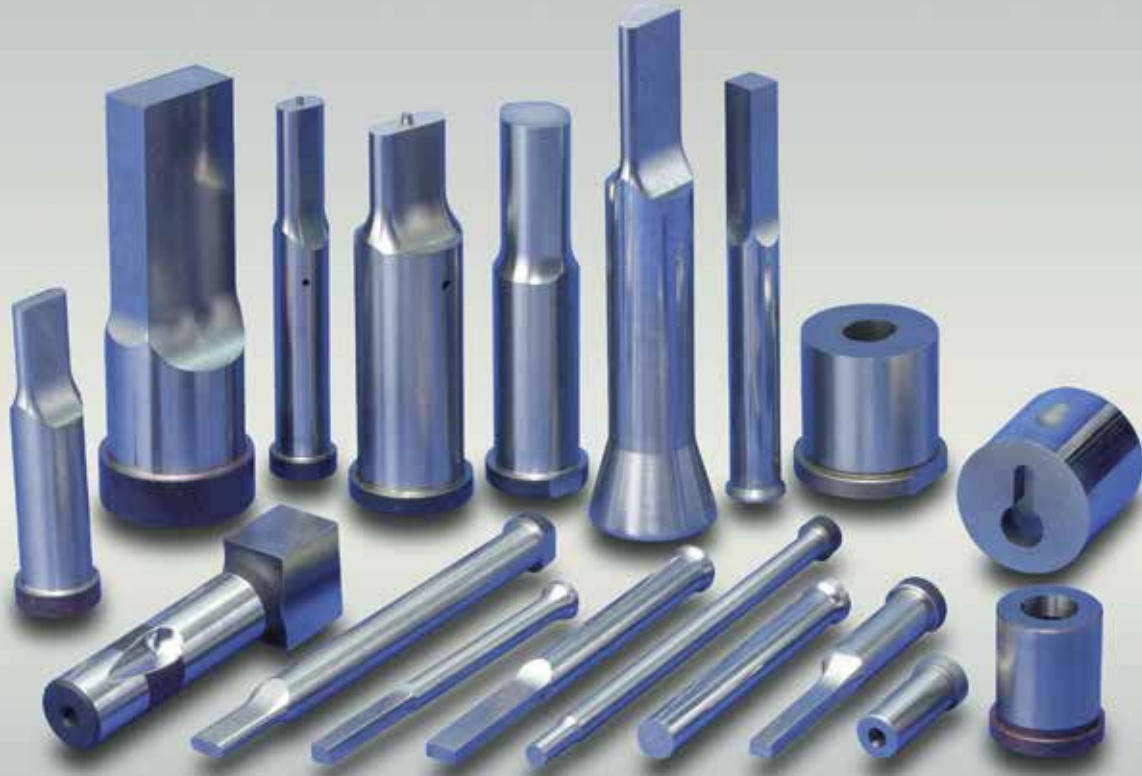





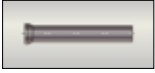




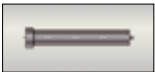






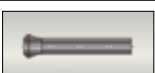



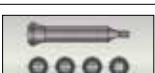
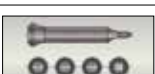


MSP **N** **G**
M **B**
H

Märkische Stanz-Partner








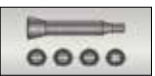

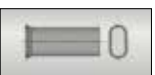
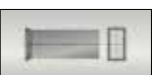



[schneidelemente]









[cuttingelements]







|  | Schneidstempel | Punches | Best.-Nr. Order no. | Seite Page |
|---|---|---|--------------------------------|-----------------------|
|  | <u>Schneidstempel DIN 9861, Form D, HSS</u> | <u>Punches DIN 9861, Form D, HSS</u> | SE 775 | SE.1 SE.2 |
|  | <u>Schneidstempel DIN 9861, Form C, abgesetzter Schaft, HSS</u> | <u>Punches DIN 9861, Form C, shouldered shank, HSS</u> | SE 785 | SE.3 |
|  | <u>Schneidstempel DIN 9861, Form C, abgesetzter Schaft, Typen F, O, R, S</u> | <u>Punches DIN 9861, Form C, shouldered shank, Types F, O, R, S</u> | SE 786 . | SE.4 |
|  | <u>Schneidstempel, zylindrischer Kopf Type K</u> | <u>Punches, cylindrical head Type K</u> | SE 712 | SE.5 |
|  | <u>Schneidstempel, zylindrischer Kopf Type K ISO 8020</u> | <u>Punches, cylindrical head Type K ISO 8020</u> | SE 712 ISO | SE.6 |
|  | <u>Schneidstempel ISO 8020 mit federndem Auswerferstift</u> | <u>Punches ISO 8020 with spring ejector</u> | SE 737 | SE.7 |
|  | <u>Schneidstempel ISO 8020, Type KP, abgesetzter Schaft</u> | <u>Punches ISO 8020, type KP, shouldered shank</u> | SE 716 KP ISO | SE.8 |
|  | <u>Schneidstempel ISO 8020 mit federndem Auswerferstift, Type EKP</u> | <u>Punches ISO 8020 with spring ejector Type EKP</u> | SE 737 EKP | SE.9 |
|  | <u>Schneidstempel ISO 8020, Type KF, KO, KR, KS, abgesetzter Schaft</u> | <u>Punches ISO 8020, type KF, KO, KR, KS, shouldered shank</u> | SE 731 . . ISO | SE.10 |
|  | <u>Schneidstempel ISO 8020 mit federndem Auswerferstift Typen EKF, EKO, EKR, EKS</u> | <u>Punches ISO 8020 with spring ejector Types EKF, EKO, EKR, EKS</u> | SE 737 . . . | SE.11 |
|  | <u>Stempelhalteplatten für Schneidstempel ISO 8020</u> | <u>Triangle retainers for punches ISO 8020</u> | SE 391 | SE.12 |
|  | <u>Druckplatten für Stempelhalteplatten SE 391</u> | <u>Thrust plates for triangle retainers SE 391</u> | SE 392 | SE.13 |
|  | <u>Schneidstempel Posaunenhals</u> | <u>Punches trumpet head</u> | SE 750 | SE.14 |
|  | <u>Schneidstempel Posaunenhals mit federndem Auswerferstift</u> | <u>Punches trumpet head with spring ejector</u> | SE 753 | SE.15 |
|  | <u>Schneidstempel Posaunenhals, abgesetzter Schaft</u> | <u>Punches trumpet head, shouldered shank</u> | SE 751 | SE.16 |
|  | <u>Schneidstempel Posaunenhals, abgesetzter Schaft, mit federndem Auswerferstift</u> | <u>Punches trumpet head, shouldered shank with spring ejector</u> | SE 754 | SE.17 |
|  | <u>Schneidstempel Posaunenhals, abgesetzter Schaft, Typen PF, PO, PR, PS</u> | <u>Punches trumpet head, shouldered shank Types PF, PO, PR, PS</u> | SE 752 . . | SE.18 |
|  | <u>Schneidstempel Posaunenhals abgesetzter Schaft, mit federndem Auswerferstift, Typen EPF, EPO, EPR, EPS</u> | <u>Punches trumpet head, shouldered shank with spring ejector, Types EPF, EPO, EPR, EPS</u> | SE 755 . . . | SE.19 |
|  | <u>Kopfsenker für Posaunenhals-Stempel</u> | <u>Counterbore-tools for trumpet-heads</u> | SE 020 | SE.20 |
|  | <u>Fangstifte</u> | <u>Pilot punches</u> | SE 709 | SE.21 |



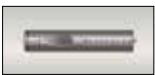











[SE]

SCHNEIDELEMENTE / CUTTING ELEMENTS


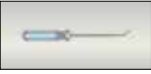


|  | Schneidstempel | Punches | Best.-Nr. Order no. | Seite Page |
|---|---|--|--------------------------------|-----------------------|
|  | <u>Schneidstempel 30° Kopf</u> | <u>Punches 30° head</u> | SE 730 | SE.22 |
|  | <u>Schneidstempel 30° Kopf mit federndem Auswerferstift</u> | <u>Punches 30° head with spring ejector</u> | SE 734 | SE.23 |
|  | <u>Schneidstempel 30° Kopf, abgesetzter Schaft</u> | <u>Punches 30° head, shouldered shank</u> | SE 732 | SE.24 |
|  | <u>Schneidstempel 30° Kopf, abgesetzter Schaft mit federndem Auswerferstift</u> | <u>Punches 30° head, shouldered shank with spring ejector</u> | SE 735 | SE.25 |
|  | <u>Schneidstempel 30° Kopf, abgesetzter Schaft, Typen 30F, 30O, 30R, 30S</u> | <u>Punches 30° head, shouldered shank Types 30F, 30O, 30R, 30S</u> | SE 733 ... | SE.26 |
|  | <u>Schneidstempel 30° Kopf, abgesetzter Schaft, Typen 30F, 30O, 30R, 30S mit federndem Auswerferstift</u> | <u>Punches 30° head, shouldered shank Types 30F, 30O, 30R, 30S with spring ejector</u> | SE 736 ... | SE.27 |
|  | <u>Schneidstempel mit Langlochprofil über die Gesamtlänge, mit Senkkopf</u> | <u>Punches with oblong shape over the total length with countersunk head</u> | SE 744 SE 745 | SE.28 |
|  | <u>Schneidstempel mit Rechteckprofil über die Gesamtlänge, mit Senkkopf</u> | <u>Punches with rectangular shape over the total length with countersunk head</u> | SE 748 SE 749 | SE.29 |
|  | <u>Schneidstempel mit Rechteckprofil über die Gesamtlänge</u> | <u>Punches with rectangular shape over the total length</u> | SE 738 SE 739 | SE.30 |
|  | <u>Schneidstempel mit Langlochprofil über die Gesamtlänge</u> | <u>Punches with oblong shape over the total length</u> | SE 740 SE 741 | SE.31 |
|  | <u>Verdrehsicherung für Schneidstempel Information</u> | <u>Rotation prevention for punches Information</u> | | SE.58 |



|  | Schneidbuchsen | Die buttons | Best.-Nr. Order no. | Seite Page |
|---|---|---|--------------------------------|-----------------------|
|  | <u>Schneidbuchsen DIN 9845, Form A ohne Bund</u> | <u>Die buttons DIN 9845 A without collar</u> | SE 791 | SE.32 |
|  | <u>Schneidbuchsen DIN 9845, Form B mit Bund</u> | <u>Die buttons DIN 9845 B with collar</u> | SE 792 | SE.33 |
|  | <u>Schneidbuchsen ohne Bund Type ED, ISO 8977A</u> | <u>Die buttons without collar Type ED, ISO 8977A</u> | SE 711 ED | SE.34 |
|  | <u>Schneidbuchsen mit Bund Type EKD, ISO 8977B</u> | <u>Die buttons with collar Type EKD, ISO 8977B</u> | SE 713 EKD | SE.35 |
|  | <u>Schneidbuchsen ohne Bund, Typen EDF, EDO, EDR, EDS, ISO 8977A</u> | <u>Die buttons without collar Types EDF, EDO, EDR, EDS, ISO 8977A</u> | SE 715 ... | SE.36 |
|  | <u>Schneidbuchsen mit Bund Typen EKDF, EKDO, EKDR, EKDS, ISO 8977B</u> | <u>Die buttons with collar Types EKDF, EKDO, EKDR, EKDS, ISO 8977B</u> | SE 717 ... | SE.37 |
|  | <u>Schneidbuchsen mit Startlochbohrung durchgehend, Type EDL, ohne Bund ISO 8977A</u> | <u>Die buttons with start hole, Type EDL, without collar, ISO 8977A</u> | SE 711 EDL | SE.38 |

|  | Schneidbuchsen | Die buttons | Best.-Nr. Order no. | Seite Page |
|---|--|---|--------------------------------|-----------------------|
|  | <u>Schneidbuchsen mit Startlochbohrung durchgehend, Type EKDL, mit Bund ISO 8977B</u> | <u>Die buttons with start hole, Type EKDL, with collar, ISO 8977B</u> | SE 713 EKDL | SE.39 |
|  | <u>Schneidbuchsen mit Startlochbohrung und Ausfallloch, Type EDM, ohne Bund, ISO 8977A</u> | <u>Die buttons with start hole and counter-bore relief, Type EDM, without collar, ISO 8977A</u> | SE 711 EDM | SE.40 |
|  | <u>Schneidbuchsen mit Startlochbohrung und Ausfallloch, Type EKDM, mit Bund, ISO 8977B</u> | <u>Die buttons with start hole and counter-bore relief, Type EKDM, with collar, ISO 8977B</u> | SE 713 EKDM | SE.41 |
|  | <u>Stempelführungsbuchsen DIN 9845, Form C</u> | <u>Punch - guide bushings, DIN 9845 C</u> | SE 793 | SE.42 |
|  | <u>Verdrehsicherung für Schneidbuchsen Information</u> | <u>Rotation prevention for die buttons Information</u> | | SE.58 |

|  | Schnellwechsel-Schneidelemente | Ball lock cutting elements | Best.-Nr. Order no. | Seite Page |
|---|---|---|--------------------------------|-----------------------|
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung</u> | <u>Ball lock punches, heavy duty</u> | SE 300 | SE.44 |
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung, mit federndem Auswerferstift</u> | <u>Ball lock punches, heavy duty, with spring ejector</u> | SE 320 | SE.45 |
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung, abgesetzter Schaft</u> | <u>Ball lock punches, heavy duty, shouldered shank</u> | SE 301 | SE.46 |
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung, abgesetzter Schaft, mit federndem Auswerferstift</u> | <u>Ball lock punches, heavy duty, shouldered shank, with spring ejector</u> | SE 321 | SE.47 |
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung, abgesetzter Schaft Typen O, S, H, L</u> | <u>Ball lock punches, heavy duty, shouldered shank Types O, S, H, L</u> | SE 302 . | SE.48 |
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung, abgesetzter Schaft Typen O, S, H, L, mit fed. Auswerferst.</u> | <u>Ball lock punches, heavy duty, shouldered shank, Types O, S, H, L, with spring ejector</u> | SE 322 . | SE.49 |
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung, Schneide > Schaft</u> | <u>Ball lock punches, heavy duty, inverted</u> | SE 303 | SE.50 |
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung, Schneide > Schaft, mit federndem Auswerferstift</u> | <u>Ball lock punches, heavy duty, inverted, with spring ejector</u> | SE 323 | SE.51 |
|  | <u>Schnellwechsel-Schneidstempel, schwere Ausführung, Schneide > Schaft, Typen O, S, H, L</u> | <u>Ball lock punches, heavy duty, inverted, Types O, S, H, L</u> | SE 304 . | SE.52 |
|  | <u>Schnellwechsel-Schneidstempel, schw. Ausführung, Schneide > Schaft, Typen O, S, H, L, mit fed. Auswerferst.</u> | <u>Ball lock punches, heavy duty, inverted, Types O, S, H, L, with spring ejector</u> | SE 324 . | SE.53 |
|  | <u>Schnellwechsel-Schneidbuchsen, leichte Ausführung, rund</u> | <u>Ball lock die buttons, light duty, round</u> | SE 340 | SE.54 |
|  | <u>Schnellwechsel-Schneidbuchsen, leichte Ausführung, Profile, Typen O, S, H, L</u> | <u>Ball lock die buttons, light duty, profiles, Types O, S, H, L</u> | SE 341 . | SE.55 |
|  | <u>Stempelhalterplatten für Schnellwechsel-Schneidstempel</u> | <u>Triangle retainers for ball lock punches</u> | SE 390 | SE.56 |

