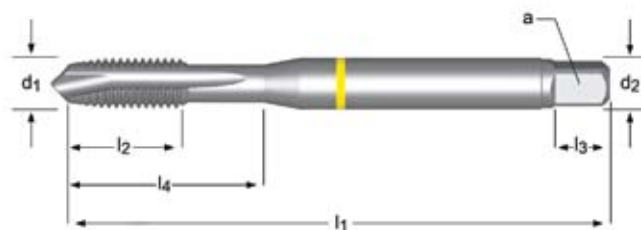
| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | a<br>mm | z | e-Code          |
|----|---------|-------------|-------------|-------------|---------|---|-----------------|
| 4  | 0.70    | 45          | 12          | 4.5         | 3.4     | 3 | 3.3 E101M4NO3   |
| 4  | 0.70    | 45          | 12          | 4.5         | 3.4     | 3 | 3.3 E101M4NO8   |
| 5  | 0.80    | 50          | 14          | 6.0         | 4.9     | 3 | 4.2 E101M5NO3   |
| 5  | 0.80    | 50          | 14          | 6.0         | 4.9     | 3 | 4.2 E101M5NO8   |
| 6  | 1.00    | 56          | 16          | 6.0         | 4.9     | 3 | 5 E101M6NO3     |
| 6  | 1.00    | 56          | 16          | 6.0         | 4.9     | 3 | 5 E101M6NO8     |
| 8  | 1.25    | 63          | 19          | 6.0         | 4.9     | 3 | 6.8 E101M8NO3   |
| 8  | 1.25    | 63          | 19          | 6.0         | 4.9     | 3 | 6.8 E101M8NO8   |
| 10 | 1.50    | 70          | 22          | 7.0         | 5.5     | 3 | 8.5 E101M10NO3  |
| 10 | 1.50    | 70          | 22          | 7.0         | 5.5     | 3 | 8.5 E101M10NO8  |
| 12 | 1.75    | 75          | 25          | 9.0         | 7.0     | 4 | 10.3 E101M12NO3 |
| 12 | 1.75    | 75          | 25          | 9.0         | 7.0     | 4 | 10.3 E101M12NO8 |
| 14 | 2.00    | 80          | 25          | 11.0        | 9.0     | 4 | 12 E101M14NO3   |
| 14 | 2.00    | 80          | 25          | 11.0        | 9.0     | 4 | 12 E101M14NO8   |
| 16 | 2.00    | 80          | 25          | 12.0        | 9.0     | 4 | 14 E101M16NO3   |
| 16 | 2.00    | 80          | 25          | 12.0        | 9.0     | 4 | 14 E101M16NO8   |

NO1  
NO8  
299

# E348 / E349

**DORMER**

- Strojní závitníky, žlutý Shark
- Gépi Menetfűró, Sárga Shark
- Gwintowniki maszynowe, Żółty Shark
- Tarozi de masina, Shark GALBEN
- Машинные метчики "Yellow Shark" для вязких сталей и металлов
- strojni navojni sveder, Yellow Shark



## E348



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code     |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|------------|
| 3  | 0.50    | 56                   | 9                    | 3.5                       | 2.7     | 6                    | 3 | 2.5                  | 18 E348M3  |
| 4  | 0.70    | 63                   | 12                   | 4.5                       | 3.4     | 6                    | 3 | 3.3                  | 21 E348M4  |
| 5  | 0.80    | 70                   | 13                   | 6.0                       | 4.9     | 8                    | 3 | 4.2                  | 25 E348M5  |
| 6  | 1.00    | 80                   | 15                   | 6.0                       | 4.9     | 8                    | 3 | 5                    | 30 E348M6  |
| 8  | 1.25    | 90                   | 18                   | 8.0                       | 6.2     | 9                    | 3 | 6.8                  | 35 E348M8  |
| 10 | 1.50    | 100                  | 20                   | 10.0                      | 8.0     | 11                   | 3 | 8.5                  | 39 E348M10 |



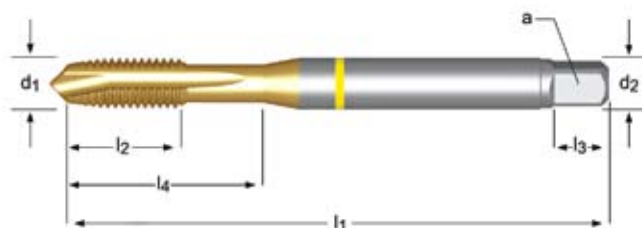
## E349



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|---------|
| 12 | 1.75    | 110                  | 23                   | 9                         | 7       | 10                   | 3 | 10.3                 | E349M12 |
| 14 | 2.00    | 110                  | 25                   | 11                        | 9       | 12                   | 3 | 12                   | E349M14 |
| 16 | 2.00    | 110                  | 25                   | 12                        | 9       | 12                   | 3 | 14                   | E349M16 |
| 18 | 2.50    | 125                  | 30                   | 14                        | 11      | 14                   | 3 | 15.5                 | E349M18 |
| 20 | 2.50    | 140                  | 30                   | 16                        | 12      | 15                   | 3 | 17.5                 | E349M20 |
| 22 | 2.50    | 140                  | 34                   | 18                        | 14.5    | 17                   | 4 | 19.5                 | E349M22 |
| 24 | 3.00    | 160                  | 38                   | 18                        | 14.5    | 17                   | 4 | 21                   | E349M24 |
| 27 | 3.00    | 160                  | 38                   | 20                        | 16      | 19                   | 4 | 24                   | E349M27 |
| 30 | 3.50    | 180                  | 45                   | 22                        | 18      | 21                   | 4 | 26.5                 | E349M30 |

- Strojní závitníky, žlutý Shark
- Gépi Menetfűró, Sárga Shark
- Gwintowniki maszynowe, Żółty Shark
- Tarozi de masina, Shark GALBEN
- Машинные метчики "Yellow Shark" для вязких сталей и металлов
- strojni navojni sveder, Yellow Shark



## E206



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E206M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E206M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E206M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E206M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E206M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E206M10 |



## E257



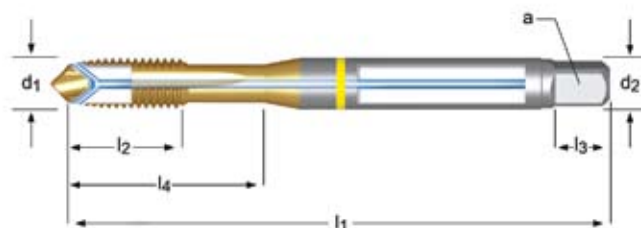
- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 4  | 0.70    | 63          | 13          | 2.8           | 2.1       | 5           | 3 | 3.3 E257M4   |
| 5  | 0.80    | 70          | 13          | 3.5           | 2.7       | 6           | 3 | 4.2 E257M5   |
| 6  | 1.00    | 80          | 15          | 4.5           | 3.4       | 6           | 3 | 5 E257M6     |
| 8  | 1.25    | 90          | 18          | 6.0           | 4.9       | 8           | 3 | 6.8 E257M8   |
| 10 | 1.50    | 100         | 20          | 7.0           | 5.5       | 8           | 3 | 8.5 E257M10  |
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 3 | 10.3 E257M12 |
| 14 | 2.00    | 110         | 25          | 11.0          | 9.0       | 12          | 3 | 12 E257M14   |
| 16 | 2.00    | 110         | 30          | 12.0          | 9.0       | 12          | 3 | 14 E257M16   |
| 18 | 2.50    | 125         | 30          | 14.0          | 11.0      | 14          | 3 | 15.5 E257M18 |
| 20 | 2.50    | 140         | 34          | 16.0          | 12.0      | 15          | 3 | 17.5 E257M20 |
| 22 | 2.50    | 140         | 34          | 18.0          | 14.5      | 17          | 4 | 19.5 E257M22 |
| 24 | 3.00    | 160         | 38          | 18.0          | 14.5      | 17          | 4 | 21 E257M24   |
| 27 | 3.00    | 160         | 38          | 20.0          | 16.0      | 19          | 4 | 24 E257M27   |
| 30 | 3.50    | 180         | 45          | 22.0          | 18.0      | 21          | 4 | 26.5 E257M30 |

# E375 / E376

**DORMER**

- Strojní závitníky, žlutý Shark
- Gépi Menetfűró, Sárga Shark
- Gwintowniki maszynowe, Żółty Shark
- Tarozi de masina, Shark GALBEN
- Машинные метчики "Yellow Shark" для вязких сталей и металлов
- strojní navojní sveder, Yellow Shark

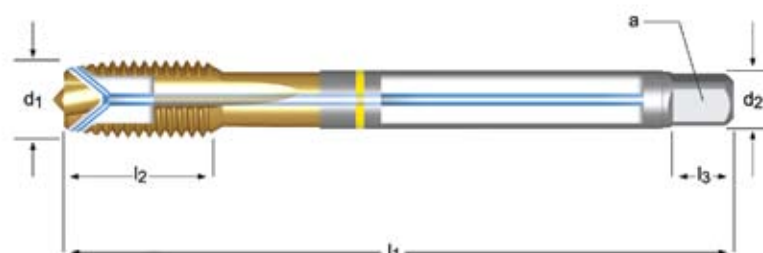


## E375

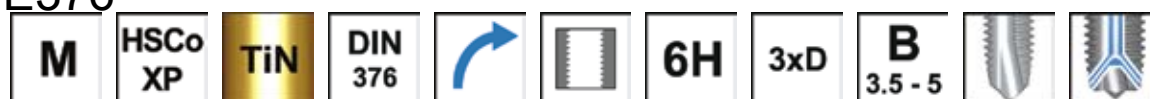


- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 30          | E375M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 35          | E375M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 39          | E375M10 |



## E376



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 3 | 10.3        | E376M12 |
| 14 | 2.00    | 110         | 25          | 11.0          | 9.0       | 12          | 3 | 12          | E376M14 |
| 16 | 2.00    | 110         | 25          | 12.0          | 9.0       | 12          | 3 | 14          | E376M16 |
| 20 | 2.50    | 140         | 30          | 16.0          | 12.0      | 15          | 3 | 17.5        | E376M20 |



- Strojní závitníky, červený Shark
- Gépi Menetfűró, Piros Shark
- Gwintowniki maszynowe, Czerwony Shark
- Tarozi de masina, Shark ROSU
- Машинные метчики "Red Shark" для углеродистых и легированных сталей
- strojni navojni sveder, Red Shark


**NEW**

2009.02



## E395



- 1.4
- 1.5 1.6 4.2 5.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E395M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E395M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E395M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E395M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E395M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E395M10 |
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 3 | 10.3        | E395M12    |
| 14 | 2.00    | 110         | 25          | 11.0          | 9.0       | 12          | 3 | 12          | E395M14    |
| 16 | 2.00    | 110         | 25          | 12.0          | 9.0       | 12          | 3 | 14          | E395M16    |
| 18 | 2.50    | 125         | 30          | 14.0          | 11.0      | 14          | 4 | 15.5        | E395M18    |
| 20 | 2.50    | 140         | 30          | 16.0          | 12.0      | 15          | 4 | 17.5        | E395M20    |

- Strojní závitníky, červený Shark
- Gépi Menetfűró, Piros Shark
- Gwintowniki maszynowe, Czerwony Shark
- Tarozi de masina, Shark ROSU
- Машинные метчики "Red Shark" для углеродистых и легированных сталей
- strojni navojni sveder, Red Shark



**NEW**

2009.02



## E396



- 1.4 1.5
- 1.6 4.2 5.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | $z$ | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|-----|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3   | 2.5         | 18 E396M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3   | 3.3         | 21 E396M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3   | 4.2         | 25 E396M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3   | 5           | 30 E396M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3   | 6.8         | 35 E396M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3   | 8.5         | 39 E396M10 |
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 3   | 10.3        | E396M12    |
| 14 | 2.00    | 110         | 25          | 11.0          | 9.0       | 12          | 3   | 12          | E396M14    |
| 16 | 2.00    | 110         | 25          | 12.0          | 9.0       | 12          | 3   | 14          | E396M16    |
| 18 | 2.50    | 125         | 30          | 14.0          | 11.0      | 14          | 4   | 15.5        | E396M18    |
| 20 | 2.50    | 140         | 30          | 16.0          | 12.0      | 15          | 4   | 17.5        | E396M20    |

- Strojní závitníky, černý Shark
- Gépi Menetfűró, Fekete Shark
- Gwintowniki maszynowe, Czarny Shark
- Tarozi de masina, Shark NEGRU
- Машинные метчики "Black Shark" для углеродистых и легированных сталей
- strojní navojní sveder, Black Shark



## E324



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.5 | 1.6 | 4.2 | 4.3 |
| ● | 5.2 | 5.3 | 7.4 | 9.1 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 2.6         | 21 E324M3  |
| 4  | 0.70    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 3.4         | 25 E324M4  |
| 5  | 0.80    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 4.3         | 30 E324M5  |
| 6  | 1.00    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 5.1         | 35 E324M6  |
| 8  | 1.25    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 6.9         | 39 E324M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.7         | 39 E324M10 |



## E326



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.5 | 1.6 | 4.2 | 4.3 |
| ● | 5.2 | 5.3 | 7.4 | 9.1 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 4 | 10.3        | E326M12 |

# E344 / E345

**DORMER**

- Strojní závitníky, modrý Shark
- Gépi Menetfűró, Kék Shark
- Gwintowniki maszynowe, Niebieski Shark
- Tarozi de masina, Shark ALBASTRU
- Машинные метчики "Blue Shark" для нержавеющей сталей
- strojní navojni sveder, Blue Shark



**SHARK LINE**

L300  
391

**E344**



- 2.1 2.2 2.3 2.4
- 1.5 1.6

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E344M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E344M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E344M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E344M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E344M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E344M10 |



**SHARK LINE**

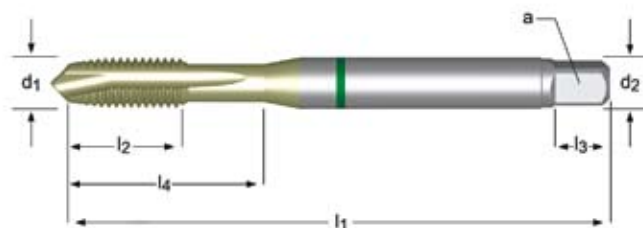
**E345**



- 2.1 2.2 2.3
- 1.5 1.6

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 23          | 9             | 7.0       | 10          | 4 | 10.3 E345M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9.0       | 12          | 4 | 12 E345M14   |
| 16 | 2.00    | 110         | 25          | 12            | 9.0       | 12          | 4 | 14 E345M16   |
| 18 | 2.50    | 125         | 30          | 14            | 11.0      | 14          | 4 | 15.5 E345M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12.0      | 15          | 4 | 17.5 E345M20 |
| 22 | 2.50    | 140         | 34          | 18            | 14.5      | 17          | 4 | 19.5 E345M22 |
| 24 | 3.00    | 160         | 38          | 18            | 14.5      | 17          | 4 | 21 E345M24   |
| 27 | 3.00    | 160         | 38          | 20            | 16.0      | 19          | 4 | 24 E345M27   |
| 30 | 3.50    | 180         | 45          | 22            | 18.0      | 21          | 4 | 26.5 E345M30 |

- Strojní závitníky, zelený Shark
- Gépi Menetfűró, Zöld Shark
- Gwintowniki maszynowe, Zielony Shark
- Tarozi de masina, Shark VERDE
- Машинные метчики "Green Shark" для цветных металлов
- strojni navojni sveder, Green Shark

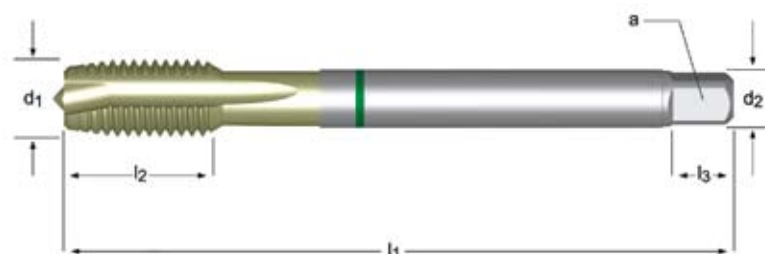


## E448



- 1.1 1.2 1.3 4.1 5.1 6.2 6.3 7.1 7.2 7.3 8.1
- 6.1 7.4

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 2 | 18          | E448M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 2 | 21          | E448M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 2 | 25          | E448M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 30          | E448M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 35          | E448M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 39          | E448M10 |



## E449



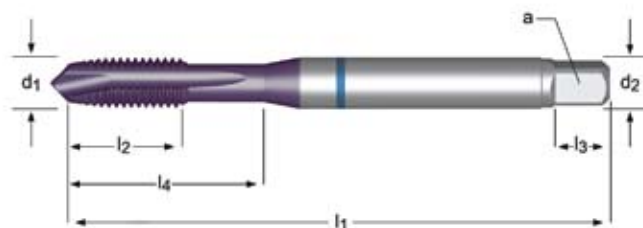
- 1.1 1.2 1.3 4.1 5.1 6.2 6.3 7.1 7.2 7.3 8.1
- 6.1 7.4

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|---------|
| 12 | 1.75    | 110         | 23          | 9             | 7.0       | 10          | 3 | E449M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9.0       | 12          | 4 | E449M14 |
| 16 | 2.00    | 110         | 25          | 12            | 9.0       | 12          | 4 | E449M16 |

# E454 / E455

**DORMER**

- Strojní závitníky, modrý Shark
- Gépi Menetfűró, Kék Shark
- Gwintowniki maszynowe, Niebieski Shark
- Tarozi de masina, Shark ALBASTRU
- Машинные метчики "Blue Shark" для нержавеющей сталей
- strojni navojni sveder, Blue Shark

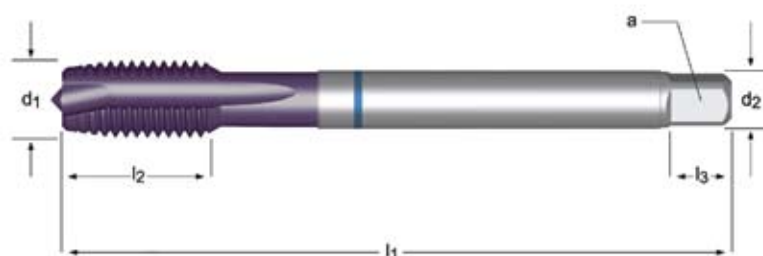


## E454



- 2.1 2.2 2.3 2.4 4.1 4.2 5.1 5.2
- 1.5 1.6

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E454M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E454M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E454M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E454M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E454M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E454M10 |



## E455



- 2.1 2.2 2.3 4.1 4.2 5.1 5.2
- 1.5 1.6

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 23          | 9             | 7.0       | 10          | 4 | 10.3 E455M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9.0       | 12          | 4 | 12 E455M14   |
| 16 | 2.00    | 110         | 25          | 12            | 9.0       | 12          | 4 | 14 E455M16   |
| 18 | 2.50    | 125         | 30          | 14            | 11.0      | 14          | 4 | 15.5 E455M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12.0      | 15          | 4 | 17.5 E455M20 |

- Strojní závitníky, zelený Shark
- Gépi Menetfűró, Zöld Shark
- Gwintowniki maszynowe, Zielony Shark
- Tarozi de masina, Shark VERDE
- Машинные метчики "Green Shark" для цветных металлов
- strojní navojni sveder, Green Shark



## E358



|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| ■ | 6.2 | 6.3 | 7.1 | 7.2 | 7.3 | 8.1 |
| ● | 1.1 | 1.2 | 1.3 | 6.1 | 7.4 |     |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔   | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|-----|----------------------|---------|
| 3  | 0.50    | 56                   | 9                    | 3.5                    | 2.7     | 6                    | 2 | 2.5 | 18                   | E358M3  |
| 4  | 0.70    | 63                   | 12                   | 4.5                    | 3.4     | 6                    | 2 | 3.3 | 21                   | E358M4  |
| 5  | 0.80    | 70                   | 13                   | 6.0                    | 4.9     | 8                    | 2 | 4.2 | 25                   | E358M5  |
| 6  | 1.00    | 80                   | 15                   | 6.0                    | 4.9     | 8                    | 3 | 5   | 30                   | E358M6  |
| 8  | 1.25    | 90                   | 18                   | 8.0                    | 6.2     | 9                    | 3 | 6.8 | 35                   | E358M8  |
| 10 | 1.50    | 100                  | 20                   | 10.0                   | 8.0     | 11                   | 3 | 8.5 | 39                   | E358M10 |



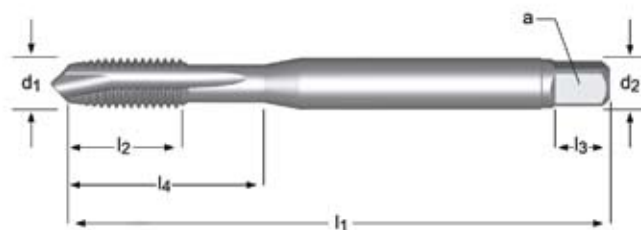
## E359



|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| ■ | 6.2 | 6.3 | 7.1 | 7.2 | 7.3 | 8.1 |
| ● | 1.1 | 1.2 | 1.3 | 6.1 | 7.4 |     |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|------|---------|
| 12 | 1.75    | 110                  | 23                   | 9                      | 7.0     | 10                   | 3 | 10.3 | E359M12 |
| 14 | 2.00    | 110                  | 25                   | 11                     | 9.0     | 12                   | 4 | 12   | E359M14 |
| 16 | 2.00    | 110                  | 25                   | 12                     | 9.0     | 12                   | 4 | 14   | E359M16 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E214

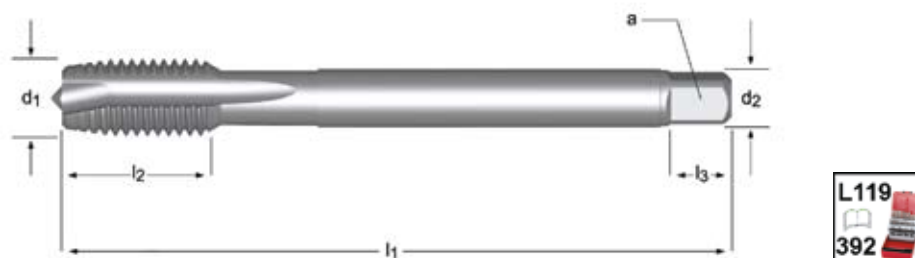


- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|------------------|-----------|-------------|---|-------------|----------|
| 2   | 0.40    | 50          | 6           | 2.8              | 2.1       | 5           | 3 | 9           | E214M2   |
| 2.5 | 0.45    | 50          | 8           | 2.8              | 2.1       | 5           | 3 | 12.5        | E214M2.5 |
| 3   | 0.50    | 56          | 9           | 3.5              | 2.7       | 6           | 3 | 18          | E214M3   |
| 3.5 | 0.60    | 56          | 11          | 4.0              | 3.0       | 6           | 3 | 20          | E214M3.5 |
| 4   | 0.70    | 63          | 12          | 4.5              | 3.4       | 6           | 3 | 21          | E214M4   |
| 4.5 | 0.75    | 70          | 13          | 6.0              | 4.9       | 6           | 3 | 25          | E214M4.5 |
| 5   | 0.80    | 70          | 13          | 6.0              | 4.9       | 8           | 3 | 25          | E214M5   |
| 6   | 1.00    | 80          | 15          | 6.0              | 4.9       | 8           | 3 | 30          | E214M6   |
| 7   | 1.00    | 80          | 15          | 7.0              | 5.5       | 8           | 3 | 30          | E214M7   |
| 8   | 1.25    | 90          | 18          | 8.0              | 6.2       | 9           | 3 | 35          | E214M8   |
| 10  | 1.50    | 100         | 20          | 10.0             | 8.0       | 11          | 3 | 39          | E214M10  |



- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E265



- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 3  | 0.50    | 56          | 10          | 2.2           | -         | -           | 3 | 2.5 E265M3   |
| 4  | 0.70    | 63          | 12          | 2.8           | 2.1       | 5           | 3 | 3.3 E265M4   |
| 5  | 0.80    | 70          | 13          | 3.5           | 2.7       | 6           | 3 | 4.2 E265M5   |
| 6  | 1.00    | 80          | 15          | 4.5           | 3.4       | 6           | 3 | 5 E265M6     |
| 8  | 1.25    | 90          | 18          | 6.0           | 4.9       | 8           | 3 | 6.8 E265M8   |
| 10 | 1.50    | 100         | 20          | 7.0           | 5.5       | 8           | 3 | 8.5 E265M10  |
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 3 | 10.3 E265M12 |
| 14 | 2.00    | 110         | 25          | 11.0          | 9.0       | 12          | 3 | 12 E265M14   |
| 16 | 2.00    | 110         | 25          | 12.0          | 9.0       | 12          | 3 | 14 E265M16   |
| 18 | 2.50    | 125         | 30          | 14.0          | 11.0      | 14          | 3 | 15.5 E265M18 |
| 20 | 2.50    | 140         | 30          | 16.0          | 12.0      | 15          | 3 | 17.5 E265M20 |
| 22 | 2.50    | 140         | 34          | 18.0          | 14.5      | 17          | 4 | 19.5 E265M22 |
| 24 | 3.00    | 160         | 38          | 18.0          | 14.5      | 17          | 4 | 21 E265M24   |
| 27 | 3.00    | 160         | 38          | 20.0          | 16.0      | 19          | 4 | 24 E265M27   |
| 30 | 3.50    | 180         | 45          | 22.0          | 18.0      | 21          | 4 | 26.5 E265M30 |

# E216 / E266

**DORMER**

- Strojní závitníky
- Fogkihagyásos Gépi Menetfúró
- Gwintowniki maszynowe z przerywanym nakrojem
- Tarozi de masina, dantura intrerupta
- Машинные метчики, для прерывистых резьб
- prekinjen navoj



## E216



- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |     | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-----|-------------|---------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5 | 18          | E216M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3 | 21          | E216M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2 | 25          | E216M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5   | 30          | E216M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8 | 35          | E216M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5 | 39          | E216M10 |



## E266



- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|------|---------|
| 12 | 1.75    | 110         | 23          | 9             | 7.0       | 10          | 3 | 10.3 | E266M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9.0       | 12          | 3 | 12   | E266M14 |
| 16 | 2.00    | 110         | 25          | 12            | 9.0       | 12          | 3 | 14   | E266M16 |
| 18 | 2.50    | 125         | 30          | 14            | 11.0      | 14          | 3 | 15.5 | E266M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12.0      | 15          | 3 | 17.5 | E266M20 |
| 22 | 2.50    | 140         | 34          | 18            | 14.5      | 17          | 4 | 19.5 | E266M22 |
| 24 | 3.00    | 160         | 38          | 18            | 14.5      | 17          | 4 | 21   | E266M24 |

- Strojní závitníky
- Fogkihagyásos Gépi Menetfúró
- Gwintowniki maszynowe z przerywanym nakrojem
- Tarozi de masina, dantura intrerupta
- Машинные метчики, для прерывистых резьб
- prekinjen navoj



## E422



- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E422M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E422M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E422M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E422M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E422M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E422M10 |



## E423



- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 23          | 9             | 7.0       | 10          | 3 | 10.3 E423M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9.0       | 12          | 3 | 12 E423M14   |
| 16 | 2.00    | 110         | 25          | 12            | 9.0       | 12          | 3 | 14 E423M16   |
| 18 | 2.50    | 125         | 30          | 14            | 11.0      | 14          | 3 | 15.5 E423M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12.0      | 15          | 3 | 17.5 E423M20 |
| 22 | 2.50    | 140         | 34          | 18            | 14.5      | 17          | 4 | 19.5 E423M22 |
| 24 | 3.00    | 160         | 38          | 18            | 14.5      | 17          | 4 | 21 E423M24   |

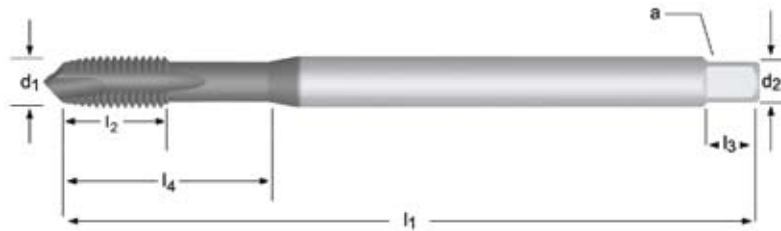
# E616



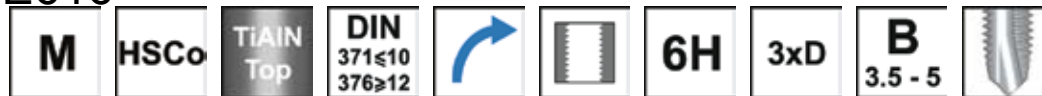
- Strojní závitník, extra dlouhý
- Gépi menetfűrő, extra hosszú
- Gwintownik maszynowy, Bardzo długi
- Tarozi de masina extralungi
- Машинный метчик, сверхдлинный
- Strojni navojni sveder, ekstra dolgi

**NEW**

2008.09



E616



- 1.1 1.2 1.3 1.4 1.5 6.1 6.3
- 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4 4.2 5.2 6.2 7.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 112         | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E616M3  |
| 4  | 0.70    | 112         | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E616M4  |
| 5  | 0.80    | 125         | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E616M5  |
| 6  | 1.00    | 125         | 15          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E616M6  |
| 8  | 1.25    | 140         | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | 40 E616M8  |
| 10 | 1.50    | 160         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | 50 E616M10 |
| 12 | 1.75    | 180         | 23          | 9.0           | 7.0       | 10          | 3 | 10.2        | E616M12    |
| 14 | 2.00    | 180         | 25          | 11.0          | 9.0       | 12          | 3 | 12          | E616M14    |
| 16 | 2.00    | 200         | 25          | 12.0          | 9.0       | 12          | 3 | 14          | E616M16    |
| 20 | 2.50    | 224         | 30          | 16            | 12.0      | 15          | 4 | 17.5        | E616M20    |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E215



- 1.2 8.1
- 1.1 1.3 5.1 7.1 7.2

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $\leftrightarrow$ | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------------|-------------|----------|
| 2   | 0.40    | 45          | 6           | 2.8           | 2.1       | 5           | 2 | 1.6               | 9           | E215M2   |
| 2.5 | 0.45    | 50          | 8           | 2.8           | 2.1       | 5           | 2 | 2.05              | 12.5        | E215M2.5 |
| 3   | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 2 | 2.5               | 18          | E215M3   |
| 3.5 | 0.60    | 56          | 11          | 4.0           | 3.0       | 6           | 2 | 2.9               | 20          | E215M3.5 |
| 4   | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 2 | 3.3               | 21          | E215M4   |
| 5   | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2               | 25          | E215M5   |
| 6   | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5                 | 30          | E215M6   |
| 8   | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8               | 35          | E215M8   |
| 10  | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5               | 39          | E215M10  |

# E197 / E247

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



**E197**



- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | E197M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | E197M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | E197M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | E197M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | E197M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | E197M10 |



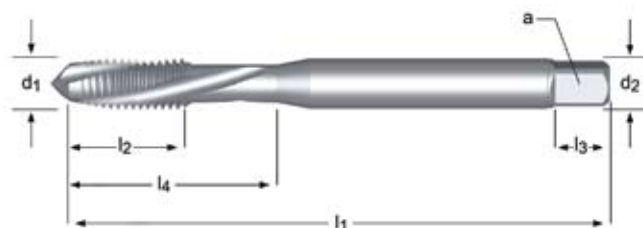
**E247**



- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 23          | 9             | 7         | 10          | 3 | 10.3 E247M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9         | 12          | 3 | 12 E247M14   |
| 16 | 2.00    | 110         | 25          | 12            | 9         | 12          | 3 | 14 E247M16   |
| 18 | 2.50    | 125         | 30          | 14            | 11        | 14          | 3 | 15.5 E247M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12        | 15          | 3 | 17.5 E247M20 |

- Strojní závitník, levotočivá šroubovice
- Gépi menetfűrő, balos spirállal
- Gwintownik Maszynowy, Lewy Skrętny
- Tarozi de masina, canale stanga
- Машинный метчик с левосторонней спиралью
- Strojni navojni sveder, levi



## E235



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.3 | 1.4 |     |     |
| ● | 1.2 | 1.5 | 7.2 | 7.3 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E235M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E235M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E235M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E235M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E235M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E235M10 |



## E236



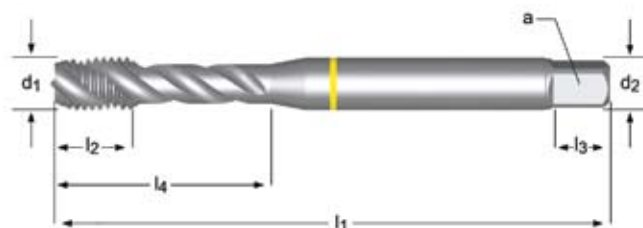
|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.3 | 1.4 |     |     |
| ● | 1.2 | 1.5 | 7.2 | 7.3 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 3 | 10.3 E236M12 |
| 14 | 2.00    | 110         | 25          | 11.0          | 9.0       | 12          | 3 | 12 E236M14   |
| 16 | 2.00    | 110         | 25          | 12.0          | 9.0       | 12          | 3 | 14 E236M16   |
| 18 | 2.50    | 125         | 30          | 14.0          | 11.0      | 14          | 4 | 15.5 E236M18 |
| 20 | 2.50    | 140         | 30          | 16.0          | 12.0      | 15          | 4 | 17.5 E236M20 |
| 24 | 3.00    | 160         | 38          | 18.0          | 14.5      | 17          | 4 | 21 E236M24   |

# E350 / E351

**DORMER**

- Strojní závitníky, žlutý Shark
- Gépi Menetfűró, Sárga Shark
- Gwintowniki maszynowe, Żółty Shark
- Tarozi de masina, Shark GALBEN
- Машинные метчики "Yellow Shark" для вязких сталей и металлов
- strojni navojni sveder, Yellow Shark

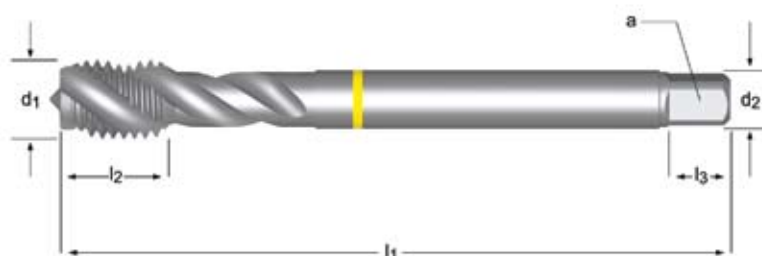


**E350**



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|----------------------|---------|
| 3  | 0.50    | 56                   | 6                    | 3.5                    | 2.7     | 6                    | 3 | 18                   | E350M3  |
| 4  | 0.70    | 63                   | 7                    | 4.5                    | 3.4     | 6                    | 3 | 21                   | E350M4  |
| 5  | 0.80    | 70                   | 8                    | 6.0                    | 4.9     | 8                    | 3 | 25                   | E350M5  |
| 6  | 1.00    | 80                   | 10                   | 6.0                    | 4.9     | 8                    | 3 | 30                   | E350M6  |
| 8  | 1.25    | 90                   | 13                   | 8.0                    | 6.2     | 9                    | 3 | 35                   | E350M8  |
| 10 | 1.50    | 100                  | 15                   | 10.0                   | 8.0     | 11                   | 3 | 39                   | E350M10 |



**E351**

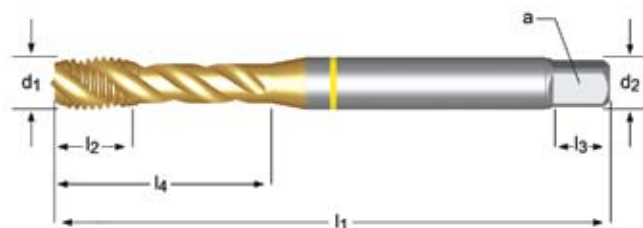


- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|---------|
| 12 | 1.75    | 110                  | 18                   | 9                      | 7       | 10                   | 3 | E351M12 |
| 14 | 2.00    | 110                  | 20                   | 11                     | 9       | 12                   | 3 | E351M14 |
| 16 | 2.00    | 110                  | 20                   | 12                     | 9       | 12                   | 4 | E351M16 |
| 18 | 2.50    | 125                  | 25                   | 14                     | 11      | 14                   | 4 | E351M18 |
| 20 | 2.50    | 140                  | 25                   | 16                     | 12      | 15                   | 4 | E351M20 |
| 22 | 2.50    | 140                  | 25                   | 18                     | 14.5    | 17                   | 4 | E351M22 |
| 24 | 3.00    | 160                  | 30                   | 18                     | 14.5    | 17                   | 4 | E351M24 |
| 27 | 3.00    | 160                  | 30                   | 20                     | 16      | 19                   | 4 | E351M27 |
| 30 | 3.50    | 160                  | 36                   | 22                     | 18      | 21                   | 4 | E351M30 |



- Strojní závitníky, žlutý Shark, zadní kužel
- Gépi Menetfűró, Sárga Shark, Hátsó menetkúposság
- Gwintowniki maszynowe, Żółty Shark, ze zbieżnym nakrojem
- Tarozi de masina, Shark GALBEN, Conicitate inversa
- Машинные метчики "Yellow Shark" для вязких сталей и металлов с обратной конусностью
- strojní navojní sveder, Yellow Shark



## E213



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 6           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E213M3  |
| 4  | 0.70    | 63          | 7           | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E213M4  |
| 5  | 0.80    | 70          | 8           | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E213M5  |
| 6  | 1.00    | 80          | 10          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E213M6  |
| 8  | 1.25    | 90          | 13          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E213M8  |
| 10 | 1.50    | 100         | 15          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E213M10 |



## E264



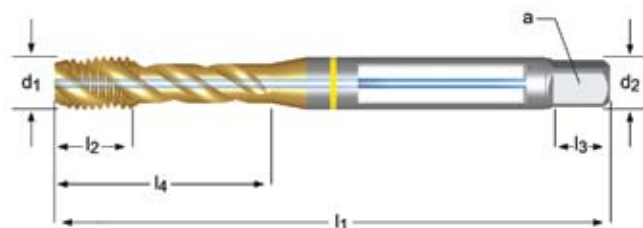
- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 18          | 9             | 7.0       | 10          | 3 | 10.3 E264M12 |
| 14 | 2.00    | 110         | 20          | 11            | 9.0       | 12          | 3 | 12 E264M14   |
| 16 | 2.00    | 110         | 20          | 12            | 9.0       | 12          | 4 | 14 E264M16   |
| 18 | 2.50    | 125         | 25          | 14            | 11.0      | 14          | 4 | 15.5 E264M18 |
| 20 | 2.50    | 140         | 25          | 16            | 12.0      | 15          | 4 | 17.5 E264M20 |
| 22 | 2.50    | 140         | 25          | 18            | 14.5      | 17          | 4 | 19.5 E264M22 |
| 24 | 3.00    | 160         | 30          | 18            | 14.5      | 17          | 4 | 21 E264M24   |
| 27 | 3.00    | 160         | 30          | 20            | 16.0      | 19          | 4 | 24 E264M27   |
| 30 | 3.50    | 180         | 35          | 22            | 18.0      | 21          | 4 | 26.5 E264M30 |

# E460 / E461

**DORMER**

- Strojní závitníky, žlutý Shark
- Gépi Menetfűró, Sárga Shark
- Gwintowniki maszynowe, Żółty Shark
- Tarozi de masina, Shark GALBEN
- Машинные метчики "Yellow Shark" для вязких сталей и металлов
- strojní navojní sveder, Yellow Shark

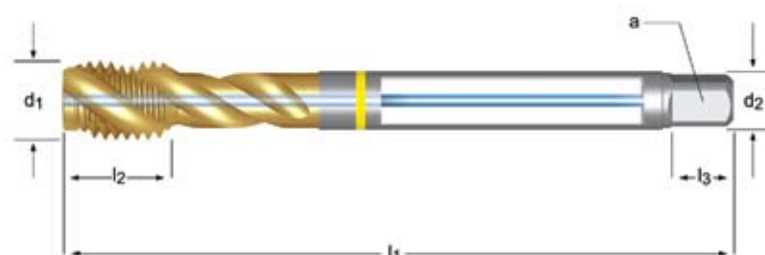


## E460



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | E460M6  |
| 8  | 1.25    | 90          | 22          | 8.0           | 6.2       | 9           | 3 | 6.8         | E460M8  |
| 10 | 1.50    | 100         | 24          | 10.0          | 8.0       | 11          | 3 | 8.5         | E460M10 |



## E461



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 18          | 9.0           | 7.0       | 10          | 3 | 10.3 E461M12 |
| 14 | 2.00    | 110         | 20          | 11.0          | 9.0       | 12          | 3 | 12 E461M14   |
| 16 | 2.00    | 110         | 20          | 12.0          | 9.0       | 12          | 4 | 14 E461M16   |
| 20 | 2.50    | 140         | 25          | 16.0          | 12.0      | 15          | 4 | 17.5 E461M20 |

- Strojní závitníky, červený Shark, zadní kužel
- Gépi Menetfűró, Piros Shark, Hátsó menetkúposság
- Gwintowniki maszynowe, czerwony Shark, ze zbieżnym nakrojem
- Тарози де масина, Shark ROSU, Conicitate inversa
- Машинные метчики "Red Shark" для углеродистых и легированных сталей с обратной конусностью
- strojní navojní sveder, Red Shark


**NEW**

2009.02



## E392



- 1.4
- 1.5 1.6 4.2 5.2

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔   | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|-----|----------------------|---------|
| 3  | 0.50    | 56                   | 6                    | 3.5                       | 2.7     | 6                    | 3 | 2.5 | 18                   | E392M3  |
| 4  | 0.70    | 63                   | 7                    | 4.5                       | 3.4     | 6                    | 3 | 3.3 | 21                   | E392M4  |
| 5  | 0.80    | 70                   | 8                    | 6.0                       | 4.9     | 8                    | 3 | 4.2 | 25                   | E392M5  |
| 6  | 1.00    | 80                   | 10                   | 6.0                       | 4.9     | 8                    | 3 | 5   | 30                   | E392M6  |
| 8  | 1.25    | 90                   | 13                   | 8.0                       | 6.2     | 9                    | 3 | 6.8 | 35                   | E392M8  |
| 10 | 1.50    | 100                  | 15                   | 10.0                      | 8.0     | 11                   | 3 | 8.5 | 39                   | E392M10 |


**NEW**

2009.02



## E393



- 1.4
- 1.5 1.6 4.2 5.2

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | e-Code                |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|-----------------------|
| 5  | 0.80    | 70                   | 8                    | 3.5                       | 2.7     | 6                    | 3 | 4.2  | E393M5                |
| 6  | 1.00    | 80                   | 10                   | 4.5                       | 3.4     | 6                    | 3 | 5    | E393M6                |
| 8  | 1.25    | 90                   | 13                   | 6.0                       | 4.9     | 8                    | 3 | 6.8  | E393M8                |
| 10 | 1.50    | 100                  | 15                   | 7.0                       | 5.5     | 8                    | 3 | 8.5  | E393M10               |
| 12 | 1.75    | 110                  | 18                   | 9.0                       | 7.0     | 10                   | 3 | 10.3 | E393M12               |
| 14 | 2.00    | 110                  | 20                   | 11.0                      | 9.0     | 12                   | 3 | 12   | E393M14               |
| 16 | 2.00    | 110                  | 20                   | 12.0                      | 9.0     | 12                   | 3 | 14   | E393M16               |
| 18 | 2.50    | 125                  | 25                   | 14.0                      | 11.0    | 14                   | 4 | 15.5 | E393M18               |
| 20 | 2.50    | 140                  | 25                   | 16.0                      | 12.0    | 15                   | 4 | 17.5 | E393M20               |
| 22 | 2.50    | 140                  | 25                   | 18.0                      | 14.5    | 17                   | 4 | 19.5 | E393M22 <sup>1)</sup> |
| 24 | 3.00    | 160                  | 30                   | 18.0                      | 14.5    | 17                   | 4 | 21   | E393M24 <sup>1)</sup> |
| 27 | 3.00    | 160                  | 30                   | 20.0                      | 16.0    | 19                   | 4 | 24   | E393M27 <sup>1)</sup> |
| 30 | 3.50    | 180                  | 36                   | 22.0                      | 18.0    | 21                   | 4 | 26.5 | E393M30 <sup>1)</sup> |
| 33 | 3.50    | 180                  | 36                   | 25.0                      | 20.0    | 23                   | 4 | 29.5 | E393M33 <sup>1)</sup> |
| 36 | 4.00    | 200                  | 40                   | 28.0                      | 22.0    | 25                   | 4 | 32   | E393M36 <sup>1)</sup> |



- Strojní závitníky, červený Shark, zadní kužel
- Gépi Menetfűró, Piros Shark, Hátsó menetkúposság
- Gwintowniki maszynowe, czerwony Shark, ze zbieżnym nakrojem
- Tarozi de masina, Shark ROSU, Conicitate inversa
- Машинные метчики "Red Shark" для углеродистых и легированных сталей с обратной конусностью
- strojní navojní sveder, Red Shark



**NEW**

2009.02



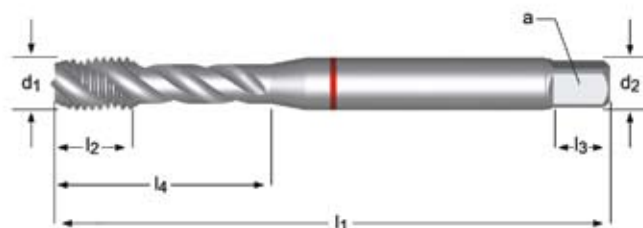
## E394



|   |     |         |
|---|-----|---------|
| ■ | 1.4 | 1.5     |
| ● | 1.6 | 4.2 5.2 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 6           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E394M3  |
| 4  | 0.70    | 63          | 7           | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E394M4  |
| 5  | 0.80    | 70          | 8           | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E394M5  |
| 6  | 1.00    | 80          | 10          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E394M6  |
| 8  | 1.25    | 90          | 13          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E394M8  |
| 10 | 1.50    | 100         | 15          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E394M10 |
| 12 | 1.75    | 110         | 18          | 9.0           | 7.0       | 10          | 3 | 10.3        | E394M12    |
| 14 | 2.00    | 110         | 20          | 11.0          | 9.0       | 12          | 3 | 12          | E394M14    |
| 16 | 2.00    | 110         | 20          | 12.0          | 9.0       | 12          | 3 | 14          | E394M16    |
| 18 | 2.50    | 125         | 25          | 14.0          | 11.0      | 14          | 4 | 15.5        | E394M18    |
| 20 | 2.50    | 140         | 25          | 16.0          | 12.0      | 15          | 4 | 17.5        | E394M20    |

- Strojní závitníky, červený Shark
- Gépi Menetfűró, Piros Shark
- Gwintowniki maszynowe, Czerwony Shark
- Tarozi de masina, Shark ROSU
- Машинные метчики "Red Shark" для углеродистых и легированных сталей
- strojni navojni sveder, Red Shark

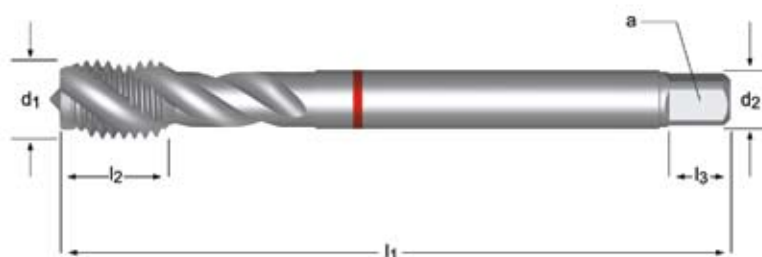


## E342



- 1.4
- 1.5 1.6 4.2 5.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 56          | 6           | 3.5           | 2.7       | 6           | 3 | 18          | E342M3  |
| 4  | 0.70    | 63          | 7           | 4.5           | 3.4       | 6           | 3 | 21          | E342M4  |
| 5  | 0.80    | 70          | 8           | 6.0           | 4.9       | 8           | 3 | 25          | E342M5  |
| 6  | 1.00    | 80          | 10          | 6.0           | 4.9       | 8           | 3 | 30          | E342M6  |
| 8  | 1.25    | 90          | 13          | 8.0           | 6.2       | 9           | 3 | 35          | E342M8  |
| 10 | 1.50    | 100         | 15          | 10.0          | 8.0       | 11          | 3 | 39          | E342M10 |



## E343



- 1.4
- 1.5 1.6 4.2 5.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|---------|
| 12 | 1.75    | 110         | 18          | 9             | 7         | 10          | 4 | E343M12 |
| 14 | 2.00    | 110         | 20          | 11            | 9         | 12          | 4 | E343M14 |
| 16 | 2.00    | 110         | 20          | 12            | 9         | 12          | 4 | E343M16 |
| 18 | 2.50    | 125         | 25          | 14            | 11        | 16          | 4 | E343M18 |
| 20 | 2.50    | 140         | 25          | 16            | 12        | 15          | 4 | E343M20 |

# E402

**DORMER**

- Strojní závitníky, stříbrný Shark
- Gépi Menetfűró, Szürke Shark
- Gwintowniki maszynowe, Srebrny Shark
- Tarozi de masina, Shark ARGINTIU
- Машинные метчики "Silver Shark"
- strojni navojni sveder, Silver Shark



E402



|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 |
| ● | 2.1 | 2.2 | 2.3 | 7.1 | 7.2 |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | flute width<br>mm | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|-------------------|----------------------|---------|
| 3  | 0.50    | 56                   | 6                    | 3.5                    | 2.7     | 6                    | 3 | 2.5               | 18                   | E402M3  |
| 4  | 0.70    | 63                   | 7                    | 4.5                    | 3.4     | 6                    | 3 | 3.3               | 21                   | E402M4  |
| 5  | 0.80    | 70                   | 8                    | 6.0                    | 4.9     | 8                    | 3 | 4.2               | 25                   | E402M5  |
| 6  | 1.00    | 80                   | 10                   | 6.0                    | 4.9     | 8                    | 3 | 5                 | 30                   | E402M6  |
| 8  | 1.25    | 90                   | 13                   | 8.0                    | 6.2     | 9                    | 3 | 6.8               | 35                   | E402M8  |
| 10 | 1.50    | 100                  | 15                   | 10.0                   | 8.0     | 11                   | 3 | 8.5               | 39                   | E402M10 |
| 12 | 1.75    | 110                  | 18                   | 9.0                    | 7.0     | 10                   | 3 | 10.3              |                      | E402M12 |
| 14 | 2.00    | 110                  | 20                   | 11.0                   | 9.0     | 12                   | 3 | 12                |                      | E402M14 |
| 16 | 2.00    | 110                  | 20                   | 12.0                   | 9.0     | 12                   | 4 | 14                |                      | E402M16 |
| 20 | 2.50    | 140                  | 25                   | 16.0                   | 12.0    | 15                   | 4 | 17.5              |                      | E402M20 |
| 22 | 2.50    | 140                  | 25                   | 18.0                   | 14.5    | 17                   | 4 | 19.5              |                      | E402M22 |
| 24 | 3.00    | 160                  | 30                   | 18.0                   | 14.5    | 17                   | 4 | 21.0              |                      | E402M24 |
| 27 | 3.00    | 160                  | 30                   | 20.0                   | 16.0    | 19                   | 4 | 24.0              |                      | E402M27 |
| 30 | 3.50    | 180                  | 36                   | 22.0                   | 18.0    | 21                   | 4 | 26.5              |                      | E402M30 |

- Strojní závitníky, černý Shark
- Gépi Menetfűró, Fekete Shark
- Gwintowniki maszynowe, Czarny Shark
- Tarozi de masina, Shark NEGRU
- Машинные метчики "Black Shark" для углеродистых и легированных сталей
- strojní navojní sveder, Black Shark



## E314



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.5 | 1.6 | 4.2 | 4.3 |
| ● | 5.2 | 5.3 | 7.4 | 9.1 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | $z$ | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|-----|-------------|------------|
| 3  | 0.50    | 63          | 12          | 4.5           | 3.4       | 6           | 3   | 2.6         | 21 E314M3  |
| 4  | 0.70    | 70          | 13          | 6.0           | 4.9       | 8           | 3   | 3.4         | 25 E314M4  |
| 5  | 0.80    | 80          | 15          | 6.0           | 4.9       | 8           | 3   | 4.3         | 30 E314M5  |
| 6  | 1.00    | 90          | 18          | 8.0           | 6.2       | 9           | 3   | 5.1         | 35 E314M6  |
| 8  | 1.25    | 100         | 20          | 10.0          | 8.0       | 11          | 3   | 6.9         | 39 E314M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3   | 8.7         | 39 E314M10 |



## E316



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.5 | 1.6 | 4.2 | 4.3 |
| ● | 5.2 | 5.3 | 7.4 | 9.1 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | $z$ | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|-----|-------------|---------|
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 4   | 10.3        | E316M12 |

# E346 / E347

**DORMER**

- Strojní závitníky, modrý Shark
- Gépi Menetfűró, Kék Shark
- Gwintowniki maszynowe, Niebieski Shark
- Tarozi de masina, Shark ALBASTRU
- Машинные метчики "Blue Shark" для нержавеющей сталей
- strojni navojni sveder, Blue Shark



**SHARK LINE**

L300  
391

E346



- 2.1 2.2 2.3
- 1.5 1.6

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|---------|
| 3  | 0.50    | 56                   | 6                    | 3.5                       | 2.7     | 6                    | 3 | 18                   | E346M3  |
| 4  | 0.70    | 63                   | 7                    | 4.5                       | 3.4     | 6                    | 3 | 21                   | E346M4  |
| 5  | 0.80    | 70                   | 8                    | 6.0                       | 4.9     | 8                    | 3 | 25                   | E346M5  |
| 6  | 1.00    | 80                   | 10                   | 6.0                       | 4.9     | 8                    | 3 | 30                   | E346M6  |
| 8  | 1.25    | 90                   | 13                   | 8.0                       | 6.2     | 9                    | 3 | 33                   | E346M8  |
| 10 | 1.50    | 100                  | 15                   | 10.0                      | 8.0     | 11                   | 3 | 39                   | E346M10 |



**SHARK LINE**

E347



- 2.1 2.2 2.3
- 1.5 1.6

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code       |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|--------------|
| 12 | 1.75    | 110                  | 18                   | 9                         | 7.0     | 10                   | 4 | 10.3 E347M12 |
| 14 | 2.00    | 110                  | 20                   | 11                        | 9.0     | 12                   | 4 | 12 E347M14   |
| 16 | 2.00    | 110                  | 20                   | 12                        | 9.0     | 12                   | 4 | 14 E347M16   |
| 18 | 2.50    | 125                  | 25                   | 14                        | 11.0    | 14                   | 4 | 15.5 E347M18 |
| 20 | 2.50    | 140                  | 25                   | 16                        | 12.0    | 15                   | 4 | 17.5 E347M20 |
| 22 | 2.50    | 140                  | 25                   | 18                        | 14.5    | 17                   | 4 | 19.5 E347M22 |
| 24 | 3.00    | 160                  | 30                   | 18                        | 14.5    | 17                   | 4 | 21 E347M24   |
| 27 | 3.00    | 160                  | 30                   | 20                        | 16.0    | 19                   | 4 | 24 E347M27   |
| 30 | 3.50    | 180                  | 36                   | 22                        | 18.0    | 21                   | 4 | 26.5 E347M30 |



- Strojní závitníky, modrý Shark, zadní kužel
- Gépi Menetfűró, Kék Shark, Hátsó menetkúposság
- Gwintowniki maszynowe, Niebieski Shark, Ze zbieżnym nakrojem
- Tarozi de masina, Shark ALBASTRU, Conicitate inversa
- Машинные метчики "Blue Shark" для нержавеющей сталей обратной конусностью
- strojní navojní sveder, Blue Shark


**NEW**

2007.10



## E404



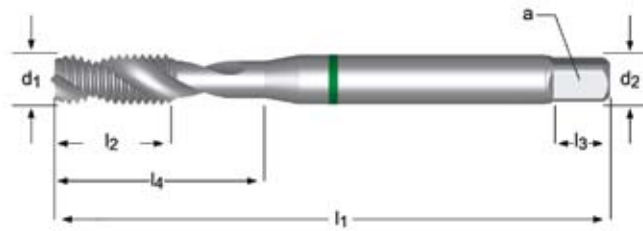
|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 2.1 | 2.2 | 2.3 | 2.4 |
| ● | 1.3 | 1.4 | 1.5 | 1.6 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 6           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E404M3  |
| 4  | 0.70    | 63          | 7           | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E404M4  |
| 5  | 0.80    | 70          | 8           | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E404M5  |
| 6  | 1.00    | 80          | 10          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E404M6  |
| 8  | 1.25    | 90          | 13          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E404M8  |
| 10 | 1.50    | 100         | 15          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E404M10 |
| 12 | 1.75    | 110         | 18          | 9.0           | 7.0       | 10          | 3 | 10.3        | E404M12    |
| 14 | 2.00    | 110         | 20          | 11.0          | 9.0       | 12          | 3 | 12          | E404M14    |
| 16 | 2.00    | 110         | 20          | 12.0          | 9.0       | 12          | 4 | 14          | E404M16    |
| 20 | 2.50    | 140         | 25          | 16.0          | 12.0      | 15          | 4 | 17.5        | E404M20    |

# E360 / E361

**DORMER**

- Strojní závitníky, zelený Shark
- Gépi Menetfűró, Zöld Shark
- Gwintowniki maszynowe, Zielony Shark
- Tarozi de masina, Shark VERDE
- Машинные метчики "Green Shark" для цветных металлов
- strojni navojni sveder, Green Shark



**SHARK LINE**

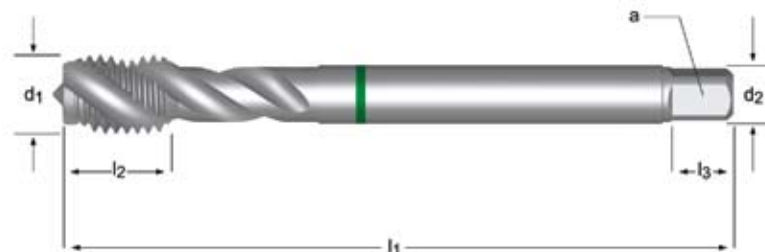
L300  
391

**E360**



|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| ■ | 4.1 | 5.1 | 7.1 | 7.2 | 8.1 |
| ● | 1.2 | 1.3 | 6.1 | 6.3 | 7.3 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 2 | 18          | E360M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 2 | 21          | E360M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 2 | 25          | E360M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 2 | 30          | E360M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 2 | 35          | E360M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 2 | 39          | E360M10 |



