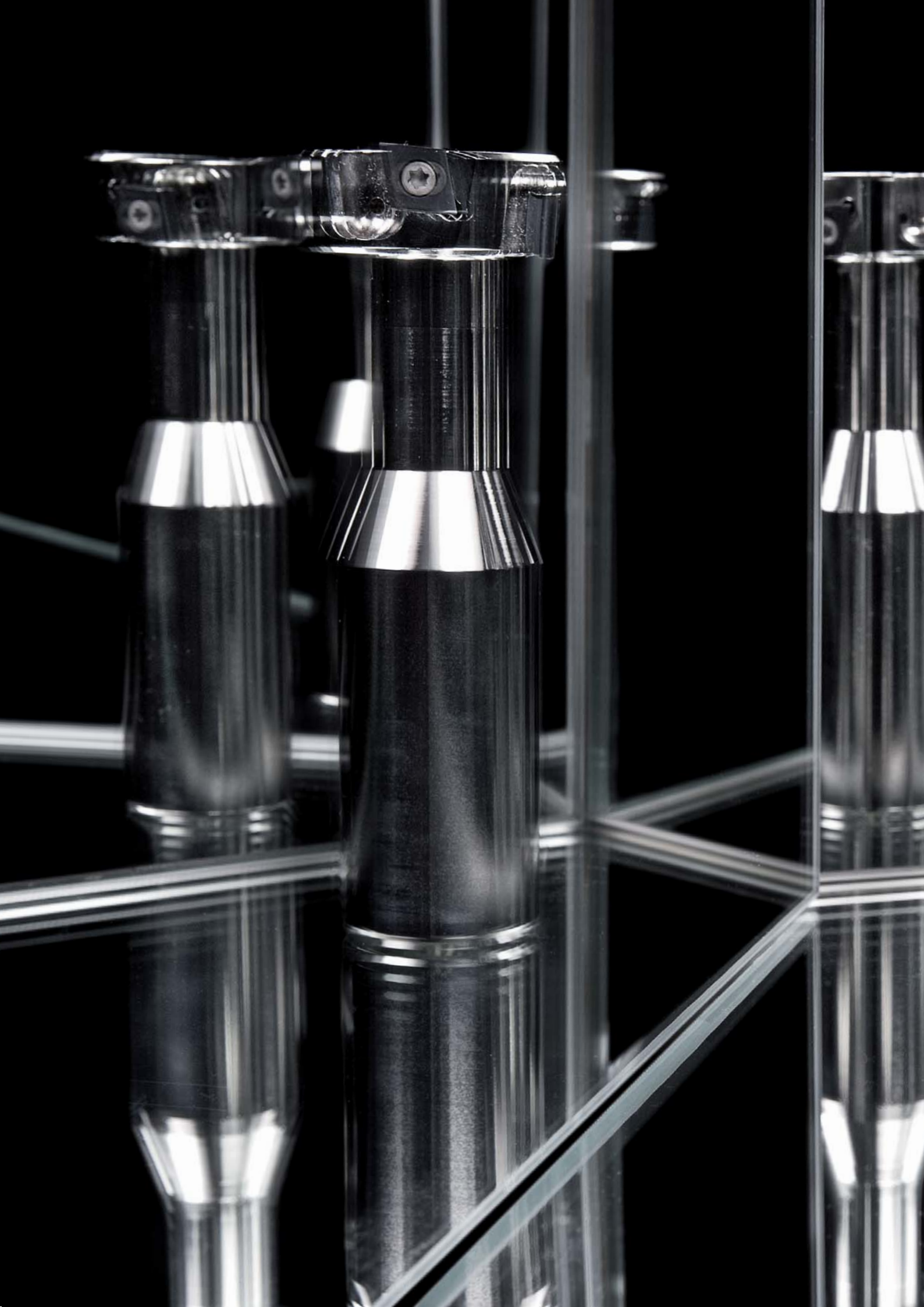
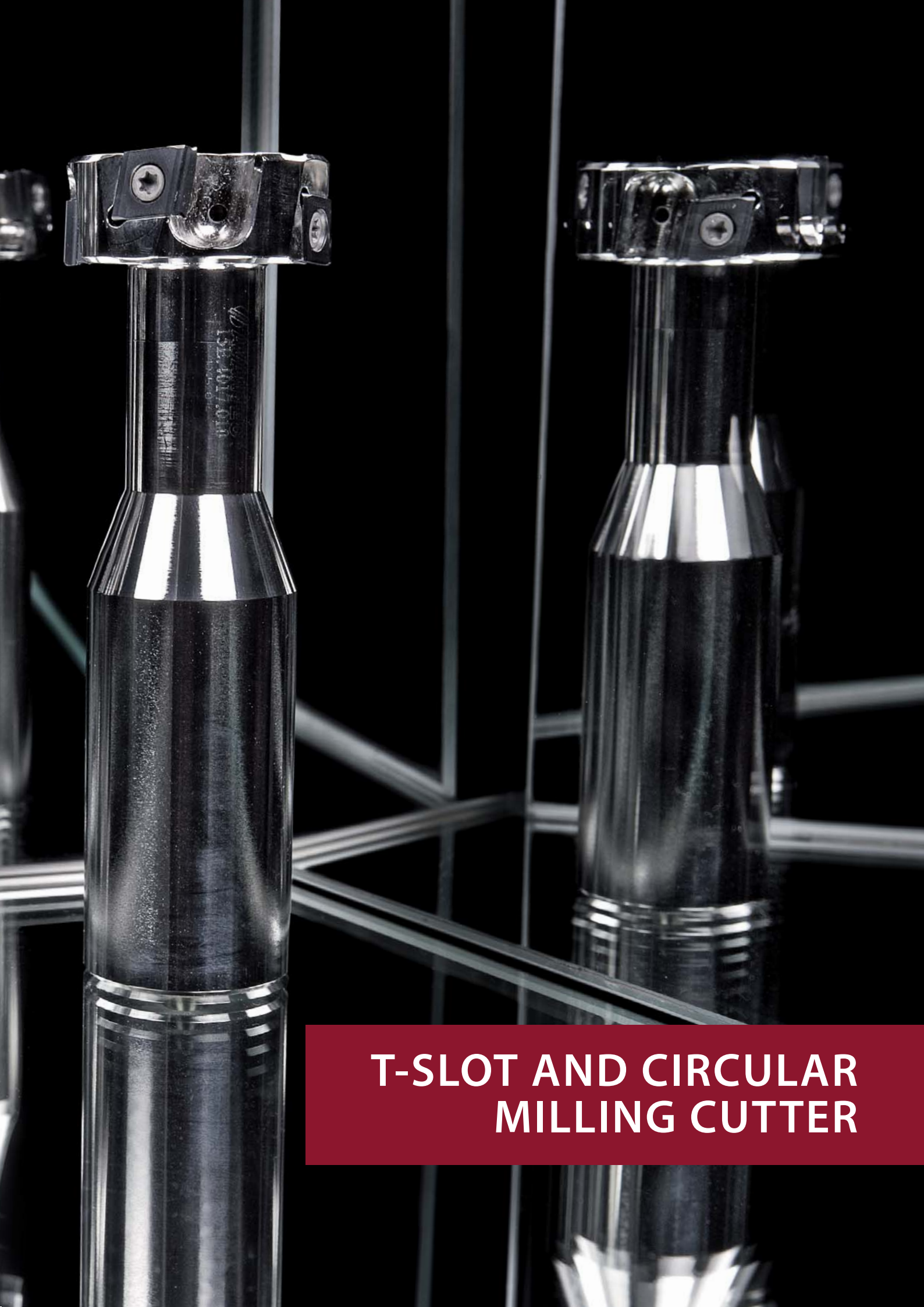
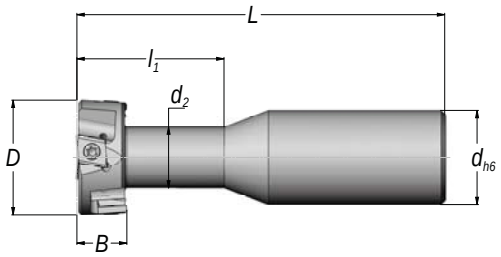