SCHNEIDELEMENTE / CUTTING ELEMENTS

|  | Zubehör Bereich Schneidelemente | Accessories | Best.-Nr. Order no. | Seite Page |
|---|---|--|--------------------------------|-----------------------|
|  | <u>Entrigelungswerkzeuge für Stempelhalteplatten, abgewinkelte Ausführung</u> | <u>Release tools for ball lock punch retainers, angular</u> | SE 360 | SE.57 |
|  | <u>Entrigelungswerkzeuge für Stempelhalteplatten, gerade Ausführung</u> | <u>Release tools for ball lock punch retainers, straight</u> | SE 361 | SE.57 |
|  | <u>Entrigelungswerkzeuge für Stempelhalteplatten, Gewindeausführung</u> | <u>Release tools for ball lock punch retainers, threaded</u> | SE 362 | SE.57 |

|  | Sonderschneid- elemente | Special punches | Best.-Nr. Order no. | Seite Page |
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| | <u>Bestellbeispiele</u> | <u>Ordering examples</u> | | SE.59 |
| | <u>Bestellformulare</u> | <u>Order forms</u> | | SE.60 SE.61 |
|  | <u>Formbeispiele für Sonderschneidelemente</u> | <u>Shape examples for special cutting elements</u> | | SE.43 |

[SE]

Schneidstempel DIN 9861, Form D

Punches DIN 9861, Form D



SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 775

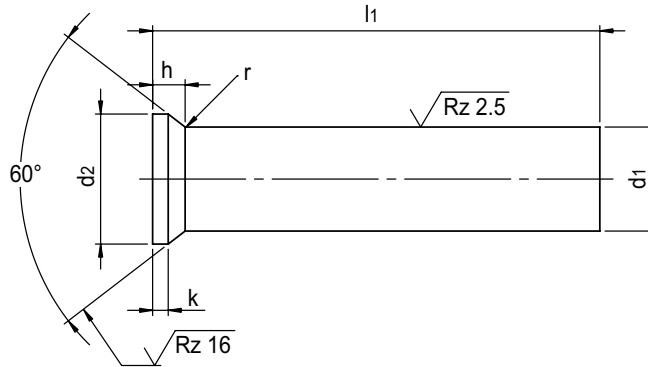
Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

SE 775 / 2,50 x 100

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d2 ±0,05 | h +0,2 | k +0,2 | r | l1 +0,5 | | | |
|----------|-------------|-----------|-----------|---------|------------|----|-----|-----|
| | | | | | 71 | 80 | 100 | 130 |
| 0,50 | 0,9 | 0,55 | 0,2 | 0,2+0,2 | ● | ● | ● | |
| 0,55 | 1,0 | 0,59 | 0,2 | 0,2+0,2 | ● | ● | ● | |
| 0,60 | 1,1 | 0,63 | 0,2 | 0,2+0,2 | ● | ● | ● | |
| 0,65 | 1,2 | 0,68 | 0,2 | 0,2+0,2 | ● | ● | ● | |
| 0,70 | 1,3 | 0,72 | 0,2 | 0,2+0,2 | ● | ● | ● | |
| 0,75 | 1,3 | 0,68 | 0,2 | 0,2+0,2 | ● | ● | ● | |
| 0,80 | 1,4 | 0,92 | 0,4 | 0,2+0,2 | ● | ● | ● | |
| 0,85 | 1,4 | 0,88 | 0,4 | 0,2+0,2 | ● | ● | ● | |
| 0,90 | 1,6 | 1,01 | 0,4 | 0,2+0,2 | ● | ● | ● | |
| 0,95 | 1,6 | 0,96 | 0,4 | 0,2+0,2 | ● | ● | ● | |
| 1,00 | 1,8 | 1,19 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,10 | 1,8 | 1,11 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,20 | 2,0 | 1,19 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,30 | 2,0 | 1,11 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,40 | 2,2 | 1,19 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,50 | 2,2 | 1,11 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,60 | 2,5 | 1,28 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,70 | 2,5 | 1,19 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,80 | 2,8 | 1,37 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 1,90 | 2,8 | 1,28 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,00 | 3,0 | 1,37 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,10 | 3,2 | 1,45 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,20 | 3,2 | 1,37 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,30 | 3,5 | 1,54 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,40 | 3,5 | 1,45 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,50 | 3,5 | 1,37 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,60 | 4,0 | 1,71 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,70 | 4,0 | 1,63 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,80 | 4,0 | 1,54 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 2,90 | 4,0 | 1,45 | 0,5 | 0,4+0,3 | ● | ● | ● | |
| 3,00 | 4,5 | 1,80 | 0,5 | 0,6+0,4 | ● | ● | ● | |
| 3,10 | 4,5 | 1,71 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 3,20 | 4,5 | 1,63 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 3,30 | 4,5 | 1,54 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 3,40 | 4,5 | 1,45 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 3,50 | 5,0 | 1,80 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 3,60 | 5,0 | 1,71 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 3,70 | 5,0 | 1,63 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 3,80 | 5,0 | 1,54 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 3,90 | 5,0 | 1,45 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,00 | 5,5 | 1,80 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,10 | 5,5 | 1,71 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,20 | 5,5 | 1,63 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,30 | 5,5 | 1,54 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,40 | 5,5 | 1,45 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,50 | 6,0 | 1,80 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,60 | 6,0 | 1,71 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,70 | 6,0 | 1,63 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |

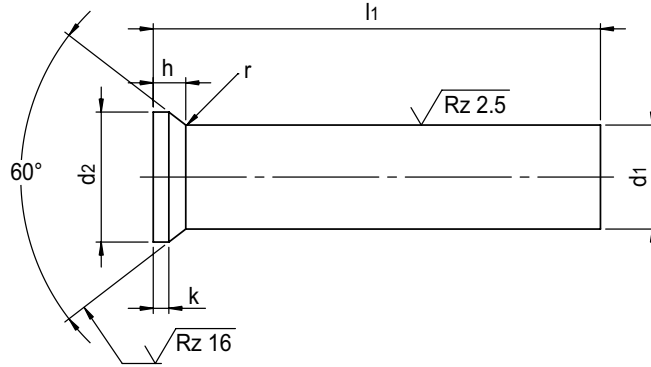
SE 775

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

SE 775 / 2,50 x 100

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).



Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d2 ±0,05 | h +0,2 | k +0,2 | r | l1 +0,5 | | | |
|----------|-------------|-----------|-----------|---------|------------|----|-----|-----|
| | | | | | 71 | 80 | 100 | 130 |
| 4,80 | 6,0 | 1,54 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 4,90 | 6,0 | 1,45 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,00 | 6,5 | 1,80 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,10 | 6,5 | 1,71 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,20 | 6,5 | 1,63 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,30 | 6,5 | 1,54 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,40 | 6,5 | 1,45 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,50 | 7,0 | 1,80 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,60 | 7,0 | 1,71 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,70 | 7,0 | 1,63 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,80 | 7,0 | 1,54 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 5,90 | 7,0 | 1,45 | 0,5 | 0,6+0,4 | ● | ● | ● | ● |
| 6,00 | 8,0 | 2,23 | 0,5 | 1,0+0,5 | ● | ● | ● | ● |
| 6,10 | 8,0 | 2,15 | 0,5 | 1,0+0,5 | ● | ● | ● | ● |
| 6,20 | 8,0 | 2,06 | 0,5 | 1,0+0,5 | ● | ● | ● | ● |
| 6,30 | 8,0 | 1,97 | 0,5 | 1,0+0,5 | ● | ● | ● | ● |
| 6,40 | 8,0 | 1,89 | 0,5 | 1,0+0,5 | ● | ● | ● | ● |
| 6,50 | 9,0 | 3,17 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 7,00 | 9,0 | 2,73 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 7,50 | 10,0 | 3,17 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 8,00 | 10,0 | 2,73 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 8,50 | 11,0 | 3,17 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 9,00 | 11,0 | 2,73 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 9,50 | 12,0 | 3,17 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 10,00 | 12,0 | 2,73 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 10,50 | 13,0 | 3,17 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 11,00 | 13,0 | 2,73 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 11,50 | 14,0 | 3,17 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 12,00 | 14,0 | 2,73 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 12,50 | 15,0 | 3,17 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 13,00 | 15,0 | 2,73 | 1,0 | 1,0+0,5 | ● | ● | ● | ● |
| 13,50 | 16,0 | 3,67 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 14,00 | 16,0 | 3,23 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 14,50 | 17,0 | 3,67 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 15,00 | 17,0 | 3,23 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 15,50 | 18,0 | 3,67 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 16,00 | 18,0 | 3,23 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 16,50 | 19,0 | 3,67 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 17,00 | 19,5 | 3,23 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 17,50 | 20,0 | 3,67 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 18,00 | 20,5 | 3,23 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 18,50 | 21,0 | 3,67 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 19,00 | 21,5 | 3,23 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 19,50 | 22,0 | 3,67 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |
| 20,00 | 22,5 | 3,23 | 1,5 | 1,5+0,5 | ● | ● | ● | ● |



Schneidstempel DIN 9861, Form C, abgesetzter Schaft

Punches DIN 9861, Form C, shouldered shank



SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 785

Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

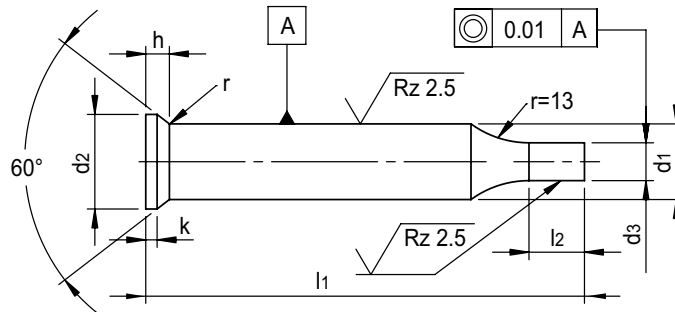
SE 785 /
 5,0 x 71 / d3

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Länge l2 frei wählbar!
 Fehlende Maße siehe SE 775 (Seite SE.1)

Length l2 freely selectable!
 for missing dimensions please see SE 775 (page SE.1)

Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d3 h6 Stufung/step 0,01 | l2 +0,5 | l1 +0,5 | | | |
|----------|----------------------------------|------------|------------|----|-----|-----|
| | | | 71 | 80 | 100 | 130 |
| 1,5 | 0,5 - 1,4 | 7 | ● | ● | ● | |
| 2,0 | 0,5 - 1,9 | 7 | ● | ● | ● | |
| 3,0 | 1,6 - 2,9 | 7 | ● | ● | ● | |
| 4,0 | 1,6 - 3,9 | 10 | ● | ● | ● | ● |
| 5,0 | 2,5 - 4,9 | 10 | ● | ● | ● | ● |
| 6,0 | 3,0 - 5,9 | 10 | ● | ● | ● | ● |
| 8,0 | 4,0 - 7,9 | 13 | ● | ● | ● | ● |
| 10,0 | 5,0 - 9,9 | 17 | ● | ● | ● | ● |
| 13,0 | 9,0 - 12,9 | 17 | ● | ● | ● | ● |
| 16,0 | 12,0 - 15,9 | 17 | ● | ● | ● | ● |
| 20,0 | 16,0 - 19,9 | 17 | ● | ● | ● | ● |
| 25,0 | 20,0 - 24,9 | 17 | ● | ● | ● | ● |
| 32,0 | 25,0 - 31,9 | 17 | ● | ● | ● | ● |
| 38,0 | 30,0 - 37,9 | 17 | ● | ● | ● | ● |

[SE]



SE 786 .

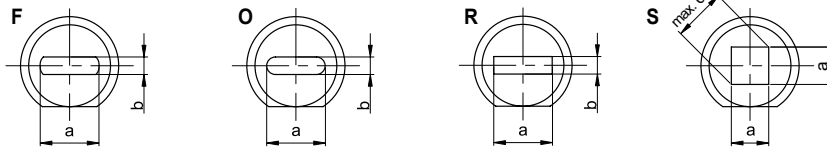
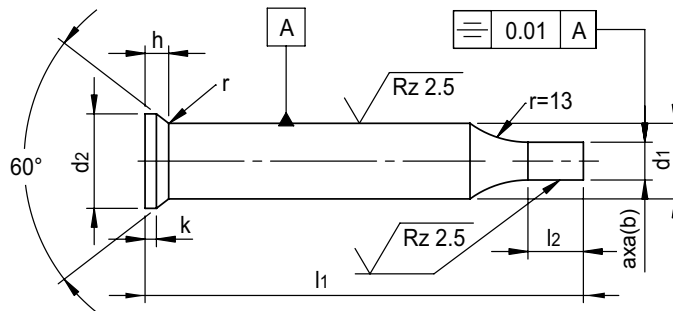
Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

SE 786 F /
8 x 80 / a x b

Länge l₂ frei wählbar!
Stempel ohne Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).
Fehlende Maße siehe SE 775 (Seite SE.1)

Length l₂ freely selectable!
Punches without rotation prevention available, please specify when ordering.
For missing dimensions please see **SE 775 (page SE.1)**




| d1 h6 | a x b ±0,01 Stufung/step 0,01 ≥ ≤ | l ₂ +0,5 | l ₁ +0,5 | | | |
|----------|---|------------------------|------------------------|----|-----|-----|
| | | | 71 | 80 | 100 | 130 |
| 5 | 2,5 - 4,9 | 10 | ● | ● | ● | ● |
| 6 | 3,0 - 5,9 | 10 | ● | ● | ● | ● |
| 8 | 4,0 - 7,9 | 13 | ● | ● | ● | ● |
| 10 | 5,0 - 9,9 | 17 | ● | ● | ● | ● |
| 13 | 9,0 - 12,9 | 17 | ● | ● | ● | ● |
| 16 | 12,0 - 15,9 | 17 | ● | ● | ● | ● |
| 20 | 16,0 - 19,9 | 17 | ● | ● | ● | ● |
| 25 | 20,0 - 24,9 | 17 | ● | ● | ● | ● |
| 32 | 27,0 - 31,9 | 17 | ● | ● | ● | ● |
| 38 | 33,0 - 37,9 | 17 | ● | ● | ● | ● |



SE 712

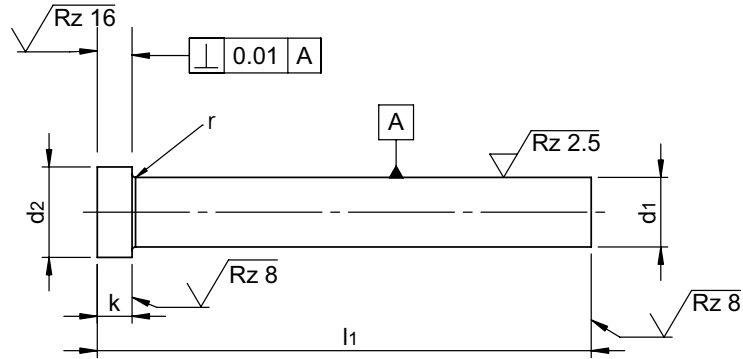
Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

 SE 712 / 8 x 80

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Punches with rotation prevention available, please specify when ordering.



[SE]

| d1 m5 | d2 -0,15 | k +0,2 +0,1 | r +0,1 | l1 +0,5 +0,2 | | | | | |
|----------|-------------|-------------------|-----------|--------------------|----|----|----|-----|-----|
| | | | | 63 | 71 | 80 | 90 | 100 | 120 |
| 3 | 5 | 3 | 0,2 | ● | ● | ● | ● | | |
| 4 | 6 | 3 | 0,2 | ● | ● | ● | ● | ● | |
| 5 | 8 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 6 | 9 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 8 | 11 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 10 | 13 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 13 | 16 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 16 | 19 | 6 | 0,5 | ● | ● | ● | ● | ● | ● |
| 20 | 24 | 6 | 0,5 | ● | ● | ● | ● | ● | ● |
| 25 | 29 | 10 | 0,5 | ● | ● | ● | ● | ● | ● |
| 32 | 36 | 12 | 0,5 | ● | ● | ● | ● | ● | ● |
| 38 | 45 | 15 | 0,5 | ● | ● | ● | ● | ● | ● |

SE 712 ISO

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

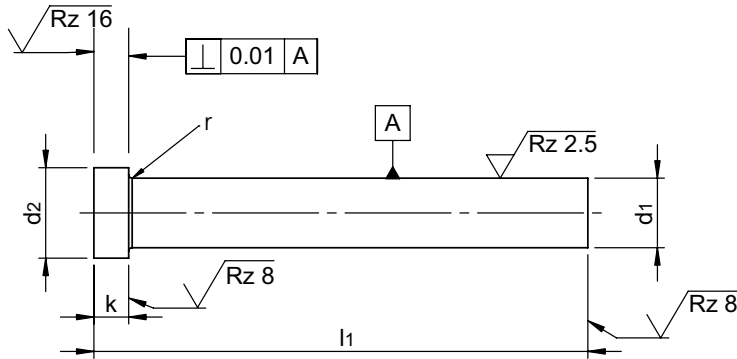
SE 712 ISO / 8 x 80

Stempel mit verstärkter Kopfhöhe auf Wunsch lieferbar (bei Bestellung angeben).