**SHARK LINE**

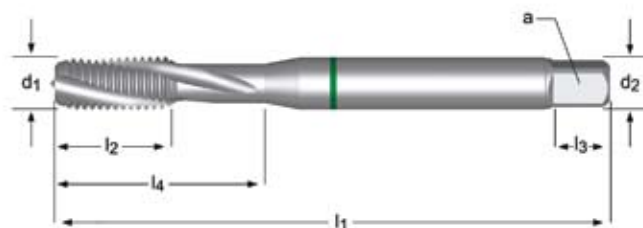
**E361**



|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| ■ | 4.1 | 5.1 | 7.1 | 7.2 | 8.1 |
| ● | 1.2 | 1.3 | 6.1 | 6.3 | 7.3 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 23          | 9             | 7         | 10          | 3 | 10.3 E361M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9         | 12          | 3 | 12 E361M14   |
| 16 | 2.00    | 110         | 25          | 12            | 9         | 12          | 3 | 14 E361M16   |
| 18 | 2.50    | 125         | 30          | 14            | 11        | 14          | 3 | 15.5 E361M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12        | 15          | 3 | 17.5 E361M20 |

- Strojní závitníky, zelený Shark
- Gépi Menetfűró, Zöld Shark
- Gwintowniki maszynowe, Zielony Shark
- Tarozi de masina, Shark VERDE
- Машинные метчики "Green Shark" для цветных металлов
- strojni navojni sveder, Green Shark

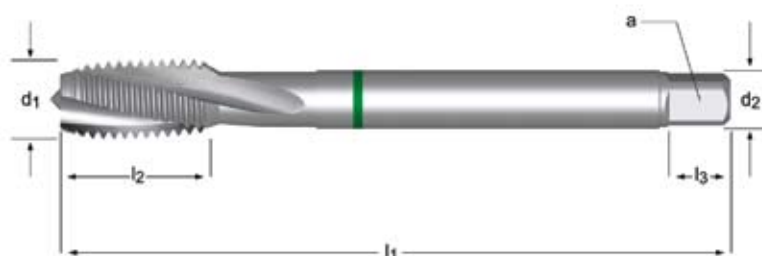


## E354



|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| ■ | 6.2 | 6.3 | 7.2 | 7.3 | 7.4 |     |
| ● | 1.1 | 1.2 | 1.3 | 1.4 | 6.1 | 7.1 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|-------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5         | 2.7       | 6           | 3 | 2.5         | 18 E354M3  |
| 4  | 0.70    | 63          | 12          | 4.5         | 3.4       | 6           | 3 | 3.3         | 21 E354M4  |
| 5  | 0.80    | 70          | 13          | 6.0         | 4.9       | 8           | 3 | 4.2         | 25 E354M5  |
| 6  | 1.00    | 80          | 15          | 6.0         | 4.9       | 8           | 3 | 5           | 30 E354M6  |
| 8  | 1.25    | 90          | 18          | 8.0         | 6.2       | 9           | 3 | 6.8         | 35 E354M8  |
| 10 | 1.50    | 100         | 20          | 10.0        | 8.0       | 11          | 3 | 8.5         | 39 E354M10 |



## E355



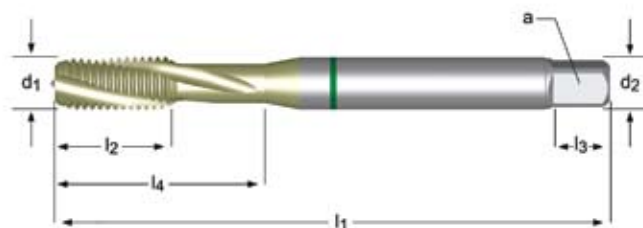
|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| ■ | 6.2 | 6.3 | 7.2 | 7.3 | 7.4 |     |
| ● | 1.1 | 1.2 | 1.3 | 1.4 | 6.1 | 7.1 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|-------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 23          | 9           | 7         | 10          | 3 | 10.3 E355M12 |
| 14 | 2.00    | 110         | 25          | 11          | 9         | 12          | 3 | 12 E355M14   |
| 16 | 2.00    | 110         | 25          | 12          | 9         | 12          | 3 | 14 E355M16   |

# E450 / E451

**DORMER**

- Strojní závitníky, zelený Shark
- Gépi Menetfűró, Zöld Shark
- Gwintowniki maszynowe, Zielony Shark
- Tarozi de masina, Shark VERDE
- Машинные метчики "Green Shark" для цветных металлов
- strojni navojni sveder, Green Shark

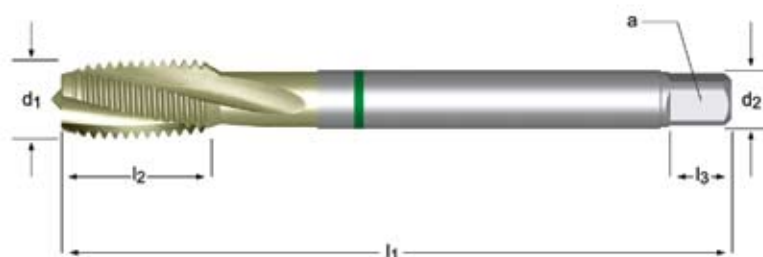


## E450



|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| ■ | 6.2 | 6.3 | 7.2 | 7.3 | 7.4 |     |
| ● | 1.1 | 1.2 | 1.3 | 1.4 | 6.1 | 7.1 |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔   | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|-----|----------------------|---------|
| 3  | 0.50    | 56                   | 9                    | 3.5                    | 2.7     | 6                    | 3 | 2.5 | 18                   | E450M3  |
| 4  | 0.70    | 63                   | 12                   | 4.5                    | 3.4     | 6                    | 3 | 3.3 | 21                   | E450M4  |
| 5  | 0.80    | 70                   | 13                   | 6.0                    | 4.9     | 8                    | 3 | 4.2 | 25                   | E450M5  |
| 6  | 1.00    | 80                   | 15                   | 6.0                    | 4.9     | 8                    | 3 | 5   | 30                   | E450M6  |
| 8  | 1.25    | 90                   | 18                   | 8.0                    | 6.2     | 9                    | 3 | 6.8 | 35                   | E450M8  |
| 10 | 1.50    | 100                  | 20                   | 10.0                   | 8.0     | 11                   | 3 | 8.5 | 39                   | E450M10 |



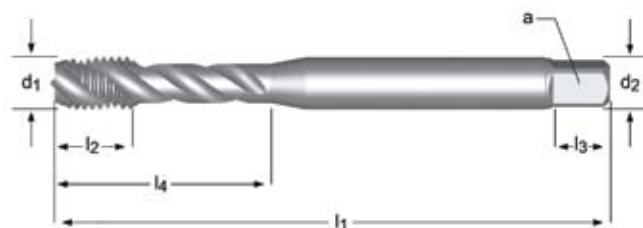
## E451



|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| ■ | 6.2 | 6.3 | 7.2 | 7.3 | 7.4 |     |
| ● | 1.1 | 1.2 | 1.3 | 1.4 | 6.1 | 7.1 |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|------|---------|
| 12 | 1.75    | 110                  | 23                   | 9                      | 7       | 10                   | 3 | 10.3 | E451M12 |
| 14 | 2.00    | 110                  | 25                   | 11                     | 9       | 12                   | 3 | 12   | E451M14 |
| 16 | 2.00    | 110                  | 25                   | 12                     | 9       | 12                   | 3 | 14   | E451M16 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E208



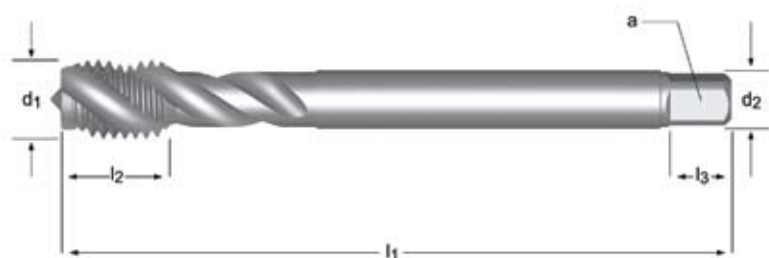
- 1.3 1.4
- 1.1 1.2 1.5

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $\leftrightarrow$ | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------------|-------------|----------|
| 2   | 0.40    | 45          | 4           | 2.8           | 2.1       | 5           | 3 | 1.6               | 9           | E208M2   |
| 2.5 | 0.45    | 50          | 4           | 2.8           | 2.1       | 5           | 3 | 2.05              | 12.5        | E208M2.5 |
| 3   | 0.50    | 56          | 6           | 3.5           | 2.7       | 6           | 3 | 2.5               | 18          | E208M3   |
| 4   | 0.70    | 63          | 7           | 4.5           | 3.4       | 6           | 3 | 3.3               | 21          | E208M4   |
| 5   | 0.80    | 70          | 8           | 6.0           | 4.9       | 8           | 3 | 4.2               | 25          | E208M5   |
| 6   | 1.00    | 80          | 10          | 6.0           | 4.9       | 8           | 3 | 5                 | 30          | E208M6   |
| 7   | 1.00    | 80          | 10          | 7.0           | 5.5       | 8           | 3 | 6                 | 30          | E208M7   |
| 8   | 1.25    | 90          | 13          | 8.0           | 6.2       | 9           | 3 | 6.8               | 35          | E208M8   |
| 10  | 1.50    | 100         | 15          | 10.0          | 8.0       | 11          | 3 | 8.5               | 39          | E208M10  |

# E259

**DORMER**

- Strojní závitníky
- Gépi Menetfúró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



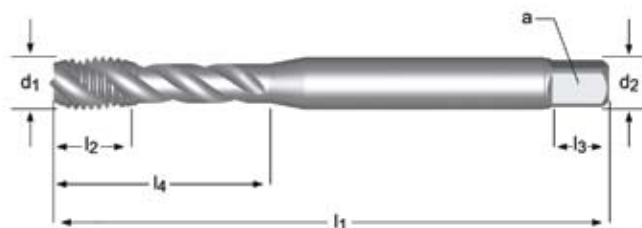
**E259**



- 1.3 1.4
- 1.1 1.2 1.5

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code       |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|--------------|
| 6  | 1.00    | 80                   | 10                   | 4.5                       | 3.4     | 6                    | 3 | 5 E259M6     |
| 8  | 1.25    | 90                   | 13                   | 6.0                       | 4.9     | 8                    | 3 | 6.8 E259M8   |
| 10 | 1.50    | 100                  | 15                   | 7.0                       | 5.5     | 8                    | 3 | 8.5 E259M10  |
| 12 | 1.75    | 110                  | 18                   | 9.0                       | 7.0     | 10                   | 3 | 10.3 E259M12 |
| 14 | 2.00    | 110                  | 20                   | 11.0                      | 9.0     | 12                   | 3 | 12 E259M14   |
| 16 | 2.00    | 110                  | 20                   | 12.0                      | 9.0     | 12                   | 4 | 14 E259M16   |
| 18 | 2.50    | 125                  | 25                   | 14.0                      | 11.0    | 14                   | 4 | 15.5 E259M18 |
| 20 | 2.50    | 140                  | 25                   | 16.0                      | 12.0    | 15                   | 4 | 17.5 E259M20 |
| 22 | 2.50    | 140                  | 25                   | 18.0                      | 14.5    | 17                   | 4 | 19.5 E259M22 |
| 24 | 3.00    | 160                  | 30                   | 18.0                      | 14.5    | 17                   | 4 | 21 E259M24   |
| 27 | 3.00    | 160                  | 30                   | 20.0                      | 16.0    | 19                   | 4 | 24 E259M27   |
| 30 | 3.50    | 180                  | 35                   | 22.0                      | 18.0    | 21                   | 4 | 26.5 E259M30 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintownik maszynow ze zbieżnym nakrojem
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder, zadaj brušen



## E195



- 1.3 1.4
- 1.1 1.2 1.5

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 4  | 0.70    | 63          | 7           | 4.5           | 3.4       | 6           | 3 | 21          | E195M4  |
| 5  | 0.80    | 70          | 8           | 6.0           | 4.9       | 8           | 3 | 25          | E195M5  |
| 6  | 1.00    | 80          | 10          | 6.0           | 4.9       | 8           | 3 | 30          | E195M6  |
| 8  | 1.25    | 90          | 13          | 8.0           | 6.2       | 9           | 3 | 35          | E195M8  |
| 10 | 1.50    | 100         | 15          | 10.0          | 8.0       | 11          | 3 | 39          | E195M10 |



## E245



- 1.3 1.4
- 1.1 1.2 1.5

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|---------|
| 12 | 1.75    | 110         | 18          | 9             | 7.0       | 10          | 3 | E245M12 |
| 14 | 2.00    | 110         | 20          | 11            | 9.0       | 12          | 3 | E245M14 |
| 16 | 2.00    | 110         | 20          | 12            | 9.0       | 12          | 4 | E245M16 |
| 18 | 2.50    | 125         | 25          | 14            | 11.0      | 14          | 4 | E245M18 |
| 20 | 2.50    | 140         | 25          | 16            | 12.0      | 15          | 4 | E245M20 |
| 22 | 2.50    | 140         | 25          | 18            | 14.5      | 17          | 4 | E245M22 |
| 24 | 3.00    | 160         | 30          | 18            | 14.5      | 17          | 4 | E245M24 |

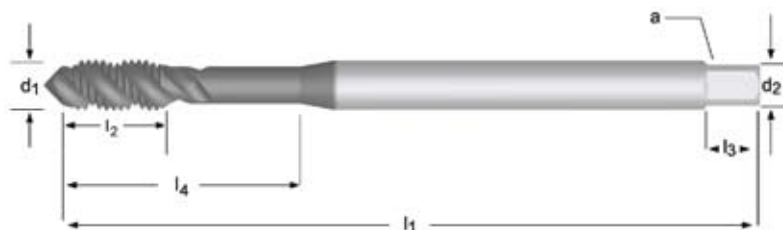
# E615

**DORMER**

- Strojní závitník, extra dlouhý
- Gépi menetfűrő, extra hosszú
- Gwintownik maszynowy, Bardzo długi
- Tarozi de masina extralungi
- Машинный метчик, сверхдлинный
- Strojni navojni sveder, ekstra dolgi

**NEW**

2008.09



E615

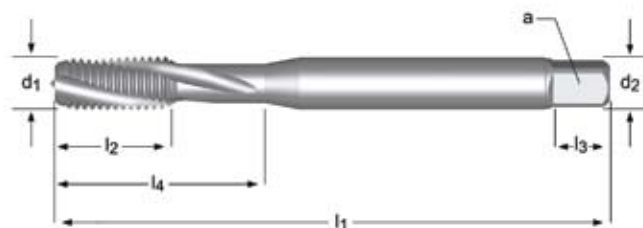


- 1.1 1.2 1.3 1.4 1.5 6.1 6.3
- 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4 4.2 5.2 6.2 7.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 112         | 6           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E615M3  |
| 4  | 0.70    | 112         | 7           | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E615M4  |
| 5  | 0.80    | 125         | 8           | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E615M5  |
| 6  | 1.00    | 125         | 10          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E615M6  |
| 8  | 1.25    | 140         | 13          | 8.0           | 6.2       | 9           | 3 | 6.8         | 40 E615M8  |
| 10 | 1.50    | 160         | 15          | 10.0          | 8.0       | 11          | 3 | 8.5         | 50 E615M10 |
| 12 | 1.75    | 180         | 16          | 9.0           | 7.0       | 10          | 3 | 10.2        | E615M12    |
| 14 | 2.00    | 180         | 20          | 11.0          | 9.0       | 12          | 3 | 12          | E615M14    |
| 16 | 2.00    | 200         | 20          | 12.0          | 9.0       | 12          | 3 | 14          | E615M16    |
| 20 | 2.50    | 224         | 25          | 16            | 12        | 15          | 4 | 17.5        | E615M20    |



- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



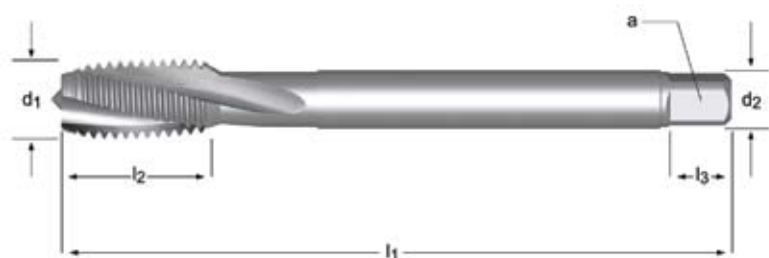
## E207



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.3 | 1.4 |     |     |
| ● | 1.2 | 1.5 | 7.2 | 7.3 |

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $\leftrightarrow$ | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------------|-------------|----------|
| 2   | 0.40    | 45          | 4           | 2.8           | 2.1       | 5           | 3 | 1.6               | 9           | E207M2   |
| 2.5 | 0.45    | 50          | 4           | 2.8           | 2.1       | 5           | 3 | 2.05              | 12.5        | E207M2.5 |
| 3   | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5               | 18          | E207M3   |
| 3.5 | 0.60    | 56          | 11          | 4.0           | 3.0       | 6           | 3 | 2.9               | 20          | E207M3.5 |
| 4   | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3               | 21          | E207M4   |
| 5   | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2               | 25          | E207M5   |
| 6   | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5                 | 30          | E207M6   |
| 7   | 1.00    | 80          | 15          | 7.0           | 5.5       | 8           | 3 | 6                 | 30          | E207M7   |
| 8   | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8               | 35          | E207M8   |
| 10  | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5               | 39          | E207M10  |

- Strojní závitníky
- Gépi Menetfúró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E258



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.3 | 1.4 |     |     |
| ● | 1.2 | 1.5 | 7.2 | 7.3 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|------|---------|
| 4  | 0.70    | 63          | 12          | 2.8           | 2.1       | 5           | 3 | 3.3  | E258M4  |
| 5  | 0.80    | 70          | 13          | 3.5           | 2.7       | 6           | 3 | 4.2  | E258M5  |
| 6  | 1.00    | 80          | 15          | 4.5           | 3.4       | 6           | 3 | 5    | E258M6  |
| 8  | 1.25    | 90          | 18          | 6.0           | 4.9       | 8           | 3 | 6.8  | E258M8  |
| 10 | 1.50    | 100         | 20          | 7.0           | 5.5       | 8           | 3 | 8.5  | E258M10 |
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 3 | 10.3 | E258M12 |
| 14 | 2.00    | 110         | 25          | 11.0          | 9.0       | 12          | 3 | 12   | E258M14 |
| 16 | 2.00    | 110         | 25          | 12.0          | 9.0       | 12          | 3 | 14   | E258M16 |
| 18 | 2.50    | 125         | 30          | 14.0          | 11.0      | 14          | 3 | 15.5 | E258M18 |
| 20 | 2.50    | 140         | 30          | 16.0          | 12.0      | 15          | 3 | 17.5 | E258M20 |
| 22 | 2.50    | 140         | 34          | 18.0          | 14.5      | 17          | 4 | 19.5 | E258M22 |
| 24 | 3.00    | 160         | 38          | 18.0          | 14.5      | 17          | 4 | 21   | E258M24 |
| 27 | 3.00    | 160         | 38          | 20.0          | 16.0      | 19          | 4 | 24   | E258M27 |
| 30 | 3.50    | 180         | 45          | 22.0          | 18.0      | 21          | 4 | 26.5 | E258M30 |
| 33 | 3.50    | 180         | 50          | 25.0          | 20.0      | 23          | 4 | 29.5 | E258M33 |
| 36 | 4.00    | 200         | 55          | 28.0          | 22.0      | 25          | 4 | 32   | E258M36 |

- Strojní závitníky
- Tarozi de masina

- Gépi Menetfűró
- Машинные метчики

- Gwintowniki maszynowe
- strojni navojni sveder



## E212



- 1.3 1.4
- 1.1 1.2 1.5 4.2 4.3 7.2 7.3

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔   | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|-----|----------------------|---------|
| 3  | 0.50    | 56                   | 9                    | 3.5                    | 2.7     | 6                    | 3 | 2.5 | 18                   | E212M3  |
| 4  | 0.70    | 63                   | 11                   | 4.5                    | 3.4     | 6                    | 3 | 3.3 | 21                   | E212M4  |
| 5  | 0.80    | 70                   | 13                   | 6.0                    | 4.9     | 8                    | 3 | 4.2 | 25                   | E212M5  |
| 6  | 1.00    | 80                   | 15                   | 6.0                    | 4.9     | 8                    | 3 | 5   | 30                   | E212M6  |
| 8  | 1.25    | 90                   | 18                   | 8.0                    | 6.2     | 9                    | 3 | 6.8 | 35                   | E212M8  |
| 10 | 1.50    | 100                  | 20                   | 10.0                   | 8.0     | 11                   | 3 | 8.5 | 39                   | E212M10 |



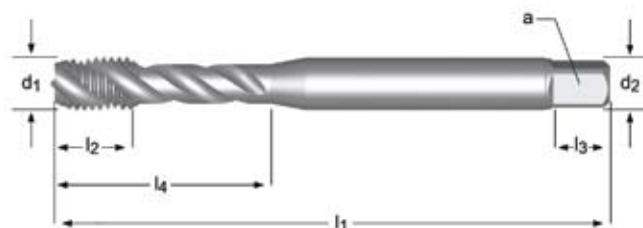
## E263



- 1.3 1.4
- 1.1 1.2 1.5 4.2 4.3 7.2 7.3

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | e-Code  |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|------|---------|
| 12 | 1.75    | 110                  | 23                   | 9                      | 7.0     | 10                   | 3 | 10.3 | E263M12 |
| 14 | 2.00    | 110                  | 25                   | 11                     | 9.0     | 12                   | 3 | 12   | E263M14 |
| 16 | 2.00    | 110                  | 25                   | 12                     | 9.0     | 12                   | 3 | 14   | E263M16 |
| 18 | 2.50    | 125                  | 30                   | 14                     | 11.0    | 14                   | 3 | 15.5 | E263M18 |
| 20 | 2.50    | 140                  | 30                   | 16                     | 12.0    | 15                   | 3 | 17.5 | E263M20 |
| 22 | 2.50    | 140                  | 34                   | 18                     | 14.5    | 17                   | 4 | 19.5 | E263M22 |
| 24 | 3.00    | 160                  | 38                   | 18                     | 14.5    | 17                   | 4 | 21   | E263M24 |
| 27 | 3.00    | 160                  | 38                   | 20                     | 16      | 19                   | 4 | 24   | E263M27 |
| 30 | 3.50    | 180                  | 45                   | 22                     | 18.0    | 21                   | 4 | 26.5 | E263M30 |
| 33 | 3.50    | 180                  | 50                   | 25                     | 20.0    | 23                   | 4 | 29.5 | E263M33 |
| 36 | 4.00    | 200                  | 55                   | 28                     | 22.0    | 25                   | 4 | 32   | E263M36 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

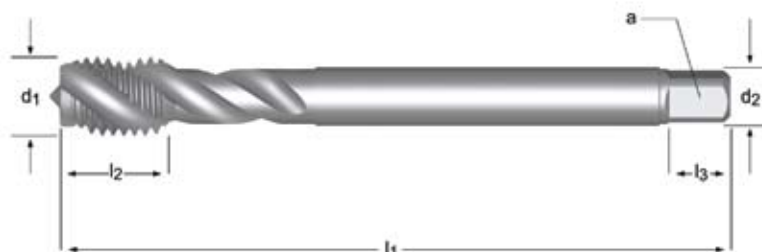


## E199



- 1.3 1.4
- 1.1 1.2 1.5

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 56          | 6           | 3.5           | 2.7       | 6           | 3 | 18          | E199M3  |
| 4  | 0.70    | 63          | 7           | 4.5           | 3.4       | 6           | 3 | 21          | E199M4  |
| 5  | 0.80    | 70          | 8           | 6.0           | 4.9       | 8           | 3 | 25          | E199M5  |
| 6  | 1.00    | 80          | 10          | 6.0           | 4.9       | 8           | 3 | 30          | E199M6  |
| 8  | 1.25    | 90          | 13          | 8.0           | 6.2       | 9           | 3 | 35          | E199M8  |
| 10 | 1.50    | 100         | 15          | 10.0          | 8.0       | 11          | 3 | 39          | E199M10 |



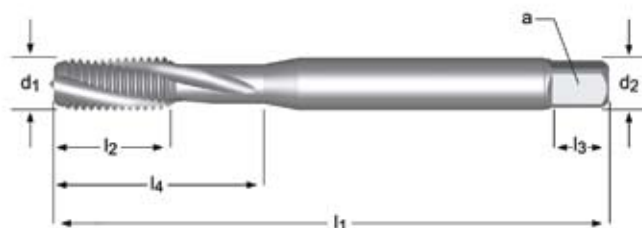
## E249



- 1.3 1.4
- 1.1 1.2 1.5

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|---------|
| 12 | 1.75    | 110         | 18          | 9             | 7         | 10          | 3 | E249M12 |
| 14 | 2.00    | 110         | 20          | 11            | 9         | 12          | 3 | E249M14 |
| 16 | 2.00    | 110         | 20          | 12            | 9         | 12          | 4 | E249M16 |
| 18 | 2.50    | 125         | 25          | 14            | 11        | 14          | 4 | E249M18 |
| 20 | 2.50    | 140         | 25          | 16            | 12        | 15          | 4 | E249M20 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E198



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.3 | 1.4 |     |     |
| ● | 1.2 | 1.5 | 7.2 | 7.3 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 3 | 2.5         | 18 E198M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 3 | 3.3         | 21 E198M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 3 | 4.2         | 25 E198M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 3 | 5           | 30 E198M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 6.8         | 35 E198M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 8.5         | 39 E198M10 |



## E248



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 1.3 | 1.4 |     |     |
| ● | 1.2 | 1.5 | 7.2 | 7.3 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|--------------|
| 12 | 1.75    | 110         | 23          | 9             | 7         | 10          | 3 | 10.3 E248M12 |
| 14 | 2.00    | 110         | 25          | 11            | 9         | 12          | 3 | 12 E248M14   |
| 16 | 2.00    | 110         | 25          | 12            | 9         | 12          | 3 | 14 E248M16   |
| 18 | 2.50    | 125         | 30          | 14            | 11        | 14          | 3 | 15.5 E248M18 |
| 20 | 2.50    | 140         | 30          | 16            | 12        | 15          | 3 | 17.5 E248M20 |

- Strojní závitníky
- Gépi Menetformázó
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E301



• 1.1 1.2 1.3 1.4 7.1 7.2 7.3

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | $a$<br>mm | $l_3$<br>mm | z | $\leftrightarrow$ | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|-------------|-----------|-------------|---|-------------------|-------------|----------|
| 1   | 0.25    | 40          | 5.5         | 2.5         | 2.1       | 5           | 3 | 0.90              | -           | E301M1   |
| 1.6 | 0.35    | 40          | 8           | 2.5         | 2.1       | 5           | 3 | 1.40              | -           | E301M1.6 |
| 2   | 0.40    | 45          | 6           | 2.8         | 2.1       | 5           | 3 | 1.80              | 11          | E301M2   |
| 2.5 | 0.45    | 50          | 8           | 2.8         | 2.1       | 5           | 3 | 2.30              | 14          | E301M2.5 |
| 3   | 0.50    | 56          | 9           | 3.5         | 2.7       | 6           | 4 | 2.80              | 18          | E301M3   |
| 3.5 | 0.60    | 56          | 11          | 4.0         | 3.0       | 6           | 4 | 3.20              | 20          | E301M3.5 |
| 4   | 0.70    | 63          | 12          | 4.5         | 3.4       | 6           | 5 | 3.70              | 21          | E301M4   |
| 5   | 0.80    | 70          | 13          | 6.0         | 4.9       | 8           | 5 | 4.60              | 25          | E301M5   |
| 6   | 1.00    | 80          | 15          | 6.0         | 4.9       | 8           | 5 | 5.50              | 30          | E301M6   |
| 8   | 1.25    | 90          | 18          | 8.0         | 6.2       | 9           | 5 | 7.40              | 35          | E301M8   |
| 10  | 1.50    | 100         | 20          | 10.0        | 8.0       | 11          | 5 | 9.30              | 39          | E301M10  |
| 12  | 1.75    | 110         | 23          | 9.0         | 7.0       | 10          | 5 | 11.20             | -           | E301M12  |
| 16  | 2.00    | 110         | 25          | 12.0        | 9.0       | 12          | 8 | 15.10             | -           | E301M16  |
| 20  | 2.50    | 140         | 30          | 16.0        | 12.0      | 15          | 8 | 18.90             | -           | E301M20  |
| 24  | 3.00    | 160         | 36          | 18.0        | 14.5      | 17          | 8 | 22.7              | -           | E301M24  |

- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



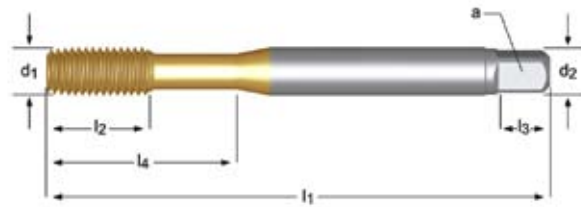
## E302



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $\leftrightarrow$ | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------------|-------------|----------|
| 1   | 0.25    | 40          | 5.5         | 2.5           | 2.1       | 5           | 3 | 0.90              | -           | E302M1   |
| 1.6 | 0.35    | 40          | 8           | 2.5           | 2.1       | 5           | 3 | 1.40              | -           | E302M1.6 |
| 2   | 0.40    | 45          | 6           | 2.8           | 2.1       | 5           | 3 | 1.80              | 11          | E302M2   |
| 2.5 | 0.45    | 50          | 8           | 2.8           | 2.1       | 5           | 3 | 2.30              | 14          | E302M2.5 |
| 3   | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 4 | 2.80              | 18          | E302M3   |
| 3.5 | 0.60    | 56          | 11          | 4.0           | 3.0       | 6           | 4 | 3.20              | 20          | E302M3.5 |
| 4   | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 5 | 3.70              | 21          | E302M4   |
| 5   | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 5 | 4.60              | 25          | E302M5   |
| 6   | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 5 | 5.50              | 30          | E302M6   |
| 8   | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 7.40              | 35          | E302M8   |
| 10  | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.30              | 39          | E302M10  |
| 12  | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 5 | 11.20             | -           | E302M12  |
| 16  | 2.00    | 110         | 25          | 12.0          | 9.0       | 12          | 8 | 15.10             | -           | E302M16  |
| 20  | 2.50    | 140         | 30          | 16.0          | 12.0      | 15          | 8 | 18.9              | -           | E302M20  |
| 24  | 3.00    | 160         | 36          | 18.0          | 14.5      | 17          | 8 | 22.70             | -           | E302M24  |

- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E305

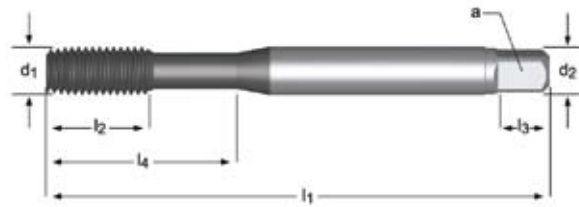


|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|------|-------------|---------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 4 | 2.80 | 18          | E305M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 5 | 3.70 | 21          | E305M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 5 | 4.60 | 25          | E305M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 5 | 5.50 | 30          | E305M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 7.40 | 35          | E305M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.30 | 39          | E305M10 |



- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



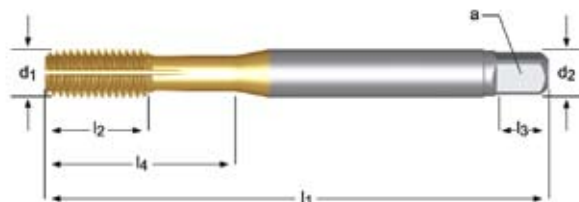
## E306



- 1.1 1.2 1.3 1.4 4.1 5.1 7.1 7.2 7.3
- 2.1 2.2 5.2 6.1 6.3 7.4

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 4 | 2.80        | 18 E306M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 5 | 3.70        | 21 E306M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 5 | 4.60        | 25 E306M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 5 | 5.50        | 30 E306M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 7.40        | 35 E306M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.30        | 39 E306M10 |
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 5 | 11.20       | - E306M12  |

- Strojní závitníky
- Gépi Menetformázó
- Wyginiaki maszynowe z rowkami smarującymi
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



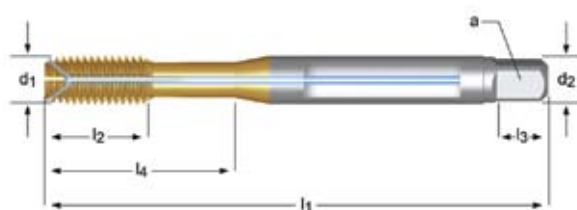
## E308



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 4 | 2.80        | 18 E308M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 5 | 3.70        | 21 E308M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 5 | 4.60        | 25 E308M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 5 | 5.50        | 30 E308M6  |
| 7  | 1.00    | 80          | 15          | 7.0           | 5.5       | 8           | 5 | 6.50        | 30 E308M7  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 7.40        | 35 E308M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.30        | 39 E308M10 |
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 5 | 11.20       | - E308M12  |
| 14 | 2.00    | 110         | 25          | 11.0          | 9.0       | 12          | 6 | 13.00       | - E308M14  |
| 16 | 2.00    | 110         | 25          | 12.0          | 9.0       | 12          | 6 | 15.00       | - E308M16  |
| 20 | 2.50    | 140         | 30          | 16.0          | 12.0      | 15          |   | 18.90       | - E308M20  |
| 24 | 3.00    | 160         | 36          | 18.0          | 14.5      | 17          |   | 22.70       | - E308M24  |

- Strojní závitníky
- Gépi Menetformázó
- Wygniatki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



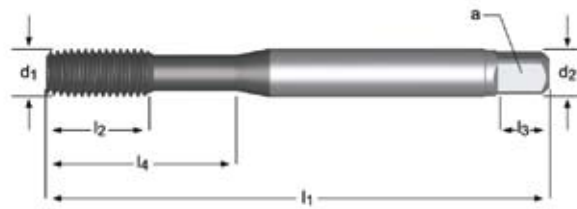
## E315



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 5 | 4.60        | 25 E315M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 5 | 5.50        | 30 E315M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 7.40        | 35 E315M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.30        | 39 E315M10 |
| 12 | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 5 | 11.20       | - E315M12  |

- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E313



■ 6.1 6.3 7.1 7.2 7.3

| M | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code |
|---|---------|-------------|-------------|------------------|-----------|-------------|---|------|-------------|--------|
| 3 | 0.50    | 56          | 9           | 3.5              | 2.7       | 6           | 4 | 2.80 | 18          | E313M3 |
| 4 | 0.70    | 63          | 12          | 4.5              | 3.4       | 6           | 5 | 3.70 | 21          | E313M4 |
| 5 | 0.80    | 70          | 13          | 6.0              | 4.9       | 8           | 5 | 4.60 | 25          | E313M5 |
| 6 | 1.00    | 80          | 15          | 6.0              | 4.9       | 8           | 5 | 5.50 | 30          | E313M6 |
| 8 | 1.25    | 90          | 18          | 8.0              | 6.2       | 9           | 5 | 7.40 | 35          | E313M8 |



- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



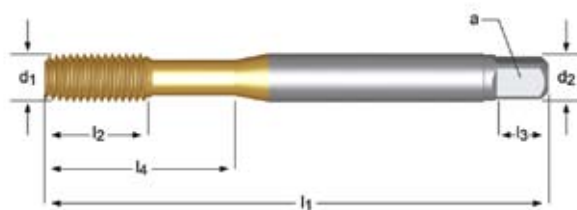
## E309



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code      |
|-----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|-------------|
| 3   | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 4 | 2.80        | 18 E309M3   |
| 3.5 | 0.60    | 56          | 11          | 4.0           | 3.0       | 6           | 4 | 3.20        | 20 E309M3.5 |
| 4   | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 5 | 3.70        | 21 E309M4   |
| 5   | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 5 | 4.60        | 25 E309M5   |
| 6   | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 5 | 5.50        | 30 E309M6   |
| 8   | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 7.40        | 35 E309M8   |
| 10  | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.30        | 39 E309M10  |
| 12  | 1.75    | 110         | 23          | 9.0           | 7.0       | 10          | 5 | 11.20       | - E309M12   |

- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E310



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|------------|
| 3  | 0.50    | 56          | 9           | 3.5           | 2.7       | 6           | 4 | 2.80        | 18 E310M3  |
| 4  | 0.70    | 63          | 12          | 4.5           | 3.4       | 6           | 5 | 3.70        | 21 E310M4  |
| 5  | 0.80    | 70          | 13          | 6.0           | 4.9       | 8           | 5 | 4.60        | 25 E310M5  |
| 6  | 1.00    | 80          | 15          | 6.0           | 4.9       | 8           | 5 | 5.50        | 30 E310M6  |
| 8  | 1.25    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 7.40        | 35 E310M8  |
| 10 | 1.50    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.30        | 39 E310M10 |

- Strojní závitníky
- GGépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E323



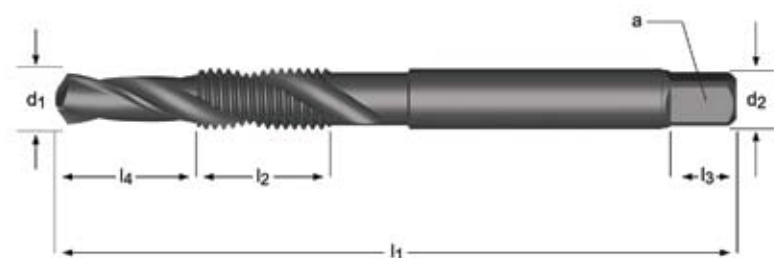
|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |       | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------|-------------|---------|
| 3  | 0.50    | 63          | 12          | 4.5           | 3.4       | 6           | 4 | 3.40  | 21          | E323M3  |
| 4  | 0.70    | 70          | 13          | 6.0           | 4.9       | 8           | 4 | 4.60  | 25          | E323M4  |
| 5  | 0.80    | 80          | 15          | 6.0           | 4.9       | 8           | 4 | 5.70  | 30          | E323M5  |
| 6  | 1.00    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 6.80  | 35          | E323M6  |
| 8  | 1.25    | 100         | 20          | 10.0          | 8         | 11          | 5 | 9.10  | 39          | E323M8  |
| 10 | 1.50    | 100         | 21          | 9.0           | 7         | 10          | 5 | 11.30 | -           | E323M10 |
| 12 | 1.75    | 110         | 25          | 11.0          | 9         | 12          | 6 | 13.50 | -           | E323M12 |

# E650

**DORMER**

- Kombi závitníky
- Kombinált Menetfúró
- Wiertło/gwintownik
- Tarozi combinati
- Комбинированные метчики
- strojni navojni sveder, kombinirani



E650



• 1.1 1.2 1.3 1.4 3.2 6.2 6.3 7.1 7.2 8.1

| M  | P<br>mm | d <sub>1</sub><br>Ø<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | l <sub>4</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code  |
|----|---------|---------------------------|----------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|---------|
| 3  | 0.50    | 2.5                       | 56                   | 10                   | 6                    | 3.15                      | 2.5     | 5.0                  | 2 | E650M3  |
| 4  | 0.70    | 3.3                       | 65                   | 12                   | 8                    | 4.0                       | 3.15    | 6.0                  | 2 | E650M4  |
| 5  | 0.80    | 4.2                       | 69                   | 15                   | 10                   | 5.0                       | 4.00    | 7.0                  | 2 | E650M5  |
| 6  | 1.00    | 5.0                       | 84                   | 18                   | 12                   | 6.3                       | 5.00    | 8.0                  | 2 | E650M6  |
| 8  | 1.25    | 6.8                       | 96                   | 21                   | 16                   | 8.0                       | 6.30    | 9.0                  | 2 | E650M8  |
| 10 | 1.50    | 8.5                       | 108                  | 22                   | 20                   | 10.0                      | 8.00    | 11.0                 | 2 | E650M10 |
| 12 | 1.75    | 10.2                      | 113                  | 29                   | 24                   | 9.0                       | 7.10    | 10.0                 | 2 | E650M12 |
| 14 | 2.00    | 12.0                      | 123                  | 30                   | 28                   | 11.2                      | 9.00    | 12.0                 | 2 | E650M14 |
| 16 | 2.00    | 14.0                      | 134                  | 32                   | 32                   | 12.5                      | 10.00   | 13.0                 | 2 | E650M16 |



- Strojní závitníky, bílý Shark
- Gépi Menetfűró, Fehér Shark
- Gwintowniki maszynowe, Biały Shark
- Tarozi de masina, Shark ALB
- Машинные метчики "White Shark" для чугунов
- strojni navojni sveder, White Shark



## E269



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|------|--------------|
| 10 | 1.00    | 90          | 20          | 7             | 5.5       | 8           | 4 | 9    | E269M10X1.0  |
| 10 | 1.25    | 100         | 20          | 7             | 5.5       | 8           | 4 | 8.8  | E269M10X1.25 |
| 12 | 1.25    | 100         | 21          | 9             | 7.0       | 10          | 4 | 10.8 | E269M12X1.25 |
| 12 | 1.50    | 100         | 21          | 9             | 7.0       | 10          | 4 | 10.5 | E269M12X1.5  |
| 14 | 1.50    | 100         | 21          | 11            | 9.0       | 12          | 4 | 12.5 | E269M14X1.5  |
| 16 | 1.50    | 100         | 21          | 12            | 9.0       | 12          | 4 | 14.5 | E269M16X1.5  |
| 18 | 1.50    | 110         | 24          | 14            | 11.0      | 14          | 4 | 16.5 | E269M18X1.5  |
| 20 | 1.50    | 125         | 24          | 16            | 12.0      | 15          | 4 | 18.5 | E269M20X1.5  |

- Strojní závitníky
- Gépi Menetfúró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



E268



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

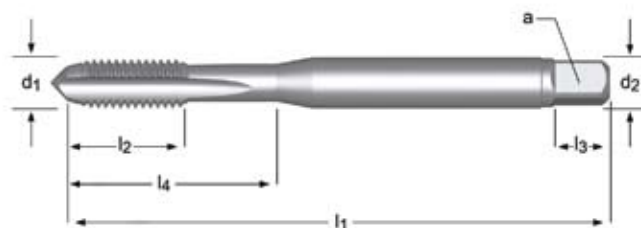
| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | a<br>mm | $l_3$<br>mm | z | e-Code            |
|----|---------|-------------|-------------|-------------|---------|-------------|---|-------------------|
| 4  | 0.50    | 63          | 10          | 2.8         | 2.1     | 5           | 3 | 3.5 E268M4X.5     |
| 5  | 0.50    | 70          | 13          | 3.5         | 2.7     | 6           | 3 | 4.5 E268M5X.5     |
| 6  | 0.75    | 80          | 15          | 4.5         | 3.4     | 6           | 3 | 5.3 E268M6X.75    |
| 7  | 0.75    | 80          | 15          | 5.5         | 4.3     | 7           | 3 | 6.3 E268M7X.75    |
| 8  | 0.75    | 80          | 15          | 6.0         | 4.9     | 8           | 3 | 7.3 E268M8X.75    |
| 8  | 1.00    | 90          | 18          | 6.0         | 4.9     | 8           | 3 | 7 E268M8X1.0      |
| 9  | 1.00    | 90          | 18          | 6.0         | 4.9     | 8           | 3 | 8 E268M9X1.0      |
| 10 | 0.75    | 90          | 20          | 7.0         | 5.5     | 8           | 3 | 9.3 E268M10X.75   |
| 10 | 1.00    | 90          | 20          | 7.0         | 5.5     | 8           | 3 | 9 E268M10X1.0     |
| 10 | 1.25    | 100         | 20          | 7.0         | 5.5     | 8           | 3 | 8.8 E268M10X1.25  |
| 11 | 1.00    | 90          | 20          | 8.0         | 6.2     | 9           | 3 | 10 E268M11X1.0    |
| 12 | 1.00    | 100         | 21          | 9.0         | 7.0     | 10          | 4 | 11 E268M12X1.0    |
| 12 | 1.25    | 100         | 21          | 9.0         | 7.0     | 10          | 4 | 10.8 E268M12X1.25 |
| 12 | 1.50    | 100         | 21          | 9.0         | 7.0     | 10          | 4 | 10.5 E268M12X1.5  |
| 14 | 1.00    | 100         | 21          | 11.0        | 9.0     | 12          | 4 | 13 E268M14X1.0    |
| 14 | 1.25    | 100         | 21          | 11.0        | 9.0     | 12          | 4 | 12.8 E268M14X1.25 |
| 14 | 1.50    | 100         | 21          | 11.0        | 9.0     | 12          | 4 | 12.5 E268M14X1.5  |
| 15 | 1.50    | 100         | 21          | 12.0        | 9.0     | 12          | 4 | 13.5 E268M15X1.5  |
| 16 | 1.00    | 100         | 21          | 12.0        | 9.0     | 12          | 4 | 15 E268M16X1.0    |
| 16 | 1.50    | 100         | 21          | 12.0        | 9.0     | 12          | 4 | 14.5 E268M16X1.5  |
| 18 | 1.00    | 110         | 24          | 14.0        | 11.0    | 14          | 4 | 17 E268M18X1.0    |
| 18 | 1.50    | 110         | 24          | 14.0        | 11.0    | 14          | 4 | 16.5 E268M18X1.5  |
| 20 | 1.00    | 125         | 24          | 16.0        | 12.0    | 15          | 4 | 19 E268M20X1.0    |
| 20 | 1.50    | 125         | 24          | 16.0        | 12.0    | 15          | 4 | 18.5 E268M20X1.5  |
| 22 | 1.00    | 125         | 25          | 18.0        | 14.5    | 17          | 4 | 21 E268M22X1.0    |
| 22 | 1.50    | 125         | 25          | 18.0        | 14.5    | 17          | 4 | 20.5 E268M22X1.5  |
| 24 | 1.00    | 140         | 28          | 18.0        | 14.5    | 17          | 4 | 23 E268M24X1.0    |
| 24 | 1.50    | 140         | 28          | 18.0        | 14.5    | 17          | 4 | 22.5 E268M24X1.5  |
| 24 | 2.00    | 140         | 28          | 18.0        | 14.5    | 17          | 4 | 22 E268M24X2.0    |
| 25 | 1.50    | 140         | 28          | 18.0        | 14.5    | 17          | 4 | 23.5 E268M25X1.5  |
| 25 | 2.00    | 140         | 28          | 18.0        | 14.5    | 17          | 4 | 23 E268M25X2.0    |
| 26 | 1.50    | 140         | 28          | 18.0        | 14.5    | 17          | 4 | 24.5 E268M26X1.5  |
| 26 | 2.00    | 140         | 28          | 18.0        | 14.5    | 17          | 4 | 24 E268M26X2.0    |
| 27 | 1.50    | 140         | 28          | 20.0        | 16.0    | 19          | 4 | 25.5 E268M27X1.5  |
| 27 | 2.00    | 140         | 28          | 20.0        | 16.0    | 19          | 4 | 25 E268M27X2.0    |
| 28 | 1.50    | 140         | 28          | 20.0        | 16.0    | 19          | 4 | 26.5 E268M28X1.5  |
| 28 | 2.00    | 140         | 28          | 20.0        | 16.0    | 19          | 4 | 26 E268M28X2.0    |
| 30 | 1.50    | 150         | 28          | 22.0        | 18.0    | 21          | 4 | 28.5 E268M30X1.5  |
| 30 | 2.00    | 150         | 28          | 22.0        | 18.0    | 21          | 4 | 28 E268M30X2.0    |
| 32 | 1.50    | 150         | 28          | 22.0        | 18.0    | 21          | 4 | 30.5 E268M32X1.5  |
| 32 | 2.00    | 150         | 28          | 22.0        | 18.0    | 21          | 4 | 30 E268M32X2.0    |
| 33 | 1.50    | 160         | 30          | 25.0        | 20.0    | 23          | 4 | 31.5 E268M33X1.5  |
| 34 | 1.50    | 170         | 30          | 28.0        | 22.0    | 25          | 4 | 32.5 E268M34X1.5  |
| 35 | 1.50    | 170         | 30          | 28.0        | 22.0    | 25          | 4 | 33.5 E268M35X1.5  |
| 36 | 1.50    | 170         | 30          | 28.0        | 22.0    | 25          | 4 | 34.5 E268M36X1.5  |
| 36 | 2.00    | 170         | 30          | 28.0        | 22.0    | 25          | 4 | 34 E268M36X2.0    |

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | <br>a<br>mm | $l_3$<br>mm | z |  e-Code |
|----|---------|-------------|-------------|------------------|----------------------------------------------------------------------------------------------|-------------|---|--------------------------------------------------------------------------------------------|
| 36 | 3.00    | 200         | 55          | 28.0             | 22.0                                                                                         | 25          | 4 | 33 E268M36X3.0                                                                             |
| 40 | 1.50    | 170         | 30          | 32.0             | 24.0                                                                                         | 27          | 4 | 38.5 E268M40X1.5                                                                           |
| 40 | 2.00    | 170         | 30          | 32.0             | 24.0                                                                                         | 27          | 4 | 38 E268M40X2.0                                                                             |
| 40 | 3.00    | 200         | 60          | 32.0             | 24.0                                                                                         | 27          | 4 | 37 E268M40X3.0                                                                             |
| 42 | 1.50    | 170         | 30          | 32.0             | 24.0                                                                                         | 27          | 4 | 40.5 E268M42X1.5                                                                           |
| 42 | 2.00    | 170         | 30          | 32.0             | 24.0                                                                                         | 27          | 4 | 40 E268M42X2.0                                                                             |
| 42 | 3.00    | 200         | 60          | 32.0             | 24.0                                                                                         | 27          | 4 | 39 E268M42X3.0                                                                             |
| 45 | 1.50    | 180         | 32          | 36.0             | 29.0                                                                                         | 32          | 6 | 43.5 E268M45X1.5                                                                           |
| 45 | 2.00    | 180         | 32          | 36.0             | 29.0                                                                                         | 32          | 6 | 43 E268M45X2.0                                                                             |
| 45 | 3.00    | 200         | 42          | 36.0             | 29.0                                                                                         | 32          | 6 | 42 E268M45X3.0                                                                             |
| 48 | 1.50    | 190         | 32          | 36.0             | 29.0                                                                                         | 32          | 6 | 46.5 E268M48X1.5                                                                           |
| 48 | 2.00    | 190         | 32          | 36.0             | 29.0                                                                                         | 32          | 6 | 46 E268M48X2.0                                                                             |
| 48 | 3.00    | 225         | 50          | 36.0             | 29.0                                                                                         | 32          | 6 | 45 E268M48X3.0                                                                             |
| 50 | 1.50    | 190         | 32          | 36.0             | 29.0                                                                                         | 32          | 6 | 48.5 E268M50X1.5                                                                           |
| 50 | 2.00    | 190         | 30          | 36.0             | 29.0                                                                                         | 32          | 6 | 48 E268M50X2.0                                                                             |
| 50 | 3.00    | 225         | 50          | 36.0             | 29.0                                                                                         | 32          | 6 | 47 E268M50X3.0                                                                             |

# E242 / E290

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

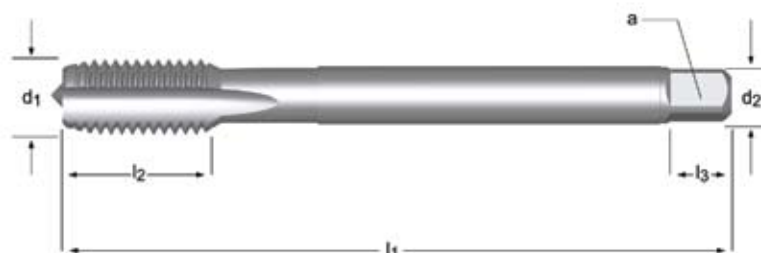


## E242



- 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |   | $l_4$<br>mm | e-Code      |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|---|-------------|-------------|
| 8  | 1.00    | 90          | 18          | 8.0              | 6.2       | 9           | 3 | 7 | 35          | E242M8X1.0  |
| 10 | 1.00    | 100         | 20          | 10.0             | 8.0       | 11          | 3 | 9 | 39          | E242M10X1.0 |



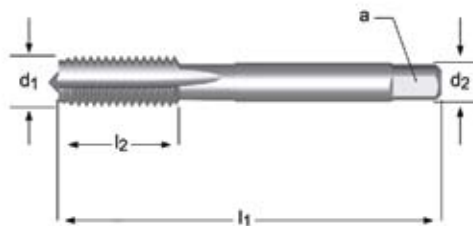
## E290



- 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code      |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|------|-------------|
| 12 | 1.00    | 100         | 21          | 9.0              | 7.0       | 10          | 4 | 11   | E290M12X1.0 |
| 12 | 1.50    | 100         | 21          | 9.0              | 7.0       | 10          | 4 | 10.5 | E290M12X1.5 |
| 14 | 1.00    | 100         | 21          | 11.0             | 9.0       | 12          | 4 | 13   | E290M14X1.0 |
| 14 | 1.50    | 100         | 21          | 11.0             | 9.0       | 12          | 4 | 12.5 | E290M14X1.5 |
| 16 | 1.00    | 100         | 21          | 12.0             | 9.0       | 12          | 4 | 15   | E290M16X1.0 |
| 16 | 1.50    | 100         | 21          | 12.0             | 9.0       | 12          | 4 | 14.5 | E290M16X1.5 |
| 18 | 1.50    | 110         | 24          | 14.0             | 11.0      | 14          | 4 | 16.5 | E290M18X1.5 |
| 20 | 1.50    | 125         | 24          | 16.0             | 12.0      | 15          | 4 | 18.5 | E290M20X1.5 |
| 22 | 1.50    | 125         | 25          | 18.0             | 14.5      | 17          | 4 | 20.5 | E290M22X1.5 |
| 24 | 1.50    | 140         | 28          | 18.0             | 14.5      | 17          | 4 | 22.5 | E290M24X1.5 |

- Závítňíky ruční
- Kézi Menetfúró
- Gwintowniki reczne
- Tarozi de mana
- Ручные метчики
- sveder navojni ročni