# T-SLOT AND CIRCULAR MILLING CUTTER

# T-slot milling cutter ET90

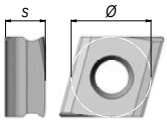
< 4 cutting edge EN insert
< high performance slotting cutter following DIN 650 parameters
< tangential insert style enables optimal chip removal




**T-slot milling cutter ET90**

| article | D | $d_2$ | B | L | $l_1$ | $d_{h6}$ | zz | $z_{eff}$ | ic | Kg | insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15E.3213.010 | 32 | 16,8 | 13 | 115 | 39 | 32 | 2 x 2 | 2 | yes | 0,51 | EN..08T3.R/L |
| 15E.4017.010 | 40 | 20,8 | 17 | 125 | 50 | 32 | 2 x 2 | 2 | yes | 0,65 | EN..0904.R/L |
| 15E.4821.010 | 48 | 26,0 | 21 | 135 | 60 | 32 | 2 x 3 | 2 | yes | 0,80 | EN..08T3.R/L |

smaller diameter see page 90-91




| insert | incircle diameter | | insert thickness | |
|---|---|---|---|---|
| | ø 08 = | 8,00 | S T3 = | 3,97 |
| | ø 09 = | 9,52 | S 04 = | 4,76 |

**Allocation from machining parameters of AV material groups**

| | | | | | cast iron | | | steel | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | article | AS | grade | | D20 | D18 | D17 | A22 | A20 | A18 | A16 | B15 | B14 |
| EN..08T3.. | ENHQ08T30601209SL28W | 4 | SKY77 | $h_{max}$ | 0,15 | 0,12 | 0,1 | 0,15 | 0,15 | 0,12 | 0,1 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | | | NERO26 | $h_{max}$ | 0,15 | 0,12 | 0,1 | | | | | | |
| | | | | $v_c$ | 280 | 270 | 260 | | | | | | |
| | ENHQ08T30601409SR28W | | SKY77 | $h_{max}$ | 0,15 | 0,12 | 0,1 | 0,15 | 0,15 | 0,12 | 0,1 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | | | NERO26 | $h_{max}$ | 0,15 | 0,12 | 0,1 | | | | | | |
| | | | | $v_c$ | 280 | 270 | 260 | | | | | | |
| | ENHQ08T30601726SL28V | | SKY77 | $h_{max}$ | 0,15 | 0,12 | 0,1 | 0,15 | 0,15 | 0,12 | 0,1 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | | | NERO26 | $h_{max}$ | 0,15 | 0,12 | 0,1 | | | | | | |
| | | | | $v_c$ | 280 | 270 | 260 | | | | | | |
| | ENHQ08T30601626SR28V | | SKY77 | $h_{max}$ | 0,15 | 0,12 | 0,1 | 0,15 | 0,15 | 0,12 | 0,1 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | | | NERO26 | $h_{max}$ | 0,15 | 0,12 | 0,1 | | | | | | |
| | | | | $v_c$ | 280 | 270 | 260 | | | | | | |
| | ENHQ08T30600154SL30 | | SKY77 | $h_{max}$ | 0,1 | 0,09 | 0,08 | 0,1 | 0,1 | 0,09 | 0,08 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | ENHQ08T30600254SR30 | | SKY77 | $h_{max}$ | 0,1 | 0,09 | 0,08 | 0,1 | 0,1 | 0,09 | 0,08 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |

## Allocation from machining parameters of AV material groups

| | | | | | cast iron | | | steel | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | article | AS | grade | | D20 | D18 | D17 | A22 | A20 | A18 | A16 | B15 | B14 |
| EN..0904.. | ENHQ09040802312SL28W | 4 | SKY77 | $h_{max}$ | 0,18 | 0,15 | 0,12 | 0,18 | 0,15 | 0,13 | 0,11 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | | | NERO26 | $h_{max}$ | 0,18 | 0,15 | 0,12 | | | | | | |
| | | | | $v_c$ | 280 | 270 | 260 | | | | | | |
| | ENHQ09040802212SR28W | | SKY77 | $h_{max}$ | 0,18 | 0,15 | 0,12 | 0,18 | 0,15 | 0,13 | 0,11 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | | | NERO26 | $h_{max}$ | 0,18 | 0,15 | 0,12 | | | | | | |
| | | | | $v_c$ | 280 | 270 | 260 | | | | | | |
| | ENHQ09040801726SL28V | | SKY77 | $h_{max}$ | 0,18 | 0,15 | 0,12 | 0,18 | 0,15 | 0,13 | 0,11 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | | | NERO26 | $h_{max}$ | 0,18 | 0,15 | 0,12 | | | | | | |
| | | | | $v_c$ | 280 | 270 | 260 | | | | | | |
| | ENHQ09040801626SR28V | | SKY77 | $h_{max}$ | 0,18 | 0,15 | 0,12 | 0,18 | 0,15 | 0,13 | 0,11 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | | | NERO26 | $h_{max}$ | 0,18 | 0,15 | 0,12 | | | | | | |
| | | | | $v_c$ | 280 | 270 | 260 | | | | | | |
| | ENHQ09040800354SL30 | | SKY77 | $h_{max}$ | | | | 0,13 | 0,12 | 0,1 | 0,08 | 0,08 | 0,07 |
| | | | | $v_c$ | | | | 180 | 160 | 130 | 100 | 90 | 80 |
| | ENHQ09040800254SR30 | | SKY77 | $h_{max}$ | | | | 0,13 | 0,12 | 0,1 | 0,08 | 0,08 | 0,07 |
| | | | | $v_c$ | | | | 180 | 160 | 130 | 100 | 90 | 80 |

| insert | | |
|---|---|---|
| EN..08T3.R/L | 08B.0309.7991 | TX208 |
| EN..0904.R/L | 08B.3509.7991 | TX215 |