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Punches with rotation prevention available, please specify when ordering.

Punches with reinforced head height available, please specify when ordering.



| d1 m5 | d2 -0,15 | k +0,2 +0,1 | r +0,1 | l1 +0,5 +0,2 | | | | | |
|----------|-------------|-------------------|-----------|--------------------|----|----|----|-----|-----|
| | | | | 63 | 71 | 80 | 90 | 100 | 120 |
| 3 | 5 | 3 | 0,2 | ● | ● | ● | ● | | |
| 4 | 6 | 3 | 0,2 | ● | ● | ● | ● | ● | |
| 5 | 8 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 6 | 9 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 8 | 11 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 10 | 13 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 13 | 16 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 16 | 19 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 20 | 23 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 25 | 28 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 32 | 35 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 38 | 41 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |



Schneidstempel ISO 8020 mit federndem Auswerferstift



Punches ISO 8020 with spring ejector

SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 737

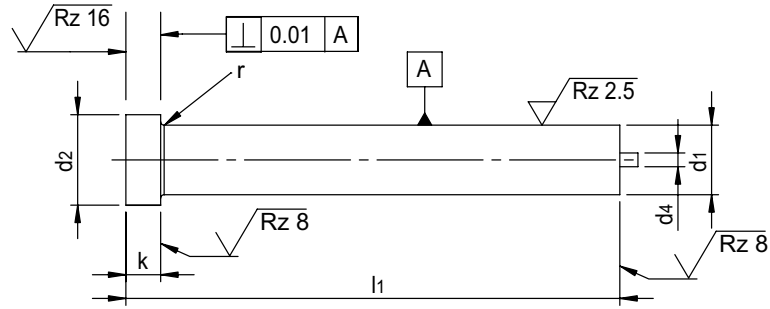
Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

SE 737 / 10 x 100

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Punches with rotation prevention available, please specify when ordering.



| d1 m5 | d2 -0,05 | d4 | k +0,2 +0,1 | r +0,1 | l1 +0,5 +0,2 | | | | | |
|----------|-------------|-----|-------------------|-----------|--------------------|----|----|----|-----|-----|
| | | | | | 63 | 71 | 80 | 90 | 100 | 120 |
| 5 | 8 | 1,0 | 5 | 0,3 | ● | ● | ● | ● | ● | |
| 6 | 9 | 1,0 | 5 | 0,3 | ● | ● | ● | ● | ● | |
| 8 | 11 | 1,5 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 10 | 13 | 1,5 | 5 | 0,3 | ● | ● | ● | ● | ● | ● |
| 13 | 16 | 1,5 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 16 | 19 | 2,3 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 20 | 23 | 2,3 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 25 | 28 | 2,3 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 32 | 35 | 3,0 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |
| 38 | 41 | 3,0 | 5 | 0,5 | ● | ● | ● | ● | ● | ● |

[SE]



SE 716 KP ISO

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

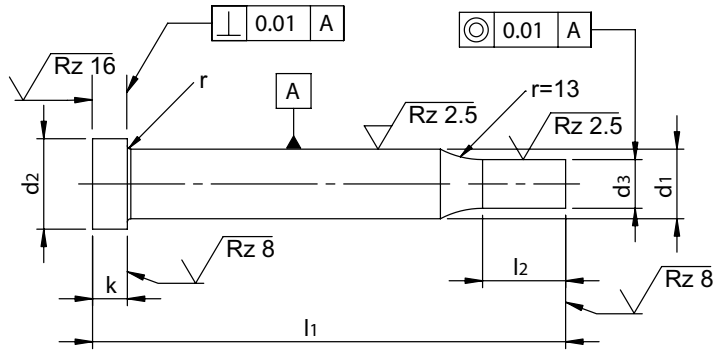
SE 716 KP / ISO /
10 x 100 / d3

Stempel mit verstärkter Kopfhöhe auf Wunsch lieferbar (bei Bestellung angeben).

Länge l2 frei wählbar!
Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Length l2 freely selectable!
Punches with rotation prevention available, please specify when ordering.

Punches with reinforced head height available, please specify when ordering.



| d1 m5 | d2 -0,15 | d3 +0,01 Stufung/step 0,01 | k +0,2 +0,1 | r +0,1 | l2 ±0,5 | l1 +0,5 +0,2 | | | | | |
|----------|-------------|-------------------------------------|-------------------|-----------|------------|--------------------|----|----|----|-----|-----|
| | | | | | | 63 | 71 | 80 | 90 | 100 | 120 |
| 3 | 5 | 1,6 - 2,9 | 3 | 0,2 | 7 | ● | ● | ● | ● | | |
| 4 | 6 | 1,6 - 3,9 | 3 | 0,2 | 10 | ● | ● | ● | ● | ● | |
| 5 | 8 | 2,5 - 4,9 | 5 | 0,3 | 10 | ● | ● | ● | ● | ● | ● |
| 6 | 9 | 3,0 - 5,9 | 5 | 0,3 | 10 | ● | ● | ● | ● | ● | ● |
| 8 | 11 | 4,0 - 7,9 | 5 | 0,3 | 13 | ● | ● | ● | ● | ● | ● |
| 10 | 13 | 5,0 - 9,9 | 5 | 0,3 | 17 | ● | ● | ● | ● | ● | ● |
| 13 | 16 | 9,0 - 12,9 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 16 | 19 | 12,0 - 15,9 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 20 | 23 | 16,0 - 19,9 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 25 | 28 | 20,0 - 24,9 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 32 | 35 | 27,0 - 31,9 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 38 | 41 | 33,0 - 37,9 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |



SE 737 EKP

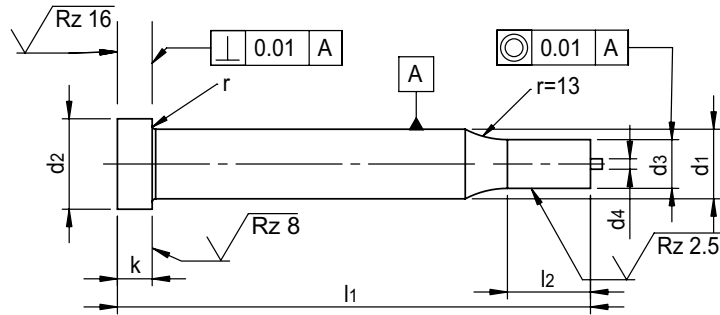
Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

SE 737 EKP /
10 x 100 / d3

Länge l2 frei wählbar!
Stempel mit Verdrehsicherung auf
Wunsch lieferbar (bei Bestellung
angeben).

Length l2 freely selectable!
Punches with rotation prevention
available, please specify when
ordering.



[SE]

| d1 m5 | d2 -0,15 | d3 +0,01 Stufung/step 0,01 | d4 | k +0,2 +0,1 | r +0,1 | l2 ±0,5 | l1 +0,5 +0,2 | | | | | |
|----------|-------------|-------------------------------------|-----|-------------------|-----------|------------|--------------------|----|----|----|-----|-----|
| | | | | | | | 63 | 71 | 80 | 90 | 100 | 120 |
| 5 | 8 | 2,5 - 4,9 | 1,0 | 5 | 0,3 | 10 | ● | ● | ● | ● | ● | |
| 6 | 9 | 3,0 - 5,9 | 1,0 | 5 | 0,3 | 10 | ● | ● | ● | ● | ● | |
| 8 | 11 | 4,0 - 7,9 | 1,5 | 5 | 0,3 | 13 | ● | ● | ● | ● | ● | ● |
| 10 | 13 | 5,0 - 9,9 | 1,5 | 5 | 0,3 | 17 | ● | ● | ● | ● | ● | ● |
| 13 | 16 | 9,0 - 12,9 | 1,5 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 16 | 19 | 12,0 - 15,9 | 2,3 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 20 | 23 | 16,0 - 19,9 | 2,3 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 25 | 28 | 20,0 - 24,9 | 2,3 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 32 | 35 | 24,0 - 31,9 | 3,0 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 38 | 41 | 28,0 - 37,9 | 3,0 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |

SE 731 . . ISO

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

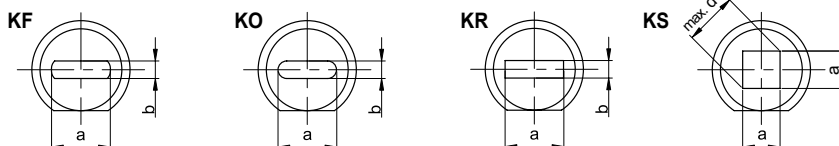
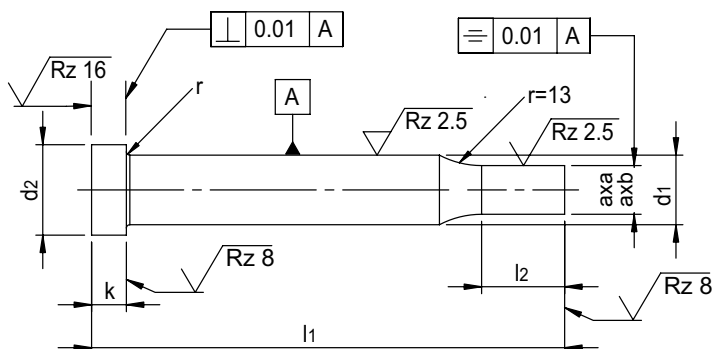
SE 731 KO / ISO /
10 x 100 / a x b

Stempel mit verstärkter Kopfhöhe auf Wunsch lieferbar (bei Bestellung angeben).

Länge l2 frei wählbar!
Stempel ohne Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Length l2 freely selectable!
Punches without rotation prevention available, please specify when ordering.

Punches with reinforced head height available, please specify when ordering.



| d1 m5 | a x b ±0,01 Stufung/step 0,01 ≥ ≤ | d2 -0,15 | k +0,2 +0,1 | r +0,1 | l2 ±0,5 | l1 +0,5 +0,2 | | | | | |
|----------|---|-------------|-------------------|-----------|------------|--------------------|----|----|----|-----|-----|
| | | | | | | 63 | 71 | 80 | 90 | 100 | 120 |
| 3 | 1,6 - 2,9 | 5 | 3 | 0,2 | 7 | ● | ● | ● | ● | | |
| 4 | 1,6 - 3,9 | 6 | 3 | 0,2 | 10 | ● | ● | ● | ● | ● | |
| 5 | 2,5 - 4,9 | 8 | 5 | 0,3 | 10 | ● | ● | ● | ● | ● | ● |
| 6 | 3,0 - 5,9 | 9 | 5 | 0,3 | 10 | ● | ● | ● | ● | ● | ● |
| 8 | 4,0 - 7,9 | 11 | 5 | 0,3 | 13 | ● | ● | ● | ● | ● | ● |
| 10 | 5,0 - 9,9 | 13 | 5 | 0,3 | 17 | ● | ● | ● | ● | ● | ● |
| 13 | 9,0 - 12,9 | 16 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 16 | 12,0 - 15,9 | 19 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 20 | 16,0 - 19,9 | 23 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 25 | 20,0 - 24,9 | 28 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 32 | 27,0 - 31,9 | 35 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 38 | 33,0 - 37,9 | 41 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |



SE 737 . . .

mit federndem Auswerferstift

with spring ejector

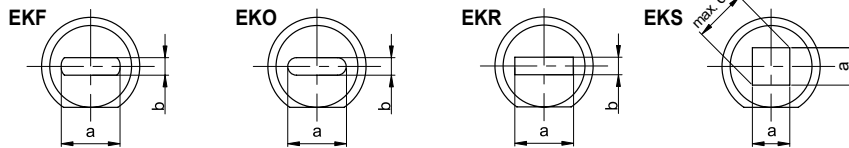
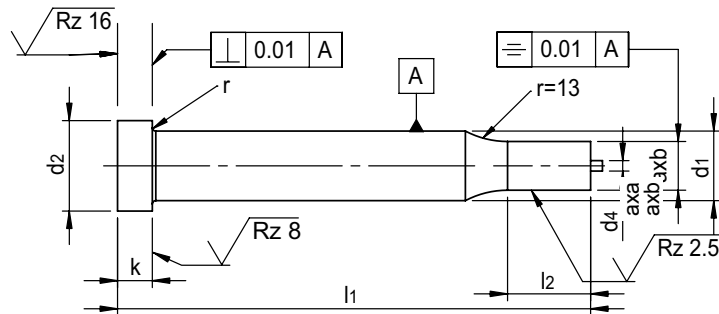
SE 737 EKF /
10 x 100 / a x b

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

Länge l2 frei wählbar!
Stempel ohne Verdrehsicherung auf
Wunsch lieferbar (bei Bestellung
angeben).

Length l2 freely selectable!
Punches without rotation preventi-
on available, please specify when
ordering.



| d1 m5 | d2 -0,15 | a x b ±0,01 Stufung/step 0,01 ≥ ≤ | d4 | k +0,2 +0,1 | r +0,1 | l2 ±0,5 | l1 +0,5 +0,2 | | | | | |
|----------|-------------|---|-----|-------------------|-----------|------------|--------------------|----|----|----|-----|-----|
| | | | | | | | 63 | 71 | 80 | 90 | 100 | 120 |
| 5 | 8 | 2,5 - 4,9 | 1,0 | 5 | 0,3 | 10 | ● | ● | ● | ● | ● | |
| 6 | 9 | 3,0 - 5,9 | 1,0 | 5 | 0,3 | 10 | ● | ● | ● | ● | ● | |
| 8 | 11 | 4,0 - 7,9 | 1,6 | 5 | 0,3 | 13 | ● | ● | ● | ● | ● | ● |
| 10 | 13 | 5,0 - 9,9 | 1,6 | 5 | 0,3 | 17 | ● | ● | ● | ● | ● | ● |
| 13 | 16 | 9,0 - 12,9 | 1,6 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 16 | 19 | 12,0 - 15,9 | 2,4 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 20 | 23 | 16,0 - 19,9 | 2,4 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 25 | 28 | 20,0 - 24,9 | 2,4 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 32 | 35 | 24,0 - 31,9 | 2,4 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |
| 38 | 41 | 28,0 - 37,9 | 2,4 | 5 | 0,5 | 17 | ● | ● | ● | ● | ● | ● |