## E105



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| MF  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z | e-Code               |
|-----|---------|----------------------|----------------------|---------------------------|---------|---|----------------------|
| 2.5 | 0.35    | 40                   | 9                    | 2.8                       | 2.1     | 3 | 2.15 E105M2.5X.35NO3 |
| 2.5 | 0.35    | 40                   | 9                    | 2.8                       | 2.1     | 3 | 2.15 E105M2.5X.35NO5 |
| 2.5 | 0.35    | 40                   | 9                    | 2.8                       | 2.1     | 3 | 2.15 E105M2.5X.35NO9 |
| 3   | 0.35    | 40                   | 9                    | 3.5                       | 2.7     | 3 | 2.65 E105M3X.35NO3   |
| 3   | 0.35    | 40                   | 9                    | 3.5                       | 2.7     | 3 | 2.65 E105M3X.35NO5   |
| 3   | 0.35    | 40                   | 9                    | 3.5                       | 2.7     | 3 | 2.65 E105M3X.35NO9   |
| 3.5 | 0.35    | 45                   | 10                   | 4.0                       | 3.0     | 3 | 3.2 E105M3.5X.35NO3  |
| 3.5 | 0.35    | 45                   | 10                   | 4.0                       | 3.0     | 3 | 3.2 E105M3.5X.35NO5  |
| 3.5 | 0.35    | 45                   | 10                   | 4.0                       | 3.0     | 3 | 3.2 E105M3.5X.35NO9  |
| 4   | 0.50    | 45                   | 12                   | 4.5                       | 3.4     | 3 | 3.5 E105M4X.5NO3     |
| 4   | 0.50    | 45                   | 12                   | 4.5                       | 3.4     | 3 | 3.5 E105M4X.5NO5     |
| 4   | 0.50    | 45                   | 12                   | 4.5                       | 3.4     | 3 | 3.5 E105M4X.5NO9     |
| 5   | 0.50    | 50                   | 14                   | 6.0                       | 4.9     | 3 | 4.5 E105M5X.5NO3     |
| 5   | 0.50    | 50                   | 14                   | 6.0                       | 4.9     | 3 | 4.5 E105M5X.5NO5     |
| 5   | 0.50    | 50                   | 14                   | 6.0                       | 4.9     | 3 | 4.5 E105M5X.5NO9     |
| 5.5 | 0.50    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 5 E105M5.5X.5NO9     |
| 6   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 5.3 E105M6X.75NO3    |
| 6   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 5.3 E105M6X.75NO5    |
| 6   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 5.3 E105M6X.75NO9    |
| 7   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 6.3 E105M7X.75NO3    |
| 7   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 6.3 E105M7X.75NO5    |
| 7   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 6.3 E105M7X.75NO9    |
| 8   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 7.3 E105M8X.75NO3    |
| 8   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 7.3 E105M8X.75NO5    |
| 8   | 0.75    | 56                   | 16                   | 6.0                       | 4.9     | 3 | 7.3 E105M8X.75NO9    |
| 8   | 1.00    | 63                   | 19                   | 6.0                       | 4.9     | 3 | 7 E105M8X1.0NO3      |
| 8   | 1.00    | 63                   | 19                   | 6.0                       | 4.9     | 3 | 7 E105M8X1.0NO5      |
| 8   | 1.00    | 63                   | 19                   | 6.0                       | 4.9     | 3 | 7 E105M8X1.0NO9      |
| 9   | 0.75    | 63                   | 19                   | 7.0                       | 5.5     | 3 | 8.3 E105M9X.75NO3    |
| 9   | 0.75    | 63                   | 19                   | 7.0                       | 5.5     | 3 | 8.3 E105M9X.75NO5    |
| 9   | 0.75    | 63                   | 19                   | 7.0                       | 5.5     | 3 | 8.3 E105M9X.75NO9    |
| 9   | 1.00    | 63                   | 19                   | 7.0                       | 5.5     | 3 | 8 E105M9X1.0NO3      |
| 9   | 1.00    | 63                   | 19                   | 7.0                       | 5.5     | 3 | 8 E105M9X1.0NO5      |
| 9   | 1.00    | 63                   | 19                   | 7.0                       | 5.5     | 3 | 8 E105M9X1.0NO9      |
| 10  | 0.75    | 63                   | 16                   | 7.0                       | 5.5     | 3 | 9.3 E105M10X.75NO3   |
| 10  | 0.75    | 63                   | 16                   | 7.0                       | 5.5     | 3 | 9.3 E105M10X.75NO5   |
| 10  | 0.75    | 63                   | 16                   | 7.0                       | 5.5     | 3 | 9.3 E105M10X.75NO9   |
| 10  | 1.00    | 63                   | 16                   | 7.0                       | 5.5     | 3 | 9 E105M10X1.0NO3     |
| 10  | 1.00    | 63                   | 16                   | 7.0                       | 5.5     | 3 | 9 E105M10X1.0NO5     |
| 10  | 1.00    | 63                   | 16                   | 7.0                       | 5.5     | 3 | 9 E105M10X1.0NO9     |
| 10  | 1.25    | 70                   | 22                   | 7.0                       | 5.5     | 3 | 8.8 E105M10X1.25NO3  |
| 10  | 1.25    | 70                   | 22                   | 7.0                       | 5.5     | 3 | 8.8 E105M10X1.25NO5  |
| 10  | 1.25    | 70                   | 22                   | 7.0                       | 5.5     | 3 | 8.8 E105M10X1.25NO9  |
| 11  | 0.75    | 63                   | 15                   | 8.0                       | 6.2     | 3 | 10.3 E105M11X.75NO3  |
| 11  | 0.75    | 63                   | 15                   | 8.0                       | 6.2     | 3 | 10.3 E105M11X.75NO5  |
| 11  | 0.75    | 63                   | 15                   | 8.0                       | 6.2     | 3 | 10.3 E105M11X.75NO9  |



| MF | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z |  | e-Code          |
|----|---------|----------------------|----------------------|---------------------------|---------|---|-------------------------------------------------------------------------------------|-----------------|
| 11 | 1.00    | 63                   | 15                   | 8.0                       | 6.2     | 3 | 10                                                                                  | E105M11X1.0NO3  |
| 11 | 1.00    | 63                   | 15                   | 8.0                       | 6.2     | 3 | 10                                                                                  | E105M11X1.0NO5  |
| 11 | 1.00    | 63                   | 15                   | 8.0                       | 6.2     | 3 | 10                                                                                  | E105M11X1.0NO9  |
| 12 | 1.00    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 11                                                                                  | E105M12X1.0NO3  |
| 12 | 1.00    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 11                                                                                  | E105M12X1.0NO5  |
| 12 | 1.00    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 11                                                                                  | E105M12X1.0NO9  |
| 12 | 1.25    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 10.8                                                                                | E105M12X1.25NO3 |
| 12 | 1.25    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 10.8                                                                                | E105M12X1.25NO5 |
| 12 | 1.25    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 10.8                                                                                | E105M12X1.25NO9 |
| 12 | 1.50    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 10.5                                                                                | E105M12X1.5NO3  |
| 12 | 1.50    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 10.5                                                                                | E105M12X1.5NO5  |
| 12 | 1.50    | 70                   | 16                   | 9.0                       | 7.0     | 3 | 10.5                                                                                | E105M12X1.5NO9  |
| 14 | 1.00    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 13                                                                                  | E105M14X1.0NO3  |
| 14 | 1.00    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 13                                                                                  | E105M14X1.0NO5  |
| 14 | 1.00    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 13                                                                                  | E105M14X1.0NO9  |
| 14 | 1.25    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 12.8                                                                                | E105M14X1.25NO3 |
| 14 | 1.25    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 12.8                                                                                | E105M14X1.25NO5 |
| 14 | 1.25    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 12.8                                                                                | E105M14X1.25NO9 |
| 14 | 1.50    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 12.5                                                                                | E105M14X1.5NO3  |
| 14 | 1.50    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 12.5                                                                                | E105M14X1.5NO5  |
| 14 | 1.50    | 70                   | 16                   | 11.0                      | 9.0     | 4 | 12.5                                                                                | E105M14X1.5NO9  |
| 15 | 1.00    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 14                                                                                  | E105M15X1.0NO3  |
| 15 | 1.00    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 14                                                                                  | E105M15X1.0NO5  |
| 15 | 1.00    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 14                                                                                  | E105M15X1.0NO9  |
| 15 | 1.50    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 13.5                                                                                | E105M15X1.5NO3  |
| 15 | 1.50    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 13.5                                                                                | E105M15X1.5NO5  |
| 15 | 1.50    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 13.5                                                                                | E105M15X1.5NO9  |
| 16 | 1.00    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 15                                                                                  | E105M16X1.0NO3  |
| 16 | 1.00    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 15                                                                                  | E105M16X1.0NO5  |
| 16 | 1.00    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 15                                                                                  | E105M16X1.0NO9  |
| 16 | 1.50    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 14.5                                                                                | E105M16X1.5NO3  |
| 16 | 1.50    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 14.5                                                                                | E105M16X1.5NO5  |
| 16 | 1.50    | 70                   | 16                   | 12.0                      | 9.0     | 4 | 14.5                                                                                | E105M16X1.5NO9  |
| 18 | 1.00    | 80                   | 18                   | 14.0                      | 11.0    | 4 | 17                                                                                  | E105M18X1.0NO3  |
| 18 | 1.00    | 80                   | 18                   | 14.0                      | 11.0    | 4 | 17                                                                                  | E105M18X1.0NO5  |
| 18 | 1.00    | 80                   | 18                   | 14.0                      | 11.0    | 4 | 17                                                                                  | E105M18X1.0NO9  |
| 18 | 1.50    | 80                   | 18                   | 14.0                      | 11.0    | 4 | 16.5                                                                                | E105M18X1.5NO3  |
| 18 | 1.50    | 80                   | 18                   | 14.0                      | 11.0    | 4 | 16.5                                                                                | E105M18X1.5NO5  |
| 18 | 1.50    | 80                   | 18                   | 14.0                      | 11.0    | 4 | 16.5                                                                                | E105M18X1.5NO9  |
| 20 | 1.00    | 80                   | 18                   | 16.0                      | 12.0    | 4 | 19                                                                                  | E105M20X1.0NO3  |
| 20 | 1.00    | 80                   | 18                   | 16.0                      | 12.0    | 4 | 19                                                                                  | E105M20X1.0NO5  |
| 20 | 1.00    | 80                   | 18                   | 16.0                      | 12.0    | 4 | 19                                                                                  | E105M20X1.0NO9  |
| 20 | 1.50    | 80                   | 18                   | 16.0                      | 12.0    | 4 | 18.5                                                                                | E105M20X1.5NO3  |
| 20 | 1.50    | 80                   | 18                   | 16.0                      | 12.0    | 4 | 18.5                                                                                | E105M20X1.5NO5  |
| 20 | 1.50    | 80                   | 18                   | 16.0                      | 12.0    | 4 | 18.5                                                                                | E105M20X1.5NO9  |
| 22 | 1.00    | 80                   | 22                   | 18.0                      | 14.5    | 4 | 21                                                                                  | E105M22X1.0NO3  |
| 22 | 1.00    | 80                   | 22                   | 18.0                      | 14.5    | 4 | 21                                                                                  | E105M22X1.0NO5  |
| 22 | 1.00    | 80                   | 22                   | 18.0                      | 14.5    | 4 | 21                                                                                  | E105M22X1.0NO9  |
| 22 | 1.50    | 80                   | 22                   | 18.0                      | 14.5    | 4 | 20.5                                                                                | E105M22X1.5NO3  |
| 22 | 1.50    | 80                   | 22                   | 18.0                      | 14.5    | 4 | 20.5                                                                                | E105M22X1.5NO5  |
| 22 | 1.50    | 80                   | 22                   | 18.0                      | 14.5    | 4 | 20.5                                                                                | E105M22X1.5NO9  |
| 24 | 1.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23                                                                                  | E105M24X1.0NO3  |
| 24 | 1.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23                                                                                  | E105M24X1.0NO5  |
| 24 | 1.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23                                                                                  | E105M24X1.0NO9  |
| 24 | 1.50    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 22.5                                                                                | E105M24X1.5NO3  |
| 24 | 1.50    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 22.5                                                                                | E105M24X1.5NO5  |
| 24 | 1.50    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 22.5                                                                                | E105M24X1.5NO9  |
| 24 | 2.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 22                                                                                  | E105M24X2.0NO3  |
| 24 | 2.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 22                                                                                  | E105M24X2.0NO5  |
| 24 | 2.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 22                                                                                  | E105M24X2.0NO9  |
| 25 | 1.50    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23.5                                                                                | E105M25X1.5NO3  |
| 25 | 1.50    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23.5                                                                                | E105M25X1.5NO5  |
| 25 | 1.50    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23.5                                                                                | E105M25X1.5NO9  |
| 25 | 2.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23                                                                                  | E105M25X2.0NO3  |
| 25 | 2.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23                                                                                  | E105M25X2.0NO5  |
| 25 | 2.00    | 90                   | 22                   | 18.0                      | 14.5    | 4 | 23                                                                                  | E105M25X2.0NO9  |
| 27 | 1.50    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 25.5                                                                                | E105M27X1.5NO3  |
| 27 | 1.50    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 25.5                                                                                | E105M27X1.5NO5  |
| 27 | 1.50    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 25.5                                                                                | E105M27X1.5NO9  |
| 27 | 2.00    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 25                                                                                  | E105M27X2.0NO3  |
| 27 | 2.00    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 25                                                                                  | E105M27X2.0NO5  |
| 27 | 2.00    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 25                                                                                  | E105M27X2.0NO9  |



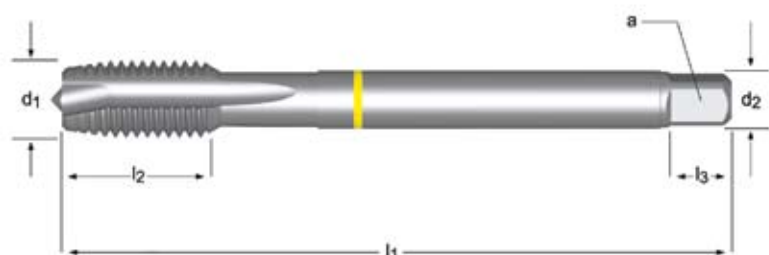
| MF | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z |  | e-Code         |
|----|---------|----------------------|----------------------|---------------------------|---------|---|-------------------------------------------------------------------------------------|----------------|
| 28 | 1.50    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 26.5                                                                                | E105M28X1.5NO3 |
| 28 | 1.50    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 26.5                                                                                | E105M28X1.5NO5 |
| 28 | 1.50    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 26.5                                                                                | E105M28X1.5NO9 |
| 28 | 2.00    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 26                                                                                  | E105M28X2.0NO3 |
| 28 | 2.00    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 26                                                                                  | E105M28X2.0NO5 |
| 28 | 2.00    | 90                   | 22                   | 20.0                      | 16.0    | 4 | 26                                                                                  | E105M28X2.0NO9 |
| 30 | 1.50    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 28.5                                                                                | E105M30X1.5NO3 |
| 30 | 1.50    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 28.5                                                                                | E105M30X1.5NO5 |
| 30 | 1.50    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 28.5                                                                                | E105M30X1.5NO9 |
| 30 | 2.00    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 28                                                                                  | E105M30X2.0NO3 |
| 30 | 2.00    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 28                                                                                  | E105M30X2.0NO5 |
| 30 | 2.00    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 28                                                                                  | E105M30X2.0NO9 |
| 32 | 1.50    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 30.5                                                                                | E105M32X1.5NO3 |
| 32 | 1.50    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 30.5                                                                                | E105M32X1.5NO5 |
| 32 | 1.50    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 30.5                                                                                | E105M32X1.5NO9 |
| 32 | 2.00    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 30                                                                                  | E105M32X2.0NO3 |
| 32 | 2.00    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 30                                                                                  | E105M32X2.0NO5 |
| 32 | 2.00    | 90                   | 22                   | 22.0                      | 18.0    | 4 | 30                                                                                  | E105M32X2.0NO9 |
| 36 | 1.50    | 100                  | 25                   | 28.0                      | 22.0    | 4 | 34.5                                                                                | E105M36X1.5NO3 |
| 36 | 1.50    | 100                  | 25                   | 28.0                      | 22.0    | 4 | 34.5                                                                                | E105M36X1.5NO5 |
| 36 | 1.50    | 100                  | 25                   | 28.0                      | 22.0    | 4 | 34.5                                                                                | E105M36X1.5NO9 |
| 36 | 2.00    | 125                  | 40                   | 28.0                      | 22.0    | 4 | 34                                                                                  | E105M36X2.0NO3 |
| 36 | 2.00    | 125                  | 40                   | 28.0                      | 22.0    | 4 | 34                                                                                  | E105M36X2.0NO5 |
| 36 | 2.00    | 125                  | 40                   | 28.0                      | 22.0    | 4 | 34                                                                                  | E105M36X2.0NO9 |
| 36 | 3.00    | 125                  | 40                   | 28.0                      | 22.0    | 4 | 33                                                                                  | E105M36X3.0NO3 |
| 36 | 3.00    | 125                  | 40                   | 28.0                      | 22.0    | 4 | 33                                                                                  | E105M36X3.0NO5 |
| 36 | 3.00    | 125                  | 40                   | 28.0                      | 22.0    | 4 | 33                                                                                  | E105M36X3.0NO9 |
| 40 | 1.50    | 110                  | 25                   | 32.0                      | 24.0    | 4 | 38.5                                                                                | E105M40X1.5NO3 |
| 40 | 1.50    | 110                  | 25                   | 32.0                      | 24.0    | 4 | 38.5                                                                                | E105M40X1.5NO5 |
| 40 | 1.50    | 110                  | 25                   | 32.0                      | 24.0    | 4 | 38.5                                                                                | E105M40X1.5NO9 |
| 40 | 2.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 38                                                                                  | E105M40X2.0NO3 |
| 40 | 2.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 38                                                                                  | E105M40X2.0NO5 |
| 40 | 2.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 38                                                                                  | E105M40X2.0NO9 |
| 40 | 3.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 37                                                                                  | E105M40X3.0NO3 |
| 40 | 3.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 37                                                                                  | E105M40X3.0NO5 |
| 40 | 3.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 37                                                                                  | E105M40X3.0NO9 |
| 42 | 1.50    | 110                  | 25                   | 32.0                      | 24.0    | 4 | 40.5                                                                                | E105M42X1.5NO3 |
| 42 | 1.50    | 110                  | 25                   | 32.0                      | 24.0    | 4 | 40.5                                                                                | E105M42X1.5NO5 |
| 42 | 1.50    | 110                  | 25                   | 32.0                      | 24.0    | 4 | 40.5                                                                                | E105M42X1.5NO9 |
| 42 | 2.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 40                                                                                  | E105M42X2.0NO3 |
| 42 | 2.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 40                                                                                  | E105M42X2.0NO5 |
| 42 | 2.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 40                                                                                  | E105M42X2.0NO9 |
| 42 | 3.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 39                                                                                  | E105M42X3.0NO3 |
| 42 | 3.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 39                                                                                  | E105M42X3.0NO5 |
| 42 | 3.00    | 125                  | 40                   | 32.0                      | 24.0    | 4 | 39                                                                                  | E105M42X3.0NO9 |
| 45 | 1.50    | 110                  | 25                   | 36.0                      | 29.0    | 6 | 43.5                                                                                | E105M45X1.5NO3 |
| 45 | 1.50    | 110                  | 25                   | 36.0                      | 29.0    | 6 | 43.5                                                                                | E105M45X1.5NO5 |
| 45 | 1.50    | 110                  | 25                   | 36.0                      | 29.0    | 6 | 43.5                                                                                | E105M45X1.5NO9 |
| 45 | 2.00    | 125                  | 40                   | 36.0                      | 29.0    | 6 | 43                                                                                  | E105M45X2.0NO3 |
| 45 | 2.00    | 125                  | 40                   | 36.0                      | 29.0    | 6 | 43                                                                                  | E105M45X2.0NO5 |
| 45 | 2.00    | 125                  | 40                   | 36.0                      | 29.0    | 6 | 43                                                                                  | E105M45X2.0NO9 |
| 45 | 3.00    | 125                  | 40                   | 36.0                      | 29.0    | 6 | 42                                                                                  | E105M45X3.0NO3 |
| 45 | 3.00    | 125                  | 40                   | 36.0                      | 29.0    | 6 | 42                                                                                  | E105M45X3.0NO5 |
| 45 | 3.00    | 125                  | 40                   | 36.0                      | 29.0    | 6 | 42                                                                                  | E105M45X3.0NO9 |
| 48 | 1.50    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 46.5                                                                                | E105M48X1.5NO3 |
| 48 | 1.50    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 46.5                                                                                | E105M48X1.5NO5 |
| 48 | 1.50    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 46.5                                                                                | E105M48X1.5NO9 |
| 48 | 2.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 46                                                                                  | E105M48X2.0NO3 |
| 48 | 2.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 46                                                                                  | E105M48X2.0NO5 |
| 48 | 2.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 46                                                                                  | E105M48X2.0NO9 |
| 48 | 3.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 45                                                                                  | E105M48X3.0NO3 |
| 48 | 3.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 45                                                                                  | E105M48X3.0NO5 |
| 48 | 3.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 45                                                                                  | E105M48X3.0NO9 |
| 50 | 1.50    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 48.5                                                                                | E105M50X1.5NO3 |
| 50 | 1.50    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 48.5                                                                                | E105M50X1.5NO5 |
| 50 | 1.50    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 48.5                                                                                | E105M50X1.5NO9 |
| 50 | 2.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 48                                                                                  | E105M50X2.0NO3 |
| 50 | 2.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 48                                                                                  | E105M50X2.0NO5 |
| 50 | 2.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 48                                                                                  | E105M50X2.0NO9 |
| 50 | 3.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 47                                                                                  | E105M50X3.0NO3 |
| 50 | 3.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 47                                                                                  | E105M50X3.0NO5 |
| 50 | 3.00    | 140                  | 40                   | 36.0                      | 29.0    | 6 | 47                                                                                  | E105M50X3.0NO9 |



# E365

**DORMER**

- Strojní závitníky, žlutý Shark
- Gépi Menetfűró, Sárga Shark
- Gwintowniki maszynowe, Żółty Shark
- Tarozi de masina, Shark GALBEN
- Машинные метчики "Yellow Shark" для вязких сталей и металлов
- strojni navojni sveder, Yellow Shark



E365



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| MF  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | a<br>mm | $l_3$<br>mm | z | e-Code            |
|-----|---------|-------------|-------------|---------------|---------|-------------|---|-------------------|
| 3   | 0.35    | 56          | 10          | 2.2           | -       | -           | 3 | 2.65 E365M3X.35   |
| 3.5 | 0.35    | 56          | 10          | 2.5           | 2.1     | 5           | 3 | 3.2 E365M3.5X.35  |
| 4   | 0.50    | 63          | 12          | 2.8           | 2.1     | 5           | 3 | 3.5 E365M4X.5     |
| 5   | 0.50    | 70          | 13          | 3.5           | 2.7     | 6           | 3 | 4.5 E365M5X.5     |
| 6   | 0.75    | 80          | 15          | 4.5           | 3.4     | 6           | 3 | 5.3 E365M6X.75    |
| 7   | 0.75    | 80          | 15          | 5.5           | 4.3     | 7           | 3 | 6.3 E365M7X.75    |
| 8   | 0.75    | 80          | 15          | 6.0           | 4.9     | 8           | 3 | 7.3 E365M8X.75    |
| 8   | 1.00    | 90          | 18          | 6.0           | 4.9     | 8           | 3 | 7 E365M8X1.0      |
| 10  | 0.75    | 90          | 20          | 7.0           | 5.5     | 8           | 3 | 9.3 E365M10X.75   |
| 10  | 1.00    | 90          | 20          | 7.0           | 5.5     | 8           | 3 | 9 E365M10X1.0     |
| 10  | 1.25    | 100         | 20          | 7.0           | 5.5     | 8           | 3 | 8.8 E365M10X1.25  |
| 12  | 1.00    | 100         | 21          | 9.0           | 7.0     | 10          | 4 | 11 E365M12X1.0    |
| 12  | 1.25    | 100         | 21          | 9.0           | 7.0     | 10          | 4 | 10.8 E365M12X1.25 |
| 12  | 1.50    | 110         | 21          | 9.0           | 7.0     | 10          | 4 | 10.5 E365M12X1.5  |
| 14  | 1.00    | 100         | 21          | 11.0          | 9.0     | 12          | 4 | 13 E365M14X1.0    |
| 14  | 1.50    | 100         | 21          | 11.0          | 9.0     | 12          | 4 | 12.5 E365M14X1.5  |
| 16  | 1.00    | 100         | 21          | 12.0          | 9.0     | 12          | 4 | 15 E365M16X1.0    |
| 16  | 1.50    | 100         | 21          | 12.0          | 9.0     | 12          | 4 | 14.5 E365M16X1.5  |
| 18  | 1.00    | 110         | 24          | 14.0          | 11.0    | 14          | 4 | 17 E365M18X1.0    |
| 18  | 1.50    | 110         | 24          | 14.0          | 11.0    | 14          | 4 | 16.5 E365M18X1.5  |
| 20  | 1.00    | 125         | 24          | 16.0          | 12.0    | 15          | 4 | 19 E365M20X1.0    |
| 20  | 1.50    | 125         | 24          | 16.0          | 12.0    | 15          | 4 | 18.5 E365M20X1.5  |
| 22  | 1.50    | 125         | 25          | 18.0          | 14.5    | 17          | 4 | 20.5 E365M22X1.5  |
| 24  | 1.50    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 22.5 E365M24X1.5  |
| 24  | 2.00    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 22 E365M24X2.0    |
| 27  | 1.50    | 140         | 28          | 20.0          | 16.0    | 19          | 4 | 25.5 E365M27X1.5  |
| 27  | 2.00    | 140         | 28          | 20.0          | 16.0    | 19          | 4 | 25 E365M27X2.0    |
| 28  | 1.50    | 140         | 28          | 20.0          | 16.0    | 19          | 4 | 26.5 E365M28X1.5  |
| 30  | 1.50    | 150         | 28          | 22.0          | 18.0    | 21          | 4 | 28.5 E365M30X1.5  |
| 30  | 2.00    | 150         | 28          | 22.0          | 18.0    | 21          | 4 | 28 E365M30X2.0    |



- Strojní závitníky, žlutý Shark
- Gépi Menetfűró, Sárga Shark
- Gwintowniki maszynowe, Żółty Shark
- Tarozi de masina, Shark GALBEN
- Машинные метчики "Yellow Shark" для вязких сталей и металлов
- strojni navojni sveder, Yellow Shark



## E411



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|------|--------------|
| 8  | 1.00    | 90          | 18          | 6.0           | 4.9       | 8           | 3 | 7    | E411M8X1.0   |
| 10 | 1.00    | 90          | 20          | 7.0           | 5.5       | 8           | 3 | 9    | E411M10X1.0  |
| 10 | 1.25    | 100         | 20          | 7.0           | 5.5       | 8           | 3 | 8.8  | E411M10X1.25 |
| 12 | 1.00    | 100         | 21          | 9.0           | 7.0       | 10          | 4 | 11   | E411M12X1.0  |
| 12 | 1.25    | 100         | 21          | 9.0           | 7.0       | 10          | 4 | 10.8 | E411M12X1.25 |
| 12 | 1.50    | 110         | 21          | 9.0           | 7.0       | 10          | 4 | 10.5 | E411M12X1.5  |
| 14 | 1.50    | 100         | 21          | 11.0          | 9.0       | 12          | 4 | 12.5 | E411M14X1.5  |
| 16 | 1.50    | 100         | 21          | 12.0          | 9.0       | 12          | 4 | 14.5 | E411M16X1.5  |
| 18 | 1.50    | 110         | 24          | 14.0          | 11.0      | 14          | 4 | 16.5 | E411M18X1.5  |
| 20 | 1.50    | 125         | 24          | 16.0          | 12.0      | 15          | 4 | 18.5 | E411M20X1.5  |

# E364

**DORMER**

- Strojní závitníky, modrý Shark
- Gépi Menetfűró, Kék Shark
- Gwintowniki maszynowe, Niebieski Shark
- Tarozi de masina, Shark ALBASTRU
- Машинные метчики "Blue Shark" для нержавеющей сталей
- strojni navojni sveder, Blue Shark



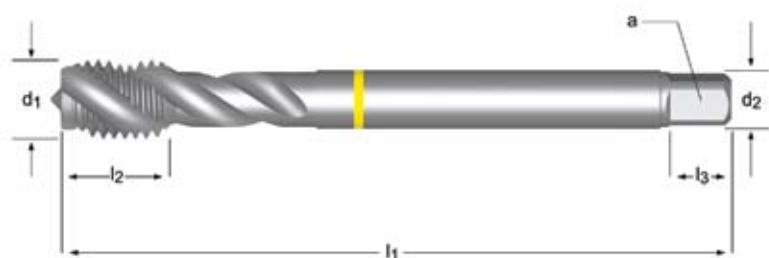
E364



- 2.1 2.2 2.3
- 1.5 1.6

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code       |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|------|--------------|
| 6  | 0.75    | 80          | 15          | 4.5              | 3.4       | 6           | 3 | 5.3  | E364M6X.75   |
| 8  | 1.00    | 90          | 18          | 6.0              | 4.9       | 8           | 3 | 7    | E364M8X1.0   |
| 10 | 1.00    | 90          | 20          | 7.0              | 5.5       | 8           | 3 | 9    | E364M10X1.0  |
| 10 | 1.25    | 100         | 20          | 7.0              | 5.5       | 8           | 3 | 8.8  | E364M10X1.25 |
| 12 | 1.00    | 100         | 21          | 9.0              | 7.0       | 10          | 4 | 11   | E364M12X1.0  |
| 12 | 1.25    | 100         | 21          | 9.0              | 7.0       | 10          | 4 | 10.8 | E364M12X1.25 |
| 12 | 1.50    | 100         | 21          | 9.0              | 7.0       | 10          | 4 | 10.5 | E364M12X1.5  |
| 14 | 1.50    | 100         | 21          | 11.0             | 9.0       | 12          | 4 | 12.5 | E364M14X1.5  |
| 16 | 1.50    | 100         | 21          | 12.0             | 9.0       | 12          | 5 | 14.5 | E364M16X1.5  |
| 18 | 1.50    | 110         | 24          | 14.0             | 11.0      | 14          | 5 | 16.5 | E364M18X1.5  |
| 20 | 1.50    | 125         | 24          | 16.0             | 12.0      | 15          | 5 | 18.5 | E364M20X1.5  |

- Strojní závitníky, žlutý Shark
- Gépi Menetfűró, Sárga Shark
- Gwintowniki maszynowe, Żółty Shark
- Tarozi de masina, Shark GALBEN
- Машинные метчики "Yellow Shark" для вязких сталей и металлов
- strojni navojni sveder, Yellow Shark



## E366



- 1.1 1.2 1.3 6.1 6.3
- 1.4 1.5 6.2

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|------|--------------|
| 6  | 0.75    | 80          | 10          | 4.5           | 3.4       | 6           | 3 | 5.3  | E366M6X.75   |
| 8  | 1.00    | 90          | 13          | 6.0           | 4.9       | 8           | 3 | 7    | E366M8X1.0   |
| 10 | 1.00    | 90          | 12          | 7.0           | 5.5       | 8           | 3 | 9    | E366M10X1.0  |
| 10 | 1.25    | 100         | 15          | 7.0           | 5.5       | 8           | 3 | 8.8  | E366M10X1.25 |
| 12 | 1.25    | 100         | 13          | 9.0           | 7.0       | 10          | 4 | 10.8 | E366M12X1.25 |
| 12 | 1.50    | 100         | 13          | 9.0           | 7.0       | 10          | 4 | 10.5 | E366M12X1.5  |
| 14 | 1.50    | 100         | 15          | 11.0          | 9.0       | 12          | 4 | 12.5 | E366M14X1.5  |
| 16 | 1.50    | 100         | 15          | 12.0          | 9.0       | 12          | 5 | 14.5 | E366M16X1.5  |
| 18 | 1.50    | 110         | 17          | 14.0          | 11.0      | 14          | 5 | 16.5 | E366M18X1.5  |
| 20 | 1.50    | 125         | 17          | 16.0          | 12.0      | 15          | 5 | 18.5 | E366M20X1.5  |

# E405

**DORMER**

- Strojní závitníky, stříbrný Shark
- Gépi Menetfűró, Szürke Shark
- Gwintowniki maszynowe, Srebrny Shark
- Tarozi de masina, Shark ARGINTIU
- Машинные метчики "Silver Shark"
- strojní navojní sveder, Silver Shark



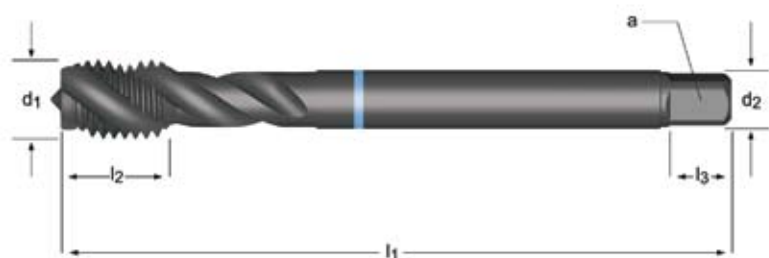
E405



|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 |
| ● | 2.1 | 2.2 | 2.3 | 7.1 | 7.2 |

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|------|--------------|
| 8  | 1.00    | 90          | 13          | 6.0           | 4.9       | 8           | 3 | 7    | E405M8X1.0   |
| 10 | 1.00    | 90          | 12          | 7.0           | 5.5       | 8           | 3 | 9    | E405M10X1.0  |
| 10 | 1.25    | 100         | 15          | 7.0           | 5.5       | 8           | 3 | 8.8  | E405M10X1.25 |
| 12 | 1.00    | 100         | 13          | 9.0           | 7.0       | 10          | 4 | 11.0 | E405M12X1.0  |
| 12 | 1.25    | 100         | 13          | 9.0           | 7.0       | 10          | 4 | 10.8 | E405M12X1.25 |
| 12 | 1.50    | 100         | 13          | 9.0           | 7.0       | 10          | 4 | 10.5 | E405M12X1.5  |
| 14 | 1.50    | 100         | 15          | 11.0          | 9.0       | 12          | 4 | 12.5 | E405M14X1.5  |
| 16 | 1.50    | 100         | 15          | 12.0          | 9.0       | 12          | 4 | 14.5 | E405M16X1.5  |
| 18 | 1.50    | 110         | 17          | 14.0          | 11.0      | 14          | 4 | 16.5 | E405M18X1.5  |
| 20 | 1.50    | 125         | 17          | 16.0          | 12.0      | 15          | 4 | 18.5 | E405M20X1.5  |

- Strojní závitníky, modrý Shark
- Gépi Menetfűró, Kék Shark
- Gwintowniki maszynowe, Niebieski Shark
- Tarozi de masina, Shark ALBASTRU
- Машинные метчики "Blue Shark" для нержавеющей сталей
- strojni navojni sveder, Blue Shark



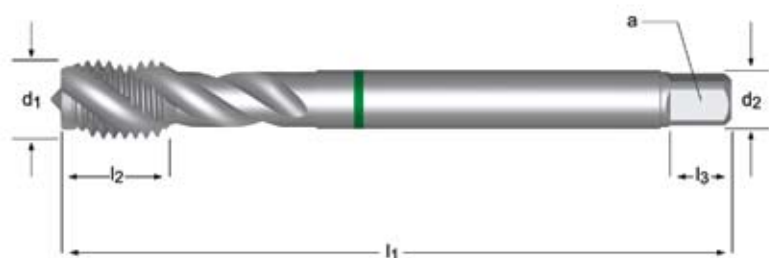
## E363



- 2.1 2.2 2.3
- 1.5 1.6

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | a<br>mm | $l_3$<br>mm | z | e-Code            |
|----|---------|-------------|-------------|---------------|---------|-------------|---|-------------------|
| 6  | 0.75    | 80          | 10          | 4.5           | 3.4     | 6           | 3 | 5.3 E363M6X.75    |
| 8  | 1.00    | 90          | 13          | 6.0           | 4.9     | 8           | 3 | 7 E363M8X1.0      |
| 10 | 1.00    | 90          | 12          | 7.0           | 5.5     | 8           | 3 | 9 E363M10X1.0     |
| 10 | 1.25    | 100         | 15          | 7.0           | 5.5     | 8           | 3 | 8.8 E363M10X1.25  |
| 12 | 1.00    | 100         | 13          | 9.0           | 7.0     | 10          | 4 | 11 E363M12X1.0    |
| 12 | 1.25    | 100         | 13          | 9.0           | 7.0     | 10          | 4 | 10.8 E363M12X1.25 |
| 12 | 1.50    | 100         | 13          | 9.0           | 7.0     | 10          | 4 | 10.5 E363M12X1.5  |
| 14 | 1.50    | 100         | 21          | 11.0          | 9.0     | 12          | 4 | 12.5 E363M14X1.5  |
| 16 | 1.50    | 100         | 21          | 12.0          | 9.0     | 12          | 5 | 14.5 E363M16X1.5  |
| 18 | 1.50    | 110         | 24          | 14.0          | 11.0    | 14          | 5 | 16.5 E363M18X1.5  |
| 20 | 1.50    | 125         | 24          | 16.0          | 12.0    | 15          | 5 | 18.5 E363M20X1.5  |

- Strojní závitníky, zelený Shark
- Gépi Menetfűró, Zöld Shark
- Gwintowniki maszynowe, Zielony Shark
- Tarozi de masina, Shark VERDE
- Машинные метчики "Green Shark" для цветных металлов
- strojni navojni sveder, Green Shark



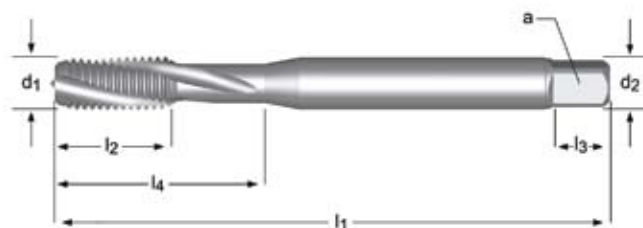
## E367



|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| ■ | 4.1 | 5.1 | 7.1 | 7.2 | 8.1 |
| ● | 1.2 | 1.3 | 6.1 | 6.3 | 7.3 |

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | a<br>mm | $l_3$<br>mm | z | e-Code            |
|----|---------|-------------|-------------|---------------|---------|-------------|---|-------------------|
| 4  | 0.50    | 63          | 12          | 2.8           | 2.1     | 5           | 2 | 3.5 E367M4X.5     |
| 5  | 0.50    | 70          | 13          | 3.5           | 2.7     | 6           | 2 | 4.5 E367M5X.5     |
| 6  | 0.75    | 80          | 15          | 4.5           | 3.4     | 6           | 2 | 5.3 E367M6X.75    |
| 8  | 1.00    | 90          | 18          | 6.0           | 4.9     | 8           | 2 | 7 E367M8X1.0      |
| 10 | 1.00    | 90          | 20          | 7.0           | 5.5     | 8           | 3 | 9 E367M10X1.0     |
| 10 | 1.25    | 100         | 20          | 7.0           | 5.5     | 8           | 3 | 8.8 E367M10X1.25  |
| 12 | 1.25    | 100         | 21          | 9.0           | 7.0     | 10          | 3 | 10.8 E367M12X1.25 |
| 12 | 1.50    | 100         | 21          | 9.0           | 7.0     | 10          | 3 | 10.5 E367M12X1.5  |
| 14 | 1.25    | 100         | 21          | 11.0          | 9.0     | 12          | 3 | 12.8 E367M14X1.25 |
| 14 | 1.50    | 100         | 21          | 11.0          | 9.0     | 12          | 3 | 12.5 E367M14X1.5  |
| 16 | 1.50    | 100         | 21          | 12.0          | 9.0     | 12          | 3 | 14.5 E367M16X1.5  |
| 18 | 1.50    | 110         | 24          | 14.0          | 11.0    | 14          | 3 | 16.5 E367M18X1.5  |
| 20 | 1.50    | 125         | 24          | 16.0          | 12.0    | 15          | 3 | 18.5 E367M20X1.5  |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



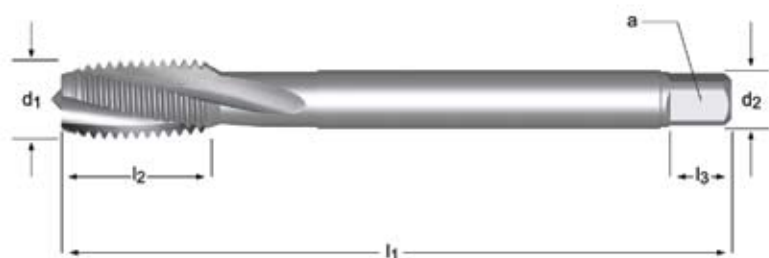
## E219



- 1.3 1.4
- 1.2 1.5 7.2 7.3

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|--------------|
| 4  | 0.50    | 63          | 7           | 4.5           | 3.4       | 6           | 3 | 21          | E219M4X.5    |
| 5  | 0.50    | 70          | 8           | 6.0           | 4.9       | 8           | 3 | 25          | E219M5X.5    |
| 6  | 0.75    | 80          | 10          | 6.0           | 4.9       | 8           | 3 | 30          | E219M6X.75   |
| 8  | 1.00    | 90          | 18          | 8.0           | 6.2       | 9           | 3 | 35          | E219M8X1.0   |
| 10 | 1.00    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 39          | E219M10X1.0  |
| 10 | 1.25    | 100         | 20          | 10.0          | 8.0       | 11          | 3 | 39          | E219M10X1.25 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E270



- 1.3 1.4
- 1.2 1.5 7.2 7.3

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | a<br>mm | $l_3$<br>mm | z | e-Code            |
|----|---------|-------------|-------------|---------------|---------|-------------|---|-------------------|
| 6  | 0.75    | 80          | 15          | 4.5           | 3.4     | 6           | 3 | 5.3 E270M6X.75    |
| 8  | 0.75    | 80          | 15          | 6.0           | 4.9     | 8           | 3 | 7.3 E270M8X.75    |
| 8  | 1.00    | 90          | 18          | 6.0           | 4.9     | 8           | 3 | 7 E270M8X1.0      |
| 10 | 0.75    | 90          | 20          | 7.0           | 5.5     | 8           | 3 | 9.3 E270M10X.75   |
| 10 | 1.00    | 90          | 20          | 7.0           | 5.5     | 8           | 3 | 9 E270M10X1.0     |
| 10 | 1.25    | 100         | 20          | 7.0           | 5.5     | 8           | 3 | 8.8 E270M10X1.25  |
| 12 | 1.00    | 100         | 21          | 9.0           | 7.0     | 10          | 4 | 11 E270M12X1.0    |
| 12 | 1.25    | 100         | 21          | 9.0           | 7.0     | 10          | 4 | 10.8 E270M12X1.25 |
| 12 | 1.50    | 100         | 21          | 9.0           | 7.0     | 10          | 4 | 10.5 E270M12X1.5  |
| 14 | 1.00    | 100         | 21          | 11.0          | 9.0     | 12          | 4 | 13 E270M14X1.0    |
| 14 | 1.25    | 100         | 21          | 11.0          | 9.0     | 12          | 4 | 12.8 E270M14X1.25 |
| 14 | 1.50    | 100         | 21          | 11.0          | 9.0     | 12          | 4 | 12.5 E270M14X1.5  |
| 16 | 1.00    | 100         | 21          | 12.0          | 9.0     | 12          | 4 | 15 E270M16X1.0    |
| 16 | 1.50    | 100         | 21          | 12.0          | 9.0     | 12          | 4 | 14.5 E270M16X1.5  |
| 18 | 1.00    | 110         | 24          | 14.0          | 11.0    | 14          | 4 | 17 E270M18X1.0    |
| 18 | 1.50    | 110         | 24          | 14.0          | 11.0    | 14          | 4 | 16.5 E270M18X1.5  |
| 20 | 1.00    | 125         | 24          | 16.0          | 12.0    | 15          | 4 | 19 E270M20X1.0    |
| 20 | 1.50    | 125         | 24          | 16.0          | 12.0    | 15          | 4 | 18.5 E270M20X1.5  |
| 22 | 1.00    | 125         | 25          | 18.0          | 14.5    | 17          | 4 | 21 E270M22X1.0    |
| 22 | 1.50    | 125         | 25          | 18.0          | 14.5    | 17          | 4 | 20.5 E270M22X1.5  |
| 24 | 1.00    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 23 E270M24X1.0    |
| 24 | 1.50    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 22.5 E270M24X1.5  |
| 24 | 2.00    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 22 E270M24X2.0    |
| 25 | 1.50    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 23.5 E270M25X1.5  |
| 25 | 2.00    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 23 E270M25X2.0    |
| 26 | 1.50    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 24.5 E270M26X1.5  |
| 26 | 2.00    | 140         | 28          | 18.0          | 14.5    | 17          | 4 | 24 E270M26X2.0    |
| 27 | 1.50    | 140         | 28          | 20.0          | 16.0    | 19          | 4 | 25.5 E270M27X1.5  |
| 27 | 2.00    | 140         | 28          | 20.0          | 16.0    | 19          | 4 | 25 E270M27X2.0    |
| 28 | 1.50    | 140         | 28          | 20.0          | 16.0    | 19          | 4 | 26.5 E270M28X1.5  |
| 28 | 2.00    | 140         | 28          | 20.0          | 16.0    | 19          | 4 | 26 E270M28X2.0    |
| 30 | 1.50    | 150         | 28          | 22.0          | 18.0    | 21          | 4 | 28.5 E270M30X1.5  |
| 30 | 2.00    | 150         | 28          | 22.0          | 18.0    | 21          | 4 | 28 E270M30X2.0    |



- Strojní závitníky
- Gépi Menetformázó
- Wyginiaki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



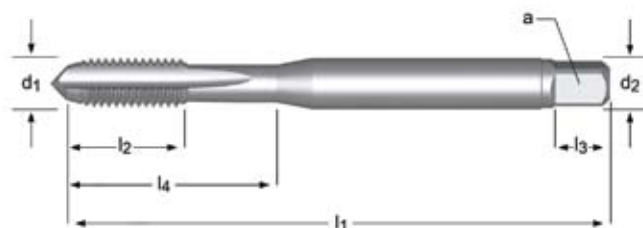
## E317



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $\leftrightarrow$ | $l_4$<br>mm | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------------|-------------|--------------|
| 5  | 0.50    | 70          | 13          | 6.0           | 4.9       | 8           | 5 | 4.80              | 25          | E317M5X0.5   |
| 6  | 0.75    | 80          | 15          | 6.0           | 4.9       | 8           | 5 | 5.70              | 30          | E317M6X0.75  |
| 7  | 0.75    | 80          | 15          | 7.0           | 5.5       | 8           | 5 | 6.70              | 30          | E317M7X0.75  |
| 8  | 1.00    | 90          | 18          | 8.0           | 6.2       | 9           | 5 | 7.50              | 35          | E317M8X1     |
| 10 | 1.00    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.50              | 39          | E317M10X1    |
| 10 | 1.25    | 100         | 20          | 10.0          | 8.0       | 11          | 5 | 9.40              | 39          | E317M10X1.25 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E225



- 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| UNC | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code           |
|-----|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|------------------|
| 2   | 56  | 2.184                       | 45                   | 7                    | 2.8                       | 2.1     | 5                    | 3 | 1.9                  | 12 E2252-56      |
| 3   | 48  | 2.515                       | 50                   | 8                    | 2.8                       | 2.1     | 5                    | 3 | 2.1                  | 12.5 E2253-48NO3 |
| 4   | 40  | 2.845                       | 56                   | 9                    | 3.5                       | 2.7     | 6                    | 3 | 2.35                 | 18 E2254-40      |
| 5   | 40  | 3.175                       | 56                   | 10                   | 3.5                       | 2.7     | 6                    | 3 | 2.65                 | 18 E2255-40      |
| 6   | 32  | 3.505                       | 56                   | 11                   | 4.0                       | 3.0     | 6                    | 3 | 2.85                 | 20 E2256-32      |
| 8   | 32  | 4.166                       | 63                   | 12                   | 4.5                       | 3.4     | 8                    | 3 | 3.5                  | 21 E2258-32      |
| 10  | 24  | 4.826                       | 70                   | 13                   | 6.0                       | 4.9     | 8                    | 3 | 3.9                  | 25 E22510-24     |
| 12  | 24  | 5.486                       | 80                   | 15                   | 6.0                       | 4.9     | 8                    | 3 | 4.5                  | 30 E22512-24     |
| 1/4 | 20  | 6.350                       | 80                   | 16                   | 7.0                       | 5.5     | 8                    | 3 | 5.1                  | 30 E2251/4       |

NO3  
NO8  
**299**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



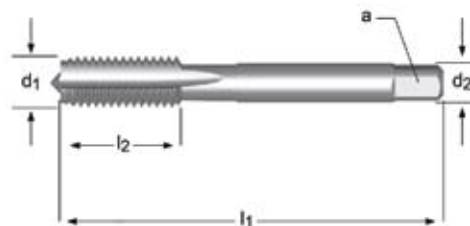
## E275



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| UNC   | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | e-Code    |
|-------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|-----------|
| 5/16  | 18  | 7.94                        | 90                   | 18                   | 6.0                       | 4.9     | 8                    | 3 | 6.6   | E2755/16  |
| 3/8   | 16  | 9.53                        | 100                  | 24                   | 7.0                       | 5.5     | 8                    | 3 | 8     | E2753/8   |
| 7/16  | 14  | 11.11                       | 110                  | 23                   | 9.0                       | 7.0     | 10                   | 3 | 9.4   | E2757/16  |
| 1/2   | 13  | 12.7                        | 110                  | 23                   | 9.0                       | 7.0     | 10                   | 3 | 10.8  | E2751/2   |
| 9/16  | 12  | 14.29                       | 110                  | 25                   | 11.0                      | 9.0     | 12                   | 3 | 12.2  | E2759/16  |
| 5/8   | 11  | 15.88                       | 110                  | 25                   | 12.0                      | 9.0     | 12                   | 4 | 13.5  | E2755/8   |
| 3/4   | 10  | 19.05                       | 140                  | 34                   | 14.0                      | 11.0    | 14                   | 4 | 16.5  | E2753/4   |
| 7/8   | 9   | 22.23                       | 140                  | 34                   | 18.0                      | 14.5    | 17                   | 4 | 19.5  | E2757/8   |
| 1     | 8   | 25.40                       | 160                  | 38                   | 18.0                      | 14.5    | 17                   | 4 | 22.25 | E2751     |
| 1.1/8 | 7   | 28.58                       | 180                  | 45                   | 22.0                      | 18.0    | 21                   | 4 | 25    | E2751.1/8 |
| 1.1/4 | 7   | 31.75                       | 180                  | 50                   | 25.0                      | 20.0    | 23                   | 4 | 28    | E2751.1/4 |
| 1.1/2 | 6   | 38.10                       | 200                  | 60                   | 32.0                      | 24.0    | 27                   | 4 | 34    | E2751.1/2 |

- Závitníky ruční
- Kézi Menetfúró
- Gwintowniki reczne
- Tarozi de mana
- Ручные метчики
- sveder navojni ročni



## E108



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z | e-Code           |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|---|------------------|
| 5    | 40  | 3.18                        | 45                   | 13                   | 4.0                       | 3.0     | 3 | 2.65 E1085-40NO3 |
| 5    | 40  | 3.18                        | 45                   | 13                   | 4.0                       | 3.0     | 3 | 2.65 E1085-40NO8 |
| 6    | 32  | 3.51                        | 45                   | 10                   | 4.0                       | 3.0     | 3 | 2.85 E1086-32NO3 |
| 6    | 32  | 3.51                        | 45                   | 10                   | 4.0                       | 3.0     | 3 | 2.85 E1086-32NO8 |
| 8    | 32  | 4.17                        | 50                   | 14                   | 6.0                       | 4.9     | 3 | 3.5 E1088-32NO3  |
| 8    | 32  | 4.17                        | 50                   | 14                   | 6.0                       | 4.9     | 3 | 3.5 E1088-32NO8  |
| 10   | 24  | 4.83                        | 50                   | 14                   | 6.0                       | 4.9     | 3 | 3.9 E10810-24NO3 |
| 10   | 24  | 4.83                        | 50                   | 14                   | 6.0                       | 4.9     | 3 | 3.9 E10810-24NO8 |
| 12   | 24  | 5.49                        | 56                   | 16                   | 6.0                       | 4.9     | 3 | 4.5 E10812-24NO3 |
| 12   | 24  | 5.49                        | 56                   | 16                   | 6.0                       | 4.9     | 3 | 4.5 E10812-24NO8 |
| 1/4  | 20  | 6.35                        | 56                   | 17                   | 6.0                       | 4.9     | 3 | 5.1 E1081/4NO3   |
| 1/4  | 20  | 6.35                        | 56                   | 17                   | 6.0                       | 4.9     | 3 | 5.1 E1081/4NO8   |
| 5/16 | 18  | 7.94                        | 63                   | 19                   | 6.0                       | 4.9     | 3 | 6.6 E1085/16NO3  |
| 5/16 | 18  | 7.94                        | 63                   | 19                   | 6.0                       | 4.9     | 3 | 6.6 E1085/16NO8  |
| 3/8  | 16  | 9.53                        | 70                   | 22                   | 7.0                       | 5.5     | 3 | 8 E1083/8NO3     |
| 3/8  | 16  | 9.53                        | 70                   | 22                   | 7.0                       | 5.5     | 3 | 8 E1083/8NO8     |
| 7/16 | 14  | 11.11                       | 75                   | 30                   | 8.0                       | 6.2     | 3 | 9.4 E1087/16NO3  |
| 7/16 | 14  | 11.11                       | 75                   | 30                   | 8.0                       | 6.2     | 3 | 9.4 E1087/16NO8  |
| 1/2  | 13  | 12.70                       | 75                   | 27                   | 9.0                       | 7.0     | 3 | 10.8 E1081/2NO3  |
| 1/2  | 13  | 12.70                       | 75                   | 27                   | 9.0                       | 7.0     | 3 | 10.8 E1081/2NO8  |
| 9/16 | 12  | 14.29                       | 80                   | 30                   | 11.0                      | 9.0     | 4 | 12.2 E1089/16NO3 |
| 9/16 | 12  | 14.29                       | 80                   | 30                   | 11.0                      | 9.0     | 4 | 12.2 E1089/16NO8 |
| 5/8  | 11  | 15.88                       | 80                   | 32                   | 12.0                      | 9.0     | 4 | 13.5 E1085/8NO3  |
| 5/8  | 11  | 15.88                       | 80                   | 32                   | 12.0                      | 9.0     | 4 | 13.5 E1085/8NO8  |
| 3/4  | 10  | 19.05                       | 95                   | 34                   | 14.0                      | 11.0    | 4 | 16.5 E1083/4NO3  |
| 3/4  | 10  | 19.05                       | 95                   | 34                   | 14.0                      | 11.0    | 4 | 16.5 E1083/4NO8  |
| 7/8  | 9   | 22.23                       | 110                  | 38                   | 18.0                      | 14.5    | 4 | 19.5 E1087/8NO3  |
| 7/8  | 9   | 22.23                       | 110                  | 38                   | 18.0                      | 14.5    | 4 | 19.5 E1087/8NO8  |
| 1"   | 8   | 25.40                       | 110                  | 38                   | 20.0                      | 16.0    | 4 | 22.25 E1081NO8   |



- Strojní závitníky
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- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



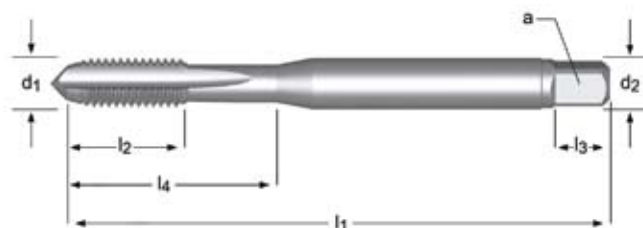
## E276



- 1.3 1.4
- 1.2 1.5 7.2 7.3

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | e-Code   |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------|
| 1/4  | 20  | 6.35                        | 80                   | 19                   | 4.5                       | 3.4     | 6                    | 3 | 5.1   | E2761/4  |
| 5/16 | 18  | 7.94                        | 90                   | 18                   | 6.0                       | 4.9     | 8                    | 3 | 6.6   | E2765/16 |
| 3/8  | 16  | 9.53                        | 100                  | 24                   | 7.0                       | 5.5     | 8                    | 3 | 8     | E2763/8  |
| 7/16 | 14  | 11.11                       | 110                  | 23                   | 9.0                       | 7.0     | 10                   | 3 | 9.4   | E2767/16 |
| 1/2  | 13  | 12.70                       | 110                  | 23                   | 9.0                       | 7.0     | 10                   | 3 | 10.8  | E2761/2  |
| 5/8  | 11  | 15.88                       | 110                  | 25                   | 12.0                      | 9.0     | 12                   | 3 | 13.5  | E2765/8  |
| 3/4  | 10  | 19.05                       | 140                  | 34                   | 14.0                      | 11.0    | 14                   | 4 | 16.5  | E2763/4  |
| 7/8  | 9   | 22.23                       | 140                  | 34                   | 18.0                      | 14.5    | 17                   | 4 | 19.5  | E2767/8  |
| 1    | 8   | 25.40                       | 160                  | 38                   | 20.0                      | 16.0    | 19                   | 4 | 22.25 | E2761    |

- Strojní závitníky
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## E229



- 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| UNF | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |      | l <sub>4</sub><br>mm | e-Code    |
|-----|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|-----------|
| 2   | 64  | 2.184                       | 45                   | 7                    | 2.8                       | 2.1     | 5                    | 3 | 1.9  | 12                   | E2292-64  |
| 3   | 56  | 2.515                       | 50                   | 8                    | 2.8                       | 2.1     | 5                    | 3 | 2.15 | 12.5                 | E2293-56  |
| 4   | 48  | 2.845                       | 56                   | 9                    | 3.5                       | 2.7     | 6                    | 3 | 2.4  | 18                   | E2294-48  |
| 5   | 44  | 3.175                       | 56                   | 10                   | 3.5                       | 2.7     | 6                    | 3 | 2.7  | 18                   | E2295-44  |
| 6   | 40  | 3.505                       | 56                   | 11                   | 4.0                       | 3.0     | 6                    | 3 | 2.95 | 20                   | E2296-40  |
| 8   | 36  | 4.166                       | 63                   | 12                   | 4.5                       | 3.4     | 6                    | 3 | 3.5  | 21                   | E2298-36  |
| 10  | 32  | 4.826                       | 70                   | 13                   | 6.0                       | 4.9     | 8                    | 3 | 4.1  | 25                   | E22910-32 |
| 12  | 28  | 5.486                       | 80                   | 15                   | 6.0                       | 4.9     | 8                    | 3 | 4.7  | 30                   | E22912-28 |
| 1/4 | 28  | 6.350                       | 80                   | 15                   | 7.0                       | 5.5     | 8                    | 3 | 5.5  | 30                   | E2291/4   |

- Strojní závitníky
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- Tarozi de masina
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- strojni navojni sveder



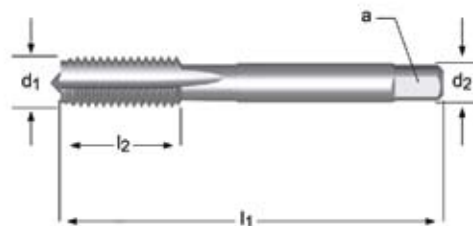
## E278



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| UNF   | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | e-Code    |
|-------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|-----------|
| 5/16  | 24  | 7.94                        | 90                   | 18                   | 6.0                       | 4.9     | 8                    | 3 | 6.9   | E2785/16  |
| 3/8   | 24  | 9.53                        | 100                  | 24                   | 7.0                       | 5.5     | 8                    | 3 | 8.5   | E2783/8   |
| 7/16  | 20  | 11.11                       | 100                  | 22                   | 9.0                       | 7.0     | 10                   | 3 | 9.9   | E2787/16  |
| 1/2   | 20  | 12.70                       | 100                  | 21                   | 9.0                       | 7.0     | 10                   | 3 | 11.5  | E2781/2   |
| 9/16  | 18  | 14.29                       | 100                  | 21                   | 11.0                      | 9.0     | 12                   | 4 | 12.9  | E2789/16  |
| 5/8   | 18  | 15.88                       | 100                  | 21                   | 12.0                      | 9.0     | 12                   | 4 | 14.5  | E2785/8   |
| 3/4   | 16  | 19.05                       | 125                  | 25                   | 14.0                      | 11.0    | 14                   | 4 | 17.5  | E2783/4   |
| 7/8   | 14  | 22.23                       | 140                  | 28                   | 18.0                      | 14.5    | 17                   | 4 | 20.4  | E2787/8   |
| 1     | 12  | 25.40                       | 140                  | 26                   | 18.0                      | 14.5    | 17                   | 4 | 23.25 | E2781     |
| 1.1/8 | 12  | 28.58                       | 150                  | 28                   | 22.0                      | 18.0    | 21                   | 4 | 26.5  | E2781.1/8 |
| 1.1/4 | 12  | 31.75                       | 150                  | 28                   | 25.0                      | 20.0    | 23                   | 4 | 29.5  | E2781.1/4 |
| 1.3/8 | 12  | 34.93                       | 170                  | 30                   | 28.0                      | 22.0    | 25                   | 4 | 32.75 | E2781.3/8 |
| 1.1/2 | 12  | 38.10                       | 170                  | 30                   | 32.0                      | 24.0    | 27                   | 4 | 36    | E2781.1/2 |

- Závítňíky ruční
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- Tarozi de mana
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E111