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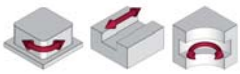
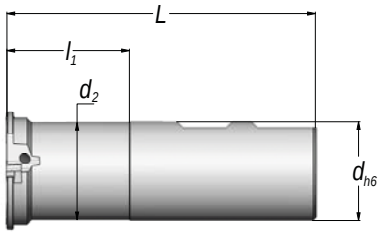
# Circular milling cutter TZ18

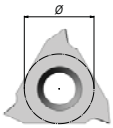


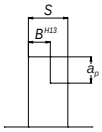
< standard for all retaining ring grooves
< three sided embedding for circular insert
< precision slotting is possible



**Circular milling cutter TZ18**

| article | D | $d_2$ | L | $l_1$ | $d_{h6}$ | $z_{eff}$ | $a_p$ | ic | Kg | insert |
|---|---|---|---|---|---|---|---|---|---|---|
| 13T.2510.001 | 25 | 20,5 | 100 | 40 | 25 | 3 | 1,4 - 2,2 | yes | 0,31 | TC..1103.R |
| 13T.4011.001 | 40 | 31,5 | 100 | 39 | 32 | 3 | 2,2 - 3,2 | yes | 0,61 | TN..1604.R |




| insert article | Ø | B | $a_p$ | S |
|---|---|---|---|---|
| TCAX11031603006TR25 | 6,35 | 1,60 | 1,40 | 3,20 |
| TCAX11031803005TR25 | 6,35 | 1,85 | 1,70 | 3,20 |
| TCAX11032103004TR25 | 6,35 | 2,15 | 2,00 | 3,20 |
| TCAX11032603003TR25 | 6,35 | 2,65 | 2,20 | 3,20 |
| TNAX16042601801TR25 | 9,52 | 2,65 | 2,20 | 4,76 |
| TNAX16043201802TR25 | 9,52 | 3,15 | 2,20 | 4,76 |
| TNAX16044101803TR25 | 9,52 | 4,15 | 3,20 | 4,76 |

## Allocation from machining parameters of AV material groups

| | | | | | cast iron | | | steel | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | article | AS | grade | | D20 | D18 | D17 | A22 | A20 | A18 | A16 | B15 | B14 |
| TC..1103.. | TCAX11031603006TR25 | 3 | SKY77 | $h_{max}$ | 0,08 | 0,07 | 0,06 | 0,08 | 0,08 | 0,07 | 0,06 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | TCAX11031803005TR25 | | SKY77 | $h_{max}$ | 0,08 | 0,07 | 0,06 | 0,08 | 0,08 | 0,07 | 0,06 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | TCAX11032103004TR25 | | SKY77 | $h_{max}$ | 0,08 | 0,07 | 0,06 | 0,08 | 0,08 | 0,07 | 0,06 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| | TCAX11032603003TR25 | | SKY77 | $h_{max}$ | 0,08 | 0,07 | 0,06 | 0,08 | 0,08 | 0,07 | 0,06 | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | 220 | | |
| TN..1604.. | TNAX16042601801TR25 | 3 | SKY77 | $h_{max}$ | 0,1 | 0,08 | 0,07 | 0,1 | 0,1 | 0,08 | | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | | | |
| | TNAX16043201802TR25 | | SKY77 | $h_{max}$ | 0,1 | 0,08 | 0,07 | 0,1 | 0,1 | 0,08 | | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | | | |
| | TNAX16044101803TR25 | | SKY77 | $h_{max}$ | 0,1 | 0,08 | 0,07 | 0,1 | 0,1 | 0,08 | | | |
| | | | | $v_c$ | 240 | 230 | 220 | 240 | 240 | 230 | | | |

| insert | | |
|---|---|---|
| TC..1103.R | 08B.2506.7991 | TX208 |
| TN..1604.R | 08B.0375.7991 | TX208 |

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