SE 391

Schwere Ausführung
mit Verdrehsicherung

Heavy duty
with rotation prevention

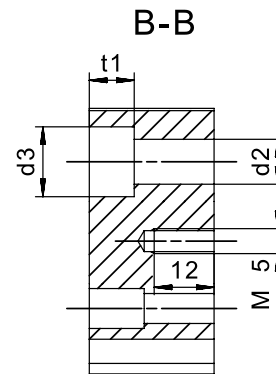
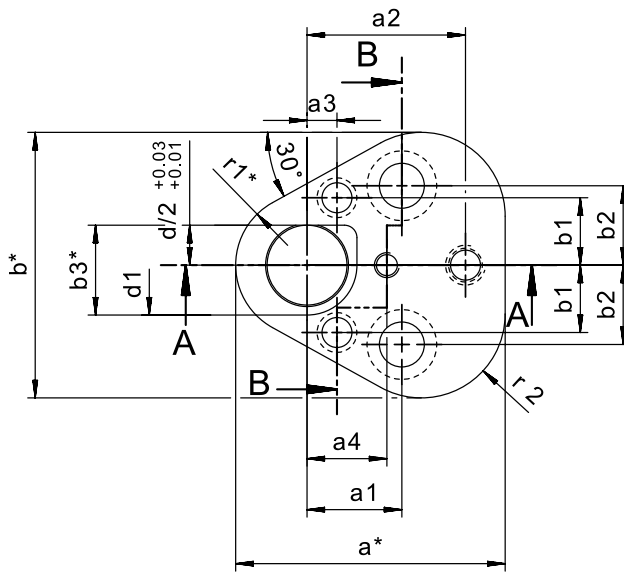
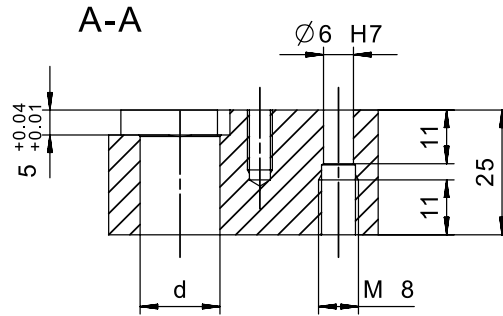
SE 391 / 13

Mat.: 1.7131, gegläht
Härte: 56 ±2 HRC

Mat.: 1.7131, annealed
Hardness: 56 ±2 HRC

Lieferumfang:
Zylinderkopfschrauben und Zylinder-
stifte

Included:
Socket head cap screw and dowel
pins



| d | Toleranzen d Tolerances d | d1 | d2 | d3 | t1 | a* max. | a1 | a2 ±0,01 | a3 ±0,01 | a4 | b* max. | b1 ±0,01 | b2 | b3* | r1* | r2 |
|----|------------------------------|----|------|----|----|------------|------|-------------|-------------|----|------------|-------------|------|-----|------|------|
| 10 | +0,011 +0,008 | 14 | 9 | 15 | 9 | 44,5 | 19 | 26,92 | 7,5 | 16 | 43,7 | 9 | 11,1 | 12 | 9,5 | 12 |
| 13 | +0,014 +0,010 | 17 | 9 | 15 | 9 | 50,8 | 19 | 29,97 | 6,5 | 16 | 50 | 12 | 14,3 | 15 | 12,7 | 15,2 |
| 16 | +0,014 +0,010 | 20 | 9 | 15 | 9 | 54 | 19 | 31,75 | 6 | 16 | 53,2 | 13,5 | 15,9 | 18 | 14,3 | 16,8 |
| 20 | +0,016 +0,011 | 24 | 11 | 18 | 11 | 60,3 | 19 | 33,53 | 5 | 23 | 59,5 | 16,5 | 17,5 | 22 | 17,5 | 20 |
| 25 | +0,016 +0,011 | 29 | 13,5 | 20 | 13 | 69,9 | 23,8 | 40,64 | 7 | 30 | 69,1 | 22 | 19,8 | 27 | 22,2 | 24,7 |
| 32 | +0,019 +0,013 | 36 | 13,5 | 20 | 13 | 69,9 | 23,8 | 40,64 | 7 | 30 | 69,1 | 22 | 19,8 | 34 | 22,2 | 24,7 |

* Konturen können variieren. Größtmaße sind in der Tabelle angegeben.

* Contours may vary. Maximum dimensions are given in the table.

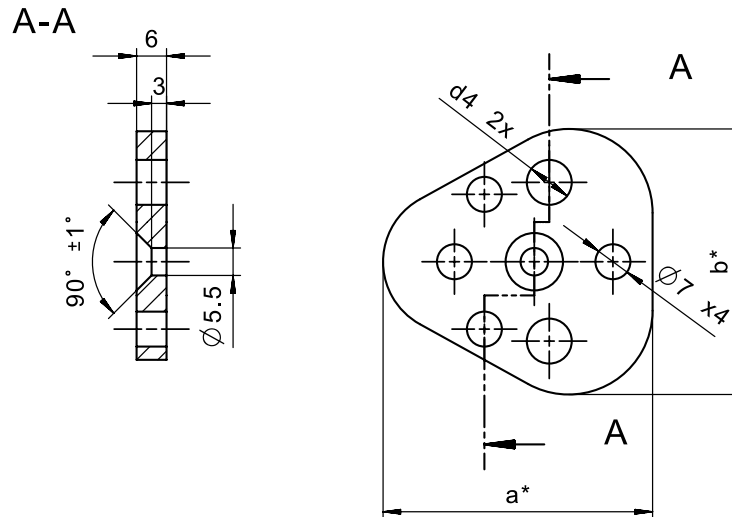


SE 392

Mat.: 1.2842
Härte: 50 +3 HRC

Mat.: 1.2842
Hardness: 50 +3 HRC

SE 392 / 13



| d SE 391 | d4 | a* max. | b* max. |
|-------------|------|------------|------------|
| 10 | 9 | 44,5 | 43,7 |
| 13 | 9 | 50,8 | 50 |
| 16 | 9 | 54 | 53,2 |
| 20 | 11 | 60,3 | 59,5 |
| 25 | 13,5 | 69,9 | 69,1 |
| 32 | 13,5 | 69,9 | 69,1 |

* Konturen können variieren. Größtmaße sind in der Tabelle angegeben.

* Contours may vary. Maximum dimensions are given in the table.

SE 750

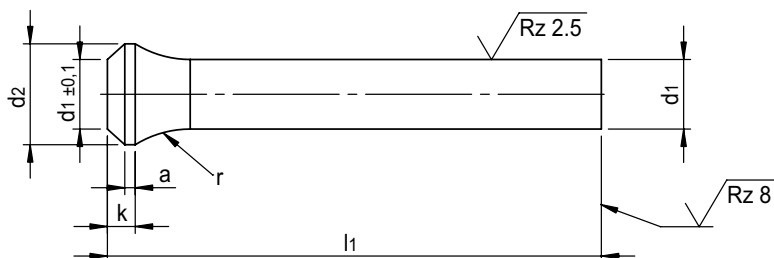
Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

SE 750 / 13,0 x 100

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d2 -0,2 | k +0,2 | a | r -0,2 | l1 +0,5 | | | | |
|----------|------------|-----------|-----|-----------|------------|----|----|-----|-----|
| | | | | | 71 | 80 | 90 | 100 | 120 |
| 2,0 | 3,0 | 3 | 1,0 | 3,5 | ● | ● | ● | | |
| 2,5 | 3,5 | 3 | 1,0 | 3,5 | ● | ● | ● | | |
| 3,0 | 4,5 | 3 | 1,0 | 6,5 | ● | ● | ● | | |
| 3,5 | 5,0 | 3 | 1,0 | 8,0 | ● | ● | ● | | |
| 4,0 | 5,5 | 4 | 1,5 | 8,0 | ● | ● | ● | ● | |
| 4,5 | 6,0 | 4 | 1,5 | 8,0 | ● | ● | ● | ● | |
| 5,0 | 7,0 | 4 | 1,5 | 10,0 | ● | ● | ● | ● | ● |
| 5,5 | 8,0 | 4 | 1,5 | 10,0 | ● | ● | ● | ● | ● |
| 6,0 | 9,0 | 4 | 1,5 | 10,0 | ● | ● | ● | ● | ● |
| 6,5 | 10,0 | 4 | 1,5 | 12,0 | ● | ● | ● | ● | ● |
| 7,0 | 10,0 | 4 | 1,5 | 12,0 | ● | ● | ● | ● | ● |
| 7,5 | 11,0 | 4 | 1,5 | 12,0 | ● | ● | ● | ● | ● |
| 8,0 | 11,0 | 4 | 1,5 | 12,0 | ● | ● | ● | ● | ● |
| 8,5 | 13,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 9,0 | 13,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 9,5 | 14,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 10,0 | 14,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 10,5 | 15,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 11,0 | 15,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 11,5 | 16,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 12,0 | 16,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 12,5 | 17,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 13,0 | 17,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 13,5 | 18,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 14,0 | 18,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 14,5 | 19,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 15,0 | 19,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 15,5 | 20,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 16,0 | 20,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 16,5 | 21,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 17,0 | 21,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 17,5 | 22,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 18,0 | 22,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 18,5 | 23,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 19,0 | 23,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 19,5 | 25,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 20,0 | 25,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |
| 25,0 | 30,0 | 4 | 1,5 | 15,0 | ● | ● | ● | ● | ● |

= bevorzugte Abmessungen / preferred dimensions



Schneidstempel Posaunenmundstück mit fed. Auswerferstift

Punches trumpet head with spring ejector



SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 753

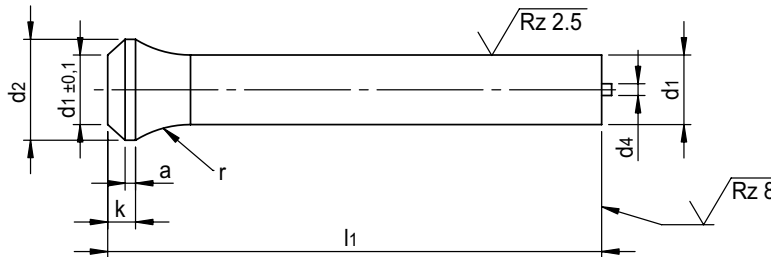
Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

SE 753 / 13,0 x 100

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d2 -0,2 | k +0,2 | a | r -0,2 | d4 | l1 +0,5 | | | | |
|----------|------------|-----------|-----|-----------|-----|------------|----|----|-----|-----|
| | | | | | | 71 | 80 | 90 | 100 | 120 |
| 5,0 | 7 | 4 | 1,5 | 10 | 1,0 | ● | ● | ● | ● | |
| 6,0 | 9 | 4 | 1,5 | 10 | 1,0 | ● | ● | ● | ● | |
| 8,0 | 11 | 4 | 1,5 | 12 | 1,5 | ● | ● | ● | ● | ● |
| 10,0 | 14 | 4 | 1,5 | 15 | 1,5 | ● | ● | ● | ● | ● |
| 13,0 | 17 | 4 | 1,5 | 15 | 1,5 | ● | ● | ● | ● | ● |
| 16,0 | 20 | 4 | 1,5 | 15 | 2,3 | ● | ● | ● | ● | ● |
| 20,0 | 25 | 4 | 1,5 | 15 | 2,3 | ● | ● | ● | ● | ● |
| 25,0 | 30 | 4 | 1,5 | 15 | 2,3 | ● | ● | ● | ● | ● |

Zwischenabmessungen auf Anfrage! / Intermediate dimensions on request!

[SE]



Schneidstempel Posaunenmundstück, abgesetzter Schaft

Punches trumpet head, shouldered shank



SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 751

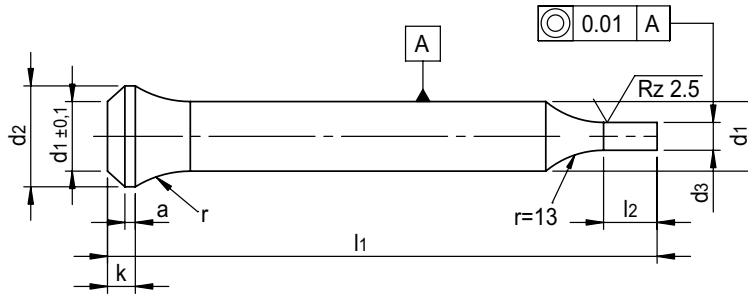
Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

SE 751 /
 10,0 x 100 / d3

Länge l2 frei wählbar!
 Stempel mit Verdrehsicherung auf
 Wunsch lieferbar (bei Bestellung
 angeben).

Length l2 freely selectable!
 Punches with rotation prevention
 available, please specify when
 ordering.



| d1 h6 | d3 h6 Stufung/step 0,01 | d2 -0,2 | k +0,2 | a | r -0,2 | l2 +0,5 | l1 +0,5 | | | | |
|----------|----------------------------------|------------|-----------|-----|-----------|------------|------------|----|----|-----|-----|
| | | | | | | | 71 | 80 | 90 | 100 | 120 |
| 2,0 | 0,5 - 1,9 | 3,0 | 3 | 1,0 | 3,5 | 7 | ● | ● | ● | | |
| 2,5 | 0,5 - 2,4 | 3,5 | 3 | 1,0 | 3,5 | 7 | ● | ● | ● | | |
| 3,0 | 1,6 - 2,9 | 4,5 | 3 | 1,0 | 6,5 | 7 | ● | ● | ● | | |
| 3,5 | 1,6 - 3,4 | 5,0 | 3 | 1,0 | 8,0 | 10 | ● | ● | ● | | |
| 4,0 | 1,6 - 3,9 | 5,5 | 4 | 1,5 | 8,0 | 10 | ● | ● | ● | ● | |
| 4,5 | 2,0 - 4,4 | 6,0 | 4 | 1,5 | 8,0 | 10 | ● | ● | ● | ● | |
| 5,0 | 2,5 - 4,9 | 7,0 | 4 | 1,5 | 10,0 | 10 | ● | ● | ● | ● | ● |
| 5,5 | 2,5 - 5,4 | 8,0 | 4 | 1,5 | 10,0 | 10 | ● | ● | ● | ● | ● |
| 6,0 | 3,0 - 5,9 | 9,0 | 4 | 1,5 | 10,0 | 10 | ● | ● | ● | ● | ● |
| 6,5 | 3,0 - 6,4 | 10,0 | 4 | 1,5 | 12,0 | 10 | ● | ● | ● | ● | ● |
| 7,0 | 3,5 - 6,9 | 10,0 | 4 | 1,5 | 12,0 | 10 | ● | ● | ● | ● | ● |
| 7,5 | 3,5 - 7,4 | 11,0 | 4 | 1,5 | 12,0 | 10 | ● | ● | ● | ● | ● |
| 8,0 | 3,5 - 7,9 | 11,0 | 4 | 1,5 | 12,0 | 13 | ● | ● | ● | ● | ● |
| 8,5 | 4,0 - 8,4 | 13,0 | 4 | 1,5 | 15,0 | 13 | ● | ● | ● | ● | ● |
| 9,0 | 4,0 - 8,9 | 13,0 | 4 | 1,5 | 15,0 | 13 | ● | ● | ● | ● | ● |
| 9,5 | 4,5 - 9,4 | 14,0 | 4 | 1,5 | 15,0 | 13 | ● | ● | ● | ● | ● |
| 10,0 | 5,0 - 9,9 | 14,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 10,5 | 5,5 - 10,4 | 15,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 11,0 | 5,5 - 10,9 | 15,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 11,5 | 6,0 - 11,4 | 16,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 12,0 | 6,0 - 11,9 | 16,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 12,5 | 7,0 - 12,4 | 17,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 13,0 | 9,0 - 12,9 | 17,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 13,5 | 9,0 - 13,4 | 18,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 14,0 | 9,5 - 13,9 | 18,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 14,5 | 9,5 - 14,4 | 19,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 15,0 | 10,0 - 14,9 | 19,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 15,5 | 10,5 - 15,4 | 20,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 16,0 | 12,0 - 15,9 | 20,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 16,5 | 12,5 - 16,4 | 21,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 17,0 | 13,0 - 16,9 | 21,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 17,5 | 13,0 - 17,4 | 22,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 18,0 | 13,5 - 17,9 | 22,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 18,5 | 13,5 - 18,4 | 23,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 19,0 | 14,0 - 18,9 | 23,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 19,5 | 15,0 - 19,4 | 25,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 20,0 | 16,0 - 19,9 | 25,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 25,0 | 18,0 - 24,9 | 30,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |

= bevorzugte Abmessungen / preferred dimensions



SE 754

mit federndem Auswerferstift

with spring ejector

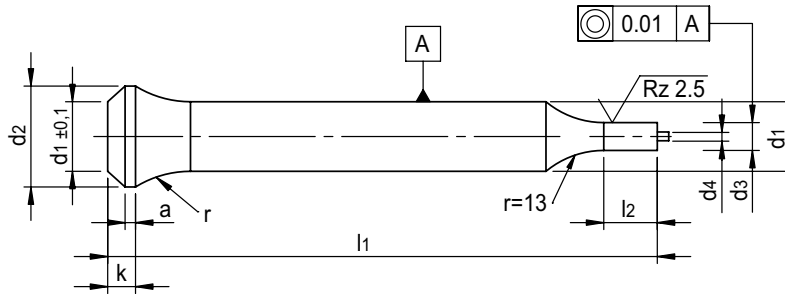
SE 754 /
10,0 x 100 / d3

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

Länge l2 frei wählbar!
Stempel mit Verdrehsicherung auf
Wunsch lieferbar (bei Bestellung
angeben).