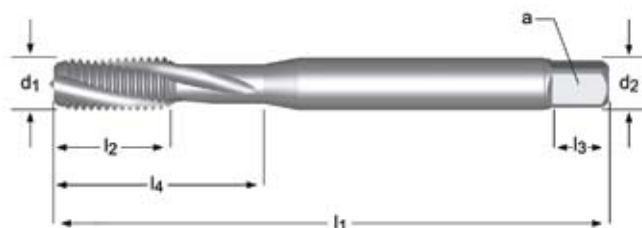
• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|---|--------------|
| 5    | 44  | 3.18                        | 45                   | 13                   | 4.0                       | 3.0     | 3 | E1115-44NO3  |
| 5    | 44  | 3.18                        | 45                   | 13                   | 4.0                       | 3.0     | 3 | E1115-44NO9  |
| 6    | 40  | 3.51                        | 45                   | 10                   | 4.0                       | 3.0     | 3 | E1116-40NO3  |
| 6    | 40  | 3.51                        | 45                   | 10                   | 4.0                       | 3.0     | 3 | E1116-40NO9  |
| 8    | 36  | 4.17                        | 50                   | 14                   | 6.0                       | 4.9     | 3 | E1118-36NO3  |
| 8    | 36  | 4.17                        | 50                   | 14                   | 6.0                       | 4.9     | 3 | E1118-36NO9  |
| 10   | 32  | 4.82                        | 50                   | 14                   | 6.0                       | 4.9     | 3 | E11110-32NO3 |
| 10   | 32  | 4.82                        | 50                   | 14                   | 6.0                       | 4.9     | 3 | E11110-32NO9 |
| 1/4  | 28  | 6.35                        | 56                   | 17                   | 6.0                       | 4.9     | 3 | E1111/4NO3   |
| 1/4  | 28  | 6.35                        | 56                   | 17                   | 6.0                       | 4.9     | 3 | E1111/4NO9   |
| 5/16 | 24  | 7.94                        | 63                   | 19                   | 6.0                       | 4.9     | 3 | E1115/16NO3  |
| 5/16 | 24  | 7.94                        | 63                   | 19                   | 6.0                       | 4.9     | 3 | E1115/16NO9  |
| 3/8  | 24  | 9.53                        | 63                   | 16                   | 7.0                       | 5.5     | 3 | E1113/8NO3   |
| 3/8  | 24  | 9.53                        | 63                   | 16                   | 7.0                       | 5.5     | 3 | E1113/8NO9   |
| 7/16 | 20  | 11.11                       | 63                   | 15                   | 8.0                       | 6.2     | 3 | E1117/16NO3  |
| 7/16 | 20  | 11.11                       | 63                   | 15                   | 8.0                       | 6.2     | 3 | E1117/16NO9  |
| 1/2  | 20  | 12.70                       | 70                   | 22                   | 9.0                       | 7.0     | 3 | E1111/2NO3   |
| 1/2  | 20  | 12.70                       | 70                   | 22                   | 9.0                       | 7.0     | 3 | E1111/2NO9   |
| 9/16 | 18  | 14.29                       | 70                   | 16                   | 11.0                      | 9.0     | 4 | E1119/16NO3  |
| 9/16 | 18  | 14.29                       | 70                   | 16                   | 11.0                      | 9.0     | 4 | E1119/16NO9  |
| 5/8  | 18  | 15.88                       | 70                   | 16                   | 12.0                      | 9.0     | 4 | E1115/8NO3   |
| 5/8  | 18  | 15.88                       | 70                   | 16                   | 12.0                      | 9.0     | 4 | E1115/8NO9   |
| 3/4  | 16  | 19.05                       | 80                   | 22                   | 14.0                      | 11.0    | 4 | E1113/4NO3   |
| 3/4  | 16  | 19.05                       | 80                   | 22                   | 14.0                      | 11.0    | 4 | E1113/4NO9   |
| 7/8  | 14  | 22.23                       | 90                   | 22                   | 18.0                      | 14.5    | 4 | E1117/8NO3   |
| 7/8  | 14  | 22.23                       | 90                   | 22                   | 18.0                      | 14.5    | 4 | E1117/8NO9   |
| 1"   | 12  | 25.40                       | 90                   | 22                   | 20.0                      | 16.0    | 4 | E1111NO3     |
| 1"   | 12  | 25.40                       | 90                   | 22                   | 20.0                      | 16.0    | 4 | E1111NO9     |





- Strojní závitníky
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- strojni navojni sveder



## E230



- 1.3 1.4
- 1.2 1.5 7.2 7.3

| UNF | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>2</sub><br>mm | l <sub>1</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code    |
|-----|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|-----------|
| 6   | 40  | 3.505                       | 56                   | 6.5                  | 4                         | 3.0     | 6                    | 3 | 2.95 | 20                   | E2306-40  |
| 8   | 36  | 4.166                       | 63                   | 7                    | 4.5                       | 3.4     | 6                    | 3 | 3.5  | 21                   | E2308-36  |
| 10  | 32  | 4.826                       | 70                   | 8                    | 6                         | 4.9     | 8                    | 3 | 4.1  | 25                   | E23010-32 |
| 12  | 28  | 5.486                       | 80                   | 10                   | 6                         | 4.9     | 8                    | 3 | 4.7  | 30                   | E23012-28 |
| 1/4 | 28  | 6.350                       | 80                   | 10                   | 7                         | 5.5     | 8                    | 3 | 5.5  | 30                   | E2301/4   |

- Strojní závitníky
- Gépi Menetfűró
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- Машинные метчики
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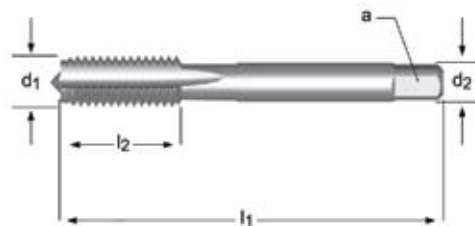
## E279



- 1.3 1.4
- 1.2 1.5 7.2 7.3

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code   |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------|
| 5/16 | 24  | 7.94                        | 90                   | 18                   | 6.0                       | 4.9     | 8                    | 3 | E2795/16 |
| 3/8  | 24  | 9.53                        | 100                  | 24                   | 7.0                       | 5.5     | 8                    | 3 | E2793/8  |
| 7/16 | 20  | 11.11                       | 100                  | 22                   | 9.0                       | 7.0     | 10                   | 3 | E2797/16 |
| 1/2  | 20  | 12.70                       | 100                  | 21                   | 9.0                       | 7.0     | 10                   | 3 | E2791/2  |
| 5/8  | 18  | 15.88                       | 100                  | 21                   | 12.0                      | 9.0     | 12                   | 3 | E2795/8  |
| 3/4  | 16  | 19.05                       | 125                  | 25                   | 14.0                      | 11.0    | 14                   | 4 | E2793/4  |
| 7/8  | 14  | 22.22                       | 140                  | 28                   | 18.0                      | 14.5    | 17                   | 4 | E2797/8  |
| 1    | 12  | 25.40                       | 140                  | 26                   | 18.0                      | 14.5    | 17                   | 4 | E2791    |

- Závítňíky ruční
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- Ручные метчики
- sveder navojni ročni



## E115



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| BSW   | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z | e-Code       |
|-------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|---|--------------|
| 1/8   | 40  | 3.18                        | 40                   | 10                   | 3.5                       | 2.7     | 3 | E1151/8NO3   |
| 1/8   | 40  | 3.18                        | 40                   | 10                   | 3.5                       | 2.7     | 3 | E1151/8NO8   |
| 5/32  | 32  | 3.97                        | 45                   | 12                   | 4.5                       | 3.4     | 3 | E1155/32NO3  |
| 5/32  | 32  | 3.97                        | 45                   | 12                   | 4.5                       | 3.4     | 3 | E1155/32NO8  |
| 3/16  | 24  | 4.76                        | 50                   | 16                   | 5.5                       | 4.3     | 3 | E1153/16NO3  |
| 3/16  | 24  | 4.76                        | 50                   | 16                   | 5.5                       | 4.3     | 3 | E1153/16NO8  |
| 1/4   | 20  | 6.35                        | 56                   | 17                   | 6.0                       | 4.9     | 3 | E1151/4NO3   |
| 1/4   | 20  | 6.35                        | 56                   | 17                   | 6.0                       | 4.9     | 3 | E1151/4NO8   |
| 5/16  | 18  | 7.94                        | 63                   | 25                   | 6.0                       | 4.9     | 3 | E1155/16NO3  |
| 5/16  | 18  | 7.94                        | 63                   | 25                   | 6.0                       | 4.9     | 3 | E1155/16NO8  |
| 3/8   | 16  | 9.53                        | 70                   | 22                   | 7.0                       | 5.5     | 3 | E1153/8NO3   |
| 3/8   | 16  | 9.53                        | 70                   | 22                   | 7.0                       | 5.5     | 3 | E1153/8NO8   |
| 7/16  | 14  | 11.11                       | 75                   | 30                   | 8.0                       | 6.2     | 3 | E1157/16NO3  |
| 7/16  | 14  | 11.11                       | 75                   | 30                   | 8.0                       | 6.2     | 3 | E1157/16NO8  |
| 1/2   | 12  | 12.70                       | 80                   | 30                   | 9.0                       | 7.0     | 3 | E1151/2NO3   |
| 1/2   | 12  | 12.70                       | 80                   | 30                   | 9.0                       | 7.0     | 3 | E1151/2NO8   |
| 9/16  | 12  | 14.29                       | 80                   | 30                   | 11.0                      | 9.0     | 4 | E1159/16NO3  |
| 9/16  | 12  | 14.29                       | 80                   | 30                   | 11.0                      | 9.0     | 4 | E1159/16NO8  |
| 5/8   | 11  | 15.88                       | 90                   | 36                   | 12.0                      | 9.0     | 4 | E1155/8NO3   |
| 5/8   | 11  | 15.88                       | 90                   | 36                   | 12.0                      | 9.0     | 4 | E1155/8NO8   |
| 3/4   | 10  | 19.05                       | 105                  | 40                   | 14.0                      | 11.0    | 4 | E1153/4NO3   |
| 3/4   | 10  | 19.05                       | 105                  | 40                   | 14.0                      | 11.0    | 4 | E1153/4NO8   |
| 7/8   | 9   | 22.23                       | 110                  | 45                   | 18.0                      | 14.5    | 4 | E1157/8NO3   |
| 7/8   | 9   | 22.23                       | 110                  | 45                   | 18.0                      | 14.5    | 4 | E1157/8NO8   |
| 1"    | 8   | 25.40                       | 110                  | 50                   | 20.0                      | 16.0    | 4 | E1151NO3     |
| 1"    | 8   | 25.40                       | 110                  | 50                   | 20.0                      | 16.0    | 4 | E1151NO8     |
| 1.1/8 | 7   | 28.58                       | 132                  | 56                   | 22.0                      | 18.0    | 4 | E1151.1/8NO3 |
| 1.1/8 | 7   | 28.58                       | 132                  | 56                   | 22.0                      | 18.0    | 4 | E1151.1/8NO8 |
| 1.1/4 | 7   | 31.75                       | 132                  | 56                   | 25.0                      | 20.0    | 4 | E1151.1/4NO3 |
| 1.1/4 | 7   | 31.75                       | 132                  | 56                   | 25.0                      | 20.0    | 4 | E1151.1/4NO8 |
| 1.3/8 | 6   | 34.93                       | 150                  | 63                   | 28.0                      | 22.0    | 4 | E1151.3/8NO3 |
| 1.3/8 | 6   | 34.93                       | 150                  | 63                   | 28.0                      | 22.0    | 4 | E1151.3/8NO8 |
| 1.1/2 | 6   | 38.10                       | 150                  | 63                   | 32.0                      | 24.0    | 4 | E1151.1/2NO3 |
| 1.1/2 | 6   | 38.10                       | 150                  | 63                   | 32.0                      | 24.0    | 4 | E1151.1/2NO8 |
| 1.5/8 | 5   | 41.28                       | 160                  | 70                   | 32.0                      | 24.0    | 4 | E1151.5/8NO3 |
| 1.5/8 | 5   | 41.28                       | 160                  | 70                   | 32.0                      | 24.0    | 4 | E1151.5/8NO8 |
| 1.3/4 | 5   | 44.45                       | 160                  | 70                   | 36.0                      | 29.0    | 6 | E1151.3/4NO3 |
| 1.3/4 | 5   | 44.45                       | 160                  | 70                   | 36.0                      | 29.0    | 6 | E1151.3/4NO8 |
| 1.7/8 | 4.5 | 47.63                       | 190                  | 80                   | 36.0                      | 29.0    | 6 | E1151.7/8NO3 |
| 1.7/8 | 4.5 | 47.63                       | 190                  | 80                   | 36.0                      | 29.0    | 6 | E1151.7/8NO8 |
| 2"    | 4.5 | 50.80                       | 190                  | 80                   | 40.0                      | 32.0    | 6 | E1152NO3     |
| 2"    | 4.5 | 50.80                       | 190                  | 80                   | 40.0                      | 32.0    | 6 | E1152NO8     |



- Sada závitníků SHARK, plastová krabička
- Shark Menetfúró készlet műanyag dobozban
- Komplet gwintowników SHARK
- Set tarozi seria Shark, cutie plastic
- Набор метчиков "Shark" в пластмассовом ящике
- strojni navojni svedri, set



## L300

| Nr. | A                  | B | M        | DIN            | e-Code          |
|-----|--------------------|---|----------|----------------|-----------------|
| 201 | E201 HSCo-XP WHITE | 6 | M3 - M10 | DIN 371 C      | <b>L300N201</b> |
| 340 | E340 HSCo RED      | 6 | M3 - M10 | DIN 371 B      | <b>L300N340</b> |
| 342 | E342 HSCo RED      | 6 | M3 - M10 | DIN 371 C, 35° | <b>L300N342</b> |
| 344 | E344 HSCo BLUE     | 6 | M3 - M10 | DIN 371 B      | <b>L300N344</b> |
| 346 | E346 HSCo BLUE     | 6 | M3 - M10 | DIN 371 C, 40° | <b>L300N346</b> |
| 348 | E348 HSCo YELLOW   | 6 | M3 - M10 | DIN 371 B      | <b>L300N348</b> |
| 350 | E350 HSCo YELLOW   | 6 | M3 - M10 | DIN 371 C, 35° | <b>L300N350</b> |
| 352 | E352 HSCo-XP GREEN | 6 | M3 - M10 | DIN 371 C      | <b>L300N352</b> |
| 354 | E354 HSCo-XP GREEN | 6 | M3 - M10 | DIN 371 C, 15° | <b>L300N354</b> |
| 358 | E358 HSCo GREEN    | 6 | M3 - M10 | DIN 371 B      | <b>L300N358</b> |
| 360 | E360 HSCo GREEN    | 6 | M3 - M10 | DIN 371 C, 35° | <b>L300N360</b> |

- Metrické závitníky, kovová krabice
- Menetfűró készlet fém dobozban
- Gwintowniki metryczne, metalowa kasetka
- Tarozi metrici, in cutie metalica
- Метчики с крупным шагом, набор в металлическом ящике
- roční navojní svedri v kovinski škatli



## L119

| Nr.          | A          | M                       | DIN           | e-Code        |
|--------------|------------|-------------------------|---------------|---------------|
| <b>Nr.17</b> | E100 setN8 | M3- M4-M5-M6-M8-M10-M12 | 352           | <b>L11917</b> |
| <b>Nr.37</b> | E214-E265  | M3- M4-M5-M6-M8-M10-M12 | 371 - M12 376 | <b>L11937</b> |
| <b>Nr.27</b> | E208-E259  | M3- M4-M5-M6-M8-M10-M12 | 371 - M12 376 | <b>L11927</b> |

- Sada vrták-závitník v kovové krabici
- Set burghie-tarozí in cutie metalica
- Kombinált Menetfúró készlet fémdobozban
- Набор сверл и метчиков в металлическом ящика
- Komplet wierel i gwintowników w metalowej kasce
- ročni navojni svedri kombinirani, v kovinski škatli



## L126

| Nr. | A    | B | M                              | e-Code         |
|-----|------|---|--------------------------------|----------------|
| 650 | E650 | 6 | 4.0, 5.0, 6.0, 8.0, 10.0, 12.0 | <b>L126650</b> |



- Vrtatidla pro závitovací očka
- Menetmetsző Hajtóvas
- Uchwyty do narzynek
- Portfiliera pentru filiere rotunde
- Воротки для круглых плашек
- držalo za novojno celjust



## L110

| Nr. | Ø x H         | e-Code     |
|-----|---------------|------------|
| 1"  | 16 x 5        | L1101      |
| 2a  | 20 x 5        | L1102A     |
| 2b  | 20 x 7        | L1102B     |
| 3   | 25 x 9        | L1103      |
| 4"  | 30 x 11       | L1104      |
| 5   | 38 x 14       | L1105      |
| 5f  | 38 x 10       | L1105F     |
| 6   | 45 x 18       | L1106      |
| 6f  | 45 x 14       | L1106F     |
| 7   | 55 x 22       | L1107      |
| 7f  | 55 x 16       | L1107F     |
| 8   | 65 x 25       | L1108      |
| 8f  | 65 x 18       | L1108F     |
| 9   | 75 x 30       | L1109      |
| 9f  | 75 x 20       | L1109F     |
| 10  | 90 x 36       | L11010     |
| 10f | 90 x 22       | L11010F    |
|     | 13/16 x 1/4   | L11013/16  |
|     | 1 x 3/8       | L1101INCH  |
|     | 1.5/16 x 7/16 | L1101.5/16 |
|     | 1.1/2 x 1/2   | L1101.1/2  |
|     | 2 x 5/8       | L1102INCH  |
|     | 2.1/4 x 11/16 | L1102.1/4  |
|     | 3 x 7/8       | L1103INCH  |
|     | 4 x 1         | L1104INCH  |

# L111



- Vratidlo pro závitníky, stavitelné
- Menetfűrő hajtóvas, Állítható
- Uchwyty do gwintowników
- Port-tarod reglabil
- Регулируемые воротки для метчиков
- ročka za navojni sveder



## L111

| <input type="checkbox"/> |             |         |
|--------------------------|-------------|---------|
| Nr.                      |             | e-Code  |
| 0                        | 2.0 - 5.0   | L111NO0 |
| 1                        | 2.1 - 8.0   | L111NO1 |
| 2                        | 4.9 - 12.0  | L111NO2 |
| 3                        | 5.5 - 16.0  | L111NO3 |
| 4                        | 11.0 - 24.0 | L111NO4 |
| 5                        | 16.0 - 32.0 | L111NO5 |
| BT1                      | 1.0 - 6.5   | L111BT1 |
| BT2                      | 1.0 - 10.0  | L111BT2 |





- Závítníky E500/vrtáky A120, kovová krabice
- Tarozi E500/Burghie A120, Cutie metalica
- Menetfúró E500/Csigafúró A120 készlet fémdobozban
- Набор метчиков E500/сверл A120, металлический ящик
- Komplet gwintowników E500/Wiertel A120, metalowa kaseta
- ročni navojni sveder/svedri



## L115



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| Nr.    | A           | M       | B              | d <sub>1</sub><br>Ø<br>mm     | e-Code  |
|--------|-------------|---------|----------------|-------------------------------|---------|
| Nr.100 | E500 ISO529 | M3 - 12 | A120 DIN1897RN | 2,5,3,3,4,2,5,0 6,8 8,5 10, 2 | L115100 |

# L120



- Závrtovací sada, kovová krabice
- Menetkészítő készlet fémdobozban
- Komplet do gwintowania recznego - metalowa kaseta
- Trusa filetare, Cutie metalica
- Принадлежности для нарезания резьбы, набор в металлическом ящике
- roční navojní svedri v kovinski škafli



## L120

| Nr.             | A                                                   | L111        | L110                                              | e-Code           |
|-----------------|-----------------------------------------------------|-------------|---------------------------------------------------|------------------|
| <b>Nr.21</b>    | E100 + F100 M 3, 4, 5, 6, 8, 10, 12                 | No 1 + No 2 | 20 x 5, 20 x 7, 25 x 9, 30 x 11, 38 x 14          | <b>L12021</b>    |
| <b>Nr.30</b>    | E100 + F100 M 3, 4, 5, 6, 8, 10, 12, 14, 16, 18, 20 | No 1 + No 3 | 20 x 5, 20 x 7, 25 x 9, 30 x 11, 38 x 14, 45 x 18 | <b>L12030</b>    |
| <b>HS-2M</b>    | E500 + F300 M2, 2.5, 3, 3.5, 4, 5, 6                | BT1         | 13/16 x 1/4                                       | <b>L1202M</b>    |
| <b>HS-4M</b>    | E500 + F300 M 5, 6, 7, 8, 9, 10, 11, 12             | BT2         | 13/16 x 1/4 + 1.5/16 x 7/16                       | <b>L1204M</b>    |
| <b>HS-8M</b>    | E500 + F300 M 2, 3, 4, 5, 6                         | BT1         | 13/16 x 1/4                                       | <b>L1208M</b>    |
| <b>HS-10M</b>   | E500 + F300 M 3, 4, 5, 6, 7, 8, 9, 10               | BT2         | 13/16 x 1/4 + 1. x 3/8                            | <b>L12010M</b>   |
| <b>HS-12M</b>   | E500 + F300 M 2, 3, 4, 5, 6, 7, 8, 9, 10, 12        | BT1 + BT2   | 13/16 x 1/4 + 1. x 3/8 + 1.5/16                   | <b>L12012M</b>   |
| <b>HS-14M</b>   | E500 + F300 M 6, 7, 8, 9, 10, 12, 14, 16, 18, 20    | No 2        | 1. x 3/8 + 1.5/16 x 7/16 + 1.1/2 x 1/2            | <b>L12014M</b>   |
| <b>HS-30UNC</b> | E515 + F320 1/4, 5/16, 3/8, 7/16, 1/2               | BT2         | 1. x 3/8 + 1.5/16 x 7/16                          | <b>L12030UNC</b> |
| <b>HS-32UNC</b> | E515 + F320 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4     | BT2 + No 2  | 1. x 3/8 + 1.1/2 x 1/2                            | <b>L12032UNC</b> |
| <b>HS-24UNF</b> | E524 + F330 1/4, 5/16, 3/8, 7/16, 1/2               | BT2         | 1. x 3/8 + 1.5/16 x 7/16                          | <b>L12024UNF</b> |
| <b>HS-26UNF</b> | E524 + F330 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4     | BT2 + No 2  | 1. x 3/8 + 1.1/2 x 1/2                            | <b>L12026UNF</b> |
| <b>HS-12BSW</b> | E531 + F340 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4     | BT2 + No 2  | 1. x 3/8 + 1.1/2 x 1/2                            | <b>L12012BSW</b> |

- Závitníky, E800 M3-M12, kovová krabice
- Menetfűró E800 M3-M12 készlet fém-dobozban
- Komplet gwintowników E800 M3 - M12, metalowa kaseta
- Tarozi, E800 M3-M12, Cutie metalica
- Набор метчиков E800 от M3 до M12, металлический ящик
- roční navojní svedri v kovinski škatli



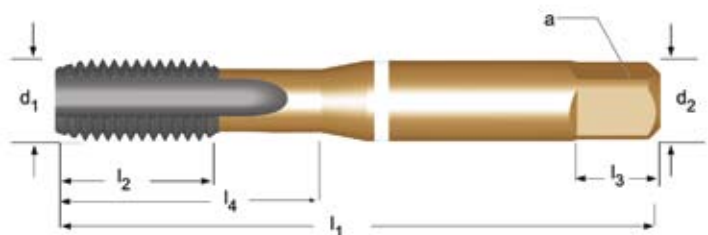
## L124



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| Nr. | A    | B  | M                                                | e-Code |
|-----|------|----|--------------------------------------------------|--------|
| 7   | E800 | 14 | 3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 12.0 ( x 0.5 mm ) | L1247  |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojní navojni sveder MTT-X



MTT-X

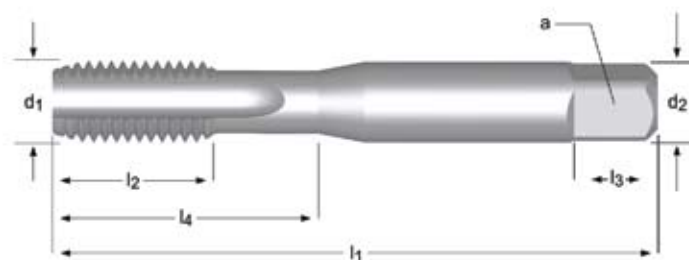
E053



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 48          | 12.5        | 3.15          | 2.50      | 5           | 3 | 2.5         | E053M3  |
| 4  | 0.70    | 53          | 14          | 4.00          | 3.15      | 6           | 4 | 3.3         | E053M4  |
| 5  | 0.80    | 58          | 11          | 5.00          | 4.00      | 7           | 4 | 4.2         | E053M5  |
| 6  | 1.00    | 66          | 13          | 6.30          | 5.00      | 8           | 4 | 5           | E053M6  |
| 8  | 1.25    | 72          | 16          | 8.00          | 6.30      | 9           | 4 | 6.8         | E053M8  |
| 10 | 1.50    | 80          | 18          | 10.00         | 8.00      | 11          | 4 | 8.5         | E053M10 |
| 12 | 1.75    | 89          | 22          | 9.00          | 7.10      | 10          | 4 | 10.3        | E053M12 |
| 14 | 2.00    | 95          | 24          | 11.20         | 9.00      | 12          | 4 | 12          | E053M14 |
| 16 | 2.00    | 102         | 24          | 12.50         | 10.00     | 13          | 4 | 14          | E053M16 |
| 20 | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 | 17.5        | E053M20 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E500



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

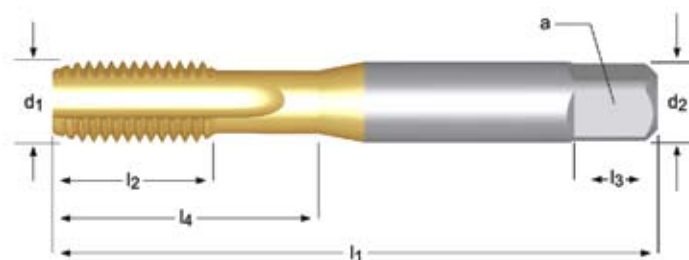
| M   | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code        |
|-----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|---------------|
| 1   | 0.25    | 38                   | 4.5                  | 2.50                      | 2.00    | 4                    | 2 | 0.75 | 4.5                  | E500M1NO1     |
| 1   | 0.25    | 38                   | 4.5                  | 2.50                      | 2.00    | 4                    | 2 | 0.75 | 4.5                  | E500M1NO2     |
| 1   | 0.25    | 38                   | 4.5                  | 2.50                      | 2.00    | 4                    | 2 | 0.75 | 4.5                  | E500M1NO3     |
| 1.2 | 0.25    | 38                   | 4.5                  | 2.50                      | 2.00    | 4                    | 2 | 0.95 | 4.5                  | E500M1.2NO1   |
| 1.2 | 0.25    | 38                   | 4.5                  | 2.50                      | 2.00    | 4                    | 2 | 0.95 | 4.5                  | E500M1.2NO2   |
| 1.2 | 0.25    | 38                   | 4.5                  | 2.50                      | 2.00    | 4                    | 2 | 0.95 | 4.5                  | E500M1.2NO3   |
| 1.4 | 0.30    | 40                   | 6                    | 2.50                      | 2.00    | 4                    | 2 | 1.1  | 6                    | E500M1.4NO1   |
| 1.4 | 0.30    | 40                   | 6                    | 2.50                      | 2.00    | 4                    | 2 | 1.1  | 6                    | E500M1.4NO2   |
| 1.4 | 0.30    | 40                   | 6                    | 2.50                      | 2.00    | 4                    | 2 | 1.1  | 6                    | E500M1.4NO3   |
| 1.6 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.25 | 8                    | E500M1.6NO1   |
| 1.6 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.25 | 8                    | E500M1.6NO2   |
| 1.6 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.25 | 8                    | E500M1.6NO3   |
| 1.6 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.25 | 8                    | E500M1.6NO6   |
| 1.6 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.25 | 8                    | E500M1.6NO8   |
| 1.7 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.35 | 8                    | E500M1.7NO1   |
| 1.7 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.35 | 8                    | E500M1.7NO2   |
| 1.7 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.35 | 8                    | E500M1.7NO3   |
| 1.7 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.35 | 8                    | E500M1.7NO6   |
| 1.7 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.35 | 8                    | E500M1.7NO8   |
| 1.8 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.45 | 8                    | E500M1.8NO1   |
| 1.8 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.45 | 8                    | E500M1.8NO2   |
| 1.8 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.45 | 8                    | E500M1.8NO3   |
| 1.8 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.45 | 8                    | E500M1.8NO6   |
| 1.8 | 0.35    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.45 | 8                    | E500M1.8NO8   |
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.6  | 8                    | E500M2NO1     |
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.6  | 8                    | E500M2NO2     |
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.6  | 8                    | E500M2NO3     |
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.6  | 8                    | E500M2NO6     |
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.6  | 8                    | E500M2NO7     |
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.6  | 8                    | E500M2NO8     |
| 2   | 0.45    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.55 | 8                    | E500M2X.45NO1 |
| 2   | 0.45    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.55 | 8                    | E500M2X.45NO2 |
| 2   | 0.45    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.55 | 8                    | E500M2X.45NO3 |
| 2.2 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.75 | 9.5                  | E500M2.2NO1   |
| 2.2 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.75 | 9.5                  | E500M2.2NO2   |
| 2.2 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.75 | 9.5                  | E500M2.2NO3   |
| 2.2 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.75 | 9.5                  | E500M2.2NO6   |
| 2.2 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.75 | 9.5                  | E500M2.2NO8   |
| 2.3 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85 | 9.5                  | E500M2.3NO1   |
| 2.3 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85 | 9.5                  | E500M2.3NO2   |
| 2.3 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85 | 9.5                  | E500M2.3NO3   |
| 2.3 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85 | 9.5                  | E500M2.3NO6   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.05 | 9.5                  | E500M2.5NO1   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.05 | 9.5                  | E500M2.5NO2   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.05 | 9.5                  | E500M2.5NO3   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.05 | 9.5                  | E500M2.5NO6   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.05 | 9.5                  | E500M2.5NO7   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.05 | 9.5                  | E500M2.5NO8   |



| M   | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |  | l <sub>4</sub><br>mm | e-Code         |
|-----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------------------------------------------------------------------------------------|----------------------|----------------|
| 2.6 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.15                                                                                | 9.5                  | E500M2.6NO1    |
| 2.6 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.15                                                                                | 9.5                  | E500M2.6NO2    |
| 2.6 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.15                                                                                | 9.5                  | E500M2.6NO3    |
| 2.6 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.15                                                                                | 9.5                  | E500M2.6NO6    |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.5                                                                                 | 12.5                 | E500M3NO1      |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.5                                                                                 | 12.5                 | E500M3NO2      |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.5                                                                                 | 12.5                 | E500M3NO3      |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.5                                                                                 | 12.5                 | E500M3NO6      |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.5                                                                                 | 12.5                 | E500M3NO7      |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.5                                                                                 | 12.5                 | E500M3NO8      |
| 3   | 0.60    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.4                                                                                 | 12.5                 | E500M3X.6NO1   |
| 3   | 0.60    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.4                                                                                 | 12.5                 | E500M3X.6NO2   |
| 3   | 0.60    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.4                                                                                 | 12.5                 | E500M3X.6NO3   |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.9                                                                                 | 14                   | E500M3.5NO1    |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.9                                                                                 | 14                   | E500M3.5NO2    |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.9                                                                                 | 14                   | E500M3.5NO3    |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.9                                                                                 | 14                   | E500M3.5NO6    |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.9                                                                                 | 14                   | E500M3.5NO7    |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.9                                                                                 | 14                   | E500M3.5NO8    |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.3                                                                                 | 14                   | E500M4NO1      |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.3                                                                                 | 14                   | E500M4NO2      |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.3                                                                                 | 14                   | E500M4NO3      |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.3                                                                                 | 14                   | E500M4NO6      |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.3                                                                                 | 14                   | E500M4NO7      |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.3                                                                                 | 14                   | E500M4NO8      |
| 4   | 0.75    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.25                                                                                | 14                   | E500M4X.75NO1  |
| 4   | 0.75    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.25                                                                                | 14                   | E500M4X.75NO2  |
| 4   | 0.75    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.25                                                                                | 14                   | E500M4X.75NO3  |
| 4.5 | 0.75    | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.8                                                                                 | 18                   | E500M4.5NO1    |
| 4.5 | 0.75    | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.8                                                                                 | 18                   | E500M4.5NO2    |
| 4.5 | 0.75    | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.8                                                                                 | 18                   | E500M4.5NO3    |
| 4.5 | 0.75    | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.8                                                                                 | 18                   | E500M4.5NO6    |
| 4.5 | 0.75    | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.8                                                                                 | 18                   | E500M4.5NO7    |
| 4.5 | 0.75    | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.8                                                                                 | 18                   | E500M4.5NO8    |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2                                                                                 | 22                   | E500M5NO1      |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2                                                                                 | 22                   | E500M5NO2      |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2                                                                                 | 22                   | E500M5NO3      |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2                                                                                 | 22                   | E500M5NO6      |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2                                                                                 | 22                   | E500M5NO7      |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2                                                                                 | 22                   | E500M5NO8      |
| 5   | 0.90    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1                                                                                 | 22                   | E500M5X.9NO1   |
| 5   | 0.90    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1                                                                                 | 22                   | E500M5X.9NO2   |
| 5   | 0.90    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1                                                                                 | 22                   | E500M5X.9NO3   |
| 5   | 0.90    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1                                                                                 | 22                   | E500M5X.9NO6   |
| 5.5 | 0.90    | 62                   | 12                   | 5.00                      | 4.00    | 7                    | 3 | 4.6                                                                                 | 21                   | E500M5.5X.9NO1 |
| 5.5 | 0.90    | 62                   | 12                   | 5.00                      | 4.00    | 7                    | 3 | 4.6                                                                                 | 21                   | E500M5.5X.9NO2 |
| 5.5 | 0.90    | 62                   | 12                   | 5.00                      | 4.00    | 7                    | 3 | 4.6                                                                                 | 21                   | E500M5.5X.9NO3 |
| 5.5 | 0.90    | 62                   | 12                   | 5.00                      | 4.00    | 7                    | 3 | 4.6                                                                                 | 21                   | E500M5.5X.9NO6 |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5                                                                                   | 26                   | E500M6NO1      |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5                                                                                   | 26                   | E500M6NO2      |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5                                                                                   | 26                   | E500M6NO3      |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5                                                                                   | 26                   | E500M6NO6      |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5                                                                                   | 26                   | E500M6NO7      |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5                                                                                   | 26                   | E500M6NO8      |
| 7   | 1.00    | 66                   | 13                   | 7.10                      | 5.60    | 8                    | 3 | 6                                                                                   | 26                   | E500M7NO1      |
| 7   | 1.00    | 66                   | 13                   | 7.10                      | 5.60    | 8                    | 3 | 6                                                                                   | 26                   | E500M7NO2      |
| 7   | 1.00    | 66                   | 13                   | 7.10                      | 5.60    | 8                    | 3 | 6                                                                                   | 26                   | E500M7NO3      |
| 7   | 1.00    | 66                   | 13                   | 7.10                      | 5.60    | 8                    | 3 | 6                                                                                   | 26                   | E500M7NO6      |
| 7   | 1.00    | 66                   | 13                   | 7.10                      | 5.60    | 8                    | 3 | 6                                                                                   | 26                   | E500M7NO7      |
| 7   | 1.00    | 66                   | 13                   | 7.10                      | 5.60    | 8                    | 3 | 6                                                                                   | 26                   | E500M7NO8      |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8                                                                                 | 29                   | E500M8NO1      |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8                                                                                 | 29                   | E500M8NO2      |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8                                                                                 | 29                   | E500M8NO3      |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8                                                                                 | 29                   | E500M8NO6      |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8                                                                                 | 29                   | E500M8NO7      |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8                                                                                 | 29                   | E500M8NO8      |
| 9   | 1.25    | 72                   | 16                   | 9.00                      | 7.10    | 10                   | 3 | 7.8                                                                                 | 29                   | E500M9NO1      |
| 9   | 1.25    | 72                   | 16                   | 9.00                      | 7.10    | 10                   | 3 | 7.8                                                                                 | 29                   | E500M9NO2      |
| 9   | 1.25    | 72                   | 16                   | 9.00                      | 7.10    | 10                   | 3 | 7.8                                                                                 | 29                   | E500M9NO3      |
| 9   | 1.25    | 72                   | 16                   | 9.00                      | 7.10    | 10                   | 3 | 7.8                                                                                 | 29                   | E500M9NO6      |
| 9   | 1.25    | 72                   | 16                   | 9.00                      | 7.10    | 10                   | 3 | 7.8                                                                                 | 29                   | E500M9NO7      |
| 9   | 1.25    | 72                   | 16                   | 9.00                      | 7.10    | 10                   | 3 | 7.8                                                                                 | 29                   | E500M9NO8      |
| 10  | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                                                                                 | 34                   | E500M10NO1     |
| 10  | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                                                                                 | 34                   | E500M10NO2     |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |  | l <sub>4</sub><br>mm | e-Code     |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------------------------------------------------------------------------------------|----------------------|------------|
| 10 | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                                                                                 | 34                   | E500M10NO3 |
| 10 | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                                                                                 | 34                   | E500M10NO6 |
| 10 | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                                                                                 | 34                   | E500M10NO7 |
| 10 | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                                                                                 | 34                   | E500M10NO8 |
| 11 | 1.50    | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.5                                                                                 |                      | E500M11NO1 |
| 11 | 1.50    | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.5                                                                                 |                      | E500M11NO2 |
| 11 | 1.50    | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.5                                                                                 |                      | E500M11NO3 |
| 11 | 1.50    | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.5                                                                                 |                      | E500M11NO6 |
| 11 | 1.50    | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.5                                                                                 |                      | E500M11NO8 |
| 12 | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.3                                                                                |                      | E500M12NO1 |
| 12 | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.3                                                                                |                      | E500M12NO2 |
| 12 | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.3                                                                                |                      | E500M12NO3 |
| 12 | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.3                                                                                |                      | E500M12NO6 |
| 12 | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.3                                                                                |                      | E500M12NO7 |
| 12 | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.3                                                                                |                      | E500M12NO8 |
| 14 | 2.00    | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12                                                                                  |                      | E500M14NO1 |
| 14 | 2.00    | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12                                                                                  |                      | E500M14NO2 |
| 14 | 2.00    | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12                                                                                  |                      | E500M14NO3 |
| 14 | 2.00    | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12                                                                                  |                      | E500M14NO6 |
| 14 | 2.00    | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12                                                                                  |                      | E500M14NO7 |
| 14 | 2.00    | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12                                                                                  |                      | E500M14NO8 |
| 16 | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14                                                                                  |                      | E500M16NO1 |
| 16 | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14                                                                                  |                      | E500M16NO2 |
| 16 | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14                                                                                  |                      | E500M16NO3 |
| 16 | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14                                                                                  |                      | E500M16NO6 |
| 16 | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14                                                                                  |                      | E500M16NO7 |
| 16 | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14                                                                                  |                      | E500M16NO8 |
| 18 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 15.5                                                                                |                      | E500M18NO1 |
| 18 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 15.5                                                                                |                      | E500M18NO2 |
| 18 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 15.5                                                                                |                      | E500M18NO3 |
| 18 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 15.5                                                                                |                      | E500M18NO6 |
| 18 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 15.5                                                                                |                      | E500M18NO7 |
| 18 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 15.5                                                                                |                      | E500M18NO8 |
| 20 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E500M20NO1 |
| 20 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E500M20NO2 |
| 20 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E500M20NO3 |
| 20 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E500M20NO6 |
| 20 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E500M20NO7 |
| 20 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E500M20NO8 |
| 22 | 2.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E500M22NO1 |
| 22 | 2.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E500M22NO2 |
| 22 | 2.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E500M22NO3 |
| 22 | 2.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E500M22NO6 |
| 22 | 2.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E500M22NO8 |
| 24 | 3.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 21                                                                                  |                      | E500M24NO1 |
| 24 | 3.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 21                                                                                  |                      | E500M24NO2 |
| 24 | 3.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 21                                                                                  |                      | E500M24NO3 |
| 24 | 3.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 21                                                                                  |                      | E500M24NO6 |
| 24 | 3.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 21                                                                                  |                      | E500M24NO7 |
| 24 | 3.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 21                                                                                  |                      | E500M24NO8 |
| 27 | 3.00    | 135                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 24                                                                                  |                      | E500M27NO1 |
| 27 | 3.00    | 135                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 24                                                                                  |                      | E500M27NO2 |
| 27 | 3.00    | 135                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 24                                                                                  |                      | E500M27NO3 |
| 30 | 3.50    | 138                  | 41                   | 20.00                     | 16.00   | 20                   | 4 | 26.5                                                                                |                      | E500M30NO1 |
| 30 | 3.50    | 138                  | 41                   | 20.00                     | 16.00   | 20                   | 4 | 26.5                                                                                |                      | E500M30NO2 |
| 30 | 3.50    | 138                  | 41                   | 20.00                     | 16.00   | 20                   | 4 | 26.5                                                                                |                      | E500M30NO3 |
| 33 | 3.50    | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 29.5                                                                                |                      | E500M33NO1 |
| 33 | 3.50    | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 29.5                                                                                |                      | E500M33NO2 |
| 33 | 3.50    | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 29.5                                                                                |                      | E500M33NO3 |
| 36 | 4.00    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 32                                                                                  |                      | E500M36NO1 |
| 36 | 4.00    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 32                                                                                  |                      | E500M36NO2 |
| 36 | 4.00    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 32                                                                                  |                      | E500M36NO3 |
| 39 | 4.00    | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 35                                                                                  |                      | E500M39NO1 |
| 39 | 4.00    | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 35                                                                                  |                      | E500M39NO2 |
| 39 | 4.00    | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 35                                                                                  |                      | E500M39NO3 |
| 42 | 4.50    | 170                  | 53                   | 28.00                     | 22.40   | 26                   | 6 | 37.5                                                                                |                      | E500M42NO1 |
| 42 | 4.50    | 170                  | 53                   | 28.00                     | 22.40   | 26                   | 6 | 37.5                                                                                |                      | E500M42NO2 |
| 42 | 4.50    | 170                  | 53                   | 28.00                     | 22.40   | 26                   | 6 | 37.5                                                                                |                      | E500M42NO3 |
| 45 | 4.50    | 187                  | 54                   | 31.50                     | 25.00   | 28                   | 6 | 40.5                                                                                |                      | E500M45NO1 |
| 45 | 4.50    | 187                  | 54                   | 31.50                     | 25.00   | 28                   | 6 | 40.5                                                                                |                      | E500M45NO2 |
| 45 | 4.50    | 187                  | 54                   | 31.50                     | 25.00   | 28                   | 6 | 40.5                                                                                |                      | E500M45NO3 |
| 48 | 5.00    | 187                  | 60                   | 31.50                     | 25.00   | 28                   | 6 | 43                                                                                  |                      | E500M48NO1 |
| 48 | 5.00    | 187                  | 60                   | 31.50                     | 25.00   | 28                   | 6 | 43                                                                                  |                      | E500M48NO2 |
| 48 | 5.00    | 187                  | 60                   | 31.50                     | 25.00   | 28                   | 6 | 43                                                                                  |                      | E500M48NO3 |
| 52 | 5.00    | 200                  | 60                   | 35.50                     | 28.00   | 31                   | 6 | 47                                                                                  |                      | E500M52NO1 |
| 52 | 5.00    | 200                  | 60                   | 35.50                     | 28.00   | 31                   | 6 | 47                                                                                  |                      | E500M52NO2 |
| 52 | 5.00    | 200                  | 60                   | 35.50                     | 28.00   | 31                   | 6 | 47                                                                                  |                      | E500M52NO3 |
| 56 | 5.50    | 200                  | 60                   | 35.50                     | 28.00   | 31                   | 6 | 50.5                                                                                |                      | E500M56NO3 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



E504



- 3.1 3.2 3.3
- 1.1 1.2 1.3 1.4 1.5 3.4 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| M  | P    | $l_1$ | $l_2$ | $d_2$ | $a$   | $l_3$ | z | $l_4$ | e-Code     |
|----|------|-------|-------|-------|-------|-------|---|-------|------------|
|    | mm   | mm    | mm    | mm    | mm    | mm    |   | mm    |            |
| 3  | 0.50 | 48    | 12.5  | 3.14  | 2.50  | 5     | 3 | 12.5  | E504M3NO2  |
| 3  | 0.50 | 48    | 12.5  | 3.14  | 2.50  | 5     | 3 | 12.5  | E504M3NO3  |
| 4  | 0.70 | 53    | 14    | 4.00  | 3.15  | 6     | 3 | 14    | E504M4NO2  |
| 4  | 0.70 | 53    | 14    | 4.00  | 3.15  | 6     | 3 | 14    | E504M4NO3  |
| 5  | 0.80 | 58    | 11    | 5.00  | 4.00  | 7     | 3 | 22    | E504M5NO2  |
| 5  | 0.80 | 58    | 11    | 5.00  | 4.00  | 7     | 3 | 22    | E504M5NO3  |
| 6  | 1.00 | 66    | 13    | 6.30  | 5.00  | 8     | 3 | 26    | E504M6NO2  |
| 6  | 1.00 | 66    | 13    | 6.30  | 5.00  | 8     | 3 | 26    | E504M6NO3  |
| 8  | 1.25 | 72    | 16    | 8.00  | 6.30  | 9     | 3 | 29    | E504M8NO2  |
| 8  | 1.25 | 72    | 16    | 8.00  | 6.30  | 9     | 3 | 29    | E504M8NO3  |
| 10 | 1.50 | 80    | 18    | 10.00 | 8.00  | 11    | 3 | 34    | E504M10NO2 |
| 10 | 1.50 | 80    | 18    | 10.00 | 8.00  | 11    | 3 | 34    | E504M10NO3 |
| 12 | 1.75 | 89    | 22    | 9.00  | 7.10  | 10    | 3 | 10.3  | E504M12NO2 |
| 12 | 1.75 | 89    | 22    | 9.00  | 7.10  | 10    | 3 | 10.3  | E504M12NO3 |
| 16 | 2.00 | 102   | 24    | 12.50 | 10.00 | 13    | 4 | 14    | E504M16NO2 |
| 16 | 2.00 | 102   | 24    | 12.50 | 10.00 | 13    | 4 | 14    | E504M16NO3 |
| 20 | 2.50 | 112   | 29    | 14.00 | 11.20 | 14    | 4 | 17.5  | E504M20NO2 |
| 20 | 2.50 | 112   | 29    | 14.00 | 11.20 | 14    | 4 | 17.5  | E504M20NO3 |
| 24 | 3.00 | 130   | 35    | 18.00 | 14.00 | 18    | 4 | 21    | E504M24NO2 |
| 24 | 3.00 | 130   | 35    | 18.00 | 14.00 | 18    | 4 | 21    | E504M24NO3 |





- Závítňíky ruční
- Kézi Menettűró
- Gwintowniki ręczne
- Tarozi de mana
- Ручные метчики
- sveder navojni ročni



## E800



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | a<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|-------------|---------|-------------|---|-------------|------------|
| 3  | 0.50    | 48.0        | 14.5        | 3.15        | 2.50    | 5           | 3 | 2.5         | E800M3NO1  |
| 3  | 0.50    | 48.0        | 14.5        | 3.15        | 2.50    | 5           | 3 | 2.5         | E800M3NO2  |
| 3  | 0.50    | 48.0        | 14.5        | 3.15        | 2.50    | 5           | 3 | 2.5         | E800M3NO3  |
| 3  | 0.50    | 48.0        | 14.5        | 3.15        | 2.50    | 5           | 3 | 2.5         | E800M3NO4  |
| 3  | 0.50    | 48.0        | 14.5        | 3.15        | 2.50    | 5           | 3 | 2.5         | E800M3NO5  |
| 3  | 0.50    | 48.0        | 14.5        | 3.15        | 2.50    | 5           | 3 | 2.5         | E800M3NO6  |
| 3  | 0.50    | 48.0        | 14.5        | 3.15        | 2.50    | 5           | 3 | 2.5         | E800M3NO8  |
| 4  | 0.70    | 53.0        | 17.0        | 4.00        | 3.15    | 6           | 3 | 3.3         | E800M4NO1  |
| 4  | 0.70    | 53.0        | 17.0        | 4.00        | 3.15    | 6           | 3 | 3.3         | E800M4NO2  |
| 4  | 0.70    | 53.0        | 17.0        | 4.00        | 3.15    | 6           | 3 | 3.3         | E800M4NO3  |
| 4  | 0.70    | 53.0        | 17.0        | 4.00        | 3.15    | 6           | 3 | 3.3         | E800M4NO4  |
| 4  | 0.70    | 53.0        | 17.0        | 4.00        | 3.15    | 6           | 3 | 3.3         | E800M4NO5  |
| 4  | 0.70    | 53.0        | 17.0        | 4.00        | 3.15    | 6           | 3 | 3.3         | E800M4NO6  |
| 4  | 0.70    | 53.0        | 17.0        | 4.00        | 3.15    | 6           | 3 | 3.3         | E800M4NO8  |
| 5  | 0.80    | 58.0        | 20.5        | 5.00        | 4.00    | 7           | 3 | 4.2         | E800M5NO1  |
| 5  | 0.80    | 58.0        | 20.5        | 5.00        | 4.00    | 7           | 3 | 4.2         | E800M5NO2  |
| 5  | 0.80    | 58.0        | 20.5        | 5.00        | 4.00    | 7           | 3 | 4.2         | E800M5NO3  |
| 5  | 0.80    | 58.0        | 20.5        | 5.00        | 4.00    | 7           | 3 | 4.2         | E800M5NO4  |
| 5  | 0.80    | 58.0        | 20.5        | 5.00        | 4.00    | 7           | 3 | 4.2         | E800M5NO5  |
| 5  | 0.80    | 58.0        | 20.5        | 5.00        | 4.00    | 7           | 3 | 4.2         | E800M5NO6  |
| 5  | 0.80    | 58.0        | 20.5        | 5.00        | 4.00    | 7           | 3 | 4.2         | E800M5NO8  |
| 6  | 1.00    | 66.0        | 24.5        | 6.30        | 5.00    | 8           | 3 | 5           | E800M6NO1  |
| 6  | 1.00    | 66.0        | 24.5        | 6.30        | 5.00    | 8           | 3 | 5           | E800M6NO2  |
| 6  | 1.00    | 66.0        | 24.5        | 6.30        | 5.00    | 8           | 3 | 5           | E800M6NO3  |
| 6  | 1.00    | 66.0        | 24.5        | 6.30        | 5.00    | 8           | 3 | 5           | E800M6NO4  |
| 6  | 1.00    | 66.0        | 24.5        | 6.30        | 5.00    | 8           | 3 | 5           | E800M6NO5  |
| 6  | 1.00    | 66.0        | 24.5        | 6.30        | 5.00    | 8           | 3 | 5           | E800M6NO6  |
| 6  | 1.00    | 66.0        | 24.5        | 6.30        | 5.00    | 8           | 3 | 5           | E800M6NO8  |
| 8  | 1.25    | 72.0        | 22.0        | 8.00        | 6.30    | 8           | 4 | 6.8         | E800M8NO1  |
| 8  | 1.25    | 72.0        | 22.0        | 8.00        | 6.30    | 8           | 4 | 6.8         | E800M8NO2  |
| 8  | 1.25    | 72.0        | 22.0        | 8.00        | 6.30    | 8           | 4 | 6.8         | E800M8NO3  |
| 8  | 1.25    | 72.0        | 22.0        | 8.00        | 6.30    | 8           | 4 | 6.8         | E800M8NO4  |
| 8  | 1.25    | 72.0        | 22.0        | 8.00        | 6.30    | 8           | 4 | 6.8         | E800M8NO5  |
| 8  | 1.25    | 72.0        | 22.0        | 8.00        | 6.30    | 8           | 4 | 6.8         | E800M8NO6  |
| 8  | 1.25    | 72.0        | 22.0        | 8.00        | 6.30    | 8           | 4 | 6.8         | E800M8NO8  |
| 10 | 1.50    | 80.0        | 24.0        | 8.00        | 6.30    | 9           | 4 | 8.5         | E800M10NO1 |
| 10 | 1.50    | 80.0        | 24.0        | 8.00        | 6.30    | 9           | 4 | 8.5         | E800M10NO2 |
| 10 | 1.50    | 80.0        | 24.0        | 8.00        | 6.30    | 9           | 4 | 8.5         | E800M10NO3 |
| 10 | 1.50    | 80.0        | 24.0        | 8.00        | 6.30    | 9           | 4 | 8.5         | E800M10NO4 |
| 10 | 1.50    | 80.0        | 24.0        | 8.00        | 6.30    | 9           | 4 | 8.5         | E800M10NO5 |
| 10 | 1.50    | 80.0        | 24.0        | 8.00        | 6.30    | 9           | 4 | 8.5         | E800M10NO6 |
| 10 | 1.50    | 80.0        | 24.0        | 8.00        | 6.30    | 9           | 4 | 8.5         | E800M10NO8 |
| 12 | 1.75    | 89.0        | 29.0        | 9.00        | 7.10    | 10          | 4 | 10.3        | E800M12NO1 |
| 12 | 1.75    | 89.0        | 29.0        | 9.00        | 7.10    | 10          | 4 | 10.3        | E800M12NO2 |
| 12 | 1.75    | 89.0        | 29.0        | 9.00        | 7.10    | 10          | 4 | 10.3        | E800M12NO3 |
| 12 | 1.75    | 89.0        | 29.0        | 9.00        | 7.10    | 10          | 4 | 10.3        | E800M12NO4 |



| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |  | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|-------------------------------------------------------------------------------------|-------------|------------|
| 12 | 1.75    | 89.0        | 29.0        | 9.00             | 7.10      | 10          | 4 | 10.3                                                                                |             | E800M12NO5 |
| 12 | 1.75    | 89.0        | 29.0        | 9.00             | 7.10      | 10          | 4 | 10.3                                                                                |             | E800M12NO6 |
| 12 | 1.75    | 89.0        | 29.0        | 9.00             | 7.10      | 10          | 4 | 10.3                                                                                |             | E800M12NO8 |
| 14 | 2.00    | 95.0        | 30.0        | 11.20            | 9.00      | 12          | 4 | 12                                                                                  |             | E800M14NO1 |
| 14 | 2.00    | 95.0        | 30.0        | 11.20            | 9.00      | 12          | 4 | 12                                                                                  |             | E800M14NO2 |
| 14 | 2.00    | 95.0        | 30.0        | 11.20            | 9.00      | 12          | 4 | 12                                                                                  |             | E800M14NO3 |
| 14 | 2.00    | 95.0        | 30.0        | 11.20            | 9.00      | 12          | 4 | 12                                                                                  |             | E800M14NO4 |
| 14 | 2.00    | 95.0        | 30.0        | 11.20            | 9.00      | 12          | 4 | 12                                                                                  |             | E800M14NO5 |
| 14 | 2.00    | 95.0        | 30.0        | 11.20            | 9.00      | 12          | 4 | 12                                                                                  |             | E800M14NO6 |
| 14 | 2.00    | 95.0        | 30.0        | 11.20            | 9.00      | 12          | 4 | 12                                                                                  |             | E800M14NO8 |
| 16 | 2.00    | 102.0       | 32.0        | 12.50            | 10.00     | 13          | 4 | 14                                                                                  |             | E800M16NO1 |
| 16 | 2.00    | 102.0       | 32.0        | 12.50            | 10.00     | 13          | 4 | 14                                                                                  |             | E800M16NO2 |
| 16 | 2.00    | 102.0       | 32.0        | 12.50            | 10.00     | 13          | 4 | 14                                                                                  |             | E800M16NO3 |
| 16 | 2.00    | 102.0       | 32.0        | 12.50            | 10.00     | 13          | 4 | 14                                                                                  |             | E800M16NO4 |
| 16 | 2.00    | 102.0       | 32.0        | 12.50            | 10.00     | 13          | 4 | 14                                                                                  |             | E800M16NO5 |
| 16 | 2.00    | 102.0       | 32.0        | 12.50            | 10.00     | 13          | 4 | 14                                                                                  |             | E800M16NO6 |
| 16 | 2.00    | 102.0       | 32.0        | 12.50            | 10.00     | 13          | 4 | 14                                                                                  |             | E800M16NO8 |
| 18 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 15.5                                                                                |             | E800M18NO1 |
| 18 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 15.5                                                                                |             | E800M18NO2 |
| 18 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 15.5                                                                                |             | E800M18NO3 |
| 18 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 15.5                                                                                |             | E800M18NO4 |
| 18 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 15.5                                                                                |             | E800M18NO5 |
| 18 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 15.5                                                                                |             | E800M18NO6 |
| 18 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 15.5                                                                                |             | E800M18NO8 |
| 20 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 17.5                                                                                |             | E800M20NO1 |
| 20 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 17.5                                                                                |             | E800M20NO2 |
| 20 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 17.5                                                                                |             | E800M20NO3 |
| 20 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 17.5                                                                                |             | E800M20NO4 |
| 20 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 17.5                                                                                |             | E800M20NO5 |
| 20 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 17.5                                                                                |             | E800M20NO6 |
| 20 | 2.50    | 112.0       | 37.0        | 14.00            | 11.20     | 14          | 4 | 17.5                                                                                |             | E800M20NO8 |
| 24 | 3.00    | 130.0       | 45.0        | 18.00            | 14.00     | 18          | 4 | 21                                                                                  |             | E800M24NO1 |
| 24 | 3.00    | 130.0       | 45.0        | 18.00            | 14.00     | 18          | 4 | 21                                                                                  |             | E800M24NO2 |
| 24 | 3.00    | 130.0       | 45.0        | 18.00            | 14.00     | 18          | 4 | 21                                                                                  |             | E800M24NO3 |
| 24 | 3.00    | 130.0       | 45.0        | 18.00            | 14.00     | 18          | 4 | 21                                                                                  |             | E800M24NO4 |
| 24 | 3.00    | 130.0       | 45.0        | 18.00            | 14.00     | 18          | 4 | 21                                                                                  |             | E800M24NO5 |
| 24 | 3.00    | 130.0       | 45.0        | 18.00            | 14.00     | 18          | 4 | 21                                                                                  |             | E800M24NO6 |
| 24 | 3.00    | 130.0       | 45.0        | 18.00            | 14.00     | 18          | 4 | 21                                                                                  |             | E800M24NO8 |



- Strojní závitníky
- Gépi Menetfűrés
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E501

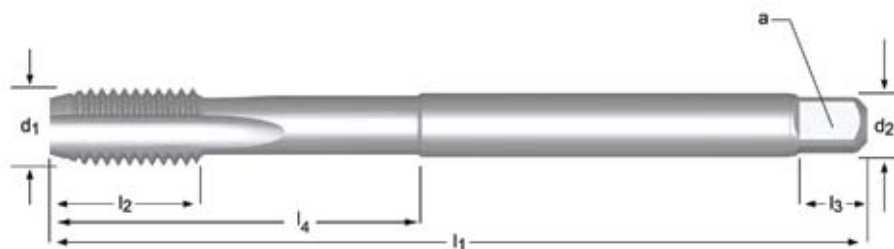


• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | a<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|------------------|---------|-------------|---|-------------|------------|
| 3  | 0.50    | 48          | 12.5        | 3.15             | 2.50    | 5           | 3 | 12.5        | E501M3NO1  |
| 3  | 0.50    | 48          | 12.5        | 3.15             | 2.50    | 5           | 3 | 12.5        | E501M3NO2  |
| 3  | 0.50    | 48          | 12.5        | 3.15             | 2.50    | 5           | 3 | 12.5        | E501M3NO3  |
| 4  | 0.70    | 53          | 14          | 4.00             | 3.15    | 6           | 3 | 14          | E501M4NO1  |
| 4  | 0.70    | 53          | 14          | 4.00             | 3.15    | 6           | 3 | 14          | E501M4NO2  |
| 4  | 0.70    | 53          | 14          | 4.00             | 3.15    | 6           | 3 | 14          | E501M4NO3  |
| 5  | 0.80    | 58          | 11          | 5.00             | 4.00    | 7           | 3 | 22          | E501M5NO1  |
| 5  | 0.80    | 58          | 11          | 5.00             | 4.00    | 7           | 3 | 22          | E501M5NO2  |
| 5  | 0.80    | 58          | 11          | 5.00             | 4.00    | 7           | 3 | 22          | E501M5NO3  |
| 6  | 1.00    | 66          | 13          | 6.30             | 5.00    | 8           | 3 | 26          | E501M6NO1  |
| 6  | 1.00    | 66          | 13          | 6.30             | 5.00    | 8           | 3 | 26          | E501M6NO2  |
| 6  | 1.00    | 66          | 13          | 6.30             | 5.00    | 8           | 3 | 26          | E501M6NO3  |
| 8  | 1.25    | 72          | 16          | 8.00             | 6.30    | 9           | 3 | 29          | E501M8NO1  |
| 8  | 1.25    | 72          | 16          | 8.00             | 6.30    | 9           | 3 | 29          | E501M8NO2  |
| 8  | 1.25    | 72          | 16          | 8.00             | 6.30    | 9           | 3 | 29          | E501M8NO3  |
| 10 | 1.50    | 80          | 18          | 10.00            | 8.00    | 11          | 3 | 34          | E501M10NO1 |
| 10 | 1.50    | 80          | 18          | 10.00            | 8.00    | 11          | 3 | 34          | E501M10NO2 |
| 10 | 1.50    | 80          | 18          | 10.00            | 8.00    | 11          | 3 | 34          | E501M10NO3 |
| 12 | 1.75    | 89          | 22          | 9.00             | 7.10    | 10          | 3 | 34          | E501M12NO1 |
| 12 | 1.75    | 89          | 22          | 9.00             | 7.10    | 10          | 3 | 34          | E501M12NO2 |
| 12 | 1.75    | 89          | 22          | 9.00             | 7.10    | 10          | 3 | 34          | E501M12NO3 |
| 14 | 2.00    | 95          | 24          | 11.20            | 9.00    | 12          | 4 | 34          | E501M14NO1 |
| 14 | 2.00    | 95          | 24          | 11.20            | 9.00    | 12          | 4 | 34          | E501M14NO2 |
| 14 | 2.00    | 95          | 24          | 11.20            | 9.00    | 12          | 4 | 34          | E501M14NO3 |
| 16 | 2.00    | 102         | 24          | 12.50            | 10.00   | 13          | 4 | 34          | E501M16NO1 |
| 16 | 2.00    | 102         | 24          | 12.50            | 10.00   | 13          | 4 | 34          | E501M16NO2 |
| 16 | 2.00    | 102         | 24          | 12.50            | 10.00   | 13          | 4 | 34          | E501M16NO3 |
| 18 | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 4 | 34          | E501M18NO2 |
| 18 | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 4 | 34          | E501M18NO3 |
| 20 | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 4 | 34          | E501M20NO1 |
| 20 | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 4 | 34          | E501M20NO2 |
| 20 | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 4 | 34          | E501M20NO3 |
| 22 | 2.50    | 118         | 29          | 16.00            | 12.50   | 16          | 4 | 34          | E501M22NO2 |
| 22 | 2.50    | 118         | 29          | 16.00            | 12.50   | 16          | 4 | 34          | E501M22NO3 |
| 24 | 3.00    | 130         | 35          | 18.00            | 14.00   | 18          | 4 | 34          | E501M24NO2 |
| 24 | 3.00    | 130         | 35          | 18.00            | 14.00   | 18          | 4 | 34          | E501M24NO3 |



- Strojní závitník, extra dlouhý
- Gépi menetfűrő, extra hosszú
- Gwintownik maszynowy, Bardzo długi
- Tarozi de masina extralungi
- Машинный метчик, сверхдлинный
- Strojni navojni sveder, ekstra dolgi



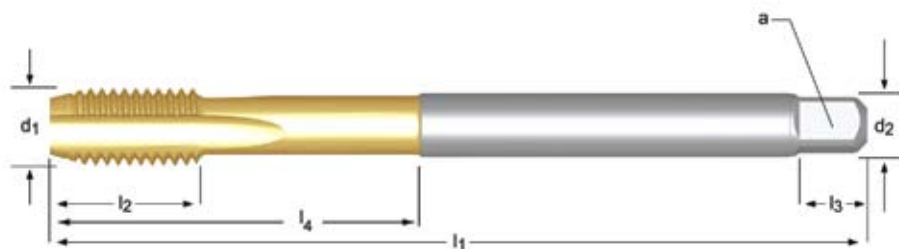
## E600



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | $a$<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code     |
|----|---------|-------------|-------------|-------------|-----------|-------------|---|------|-------------|------------|
| 3  | 0.50    | 66          | 9           | 3.15        | 2.50      | 5           | 3 | 2.5  | 18          | E600M3NO1  |
| 3  | 0.50    | 66          | 9           | 3.15        | 2.50      | 5           | 3 | 2.5  | 18          | E600M3NO2  |
| 3  | 0.50    | 66          | 9           | 3.15        | 2.50      | 5           | 3 | 2.5  | 18          | E600M3NO3  |
| 4  | 0.70    | 73          | 12          | 3.15        | 2.50      | 5           | 3 | 3.3  |             | E600M4NO1  |
| 4  | 0.70    | 73          | 12          | 3.15        | 2.50      | 5           | 3 | 3.3  |             | E600M4NO2  |
| 4  | 0.70    | 73          | 12          | 3.15        | 2.50      | 5           | 3 | 3.3  |             | E600M4NO3  |
| 5  | 0.80    | 79          | 12          | 4.00        | 3.15      | 6           | 3 | 4.2  |             | E600M5NO1  |
| 5  | 0.80    | 79          | 12          | 4.00        | 3.15      | 6           | 3 | 4.2  |             | E600M5NO2  |
| 5  | 0.80    | 79          | 12          | 4.00        | 3.15      | 6           | 3 | 4.2  |             | E600M5NO3  |
| 6  | 1.00    | 89          | 14          | 4.50        | 3.55      | 6           | 3 | 5    |             | E600M6NO1  |
| 6  | 1.00    | 89          | 14          | 4.50        | 3.55      | 6           | 3 | 5    |             | E600M6NO2  |
| 6  | 1.00    | 89          | 14          | 4.50        | 3.55      | 6           | 3 | 5    |             | E600M6NO3  |
| 8  | 1.25    | 97          | 17          | 6.30        | 5.00      | 8           | 3 | 6.8  |             | E600M8NO1  |
| 8  | 1.25    | 97          | 17          | 6.30        | 5.00      | 8           | 3 | 6.8  |             | E600M8NO2  |
| 8  | 1.25    | 97          | 17          | 6.30        | 5.00      | 8           | 3 | 6.8  |             | E600M8NO3  |
| 10 | 1.50    | 108         | 19          | 8.00        | 6.30      | 9           | 3 | 8.5  |             | E600M10NO1 |
| 10 | 1.50    | 108         | 19          | 8.00        | 6.30      | 9           | 3 | 8.5  |             | E600M10NO2 |
| 10 | 1.50    | 108         | 19          | 8.00        | 6.30      | 9           | 3 | 8.5  |             | E600M10NO3 |
| 12 | 1.75    | 119         | 23          | 9.00        | 7.10      | 10          | 3 | 10.3 |             | E600M12NO1 |
| 12 | 1.75    | 119         | 23          | 9.00        | 7.10      | 10          | 3 | 10.3 |             | E600M12NO2 |
| 12 | 1.75    | 119         | 23          | 9.00        | 7.10      | 10          | 3 | 10.3 |             | E600M12NO3 |
| 14 | 2.00    | 127         | 25          | 11.2        | 9.00      | 12          | 4 | 12   |             | E600M14NO1 |
| 14 | 2.00    | 127         | 25          | 11.2        | 9.00      | 12          | 4 | 12   |             | E600M14NO2 |
| 14 | 2.00    | 127         | 25          | 11.2        | 9.00      | 12          | 4 | 12   |             | E600M14NO3 |
| 16 | 2.00    | 137         | 25          | 12.5        | 10.0      | 13          | 4 | 14   |             | E600M16NO1 |
| 16 | 2.00    | 137         | 25          | 12.5        | 10.0      | 13          | 4 | 14   |             | E600M16NO2 |
| 16 | 2.00    | 137         | 25          | 12.5        | 10.0      | 13          | 4 | 14   |             | E600M16NO3 |
| 20 | 2.50    | 149         | 30          | 14.0        | 11.2      | 14          | 4 | 17.5 |             | E600M20NO1 |
| 20 | 2.50    | 149         | 30          | 14.0        | 11.2      | 14          | 4 | 17.5 |             | E600M20NO2 |
| 20 | 2.50    | 149         | 30          | 14.0        | 11.2      | 14          | 4 | 17.5 |             | E600M20NO3 |
| 24 | 3.00    | 172         | 36          | 18.0        | 14.0      | 18          | 4 | 21   |             | E600M24NO1 |
| 24 | 3.00    | 172         | 36          | 18.0        | 14.0      | 18          | 4 | 21   |             | E600M24NO2 |
| 24 | 3.00    | 172         | 36          | 18.0        | 14.0      | 18          | 4 | 21   |             | E600M24NO3 |
| 30 | 3.50    | 183         | 42          | 20.0        | 16.0      | 20          | 4 | 26.5 |             | E600M30NO1 |
| 30 | 3.50    | 183         | 42          | 20.0        | 16.0      | 20          | 4 | 26.5 |             | E600M30NO2 |
| 30 | 3.50    | 183         | 42          | 20.0        | 16.0      | 20          | 4 | 26.5 |             | E600M30NO3 |

- Strojní závitník, extra dlouhý
- Gépi menetfűrő, extra hosszú
- Gwintownik maszynowy, Bardzo długi
- Tarozi de masina extralungi
- Машинный метчик, сверхдлинный
- Strojni navojni sveder, ekstra dolgi



## E610

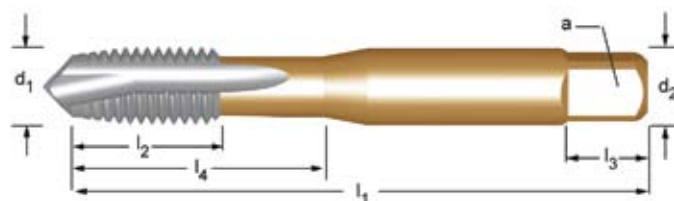


- 3.1 3.2 3.3
- 1.1 1.2 1.3 1.4 1.5 3.4 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| M  | P    | $l_1$ | $l_2$ | $d_2$ | $a$  | $l_3$ | z | $l_4$ | e-Code       |
|----|------|-------|-------|-------|------|-------|---|-------|--------------|
| mm | mm   | mm    | mm    | Ø mm  | mm   | mm    |   | mm    |              |
| 3  | 0.50 | 66    | 9     | 3.15  | 2.50 | 5     | 3 | 2.5   | 18 E610M3NO3 |
| 4  | 0.70 | 73    | 12    | 3.15  | 2.50 | 5     | 3 | 3.3   | E610M4NO3    |
| 5  | 0.80 | 79    | 12    | 4.00  | 3.15 | 6     | 3 | 4.2   | E610M5NO3    |
| 6  | 1.00 | 89    | 14    | 4.50  | 3.55 | 6     | 3 | 5     | E610M6NO3    |
| 8  | 1.25 | 97    | 17    | 6.30  | 5.00 | 8     | 3 | 6.8   | E610M8NO3    |
| 10 | 1.50 | 108   | 19    | 8.00  | 6.30 | 9     | 3 | 8.5   | E610M10NO3   |
| 12 | 1.75 | 119   | 23    | 9.00  | 7.10 | 10    | 3 | 10.3  | E610M12NO3   |
| 14 | 2.00 | 127   | 25    | 11.20 | 9.00 | 12    | 4 | 12    | E610M14NO3   |
| 16 | 2.00 | 137   | 25    | 12.5  | 10.0 | 13    | 4 | 14    | E610M16NO3   |



- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

E000



|   |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 6.1 | 6.3 | 7.1 | 7.2 | 7.3 | 7.4 |
| ● | 1.6 | 3.1 | 3.2 | 3.3 | 3.4 | 4.1 | 4.2 | 5.1 | 5.2 | 6.2 | 8.1 |

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|----------|
| 3   | 0.50    | 48          | 15          | 3.15          | 2.50      | 5           | 3 | 2.5         | E000M3   |
| 3.5 | 0.60    | 50          | 16          | 3.55          | 2.80      | 5           | 3 | 2.9         | E000M3.5 |
| 4   | 0.70    | 53          | 17          | 4.00          | 3.15      | 6           | 3 | 3.3         | E000M4   |
| 5   | 0.80    | 58          | 11          | 5.00          | 4.00      | 7           | 3 | 4.2         | E000M5   |
| 6   | 1.00    | 66          | 13          | 6.30          | 5.00      | 8           | 3 | 5.0         | E000M6   |
| 8   | 1.25    | 72          | 16          | 8.00          | 6.30      | 9           | 3 | 6.8         | E000M8   |
| 10  | 1.50    | 80          | 18          | 10.00         | 8.00      | 11          | 3 | 8.5         | E000M10  |
| 12  | 1.75    | 89          | 22          | 9.00          | 7.10      | 10          | 3 | 10.3        | E000M12  |
| 14  | 2.00    | 95          | 24          | 11.20         | 9.00      | 12          | 3 | 12.0        | E000M14  |
| 16  | 2.00    | 102         | 24          | 12.50         | 10.00     | 13          | 3 | 14.0        | E000M16  |
| 18  | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 | 15.5        | E000M18  |
| 20  | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 | 17.5        | E000M20  |
| 22  | 2.50    | 118         | 29          | 16.00         | 12.50     | 16          | 4 | 19.5        | E000M22  |
| 24  | 3.00    | 130         | 35          | 18.00         | 14.00     | 18          | 4 | 21.0        | E000M24  |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



**MTT-X**

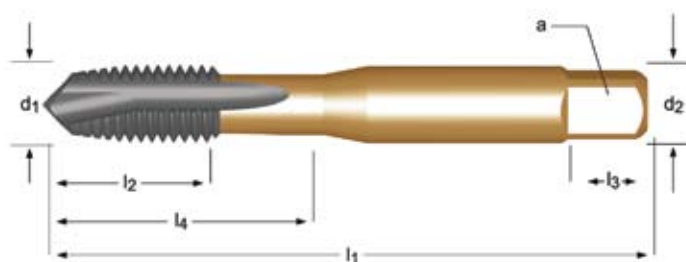
E001



- 1.1 1.2 1.3 1.4 1.5
- 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4

| M   | P    | $l_1$ | $l_2$ | $d_2$ | $a$   | $l_3$ | $z$ | $\leftrightarrow$ | $l_4$ | e-Code   |
|-----|------|-------|-------|-------|-------|-------|-----|-------------------|-------|----------|
| mm  | mm   | mm    | mm    | mm    | mm    | mm    |     |                   | mm    |          |
| 3   | 0.50 | 48    | 15    | 3.15  | 2.50  | 5     | 3   | 2.5               | 12.5  | E001M3   |
| 3.5 | 0.60 | 50    | 16    | 3.55  | 2.80  | 5     | 3   | 2.9               | 14    | E001M3.5 |
| 4   | 0.70 | 53    | 17    | 4.00  | 3.15  | 6     | 3   | 3.3               | 14    | E001M4   |
| 4.5 | 0.75 | 53    | 9.5   | 4.50  | 3.55  | 6     | 3   | 3.8               | 18    | E001M4.5 |
| 5   | 0.80 | 58    | 11    | 5.00  | 4.00  | 7     | 3   | 4.2               | 22    | E001M5   |
| 6   | 1.00 | 66    | 13    | 6.30  | 5.00  | 8     | 3   | 5.0               | 26    | E001M6   |
| 7   | 1.00 | 66    | 13    | 7.10  | 5.60  | 8     | 3   | 6.0               | 26    | E001M7   |
| 8   | 1.25 | 72    | 16    | 8.00  | 6.30  | 9     | 3   | 6.8               | 29    | E001M8   |
| 10  | 1.50 | 80    | 18    | 10.00 | 8.00  | 11    | 3   | 8.5               | 34    | E001M10  |
| 12  | 1.75 | 89    | 22    | 9.00  | 7.10  | 10    | 3   | 10.3              |       | E001M12  |
| 14  | 2.00 | 95    | 24    | 11.20 | 9.00  | 12    | 3   | 12.0              |       | E001M14  |
| 16  | 2.00 | 102   | 24    | 12.50 | 10.00 | 13    | 3   | 14.0              |       | E001M16  |
| 18  | 2.50 | 112   | 29    | 14.00 | 11.20 | 14    | 4   | 15.5              |       | E001M18  |
| 20  | 2.50 | 112   | 29    | 14.00 | 11.20 | 14    | 4   | 17.5              |       | E001M20  |
| 22  | 2.50 | 118   | 29    | 16.00 | 12.50 | 16    | 4   | 19.5              |       | E001M22  |
| 24  | 3.00 | 130   | 35    | 18.00 | 14.00 | 18    | 4   | 21.0              |       | E001M24  |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

E049

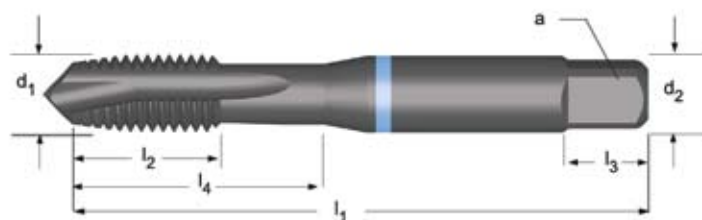


|   |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 6.1 | 6.3 |     |
| ● | 1.6 | 3.1 | 3.2 | 3.3 | 3.4 | 4.2 | 5.2 | 6.2 |

| M  | P    | $l_1$ | $l_2$ | $d_2$ | $\square$ | $l_3$ | $z$ | $\leftrightarrow$ | $l_4$ | e-Code  |
|----|------|-------|-------|-------|-----------|-------|-----|-------------------|-------|---------|
| mm | mm   | mm    | mm    | mm    | mm        | mm    |     |                   | mm    |         |
| 3  | 0.50 | 48    | 12.5  | 3.15  | 2.50      | 5     | 3   | 2.5               | 12.5  | E049M3  |
| 4  | 0.70 | 53    | 14    | 4.00  | 3.15      | 6     | 3   | 3.3               | 14    | E049M4  |
| 5  | 0.80 | 58    | 11    | 5.00  | 4.00      | 7     | 3   | 4.2               | 22    | E049M5  |
| 6  | 1.00 | 66    | 13    | 6.30  | 5.00      | 8     | 3   | 5.0               | 26    | E049M6  |
| 8  | 1.25 | 72    | 16    | 8.00  | 6.30      | 9     | 3   | 6.8               | 29    | E049M8  |
| 10 | 1.50 | 80    | 18    | 10.00 | 8.00      | 11    | 3   | 8.5               | 34    | E049M10 |
| 12 | 1.75 | 89    | 22    | 9.00  | 7.10      | 10    | 3   | 10.3              |       | E049M12 |
| 16 | 2.00 | 102   | 24    | 12.50 | 10.00     | 13    | 3   | 14.0              |       | E049M16 |
| 20 | 2.50 | 112   | 29    | 14.00 | 11.20     | 14    | 4   | 17.5              |       | E049M20 |

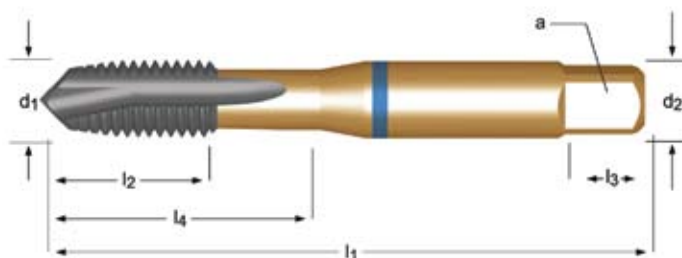


- Strojní závitníky MTT-X
- Gépi Menetfűrés MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X


**MTT-X**
**E045**


- 2.1 2.2 2.3 2.4
- 1.5 1.6

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|---------|
| 3  | 0.50    | 48                   | 15                   | 3.15                      | 2.50    | 5                    | 3 | 2.5  | 12.5                 | E045M3  |
| 4  | 0.70    | 53                   | 17                   | 4.00                      | 3.15    | 6                    | 3 | 3.3  | 14                   | E045M4  |
| 5  | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2  | 22                   | E045M5  |
| 6  | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5    | 26                   | E045M6  |
| 8  | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8  | 29                   | E045M8  |
| 10 | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5  | 34                   | E045M10 |
| 12 | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 4 | 10.3 |                      | E045M12 |
| 16 | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14   |                      | E045M16 |
| 20 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5 |                      | E045M20 |


**MTT-X**
**E046**


- 2.1 2.2 2.3 2.4 4.1
- 1.5 1.6 5.1 5.2

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code  |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|---------|
| 3  | 0.50    | 48                   | 15                   | 3.15                      | 2.50    | 5                    | 3 | 2.5  | 12.5                 | E046M3  |
| 4  | 0.70    | 53                   | 17                   | 4.00                      | 3.15    | 6                    | 3 | 3.3  | 14                   | E046M4  |
| 5  | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2  | 22                   | E046M5  |
| 6  | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5    | 26                   | E046M6  |
| 8  | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8  | 29                   | E046M8  |
| 10 | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5  | 34                   | E046M10 |
| 12 | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 4 | 10.3 |                      | E046M12 |
| 16 | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14   |                      | E046M16 |
| 20 | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5 |                      | E046M20 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E509



• 1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 4.3 5.1 5.2 6.1 6.3 7.1 7.2 7.3 7.4 8.1

| M   | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code         |
|-----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|----------------|
| 1.6 | 0.35    | 41                   | 7                    | 2.50                      | 2.00    | 4                    | 3 | 1.25 | 7                    | E509M1.6       |
| 1.6 | 0.35    | 41                   | 7                    | 2.50                      | 2.00    | 4                    | 3 | 1.25 | 7                    | E509M1.6BRIGHT |
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.6  | 8                    | E509M2         |
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 3 | 1.6  | 8                    | E509M2BRIGHT   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.05 | 9.5                  | E509M2.5       |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.05 | 9.5                  | E509M2.5BRIGHT |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.5  | 12.5                 | E509M3         |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.5  | 12.5                 | E509M3BRIGHT   |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.9  | 14                   | E509M3.5       |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.9  | 14                   | E509M3.5BRIGHT |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.3  | 14                   | E509M4         |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.3  | 14                   | E509M4BRIGHT   |
| 4.5 | 0.75    | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.8  | 18                   | E509M4.5       |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2  | 22                   | E509M5         |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2  | 22                   | E509M5BRIGHT   |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5    | 26                   | E509M6         |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5    | 26                   | E509M6BRIGHT   |
| 7   | 1.00    | 66                   | 13                   | 7.10                      | 5.60    | 8                    | 3 | 6    | 26                   | E509M7         |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8  | 29                   | E509M8         |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.8  | 29                   | E509M8BRIGHT   |
| 10  | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5  | 34                   | E509M10        |
| 10  | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5  | 34                   | E509M10BRIGHT  |
| 12  | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.3 |                      | E509M12        |
| 12  | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.3 |                      | E509M12BRIGHT  |
| 14  | 2.00    | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 3 | 12   |                      | E509M14        |
| 14  | 2.00    | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 3 | 12   |                      | E509M14BRIGHT  |
| 16  | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 3 | 14   |                      | E509M16        |
| 16  | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 3 | 14   |                      | E509M16BRIGHT  |
| 18  | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 15.5 |                      | E509M18        |
| 18  | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 15.5 |                      | E509M18BRIGHT  |
| 20  | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5 |                      | E509M20        |
| 20  | 2.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5 |                      | E509M20BRIGHT  |
| 22  | 2.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5 |                      | E509M22        |
| 22  | 2.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5 |                      | E509M22BRIGHT  |
| 24  | 3.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 21   |                      | E509M24        |
| 24  | 3.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 21   |                      | E509M24BRIGHT  |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E510



• 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | a<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|------------------|---------|-------------|---|------|-------------|----------|
| 3   | 0.50    | 48          | 12.5        | 3.15             | 2.50    | 5           | 2 | 2.5  | 12.5        | E510M3   |
| 3.5 | 0.60    | 50          | 14          | 3.55             | 2.80    | 5           | 2 | 2.9  | 14          | E510M3.5 |
| 4   | 0.70    | 53          | 14          | 4.00             | 3.15    | 6           | 2 | 3.3  | 14          | E510M4   |
| 5   | 0.80    | 58          | 11          | 5.00             | 4.00    | 7           | 2 | 4.2  | 22          | E510M5   |
| 6   | 1.00    | 66          | 13          | 6.30             | 5.00    | 8           | 3 | 5    | 26          | E510M6   |
| 8   | 1.25    | 72          | 16          | 8.00             | 6.30    | 9           | 3 | 6.8  | 29          | E510M8   |
| 10  | 1.50    | 80          | 18          | 10.00            | 8.00    | 11          | 3 | 8.5  | 34          | E510M10  |
| 12  | 1.75    | 89          | 22          | 9.00             | 7.10    | 10          | 3 | 10.3 |             | E510M12  |

- Strojní závitník, extra dlouhý
- Gépi menetfűró, extra hosszú
- Gwintownik maszynowy, Bardzo długi
- Tarozi de masina extralungi
- Машинный метчик, сверхдлинный
- Strojni navojni sveder, ekstra dolgi



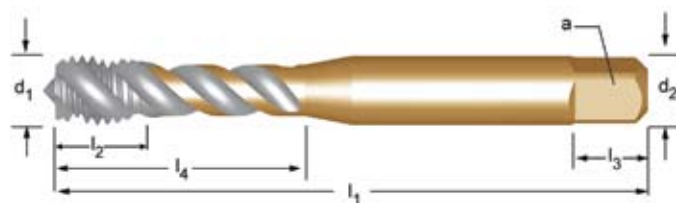
## E606



• 1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 4.3 5.1 5.2 6.1 6.3 7.1 7.2 7.3 7.4 8.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|------|-------------|---------|
| 3  | 0.50    | 66          | 9           | 3.15             | 2.50      | 5           | 3 | 2.5  | 18          | E606M3  |
| 4  | 0.70    | 73          | 12          | 3.15             | 2.50      | 5           | 3 | 3.3  |             | E606M4  |
| 5  | 0.80    | 79          | 12          | 4.00             | 3.15      | 6           | 3 | 4.2  |             | E606M5  |
| 6  | 1.00    | 89          | 14          | 4.50             | 3.55      | 6           | 3 | 5    |             | E606M6  |
| 8  | 1.25    | 97          | 17          | 6.30             | 5.00      | 8           | 3 | 6.8  |             | E606M8  |
| 10 | 1.50    | 108         | 19          | 8.00             | 6.30      | 9           | 3 | 8.5  |             | E606M10 |
| 12 | 1.75    | 119         | 23          | 9.00             | 7.10      | 10          | 3 | 10.3 |             | E606M12 |
| 14 | 2.00    | 127         | 25          | 11.20            | 9.00      | 12          | 3 | 12   |             | E606M14 |
| 16 | 2.00    | 137         | 25          | 12.50            | 10.00     | 13          | 3 | 14   |             | E606M16 |
| 20 | 2.50    | 149         | 30          | 14.00            | 11.20     | 14          | 4 | 17.5 |             | E606M20 |
| 24 | 3.00    | 172         | 36          | 18.00            | 14.00     | 18          | 4 | 21   |             | E606M24 |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojní navojní sveder MTT-X



MTT-X

E002



- 1.1 1.2 1.3 1.4 1.5 7.1 7.2 7.3 7.4
- 4.1 4.2 5.1 5.2

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|---------------|-----------|-------------|---|------|-------------|----------|
| 3   | 0.50    | 48          | 6           | 3.15          | 2.50      | 5           | 3 | 2.5  | 12.5        | E002M3   |
| 3.5 | 0.60    | 50          | 16          | 3.55          | 2.80      | 5           | 3 | 2.9  | 14          | E002M3.5 |
| 4   | 0.70    | 53          | 7           | 4.00          | 3.15      | 6           | 3 | 3.3  | 19          | E002M4   |
| 5   | 0.80    | 58          | 8           | 5.00          | 4.00      | 7           | 3 | 4.2  | 22          | E002M5   |
| 6   | 1.00    | 66          | 10          | 6.30          | 5.00      | 8           | 3 | 5.0  | 27          | E002M6   |
| 7   | 1.00    | 66          | 13          | 6.30          | 5.00      | 8           | 3 | 6.0  | 26          | E002M7   |
| 8   | 1.25    | 72          | 12          | 8.00          | 6.30      | 9           | 3 | 6.8  | 31          | E002M8   |
| 10  | 1.50    | 80          | 15          | 10.00         | 8.00      | 11          | 3 | 8.5  | 35          | E002M10  |
| 12  | 1.75    | 89          | 16          | 9.00          | 7.10      | 10          | 3 | 10.3 |             | E002M12  |
| 14  | 2.00    | 95          | 18          | 11.20         | 9.00      | 12          | 3 | 12.0 |             | E002M14  |
| 16  | 2.00    | 102         | 18          | 12.50         | 10.00     | 13          | 4 | 14.0 |             | E002M16  |
| 18  | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 | 15.5 |             | E002M18  |
| 20  | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 | 17.5 |             | E002M20  |
| 22  | 2.50    | 118         | 29          | 16.00         | 12.50     | 16          | 4 | 19.5 |             | E002M22  |
| 24  | 3.00    | 130         | 35          | 18.00         | 14.00     | 18          | 4 | 21.0 |             | E002M24  |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojní navojni sveder MTT-X



MTT-X

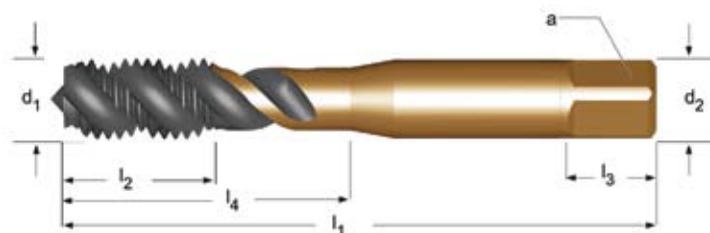
## E003



- 1.1 1.2 1.3 1.4 1.5
- 2.1 2.2 2.3

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code   |
|-----|---------|-------------|-------------|---------------|-----------|-------------|---|------|-------------|----------|
| 3   | 0.50    | 48          | 6           | 3.15          | 2.50      | 5           | 3 | 2.5  | 12.5        | E003M3   |
| 3.5 | 0.60    | 50          | 16          | 3.55          | 2.80      | 5           | 3 | 2.9  | 14          | E003M3.5 |
| 4   | 0.70    | 53          | 7           | 4.00          | 3.15      | 6           | 3 | 3.3  | 19          | E003M4   |
| 5   | 0.80    | 58          | 8           | 5.00          | 4.00      | 7           | 3 | 4.2  | 22          | E003M5   |
| 6   | 1.00    | 66          | 10          | 6.30          | 5.00      | 8           | 3 | 5.0  | 27          | E003M6   |
| 7   | 1.00    | 66          | 13          | 6.30          | 5.00      | 8           | 3 | 6.0  | 26          | E003M7   |
| 8   | 1.25    | 72          | 12          | 8.00          | 6.30      | 9           | 3 | 6.8  | 31          | E003M8   |
| 10  | 1.50    | 80          | 15          | 10.00         | 8.00      | 11          | 3 | 8.5  | 35          | E003M10  |
| 12  | 1.75    | 89          | 16          | 9.00          | 7.10      | 10          | 3 | 10.3 |             | E003M12  |
| 14  | 2.00    | 95          | 18          | 11.20         | 9.00      | 12          | 3 | 12.0 |             | E003M14  |
| 16  | 2.00    | 102         | 18          | 12.50         | 10.00     | 13          | 4 | 14.0 |             | E003M16  |
| 18  | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 | 15.5 |             | E003M18  |
| 20  | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 | 17.5 |             | E003M20  |
| 22  | 2.50    | 118         | 29          | 16.00         | 12.50     | 16          | 4 | 19.5 |             | E003M22  |
| 24  | 3.00    | 130         | 35          | 18.00         | 14.00     | 18          | 4 | 21.0 |             | E003M24  |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojní navojní sveder MTT-X



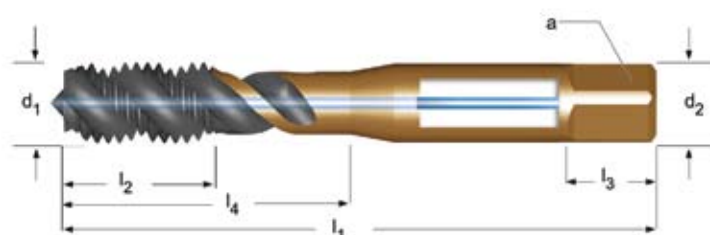
MTT-X

## E050



- 1.1 1.2 1.3 1.4 1.5 6.1 6.3
- 1.6 4.2 5.2 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 48          | 6           | 3.15          | 2.50      | 5           | 3 | 12.5        | E050M3  |
| 4  | 0.70    | 53          | 7           | 4.00          | 3.15      | 6           | 3 | 19          | E050M4  |
| 5  | 0.80    | 58          | 8           | 5.00          | 4.00      | 7           | 3 | 22          | E050M5  |
| 6  | 1.00    | 66          | 10          | 6.30          | 5.00      | 8           | 3 | 27          | E050M6  |
| 8  | 1.25    | 72          | 12          | 8.00          | 6.30      | 9           | 3 | 31          | E050M8  |
| 10 | 1.50    | 80          | 15          | 10.00         | 8.00      | 11          | 3 | 35          | E050M10 |
| 12 | 1.75    | 89          | 16          | 9.00          | 7.10      | 10          | 3 |             | E050M12 |
| 16 | 2.00    | 102         | 18          | 12.50         | 10.00     | 13          | 4 |             | E050M16 |
| 20 | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 |             | E050M20 |



MTT-X

## E051



- 1.1 1.2 1.3 1.4 1.5 6.1 6.3
- 1.6 4.2 6.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 6  | 1.00    | 66          | 10          | 6.30          | 5.00      | 8           | 3 | 27          | E051M6  |
| 8  | 1.25    | 72          | 12          | 8.00          | 6.30      | 9           | 3 | 31          | E051M8  |
| 10 | 1.50    | 80          | 15          | 10.00         | 8.00      | 11          | 3 | 35          | E051M10 |
| 12 | 1.75    | 89          | 16          | 9.00          | 7.10      | 10          | 3 |             | E051M12 |
| 16 | 2.00    | 102         | 18          | 12.50         | 10.00     | 13          | 4 |             | E051M16 |
| 20 | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 |             | E051M20 |

# E047 / E048

**DORMER**

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojní navojní sveder MTT-X



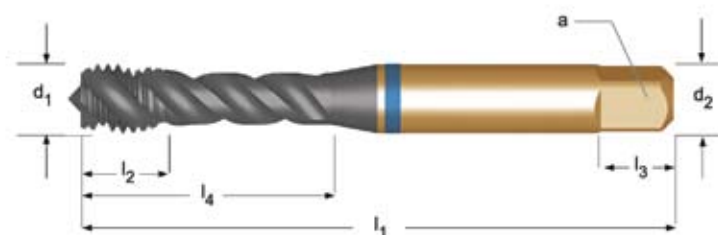
**MTT-X**

**E047**



- 2.1 2.2 2.3 2.4
- 1.5 1.6

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 48          | 6           | 3.15          | 2.50      | 5           | 3 | 15          | E047M3  |
| 4  | 0.70    | 53          | 7           | 4.00          | 3.15      | 6           | 3 | 19          | E047M4  |
| 5  | 0.80    | 58          | 8           | 5.00          | 4.00      | 7           | 3 | 22          | E047M5  |
| 6  | 1.00    | 66          | 10          | 6.30          | 5.00      | 8           | 3 | 27          | E047M6  |
| 8  | 1.25    | 72          | 12          | 8.00          | 6.30      | 9           | 3 | 31          | E047M8  |
| 10 | 1.50    | 80          | 15          | 10.00         | 8.00      | 11          | 3 | 35          | E047M10 |
| 12 | 1.75    | 89          | 16          | 9.00          | 7.10      | 10          | 3 |             | E047M12 |
| 16 | 2.00    | 102         | 18          | 12.50         | 10.00     | 13          | 4 |             | E047M16 |
| 20 | 2.50    | 112         | 22          | 14.00         | 11.20     | 14          | 4 |             | E047M20 |



**MTT-X**

**E048**

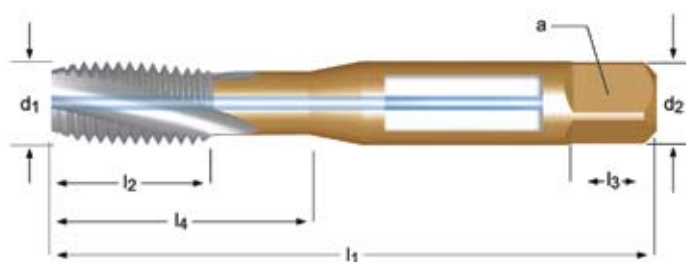


- 2.1 2.2 2.3 2.4
- 1.3 1.4 1.5 1.6

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 48          | 6           | 3.15          | 2.5       | 5           | 3 | 15          | E048M3  |
| 4  | 0.70    | 53          | 7           | 4.0           | 3.15      | 6           | 3 | 19          | E048M4  |
| 5  | 0.80    | 58          | 8           | 5.0           | 4.0       | 7           | 3 | 22          | E048M5  |
| 6  | 1.00    | 66          | 10          | 6.3           | 5.0       | 8           | 3 | 27          | E048M6  |
| 8  | 1.25    | 72          | 12          | 8.0           | 6.3       | 9           | 3 | 31          | E048M8  |
| 10 | 1.50    | 80          | 15          | 10.0          | 8.0       | 11          | 3 | 35          | E048M10 |
| 12 | 1.75    | 89          | 16          | 9.0           | 7.1       | 10          | 3 |             | E048M12 |
| 16 | 2.00    | 102         | 18          | 12.50         | 10.0      | 13          | 4 |             | E048M16 |
| 20 | 2.50    | 112         | 22          | 14            | 11.2      | 14          | 4 |             | E048M20 |



- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



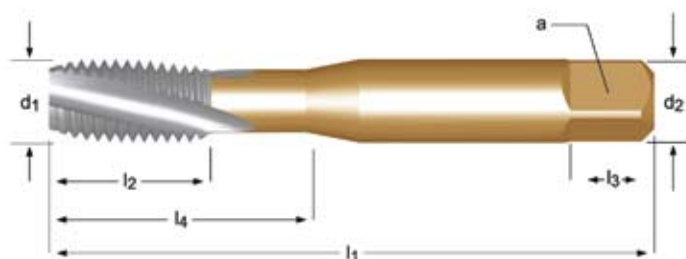
MTT-X

E044



- 1.4 1.5 1.6
- 1.1 1.2 1.3 4.2 5.2

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 8  | 1.25    | 72          | 17          | 8.00          | 6.30      | 8           | 3 | 32          | E044M8  |
| 10 | 1.50    | 80          | 20          | 10.00         | 8.00      | 9           | 3 | 36          | E044M10 |
| 12 | 1.75    | 89          | 22          | 9.00          | 7.10      | 10          | 3 |             | E044M12 |
| 16 | 2.00    | 102         | 24          | 12.50         | 10.00     | 13          | 4 |             | E044M16 |
| 20 | 2.50    | 112         | 29          | 14.00         | 11.20     | 14          | 4 |             | E044M20 |



MTT-X

E052



- 1.4 1.5 6.2 6.3 7.2 7.3 7.4
- 1.1 1.2 1.3 6.1 7.1

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 48          | 12.5        | 3.15          | 2.50      | 5           | 3 | 12.5        | E052M3  |
| 4  | 0.70    | 53          | 14          | 4.00          | 3.15      | 6           | 3 | 14          | E052M4  |
| 5  | 0.80    | 58          | 11          | 5.00          | 4.00      | 7           | 3 | 22          | E052M5  |
| 6  | 1.00    | 66          | 13          | 6.30          | 5.00      | 8           | 3 | 26          | E052M6  |
| 8  | 1.25    | 72          | 16          | 8.00          | 6.30      | 9           | 3 | 29          | E052M8  |
| 10 | 1.50    | 80          | 18          | 10.00         | 8.00      | 11          | 3 | 34          | E052M10 |
| 12 | 1.75    | 89          | 22          | 9.00          | 7.10      | 10          | 3 |             | E052M12 |
| 16 | 2.00    | 102         | 24          | 12.50         | 10.00     | 13          | 4 |             | E052M16 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



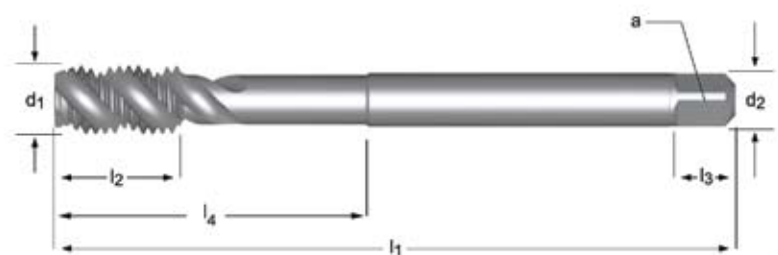
## E507



• 1.2 1.3 1.4 1.5 2.1 2.2 2.3 5.2 7.1 7.2 7.3 7.4

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | a<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code       |
|-----|---------|-------------|-------------|------------------|---------|-------------|---|------|-------------|--------------|
| 2   | 0.40    | 41          | 8           | 2.50             | 2.00    | 4           | 3 | 1.6  | 8           | E507M2       |
| 2   | 0.40    | 41          | 8           | 2.50             | 2.00    | 4           | 3 | 1.6  | 8           | E507M2BLUE   |
| 2.5 | 0.45    | 44.5        | 9.5         | 2.80             | 2.24    | 5           | 3 | 2.05 | 9.5         | E507M2.5     |
| 2.5 | 0.45    | 44.5        | 9.5         | 2.80             | 2.24    | 5           | 3 | 2.05 | 9.5         | E507M2.5BLUE |
| 3   | 0.50    | 48          | 12.5        | 3.15             | 2.50    | 5           | 3 | 2.5  | 12.5        | E507M3       |
| 3   | 0.50    | 48          | 12.5        | 3.15             | 2.50    | 5           | 3 | 2.5  | 12.5        | E507M3BLUE   |
| 3.5 | 0.60    | 50          | 14          | 3.55             | 2.80    | 5           | 3 | 2.9  | 14          | E507M3.5     |
| 3.5 | 0.60    | 50          | 14          | 3.55             | 2.80    | 5           | 3 | 2.9  | 14          | E507M3.5BLUE |
| 4   | 0.70    | 53          | 14          | 4.00             | 3.15    | 6           | 3 | 3.3  | 14          | E507M4       |
| 4   | 0.70    | 53          | 14          | 4.00             | 3.15    | 6           | 3 | 3.3  | 14          | E507M4BLUE   |
| 5   | 0.80    | 58          | 11          | 5.00             | 4.00    | 7           | 3 | 4.2  | 22          | E507M5       |
| 5   | 0.80    | 58          | 11          | 5.00             | 4.00    | 7           | 3 | 4.2  | 22          | E507M5BLUE   |
| 6   | 1.00    | 66          | 13          | 6.30             | 5.00    | 8           | 3 | 5    | 27          | E507M6       |
| 6   | 1.00    | 66          | 13          | 6.30             | 5.00    | 8           | 3 | 5    | 27          | E507M6BLUE   |
| 7   | 1.00    | 66          | 13          | 6.30             | 5.00    | 8           | 3 | 6    | 26          | E507M7       |
| 7   | 1.00    | 66          | 13          | 6.30             | 5.00    | 8           | 3 | 6    | 26          | E507M7BLUE   |
| 8   | 1.25    | 72          | 16          | 8.00             | 6.30    | 9           | 3 | 6.8  | 31          | E507M8       |
| 8   | 1.25    | 72          | 16          | 8.00             | 6.30    | 9           | 3 | 6.8  | 31          | E507M8BLUE   |
| 10  | 1.50    | 80          | 18          | 10.00            | 8.00    | 11          | 3 | 8.5  | 35          | E507M10      |
| 10  | 1.50    | 80          | 18          | 10.00            | 8.00    | 11          | 3 | 8.5  | 35          | E507M10BLUE  |
| 12  | 1.75    | 89          | 22          | 9.00             | 7.10    | 10          | 3 | 10.3 |             | E507M12      |
| 12  | 1.75    | 89          | 22          | 9.00             | 7.10    | 10          | 3 | 10.3 |             | E507M12BLUE  |
| 14  | 2.00    | 95          | 24          | 11.20            | 9.00    | 12          | 3 | 12   |             | E507M14      |
| 14  | 2.00    | 95          | 24          | 11.20            | 9.00    | 12          | 3 | 12   |             | E507M14BLUE  |
| 16  | 2.00    | 102         | 24          | 12.50            | 10.00   | 13          | 3 | 14   |             | E507M16      |
| 16  | 2.00    | 102         | 24          | 12.50            | 10.00   | 13          | 3 | 14   |             | E507M16BLUE  |
| 18  | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 3 | 15.5 |             | E507M18      |
| 18  | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 3 | 15.5 |             | E507M18BLUE  |
| 20  | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 3 | 17.5 |             | E507M20      |
| 20  | 2.50    | 112         | 29          | 14.00            | 11.20   | 14          | 3 | 17.5 |             | E507M20BLUE  |
| 22  | 2.50    | 118         | 29          | 16.00            | 12.50   | 16          | 3 | 19.5 |             | E507M22      |
| 22  | 2.50    | 118         | 29          | 16.00            | 12.50   | 16          | 3 | 19.5 |             | E507M22BLUE  |
| 24  | 3.00    | 130         | 35          | 18.00            | 14.00   | 18          | 3 | 21   |             | E507M24      |
| 24  | 3.00    | 130         | 35          | 18.00            | 14.00   | 18          | 3 | 21   |             | E507M24BLUE  |

- Strojní závitník, extra dlouhý
- Gépi menetfűrő, extra hosszú
- Gwintownik maszynowy, Bardzo długi
- Tarozi de masina extralungi
- Машинный метчик, сверхдлинный
- Strojni navojni sveder, ekstra dolgi



## E605



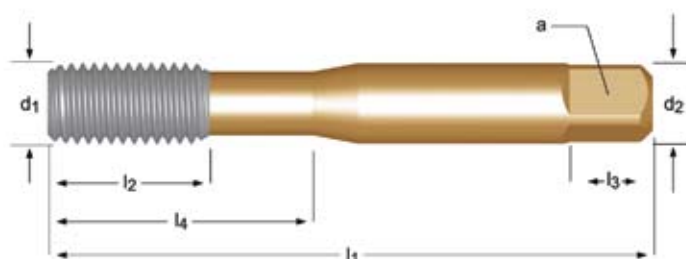
• 1.2 1.3 1.4 1.5 2.1 2.2 2.3 5.2 7.1 7.2 7.3 7.4

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|-------------|---------|
| 3  | 0.50    | 66          | 9           | 3.15             | 2.50      | 5           | 2 | 21          | E605M3  |
| 4  | 0.70    | 73          | 9           | 4.00             | 3.15      | 6           | 2 | 22          | E605M4  |
| 5  | 0.80    | 79          | 12          | 5.00             | 4.00      | 7           | 3 | 26          | E605M5  |
| 6  | 1.00    | 89          | 12          | 6.30             | 5.00      | 8           | 3 | 29          | E605M6  |
| 8  | 1.25    | 97          | 12          | 6.30             | 5.00      | 8           | 3 | 29          | E605M8  |
| 10 | 1.50    | 108         | 14          | 8.00             | 6.30      | 9           | 3 | 29          | E605M10 |
| 12 | 1.75    | 119         | 23          | 9.00             | 7.10      | 10          | 3 | 29          | E605M12 |
| 14 | 2.00    | 127         | 25          | 11.20            | 9.00      | 12          | 3 | 29          | E605M14 |
| 16 | 2.00    | 137         | 25          | 12.50            | 10.00     | 13          | 3 | 29          | E605M16 |
| 20 | 2.50    | 149         | 30          | 14.00            | 11.20     | 14          | 3 | 29          | E605M20 |

# E090 / E097

**DORMER**

- Strojní závitníky MTT-X
- Gépi Menetformázó MTT-X
- Wygniataki maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



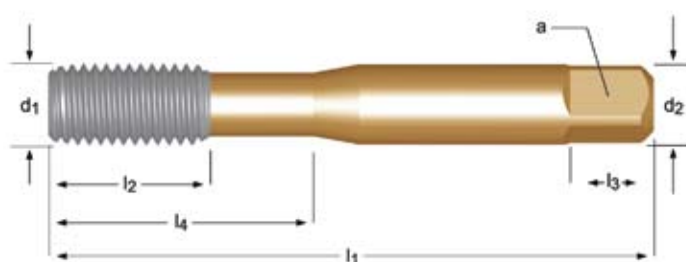
**MTT-X**

**E090**



- 1.1 1.2 1.3 1.4 7.1 7.2 7.3

| M   | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm |      | l <sub>4</sub><br>mm | e-Code                 |
|-----|---------|----------------------|----------------------|---------------------------|---------|----------------------|------|----------------------|------------------------|
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 1.8  | 8                    | E090M2 <sup>1)</sup>   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 2.3  | 9.5                  | E090M2.5 <sup>1)</sup> |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 2.8  | 12.5                 | E090M3                 |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3.2  | 14                   | E090M3.5               |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3.7  | 14                   | E090M4                 |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 4.6  | 22                   | E090M5                 |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 5.5  | 26                   | E090M6                 |
| 8   | 1.25    | 72.0                 | 16                   | 8.00                      | 6.30    | 9                    | 7.4  | 29                   | E090M8                 |
| 10  | 1.50    | 80.0                 | 18                   | 10.00                     | 8.00    | 11                   | 9.3  | 34                   | E090M10                |
| 12  | 1.75    | 89.0                 | 22                   | 9.00                      | 7.10    | 10                   | 11.2 | -                    | E090M12                |
| 16  | 2.00    | 102.0                | 24                   | 12.50                     | 10.00   | 13                   | 15.0 | -                    | E090M16                |



**MTT-X**

**E097**

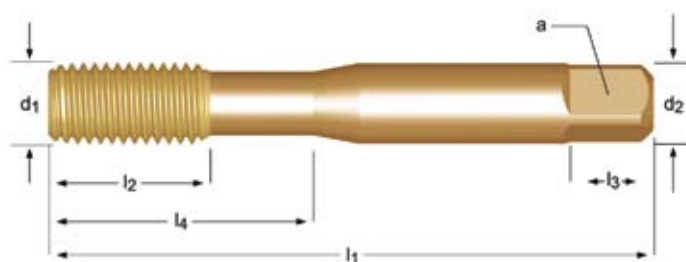


- 1.1 1.2 1.3 4.1 5.1 7.1 7.2 7.3
- 1.4 2.1 2.2 5.2 6.1 6.3 7.4

| M   | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm |      | l <sub>4</sub><br>mm | e-Code                 |
|-----|---------|----------------------|----------------------|---------------------------|---------|----------------------|------|----------------------|------------------------|
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 1.8  | 8                    | E097M2 <sup>1)</sup>   |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 2.3  | 9.5                  | E097M2.5 <sup>1)</sup> |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 2.8  | 12.5                 | E097M3                 |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3.7  | 14                   | E097M4                 |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 4.6  | 22                   | E097M5                 |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 5.5  | 26                   | E097M6                 |
| 8   | 1.25    | 72.0                 | 16                   | 8.00                      | 6.30    | 9                    | 7.4  | 29                   | E097M8                 |
| 10  | 1.50    | 80.0                 | 18                   | 10.00                     | 8.00    | 11                   | 9.3  | 34                   | E097M10                |
| 12  | 1.75    | 89.0                 | 22                   | 9.00                      | 7.10    | 10                   | 11.2 | -                    | E097M12                |
| 16  | 2.00    | 102.0                | 24                   | 12.50                     | 10.00   | 13                   | 15   | -                    | E097M16                |

<sup>1)</sup> HSCo

- Strojní závitníky MTT-X
- Gépi Menetformázó MTT-X
- Wygniataki maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X


**MTT-X**
**E091**


|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M   | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | l <sub>4</sub><br>mm | e-Code                     |
|-----|---------|----------------------|----------------------|---------------------------|---------|----------------------|----------------------|----------------------------|
| 2   | 0.40    | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 1.8                  | 8 E091M2 <sup>1)</sup>     |
| 2.5 | 0.45    | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 2.3                  | 9.5 E091M2.5 <sup>1)</sup> |
| 3   | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 2.8                  | 12.5 E091M3                |
| 3.5 | 0.60    | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3.2                  | 14 E091M3.5                |
| 4   | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3.7                  | 14 E091M4                  |
| 5   | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 4.6                  | 22 E091M5                  |
| 6   | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 5.5                  | 26 E091M6                  |
| 8   | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 7.4                  | 29 E091M8                  |
| 10  | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 9.3                  | 34 E091M10                 |
| 12  | 1.75    | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 11.2                 | E091M12                    |
| 16  | 2.00    | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 15                   | E091M16                    |


**MTT-X**
**E098**

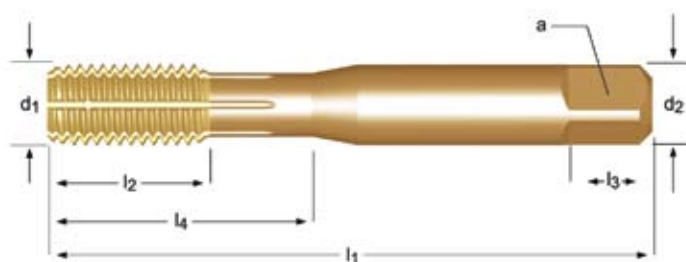

|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M  | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | l <sub>4</sub><br>mm | e-Code      |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|----------------------|-------------|
| 3  | 0.50    | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 2.8                  | 12.5 E098M3 |
| 4  | 0.70    | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3.7                  | 14 E098M4   |
| 5  | 0.80    | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 4.6                  | 22 E098M5   |
| 6  | 1.00    | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 5.5                  | 26 E098M6   |
| 8  | 1.25    | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 7.4                  | 29 E098M8   |
| 10 | 1.50    | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 9.3                  | 34 E098M10  |

# E096 / E099

**DORMER**

- Strojní závitníky MTT-X
- Gépi Menetformázó MTT-X
- Wygniataki maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



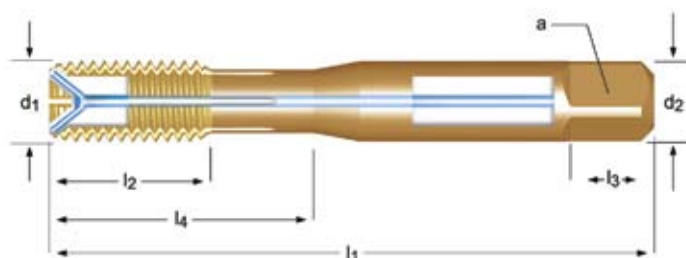
**MTT-X**

**E096**



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|-------------|---------|
| 3  | 0.50    | 48          | 12.5        | 3.15          | 2.50      | 5           | 12.5        | E096M3  |
| 4  | 0.70    | 53          | 14          | 4.00          | 3.15      | 6           | 14          | E096M4  |
| 5  | 0.80    | 58          | 11          | 5.00          | 4.00      | 7           | 22          | E096M5  |
| 6  | 1.00    | 66          | 13          | 6.30          | 5.00      | 8           | 26          | E096M6  |
| 8  | 1.25    | 72          | 16          | 8.00          | 6.30      | 9           | 29          | E096M8  |
| 10 | 1.50    | 80          | 18          | 10.00         | 8.00      | 11          | 34          | E096M10 |
| 12 | 1.75    | 89          | 22          | 9.00          | 7.10      | 10          |             | E096M12 |
| 16 | 2.00    | 102         | 24          | 12.50         | 10.00     | 13          |             | E096M16 |



**MTT-X**

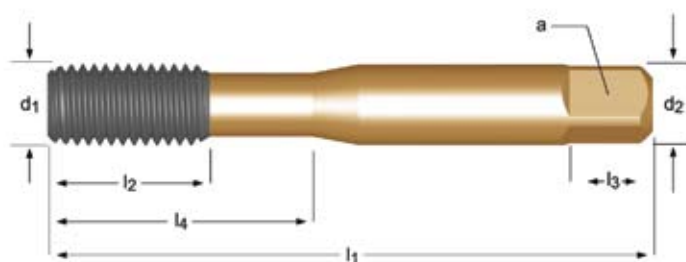
**E099**



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| M  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | $l_4$<br>mm | e-Code  |
|----|---------|-------------|-------------|---------------|-----------|-------------|-------------|---------|
| 4  | 0.70    | 53          | 14          | 4.00          | 3.15      | 6           | 14          | E099M4  |
| 5  | 0.80    | 58          | 11          | 5.00          | 4.00      | 7           | 22          | E099M5  |
| 6  | 1.00    | 66          | 13          | 6.30          | 5.00      | 8           | 26          | E099M6  |
| 8  | 1.25    | 72          | 16          | 8.00          | 6.30      | 9           | 29          | E099M8  |
| 10 | 1.50    | 80          | 18          | 10.00         | 8.00      | 11          | 34          | E099M10 |
| 12 | 1.75    | 89          | 22          | 9.00          | 7.10      | 10          |             | E099M12 |
| 16 | 2.00    | 102         | 24          | 12.50         | 10.00     | 13          |             | E099M16 |

- Strojní závitníky MTT-X
- Gépi Menetformázó MTT-X
- Wygniataki maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



**MTT-X**

**E080**



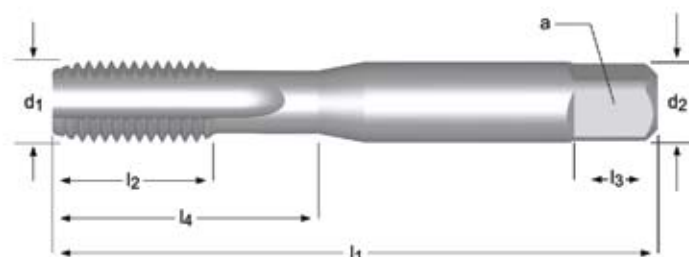
■ 6.1 6.3 7.1 7.2 7.3

| M   | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm |     | $l_4$<br>mm | e-Code                 |
|-----|---------|-------------|-------------|------------------|-----------|-------------|-----|-------------|------------------------|
| 2   | 0.40    | 41.0        | 8           | 2.50             | 2.00      | 4           | 1.8 | 8           | E080M2 <sup>1)</sup>   |
| 2.5 | 0.45    | 44.5        | 9.5         | 2.80             | 2.24      | 5           | 2.3 | 9.5         | E080M2.5 <sup>1)</sup> |
| 3   | 0.50    | 48.0        | 12.5        | 3.15             | 2.50      | 5           | 2.8 | 12.5        | E080M3                 |
| 4   | 0.70    | 53.0        | 14          | 4.00             | 3.15      | 6           | 3.7 | 14          | E080M4                 |
| 5   | 0.80    | 58.0        | 11          | 5.00             | 4.00      | 7           | 4.6 | 22          | E080M5                 |
| 6   | 1.00    | 66.0        | 13          | 6.30             | 5.00      | 8           | 5.5 | 26          | E080M6                 |
| 8   | 1.25    | 72.0        | 16          | 8.00             | 6.30      | 9           | 7.4 | 29          | E080M8                 |