Length l2 freely selectable!
Punches with rotation prevention
available, please specify when
ordering.



[SE]

| d1 h6 | d3 h6 Stufung/step 0,01 ≥ ≤ | d2 | k -0,2 | a +0,2 | r | l2 -0,2 | d4 +0,5 | l1 +0,5 | | | | |
|----------|---|----|-----------|-----------|------|------------|------------|------------|----|----|-----|-----|
| | | | | | | | | 71 | 80 | 90 | 100 | 120 |
| 5,0 | 2,5 - 4,9 | 7 | 4,0 | 1,5 | 10,0 | 10 | 1,0 | ● | ● | ● | ● | |
| 6,0 | 3,0 - 5,9 | 9 | 4,0 | 1,5 | 10,0 | 10 | 1,0 | ● | ● | ● | ● | |
| 8,0 | 4,0 - 7,9 | 11 | 4,0 | 1,5 | 12,0 | 13 | 1,5 | ● | ● | ● | ● | ● |
| 10,0 | 5,0 - 9,9 | 14 | 4,0 | 1,5 | 15,0 | 17 | 1,5 | ● | ● | ● | ● | ● |
| 13,0 | 9,0 - 12,9 | 17 | 4,0 | 1,5 | 15,0 | 17 | 1,5 | ● | ● | ● | ● | ● |
| 16,0 | 12,0 - 15,9 | 20 | 4,0 | 1,5 | 15,0 | 17 | 2,3 | ● | ● | ● | ● | ● |
| 20,0 | 16,0 - 19,9 | 25 | 4,0 | 1,5 | 15,0 | 17 | 2,3 | ● | ● | ● | ● | ● |
| 25,0 | 18,0 - 24,9 | 30 | 4,0 | 1,5 | 15,0 | 17 | 2,3 | ● | ● | ● | ● | ● |

Zwischenabmessungen auf Anfrage! / Intermediate dimensions on request!



SE 752 . .

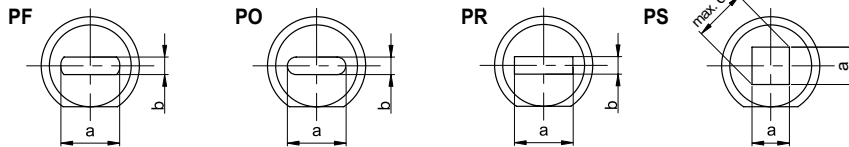
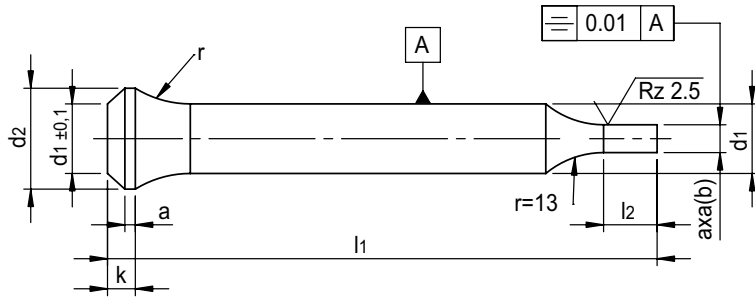
Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

SE 752 PF /
10,0 x 100 / a x b

Länge l2 frei wählbar!
 Stempel ohne Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Length l2 freely selectable!
 Punches without rotation prevention available, please specify when ordering.



| d1 h6 | a x b ±0,01 Stufung/step 0,01 | | d2 -0,2 | k +0,2 | a | r -0,2 | l2 +0,5 | l1 +0,5 | | | | |
|----------|--|---|------------|-----------|-----|-----------|------------|------------|----|----|-----|-----|
| | ≥ | ≤ | | | | | | 71 | 80 | 90 | 100 | 120 |
| 2,0 | 0,5 - 1,9 | | 3,0 | 3 | 1,0 | 3,5 | 7 | ● | ● | ● | | |
| 2,5 | 0,5 - 2,4 | | 3,5 | 3 | 1,0 | 3,5 | 7 | ● | ● | ● | | |
| 3,0 | 1,6 - 2,9 | | 4,5 | 3 | 1,0 | 6,5 | 7 | ● | ● | ● | | |
| 3,5 | 1,6 - 3,4 | | 5,0 | 3 | 1,0 | 8,0 | 10 | ● | ● | ● | | |
| 4,0 | 1,6 - 3,9 | | 5,5 | 4 | 1,5 | 8,0 | 10 | ● | ● | ● | ● | |
| 4,5 | 2,0 - 4,4 | | 6,0 | 4 | 1,5 | 8,0 | 10 | ● | ● | ● | ● | |
| 5,0 | 2,5 - 4,9 | | 7,0 | 4 | 1,5 | 10,0 | 10 | ● | ● | ● | ● | ● |
| 5,5 | 2,5 - 5,4 | | 8,0 | 4 | 1,5 | 10,0 | 10 | ● | ● | ● | ● | ● |
| 6,0 | 3,0 - 5,9 | | 9,0 | 4 | 1,5 | 10,0 | 10 | ● | ● | ● | ● | ● |
| 6,5 | 3,0 - 6,4 | | 10,0 | 4 | 1,5 | 12,0 | 10 | ● | ● | ● | ● | ● |
| 7,0 | 3,5 - 6,9 | | 10,0 | 4 | 1,5 | 12,0 | 10 | ● | ● | ● | ● | ● |
| 7,5 | 3,5 - 7,4 | | 11,0 | 4 | 1,5 | 12,0 | 10 | ● | ● | ● | ● | ● |
| 8,0 | 3,5 - 7,9 | | 11,0 | 4 | 1,5 | 12,0 | 13 | ● | ● | ● | ● | ● |
| 8,5 | 4,0 - 8,4 | | 13,0 | 4 | 1,5 | 15,0 | 13 | ● | ● | ● | ● | ● |
| 9,0 | 4,0 - 8,9 | | 13,0 | 4 | 1,5 | 15,0 | 13 | ● | ● | ● | ● | ● |
| 9,5 | 4,5 - 9,4 | | 14,0 | 4 | 1,5 | 15,0 | 13 | ● | ● | ● | ● | ● |
| 10,0 | 5,0 - 9,9 | | 14,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 10,5 | 5,5 - 10,4 | | 15,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 11,0 | 5,5 - 10,9 | | 15,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 11,5 | 6,0 - 11,4 | | 16,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |

| d1 h6 | a x b ±0,01 Stufung/step 0,01 | | d2 -0,2 | k +0,2 | a | r -0,2 | l2 +0,5 | l1 +0,5 | | | | |
|----------|--|---|------------|-----------|-----|-----------|------------|------------|----|----|-----|-----|
| | ≥ | ≤ | | | | | | 71 | 80 | 90 | 100 | 120 |
| 12,0 | 6,0 - 11,9 | | 16,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 12,5 | 7,0 - 12,4 | | 17,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 13,0 | 9,0 - 12,9 | | 17,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 13,5 | 9,0 - 13,4 | | 18,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 14,0 | 9,5 - 13,9 | | 18,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 14,5 | 9,5 - 14,4 | | 19,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 15,0 | 10,0 - 14,9 | | 19,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 15,5 | 10,5 - 15,4 | | 20,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 16,0 | 12,0 - 15,9 | | 20,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 16,5 | 12,5 - 16,4 | | 21,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 17,0 | 13,0 - 16,9 | | 21,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 17,5 | 13,0 - 17,4 | | 22,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 18,0 | 13,5 - 17,9 | | 22,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 18,5 | 13,5 - 18,4 | | 23,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 19,0 | 14,0 - 18,9 | | 23,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 19,5 | 15,0 - 19,4 | | 25,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 20,0 | 16,0 - 19,9 | | 25,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |
| 25,0 | 18,0 - 24,9 | | 30,0 | 4 | 1,5 | 15,0 | 17 | ● | ● | ● | ● | ● |

= bevorzugte Abmessungen / preferred dimensions



SE 755 . . .

mit federndem Auswerferstift

with spring ejector

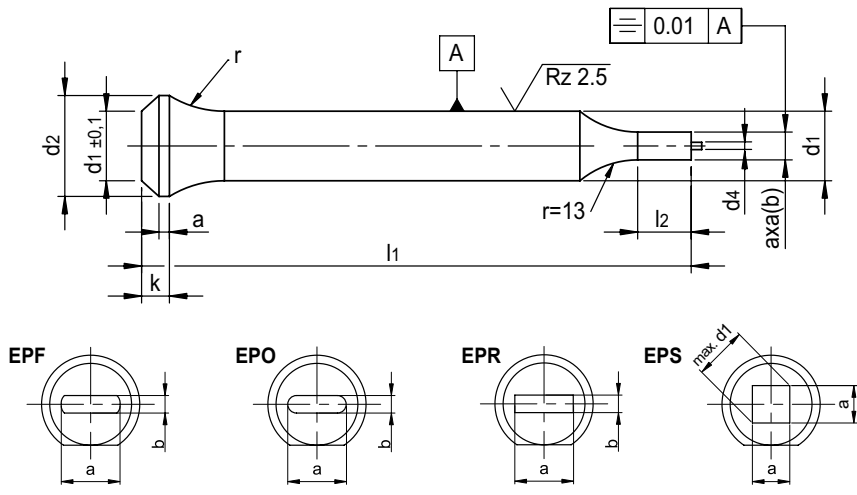
SE 755 EPF /
10,0 x 100 / a x b

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

Länge l2 frei wählbar!
Stempel ohne Verdrehungssicherung auf Wunsch lieferbar (bei Bestellung angeben).

Length l2 freely selectable!
Punches without rotation prevention available, please specify when ordering.



| d1 h6 | a x b ±0,01 Stufung/step 0,01 ≥ ≤ | d2 | k -0,2 | a +0,2 | r | l2 -0,2 | d4 +0,5 | l1 +0,5 | | | | |
|----------|---|----|-----------|-----------|----|------------|------------|------------|----|----|-----|-----|
| | | | | | | | | 71 | 80 | 90 | 100 | 120 |
| 5,0 | 2,5 - 4,9 | 7 | 4,0 | 1,5 | 10 | 10 | 1,0 | ● | ● | ● | ● | |
| 6,0 | 3,0 - 5,9 | 9 | 4,0 | 1,5 | 10 | 10 | 1,0 | ● | ● | ● | ● | |
| 8,0 | 4,0 - 7,9 | 11 | 4,0 | 1,5 | 12 | 13 | 1,5 | ● | ● | ● | ● | ● |
| 10,0 | 5,0 - 9,9 | 14 | 4,0 | 1,5 | 15 | 17 | 1,5 | ● | ● | ● | ● | ● |
| 13,0 | 9,0 - 12,9 | 17 | 4,0 | 1,5 | 15 | 17 | 1,5 | ● | ● | ● | ● | ● |
| 16,0 | 12,0-15,9 | 20 | 4,0 | 1,5 | 15 | 17 | 2,3 | ● | ● | ● | ● | ● |
| 20,0 | 16,0-19,9 | 25 | 4,0 | 1,5 | 15 | 17 | 2,3 | ● | ● | ● | ● | ● |
| 25,0 | 18,0-24,9 | 30 | 4,0 | 1,5 | 15 | 17 | 2,3 | ● | ● | ● | ● | ● |

Zwischenabmessungen auf Anfrage! / Intermediate dimensions on request!

[SE]



Kopfsenker für Posaunenhalbs-Stempel

Counterbore-tools for trumpet-head punches



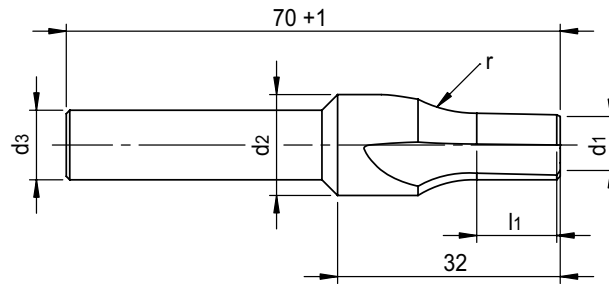
SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 020

Mat.: HSS
Härte Schaft: 64 ±2 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC

SE 020 / 6,0



| d1 f7 | d2 h8 | d3 h11 | r | l1 |
|-------------|----------|-----------|----|----|
| 5,0 | 7,4 | d2 | 10 | 10 |
| 5,5 | 8,5 | d2 | 10 | 10 |
| 6,0 | 9,5 | d2 | 10 | 10 |
| 6,5 / 7,0 | 10,5 | 10 | 12 | 12 |
| 7,5 / 8,0 | 11,5 | 10 | 12 | 12 |
| 8,5 / 9,0 | 13,5 | 10 | 15 | 12 |
| 9,5 / 10,0 | 14,5 | 10 | 15 | 12 |
| 10,5 / 11,0 | 15,5 | 10 | 15 | 15 |
| 11,5 / 12,0 | 16,5 | 10 | 15 | 15 |
| 12,5 / 13,0 | 17,5 | 10 | 15 | 15 |
| 13,5 / 14,0 | 18,5 | 10 | 15 | 15 |
| 14,5 / 15,0 | 19,5 | 10 | 15 | 15 |
| 15,5 / 16,0 | 20,5 | 10 | 15 | 15 |
| 16,5 / 17,0 | 21,5 | 16 | 15 | 15 |
| 17,5 / 18,0 | 22,5 | 16 | 15 | 15 |
| 18,5 / 19,0 | 23,5 | 16 | 15 | 15 |
| 19,5 / 20,0 | 25,5 | 16 | 15 | 15 |
| 25,0 | 30,5 | 16 | 15 | 15 |

Zwischenabmessungen auf Anfrage! / Intermediate dimensions on request!