# E620 / E621

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E620



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| M  | P<br>mm | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code  |
|----|---------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|---------|
| 3  | 0.50    | 3.65                        | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.2  | 14                   | E620M3  |
| 4  | 0.70    | 4.91                        | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2  | 20                   | E620M4  |
| 5  | 0.80    | 6.04                        | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.2  | 26                   | E620M5  |
| 6  | 1.00    | 7.3                         | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.3  | 29                   | E620M6  |
| 8  | 1.25    | 9.62                        | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.4  | 32                   | E620M8  |
| 10 | 1.50    | 11.95                       | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.5 |                      | E620M10 |
| 12 | 1.75    | 14.27                       | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.5 |                      | E620M12 |
| 14 | 2.00    | 16.6                        | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 14.5 |                      | E620M14 |
| 16 | 2.00    | 18.6                        | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.5 |                      | E620M16 |



## E621

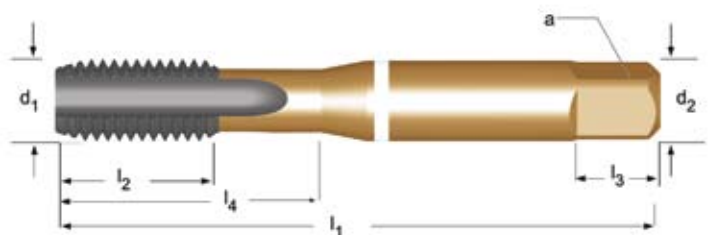


• 1.2 1.3 1.4 1.5 2.1 2.2 2.3 5.2 7.1 7.2 7.3 7.4

| M  | P<br>mm | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code  |
|----|---------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|---------|
| 3  | 0.50    | 3.65                        | 53                   | 14                   | 4.00                      | 3.15    | 6                    | 3 | 3.2  | 14                   | E621M3  |
| 4  | 0.70    | 4.91                        | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.2  | 20                   | E621M4  |
| 5  | 0.80    | 6.04                        | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.2  | 26                   | E621M5  |
| 6  | 1.00    | 7.3                         | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.3  | 31                   | E621M6  |
| 8  | 1.25    | 9.62                        | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.4  | 34                   | E621M8  |
| 10 | 1.50    | 11.95                       | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.5 |                      | E621M10 |
| 12 | 1.75    | 14.27                       | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 3 | 12.5 |                      | E621M12 |
| 14 | 2.00    | 16.6                        | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 3 | 14.5 |                      | E621M14 |
| 16 | 2.00    | 18.6                        | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 3 | 16.5 |                      | E621M16 |



- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojní navojni sveder MTT-X



MTT-X

E054



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | $a$<br>mm | $l_3$<br>mm | z | $l_4$<br>mm | e-Code          |
|----|---------|-------------|-------------|-------------|-----------|-------------|---|-------------|-----------------|
| 8  | 1.00    | 72          | 16          | 8.00        | 6.30      | 9           | 4 | 7           | 29 E054M8X1.0   |
| 10 | 1.00    | 80          | 18          | 10.00       | 8.00      | 11          | 4 | 9           | 34 E054M10X1.0  |
| 10 | 1.25    | 80          | 18          | 10.00       | 8.00      | 11          | 4 | 8.8         | 34 E054M10X1.25 |
| 12 | 1.00    | 89          | 22          | 9.00        | 7.10      | 10          | 4 | 11          | E054M12X1.0     |
| 12 | 1.25    | 89          | 22          | 9.00        | 7.10      | 10          | 4 | 10.8        | E054M12X1.25    |
| 12 | 1.50    | 89          | 22          | 9.00        | 7.10      | 10          | 4 | 10.5        | E054M12X1.5     |
| 14 | 1.25    | 95          | 24          | 11.20       | 9.00      | 12          | 4 | 12.8        | E054M14X1.25    |
| 14 | 1.50    | 95          | 24          | 11.20       | 9.00      | 12          | 4 | 12.5        | E054M14X1.5     |
| 16 | 1.50    | 102         | 24          | 12.50       | 10.00     | 13          | 4 | 14.5        | E054M16X1.5     |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



E513



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

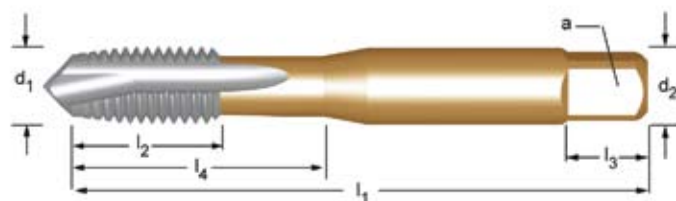
| MF  | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | a<br>mm | $l_3$<br>mm | z | $\angle$ | $l_4$<br>mm | e-Code          |
|-----|---------|-------------|-------------|-------------|---------|-------------|---|----------|-------------|-----------------|
| 3   | 0.35    | 48          | 12.5        | 3.15        | 2.50    | 5           | 3 | 2.65     | 12.5        | E513M3X.35NO1   |
| 3   | 0.35    | 48          | 12.5        | 3.15        | 2.50    | 5           | 3 | 2.65     | 12.5        | E513M3X.35NO2   |
| 3   | 0.35    | 48          | 12.5        | 3.15        | 2.50    | 5           | 3 | 2.65     | 12.5        | E513M3X.35NO3   |
| 3.5 | 0.35    | 48          | 12.5        | 3.15        | 2.50    | 5           | 3 | 3.2      | 12.5        | E513M3.5X.35NO3 |
| 4   | 0.50    | 53          | 14          | 4.00        | 3.15    | 6           | 3 | 3.5      | 14          | E513M4X.5NO1    |
| 4   | 0.50    | 53          | 14          | 4.00        | 3.15    | 6           | 3 | 3.5      | 14          | E513M4X.5NO2    |
| 4   | 0.50    | 53          | 14          | 4.00        | 3.15    | 6           | 3 | 3.5      | 14          | E513M4X.5NO3    |
| 4   | 0.50    | 53          | 14          | 4.00        | 3.15    | 6           | 3 | 3.5      | 14          | E513M4X.5NO7    |
| 5   | 0.50    | 58          | 11          | 5.00        | 4.00    | 7           | 3 | 4.5      | 22          | E513M5X.5NO1    |
| 5   | 0.50    | 58          | 11          | 5.00        | 4.00    | 7           | 3 | 4.5      | 22          | E513M5X.5NO2    |
| 5   | 0.50    | 58          | 11          | 5.00        | 4.00    | 7           | 3 | 4.5      | 22          | E513M5X.5NO3    |
| 5   | 0.50    | 58          | 11          | 5.00        | 4.00    | 7           | 3 | 4.5      | 22          | E513M5X.5NO7    |
| 5   | 0.75    | 58          | 11          | 5.00        | 4.00    | 7           | 3 | 4.3      | 22          | E513M5X.75NO1   |
| 5   | 0.75    | 58          | 11          | 5.00        | 4.00    | 7           | 3 | 4.3      | 22          | E513M5X.75NO2   |
| 5   | 0.75    | 58          | 11          | 5.00        | 4.00    | 7           | 3 | 4.3      | 22          | E513M5X.75NO3   |
| 6   | 0.50    | 66          | 13          | 6.30        | 5.00    | 8           | 3 | 5.5      | 26          | E513M6X.5NO1    |
| 6   | 0.50    | 66          | 13          | 6.30        | 5.00    | 8           | 3 | 5.5      | 26          | E513M6X.5NO2    |
| 6   | 0.50    | 66          | 13          | 6.30        | 5.00    | 8           | 3 | 5.5      | 26          | E513M6X.5NO3    |
| 6   | 0.75    | 66          | 13          | 6.30        | 5.00    | 8           | 3 | 5.3      | 26          | E513M6X.75NO1   |
| 6   | 0.75    | 66          | 13          | 6.30        | 5.00    | 8           | 3 | 5.3      | 26          | E513M6X.75NO2   |
| 6   | 0.75    | 66          | 13          | 6.30        | 5.00    | 8           | 3 | 5.3      | 26          | E513M6X.75NO3   |
| 6   | 0.75    | 66          | 13          | 6.30        | 5.00    | 8           | 3 | 5.3      | 26          | E513M6X.75NO7   |
| 7   | 0.75    | 66          | 13          | 7.10        | 5.60    | 8           | 3 | 6.3      | 26          | E513M7X.75NO1   |
| 7   | 0.75    | 66          | 13          | 7.10        | 5.60    | 8           | 3 | 6.3      | 26          | E513M7X.75NO2   |
| 7   | 0.75    | 66          | 13          | 7.10        | 5.60    | 8           | 3 | 6.3      | 26          | E513M7X.75NO3   |
| 8   | 0.50    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7.5      | 29          | E513M8X.5NO1    |
| 8   | 0.50    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7.5      | 29          | E513M8X.5NO2    |
| 8   | 0.50    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7.5      | 29          | E513M8X.5NO3    |
| 8   | 0.75    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7.3      | 29          | E513M8X.75NO1   |
| 8   | 0.75    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7.3      | 29          | E513M8X.75NO2   |
| 8   | 0.75    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7.3      | 29          | E513M8X.75NO3   |
| 8   | 0.75    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7.3      | 29          | E513M8X.75NO7   |
| 8   | 1.00    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7        | 29          | E513M8X1.0NO1   |
| 8   | 1.00    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7        | 29          | E513M8X1.0NO2   |
| 8   | 1.00    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7        | 29          | E513M8X1.0NO3   |
| 8   | 1.00    | 72          | 16          | 8.00        | 6.30    | 9           | 3 | 7        | 29          | E513M8X1.0NO7   |
| 9   | 0.75    | 72          | 16          | 9.00        | 7.10    | 10          | 3 | 8.3      | 29          | E513M9X.75NO3   |
| 9   | 1.00    | 72          | 16          | 9.00        | 7.10    | 10          | 3 | 8        | 29          | E513M9X1.0NO1   |
| 9   | 1.00    | 72          | 16          | 9.00        | 7.10    | 10          | 3 | 8        | 29          | E513M9X1.0NO2   |
| 9   | 1.00    | 72          | 16          | 9.00        | 7.10    | 10          | 3 | 8        | 29          | E513M9X1.0NO3   |
| 10  | 0.50    | 80          | 18          | 10.00       | 8.00    | 11          | 3 | 9.5      | 34          | E513M10X.5NO3   |
| 10  | 0.75    | 80          | 18          | 10.00       | 8.00    | 11          | 3 | 9.3      | 34          | E513M10X.75NO1  |
| 10  | 0.75    | 80          | 18          | 10.00       | 8.00    | 11          | 3 | 9.3      | 34          | E513M10X.75NO2  |
| 10  | 0.75    | 80          | 18          | 10.00       | 8.00    | 11          | 3 | 9.3      | 34          | E513M10X.75NO3  |
| 10  | 1.00    | 80          | 18          | 10.00       | 8.00    | 11          | 3 | 9        | 34          | E513M10X1.0NO1  |
| 10  | 1.00    | 80          | 18          | 10.00       | 8.00    | 11          | 3 | 9        | 34          | E513M10X1.0NO2  |
| 10  | 1.00    | 80          | 18          | 10.00       | 8.00    | 11          | 3 | 9        | 34          | E513M10X1.0NO3  |
| 10  | 1.00    | 80          | 18          | 10.00       | 8.00    | 11          | 3 | 9        | 34          | E513M10X1.0NO6  |

NO1  
NO2  
NO3  
299

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | z |  | $l_4$<br>mm | e-Code          |
|----|---------|-------------|-------------|------------------|-----------|-------------|---|-------------------------------------------------------------------------------------|-------------|-----------------|
| 10 | 1.00    | 80          | 18          | 10.00            | 8.00      | 11          | 3 | 9                                                                                   | 34          | E513M10X1.0NO7  |
| 10 | 1.25    | 80          | 18          | 10.00            | 8.00      | 11          | 3 | 8.8                                                                                 | 34          | E513M10X1.25NO1 |
| 10 | 1.25    | 80          | 18          | 10.00            | 8.00      | 11          | 3 | 8.8                                                                                 | 34          | E513M10X1.25NO2 |
| 10 | 1.25    | 80          | 18          | 10.00            | 8.00      | 11          | 3 | 8.8                                                                                 | 34          | E513M10X1.25NO3 |
| 10 | 1.25    | 80          | 18          | 10.00            | 8.00      | 11          | 3 | 8.8                                                                                 | 34          | E513M10X1.25NO6 |
| 10 | 1.25    | 80          | 18          | 10.00            | 8.00      | 11          | 3 | 8.8                                                                                 | 34          | E513M10X1.25NO7 |
| 11 | 0.75    | 85          | 19          | 8.00             | 6.30      | 9           | 3 | 10.3                                                                                |             | E513M11X.75NO1  |
| 11 | 0.75    | 85          | 19          | 8.00             | 6.30      | 9           | 3 | 10.3                                                                                |             | E513M11X.75NO2  |
| 11 | 0.75    | 85          | 19          | 8.00             | 6.30      | 9           | 3 | 10.3                                                                                |             | E513M11X.75NO3  |
| 11 | 1.00    | 85          | 19          | 8.00             | 6.30      | 9           | 3 | 10                                                                                  |             | E513M11X1.0NO1  |
| 11 | 1.00    | 85          | 19          | 8.00             | 6.30      | 9           | 3 | 10                                                                                  |             | E513M11X1.0NO2  |
| 11 | 1.00    | 85          | 19          | 8.00             | 6.30      | 9           | 3 | 10                                                                                  |             | E513M11X1.0NO3  |
| 11 | 1.25    | 85          | 19          | 8.00             | 6.30      | 9           | 3 | 9.8                                                                                 |             | E513M11X1.25NO3 |
| 12 | 0.75    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 11.3                                                                                |             | E513M12X.75NO3  |
| 12 | 1.00    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 11                                                                                  |             | E513M12X1.0NO1  |
| 12 | 1.00    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 11                                                                                  |             | E513M12X1.0NO2  |
| 12 | 1.00    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 11                                                                                  |             | E513M12X1.0NO3  |
| 12 | 1.00    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 11                                                                                  |             | E513M12X1.0NO7  |
| 12 | 1.25    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.8                                                                                |             | E513M12X1.25NO1 |
| 12 | 1.25    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.8                                                                                |             | E513M12X1.25NO2 |
| 12 | 1.25    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.8                                                                                |             | E513M12X1.25NO3 |
| 12 | 1.25    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.8                                                                                |             | E513M12X1.25NO6 |
| 12 | 1.25    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.8                                                                                |             | E513M12X1.25NO7 |
| 12 | 1.50    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.5                                                                                |             | E513M12X1.5NO1  |
| 12 | 1.50    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.5                                                                                |             | E513M12X1.5NO2  |
| 12 | 1.50    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.5                                                                                |             | E513M12X1.5NO3  |
| 12 | 1.50    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.5                                                                                |             | E513M12X1.5NO6  |
| 12 | 1.50    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 10.5                                                                                |             | E513M12X1.5NO7  |
| 13 | 1.50    | 89          | 22          | 9.00             | 7.10      | 10          | 3 | 11.5                                                                                |             | E513M13X1.5NO3  |
| 14 | 1.00    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 13                                                                                  |             | E513M14X1.0NO1  |
| 14 | 1.00    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 13                                                                                  |             | E513M14X1.0NO2  |
| 14 | 1.00    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 13                                                                                  |             | E513M14X1.0NO3  |
| 14 | 1.00    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 13                                                                                  |             | E513M14X1.0NO7  |
| 14 | 1.25    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.8                                                                                |             | E513M14X1.25NO1 |
| 14 | 1.25    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.8                                                                                |             | E513M14X1.25NO2 |
| 14 | 1.25    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.8                                                                                |             | E513M14X1.25NO3 |
| 14 | 1.25    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.8                                                                                |             | E513M14X1.25NO6 |
| 14 | 1.25    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.8                                                                                |             | E513M14X1.25NO7 |
| 14 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.5                                                                                |             | E513M14X1.5NO1  |
| 14 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.5                                                                                |             | E513M14X1.5NO2  |
| 14 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.5                                                                                |             | E513M14X1.5NO3  |
| 14 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.5                                                                                |             | E513M14X1.5NO6  |
| 14 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 12.5                                                                                |             | E513M14X1.5NO7  |
| 15 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 13.5                                                                                |             | E513M15X1.5NO2  |
| 15 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 13.5                                                                                |             | E513M15X1.5NO3  |
| 15 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          | 4 | 13.5                                                                                |             | E513M15X1.5NO7  |
| 16 | 1.00    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 15                                                                                  |             | E513M16X1.0NO1  |
| 16 | 1.00    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 15                                                                                  |             | E513M16X1.0NO2  |
| 16 | 1.00    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 15                                                                                  |             | E513M16X1.0NO3  |
| 16 | 1.00    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 15                                                                                  |             | E513M16X1.0NO7  |
| 16 | 1.25    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 14.8                                                                                |             | E513M16X1.25NO3 |
| 16 | 1.50    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 14.5                                                                                |             | E513M16X1.5NO1  |
| 16 | 1.50    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 14.5                                                                                |             | E513M16X1.5NO2  |
| 16 | 1.50    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 14.5                                                                                |             | E513M16X1.5NO3  |
| 16 | 1.50    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 14.5                                                                                |             | E513M16X1.5NO6  |
| 16 | 1.50    | 102         | 24          | 12.50            | 10.00     | 13          | 4 | 14.5                                                                                |             | E513M16X1.5NO7  |
| 18 | 1.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 17                                                                                  |             | E513M18X1.0NO1  |
| 18 | 1.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 17                                                                                  |             | E513M18X1.0NO2  |
| 18 | 1.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 17                                                                                  |             | E513M18X1.0NO3  |
| 18 | 1.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 17                                                                                  |             | E513M18X1.0NO7  |
| 18 | 1.50    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16.5                                                                                |             | E513M18X1.5NO1  |
| 18 | 1.50    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16.5                                                                                |             | E513M18X1.5NO2  |
| 18 | 1.50    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16.5                                                                                |             | E513M18X1.5NO3  |
| 18 | 1.50    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16.5                                                                                |             | E513M18X1.5NO6  |
| 18 | 1.50    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16.5                                                                                |             | E513M18X1.5NO7  |
| 18 | 2.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16                                                                                  |             | E513M18X2.0NO1  |
| 18 | 2.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16                                                                                  |             | E513M18X2.0NO2  |
| 18 | 2.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16                                                                                  |             | E513M18X2.0NO3  |
| 18 | 2.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 16                                                                                  |             | E513M18X2.0NO7  |
| 20 | 1.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 19                                                                                  |             | E513M20X1.0NO1  |
| 20 | 1.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 19                                                                                  |             | E513M20X1.0NO2  |
| 20 | 1.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 19                                                                                  |             | E513M20X1.0NO3  |
| 20 | 1.00    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 19                                                                                  |             | E513M20X1.0NO7  |
| 20 | 1.50    | 112         | 29          | 14.00            | 11.20     | 14          | 4 | 18.5                                                                                |             | E513M20X1.5NO1  |

| MF | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |  | l <sub>4</sub><br>mm | e-Code         |
|----|---------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------------------------------------------------------------------------------------|----------------------|----------------|
| 20 | 1.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 18.5                                                                                |                      | E513M20X1.5NO2 |
| 20 | 1.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 18.5                                                                                |                      | E513M20X1.5NO3 |
| 20 | 1.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 18.5                                                                                |                      | E513M20X1.5NO6 |
| 20 | 1.50    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 18.5                                                                                |                      | E513M20X1.5NO7 |
| 20 | 2.00    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 18                                                                                  |                      | E513M20X2.0NO1 |
| 20 | 2.00    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 18                                                                                  |                      | E513M20X2.0NO2 |
| 20 | 2.00    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 18                                                                                  |                      | E513M20X2.0NO3 |
| 20 | 2.00    | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 18                                                                                  |                      | E513M20X2.0NO7 |
| 22 | 1.00    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 21                                                                                  |                      | E513M22X1.0NO2 |
| 22 | 1.00    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 21                                                                                  |                      | E513M22X1.0NO3 |
| 22 | 1.00    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 21                                                                                  |                      | E513M22X1.0NO7 |
| 22 | 1.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.5                                                                                |                      | E513M22X1.5NO1 |
| 22 | 1.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.5                                                                                |                      | E513M22X1.5NO2 |
| 22 | 1.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.5                                                                                |                      | E513M22X1.5NO3 |
| 22 | 1.50    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.5                                                                                |                      | E513M22X1.5NO7 |
| 22 | 2.00    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20                                                                                  |                      | E513M22X2.0NO1 |
| 22 | 2.00    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20                                                                                  |                      | E513M22X2.0NO2 |
| 22 | 2.00    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20                                                                                  |                      | E513M22X2.0NO3 |
| 22 | 2.00    | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20                                                                                  |                      | E513M22X2.0NO7 |
| 24 | 1.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23                                                                                  |                      | E513M24X1.0NO2 |
| 24 | 1.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23                                                                                  |                      | E513M24X1.0NO3 |
| 24 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.5                                                                                |                      | E513M24X1.5NO1 |
| 24 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.5                                                                                |                      | E513M24X1.5NO2 |
| 24 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.5                                                                                |                      | E513M24X1.5NO3 |
| 24 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.5                                                                                |                      | E513M24X1.5NO7 |
| 24 | 2.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22                                                                                  |                      | E513M24X2.0NO1 |
| 24 | 2.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22                                                                                  |                      | E513M24X2.0NO2 |
| 24 | 2.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22                                                                                  |                      | E513M24X2.0NO3 |
| 24 | 2.00    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22                                                                                  |                      | E513M24X2.0NO7 |
| 25 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.5                                                                                |                      | E513M25X1.5NO1 |
| 25 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.5                                                                                |                      | E513M25X1.5NO2 |
| 25 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.5                                                                                |                      | E513M25X1.5NO3 |
| 25 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.5                                                                                |                      | E513M25X1.5NO6 |
| 25 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.5                                                                                |                      | E513M25X1.5NO7 |
| 26 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 24.5                                                                                |                      | E513M26X1.5NO2 |
| 26 | 1.50    | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 24.5                                                                                |                      | E513M26X1.5NO3 |
| 27 | 1.50    | 135                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 25.5                                                                                |                      | E513M27X1.5NO2 |
| 27 | 1.50    | 135                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 25.5                                                                                |                      | E513M27X1.5NO3 |
| 27 | 2.00    | 135                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 25                                                                                  |                      | E513M27X2.0NO3 |
| 28 | 1.50    | 138                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 26.5                                                                                |                      | E513M28X1.5NO2 |
| 28 | 1.50    | 138                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 26.5                                                                                |                      | E513M28X1.5NO3 |
| 30 | 1.50    | 138                  | 41                   | 20.00                     | 16.00   | 20                   | 4 | 28.5                                                                                |                      | E513M30X1.5NO2 |
| 30 | 1.50    | 138                  | 41                   | 20.00                     | 16.00   | 20                   | 4 | 28.5                                                                                |                      | E513M30X1.5NO3 |
| 30 | 2.00    | 138                  | 41                   | 20.00                     | 16.00   | 20                   | 4 | 28                                                                                  |                      | E513M30X2.0NO2 |
| 30 | 2.00    | 138                  | 41                   | 20.00                     | 16.00   | 20                   | 4 | 28                                                                                  |                      | E513M30X2.0NO3 |
| 32 | 1.50    | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 30.5                                                                                |                      | E513M32X1.5NO1 |
| 32 | 1.50    | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 30.5                                                                                |                      | E513M32X1.5NO2 |
| 32 | 1.50    | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 30.5                                                                                |                      | E513M32X1.5NO3 |
| 33 | 2.00    | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 31                                                                                  |                      | E513M33X2.0NO2 |
| 33 | 2.00    | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 31                                                                                  |                      | E513M33X2.0NO3 |
| 35 | 1.50    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 33.5                                                                                |                      | E513M35X1.5NO2 |
| 35 | 1.50    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 33.5                                                                                |                      | E513M35X1.5NO3 |
| 36 | 1.50    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 34.5                                                                                |                      | E513M36X1.5NO3 |
| 36 | 2.00    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 34                                                                                  |                      | E513M36X2.0NO2 |
| 36 | 2.00    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 34                                                                                  |                      | E513M36X2.0NO3 |
| 36 | 3.00    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 33                                                                                  |                      | E513M36X3.0NO2 |
| 36 | 3.00    | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 33                                                                                  |                      | E513M36X3.0NO3 |
| 39 | 3.00    | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 36                                                                                  |                      | E513M39X3.0NO2 |
| 39 | 3.00    | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 36                                                                                  |                      | E513M39X3.0NO3 |
| 40 | 1.50    | 170                  | 53                   | 28.00                     | 22.40   | 26                   | 6 | 38.5                                                                                |                      | E513M40X1.5NO2 |
| 40 | 1.50    | 170                  | 53                   | 28.00                     | 22.40   | 26                   | 6 | 38.5                                                                                |                      | E513M40X1.5NO3 |
| 42 | 1.50    | 170                  | 53                   | 28.00                     | 22.40   | 26                   | 6 | 40.5                                                                                |                      | E513M42X1.5NO2 |
| 42 | 1.50    | 170                  | 53                   | 28.00                     | 22.40   | 26                   | 6 | 40.5                                                                                |                      | E513M42X1.5NO3 |
| 42 | 3.00    | 170                  | 53                   | 28.00                     | 22.40   | 26                   | 6 | 39                                                                                  |                      | E513M42X3.0NO3 |
| 45 | 1.50    | 187                  | 54                   | 31.50                     | 25.00   | 28                   | 6 | 43.5                                                                                |                      | E513M45X1.5NO2 |
| 45 | 1.50    | 187                  | 54                   | 31.50                     | 25.00   | 28                   | 6 | 43.5                                                                                |                      | E513M45X1.5NO3 |
| 48 | 1.50    | 187                  | 60                   | 31.50                     | 25.00   | 28                   | 6 | 46.5                                                                                |                      | E513M48X1.5NO3 |
| 48 | 2.00    | 187                  | 60                   | 31.50                     | 25.00   | 28                   | 6 | 46                                                                                  |                      | E513M48X2.0NO3 |
| 48 | 3.00    | 187                  | 60                   | 31.50                     | 25.00   | 28                   | 6 | 45                                                                                  |                      | E513M48X3.0NO3 |
| 50 | 1.50    | 187                  | 60                   | 31.50                     | 25.00   | 28                   | 6 | 48.5                                                                                |                      | E513M50X1.5NO2 |
| 50 | 1.50    | 187                  | 60                   | 31.50                     | 25.00   | 28                   | 6 | 48.5                                                                                |                      | E513M50X1.5NO3 |

- Strojní závitníky MTT-X
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- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

E010



|   |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 6.1 | 6.3 | 7.1 | 7.2 | 7.3 | 7.4 |
| ● | 1.6 | 3.1 | 3.2 | 3.3 | 3.4 | 4.1 | 4.2 | 5.1 | 5.2 | 6.2 | 8.1 |

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | $a$<br>mm | $l_3$<br>mm | z | $\leftrightarrow$ | $l_4$<br>mm | e-Code       |
|----|---------|-------------|-------------|-------------|-----------|-------------|---|-------------------|-------------|--------------|
| 4  | 0.50    | 53          | 17          | 4.00        | 3.15      | 6           | 3 | 3.5               | 14          | E010M4X.5    |
| 5  | 0.50    | 58          | 11          | 5.00        | 4.00      | 7           | 3 | 4.5               | 22          | E010M5X.5    |
| 6  | 0.50    | 66          | 13          | 6.30        | 5.00      | 8           | 3 | 5.5               | 26          | E010M6X.5    |
| 6  | 0.75    | 66          | 13          | 6.30        | 5.00      | 8           | 3 | 5.3               | 26          | E010M6X.75   |
| 8  | 0.75    | 72          | 16          | 8.00        | 6.30      | 9           | 3 | 7.3               | 29          | E010M8X.75   |
| 8  | 1.00    | 72          | 16          | 8.00        | 6.30      | 9           | 3 | 7.0               | 29          | E010M8X1.0   |
| 10 | 1.00    | 80          | 18          | 10.00       | 8.00      | 11          | 3 | 9.0               | 34          | E010M10X1.0  |
| 10 | 1.25    | 80          | 18          | 10.00       | 8.00      | 11          | 3 | 8.8               | 34          | E010M10X1.25 |
| 12 | 1.00    | 89          | 22          | 9.00        | 7.10      | 10          | 3 | 11.0              |             | E010M12X1.0  |
| 12 | 1.25    | 89          | 22          | 9.00        | 7.10      | 10          | 3 | 10.8              |             | E010M12X1.25 |
| 12 | 1.50    | 89          | 22          | 9.00        | 7.10      | 10          | 3 | 10.5              |             | E010M12X1.5  |
| 14 | 1.00    | 95          | 24          | 11.20       | 9.00      | 12          | 3 | 13.0              |             | E010M14X1.0  |
| 14 | 1.25    | 95          | 24          | 11.20       | 9.00      | 12          | 3 | 12.8              |             | E010M14X1.25 |
| 14 | 1.50    | 95          | 24          | 11.20       | 9.00      | 12          | 3 | 12.5              |             | E010M14X1.5  |
| 16 | 1.00    | 102         | 24          | 12.50       | 10.00     | 13          | 3 | 15.0              |             | E010M16X1.0  |
| 16 | 1.50    | 102         | 24          | 12.50       | 10.00     | 13          | 3 | 14.5              |             | E010M16X1.5  |
| 18 | 1.00    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 17.0              |             | E010M18X1.0  |
| 18 | 1.50    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 16.5              |             | E010M18X1.5  |
| 20 | 1.00    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 19.0              |             | E010M20X1.0  |
| 20 | 1.50    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 18.5              |             | E010M20X1.5  |
| 20 | 2.00    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 18.0              |             | E010M20X2.0  |
| 22 | 1.50    | 118         | 29          | 16.00       | 12.50     | 16          | 4 | 20.5              |             | E010M22X1.5  |
| 24 | 1.50    | 130         | 35          | 18.00       | 14.00     | 18          | 4 | 22.5              |             | E010M24X1.5  |
| 24 | 2.00    | 130         | 35          | 18.00       | 14.00     | 18          | 4 | 22.0              |             | E010M24X2.0  |

- Strojní závitníky MTT-X
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- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

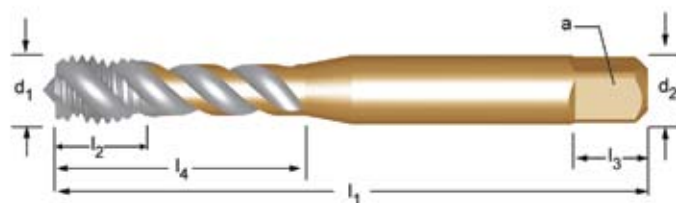
E011



- 1.1 1.2 1.3 1.4 1.5
- 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>mm | $a$<br>mm | $l_3$<br>mm | z | $\leftrightarrow$ | $l_4$<br>mm | e-Code       |
|----|---------|-------------|-------------|-------------|-----------|-------------|---|-------------------|-------------|--------------|
| 4  | 0.50    | 53          | 17          | 4.00        | 3.15      | 6           | 3 | 3.5               | 14          | E011M4X.5    |
| 5  | 0.50    | 58          | 11          | 5.00        | 4.00      | 7           | 3 | 4.5               | 22          | E011M5X.5    |
| 6  | 0.50    | 66          | 13          | 6.30        | 5.00      | 8           | 3 | 5.5               | 26          | E011M6X.5    |
| 6  | 0.75    | 66          | 13          | 6.30        | 5.00      | 8           | 3 | 5.3               | 26          | E011M6X.75   |
| 8  | 0.75    | 72          | 16          | 8.00        | 6.30      | 9           | 3 | 7.3               | 29          | E011M8X.75   |
| 8  | 1.00    | 72          | 16          | 8.00        | 6.30      | 9           | 3 | 7.0               | 29          | E011M8X1.0   |
| 10 | 1.00    | 80          | 18          | 10.00       | 8.00      | 11          | 3 | 9.0               | 34          | E011M10X1.0  |
| 10 | 1.25    | 80          | 18          | 10.00       | 8.00      | 11          | 3 | 8.8               | 34          | E011M10X1.25 |
| 12 | 1.00    | 89          | 22          | 9.00        | 7.10      | 10          | 3 | 11.0              |             | E011M12X1.0  |
| 12 | 1.25    | 89          | 22          | 9.00        | 7.10      | 10          | 3 | 10.8              |             | E011M12X1.25 |
| 12 | 1.50    | 89          | 22          | 9.00        | 7.10      | 10          | 3 | 10.5              |             | E011M12X1.5  |
| 14 | 1.00    | 95          | 24          | 11.20       | 9.00      | 12          | 3 | 13.0              |             | E011M14X1.0  |
| 14 | 1.25    | 95          | 24          | 11.20       | 9.00      | 12          | 3 | 12.8              |             | E011M14X1.25 |
| 14 | 1.50    | 95          | 24          | 11.20       | 9.00      | 12          | 3 | 12.5              |             | E011M14X1.5  |
| 16 | 1.00    | 102         | 24          | 12.50       | 10.00     | 13          | 3 | 15.0              |             | E011M16X1.0  |
| 16 | 1.50    | 102         | 24          | 12.50       | 10.00     | 13          | 3 | 14.5              |             | E011M16X1.5  |
| 18 | 1.00    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 17.0              |             | E011M18X1.0  |
| 18 | 1.50    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 16.5              |             | E011M18X1.5  |
| 20 | 1.00    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 19.0              |             | E011M20X1.0  |
| 20 | 1.50    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 18.5              |             | E011M20X1.5  |
| 20 | 2.00    | 112         | 29          | 14.00       | 11.20     | 14          | 4 | 18.0              |             | E011M20X2.0  |
| 22 | 1.50    | 118         | 29          | 16.00       | 12.50     | 16          | 4 | 20.5              |             | E011M22X1.5  |
| 24 | 1.50    | 130         | 35          | 18.00       | 14.00     | 18          | 4 | 22.5              |             | E011M24X1.5  |
| 24 | 2.00    | 130         | 35          | 18.00       | 14.00     | 18          | 4 | 22.0              |             | E011M24X2.0  |

- Strojní závitníky MTT-X
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- strojní navojní sveder MTT-X



MTT-X

E012



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 7.1 | 7.2 | 7.3 | 7.4 |
| ● | 4.1 | 4.2 | 5.1 | 5.2 | 8.1 |     |     |     |     |

| MF | P<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code       |
|----|---------|----------------------|----------------------|------------------------|---------|----------------------|---|------|----------------------|--------------|
| 4  | 0.50    | 53                   | 7                    | 4.0                    | 3.15    | 6                    | 3 | 3.5  | 19                   | E012M4X.5    |
| 5  | 0.50    | 58                   | 8                    | 5.0                    | 4.0     | 7                    | 3 | 4.5  | 22                   | E012M5X.5    |
| 6  | 0.50    | 66                   | 10                   | 6.3                    | 5.0     | 8                    | 3 | 5.5  | 27                   | E012M6X.5    |
| 6  | 0.75    | 66                   | 10                   | 6.3                    | 5.0     | 8                    | 3 | 5.3  | 27                   | E012M6X.75   |
| 8  | 0.75    | 72                   | 12                   | 8.0                    | 6.3     | 9                    | 3 | 7.3  | 31                   | E012M8X.75   |
| 8  | 1.00    | 72                   | 12                   | 8.0                    | 6.3     | 9                    | 3 | 7.0  | 31                   | E012M8X1.0   |
| 10 | 1.00    | 80                   | 15                   | 10.0                   | 8.0     | 11                   | 3 | 9.0  | 35                   | E012M10X1.0  |
| 10 | 1.25    | 80                   | 15                   | 10.0                   | 8.0     | 11                   | 3 | 8.8  | 35                   | E012M10X1.25 |
| 12 | 1.00    | 89                   | 16                   | 9.0                    | 7.1     | 10                   | 3 | 11.0 |                      | E012M12X1.0  |
| 12 | 1.25    | 89                   | 16                   | 9.0                    | 7.1     | 10                   | 3 | 10.8 |                      | E012M12X1.25 |
| 12 | 1.50    | 89                   | 16                   | 9.0                    | 7.1     | 10                   | 3 | 10.5 |                      | E012M12X1.5  |
| 14 | 1.50    | 95                   | 18                   | 11.2                   | 9.0     | 12                   | 3 | 12.5 |                      | E012M14X1.5  |
| 16 | 1.00    | 102                  | 18                   | 12.5                   | 10.0    | 13                   | 4 | 15.0 |                      | E012M16X1.0  |
| 16 | 1.50    | 102                  | 18                   | 12.5                   | 10.0    | 13                   | 4 | 14.5 |                      | E012M16X1.5  |
| 18 | 1.50    | 112                  | 29                   | 14.0                   | 11.2    | 14                   | 4 | 16.5 |                      | E012M18X1.5  |
| 20 | 1.50    | 112                  | 29                   | 14.0                   | 11.2    | 14                   | 4 | 18.5 |                      | E012M20X1.5  |
| 22 | 1.50    | 118                  | 29                   | 16.0                   | 12.5    | 16                   | 4 | 20.5 |                      | E012M22X1.5  |

- Strojní závitníky MTT-X
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- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojní navojní sveder MTT-X



**MTT-X**

**E013**

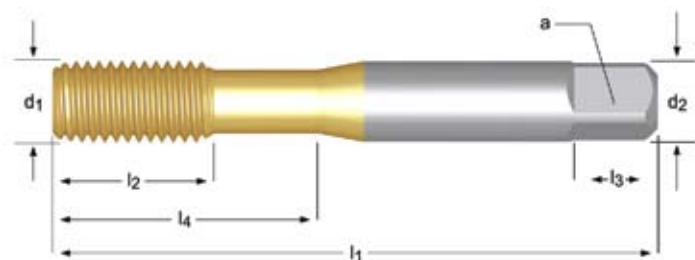


- 1.1 1.2 1.3 1.4 1.5
- 2.1 2.2 2.3

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø mm | $a$<br>mm | $l_3$<br>mm | z |      | $l_4$<br>mm | e-Code       |
|----|---------|-------------|-------------|---------------|-----------|-------------|---|------|-------------|--------------|
| 4  | 0.50    | 53          | 7           | 4.0           | 3.15      | 6           | 3 | 3.5  | 19          | E013M4X.5    |
| 5  | 0.50    | 58          | 8           | 5.0           | 4.0       | 7           | 3 | 4.5  | 22          | E013M5X.5    |
| 6  | 0.50    | 66          | 10          | 6.3           | 5.0       | 8           | 3 | 5.5  | 27          | E013M6X.5    |
| 6  | 0.75    | 66          | 10          | 6.3           | 5.0       | 8           | 3 | 5.3  | 27          | E013M6X.75   |
| 8  | 0.75    | 72          | 12          | 8.0           | 6.3       | 9           | 3 | 7.3  | 31          | E013M8X.75   |
| 8  | 1.00    | 72          | 12          | 8.0           | 6.3       | 9           | 3 | 7.0  | 31          | E013M8X1.0   |
| 10 | 1.00    | 80          | 15          | 10.0          | 8.0       | 11          | 3 | 9.0  | 35          | E013M10X1.0  |
| 10 | 1.25    | 80          | 15          | 10.0          | 8.0       | 11          | 3 | 8.8  | 35          | E013M10X1.25 |
| 12 | 1.00    | 89          | 16          | 9.0           | 7.1       | 10          | 3 | 11.0 |             | E013M12X1.0  |
| 12 | 1.25    | 89          | 16          | 9.0           | 7.1       | 10          | 3 | 10.8 |             | E013M12X1.25 |
| 12 | 1.50    | 89          | 16          | 9.0           | 7.1       | 10          | 3 | 10.5 |             | E013M12X1.5  |
| 14 | 1.50    | 95          | 18          | 11.2          | 9.0       | 12          | 3 | 12.5 |             | E013M14X1.5  |
| 16 | 1.00    | 102         | 18          | 12.5          | 10.0      | 13          | 4 | 15.0 |             | E013M16X1.0  |
| 16 | 1.50    | 102         | 18          | 12.5          | 10.0      | 13          | 4 | 14.5 |             | E013M16X1.5  |
| 18 | 1.50    | 112         | 29          | 14.0          | 11.2      | 14          | 4 | 16.5 |             | E013M18X1.5  |
| 20 | 1.50    | 112         | 29          | 14.0          | 11.2      | 14          | 4 | 18.5 |             | E013M20X1.5  |
| 22 | 1.50    | 118         | 29          | 16.0          | 12.5      | 16          | 4 | 20.5 |             | E013M22X1.5  |



- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



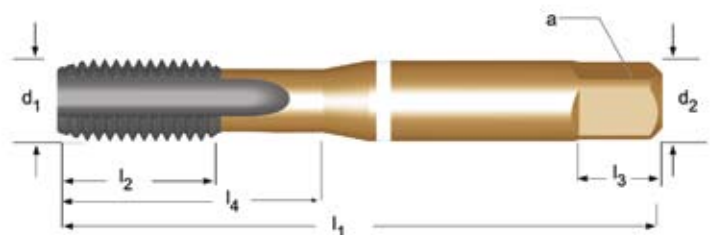
## E564



|   |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 4.1 | 5.1 | 7.3 |
| ● | 1.5 | 2.3 | 5.2 | 6.1 | 6.3 | 7.1 | 7.2 | 7.4 |     |

| MF | P<br>mm | $l_1$<br>mm | $l_2$<br>mm | $d_2$<br>Ø<br>mm | $a$<br>mm | $l_3$<br>mm | $l_4$<br>mm | e-Code       |
|----|---------|-------------|-------------|------------------|-----------|-------------|-------------|--------------|
| 5  | 0.50    | 58          | 11          | 5.00             | 4.00      | 7           | 22          | E564M5X.5    |
| 6  | 0.75    | 66          | 13          | 6.30             | 5.00      | 8           | 26          | E564M6X.75   |
| 8  | 0.75    | 72          | 16          | 8.00             | 6.30      | 9           | 29          | E564M8X.75   |
| 8  | 1.00    | 72          | 16          | 8.00             | 6.30      | 9           | 29          | E564M8X1.0   |
| 10 | 1.00    | 80          | 18          | 10.00            | 8.00      | 11          | 34          | E564M10X1.0  |
| 10 | 1.25    | 80          | 18          | 10.00            | 8.00      | 11          | 34          | E564M10X1.25 |
| 12 | 1.00    | 89          | 22          | 9.00             | 7.10      | 10          |             | E564M12X1.0  |
| 12 | 1.25    | 89          | 22          | 9.00             | 7.10      | 10          |             | E564M12X1.25 |
| 12 | 1.50    | 89          | 22          | 9.00             | 7.10      | 10          |             | E564M12X1.5  |
| 14 | 1.00    | 95          | 24          | 11.20            | 9.00      | 12          |             | E564M14X1.0  |
| 14 | 1.25    | 95          | 24          | 11.20            | 9.00      | 12          |             | E564M14X1.25 |
| 14 | 1.50    | 95          | 24          | 11.20            | 9.00      | 12          |             | E564M14X1.5  |
| 16 | 1.50    | 102         | 24          | 12.50            | 10.00     | 13          |             | E564M16X1.5  |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

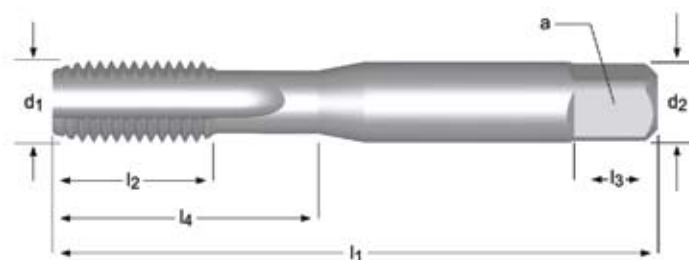
E059



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code      |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|-------------|
| 1/4  | 20  | 6.35                        | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 4 | 5.1                  | 26 E0591/4  |
| 5/16 | 18  | 7.94                        | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 4 | 6.6                  | 29 E0595/16 |
| 3/8  | 16  | 9.53                        | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 4 | 8                    | 32 E0593/8  |
| 1/2  | 13  | 12.70                       | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 4 | 10.8                 | E0591/2     |
| 5/8  | 11  | 15.88                       | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.5                 | E0595/8     |
| 3/4  | 10  | 19.05                       | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.5                 | E0593/4     |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E515



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

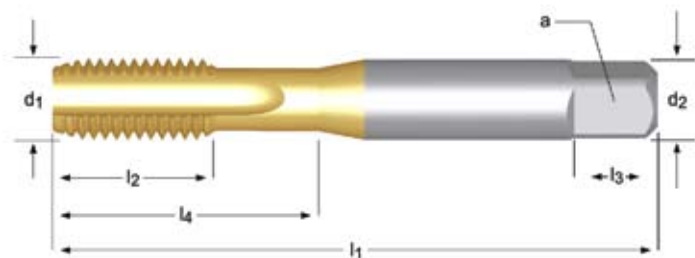
| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | flute<br>width | l <sub>4</sub><br>mm | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------|----------------------|--------------|
| 1    | 64  | 1.854                       | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.55           | 8                    | E5151-64NO1  |
| 1    | 64  | 1.854                       | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.55           | 8                    | E5151-64NO2  |
| 1    | 64  | 1.854                       | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.55           | 8                    | E5151-64NO3  |
| 1    | 64  | 1.854                       | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.55           | 8                    | E5151-64NO6  |
| 2    | 56  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85           | 9.5                  | E5152-56NO1  |
| 2    | 56  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85           | 9.5                  | E5152-56NO2  |
| 2    | 56  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85           | 9.5                  | E5152-56NO3  |
| 2    | 56  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85           | 9.5                  | E5152-56NO6  |
| 3    | 48  | 2.515                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.1            | 9.5                  | E5153-48NO1  |
| 3    | 48  | 2.515                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.1            | 9.5                  | E5153-48NO2  |
| 3    | 48  | 2.515                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.1            | 9.5                  | E5153-48NO3  |
| 3    | 48  | 2.515                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 2.1            | 9.5                  | E5153-48NO6  |
| 4    | 40  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.35           | 12.5                 | E5154-40NO1  |
| 4    | 40  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.35           | 12.5                 | E5154-40NO2  |
| 4    | 40  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.35           | 12.5                 | E5154-40NO3  |
| 4    | 40  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.35           | 12.5                 | E5154-40NO6  |
| 5    | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.65           | 12.5                 | E5155-40NO1  |
| 5    | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.65           | 12.5                 | E5155-40NO2  |
| 5    | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.65           | 12.5                 | E5155-40NO3  |
| 5    | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.65           | 12.5                 | E5155-40NO6  |
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85           | 14                   | E5156-32NO1  |
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85           | 14                   | E5156-32NO2  |
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85           | 14                   | E5156-32NO3  |
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85           | 14                   | E5156-32NO6  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5            | 17                   | E5158-32NO1  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5            | 17                   | E5158-32NO2  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5            | 17                   | E5158-32NO3  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5            | 17                   | E5158-32NO6  |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.9            | 20                   | E51510-24NO1 |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.9            | 20                   | E51510-24NO2 |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.9            | 20                   | E51510-24NO3 |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.9            | 20                   | E51510-24NO6 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.5            | 21                   | E51512-24NO1 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.5            | 21                   | E51512-24NO2 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.5            | 21                   | E51512-24NO3 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.5            | 21                   | E51512-24NO6 |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.1            | 26                   | E5151/4NO1   |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.1            | 26                   | E5151/4NO2   |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.1            | 26                   | E5151/4NO3   |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.1            | 26                   | E5151/4NO6   |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.6            | 29                   | E5155/16NO1  |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.6            | 29                   | E5155/16NO2  |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.6            | 29                   | E5155/16NO3  |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.6            | 29                   | E5155/16NO6  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8              | 32                   | E5153/8NO1   |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8              | 32                   | E5153/8NO2   |



| UNC   | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |  | l <sub>4</sub><br>mm | e-Code       |
|-------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------------------------------------------------------------------------------------|----------------------|--------------|
| 3/8   | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8                                                                                   | 32                   | E5153/8NO3   |
| 3/8   | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8                                                                                   | 32                   | E5153/8NO6   |
| 7/16  | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.4                                                                                 |                      | E5157/16NO1  |
| 7/16  | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.4                                                                                 |                      | E5157/16NO2  |
| 7/16  | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.4                                                                                 |                      | E5157/16NO3  |
| 7/16  | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.4                                                                                 |                      | E5157/16NO6  |
| 1/2   | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.8                                                                                |                      | E5151/2NO1   |
| 1/2   | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.8                                                                                |                      | E5151/2NO2   |
| 1/2   | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.8                                                                                |                      | E5151/2NO3   |
| 1/2   | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.8                                                                                |                      | E5151/2NO6   |
| 9/16  | 12  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.2                                                                                |                      | E5159/16NO1  |
| 9/16  | 12  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.2                                                                                |                      | E5159/16NO2  |
| 9/16  | 12  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.2                                                                                |                      | E5159/16NO3  |
| 9/16  | 12  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.2                                                                                |                      | E5159/16NO6  |
| 5/8   | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.5                                                                                |                      | E5155/8NO1   |
| 5/8   | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.5                                                                                |                      | E5155/8NO2   |
| 5/8   | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.5                                                                                |                      | E5155/8NO3   |
| 5/8   | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.5                                                                                |                      | E5155/8NO6   |
| 3/4   | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.5                                                                                |                      | E5153/4NO1   |
| 3/4   | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.5                                                                                |                      | E5153/4NO2   |
| 3/4   | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.5                                                                                |                      | E5153/4NO3   |
| 3/4   | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.5                                                                                |                      | E5153/4NO6   |
| 7/8   | 9   | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E5157/8NO1   |
| 7/8   | 9   | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E5157/8NO2   |
| 7/8   | 9   | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E5157/8NO3   |
| 7/8   | 9   | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.5                                                                                |                      | E5157/8NO6   |
| 1"    | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.25                                                                               |                      | E5151NO3     |
| 1"    | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.25                                                                               |                      | E5151NO1     |
| 1"    | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.25                                                                               |                      | E5151NO2     |
| 1"    | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.25                                                                               |                      | E5151NO6     |
| 1.1/8 | 7   | 28.575                      | 138                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 25                                                                                  |                      | E5151.1/8NO1 |
| 1.1/8 | 7   | 28.575                      | 138                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 25                                                                                  |                      | E5151.1/8NO2 |
| 1.1/8 | 7   | 28.575                      | 138                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 25                                                                                  |                      | E5151.1/8NO3 |
| 1.1/4 | 7   | 31.750                      | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 28                                                                                  |                      | E5151.1/4NO1 |
| 1.1/4 | 7   | 31.750                      | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 28                                                                                  |                      | E5151.1/4NO2 |
| 1.1/4 | 7   | 31.750                      | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 28                                                                                  |                      | E5151.1/4NO3 |
| 1.3/8 | 6   | 34.925                      | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 30.75                                                                               |                      | E5151.3/8NO1 |
| 1.3/8 | 6   | 34.925                      | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 30.75                                                                               |                      | E5151.3/8NO2 |
| 1.3/8 | 6   | 34.925                      | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 30.75                                                                               |                      | E5151.3/8NO3 |
| 1.1/2 | 6   | 38.100                      | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 34                                                                                  |                      | E5151.1/2NO1 |
| 1.1/2 | 6   | 38.100                      | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 34                                                                                  |                      | E5151.1/2NO2 |
| 1.1/2 | 6   | 38.100                      | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 34                                                                                  |                      | E5151.1/2NO3 |
| 1.3/4 | 5   | 44.450                      | 187                  | 54                   | 31.50                     | 25.00   | 28                   | 6 | 39.5                                                                                |                      | E5151.3/4NO1 |
| 1.3/4 | 5   | 44.450                      | 187                  | 54                   | 31.50                     | 25.00   | 28                   | 6 | 39.5                                                                                |                      | E5151.3/4NO2 |
| 1.3/4 | 5   | 44.450                      | 187                  | 54                   | 31.50                     | 25.00   | 28                   | 6 | 39.5                                                                                |                      | E5151.3/4NO3 |
| 2     | 4.5 | 50.800                      | 200                  | 60                   | 35.50                     | 28.00   | 31                   | 6 | 45                                                                                  |                      | E5152NO3     |
| 2"    | 4.5 | 50.800                      | 200                  | 60                   | 35.50                     | 28.00   | 31                   | 6 | 45                                                                                  |                      | E5152NO1     |
| 2"    | 4.5 | 50.800                      | 200                  | 60                   | 35.50                     | 28.00   | 31                   | 6 | 45                                                                                  |                      | E5152NO2     |



- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E517



- 3.1 3.2 3.3
- 1.1 1.2 1.3 1.4 1.5 3.4 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|--------------|
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85 | 14                   | E5176-32     |
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85 | 14                   | E5176-32NO2  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5  | 17                   | E5178-32     |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5  | 17                   | E5178-32NO2  |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.9  | 20                   | E51710-24    |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.9  | 20                   | E51710-24NO2 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.5  | 21                   | E51712-24    |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.5  | 21                   | E51712-24NO2 |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.1  | 26                   | E5171/4      |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.1  | 26                   | E5171/4NO2   |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.6  | 29                   | E5175/16     |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.6  | 29                   | E5175/16NO2  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8    | 32                   | E5173/8      |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8    | 32                   | E5173/8NO2   |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.4  |                      | E5177/16     |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.4  |                      | E5177/16NO2  |
| 1/2  | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.8 |                      | E5171/2      |
| 1/2  | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.8 |                      | E5171/2NO2   |
| 9/16 | 12  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.2 |                      | E5179/16     |
| 9/16 | 12  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.2 |                      | E5179/16NO2  |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.5 |                      | E5175/8      |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.5 |                      | E5175/8NO2   |



- Strojní závitníky MTT-X
- Gépi Menetfűrés MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

E020



|   |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 6.1 | 6.3 | 7.1 | 7.2 | 7.3 | 7.4 |
| ● | 1.6 | 3.1 | 3.2 | 3.3 | 3.4 | 4.1 | 4.2 | 5.1 | 5.2 | 6.2 | 8.1 |

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------------------|-----------|
| 2    | 56  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85  | 9.5                  | E0202-56  |
| 4    | 40  | 2.845                       | 48                   | 14                   | 3.15                      | 2.50    | 5                    | 3 | 2.35  | 14                   | E0204-40  |
| 5    | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.65  | 12.5                 | E0205-40  |
| 6    | 32  | 3.505                       | 50                   | 16                   | 3.55                      | 2.80    | 5                    | 3 | 2.85  | 16                   | E0206-32  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.50  | 17                   | E0208-32  |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.90  | 20                   | E02010-24 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.50  | 21                   | E02012-24 |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.10  | 26                   | E0201/4   |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.60  | 29                   | E0205/16  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.00  | 32                   | E0203/8   |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.40  |                      | E0207/16  |
| 1/2  | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.80 |                      | E0201/2   |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 3 | 13.50 |                      | E0205/8   |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.50 |                      | E0203/4   |
| 7/8  | 9   | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.50 |                      | E0207/8   |
| 1"   | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.25 |                      | E0201     |

- Strojní závitníky MTT-X
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- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



**MTT-X**

**E021**



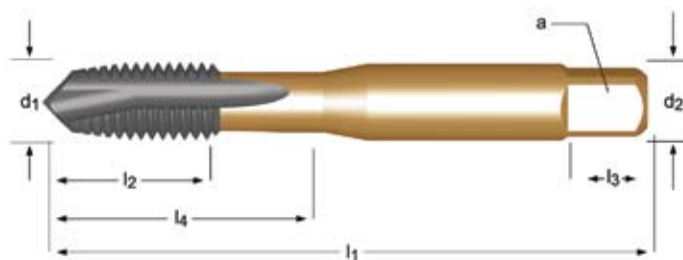
- 1.1 1.2 1.3 1.4 1.5
- 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------------------|-----------|
| 2    | 56  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.85  | 9.5                  | E0212-56  |
| 4    | 40  | 2.845                       | 48                   | 14                   | 3.15                      | 2.50    | 5                    | 3 | 2.35  | 14                   | E0214-40  |
| 5    | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.65  | 12.5                 | E0215-40  |
| 6    | 32  | 3.505                       | 50                   | 16                   | 3.55                      | 2.80    | 5                    | 3 | 2.85  | 16                   | E0216-32  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.50  | 17                   | E0218-32  |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.90  | 20                   | E02110-24 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.50  | 21                   | E02112-24 |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.10  | 26                   | E0211/4   |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.60  | 29                   | E0215/16  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.00  | 32                   | E0213/8   |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.40  |                      | E0217/16  |
| 1/2  | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.80 |                      | E0211/2   |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 3 | 13.50 |                      | E0215/8   |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.50 |                      | E0213/4   |
| 7/8  | 9   | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.50 |                      | E0217/8   |
| 1"   | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.25 |                      | E0211     |

# E057 / E055

**DORMER**

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



**MTT-X**

**E057**



- 1.1 1.2 1.3 1.4 1.5 6.1 6.3
- 1.6 4.2 5.2 6.2

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------------------|-----------|
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85  | 14                   | E0576-32  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.50  | 17                   | E0578-32  |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.90  | 20                   | E05710-24 |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.10  | 26                   | E0571/4   |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.60  | 29                   | E0575/16  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.00  | 32                   | E0573/8   |
| 1/2  | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.80 |                      | E0571/2   |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 3 | 13.50 |                      | E0575/8   |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.50 |                      | E0573/4   |



**MTT-X**

**E055**

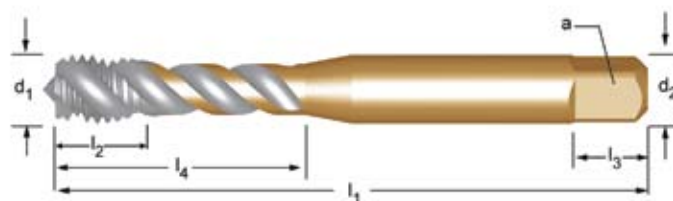


- 2.1 2.2 2.3 2.4
- 1.5 1.6

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|-----------|
| 4    | 40  | 2.85                        | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.35 | 12.5                 | E0554-40  |
| 6    | 32  | 3.51                        | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85 | 14                   | E0556-32  |
| 8    | 32  | 4.17                        | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5  | 17                   | E0558-32  |
| 10   | 24  | 4.83                        | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.9  | 20                   | E05510-24 |
| 1/4  | 20  | 6.35                        | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.1  | 26                   | E0551/4   |
| 5/16 | 18  | 7.94                        | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.6  | 29                   | E0555/16  |
| 3/8  | 16  | 9.53                        | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8    | 32                   | E0553/8   |
| 1/2  | 13  | 12.70                       | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 4 | 10.8 |                      | E0551/2   |
| 5/8  | 11  | 15.88                       | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.5 |                      | E0555/8   |
| 3/4  | 10  | 19.05                       | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.5 |                      | E0553/4   |