SE 709

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

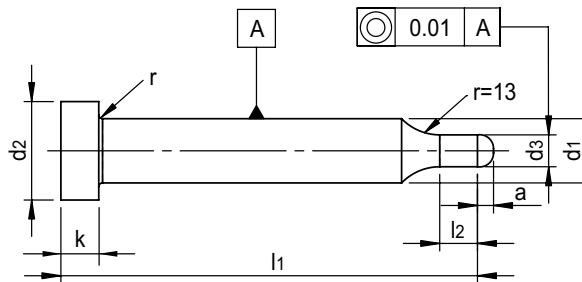
SE 709 /
6 x 100 / d3

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Gesamtlänge = l1 + a
Länge l2 frei wählbar!
Fehlende Maße siehe **SE 712** (Seite SE.4)

Total length = l1 + a
Length l2 freely selectable!
for missing dimensions please see **SE 712** (Page SE.4)

Punches with rotation prevention available, please specify when ordering.



| d1 m5 | d3 +0,01 Stufung/step 0,01 | l2 | a | l1 | | | | |
|----------|-------------------------------------|----|------|----|----|--------------------|----|-----|
| | | | | 63 | 71 | 80 +0,5 +0,2 | 90 | 100 |
| 5 | 0,8 - 2,0 | 10 | 3,0 | ● | ● | ● | ● | ● |
| 6 | 2,1 - 4,5 | 10 | 4,5 | ● | ● | ● | ● | ● |
| 8 | 4,6 - 7,5 | 13 | 6,5 | ● | ● | ● | ● | ● |
| 10 | 7,6 - 10,0 | 17 | 8,0 | ● | ● | ● | ● | ● |
| 13 | 10,1 - 13,0 | 17 | 9,5 | ● | ● | ● | ● | ● |
| 16 | 13,1 - 16,0 | 17 | 11,5 | ● | ● | ● | ● | ● |
| 20 | 16,1 - 20,0 | 17 | 13,5 | ● | ● | ● | ● | ● |
| 25 | 20,1 - 25,0 | 17 | 13,5 | ● | ● | ● | ● | ● |

Schneidstempel 30° Kopf

Punches 30° head

SCHNEIDELEMENTE / CUTTING ELEMENTS



SE 730

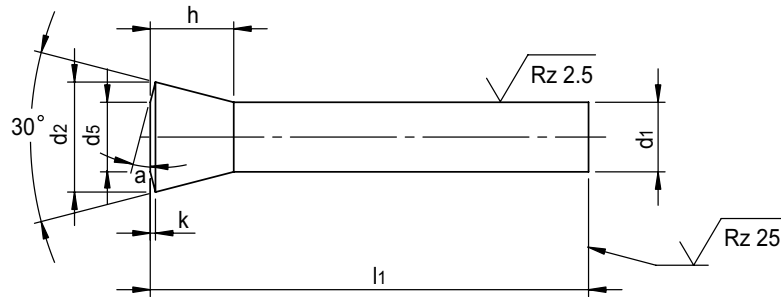
Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

SE 730 / 8 x 100

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d2 -0,3 | d5 | h | k | a | l1 +1 | | | | |
|----------|------------|------|----|-----|------|----------|----|----|-----|-----|
| | | | | | | 71 | 80 | 90 | 100 | 120 |
| 4 | 6,6 | 3,8 | 6 | 1,0 | 35,0 | ● | ● | ● | ● | |
| 5 | 8,2 | 5,0 | 7 | 1,0 | 32,0 | ● | ● | ● | ● | ● |
| 6 | 9,7 | 6,0 | 8 | 1,0 | 28,0 | ● | ● | ● | ● | ● |
| 7 | 11,8 | 7,0 | 10 | 1,0 | 22,6 | ● | ● | ● | ● | ● |
| 8 | 12,8 | 8,0 | 10 | 1,0 | 22,5 | ● | ● | ● | ● | ● |
| 9 | 14,4 | 9,0 | 11 | 1,0 | 20,0 | ● | ● | ● | ● | ● |
| 10 | 15,9 | 10,0 | 12 | 1,0 | 19,0 | ● | ● | ● | ● | ● |
| 11 | 17,4 | 11,0 | 13 | 1,5 | 25,0 | ● | ● | ● | ● | ● |
| 12 | 18,7 | 12,0 | 14 | 1,5 | 24,0 | ● | ● | ● | ● | ● |
| 13 | 20,2 | 13,0 | 15 | 1,5 | 26,0 | ● | ● | ● | ● | ● |
| 14 | 21,8 | 14,0 | 16 | 1,5 | 21,0 | ● | ● | ● | ● | ● |
| 15 | 23,3 | 15,0 | 17 | 1,5 | 20,0 | ● | ● | ● | ● | ● |
| 16 | 24,6 | 16,0 | 18 | 2,0 | 25,0 | ● | ● | ● | ● | ● |



SE 734

mit federndem Auswerferstift

with spring ejector

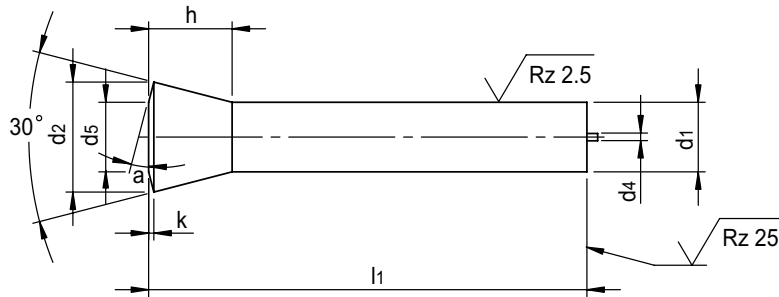
SE 734 / 8 x 100

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d2 -0,3 | d4 | d5 | h | k | a | l1 +1 | | | | |
|----------|------------|-----|------|----|-----|------|----------|----|----|-----|-----|
| | | | | | | | 71 | 80 | 90 | 100 | 120 |
| 5 | 8,2 | 1 | 5,0 | 7 | 1,0 | 32,0 | ● | ● | ● | ● | ● |
| 6 | 9,7 | 1 | 6,0 | 8 | 1,0 | 28,0 | ● | ● | ● | ● | ● |
| 7 | 11,8 | 1 | 7,0 | 10 | 1,0 | 22,6 | ● | ● | ● | ● | ● |
| 8 | 12,8 | 1,5 | 8,0 | 10 | 1,0 | 22,5 | ● | ● | ● | ● | ● |
| 9 | 14,4 | 1,5 | 9,0 | 11 | 1,0 | 20,0 | ● | ● | ● | ● | ● |
| 10 | 15,9 | 1,5 | 10,0 | 12 | 1,0 | 19,0 | ● | ● | ● | ● | ● |
| 11 | 17,4 | 1,5 | 11,0 | 13 | 1,5 | 25,0 | ● | ● | ● | ● | ● |
| 12 | 18,7 | 1,5 | 12,0 | 14 | 1,5 | 24,0 | ● | ● | ● | ● | ● |
| 13 | 20,2 | 1,5 | 13,0 | 15 | 1,5 | 26,0 | ● | ● | ● | ● | ● |
| 14 | 21,8 | 1,5 | 14,0 | 16 | 1,5 | 21,0 | ● | ● | ● | ● | ● |
| 15 | 23,3 | 2,3 | 15,0 | 17 | 1,5 | 20,0 | ● | ● | ● | ● | ● |
| 16 | 24,6 | 2,3 | 16,0 | 18 | 2,0 | 25,0 | ● | ● | ● | ● | ● |

Schneidstempel 30° Kopf, abgesetzter Schaft

Punches 30° head, shouldered shank



SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 732

Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

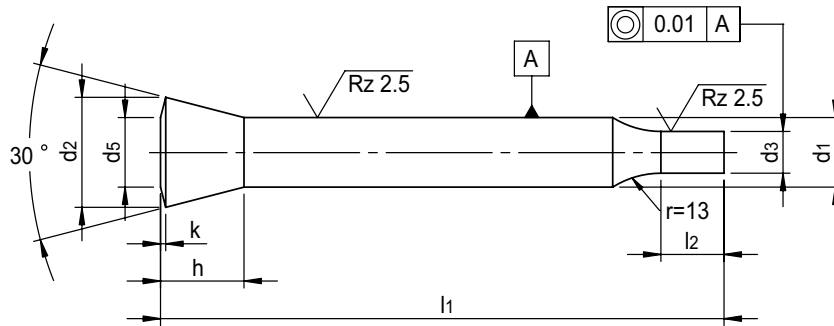
SE 732 /
 6 x 100 / d3

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Länge l2 frei wählbar!
 Fehlende Maße siehe SE 730 (Seite SE.23)

Length l2 freely selectable!
 for missing dimensions please see SE 730 (page SE.23)

Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d3 h6 Stufung/step 0,01 | l2 | d5 | h | k | l1 +1 | | | | |
|----------|----------------------------------|----|------|----|-----|----------|----|----|-----|-----|
| | | | | | | 71 | 80 | 90 | 100 | 120 |
| 4 | 1,6 - 3,9 | 10 | 3,8 | 6 | 1,0 | ● | ● | ● | ● | |
| 5 | 2,5 - 4,9 | 10 | 5,0 | 7 | 1,0 | ● | ● | ● | ● | ● |
| 6 | 3,0 - 5,9 | 10 | 6,0 | 8 | 1,0 | ● | ● | ● | ● | ● |
| 7 | 3,0 - 6,9 | 10 | 7,0 | 10 | 1,0 | ● | ● | ● | ● | ● |
| 8 | 4,0 - 7,9 | 13 | 8,0 | 10 | 1,0 | ● | ● | ● | ● | ● |
| 9 | 4,5 - 8,9 | 13 | 9,0 | 11 | 1,0 | ● | ● | ● | ● | ● |
| 10 | 5,0 - 9,9 | 17 | 10,0 | 12 | 1,0 | ● | ● | ● | ● | ● |
| 11 | 5,0 -10,9 | 17 | 11,0 | 13 | 1,5 | ● | ● | ● | ● | ● |
| 12 | 6,0 -11,9 | 17 | 12,0 | 14 | 1,5 | ● | ● | ● | ● | ● |
| 13 | 9,0 -12,9 | 17 | 13,0 | 15 | 1,5 | ● | ● | ● | ● | ● |
| 14 | 9,5 -13,9 | 17 | 14,0 | 16 | 1,5 | ● | ● | ● | ● | ● |
| 15 | 10,0-14,9 | 17 | 15,0 | 17 | 1,5 | ● | ● | ● | ● | ● |
| 16 | 12,0-15,9 | 17 | 16,0 | 18 | 2,0 | ● | ● | ● | ● | ● |



Schneidstempel 30° Kopf, abgesetzter Schaft

Punches 30° head, shouldered shank



SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 735

mit federndem Auswerferstift

with spring ejector

SE 735 /
6 x 100 / d3

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

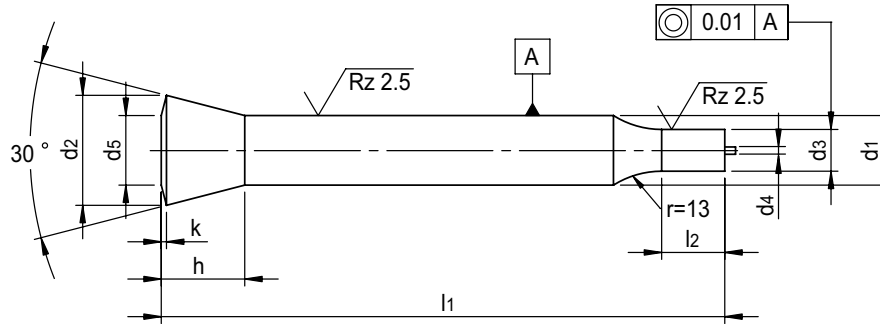
Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

Stempel mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Länge l2 frei wählbar!
Fehlende Maße siehe SE 730 (Seite SE.23)

Length l2 freely selectable!
for missing dimensions please see SE 730 (page SE.23)

Punches with rotation prevention available, please specify when ordering.



| d1 h6 | d3 h6 Stufung/step 0,01 | d4 | l2 | d5 | h | k | l1 +1 | | | | |
|----------|----------------------------------|-----|----|------|----|-----|----------|----|----|-----|-----|
| | | | | | | | 71 | 80 | 90 | 100 | 120 |
| 5 | 2,5 - 4,9 | 1 | 10 | 5,0 | 7 | 1,0 | ● | ● | ● | ● | ● |
| 6 | 3,0 - 5,9 | 1 | 10 | 6,0 | 8 | 1,0 | ● | ● | ● | ● | ● |
| 7 | 3,0 - 6,9 | 1 | 10 | 7,0 | 10 | 1,0 | ● | ● | ● | ● | ● |
| 8 | 4,0 - 7,9 | 1,5 | 13 | 8,0 | 10 | 1,0 | ● | ● | ● | ● | ● |
| 9 | 4,5 - 8,9 | 1,5 | 13 | 9,0 | 11 | 1,0 | ● | ● | ● | ● | ● |
| 10 | 5,0 - 9,9 | 1,5 | 17 | 10,0 | 12 | 1,0 | ● | ● | ● | ● | ● |
| 11 | 5,0 - 10,9 | 1,5 | 17 | 11,0 | 13 | 1,5 | ● | ● | ● | ● | ● |
| 12 | 6,0 - 11,9 | 1,5 | 17 | 12,0 | 14 | 1,5 | ● | ● | ● | ● | ● |
| 13 | 9,0 - 12,9 | 1,5 | 17 | 13,0 | 15 | 1,5 | ● | ● | ● | ● | ● |
| 14 | 9,5 - 13,9 | 1,5 | 17 | 14,0 | 16 | 1,5 | ● | ● | ● | ● | ● |
| 15 | 10,0 - 14,9 | 2,3 | 17 | 15,0 | 17 | 1,5 | ● | ● | ● | ● | ● |
| 16 | 12,0 - 15,9 | 2,3 | 17 | 16,0 | 18 | 2,0 | ● | ● | ● | ● | ● |



Schneidstempel 30° Kopf, abgesetzter Schaft

Punches 30° head, shouldered shank



SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 733 . . .

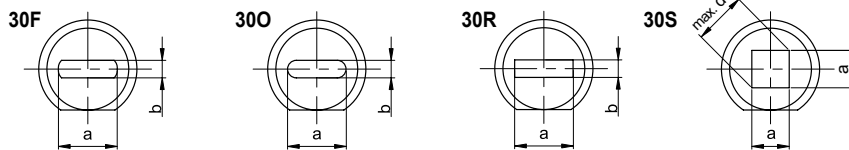
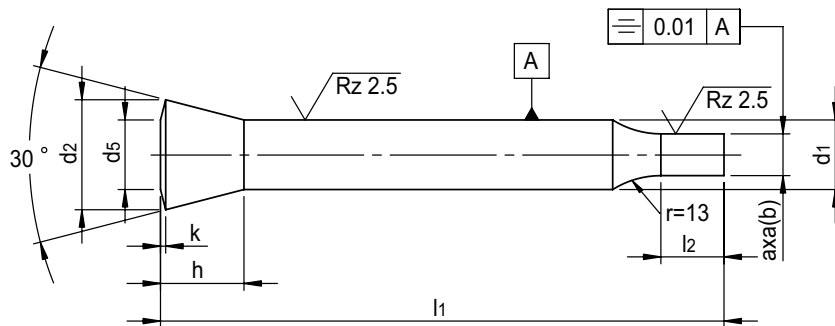
Mat.: HSS
 Härte Schaft: 64 ±2 HRC
 Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
 Hardness shank: 64 ±2 HRC
 Head: 50 ±5 HRC

SE 733 30F /
 6 x 100 / a x b

Länge l2 frei wählbar!
 Stempel ohne Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).
 Fehlende Maße siehe SE 730 (Seite SE.23)

Length l2 freely selectable!
 Punches without rotation prevention available, please specify when ordering.
 for missing dimensions please see SE 730 (page SE.23)



| d1 h6 | a x b ±0,01 Stufung/step 0,01 ≥ ≤ | l2 +0,5 | d5 | h | k | l1 +1 | | | | |
|----------|---|------------|------|----|-----|----------|----|----|-----|-----|
| | | | | | | 71 | 80 | 90 | 100 | 120 |
| 4 | 1,6 - 3,9 | 10 | 3,8 | 6 | 1,0 | ● | ● | ● | ● | |
| 5 | 2,5 - 4,9 | 10 | 5,0 | 7 | 1,0 | ● | ● | ● | ● | ● |
| 6 | 3,0 - 5,9 | 10 | 6,0 | 8 | 1,0 | ● | ● | ● | ● | ● |
| 7 | 3,0 - 6,9 | 10 | 7,0 | 10 | 1,0 | ● | ● | ● | ● | ● |
| 8 | 4,0 - 7,9 | 13 | 8,0 | 10 | 1,0 | ● | ● | ● | ● | ● |
| 9 | 4,5 - 8,9 | 13 | 9,0 | 11 | 1,0 | ● | ● | ● | ● | ● |
| 10 | 5,0 - 9,9 | 17 | 10,0 | 12 | 1,0 | ● | ● | ● | ● | ● |
| 11 | 5,0 - 10,9 | 17 | 11,0 | 13 | 1,5 | ● | ● | ● | ● | ● |
| 12 | 6,0 - 11,9 | 17 | 12,0 | 14 | 1,5 | ● | ● | ● | ● | ● |
| 13 | 9,0 - 12,9 | 17 | 13,0 | 15 | 1,5 | ● | ● | ● | ● | ● |
| 14 | 9,5 - 13,9 | 17 | 14,0 | 16 | 1,5 | ● | ● | ● | ● | ● |
| 15 | 10,0 - 14,9 | 17 | 15,0 | 17 | 1,5 | ● | ● | ● | ● | ● |
| 16 | 12,0 - 15,9 | 17 | 16,0 | 18 | 2,0 | ● | ● | ● | ● | ● |