- Strojní závitníky MTT-X
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- strojni navojni sveder MTT-X


**MTT-X**

## E022



- 1.1 1.2 1.3 1.4 1.5 6.1 6.3 7.1 7.2 7.3 7.4
- 4.1 4.2 5.1 5.2 6.2 8.1

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------------------|-----------|
| 2    | 56  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 2 | 1.85  | 9.5                  | E0222-56  |
| 4    | 40  | 2.845                       | 48                   | 6                    | 3.15                      | 2.50    | 5                    | 3 | 2.35  | 14                   | E0224-40  |
| 5    | 40  | 3.175                       | 48                   | ?                    | 3.15                      | 2.50    | 5                    | 3 | 2.65  | 12.5                 | E0225-40  |
| 6    | 32  | 3.505                       | 50                   | 6                    | 3.55                      | 2.80    | 5                    | 3 | 2.85  | 16                   | E0226-32  |
| 8    | 32  | 4.166                       | 53                   | 7                    | 4.50                      | 3.55    | 6                    | 3 | 3.50  | 17                   | E0228-32  |
| 10   | 24  | 4.826                       | 58                   | 8                    | 5.00                      | 4.00    | 7                    | 3 | 3.90  | 20                   | E02210-24 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.50  | 21                   | E02212-24 |
| 1/4  | 20  | 6.350                       | 66                   | 10                   | 6.30                      | 5.00    | 8                    | 3 | 5.10  | 28                   | E0221/4   |
| 5/16 | 18  | 7.938                       | 72                   | 12                   | 8.00                      | 6.30    | 9                    | 3 | 6.60  | 31                   | E0225/16  |
| 3/8  | 16  | 9.525                       | 80                   | 15                   | 10.00                     | 8.00    | 11                   | 3 | 8.00  | 34                   | E0223/8   |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.40  |                      | E0227/16  |
| 1/2  | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.80 |                      | E0221/2   |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.50 |                      | E0225/8   |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.50 |                      | E0223/4   |
| 7/8  | 9   | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.50 |                      | E0227/8   |
| 1    | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.25 |                      | E0221     |

- Strojní závitníky MTT-X
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- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

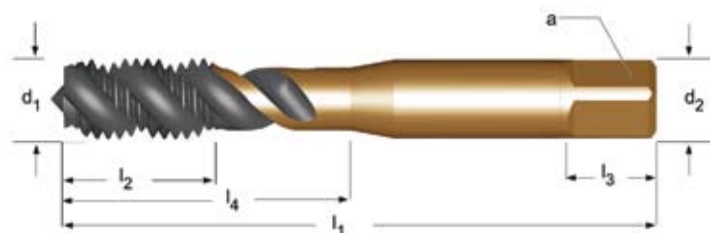
E023



- 1.1 1.2 1.3 1.4 1.5
- 2.1 2.2 2.3

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------------------|-----------|
| 2    | 56  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 2 | 1.85  | 9.5                  | E0232-56  |
| 4    | 40  | 2.845                       | 48                   | 6                    | 3.15                      | 2.50    | 5                    | 3 | 2.35  | 14                   | E0234-40  |
| 5    | 40  | 3.175                       | 48                   | ?                    | 3.15                      | 2.50    | 5                    | 3 | 2.65  | 12.5                 | E0235-40  |
| 6    | 32  | 3.505                       | 50                   | 6                    | 3.55                      | 2.80    | 5                    | 3 | 2.85  | 16                   | E0236-32  |
| 8    | 32  | 4.166                       | 53                   | 7                    | 4.50                      | 3.55    | 6                    | 3 | 3.50  | 17                   | E0238-32  |
| 10   | 24  | 4.826                       | 58                   | 8                    | 5.00                      | 4.00    | 7                    | 3 | 3.90  | 20                   | E02310-24 |
| 12   | 24  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.50  | 21                   | E02312-24 |
| 1/4  | 20  | 6.350                       | 66                   | 10                   | 6.30                      | 5.00    | 8                    | 3 | 5.10  | 28                   | E0231/4   |
| 5/16 | 18  | 7.938                       | 72                   | 12                   | 8.00                      | 6.30    | 9                    | 3 | 6.60  | 31                   | E0235/16  |
| 3/8  | 16  | 9.525                       | 80                   | 15                   | 10.00                     | 8.00    | 11                   | 3 | 8.00  | 34                   | E0233/8   |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.40  |                      | E0237/16  |
| 1/2  | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.80 |                      | E0231/2   |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.50 |                      | E0235/8   |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.50 |                      | E0233/4   |
| 7/8  | 9   | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 19.50 |                      | E0237/8   |
| 1    | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 22.25 |                      | E0231     |

- Strojní závitníky MTT-X
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- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojní navojní sveder MTT-X



MTT-X

## E058



- 1.1 1.2 1.3 1.4 1.5 6.1 6.3
- 1.6 4.2 5.2 6.2

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------------------|-----------|
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.85  | 14                   | E0586-32  |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.50  | 17                   | E0588-32  |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 3.90  | 20                   | E05810-24 |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.10  | 28                   | E0581/4   |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.60  | 31                   | E0585/16  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.00  | 34                   | E0583/8   |
| 1/2  | 13  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 10.80 |                      | E0581/2   |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 13.50 |                      | E0585/8   |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 16.50 |                      | E0583/4   |



MTT-X

## E056



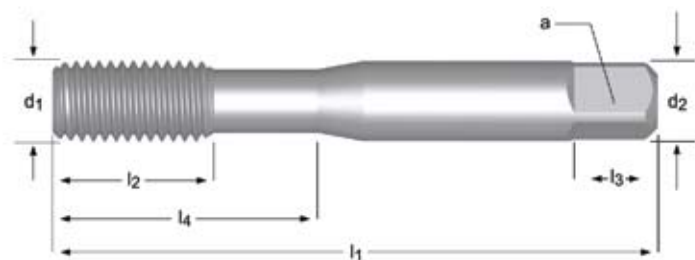
- 2.1 2.2 2.3 2.4
- 1.5 1.6

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|-----------|
| 4    | 40  | 2.84                        | 48                   | 6                    | 3.15                      | 2.50    | 5                    | 3 | 2.35 | 14                   | E0564-40  |
| 6    | 32  | 3.51                        | 48                   | 6                    | 3.55                      | 2.80    | 5                    | 3 | 2.85 | 17                   | E0566-32  |
| 8    | 32  | 4.17                        | 53                   | 7                    | 4.50                      | 3.55    | 6                    | 3 | 3.5  | 17                   | E0568-32  |
| 10   | 24  | 4.83                        | 58                   | 8                    | 5.00                      | 4.00    | 7                    | 3 | 3.9  | 21                   | E05610-24 |
| 1/4  | 20  | 6.35                        | 66                   | 10                   | 6.30                      | 5.00    | 8                    | 3 | 5.1  | 27                   | E0561/4   |
| 5/16 | 18  | 7.94                        | 72                   | 12                   | 8.00                      | 6.30    | 9                    | 3 | 6.6  | 31                   | E0565/16  |
| 3/8  | 16  | 9.53                        | 80                   | 15                   | 10.00                     | 8.00    | 11                   | 3 | 8    | 33                   | E0563/8   |
| 1/2  | 13  | 12.70                       | 89                   | 17                   | 9.00                      | 7.10    | 10                   | 3 | 10.8 |                      | E0561/2   |
| 5/8  | 11  | 15.88                       | 102                  | 18                   | 12.50                     | 10.00   | 13                   | 4 | 13.5 |                      | E0565/8   |
| 3/4  | 10  | 19.05                       | 112                  | 22                   | 14.00                     | 11.20   | 14                   | 4 | 16.5 |                      | E0563/4   |

# E523 / E596

**DORMER**

- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

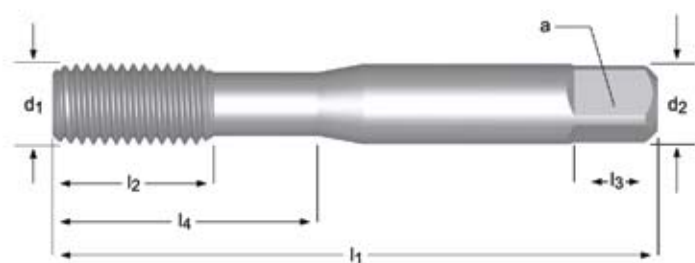


## E523



- 1.1 1.2 1.3 1.4 7.1 7.2 7.3

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | l <sub>4</sub><br>mm | e-Code              |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|----------------------|---------------------|
| 4    | 40  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 2.6                  | 12.5 E5234-40BRIGHT |
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3.2                  | 14 E5236-32BRIGHT   |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3.8                  | 18 E5238-32BRIGHT   |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 4.4                  | 20 E52310-24BRIGHT  |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 5.8                  | 26 E5231/4BRIGHT    |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 7.3                  | 29 E5235/16BRIGHT   |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 8.8                  | 32 E5233/8BRIGHT    |



## E596



- 1.1 1.2 1.3 4.1 5.1 7.1 7.2 7.3
- 1.4 2.1 2.2 5.2 6.1 6.3 7.4

| UNC  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | l <sub>4</sub><br>mm | e-Code        |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|----------------------|---------------|
| 4    | 40  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 2.6                  | 12.5 E5964-40 |
| 6    | 32  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3.2                  | 14 E5966-32   |
| 8    | 32  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3.8                  | 18 E5968-32   |
| 10   | 24  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 4.4                  | 20 E59610-24  |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 5.8                  | 26 E5961/4    |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 7.3                  | 29 E5965/16   |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 8.8                  | 32 E5963/8    |

- Strojní závitníky
- Gépi Menetfúró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E524



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

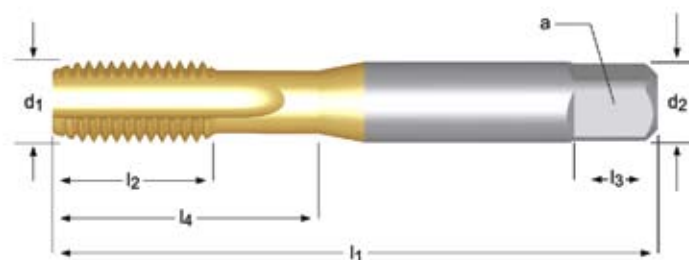
| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | flute<br>length<br>mm | l <sub>4</sub><br>mm | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-----------------------|----------------------|--------------|
| 0    | 80  | 1.524                       | 41                   | 7                    | 2.50                      | 2.00    | 4                    | 2 | 1.25                  | 7                    | E5240-80NO1  |
| 0    | 80  | 1.524                       | 41                   | 7                    | 2.50                      | 2.00    | 4                    | 2 | 1.25                  | 7                    | E5240-80NO2  |
| 0    | 80  | 1.524                       | 41                   | 7                    | 2.50                      | 2.00    | 4                    | 2 | 1.25                  | 7                    | E5240-80NO3  |
| 0    | 80  | 1.524                       | 41                   | 7                    | 2.50                      | 2.00    | 4                    | 2 | 1.25                  | 7                    | E5240-80NO6  |
| 1    | 72  | 1.854                       | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.55                  | 8                    | E5241-72NO1  |
| 1    | 72  | 1.854                       | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.55                  | 8                    | E5241-72NO2  |
| 1    | 72  | 1.854                       | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.55                  | 8                    | E5241-72NO3  |
| 1    | 72  | 1.854                       | 41                   | 8                    | 2.50                      | 2.00    | 4                    | 2 | 1.55                  | 8                    | E5241-72NO6  |
| 2    | 64  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.9                   | 9.5                  | E5242-64NO1  |
| 2    | 64  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.9                   | 9.5                  | E5242-64NO2  |
| 2    | 64  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.9                   | 9.5                  | E5242-64NO3  |
| 2    | 64  | 2.184                       | 44.5                 | 9.5                  | 2.80                      | 2.24    | 5                    | 3 | 1.9                   | 9.5                  | E5242-64NO6  |
| 4    | 48  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.4                   | 12.5                 | E5244-48NO1  |
| 4    | 48  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.4                   | 12.5                 | E5244-48NO2  |
| 4    | 48  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.4                   | 12.5                 | E5244-48NO3  |
| 4    | 48  | 2.845                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.4                   | 12.5                 | E5244-48NO6  |
| 5    | 44  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.7                   | 12.5                 | E5245-44NO1  |
| 5    | 44  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.7                   | 12.5                 | E5245-44NO2  |
| 5    | 44  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.7                   | 12.5                 | E5245-44NO3  |
| 5    | 44  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 5                    | 3 | 2.7                   | 12.5                 | E5245-44NO6  |
| 6    | 40  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.95                  | 14                   | E5246-40NO1  |
| 6    | 40  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.95                  | 14                   | E5246-40NO2  |
| 6    | 40  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.95                  | 14                   | E5246-40NO3  |
| 6    | 40  | 3.505                       | 50                   | 14                   | 3.55                      | 2.80    | 5                    | 3 | 2.95                  | 14                   | E5246-40NO6  |
| 8    | 36  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5                   | 17                   | E5248-36NO1  |
| 8    | 36  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5                   | 17                   | E5248-36NO2  |
| 8    | 36  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5                   | 17                   | E5248-36NO3  |
| 8    | 36  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.5                   | 17                   | E5248-36NO6  |
| 10   | 32  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1                   | 20                   | E52410-32NO1 |
| 10   | 32  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1                   | 20                   | E52410-32NO2 |
| 10   | 32  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1                   | 20                   | E52410-32NO3 |
| 10   | 32  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1                   | 20                   | E52410-32NO6 |
| 12   | 28  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.7                   | 21                   | E52412-28NO1 |
| 12   | 28  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.7                   | 21                   | E52412-28NO2 |
| 12   | 28  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.7                   | 21                   | E52412-28NO3 |
| 12   | 28  | 5.486                       | 62                   | 12                   | 5.60                      | 4.50    | 7                    | 3 | 4.7                   | 21                   | E52412-28NO6 |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.5                   | 26                   | E5241/4NO1   |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.5                   | 26                   | E5241/4NO2   |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.5                   | 26                   | E5241/4NO3   |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.5                   | 26                   | E5241/4NO6   |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.9                   | 29                   | E5245/16NO1  |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.9                   | 29                   | E5245/16NO2  |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.9                   | 29                   | E5245/16NO3  |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.9                   | 29                   | E5245/16NO6  |
| 3/8  | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                   | 32                   | E5243/8NO1   |
| 3/8  | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                   | 32                   | E5243/8NO2   |



| UNF   | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |  | l <sub>4</sub><br>mm | e-Code       |
|-------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------------------------------------------------------------------------------------|----------------------|--------------|
| 3/8   | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                                                                                 | 32                   | E5243/8NO3   |
| 3/8   | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5                                                                                 | 32                   | E5243/8NO6   |
| 7/16  | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.9                                                                                 |                      | E5247/16NO1  |
| 7/16  | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.9                                                                                 |                      | E5247/16NO2  |
| 7/16  | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.9                                                                                 |                      | E5247/16NO3  |
| 7/16  | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.9                                                                                 |                      | E5247/16NO6  |
| 1/2   | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.5                                                                                |                      | E5241/2NO1   |
| 1/2   | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.5                                                                                |                      | E5241/2NO2   |
| 1/2   | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.5                                                                                |                      | E5241/2NO3   |
| 1/2   | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.5                                                                                |                      | E5241/2NO6   |
| 9/16  | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.9                                                                                |                      | E5249/16NO1  |
| 9/16  | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.9                                                                                |                      | E5249/16NO2  |
| 9/16  | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.9                                                                                |                      | E5249/16NO3  |
| 9/16  | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.9                                                                                |                      | E5249/16NO6  |
| 5/8   | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14.5                                                                                |                      | E5245/8NO1   |
| 5/8   | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14.5                                                                                |                      | E5245/8NO2   |
| 5/8   | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14.5                                                                                |                      | E5245/8NO3   |
| 5/8   | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14.5                                                                                |                      | E5245/8NO6   |
| 3/4   | 16  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E5243/4NO1   |
| 3/4   | 16  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E5243/4NO2   |
| 3/4   | 16  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E5243/4NO3   |
| 3/4   | 16  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.5                                                                                |                      | E5243/4NO6   |
| 7/8   | 14  | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.4                                                                                |                      | E5247/8NO1   |
| 7/8   | 14  | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.4                                                                                |                      | E5247/8NO2   |
| 7/8   | 14  | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.4                                                                                |                      | E5247/8NO3   |
| 7/8   | 14  | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.4                                                                                |                      | E5247/8NO6   |
| 1"    | 12  | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.25                                                                               |                      | E5241NO1     |
| 1"    | 12  | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.25                                                                               |                      | E5241NO2     |
| 1"    | 12  | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.25                                                                               |                      | E5241NO3     |
| 1"    | 12  | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.25                                                                               |                      | E5241NO6     |
| 1.1/8 | 12  | 28.575                      | 138                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 26.5                                                                                |                      | E5241.1/8NO1 |
| 1.1/8 | 12  | 28.575                      | 138                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 26.5                                                                                |                      | E5241.1/8NO2 |
| 1.1/8 | 12  | 28.575                      | 138                  | 35                   | 20.00                     | 16.00   | 20                   | 4 | 26.5                                                                                |                      | E5241.1/8NO3 |
| 1.1/4 | 12  | 31.750                      | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 29.5                                                                                |                      | E5241.1/4NO1 |
| 1.1/4 | 12  | 31.750                      | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 29.5                                                                                |                      | E5241.1/4NO2 |
| 1.1/4 | 12  | 31.750                      | 151                  | 41                   | 22.40                     | 18.00   | 22                   | 4 | 29.5                                                                                |                      | E5241.1/4NO3 |
| 1.3/8 | 12  | 34.925                      | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 32.75                                                                               |                      | E5241.3/8NO1 |
| 1.3/8 | 12  | 34.925                      | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 32.75                                                                               |                      | E5241.3/8NO2 |
| 1.3/8 | 12  | 34.925                      | 162                  | 47                   | 25.00                     | 20.00   | 24                   | 4 | 32.75                                                                               |                      | E5241.3/8NO3 |
| 1.1/2 | 12  | 38.100                      | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 36                                                                                  |                      | E5241.1/2NO1 |
| 1.1/2 | 12  | 38.100                      | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 36                                                                                  |                      | E5241.1/2NO2 |
| 1.1/2 | 12  | 38.100                      | 170                  | 47                   | 28.00                     | 22.40   | 26                   | 4 | 36                                                                                  |                      | E5241.1/2NO3 |



- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E526

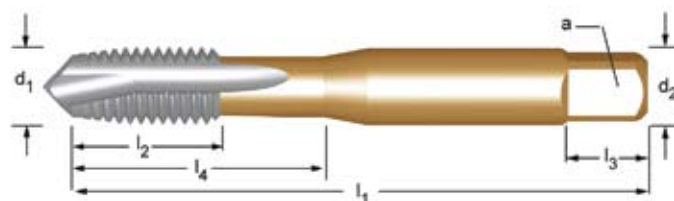


- 3.1 3.2 3.3
- 1.1 1.2 1.3 1.4 1.5 3.4 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code      |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|-------------|
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.5  | 26                   | E5261/4NO2  |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.5  | 26                   | E5261/4NO3  |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.9  | 29                   | E5265/16NO2 |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.9  | 29                   | E5265/16NO3 |
| 3/8  | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5  | 32                   | E5263/8NO2  |
| 3/8  | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5  | 32                   | E5263/8NO3  |
| 7/16 | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.9  |                      | E5267/16NO2 |
| 7/16 | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.9  |                      | E5267/16NO3 |
| 1/2  | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.5 |                      | E5261/2NO2  |
| 1/2  | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.5 |                      | E5261/2NO3  |
| 9/16 | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.9 |                      | E5269/16NO2 |
| 9/16 | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 4 | 12.9 |                      | E5269/16NO3 |
| 5/8  | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14.5 |                      | E5265/8NO2  |
| 5/8  | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14.5 |                      | E5265/8NO3  |



- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

## E030



|   |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 6.1 | 6.3 | 7.1 | 7.2 | 7.3 | 7.4 |
| ● | 1.6 | 3.1 | 3.2 | 3.3 | 3.4 | 4.1 | 4.2 | 5.1 | 5.2 | 6.2 | 8.1 |

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------------------|-----------|
| 8    | 36  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.50  | 17                   | E0308-36  |
| 10   | 32  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.10  | 20                   | E03010-32 |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.50  | 26                   | E0301/4   |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.90  | 29                   | E0305/16  |
| 3/8  | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.50  | 32                   | E0303/8   |
| 7/16 | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.90  |                      | E0307/16  |
| 1/2  | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.50 |                      | E0301/2   |
| 9/16 | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 3 | 12.90 |                      | E0309/16  |
| 5/8  | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 3 | 14.50 |                      | E0305/8   |
| 3/4  | 16  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.50 |                      | E0303/4   |
| 7/8  | 14  | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.40 |                      | E0307/8   |
| 1"   | 12  | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.25 |                      | E0301     |



- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

E031



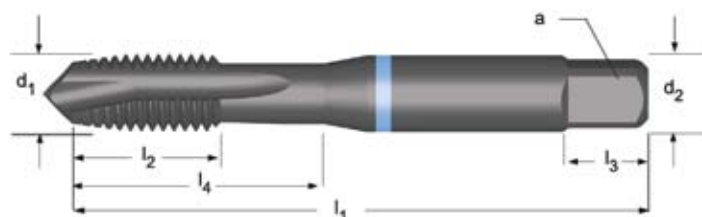
- 1.1 1.2 1.3 1.4 1.5
- 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|----------------------|-----------|
| 8    | 36  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 3 | 3.50  | 17                   | E0318-36  |
| 10   | 32  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.10  | 20                   | E03110-32 |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.50  | 26                   | E0311/4   |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.90  | 29                   | E0315/16  |
| 3/8  | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.50  | 32                   | E0313/8   |
| 7/16 | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.90  |                      | E0317/16  |
| 1/2  | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.50 |                      | E0311/2   |
| 9/16 | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 3 | 12.90 |                      | E0319/16  |
| 5/8  | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 3 | 14.50 |                      | E0315/8   |
| 3/4  | 16  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.50 |                      | E0313/4   |
| 7/8  | 14  | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.40 |                      | E0317/8   |
| 1"   | 12  | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.25 |                      | E0311     |

# E060



- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

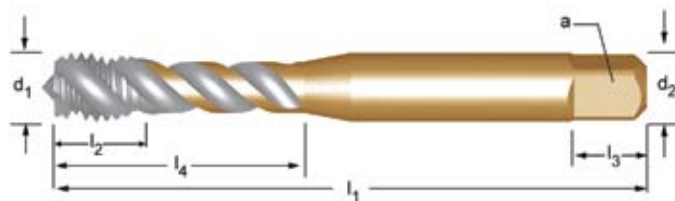
E060



- 2.1 2.2 2.3 2.4
- 1.5 1.6

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔   | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-----|----------------------|-----------|
| 10   | 32  | 4.83                        | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 3 | 4.1 | 20                   | E06010-32 |
| 1/4  | 28  | 6.35                        | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 3 | 5.5 | 26                   | E0601/4   |
| 5/16 | 24  | 7.94                        | 72                   | 16                   | 8.00                      | 6.30    | 9                    | 3 | 6.9 | 29                   | E0605/16  |
| 3/8  | 24  | 9.53                        | 80                   | 18                   | 10.00                     | 8.00    | 11                   | 3 | 8.5 | 32                   | E0603/8   |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

E032



- 1.1 1.2 1.3 1.4 1.5 7.1 7.2 7.3 7.4
- 1.6 4.1 4.2 5.1 5.2 8.1

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|--------------|
| 8    | 36  | 4.166                       | 53                   | 7                    | 4.50                      | 3.55    | 6                    | 3 | 3.50                 | 17 E0328-36  |
| 10   | 32  | 4.826                       | 58                   | 8                    | 5.00                      | 4.00    | 7                    | 3 | 4.10                 | 20 E03210-32 |
| 1/4  | 28  | 6.350                       | 66                   | 10                   | 6.30                      | 5.00    | 8                    | 3 | 5.50                 | 28 E0321/4   |
| 5/16 | 24  | 7.938                       | 72                   | 12                   | 8.00                      | 6.30    | 9                    | 3 | 6.90                 | 31 E0325/16  |
| 3/8  | 24  | 9.525                       | 80                   | 15                   | 10.00                     | 8.00    | 11                   | 3 | 8.50                 | 34 E0323/8   |
| 7/16 | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.90                 | E0327/16     |
| 1/2  | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.50                | E0321/2      |
| 9/16 | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 3 | 12.90                | E0329/16     |
| 5/8  | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14.50                | E0325/8      |
| 3/4  | 16  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.50                | E0323/4      |
| 7/8  | 14  | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.40                | E0327/8      |
| 1"   | 12  | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.25                | E0321        |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

## E033



- 1.1 1.2 1.3 1.4 1.5
- 1.6 2.1 2.2 2.3

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|--------------|
| 8    | 36  | 4.166                       | 53                   | 7                    | 4.50                      | 3.55    | 6                    | 3 | 3.50                 | 17 E0338-36  |
| 10   | 32  | 4.826                       | 58                   | 8                    | 5.00                      | 4.00    | 7                    | 3 | 4.10                 | 20 E03310-32 |
| 1/4  | 28  | 6.350                       | 66                   | 10                   | 6.30                      | 5.00    | 8                    | 3 | 5.50                 | 28 E0331/4   |
| 5/16 | 24  | 7.938                       | 72                   | 12                   | 8.00                      | 6.30    | 9                    | 3 | 6.90                 | 31 E0335/16  |
| 3/8  | 24  | 9.525                       | 80                   | 15                   | 10.00                     | 8.00    | 11                   | 3 | 8.50                 | 34 E0333/8   |
| 7/16 | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 9                    | 3 | 9.90                 | E0337/16     |
| 1/2  | 20  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 10                   | 3 | 11.50                | E0331/2      |
| 9/16 | 18  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 12                   | 3 | 12.90                | E0339/16     |
| 5/8  | 18  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 13                   | 4 | 14.50                | E0335/8      |
| 3/4  | 16  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 14                   | 4 | 17.50                | E0333/4      |
| 7/8  | 14  | 22.225                      | 118                  | 29                   | 16.00                     | 12.50   | 16                   | 4 | 20.40                | E0337/8      |
| 1"   | 12  | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 18                   | 4 | 23.25                | E0331        |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



**MTT-X**

**E095**



- 2.1 2.2 2.3 2.4
- 1.5 1.6

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|-----------|
| 10   | 32  | 4.83                        | 58                   | 8                    | 5.00                      | 4.00    | 7                    | 3 | 4.1  | 21                   | E09510-32 |
| 1/4  | 28  | 6.35                        | 66                   | 10                   | 6.30                      | 5.00    | 8                    | 3 | 5.5  | 27                   | E0951/4   |
| 5/16 | 24  | 7.94                        | 72                   | 12                   | 8.00                      | 6.30    | 9                    | 3 | 6.9  | 31                   | E0955/16  |
| 3/8  | 24  | 9.53                        | 80                   | 15                   | 10.00                     | 8.00    | 11                   | 3 | 8.5  | 33                   | E0953/8   |
| 1/2  | 20  | 12.70                       | 89                   | 17                   | 9.00                      | 7.10    | 10                   | 3 | 11.5 |                      | E0951/2   |

# E530 / E597

**DORMER**

- Strojní závitníky
- Gépi Menetformázó
- Wygniataki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

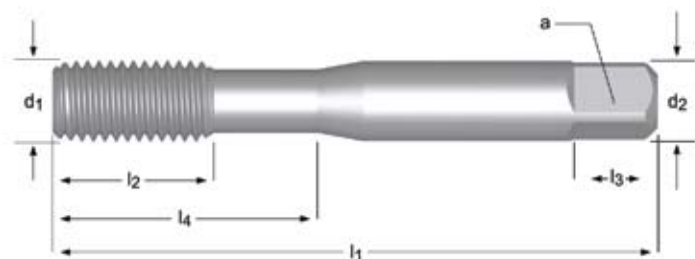


## E530



• 1.1 1.2 1.3 1.4 7.1 7.2 7.3

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | l <sub>4</sub><br>mm | e-Code          |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|----------------------|-----------------|
| 10   | 32  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 20                   | E53010-32BRIGHT |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 26                   | E5301/4BRIGHT   |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 8.00    | 9                    | 29                   | E5305/16BRIGHT  |
| 3/8  | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 10.00   | 11                   | 32                   | E5303/8BRIGHT   |
| 7/16 | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 8.00    | 9                    | 10.6                 | E5307/16BRIGHT  |



## E597



■ 1.1 1.2 1.3 4.1 5.1 7.1 7.2 7.3  
• 1.4 2.1 2.2 5.2 6.1 6.3 7.4

| UNF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | l <sub>4</sub><br>mm | e-Code    |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|----------------------|-----------|
| 8    | 36  | 4.166                       | 53                   | 9.5                  | 4.50                      | 3.55    | 6                    | 18                   | E5978-36  |
| 10   | 32  | 4.826                       | 58                   | 11                   | 5.00                      | 4.00    | 7                    | 20                   | E59710-32 |
| 1/4  | 28  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 8                    | 26                   | E5971/4   |
| 5/16 | 24  | 7.938                       | 72                   | 16                   | 8.00                      | 8.00    | 9                    | 29                   | E5975/16  |
| 3/8  | 24  | 9.525                       | 80                   | 18                   | 10.00                     | 10.00   | 11                   | 32                   | E5973/8   |
| 7/16 | 20  | 11.112                      | 85                   | 19                   | 8.00                      | 8.00    | 9                    | 10.6                 | E5977/16  |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



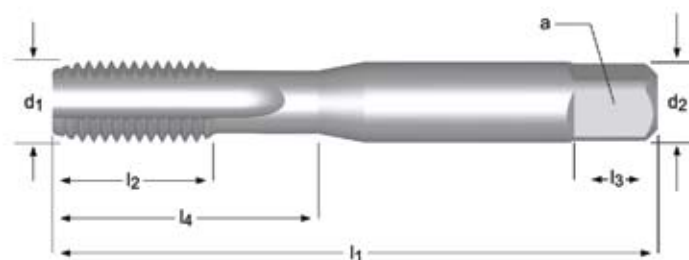
## E570



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| UN     | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z | l <sub>4</sub><br>mm | e-Code            |
|--------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|---|----------------------|-------------------|
| 1/4    | 32  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.6                  | 26 E5701/4X32NO3  |
| 1/4    | 36  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.7                  | 26 E5701/4X36NO3  |
| 1/4    | 40  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.7                  | 26 E5701/4X40NO3  |
| 5/16   | 32  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 3 | 7.2                  | 29 E5705/16X32NO3 |
| 3/8    | 32  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 3 | 8.8                  | 32 E5703/8X32NO3  |
| 7/16   | 24  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 3 | 10                   | E5707/16X24NO3    |
| 7/16   | 28  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 3 | 10.2                 | E5707/16X28NO3    |
| 1/2    | 28  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 3 | 11.8                 | E5701/2X28NO3     |
| 9/16   | 24  | 14.288                      | 95                   | 24                   | 11.20                     | 9.00    | 4 | 13.25                | E5709/16X24NO3    |
| 5/8    | 24  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 4 | 14.8                 | E5705/8X24NO3     |
| 3/4    | 20  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 4 | 17.8                 | E5703/4X20NO3     |
| 7/8    | 20  | 22.225                      | 118                  | 30                   | 16.00                     | 12.50   | 4 | 21                   | E5707/8X20NO3     |
| 1"     | 14  | 25.400                      | 130                  | 36                   | 18.00                     | 14.00   | 4 | 23.5                 | E5701X14NO3       |
| 1.1/16 | 12  | 26.988                      | 127                  | 37                   | 20.00                     | 16.00   | 4 | 24.75                | E5701.1/16X12NO3  |
| 1.1/8  | 8   | 28.575                      | 138                  | 35                   | 20.00                     | 16.00   | 4 | 25.5                 | E5701.1/8X8NO3    |
| 1.3/16 | 12  | 30.163                      | 137                  | 37                   | 22.40                     | 18.00   | 4 | 28                   | E5701.3/16X12NO3  |
| 1.1/4  | 8   | 31.750                      | 151                  | 41                   | 22.40                     | 18.00   | 4 | 28.5                 | E5701.1/4X8NO3    |
| 1.5/16 | 12  | 33.338                      | 137                  | 37                   | 22.40                     | 18.00   | 4 | 31.25                | E5701.5/16X12NO3  |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



E531



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| BSW  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z |      | l <sub>4</sub><br>mm | e-Code      |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|---|------|----------------------|-------------|
| 1/8  | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 3 | 2.55 | 12.5                 | E5311/8NO1  |
| 1/8  | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 3 | 2.55 | 12.5                 | E5311/8NO2  |
| 1/8  | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 3 | 2.55 | 12.5                 | E5311/8NO3  |
| 1/8  | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 3 | 2.55 | 12.5                 | E5311/8NO6  |
| 5/32 | 32  | 3.969                       | 53                   | 14                   | 4.00                      | 3.15    | 3 | 3.2  | 14                   | E5315/32NO1 |
| 5/32 | 32  | 3.969                       | 53                   | 14                   | 4.00                      | 3.15    | 3 | 3.2  | 14                   | E5315/32NO2 |
| 5/32 | 32  | 3.969                       | 53                   | 14                   | 4.00                      | 3.15    | 3 | 3.2  | 14                   | E5315/32NO3 |
| 5/32 | 32  | 3.969                       | 53                   | 14                   | 4.00                      | 3.15    | 3 | 3.2  | 14                   | E5315/32NO6 |
| 3/16 | 24  | 4.763                       | 58                   | 11                   | 5.00                      | 4.00    | 3 | 3.7  | 20                   | E5313/16NO1 |
| 3/16 | 24  | 4.763                       | 58                   | 11                   | 5.00                      | 4.00    | 3 | 3.7  | 20                   | E5313/16NO2 |
| 3/16 | 24  | 4.763                       | 58                   | 11                   | 5.00                      | 4.00    | 3 | 3.7  | 20                   | E5313/16NO3 |
| 3/16 | 24  | 4.763                       | 58                   | 11                   | 5.00                      | 4.00    | 3 | 3.7  | 20                   | E5313/16NO6 |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.1  | 26                   | E5311/4NO1  |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.1  | 26                   | E5311/4NO2  |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.1  | 26                   | E5311/4NO3  |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.1  | 26                   | E5311/4NO6  |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 3 | 6.5  | 29                   | E5315/16NO1 |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 3 | 6.5  | 29                   | E5315/16NO2 |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 3 | 6.5  | 29                   | E5315/16NO3 |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 3 | 6.5  | 29                   | E5315/16NO6 |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 3 | 7.9  | 32                   | E5313/8NO1  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 3 | 7.9  | 32                   | E5313/8NO2  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 3 | 7.9  | 32                   | E5313/8NO3  |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 3 | 7.9  | 32                   | E5313/8NO6  |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 3 | 9.2  |                      | E5317/16NO1 |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 3 | 9.2  |                      | E5317/16NO2 |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 3 | 9.2  |                      | E5317/16NO3 |
| 7/16 | 14  | 11.112                      | 85                   | 19                   | 8.00                      | 6.30    | 3 | 9.2  |                      | E5317/16NO6 |
| 1/2  | 12  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 3 | 10.5 |                      | E5311/2NO1  |
| 1/2  | 12  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 3 | 10.5 |                      | E5311/2NO2  |
| 1/2  | 12  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 3 | 10.5 |                      | E5311/2NO3  |
| 1/2  | 12  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 3 | 10.5 |                      | E5311/2NO6  |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 4 | 13.5 |                      | E5315/8NO1  |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 4 | 13.5 |                      | E5315/8NO2  |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 4 | 13.5 |                      | E5315/8NO3  |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 4 | 13.5 |                      | E5315/8NO6  |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 4 | 16.5 |                      | E5313/4NO1  |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 4 | 16.5 |                      | E5313/4NO2  |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 4 | 16.5 |                      | E5313/4NO3  |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 4 | 16.5 |                      | E5313/4NO6  |
| 1"   | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 4 | 22   |                      | E5311NO1    |
| 1"   | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 4 | 22   |                      | E5311NO2    |
| 1"   | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 4 | 22   |                      | E5311NO3    |
| 1"   | 8   | 25.400                      | 130                  | 35                   | 18.00                     | 14.00   | 4 | 22   |                      | E5311NO6    |

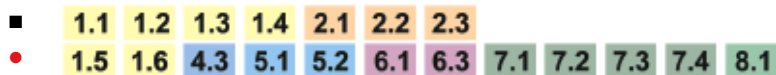




- |                     |                    |                          |
|---------------------|--------------------|--------------------------|
| • Strojní závitníky | • Gépi Menetfűró   | • Gwintowniki maszynowe  |
| • Tarozi de masina  | • Машинные метчики | • strojni navojni sveder |



# E534



|      |     | d <sub>1</sub><br>nom | l <sub>1</sub> | l <sub>2</sub> | d <sub>2</sub><br>Ø | <br>a | <br>z |  | l <sub>4</sub> | e-Code   |
|------|-----|-----------------------|----------------|----------------|---------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|----------|
| BSW  | TPI | mm                    | mm             | mm             | mm                  | mm                                                                                       |                                                                                          |                                                                                     | mm             |          |
| 1/8  | 40  | 3.175                 | 48             | 12.5           | 3.15                | 2.50                                                                                     | 3                                                                                        | 2.55                                                                                | 12.5           | E5341/8  |
| 5/32 | 32  | 3.969                 | 53             | 14             | 4.00                | 3.15                                                                                     | 3                                                                                        | 3.2                                                                                 | 14             | E5345/32 |
| 3/16 | 24  | 4.763                 | 58             | 11             | 5.00                | 4.00                                                                                     | 3                                                                                        | 3.7                                                                                 | 20             | E5343/16 |
| 1/4  | 20  | 6.350                 | 66             | 13             | 6.30                | 5.00                                                                                     | 3                                                                                        | 5.1                                                                                 | 26             | E5341/4  |
| 5/16 | 18  | 7.938                 | 72             | 16             | 8.00                | 6.30                                                                                     | 3                                                                                        | 6.5                                                                                 | 29             | E5345/16 |
| 3/8  | 16  | 9.525                 | 80             | 18             | 10.00               | 8.00                                                                                     | 3                                                                                        | 7.9                                                                                 | 32             | E5343/8  |
| 7/16 | 14  | 11.112                | 85             | 19             | 8.00                | 6.30                                                                                     | 3                                                                                        | 9.2                                                                                 |                | E5347/16 |
| 1/2  | 12  | 12.700                | 89             | 22             | 9.00                | 7.10                                                                                     | 3                                                                                        | 10.5                                                                                |                | E5341/2  |
| 5/8  | 11  | 15.875                | 102            | 24             | 12.50               | 10.00                                                                                    | 3                                                                                        | 13.5                                                                                |                | E5345/8  |
| 3/4  | 10  | 19.050                | 112            | 29             | 14.00               | 11.20                                                                                    | 4                                                                                        | 16.5                                                                                |                | E5343/4  |

- Strojní závitníky
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## E533



|   |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|
| ■ | 1.2 | 1.3 | 1.4 | 2.1 | 2.2 | 2.3 |
| ● | 1.5 | 5.2 | 7.1 | 7.2 | 7.3 | 7.4 |

| BSW  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z | ↔    | l <sub>4</sub><br>mm | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|---|------|----------------------|--------------|
| 1/8  | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 3 | 2.55 | 12.5                 | E5331/8      |
| 1/8  | 40  | 3.175                       | 48                   | 12.5                 | 3.15                      | 2.50    | 3 | 2.55 | 12.5                 | E5331/8BLUE  |
| 3/16 | 24  | 4.763                       | 58                   | 11                   | 5.00                      | 4.00    | 3 | 3.7  | 20                   | E5333/16     |
| 3/16 | 24  | 4.763                       | 58                   | 11                   | 5.00                      | 4.00    | 3 | 3.7  | 20                   | E5333/16BLUE |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.1  | 26                   | E5331/4      |
| 1/4  | 20  | 6.350                       | 66                   | 13                   | 6.30                      | 5.00    | 3 | 5.1  | 26                   | E5331/4BLUE  |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 3 | 6.5  | 31                   | E5335/16     |
| 5/16 | 18  | 7.938                       | 72                   | 16                   | 8.00                      | 6.30    | 3 | 6.5  | 31                   | E5335/16BLUE |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 3 | 7.9  | 34                   | E5333/8      |
| 3/8  | 16  | 9.525                       | 80                   | 18                   | 10.00                     | 8.00    | 3 | 7.9  | 34                   | E5333/8BLUE  |
| 1/2  | 12  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 3 | 10.5 |                      | E5331/2      |
| 1/2  | 12  | 12.700                      | 89                   | 22                   | 9.00                      | 7.10    | 3 | 10.5 |                      | E5331/2BLUE  |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 3 | 13.5 |                      | E5335/8      |
| 5/8  | 11  | 15.875                      | 102                  | 24                   | 12.50                     | 10.00   | 3 | 13.5 |                      | E5335/8BLUE  |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 3 | 16.5 |                      | E5333/4      |
| 3/4  | 10  | 19.050                      | 112                  | 29                   | 14.00                     | 11.20   | 3 | 16.5 |                      | E5333/4BLUE  |

- Strojní závitníky
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- Tarozi de masina
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- strojni navojni sveder



## E536



- 6.1
- 1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 3.1 3.2 3.3 3.4 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| BSF  | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z | ↔     | l <sub>4</sub><br>mm | e-Code      |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|---|-------|----------------------|-------------|
| 3/16 | 32  | 4.76                        | 58                   | 12                   | 5.0                       | 4.0     | 3 | 4     | 20                   | E5363/16NO1 |
| 3/16 | 32  | 4.76                        | 58                   | 12                   | 5.0                       | 4.0     | 3 | 4     | 20                   | E5363/16NO2 |
| 3/16 | 32  | 4.76                        | 58                   | 12                   | 5.0                       | 4.0     | 3 | 4     | 20                   | E5363/16NO3 |
| 3/16 | 32  | 4.76                        | 58                   | 12                   | 5.0                       | 4.0     | 3 | 4     | 20                   | E5363/16NO6 |
| 1/4  | 26  | 6.35                        | 66                   | 14                   | 6.3                       | 5.0     | 3 | 5.3   | 26                   | E5361/4NO1  |
| 1/4  | 26  | 6.35                        | 66                   | 14                   | 6.3                       | 5.0     | 3 | 5.3   | 26                   | E5361/4NO2  |
| 1/4  | 26  | 6.35                        | 66                   | 14                   | 6.3                       | 5.0     | 3 | 5.3   | 26                   | E5361/4NO3  |
| 1/4  | 26  | 6.35                        | 66                   | 14                   | 6.3                       | 5.0     | 3 | 5.3   | 26                   | E5361/4NO6  |
| 5/16 | 22  | 7.94                        | 72                   | 18                   | 8.0                       | 6.3     | 3 | 6.8   | 29                   | E5365/16NO1 |
| 5/16 | 22  | 7.94                        | 72                   | 18                   | 8.0                       | 6.3     | 3 | 6.8   | 29                   | E5365/16NO2 |
| 5/16 | 22  | 7.94                        | 72                   | 18                   | 8.0                       | 6.3     | 3 | 6.8   | 29                   | E5365/16NO3 |
| 5/16 | 22  | 7.94                        | 72                   | 18                   | 8.0                       | 6.3     | 3 | 6.8   | 29                   | E5365/16NO6 |
| 3/8  | 20  | 9.53                        | 80                   | 20                   | 10.0                      | 8.0     | 3 | 8.3   | 32                   | E5363/8NO1  |
| 3/8  | 20  | 9.53                        | 80                   | 20                   | 10.0                      | 8.0     | 3 | 8.3   | 32                   | E5363/8NO2  |
| 3/8  | 20  | 9.53                        | 80                   | 20                   | 10.0                      | 8.0     | 3 | 8.3   | 32                   | E5363/8NO3  |
| 3/8  | 20  | 9.53                        | 80                   | 20                   | 10.0                      | 8.0     | 3 | 8.3   | 32                   | E5363/8NO6  |
| 7/16 | 18  | 11.11                       | 85                   | 20                   | 8.0                       | 6.3     | 3 | 9.7   |                      | E5367/16NO1 |
| 7/16 | 18  | 11.11                       | 85                   | 20                   | 8.0                       | 6.3     | 3 | 9.7   |                      | E5367/16NO2 |
| 7/16 | 18  | 11.11                       | 85                   | 20                   | 8.0                       | 6.3     | 3 | 9.7   |                      | E5367/16NO3 |
| 7/16 | 18  | 11.11                       | 85                   | 20                   | 8.0                       | 6.3     | 3 | 9.7   |                      | E5367/16NO6 |
| 1/2  | 16  | 12.70                       | 89                   | 23                   | 9.0                       | 7.1     | 3 | 11    |                      | E5361/2NO1  |
| 1/2  | 16  | 12.70                       | 89                   | 23                   | 9.0                       | 7.1     | 3 | 11    |                      | E5361/2NO2  |
| 1/2  | 16  | 12.70                       | 89                   | 23                   | 9.0                       | 7.1     | 3 | 11    |                      | E5361/2NO3  |
| 1/2  | 16  | 12.70                       | 89                   | 23                   | 9.0                       | 7.1     | 3 | 11    |                      | E5361/2NO6  |
| 9/16 | 16  | 14.28                       | 95                   | 25                   | 11.2                      | 9.0     | 4 | 12.7  |                      | E5369/16NO1 |
| 9/16 | 16  | 14.28                       | 95                   | 25                   | 11.2                      | 9.0     | 4 | 12.7  |                      | E5369/16NO2 |
| 9/16 | 16  | 14.28                       | 95                   | 25                   | 11.2                      | 9.0     | 4 | 12.7  |                      | E5369/16NO3 |
| 9/16 | 16  | 14.28                       | 95                   | 25                   | 11.2                      | 9.0     | 4 | 12.7  |                      | E5369/16NO6 |
| 5/8  | 14  | 15.88                       | 102                  | 25                   | 12.5                      | 10.0    | 4 | 14    |                      | E5365/8NO1  |
| 5/8  | 14  | 15.88                       | 102                  | 25                   | 12.5                      | 10.0    | 4 | 14    |                      | E5365/8NO2  |
| 5/8  | 14  | 15.88                       | 102                  | 25                   | 12.5                      | 10.0    | 4 | 14    |                      | E5365/8NO3  |
| 5/8  | 14  | 15.88                       | 102                  | 25                   | 12.5                      | 10.0    | 4 | 14    |                      | E5365/8NO6  |
| 3/4  | 12  | 19.05                       | 112                  | 30                   | 14.0                      | 11.2    | 4 | 17    |                      | E5363/4NO1  |
| 3/4  | 12  | 19.05                       | 112                  | 30                   | 14.0                      | 11.2    | 4 | 17    |                      | E5363/4NO2  |
| 3/4  | 12  | 19.05                       | 112                  | 30                   | 14.0                      | 11.2    | 4 | 17    |                      | E5363/4NO3  |
| 3/4  | 12  | 19.05                       | 112                  | 30                   | 14.0                      | 11.2    | 4 | 17    |                      | E5363/4NO6  |
| 7/8  | 11  | 22.23                       | 118                  | 30                   | 16.0                      | 12.5    | 4 | 19.75 |                      | E5367/8NO1  |
| 7/8  | 11  | 22.23                       | 118                  | 30                   | 16.0                      | 12.5    | 4 | 19.75 |                      | E5367/8NO2  |
| 7/8  | 11  | 22.23                       | 118                  | 30                   | 16.0                      | 12.5    | 4 | 19.75 |                      | E5367/8NO3  |
| 7/8  | 11  | 22.23                       | 118                  | 30                   | 16.0                      | 12.5    | 4 | 19.75 |                      | E5367/8NO6  |
| 1"   | 10  | 25.40                       | 130                  | 36                   | 18.0                      | 14.0    | 4 | 22.75 |                      | E5361NO1    |
| 1"   | 10  | 25.40                       | 130                  | 36                   | 18.0                      | 14.0    | 4 | 22.75 |                      | E5361NO2    |
| 1    | 10  | 25.40                       | 130                  | 36                   | 18.0                      | 14.0    | 4 | 22.75 |                      | E5361NO3    |
| 1"   | 10  | 25.40                       | 130                  | 36                   | 18.0                      | 14.0    | 4 | 22.75 |                      | E5361NO6    |

# E539 / E538

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E539



- 1.1 1.2 1.3 1.4 2.1 2.2 2.3
- 1.5 1.6 4.3 5.1 5.2 6.1 6.3 7.1 7.2 7.3 7.4 8.1

| BSF  | TPI | d <sub>1</sub> nom<br>Inch | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub> Ø<br>mm | a<br>mm | z |     | l <sub>4</sub><br>mm | e-Code   |
|------|-----|----------------------------|----------------------|----------------------|------------------------|---------|---|-----|----------------------|----------|
| 1/4  | 26  | 6.35                       | 66                   | 14                   | 6.3                    | 5.0     | 3 | 5.3 | 26                   | E5391/4  |
| 5/16 | 22  | 7.94                       | 72                   | 18                   | 8.0                    | 6.3     | 3 | 6.8 | 29                   | E5395/16 |
| 3/8  | 20  | 9.53                       | 80                   | 20                   | 10.0                   | 8.0     | 3 | 8.3 | 32                   | E5393/8  |
| 1/2  | 16  | 12.70                      | 89                   | 23                   | 9.0                    | 7.1     | 3 | 11  |                      | E5391/2  |



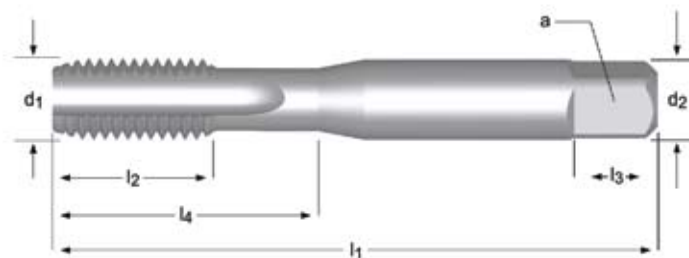
## E538



- 1.2 1.3 1.4 2.1 2.2 2.3
- 1.5 5.2 7.1 7.2 7.3 7.4

| BSF  | TPI | d <sub>1</sub> nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub> Ø<br>mm | a<br>mm | z |     | l <sub>4</sub><br>mm | e-Code       |
|------|-----|--------------------------|----------------------|----------------------|------------------------|---------|---|-----|----------------------|--------------|
| 1/4  | 26  | 6.350                    | 66                   | 13                   | 6.30                   | 5.00    | 3 | 5.3 | 26                   | E5381/4      |
| 1/4  | 26  | 6.350                    | 66                   | 13                   | 6.30                   | 5.00    | 3 | 5.3 | 26                   | E5381/4BLUE  |
| 5/16 | 22  | 7.938                    | 72                   | 16                   | 8.00                   | 6.30    | 3 | 6.8 | 31                   | E5385/16     |
| 5/16 | 22  | 7.938                    | 72                   | 16                   | 8.00                   | 6.30    | 3 | 6.8 | 31                   | E5385/16BLUE |
| 3/8  | 20  | 9.525                    | 80                   | 18                   | 10.00                  | 8.00    | 3 | 8.3 | 34                   | E5383/8      |
| 3/8  | 20  | 9.525                    | 80                   | 18                   | 10.00                  | 8.00    | 3 | 8.3 | 34                   | E5383/8BLUE  |
| 1/2  | 16  | 12.700                   | 89                   | 22                   | 9.00                   | 7.10    | 3 | 11  |                      | E5381/2      |
| 1/2  | 16  | 12.700                   | 89                   | 22                   | 9.00                   | 7.10    | 3 | 11  |                      | E5381/2BLUE  |

- Strojní závitníky
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- strojni navojni sveder



## E542



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| BA   | P<br>mm | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |      | l <sub>4</sub><br>mm | e-Code      |
|------|---------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|----------------------|-------------|
| BA10 | 0.35    | 1.70                        | 41                   | 7.0                  | 2.50                      | 2.0     | 4                    | 2 | 1.3  | 7                    | E542BA10NO1 |
| BA10 | 0.35    | 1.70                        | 41                   | 7.0                  | 2.50                      | 2.0     | 4                    | 2 | 1.3  | 7                    | E542BA10NO2 |
| BA10 | 0.35    | 1.70                        | 41                   | 7.0                  | 2.50                      | 2.0     | 4                    | 2 | 1.3  | 7                    | E542BA10NO3 |
| BA10 | 0.35    | 1.70                        | 41                   | 7.0                  | 2.50                      | 2.0     | 4                    | 2 | 1.3  | 7                    | E542BA10NO6 |
| BA 8 | 0.43    | 2.20                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 1.8  | 9.5                  | E542BA8NO1  |
| BA 8 | 0.43    | 2.20                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 1.8  | 9.5                  | E542BA8NO2  |
| BA 8 | 0.43    | 2.20                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 1.8  | 9.5                  | E542BA8NO3  |
| BA 8 | 0.43    | 2.20                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 1.8  | 9.5                  | E542BA8NO6  |
| BA 6 | 0.53    | 2.80                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 2.3  | 9.5                  | E542BA6NO1  |
| BA 6 | 0.53    | 2.80                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 2.3  | 9.5                  | E542BA6NO2  |
| BA 6 | 0.53    | 2.80                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 2.3  | 9.5                  | E542BA6NO3  |
| BA 6 | 0.53    | 2.80                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 2.3  | 9.5                  | E542BA6NO6  |
| BA 5 | 0.59    | 3.20                        | 48                   | 14.5                 | 3.15                      | 2.5     | 5                    | 3 | 2.65 | 14.5                 | E542BA5NO1  |
| BA 5 | 0.59    | 3.20                        | 48                   | 14.5                 | 3.15                      | 2.5     | 5                    | 3 | 2.65 | 14.5                 | E542BA5NO2  |
| BA 5 | 0.59    | 3.20                        | 48                   | 14.5                 | 3.15                      | 2.5     | 5                    | 3 | 2.65 | 14.5                 | E542BA5NO3  |
| BA 5 | 0.59    | 3.20                        | 48                   | 14.5                 | 3.15                      | 2.5     | 5                    | 3 | 2.65 | 14.5                 | E542BA5NO6  |
| BA 4 | 0.66    | 3.60                        | 50                   | 16.5                 | 3.55                      | 2.8     | 5                    | 3 | 3    | 16.5                 | E542BA4NO1  |
| BA 4 | 0.66    | 3.60                        | 50                   | 16.5                 | 3.55                      | 2.8     | 5                    | 3 | 3    | 16.5                 | E542BA4NO2  |
| BA 4 | 0.66    | 3.60                        | 50                   | 16.5                 | 3.55                      | 2.8     | 5                    | 3 | 3    | 16.5                 | E542BA4NO3  |
| BA 4 | 0.66    | 3.60                        | 50                   | 16.5                 | 3.55                      | 2.8     | 5                    | 3 | 3    | 16.5                 | E542BA4NO6  |
| BA 3 | 0.73    | 4.10                        | 53                   | 10.0                 | 4.50                      | 3.5     | 6                    | 3 | 3.4  | 17                   | E542BA3NO1  |
| BA 3 | 0.73    | 4.10                        | 53                   | 10.0                 | 4.50                      | 3.5     | 6                    | 3 | 3.4  | 17                   | E542BA3NO2  |
| BA 3 | 0.73    | 4.10                        | 53                   | 10.0                 | 4.50                      | 3.5     | 6                    | 3 | 3.4  | 17                   | E542BA3NO3  |
| BA 3 | 0.73    | 4.10                        | 53                   | 10.0                 | 4.50                      | 3.5     | 6                    | 3 | 3.4  | 17                   | E542BA3NO6  |
| BA 2 | 0.81    | 4.70                        | 58                   | 12.0                 | 5.00                      | 4.0     | 7                    | 3 | 4    | 20                   | E542BA2NO1  |
| BA 2 | 0.81    | 4.70                        | 58                   | 12.0                 | 5.00                      | 4.0     | 7                    | 3 | 4    | 20                   | E542BA2NO2  |
| BA 2 | 0.81    | 4.70                        | 58                   | 12.0                 | 5.00                      | 4.0     | 7                    | 3 | 4    | 20                   | E542BA2NO3  |
| BA 2 | 0.81    | 4.70                        | 58                   | 12.0                 | 5.00                      | 4.0     | 7                    | 3 | 4    | 20                   | E542BA2NO6  |
| BA 0 | 1.00    | 6.00                        | 66                   | 14.0                 | 6.30                      | 5.0     | 8                    | 3 | 5.1  | 26                   | E542BA0NO1  |
| BA 0 | 1.00    | 6.00                        | 66                   | 14.0                 | 6.30                      | 5.0     | 8                    | 3 | 5.1  | 26                   | E542BA0NO2  |
| BA 0 | 1.00    | 6.00                        | 66                   | 14.0                 | 6.30                      | 5.0     | 8                    | 3 | 5.1  | 26                   | E542BA0NO3  |
| BA 0 | 1.00    | 6.00                        | 66                   | 14.0                 | 6.30                      | 5.0     | 8                    | 3 | 5.1  | 26                   | E542BA0NO6  |



# E545 / E544

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E545



- 1.1 1.2 1.3 1.4
- 1.5 1.6 2.1 2.2 2.3 4.3 5.1 5.2 6.1 6.3 7.1 7.2 7.3 7.4 8.1

| BA   | P<br>mm | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code       |
|------|---------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|--------------|
| BA10 | 0.35    | 1.70                        | 41                   | 7.0                  | 2.50                      | 2.0     | 4                    | 2 | 1.3                  | 7 E545BA10   |
| BA 8 | 0.43    | 2.20                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 1.8                  | 9.5 E545BA8  |
| BA 6 | 0.53    | 2.80                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 2.3                  | 9.5 E545BA6  |
| BA 4 | 0.66    | 3.60                        | 50                   | 16.5                 | 3.55                      | 2.8     | 5                    | 3 | 3                    | 16.5 E545BA4 |
| BA 2 | 0.81    | 4.70                        | 58                   | 12.0                 | 5.00                      | 4.0     | 7                    | 3 | 4                    | 20 E545BA2   |