Schneidstempel 30° Kopf, abgesetzter Schaft

Punches 30° head, shouldered shank



SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 736 . . .

mit federndem Auswerferstift

with spring ejector

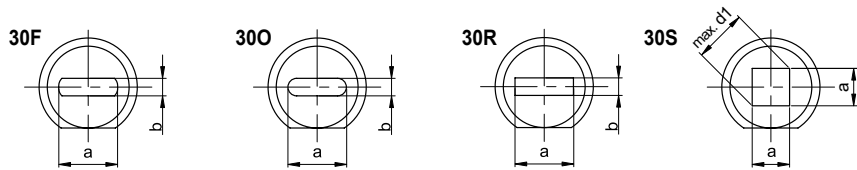
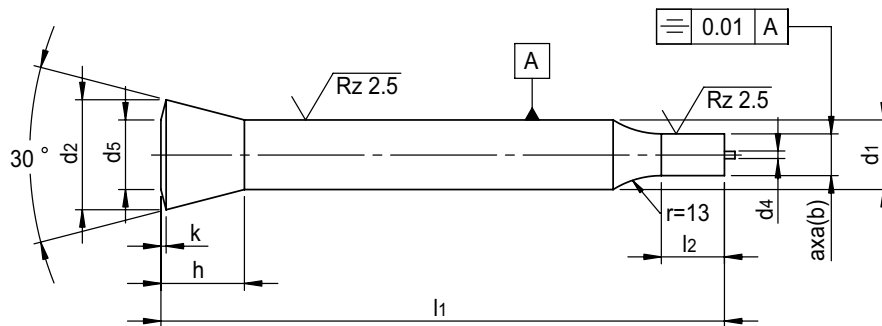
SE 736 30F /
6 x 100 / a x b

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 50 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 50 ±5 HRC

Länge l2 frei wählbar!
Stempel ohne Verdrehsicherung auf
Wunsch lieferbar (bei Bestellung
angeben).
Fehlende Maße siehe SE 730 (Seite
SE.23)

Length l2 freely selectable!
Punches without rotation preventi-
on available, please specify when
ordering.
for missing dimensions please see
SE 730 (page SE.23)



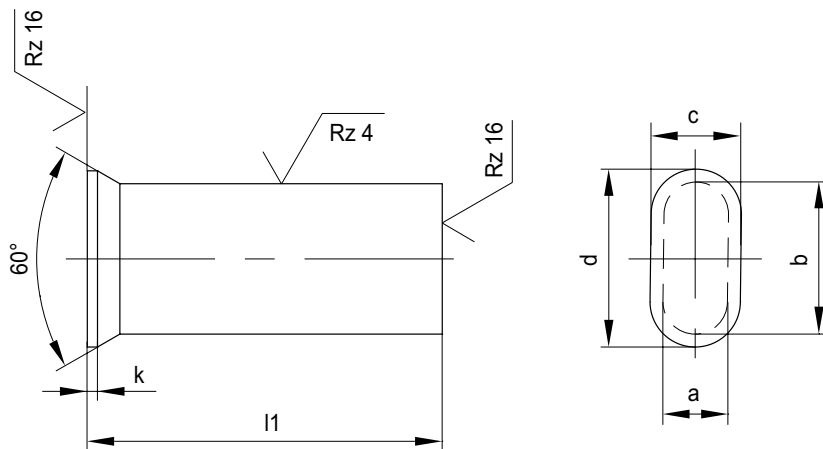
| d1 h6 | a x b ±0,01 Stufung/step 0,01 ≥ ≤ | d4 | l2 +0,5 | d5 | h | k | l1 +1 | | | | |
|----------|---|-----|------------|------|----|-----|----------|----|----|-----|-----|
| | | | | | | | 71 | 80 | 90 | 100 | 120 |
| 5 | 2,5 - 4,9 | 1 | 10 | 5,0 | 7 | 1,0 | ● | ● | ● | ● | ● |
| 6 | 3,0 - 5,9 | 1 | 10 | 6,0 | 8 | 1,0 | ● | ● | ● | ● | ● |
| 7 | 3,0 - 6,9 | 1 | 10 | 7,0 | 10 | 1,0 | ● | ● | ● | ● | ● |
| 8 | 4,0 - 7,9 | 1,5 | 13 | 8,0 | 10 | 1,0 | ● | ● | ● | ● | ● |
| 9 | 4,5 - 8,9 | 1,5 | 13 | 9,0 | 11 | 1,0 | ● | ● | ● | ● | ● |
| 10 | 5,0 - 9,9 | 1,5 | 17 | 10,0 | 12 | 1,0 | ● | ● | ● | ● | ● |
| 11 | 5,0 - 10,9 | 1,5 | 17 | 11,0 | 13 | 1,5 | ● | ● | ● | ● | ● |
| 12 | 6,0 - 11,9 | 1,5 | 17 | 12,0 | 14 | 1,5 | ● | ● | ● | ● | ● |
| 13 | 9,0 - 12,9 | 1,5 | 17 | 13,0 | 15 | 1,5 | ● | ● | ● | ● | ● |
| 14 | 9,5 - 13,9 | 1,5 | 17 | 14,0 | 16 | 1,5 | ● | ● | ● | ● | ● |
| 15 | 10,0 - 14,9 | 2,3 | 17 | 15,0 | 17 | 1,5 | ● | ● | ● | ● | ● |
| 16 | 12,0 - 15,9 | 2,3 | 17 | 16,0 | 18 | 2,0 | ● | ● | ● | ● | ● |



[SE]

mit Senkkopf

with countersunk head



SE 744

Qualitätsausführung
Kopf und Schaft feinstgeschliffen
Kopf gestaut

Grade A - finish
Head and shank finish-ground
Jolted head

SE 744 / a x b x l1 x
c x d x k

Mat.: HWS
Härte Schaft: 62 ±2 HRC
Kopf: 45 ±5 HRC

Mat.: HWS (e.g. A2)
Hardness shank: 62 ±2 HRC
Head: 45 ±5 HRC

ohne Toleranzangabe
a/b: ±0,02
l: +0,5 / +1,0

untoleranced
a/b: ±0,02
l: +0,5 / +1,0

**Kopfmaße können nach Ihren
Angaben gefertigt werden!**

**Head-dimensions can be produced
as per customers request!**



SE 745

Qualitätsausführung
Kopf und Schaft feinstgeschliffen
Kopf gestaut

Grade A - finish
Head and shank finish-ground
Jolted head

SE 745 / a x b x l1 x
c x d x k

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 45 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 45 ±5 HRC

ohne Toleranzangabe
a/b: ±0,02
l: +0,5 / +1,0

untoleranced
a/b: ±0,02
l: +0,5 / +1,0

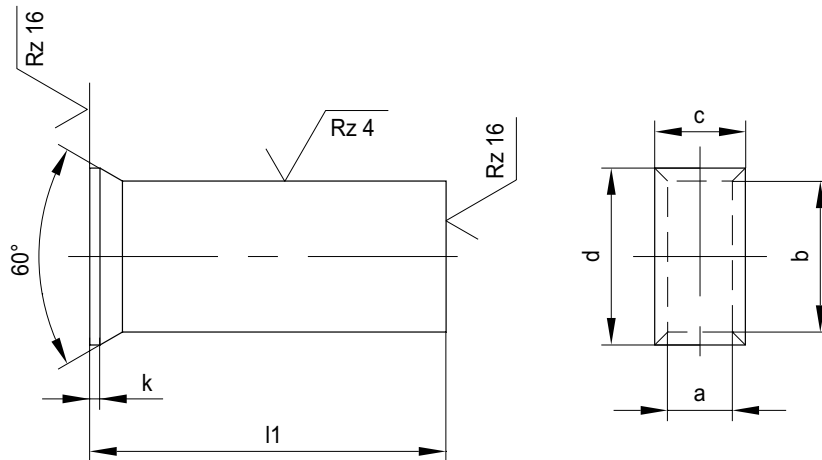
**Kopfmaße können nach Ihren
Angaben gefertigt werden!**

**Head-dimensions can be produced
as per customers request!**



mit Senkkopf

with countersunk head



SE 748

Qualitätsausführung
Kopf und Schaft feinstgeschliffen
Kopf gestaut

Grade A - finish
Head and shank finish-ground
Jolted head

SE 748 / a x b x l1 x
c x d x k

Mat.: HWS
Härte Schaft: 62 ±2 HRC
Kopf: 45 ±5 HRC

HWS (e.g. A2)
Hardness shank: 62 ±2 HRC
Head: 45 ±5 HRC

ohne Toleranzangabe
a/b: ±0,02
l: +0,5 / +1,0

untoleranced
a/b: ±0,02
l: +0,5 / +1,0

Kopfmaße können nach Ihren
Angaben gefertigt werden!

Head-dimensions can be produced
as per customers request!



SE 749

Qualitätsausführung
Kopf und Schaft feinstgeschliffen
Kopf gestaut

Grade A - finish
Head and shank finish-ground
Jolted head

SE 749 / a x b x l1 x
c x d x k

Mat.: HSS
Härte Schaft: 64 ±2 HRC
Kopf: 45 ±5 HRC

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC
Head: 45 ±5 HRC

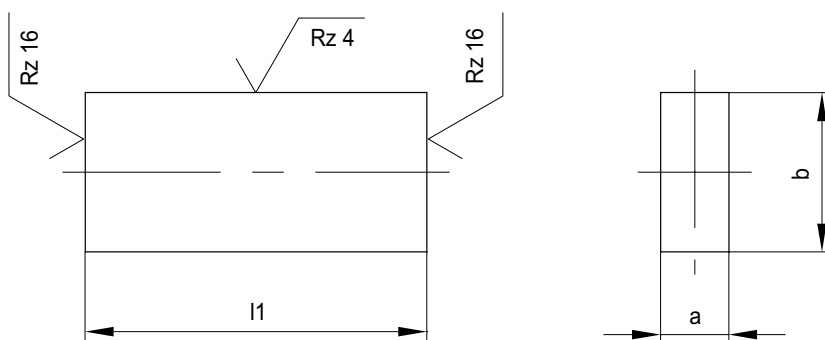
ohne Toleranzangabe
a/b: ±0,02
l: +0,5 / +1,0

untoleranced
a/b: ±0,02
l: +0,5 / +1,0

Kopfmaße können nach Ihren
Angaben gefertigt werden!

Head-dimensions can be produced
as per customers request!





SE 738

Mat.: HWS
Härte Schaft: 62 ±2 HRC

Mat.: HWS (e.g. A2)
Hardness shank: 62 ±2 HRC

 SE 738 / a x b x l1

ohne Toleranzangabe
a/b: ±0,02
l: +0,5 / +1,0

untoleranced
a/b: ±0,02
l: +0,5 / +1,0



SE 739

Mat.: HSS
Härte Schaft: 64 ±2 HRC

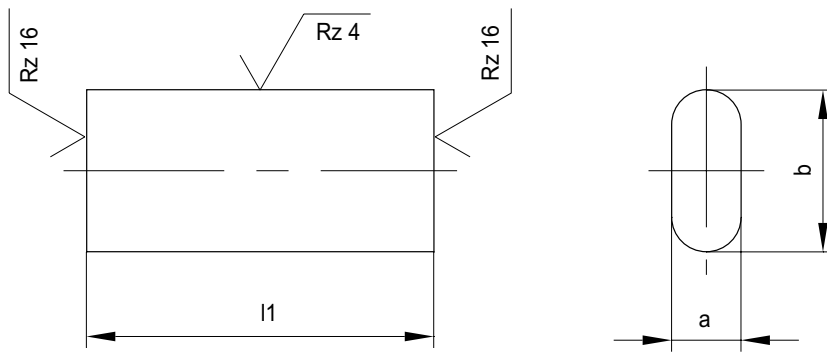
Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC

 SE 739 / a x b x l1

ohne Toleranzangabe
a/b: ±0,02
l: +0,5 / +1,0

untoleranced
a/b: ±0,02
l: +0,5 / +1,0





SE 740

Mat.: HWS
Härte Schaft: 62 ±2 HRC

ohne Toleranzangabe
a/b: ±0,02
l: +0,5 / +1,0

Mat.: HWS (e.g. A2)
Hardness shank: 62 ±2 HRC

untoleranced
a/b: ±0,02
l: +0,5 / +1,0

 SE 740 / a x b x l1



SE 741

Mat.: HSS
Härte Schaft: 64 ±2 HRC

ohne Toleranzangabe
a/b: ±0,02
l: +0,5 / +1,0

Mat.: HSS (e.g. M2)
Hardness shank: 64 ±2 HRC

untoleranced
a/b: ±0,02
l: +0,5 / +1,0

 SE 741 / a x b x l1

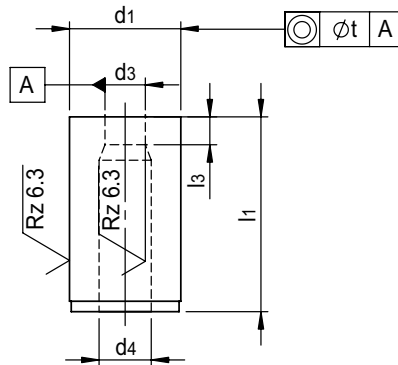


SE 791

Mat.: HSS
Härte: 64 ±2 HRC

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

SE 791 / 3,0 x 28



| d3 H8 | Stufung Graduation | d1 n6 | d4 | kurze Ausführung short version | | lange Ausführung long version | | t |
|-------------|-----------------------|----------|-------------|-----------------------------------|----|----------------------------------|----|------|
| | | | | l1 +0,5 | l3 | l1 +0,5 | l3 | |
| 1,0 | 0,1 | 5 | $d_3 + 0,3$ | 20 | 2 | - | - | 0,01 |
| 1,1 - 2,0 | 0,1 | 6 | $d_3 + 0,3$ | 20 | 3 | 28 | 3 | 0,01 |
| 2,1 - 3,0 | 0,1 | 7 | $d_3 + 0,5$ | 20 | 3 | 28 | 3 | 0,01 |
| 3,1 - 4,0 | 0,1 | 8 | $d_3 + 0,5$ | 20 | 3 | 28 | 3 | 0,01 |
| 4,1 - 5,0 | 0,1 | 10 | $d_3 + 0,7$ | 20 | 4 | 28 | 4 | 0,01 |
| 5,1 - 6,0 | 0,1 | 12 | $d_3 + 0,7$ | 20 | 4 | 28 | 4 | 0,02 |
| 6,1 - 8,0 | 0,1 | 15 | $d_3 + 0,7$ | 20 | 4 | 28 | 4 | 0,02 |
| 8,1 - 10,0 | 0,1 | 18 | $d_3 + 1,0$ | 20 | 4 | 28 | 4 | 0,02 |
| 10,1 - 12,0 | 0,1 | 22 | $d_3 + 1,0$ | 20 | 5 | 28 | 5 | 0,02 |
| 12,1 - 15,0 | 0,1 | 26 | $d_3 + 1,0$ | 20 | 5 | 28 | 5 | 0,02 |
| 15,5 - 18,0 | 0,5 | 30 | $d_3 + 1,0$ | - | - | 28 | 5 | 0,02 |



Schneidbuchsen DIN 9845 mit Bund, Form B

Die buttons DIN 9845 with collar, Form B



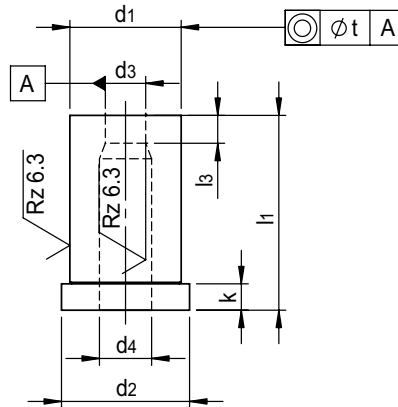
SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 792