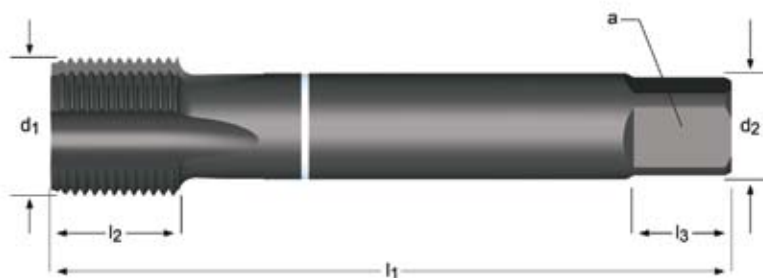
## E544



- 1.2 1.3 1.4 2.1 2.2 2.3
- 1.5 5.2 7.1 7.2 7.3 7.4

| BA   | P<br>mm | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | l <sub>4</sub><br>mm | e-Code           |
|------|---------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|----------------------|------------------|
| BA 8 | 0.43    | 2.20                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 1.8                  | 9.5 E544BA8      |
| BA 8 | 0.43    | 2.20                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 1.8                  | 9.5 E544BA8BLUE  |
| BA 6 | 0.53    | 2.80                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 2.3                  | 9.5 E544BA6      |
| BA 6 | 0.53    | 2.80                        | 44.5                 | 9.5                  | 2.80                      | 2.2     | 5                    | 3 | 2.3                  | 9.5 E544BA6BLUE  |
| BA 4 | 0.66    | 3.60                        | 50                   | 16.5                 | 3.55                      | 2.8     | 5                    | 3 | 3                    | 16.5 E544BA4     |
| BA 4 | 0.66    | 3.60                        | 50                   | 16.5                 | 3.55                      | 2.8     | 5                    | 3 | 3                    | 16.5 E544BA4BLUE |
| BA 2 | 0.81    | 4.70                        | 58                   | 12.0                 | 5.00                      | 4.0     | 7                    | 3 | 4                    | 20 E544BA2       |
| BA 2 | 0.81    | 4.70                        | 58                   | 12.0                 | 5.00                      | 4.0     | 7                    | 3 | 4                    | 20 E544BA2BLUE   |

- Strojní závitníky, bílý Shark
- Gépi Menetfűró, Fehér Shark
- Gwintowniki maszynowe, Białe Shark
- Tarozi de masina, Shark ALB
- Машинные метчики "White Shark" для чугунов
- strojni navojni sveder, White Shark

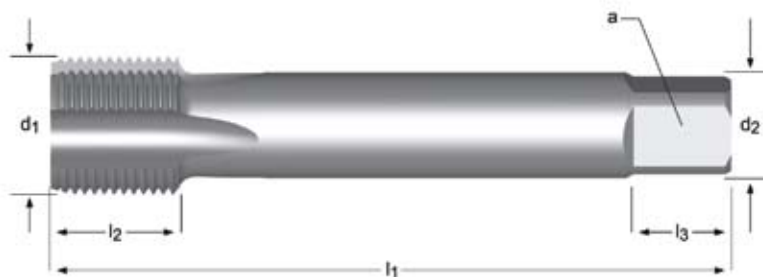


## E416



|   |     |     |     |     |
|---|-----|-----|-----|-----|
| ■ | 3.1 | 3.2 | 3.3 | 8.2 |
| ● | 3.4 | 6.2 | 6.4 | 7.4 |

| G(BSP) | TPI | d <sub>1</sub> nom mm | l <sub>1</sub> mm | l <sub>2</sub> mm | d <sub>2</sub> Ø mm | a mm | l <sub>3</sub> mm | z | e-Code        |
|--------|-----|-----------------------|-------------------|-------------------|---------------------|------|-------------------|---|---------------|
| 1/8    | 28  | 9.73                  | 90                | 20                | 7                   | 5.5  | 8                 | 4 | 8.8 E4161/8   |
| 1/4    | 19  | 13.16                 | 100               | 21                | 11                  | 9.0  | 12                | 4 | 11.8 E4161/4  |
| 3/8    | 19  | 16.66                 | 100               | 21                | 12                  | 9.0  | 12                | 5 | 15.25 E4163/8 |
| 1/2    | 14  | 20.96                 | 125               | 24                | 16                  | 12.0 | 15                | 5 | 19 E4161/2    |
| 3/4    | 14  | 26.44                 | 140               | 28                | 20                  | 16.0 | 19                | 6 | 24.5 E4163/4  |
| 1"     | 11  | 33.25                 | 160               | 30                | 25                  | 20.0 | 23                | 6 | 30.75 E4161   |



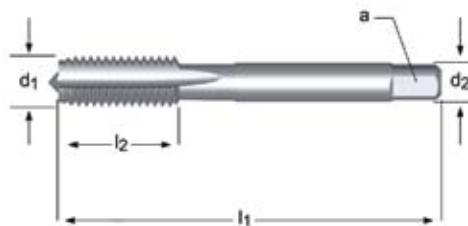
## E282



|   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ● | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 3.1 | 3.2 | 3.3 | 6.2 | 6.3 | 7.2 | 7.3 | 8.2 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| G(BSP) | TPI | d <sub>1</sub> nom mm | l <sub>1</sub> mm | l <sub>2</sub> mm | d <sub>2</sub> Ø mm | a mm | l <sub>3</sub> mm | z | e-Code         |
|--------|-----|-----------------------|-------------------|-------------------|---------------------|------|-------------------|---|----------------|
| 1/8    | 28  | 9.73                  | 90                | 20                | 7                   | 5.5  | 8                 | 3 | 8.8 E2821/8    |
| 1/4    | 19  | 13.16                 | 100               | 21                | 11                  | 9.0  | 12                | 4 | 11.8 E2821/4   |
| 3/8    | 19  | 16.66                 | 100               | 21                | 12                  | 9.0  | 12                | 4 | 15.25 E2823/8  |
| 1/2    | 14  | 20.96                 | 125               | 24                | 16                  | 12.0 | 15                | 4 | 19 E2821/2     |
| 5/8    | 14  | 22.91                 | 125               | 25                | 18                  | 14.5 | 17                | 4 | 21 E2825/8     |
| 3/4    | 14  | 26.44                 | 140               | 28                | 20                  | 16.0 | 19                | 4 | 24.5 E2823/4   |
| 7/8    | 14  | 30.20                 | 150               | 28                | 22                  | 18.0 | 21                | 4 | 28.25 E2827/8  |
| 1      | 11  | 33.25                 | 160               | 30                | 25                  | 20.0 | 23                | 4 | 30.75 E2821    |
| 1.1/8  | 11  | 37.90                 | 170               | 28                | 28                  | 22.0 | 25                | 4 | 35 E2821.1/8   |
| 1.1/4  | 11  | 41.91                 | 170               | 30                | 32                  | 24.0 | 27                | 4 | 39.5 E2821.1/4 |
| 1.1/2  | 11  | 47.80                 | 190               | 32                | 36                  | 29.0 | 32                | 6 | 45 E2821.1/2   |

- Závítňíky ruční
- Kézi Menetfúró
- Gwintowniki reczne
- Tarozi de mana
- Ручные метчики
- sveder navojni ročni



E119



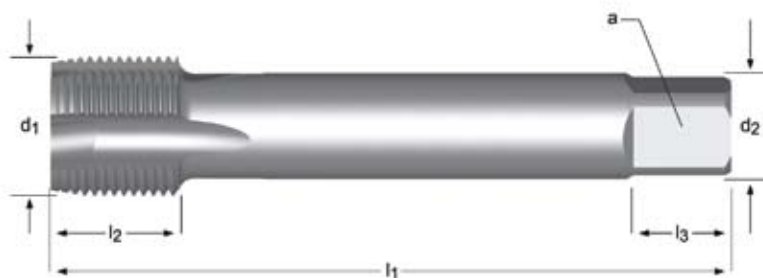
• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| G(BSP) | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | z | e-Code       |
|--------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|---|--------------|
| 1/8    | 28  | 9.73                        | 63                   | 15                   | 7                         | 5.5     | 3 | E1191/8NO3   |
| 1/8    | 28  | 9.73                        | 63                   | 15                   | 7                         | 5.5     | 3 | E1191/8NO9   |
| 1/4    | 19  | 13.16                       | 70                   | 16                   | 11                        | 9.0     | 4 | E1191/4NO3   |
| 1/4    | 19  | 13.16                       | 70                   | 16                   | 11                        | 9.0     | 4 | E1191/4NO9   |
| 3/8    | 19  | 16.66                       | 70                   | 16                   | 12                        | 9.0     | 4 | E1193/8NO3   |
| 3/8    | 19  | 16.66                       | 70                   | 16                   | 12                        | 9.0     | 4 | E1193/8NO9   |
| 1/2    | 14  | 20.96                       | 80                   | 18                   | 16                        | 12.0    | 4 | E1191/2NO3   |
| 1/2    | 14  | 20.96                       | 80                   | 18                   | 16                        | 12.0    | 4 | E1191/2NO9   |
| 5/8    | 14  | 22.91                       | 80                   | 22                   | 18                        | 14.5    | 4 | E1195/8NO3   |
| 5/8    | 14  | 22.91                       | 80                   | 22                   | 18                        | 14.5    | 4 | E1195/8NO9   |
| 3/4    | 14  | 26.44                       | 90                   | 22                   | 20                        | 16.0    | 4 | E1193/4NO3   |
| 3/4    | 14  | 26.44                       | 90                   | 22                   | 20                        | 16.0    | 4 | E1193/4NO9   |
| 7/8    | 14  | 30.20                       | 90                   | 22                   | 22                        | 18.0    | 6 | E1197/8NO3   |
| 7/8    | 14  | 30.20                       | 90                   | 22                   | 22                        | 18.0    | 6 | E1197/8NO9   |
| 1"     | 11  | 33.25                       | 100                  | 25                   | 25                        | 20.0    | 6 | E1191NO3     |
| 1"     | 11  | 33.25                       | 100                  | 25                   | 25                        | 20.0    | 6 | E1191NO9     |
| 1.1/8  | 11  | 37.90                       | 125                  | 40                   | 28                        | 22.0    | 6 | E1191.1/8NO3 |
| 1.1/8  | 11  | 37.90                       | 125                  | 40                   | 28                        | 22.0    | 6 | E1191.1/8NO9 |
| 1.1/4  | 11  | 41.91                       | 125                  | 40                   | 32                        | 24.0    | 6 | E1191.1/4NO3 |
| 1.1/4  | 11  | 41.91                       | 125                  | 40                   | 32                        | 24.0    | 6 | E1191.1/4NO9 |
| 1.1/2  | 11  | 47.80                       | 140                  | 40                   | 36                        | 29.0    | 6 | E1191.1/2NO3 |
| 1.1/2  | 11  | 47.80                       | 140                  | 40                   | 36                        | 29.0    | 6 | E1191.1/2NO9 |
| 1.3/4  | 11  | 53.75                       | 140                  | 40                   | 40                        | 32.0    | 6 | E1191.3/4NO3 |
| 1.3/4  | 11  | 53.75                       | 140                  | 40                   | 40                        | 32.0    | 6 | E1191.3/4NO9 |
| 2"     | 11  | 59.61                       | 160                  | 40                   | 45                        | 35.0    | 6 | E1192NO3     |
| 2"     | 11  | 59.61                       | 160                  | 40                   | 45                        | 35.0    | 6 | E1192NO9     |
| 2.1/4  | 11  | 65.71                       | 160                  | 40                   | 50                        | 39.0    | 6 | E1192.1/4NO3 |
| 2.1/4  | 11  | 65.71                       | 160                  | 40                   | 50                        | 39.0    | 6 | E1192.1/4NO9 |
| 2.1/2  | 11  | 75.18                       | 160                  | 40                   | 50                        | 39.0    | 6 | E1192.1/2NO3 |
| 2.1/2  | 11  | 75.18                       | 160                  | 40                   | 50                        | 39.0    | 6 | E1192.1/2NO9 |
| 2.3/4  | 11  | 81.53                       | 160                  | 40                   | 50                        | 39.0    | 8 | E1192.3/4NO3 |
| 2.3/4  | 11  | 81.53                       | 160                  | 40                   | 50                        | 39.0    | 8 | E1192.3/4NO9 |
| 3"     | 11  | 87.88                       | 160                  | 40                   | 50                        | 39.0    | 8 | E1193NO3     |
| 3"     | 11  | 87.88                       | 160                  | 40                   | 50                        | 39.0    | 8 | E1193NO9     |





- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E284



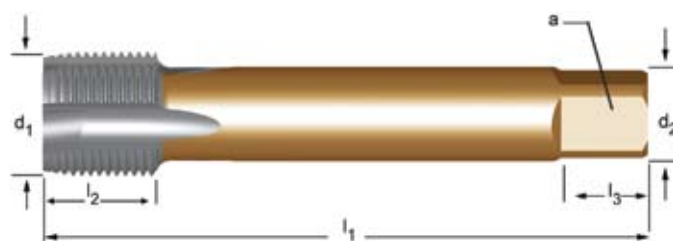
- 1.2 1.3 1.4
- 1.1 1.5 3.1 3.2 3.3 3.4 4.1 4.3 5.1 5.2 6.1 6.2 6.3 7.1 7.2 7.3 7.4 8.1

| G(BSP) | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code        |
|--------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|---------------|
| 1/8    | 28  | 9.73                        | 90                   | 20                   | 7                         | 5.5     | 8                    | 3 | 8.8 E2841/8   |
| 1/4    | 19  | 13.16                       | 100                  | 21                   | 11                        | 9.0     | 12                   | 4 | 11.8 E2841/4  |
| 3/8    | 19  | 16.66                       | 100                  | 21                   | 12                        | 9.0     | 12                   | 4 | 15.25 E2843/8 |
| 1/2    | 14  | 20.96                       | 125                  | 24                   | 16                        | 12.0    | 15                   | 4 | 19 E2841/2    |
| 5/8    | 14  | 22.91                       | 125                  | 25                   | 18                        | 14.5    | 17                   | 4 | 21 E2845/8    |
| 3/4    | 14  | 26.44                       | 140                  | 28                   | 20                        | 16.0    | 19                   | 4 | 24.5 E2843/4  |
| 7/8    | 14  | 30.20                       | 150                  | 28                   | 22                        | 18.0    | 21                   | 4 | 28.25 E2847/8 |
| 1      | 11  | 33.25                       | 160                  | 30                   | 25                        | 20.0    | 23                   | 4 | 30.75 E2841   |

# E040 / E041

**DORMER**

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



**MTT-X**

**E040**



|   |     |     |     |     |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 6.1 | 6.3 | 7.1 | 7.2 | 7.3 | 7.4 |
| ● | 1.6 | 3.1 | 3.2 | 3.3 | 3.4 | 4.1 | 4.2 | 5.1 | 5.2 | 6.2 | 8.1 |

| G(BSP) | TPI | d <sub>1</sub> nom mm | l <sub>1</sub> mm | l <sub>2</sub> mm | d <sub>2</sub> Ø mm | a mm | l <sub>3</sub> mm | z | e-Code        |
|--------|-----|-----------------------|-------------------|-------------------|---------------------|------|-------------------|---|---------------|
| 1/8    | 28  | 9.728                 | 90                | 15                | 8                   | 6.3  | 9                 | 3 | 8.80 E0401/8  |
| 1/4    | 19  | 13.157                | 100               | 19                | 10                  | 8    | 11                | 3 | 11.80 E0401/4 |
| 3/8    | 19  | 16.662                | 100               | 21                | 12.5                | 10   | 13                | 3 | 15.25 E0403/8 |
| 1/2    | 14  | 20.955                | 125               | 26                | 16                  | 12.5 | 16                | 4 | 19.00 E0401/2 |
| 3/4    | 14  | 26.441                | 140               | 28                | 20                  | 16   | 20                | 4 | 24.50 E0403/4 |



**MTT-X**

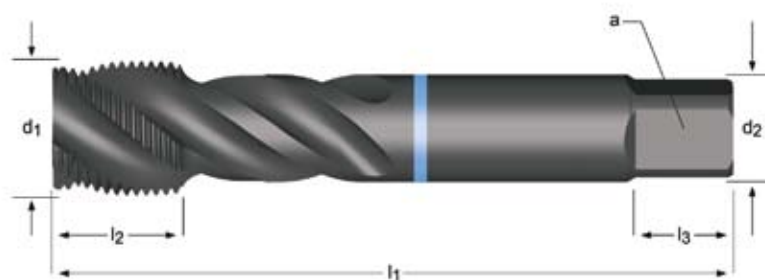
**E041**



|   |     |     |     |     |     |     |     |     |  |
|---|-----|-----|-----|-----|-----|-----|-----|-----|--|
| ■ | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 |     |     |     |  |
| ● | 1.6 | 2.1 | 2.2 | 2.3 | 3.1 | 3.2 | 3.3 | 3.4 |  |

| G(BSP) | TPI | d <sub>1</sub> nom mm | l <sub>1</sub> mm | l <sub>2</sub> mm | d <sub>2</sub> Ø mm | a mm | l <sub>3</sub> mm | z | e-Code        |
|--------|-----|-----------------------|-------------------|-------------------|---------------------|------|-------------------|---|---------------|
| 1/8    | 28  | 9.728                 | 90                | 15                | 8                   | 6.3  | 9                 | 3 | 8.80 E0411/8  |
| 1/4    | 19  | 13.157                | 100               | 19                | 10                  | 8    | 11                | 3 | 11.80 E0411/4 |
| 3/8    | 19  | 16.662                | 100               | 21                | 12.5                | 10   | 13                | 3 | 15.25 E0413/8 |
| 1/2    | 14  | 20.955                | 125               | 26                | 16                  | 12.5 | 16                | 4 | 19.00 E0411/2 |
| 3/4    | 14  | 26.441                | 140               | 28                | 20                  | 16   | 20                | 4 | 24.50 E0413/4 |

- Strojní závitníky, modrý Shark
- Gépi Menetfűró, Kék Shark
- Gwintowniki maszynowe, Niebieski Shark
- Tarozi de masina, Shark ALBASTRU
- Машинные метчики "Blue Shark" для нержавеющей сталей
- strojni navojni sveder, Blue Shark



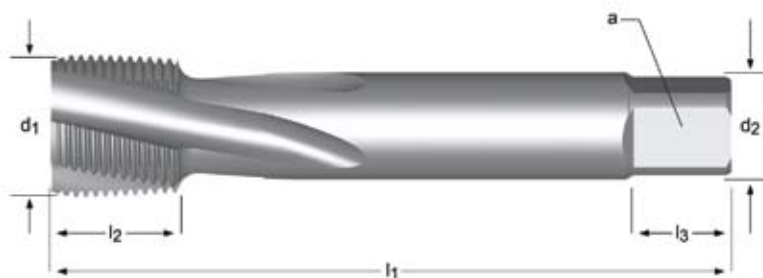
## E362



- 2.1 2.2 2.3
- 1.5 1.6

| G(BSP) | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code        |
|--------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|---------------|
| 1/8    | 28  | 9.73                        | 90                   | 12                   | 7                         | 5.5     | 8                    | 3 | 8.8 E3621/8   |
| 1/4    | 19  | 13.16                       | 100                  | 15                   | 11                        | 9.0     | 12                   | 4 | 11.8 E3621/4  |
| 3/8    | 19  | 16.66                       | 100                  | 15                   | 12                        | 9.0     | 12                   | 4 | 15.25 E3623/8 |
| 1/2    | 14  | 20.96                       | 125                  | 24                   | 16                        | 12.0    | 15                   | 4 | 19 E3621/2    |
| 3/4    | 14  | 26.44                       | 140                  | 20                   | 20                        | 16.0    | 19                   | 4 | 24.5 E3623/4  |
| 1      | 11  | 33.25                       | 160                  | 24                   | 25                        | 20.0    | 23                   | 4 | 30.75 E3621   |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



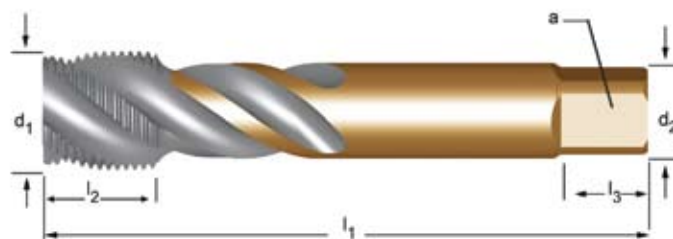
## E283



- 1.3 1.4
- 1.2 1.5 7.2 7.3

| G(BSP) | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | e-Code    |
|--------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|-----------|
| 1/8    | 28  | 9.73                        | 90                   | 20                   | 7                         | 5.5     | 8                    | 3 | 8.8   | E2831/8   |
| 1/4    | 19  | 13.16                       | 100                  | 21                   | 11                        | 9.0     | 12                   | 3 | 11.8  | E2831/4   |
| 3/8    | 19  | 16.66                       | 100                  | 21                   | 12                        | 9.0     | 12                   | 4 | 15.25 | E2833/8   |
| 1/2    | 14  | 20.96                       | 125                  | 24                   | 16                        | 12.0    | 15                   | 4 | 19    | E2831/2   |
| 5/8    | 14  | 22.91                       | 125                  | 25                   | 18                        | 14.5    | 17                   | 4 | 21    | E2835/8   |
| 3/4    | 14  | 26.44                       | 140                  | 28                   | 20                        | 16.0    | 19                   | 4 | 24.5  | E2833/4   |
| 7/8    | 14  | 30.20                       | 150                  | 28                   | 22                        | 18.0    | 21                   | 4 | 28.25 | E2837/8   |
| 1      | 11  | 33.25                       | 160                  | 30                   | 25                        | 20.0    | 23                   | 4 | 30.75 | E2831     |
| 1.1/8  | 11  | 37.90                       | 170                  | 30                   | 28                        | 22.0    | 25                   | 4 | 35    | E2831.1/8 |
| 1.1/4  | 11  | 41.91                       | 170                  | 30                   | 32                        | 24.0    | 27                   | 4 | 39.5  | E2831.1/4 |
| 1.1/2  | 11  | 47.80                       | 190                  | 32                   | 36                        | 29.0    | 32                   | 6 | 45    | E2831.1/2 |

- Strojní závitníky MTT-X
- Gépi Menetfűró MTT-X
- Gwintownik maszynowy MTT-X
- Tarozi de masina MTT-X
- Машинные метчики MTT-X
- strojni navojni sveder MTT-X



MTT-X

## E042



- 1.1 1.2 1.3 1.4 1.5 7.1 7.2 7.3 7.4
- 4.1 4.2 5.1 5.2 8.1

| G(BSP) | TPI | d <sub>1</sub> nom mm | l <sub>1</sub> mm | l <sub>2</sub> mm | d <sub>2</sub> Ø mm | a mm | l <sub>3</sub> mm | z | e-Code        |
|--------|-----|-----------------------|-------------------|-------------------|---------------------|------|-------------------|---|---------------|
| 1/8    | 28  | 9.728                 | 90                | 15                | 8                   | 6.3  | 9                 | 3 | 8.80 E0421/8  |
| 1/4    | 19  | 13.157                | 100               | 19                | 10                  | 8    | 11                | 3 | 11.80 E0421/4 |
| 3/8    | 19  | 16.662                | 100               | 21                | 12.5                | 10   | 13                | 4 | 15.25 E0423/8 |
| 1/2    | 14  | 20.955                | 125               | 26                | 16                  | 12.5 | 16                | 4 | 19.00 E0421/2 |
| 3/4    | 14  | 26.441                | 140               | 28                | 20                  | 16   | 20                | 4 | 24.50 E0423/4 |



MTT-X

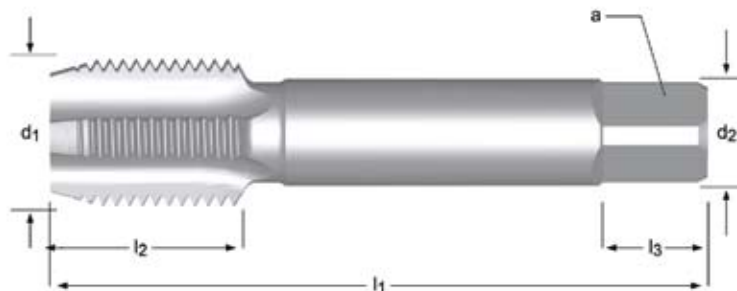
## E043



- 1.1 1.2 1.3 1.4 1.5
- 1.6 2.1 2.2 2.3

| G(BSP) | TPI | d <sub>1</sub> nom mm | l <sub>1</sub> mm | l <sub>2</sub> mm | d <sub>2</sub> Ø mm | a mm | l <sub>3</sub> mm | z | e-Code        |
|--------|-----|-----------------------|-------------------|-------------------|---------------------|------|-------------------|---|---------------|
| 1/8    | 28  | 9.728                 | 90                | 15                | 8                   | 6.3  | 9                 | 3 | 8.80 E0431/8  |
| 1/4    | 19  | 13.157                | 100               | 19                | 10                  | 8    | 11                | 3 | 11.80 E0431/4 |
| 3/8    | 19  | 16.662                | 100               | 21                | 12.5                | 10   | 13                | 4 | 15.25 E0433/8 |
| 1/2    | 14  | 20.955                | 125               | 26                | 16                  | 12.5 | 16                | 4 | 19.00 E0431/2 |
| 3/4    | 14  | 26.441                | 140               | 28                | 20                  | 16   | 20                | 4 | 24.50 E0433/4 |

- Strojní závitníky
- Gépi Menetfűrés
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



E547

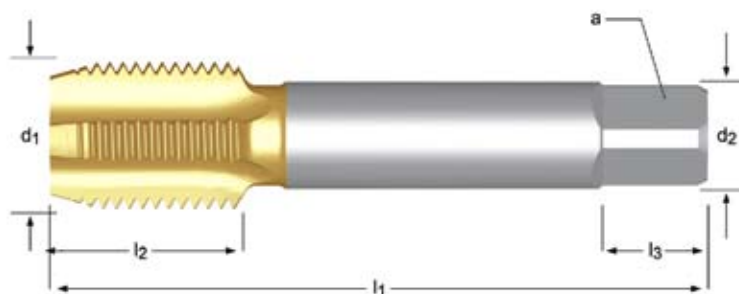


• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.1 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| G(BSP) | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code            |
|--------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------------------|
| 1/8    | 28  | 9.728                       | 59                   | 15                   | 8.0                       | 8.0     | 9                    | 4 | 8.8 E5471/8NO1    |
| 1/8    | 28  | 9.728                       | 59                   | 15                   | 8.0                       | 6.3     | 9                    | 4 | 8.8 E5471/8NO2    |
| 1/8    | 28  | 9.728                       | 59                   | 15                   | 8.0                       | 6.3     | 9                    | 4 | 8.8 E5471/8NO3    |
| 1/8    | 28  | 9.728                       | 59                   | 15                   | 8.0                       | 6.3     | 9                    | 4 | 8.8 E5471/8NO7    |
| 1/4    | 19  | 13.157                      | 67                   | 19                   | 10.0                      | 8.0     | 11                   | 4 | 11.8 E5471/4NO1   |
| 1/4    | 19  | 13.157                      | 67                   | 19                   | 10.0                      | 8.0     | 11                   | 4 | 11.8 E5471/4NO2   |
| 1/4    | 19  | 13.157                      | 67                   | 19                   | 10.0                      | 8.0     | 11                   | 4 | 11.8 E5471/4NO3   |
| 1/4    | 19  | 13.157                      | 67                   | 19                   | 10.0                      | 8.0     | 11                   | 4 | 11.8 E5471/4NO7   |
| 3/8    | 19  | 16.662                      | 75                   | 21                   | 12.5                      | 10.0    | 13                   | 4 | 15.25 E5473/8NO1  |
| 3/8    | 19  | 16.662                      | 75                   | 21                   | 12.5                      | 10.0    | 13                   | 4 | 15.25 E5473/8NO2  |
| 3/8    | 19  | 16.662                      | 75                   | 21                   | 12.5                      | 10.0    | 13                   | 4 | 15.25 E5473/8NO3  |
| 3/8    | 19  | 16.662                      | 75                   | 21                   | 12.5                      | 10.0    | 13                   | 4 | 15.25 E5473/8NO7  |
| 1/2    | 14  | 20.955                      | 87                   | 26                   | 16.0                      | 12.5    | 16                   | 4 | 19 E5471/2NO1     |
| 1/2    | 14  | 20.955                      | 87                   | 26                   | 16.0                      | 12.5    | 16                   | 4 | 19 E5471/2NO2     |
| 1/2    | 14  | 20.955                      | 87                   | 26                   | 16.0                      | 12.5    | 16                   | 4 | 19 E5471/2NO3     |
| 1/2    | 14  | 20.955                      | 87                   | 26                   | 16.0                      | 12.5    | 16                   | 4 | 19 E5471/2NO7     |
| 5/8    | 14  | 22.911                      | 91                   | 26                   | 18.0                      | 14.0    | 18                   | 4 | 21 E5475/8NO1     |
| 5/8    | 14  | 22.911                      | 91                   | 26                   | 18.0                      | 14.0    | 18                   | 4 | 21 E5475/8NO2     |
| 5/8    | 14  | 22.911                      | 91                   | 26                   | 18.0                      | 14.0    | 18                   | 4 | 21 E5475/8NO3     |
| 5/8    | 14  | 22.911                      | 91                   | 26                   | 18.0                      | 14.0    | 18                   | 4 | 21 E5475/8NO7     |
| 3/4    | 14  | 26.441                      | 96                   | 28                   | 20.0                      | 16.0    | 20                   | 4 | 24.5 E5473/4NO1   |
| 3/4    | 14  | 26.441                      | 96                   | 28                   | 20.0                      | 16.0    | 20                   | 4 | 24.5 E5473/4NO2   |
| 3/4    | 14  | 26.441                      | 96                   | 28                   | 20.0                      | 16.0    | 20                   | 4 | 24.5 E5473/4NO3   |
| 3/4    | 14  | 26.441                      | 96                   | 28                   | 20.0                      | 16.0    | 20                   | 4 | 24.5 E5473/4NO7   |
| 7/8    | 14  | 30.201                      | 102                  | 29                   | 22.4                      | 18.0    | 22                   | 4 | 28.25 E5477/8NO1  |
| 7/8    | 14  | 30.201                      | 102                  | 29                   | 22.4                      | 18.0    | 22                   | 4 | 28.25 E5477/8NO2  |
| 7/8    | 14  | 30.201                      | 102                  | 29                   | 22.4                      | 18.0    | 22                   | 4 | 28.25 E5477/8NO3  |
| 1"     | 11  | 33.249                      | 109                  | 33                   | 25.0                      | 20.0    | 24                   | 4 | 30.75 E5471NO1    |
| 1"     | 11  | 33.249                      | 109                  | 33                   | 25.0                      | 20.0    | 24                   | 4 | 30.75 E5471NO2    |
| 1"     | 11  | 33.249                      | 109                  | 33                   | 25.0                      | 20.0    | 24                   | 4 | 30.75 E5471NO3    |
| 1.1/4  | 11  | 41.910                      | 119                  | 36                   | 31.5                      | 25.0    | 28                   | 6 | 39.5 E5471.1/4NO1 |
| 1.1/4  | 11  | 41.910                      | 119                  | 36                   | 31.5                      | 25.0    | 28                   | 6 | 39.5 E5471.1/4NO2 |
| 1.1/4  | 11  | 41.910                      | 119                  | 36                   | 31.5                      | 25.0    | 28                   | 6 | 39.5 E5471.1/4NO3 |
| 1.1/2  | 11  | 47.803                      | 125                  | 37                   | 35.5                      | 28.0    | 31                   | 6 | 45 E5471.1/2NO1   |
| 1.1/2  | 11  | 47.803                      | 125                  | 37                   | 35.5                      | 28.0    | 31                   | 6 | 45 E5471.1/2NO2   |
| 1.1/2  | 11  | 47.803                      | 125                  | 37                   | 35.5                      | 28.0    | 31                   | 6 | 45 E5471.1/2NO3   |
| 2"     | 11  | 59.614                      | 140                  | 41                   | 40.0                      | 31.5    | 34                   | 6 | 57 E5472NO1       |
| 2"     | 11  | 59.614                      | 140                  | 41                   | 40.0                      | 31.5    | 34                   | 6 | 57 E5472NO2       |
| 2"     | 11  | 59.614                      | 140                  | 41                   | 40.0                      | 31.5    | 34                   | 6 | 57 E5472NO3       |

NO1  
NO2  
NO3  
299

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E562



- 3.1 3.2 3.3
- 1.1 1.2 1.3 1.4 1.5 3.4 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

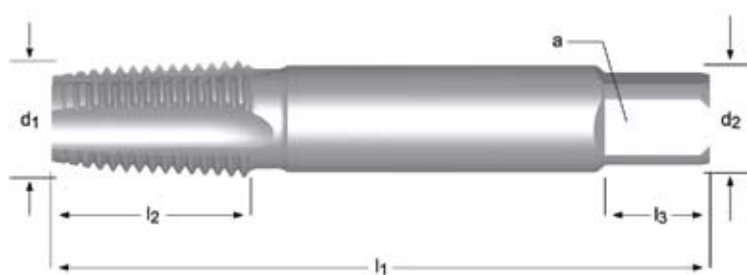
| G(BSP) | TPI | d <sub>1</sub><br>nom<br>Inch | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code           |
|--------|-----|-------------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------------------|
| 1/8    | 28  | 9.728                         | 59                   | 15                   | 8.0                       | 6.3     | 9                    | 4 | 8.8 E5621/8NO3   |
| 1/4    | 19  | 13.157                        | 67                   | 19                   | 10.0                      | 8.0     | 11                   | 4 | 11.8 E5621/4NO3  |
| 3/8    | 19  | 16.662                        | 75                   | 21                   | 12.5                      | 10.0    | 13                   | 4 | 15.25 E5623/8NO3 |
| 1/2    | 14  | 20.955                        | 87                   | 26                   | 16.0                      | 12.5    | 16                   | 4 | 19 E5621/2NO3    |
| 3/4    | 14  | 26.441                        | 96                   | 28                   | 20.0                      | 16.0    | 20                   | 4 | 24.5 E5623/4NO3  |
| 1"     | 11  | 33.249                        | 109                  | 33                   | 25.0                      | 20.0    | 24                   | 4 | 30.75 E5621NO3   |



# E550

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



E550



- 3.1 3.2 3.3 3.4 6.1
- 1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3 6.2 6.3 6.4 7.2 7.3 7.4 8.2 8.3

| Rc    | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | ↔     | e-Code     |
|-------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|------------|
| 1/8   | 28  | 9.728                       | 59                   | 15                   | 8.0                       | 6.3     | 9                    | 3 | 8.4   | E5501/8    |
| 1/8   | 28  | 9.728                       | 59                   | 15                   | 8.0                       | 6.3     | 9                    | 3 | 8.4   | E5501/8NO7 |
| 1/4   | 19  | 13.157                      | 67                   | 19                   | 10.0                      | 8.0     | 11                   | 3 | 11.2  | E5501/4    |
| 1/4   | 19  | 13.157                      | 67                   | 19                   | 10.0                      | 8.0     | 11                   | 3 | 11.2  | E5501/4NO7 |
| 3/8   | 19  | 16.662                      | 75                   | 21                   | 12.5                      | 10.0    | 13                   | 3 | 14.75 | E5503/8    |
| 3/8   | 19  | 16.662                      | 75                   | 21                   | 12.5                      | 10.0    | 13                   | 3 | 14.75 | E5503/8NO7 |
| 1/2   | 14  | 20.955                      | 87                   | 26                   | 16.0                      | 12.5    | 16                   | 5 | 18.25 | E5501/2    |
| 1/2   | 14  | 20.955                      | 87                   | 26                   | 16.0                      | 12.5    | 16                   | 5 | 18.25 | E5501/2NO7 |
| 3/4   | 14  | 26.441                      | 96                   | 28                   | 20.0                      | 16.0    | 20                   | 5 | 23.75 | E5503/4    |
| 3/4   | 14  | 26.441                      | 96                   | 28                   | 20.0                      | 16.0    | 20                   | 5 | 23.75 | E5503/4NO7 |
| 1     | 11  | 33.249                      | 109                  | 33                   | 25.0                      | 20.0    | 24                   | 5 | 30    | E5501      |
| 1.1/4 | 11  | 41.910                      | 119                  | 36                   | 31.5                      | 25.0    | 28                   | 5 | 38.5  | E5501.1/4  |
| 1.1/2 | 11  | 47.803                      | 125                  | 37                   | 35.5                      | 28.0    | 31                   | 7 | 44.5  | E5501.1/2  |
| 2"    | 11  | 59.614                      | 140                  | 41                   | 40.0                      | 31.5    | 34                   | 7 | 56    | E5502      |

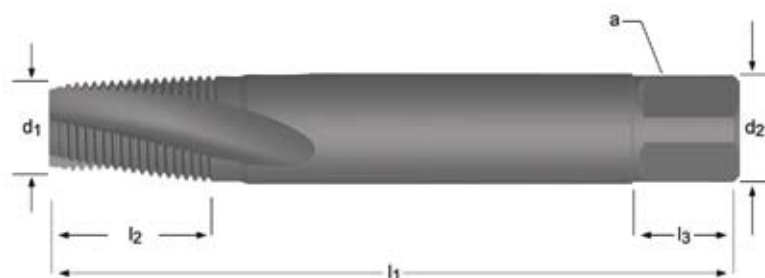
NO7  
NO8  
**299**



- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder

**NEW**

2008.09



## E735

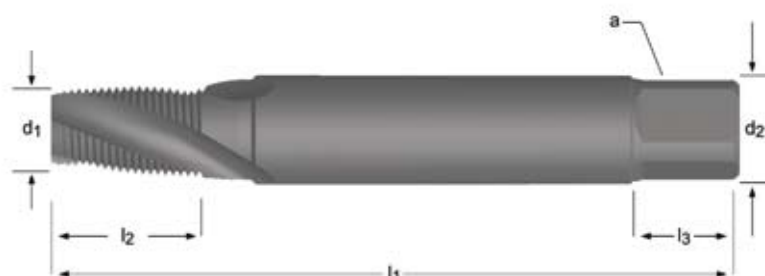


- 1.4 1.5 1.6 2.4 3.1 3.2 4.2 4.3 5.2 5.3 6.2 6.4
- 6.3 7.3 7.4

| NPT  | TPI  | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |      |        | e-Code   |
|------|------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|--------|----------|
| 1/16 | 27   | 7.72                        | 80                   | 14                   | 7.9                       | 5.9     | 9                    | 3 | 6.3  | D      | E7351/16 |
| 1/8  | 27   | 10.06                       | 90                   | 14                   | 11.1                      | 8.3     | 9                    | 4 | 8.5  | R      | E7351/8  |
| 1/4  | 18   | 13.36                       | 100                  | 20                   | 14.3                      | 10.7    | 11                   | 4 | 11   | 7/16   | E7351/4  |
| 3/8  | 18   | 16.81                       | 110                  | 20                   | 17.8                      | 13.5    | 13                   | 5 | 14.5 | 37/64  | E7353/8  |
| 1/2  | 14   | 20.96                       | 125                  | 26                   | 17.5                      | 13.1    | 16                   | 5 | 18   | 23/32  | E7351/2  |
| 3/4  | 14   | 26.29                       | 140                  | 26                   | 23.0                      | 17.2    | 18                   | 5 | 23   | 59/64  | E7353/4  |
| 1"   | 11.5 | 32.92                       | 150                  | 31                   | 28.6                      | 21.4    | 21                   | 5 | 29   | 1.5/32 | E7351    |

**NEW**

2008.09



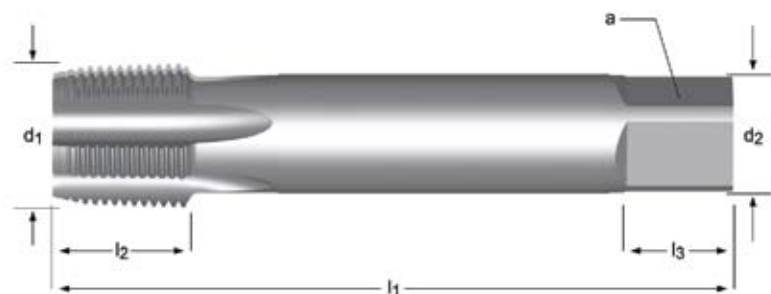
## E736



- 1.2 1.4 2.1 2.2 2.3 4.1 5.1 6.1
- 1.1 1.3 3.3 3.4 7.1 7.2 7.3

| NPT  | TPI  | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |      |        | e-Code   |
|------|------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|------|--------|----------|
| 1/16 | 27   | 7.72                        | 80                   | 14                   | 7.9                       | 5.9     | 9                    | 3 | 6.3  | D      | E7361/16 |
| 1/8  | 27   | 10.06                       | 90                   | 14                   | 11.1                      | 8.3     | 9                    | 4 | 8.5  | R      | E7361/8  |
| 1/4  | 18   | 13.36                       | 100                  | 20                   | 14.3                      | 10.7    | 11                   | 4 | 11   | 7/16   | E7361/4  |
| 3/8  | 18   | 16.81                       | 110                  | 20                   | 17.8                      | 13.5    | 13                   | 5 | 14.5 | 37/64  | E7363/8  |
| 1/2  | 14   | 20.96                       | 125                  | 26                   | 17.5                      | 13.1    | 16                   | 5 | 18   | 23/32  | E7361/2  |
| 3/4  | 14   | 26.29                       | 140                  | 26                   | 23.0                      | 17.2    | 18                   | 5 | 23   | 59/64  | E7363/4  |
| 1"   | 11.5 | 32.92                       | 150                  | 31                   | 28.6                      | 21.4    | 21                   | 5 | 29   | 1.5/32 | E7361    |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E714



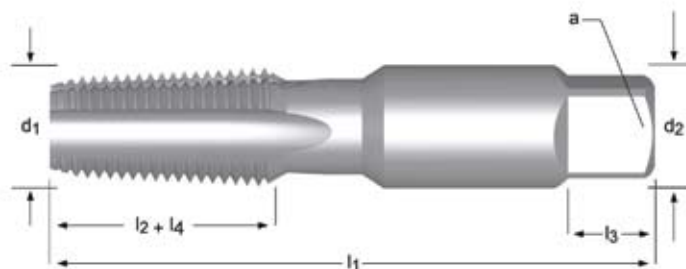
- 1.3 1.4
- 1.1 1.2 1.5 3.1 3.2 3.3 3.4 6.2 7.3 7.4 8.1

| NPT | TPI  | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code       |
|-----|------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|--------------|
| 1/8 | 27   | 10.23                       | 90                   | 14                   | 11.0                      | 9.0     | 12                   | 3 | 8.5 E7141/8  |
| 1/4 | 18   | 13.60                       | 100                  | 20                   | 14.0                      | 11.0    | 14                   | 3 | 11 E7141/4   |
| 3/8 | 18   | 17.04                       | 110                  | 20                   | 16.0                      | 12.0    | 15                   | 4 | 14.5 E7143/8 |
| 1/2 | 14   | 21.20                       | 125                  | 26                   | 18.0                      | 14.5    | 17                   | 4 | 18 E7141/2   |
| 3/4 | 14   | 26.54                       | 140                  | 26                   | 22.0                      | 18.0    | 21                   | 5 | 23 E7143/4   |
| 1"  | 11.5 | 33.20                       | 150                  | 31                   | 28.0                      | 22.0    | 25                   | 5 | 29 E7141     |

- Strojní závitníky
- Tarozi de masina

- Gépi Menetfűró
- Машинные метчики

- Gwintowniki maszynowe
- strojni navojni sveder

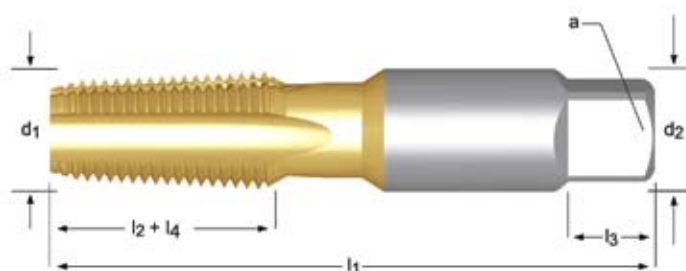


## E710



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 3.4 6.2 7.3 7.4 8.1

| NPT   | TPI  | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z    | e-Code        |
|-------|------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|------|---------------|
| 1/16  | 27   | 7.94                        | 65                   | 17                   | 8.1                       | 6.0     | 8                    | 6.3  | 4 E7101/16NO3 |
| 1/8   | 27   | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 8.5  | 4 E7101/8     |
| 1/8   | 27   | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 8.5  | 4 E7101/8NO7  |
| 1/4   | 18   | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 11   | 4 E7101/4     |
| 1/4   | 18   | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 11   | 4 E7101/4NO7  |
| 3/8   | 18   | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 14.5 | 4 E7103/8     |
| 3/8   | 18   | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 14.5 | 4 E7103/8NO7  |
| 1/2   | 14   | 21.34                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 18   | 4 E7101/2     |
| 1/2   | 14   | 21.34                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 18   | 4 E7101/2NO7  |
| 3/4   | 14   | 26.67                       | 105                  | 35                   | 23.0                      | 17.2    | 17                   | 23   | 5 E7103/4     |
| 3/4   | 14   | 26.67                       | 105                  | 35                   | 23.0                      | 17.2    | 17                   | 23   | 5 E7103/4NO7  |
| 1"    | 11.5 | 33.40                       | 115                  | 43                   | 28.6                      | 21.4    | 21                   | 29   | 5 E7101       |
| 1.1/4 | 11.5 | 42.16                       | 125                  | 43                   | 33.3                      | 25.0    | 24                   | 38   | 5 E7101.1/4   |
| 1.1/2 | 11.5 | 48.26                       | 135                  | 43                   | 38.1                      | 28.6    | 25                   | 44   | 7 E7101.1/2   |
| 2"    | 11.5 | 60.33                       | 145                  | 43                   | 47.6                      | 35.7    | 29                   | 56   | 7 E7102       |



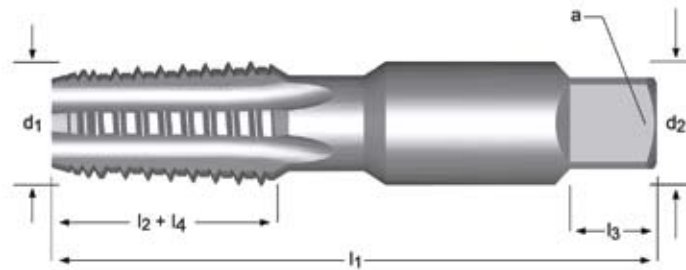
## E721



■ 1.3 1.4 3.1 3.2 3.3 3.4  
• 1.1 1.2 1.5 6.2 7.3 7.4 8.1

| NPT | TPI  | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z    | e-Code    |
|-----|------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|------|-----------|
| 1/8 | 27   | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 8.5  | 4 E7211/8 |
| 1/4 | 18   | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 11   | 4 E7211/4 |
| 3/8 | 18   | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 14.5 | 4 E7213/8 |
| 1/2 | 14   | 21.34                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 18   | 4 E7211/2 |
| 3/4 | 14   | 26.67                       | 105                  | 35                   | 23.0                      | 17.2    | 17                   | 23   | 5 E7213/4 |
| 1   | 11.5 | 33.40                       | 115                  | 43                   | 28.6                      | 21.4    | 21                   | 29   | 5 E7211   |

- Strojní závitníky
- Fogkihagyásos Gépi Menetfűró
- Gwintowniki maszynowe z przerywanym nakrojem
- Tarozi de masina, dantura intrerupta
- Машинные метчики, для прерывистых резьб
- prekinjen navoj



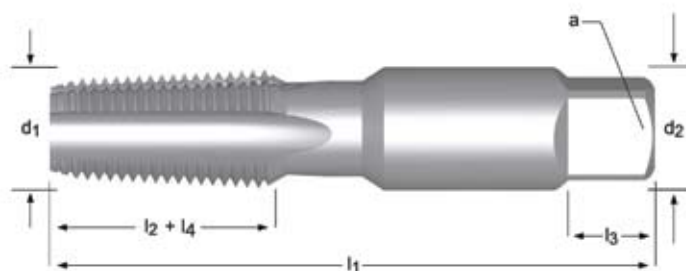
## E711



- 1.3 1.4
- 1.1 1.2 1.5 3.1 3.2 3.3 3.4 6.2 7.3 7.4 8.1

| NPT   | TPI  | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z    | e-Code      |
|-------|------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|------|-------------|
| 1/8   | 27   | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 8.5  | 5 E7111/8   |
| 1/4   | 18   | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 11   | 5 E7111/4   |
| 3/8   | 18   | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 14.5 | 5 E7113/8   |
| 1/2   | 14   | 21.33                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 18   | 5 E7111/2   |
| 3/4   | 14   | 26.67                       | 105                  | 35                   | 23.0                      | 17.2    | 17                   | 23   | 5 E7113/4   |
| 1     | 11.5 | 33.40                       | 115                  | 43                   | 28.6                      | 21.4    | 21                   | 29   | 5 E7111     |
| 1.1/2 | 11.5 | 48.26                       | 135                  | 43                   | 38.1                      | 28.6    | 25                   | 44   | 7 E7111.1/2 |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



## E712



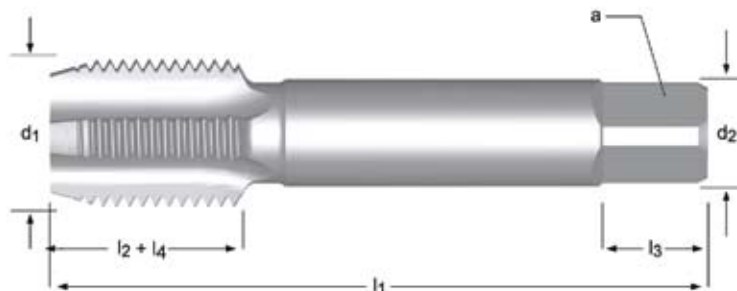
- 1.3 1.4
- 1.1 1.2 1.5 3.1 3.2 3.3 3.4 6.2 7.3 7.4 8.1

| NPTF  | TPI  | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z | e-Code    |
|-------|------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-----------|
| 1/16  | 27   | 7.94                        | 65                   | 17                   | 8.1                       | 6.0     | 8                    | 4 | E7121/16  |
| 1/8   | 27   | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 4 | E7121/8   |
| 1/4   | 18   | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 4 | E7121/4   |
| 3/8   | 18   | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 4 | E7123/8   |
| 1/2   | 14   | 21.34                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 4 | E7121/2   |
| 3/4   | 14   | 26.67                       | 105                  | 35                   | 23.0                      | 17.2    | 17                   | 5 | E7123/4   |
| 1     | 11.5 | 33.40                       | 115                  | 43                   | 28.6                      | 21.4    | 21                   | 5 | E7121     |
| 1.1/4 | 11.5 | 42.16                       | 125                  | 43                   | 33.4                      | 24.9    | 23                   | 5 | E7121.1/4 |

# E709 / E720

**DORMER**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



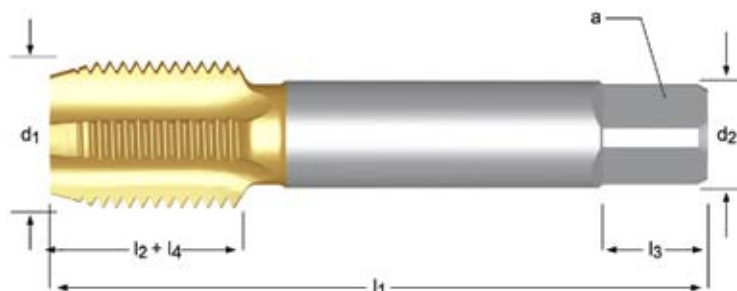
## E709



- 1.3 1.4
- 1.1 1.2 1.5 3.1 3.2 3.3 3.4 6.2 7.3 7.4 8.1

| NPSF | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | l <sub>4</sub><br>mm | z  | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|----------------------|----|--------------|
| 1/8  | 27  | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 8.7                  | 19 | 4 E7091/8    |
| 1/8  | 27  | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 8.7                  | 19 | 4 E7091/8NO2 |
| 1/4  | 18  | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 11.3                 | 27 | 4 E7091/4    |
| 1/4  | 18  | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 11.3                 | 27 | 4 E7091/4NO2 |
| 3/8  | 18  | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 14.75                | 27 | 4 E7093/8    |
| 3/8  | 18  | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 14.75                | 27 | 4 E7093/8NO2 |
| 1/2  | 14  | 21.34                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 18.25                | 4  | E7091/2      |
| 1/2  | 14  | 21.34                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 18.25                | 4  | E7091/2NO2   |
| 3/4  | 14  | 26.67                       | 105                  | 35                   | 23.0                      | 17.2    | 17                   | 23.5                 | 5  | E7093/4      |

NO1  
NO2  
**299**



## E720

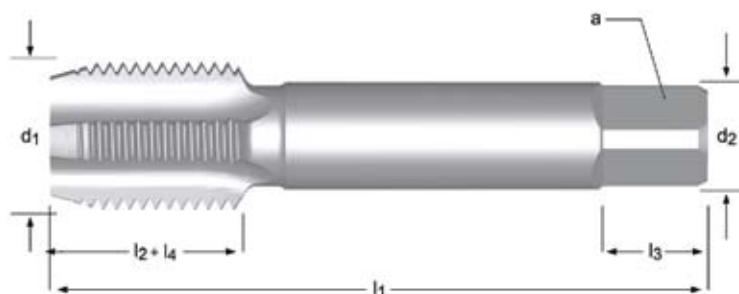


- 1.3 1.4 3.1 3.2 3.3 3.4
- 1.1 1.2 1.5 6.2 7.3 7.4 8.1

| NPSF | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | l <sub>4</sub><br>mm | z  | e-Code       |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|----------------------|----|--------------|
| 1/8  | 27  | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 8.7                  | 19 | 4 E7201/8NO3 |
| 1/4  | 18  | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 11.3                 | 27 | 4 E7201/4NO3 |
| 3/8  | 18  | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 14.75                | 27 | 4 E7203/8NO3 |
| 1/2  | 14  | 21.34                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 18.25                | 4  | E7201/2NO3   |
| 3/4  | 14  | 26.67                       | 105                  | 35                   | 23.0                      | 17.2    | 17                   | 23.5                 | 5  | E7203/4NO3   |

NO1  
NO3  
**299**

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



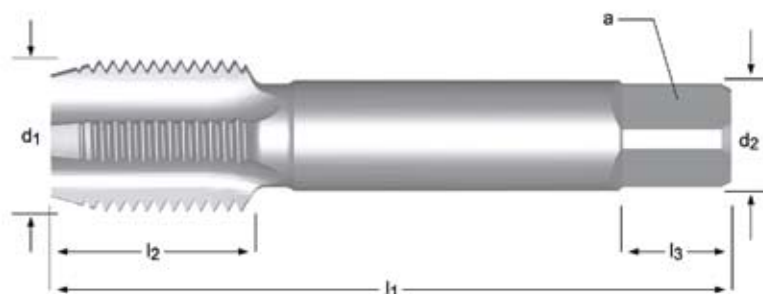
## E708



- 1.3 1.4
- 1.1 1.2 1.5 3.1 3.2 3.3 3.4 6.2 7.3 7.4 8.1

| NPSM | TPI  | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | ↔    | l <sub>4</sub><br>mm | z | e-Code  |
|------|------|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|------|----------------------|---|---------|
| 1/8  | 27   | 10.29                       | 70                   | 19                   | 11.1                      | 8.3     | 10                   | 9.1  | 19                   | 4 | E7081/8 |
| 1/4  | 18   | 13.72                       | 75                   | 27                   | 14.3                      | 10.7    | 11                   | 12   | 27                   | 4 | E7081/4 |
| 3/8  | 18   | 17.15                       | 80                   | 27                   | 17.8                      | 13.5    | 13                   | 15.5 | 27                   | 4 | E7083/8 |
| 1/2  | 14   | 21.33                       | 100                  | 35                   | 17.5                      | 13.1    | 16                   | 19   |                      | 4 | E7081/2 |
| 3/4  | 14   | 26.67                       | 105                  | 35                   | 23.0                      | 17.2    | 17                   | 24.5 |                      | 5 | E7083/4 |
| 1    | 11.5 | 33.40                       | 115                  | 43                   | 28.6                      | 21.4    | 21                   | 30.5 |                      | 5 | E7081   |

- Strojní závitníky
- Gépi Menetfűró
- Gwintowniki maszynowe
- Tarozi de masina
- Машинные метчики
- strojni navojni sveder



E243



• 1.1 1.2 1.3 1.4 1.5 3.1 3.2 3.3 6.2 6.3 7.2 7.3 8.2

| PG   | TPI | d <sub>1</sub><br>nom<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | d <sub>2</sub><br>Ø<br>mm | a<br>mm | l <sub>3</sub><br>mm | z |       | e-Code        |
|------|-----|-----------------------------|----------------------|----------------------|---------------------------|---------|----------------------|---|-------|---------------|
| 7    | 20  | 12.5                        | 70                   | 22                   | 9                         | 7       | 10                   | 4 | 11.4  | E243PG7NO2    |
| 7    | 20  | 12.5                        | 70                   | 22                   | 9                         | 7       | 10                   | 4 | 11.4  | E243PG7NO3    |
| 9    | 18  | 15.2                        | 70                   | 22                   | 12                        | 9       | 12                   | 4 | 13.9  | E243PG9NO2    |
| 9    | 18  | 15.2                        | 70                   | 22                   | 12                        | 9       | 12                   | 4 | 13.9  | E243PG9NO3    |
| 11   | 18  | 18.6                        | 80                   | 22                   | 14                        | 11      | 14                   | 4 | 17.25 | E243PG11NO2   |
| 11   | 18  | 18.6                        | 80                   | 22                   | 14                        | 11      | 14                   | 4 | 17.25 | E243PG11NO3   |
| 13.5 | 18  | 20.4                        | 80                   | 22                   | 16                        | 12      | 15                   | 4 | 19    | E243PG13.5NO2 |
| 13.5 | 18  | 20.4                        | 80                   | 22                   | 16                        | 12      | 15                   | 4 | 19    | E243PG13.5NO3 |
| 16   | 18  | 22.5                        | 80                   | 22                   | 18                        | 14.5    | 17                   | 4 | 21.25 | E243PG16NO2   |
| 16   | 18  | 22.5                        | 80                   | 22                   | 18                        | 14.5    | 17                   | 4 | 21.25 | E243PG16NO3   |
| 21   | 16  | 28.3                        | 90                   | 22                   | 22                        | 18      | 21                   | 4 | 27    | E243PG21NO2   |
| 21   | 16  | 28.3                        | 90                   | 22                   | 22                        | 18      | 21                   | 4 | 27    | E243PG21NO3   |
| 29   | 16  | 37.0                        | 100                  | 25                   | 28                        | 22      | 25                   | 6 | 35.5  | E243PG29NO2   |
| 29   | 16  | 37.0                        | 100                  | 25                   | 28                        | 22      | 25                   | 6 | 35.5  | E243PG29NO3   |
| 36   | 16  | 47.0                        | 140                  | 32                   | 36                        | 29      | 32                   | 6 | 45.5  | E243PG36NO2   |
| 36   | 16  | 47.0                        | 140                  | 32                   | 36                        | 29      | 32                   | 6 | 45.5  | E243PG36NO3   |

NO2  
NO3  
299