Mat.: HSS
Härte: 64 ±2 HRC

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

SE 792 / 3,0 x 28



[SE]

| d3 H8 | Stufung Graduation | d1 k6 | d2 | d4 | kurze Ausführung short version | | | lange Ausführung long version | | | t |
|-------------|-----------------------|----------|----|----------|-----------------------------------|----|---|----------------------------------|----|---|------|
| | | | | | l1 +0,5 | l3 | k | l1 +0,5 | l3 | k | |
| 1,0 | 0,1 | 5 | 7 | d3 + 0,3 | 20 | 2 | 4 | – | – | – | 0,01 |
| 1,1 - 2,0 | 0,1 | 6 | 8 | d3 + 0,3 | 20 | 3 | 4 | 28 | 3 | 4 | 0,01 |
| 2,1 - 3,0 | 0,1 | 7 | 9 | d3 + 0,5 | 20 | 3 | 4 | 28 | 3 | 4 | 0,01 |
| 3,1 - 4,0 | 0,1 | 8 | 10 | d3 + 0,5 | 20 | 3 | 4 | 28 | 3 | 4 | 0,01 |
| 4,1 - 5,0 | 0,1 | 10 | 12 | d3 + 0,7 | 20 | 4 | 4 | 28 | 4 | 4 | 0,01 |
| 5,1 - 6,0 | 0,1 | 12 | 14 | d3 + 0,7 | 20 | 4 | 4 | 28 | 4 | 4 | 0,02 |
| 6,1 - 8,0 | 0,1 | 15 | 17 | d3 + 0,7 | 20 | 4 | 4 | 28 | 4 | 4 | 0,02 |
| 8,1 - 10,0 | 0,1 | 18 | 20 | d3 + 1,0 | 20 | 4 | 4 | 28 | 4 | 4 | 0,02 |
| 10,1 - 12,0 | 0,1 | 22 | 24 | d3 + 1,0 | 20 | 5 | 4 | 28 | 5 | 4 | 0,02 |
| 12,1 - 15,0 | 0,1 | 26 | 28 | d3 + 1,0 | 20 | 5 | 4 | 28 | 5 | 4 | 0,02 |
| 15,5 - 18,0 | 0,5 | 30 | 32 | d3 + 1,0 | – | – | – | 28 | 5 | 4 | 0,02 |



SE 711 ED

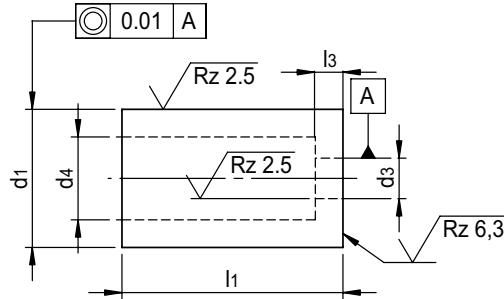
Mat.: HSS
Härte: 64 ±2 HRC

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

SE 711 ED /
20 x 25 / d3

Buchsen mit Verdrehsicherung auf Wunsch lieferbar (bei Bestellung angeben).

Bushings with rotation prevention available, please specify when ordering.



| d1 m5 | l3 | d3 +0,02 Stufung/step 0,01 | d4 | l1 +0,5 | | | | | | | | | |
|----------|---|-------------------------------------|------|------------|----|----|----|----|----|----|----|----|---|
| | | | | 16 | 19 | 20 | 22 | 25 | 28 | 30 | 32 | 35 | |
| 5 | 2 | 1,0-2,4 | 2,8 | ● | | ● | ● | ● | ● | ● | ● | ● | ● |
| 6 | 3 | 1,6-3,0 | 3,5 | ● | | ● | ● | ● | ● | ● | ● | ● | ● |
| 8 | 4 | 2,0-3,5 | 4,0 | ● | | ● | ● | ● | ● | ● | ● | ● | ● |
| 10 | 4 | 2,5-5,0 | 5,8 | ● | | ● | ● | ● | ● | ● | ● | ● | ● |
| 13 | 5 | 3,0-7,0 | 8,0 | | | ● | ● | ● | ● | ● | ● | ● | ● |
| 16 | 5 | 4,0-9,0 | 9,5 | | | ● | ● | ● | ● | ● | ● | ● | ● |
| 19* | 4 | 5,0-10,0 | 11,0 | | ● | | | ● | | ● | ● | | |
| 20 | 8 | 6,0-11,0 | 12,0 | | | ● | ● | ● | ● | ● | ● | ● | ● |
| 22 | 8 | 8,0-11,0 | 15,0 | | | ● | ● | ● | ● | ● | ● | ● | ● |
| 25 | 8 | 8,0-16,0 | 17,3 | | | ● | ● | ● | ● | ● | ● | ● | ● |
| 32 | 8 | 8,0-20,0 | 20,7 | | | ● | ● | ● | ● | ● | ● | ● | ● |
| 38* | 6 | 16,0-26,0 | 28,0 | | | | | | | ● | ● | | |
| 40 | 8 | 19,0-27,0 | 27,7 | | | ● | ● | ● | ● | ● | ● | ● | ● |
| 50 | 8 | 26,0-36,0 | 37,0 | | | ● | ● | ● | ● | ● | ● | ● | ● |
| 55* | 8 | 35,0-41,0 | 42,0 | | | | | | | ● | ● | | |
| * | = nicht nach ISO 8977A / not in acc. with ISO 8977A | | | | | | | | | | | | |

[SE]



SE 713 EKD

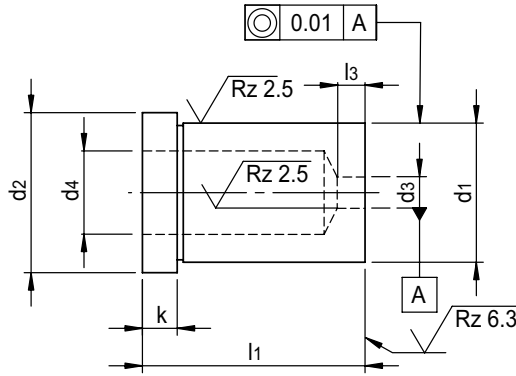
Mat.: HSS
Härte: 64 ±2 HRC

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

SE 713 EKD /
20 x 25 / d3

Buchsen mit Verdrehssicherung auf Wunsch lieferbar (bei Bestellung angeben).

Bushings with rotation prevention available, please specify when ordering.



[SE]

| d1 m5 | d2 +0,3 | l3 | k | d3 +0,02 Stufung/step 0,01 | d4 | l1 +0,5 | | | | | | | |
|----------|------------|----|---|-------------------------------------|------|------------|----|----|----|----|----|----|----|
| | | | | | | 16 | 20 | 22 | 25 | 28 | 30 | 32 | 35 |
| 5 | 8 | 2 | 5 | 1,0 - 2,4 | 2,8 | ● | ● | ● | ● | ● | ● | ● | ● |
| 6 | 9 | 3 | 5 | 1,6 - 3,0 | 3,5 | ● | ● | ● | ● | ● | ● | ● | ● |
| 8 | 11 | 4 | 5 | 2,0 - 3,5 | 4,0 | ● | ● | ● | ● | ● | ● | ● | ● |
| 10 | 13 | 4 | 5 | 2,5 - 5,0 | 5,8 | ● | ● | ● | ● | ● | ● | ● | ● |
| 13 | 16 | 5 | 5 | 3,0 - 7,0 | 8,0 | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 19 | 5 | 5 | 4,0 - 9,0 | 9,5 | | ● | ● | ● | ● | ● | ● | ● |
| 19* | 22 | 4 | 5 | 5,0 - 10,0 | 11,0 | | | | ● | ● | ● | ● | ● |
| 20 | 23 | 8 | 5 | 6,0 - 11,0 | 12,0 | | ● | ● | ● | ● | ● | ● | ● |
| 22 | 25 | 8 | 5 | 8,0 - 14,0 | 15,0 | | ● | ● | ● | ● | ● | ● | ● |
| 25 | 28 | 8 | 5 | 8,0 - 16,0 | 17,3 | | ● | ● | ● | ● | ● | ● | ● |
| 32 | 35 | 8 | 5 | 8,0 - 20,0 | 20,7 | | ● | ● | ● | ● | ● | ● | ● |
| 38* | 42 | 6 | 5 | 16,0 - 26,0 | 28,0 | | | | | ● | | ● | ● |
| 40 | 43 | 8 | 5 | 19,0 - 27,0 | 27,7 | | ● | ● | ● | ● | ● | ● | ● |
| 50 | 53 | 8 | 5 | 26,0 - 36,0 | 37,0 | | ● | ● | ● | ● | ● | ● | ● |
| 55* | 58 | 8 | 5 | 35,0 - 41,0 | 42,0 | | | | | | | | ● |

* = nicht nach ISO 8977B / not in acc. with ISO 8977B

SE 715 . . .

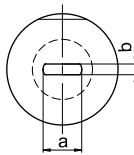
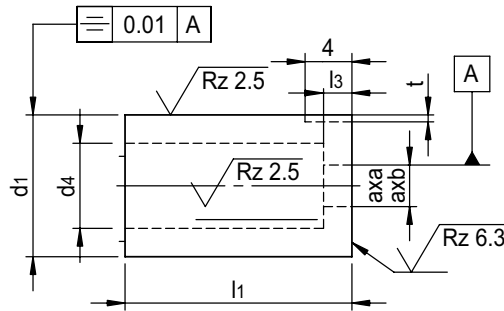
Mat.: HSS
Härte: 64 ±2 HRC

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

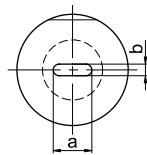
SE 715 EDF /
20 x 25 / a x b

Buchsen ohne Verdrehsicherung
auf Wunsch lieferbar (bei Bestellung
angeben).

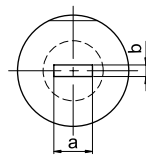
Bushings without rotation preven-
tion available, please specify when
ordering.



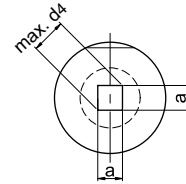
EDF



EDO



EDR



EDS



| d1 n5 | a x b ±0,01 Stufung/step 0,01 ≥ ≤ | l3 | d4 | t | l1 +0,5 | | | | | | | | |
|----------|---|----|------|-----|------------|----|----|----|----|----|----|----|----|
| | | | | | 16 | 19 | 20 | 22 | 25 | 28 | 30 | 32 | 35 |
| 5 | 1,0 - 2,4 | 2 | 2,8 | 0,5 | ● | | ● | ● | ● | ● | ● | ● | ● |
| 6 | 1,6 - 3,0 | 3 | 3,5 | 0,5 | ● | | ● | ● | ● | ● | ● | ● | ● |
| 8 | 2,0 - 3,5 | 4 | 4,0 | 0,5 | ● | | ● | ● | ● | ● | ● | ● | ● |
| 10 | 2,5 - 5,0 | 4 | 5,8 | 2,0 | ● | | ● | ● | ● | ● | ● | ● | ● |
| 13 | 3,0 - 7,0 | 5 | 8,0 | 2,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 4,0 - 9,0 | 5 | 9,5 | 2,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 19* | 5,0 - 10,0 | 4 | 11,0 | 2,0 | | ● | | | ● | | ● | ● | |
| 20 | 6,0 - 11,0 | 8 | 12,0 | 2,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 22 | 8,0 - 11,0 | 8 | 12,0 | 2,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 25 | 8,0 - 16,0 | 8 | 17,3 | 2,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 32 | 8,0 - 20,0 | 8 | 20,7 | 2,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 38* | 16,0 - 26,0 | 6 | 28,0 | 2,0 | | | | | | | ● | ● | |
| 40 | 19,0 - 27,0 | 8 | 27,7 | 2,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 50 | 26,0 - 36,0 | 8 | 37,0 | 2,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 55* | 35,0 - 41,0 | 8 | 42,0 | 2,0 | | | | | | | ● | ● | |

* = nicht nach ISO 8977A / not in acc. with ISO 8977A



SE 717

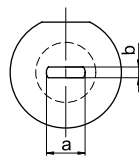
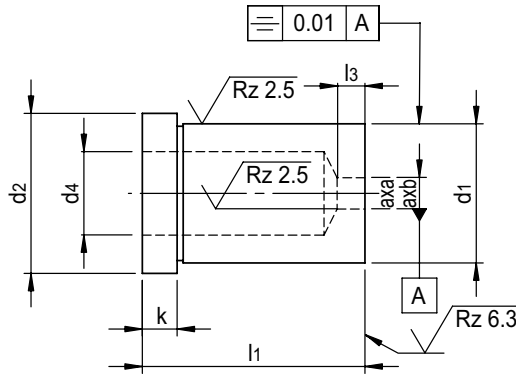
Mat.: HSS
Härte: 64 ±2 HRC

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

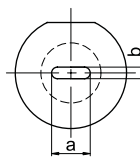
SE 717 EKDO /
20 x 25 / a x b

Buchsen ohne Verdrehsicherung
auf Wunsch lieferbar (bei Bestellung
angeben).

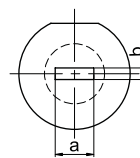
Bushings without rotation preven-
tion available, please specify when
ordering.



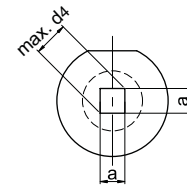
EKDF



EKDO



EKDR



EKDS



| d1 m5 | a x b ±0,01 Stufung/step 0,01 ≥ ≤ | d2 +0,3 | l3 | k +0,25 | d4 | l1 +0,5 | | | | | | | |
|----------|---|------------|----|------------|------|------------|----|----|----|----|----|----|----|
| | | | | | | 16 | 20 | 22 | 25 | 28 | 30 | 32 | 35 |
| 5 | 1,0 - 2,4 | 8 | 2 | 5 | 2,8 | ● | ● | ● | ● | ● | ● | ● | ● |
| 6 | 1,6 - 3,0 | 9 | 3 | 5 | 3,5 | ● | ● | ● | ● | ● | ● | ● | ● |
| 8 | 2,0 - 3,5 | 11 | 4 | 5 | 4,0 | ● | ● | ● | ● | ● | ● | ● | ● |
| 10 | 2,5 - 5,0 | 13 | 4 | 5 | 5,8 | ● | ● | ● | ● | ● | ● | ● | ● |
| 13 | 3,0 - 7,0 | 16 | 5 | 5 | 8,0 | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 4,0 - 9,0 | 19 | 5 | 5 | 9,5 | | ● | ● | ● | ● | ● | ● | ● |
| 19* | 5,0 - 10,0 | 22 | 4 | 5 | 11,0 | | | | ● | ● | ● | ● | ● |
| 20 | 6,0 - 11,0 | 23 | 8 | 5 | 12,0 | | ● | ● | ● | ● | ● | ● | ● |
| 22 | 8,0 - 14,0 | 25 | 8 | 5 | 15,0 | | ● | ● | ● | ● | ● | ● | ● |
| 25 | 8,0 - 16,0 | 28 | 8 | 5 | 17,3 | | ● | ● | ● | ● | ● | ● | ● |
| 32 | 8,0 - 20,0 | 35 | 8 | 5 | 20,7 | | ● | ● | ● | ● | ● | ● | ● |
| 38* | 16,0 - 26,0 | 42 | 6 | 5 | 28,0 | | | | | ● | | ● | ● |
| 40 | 19,0 - 27,0 | 43 | 8 | 5 | 27,7 | | ● | ● | ● | ● | ● | ● | ● |
| 50 | 26,0 - 36,0 | 53 | 8 | 5 | 37,0 | | ● | ● | ● | ● | ● | ● | ● |
| 55* | 35,0 - 41,0 | 58 | 8 | 5 | 42,0 | | | | | | | | ● |

* = nicht nach ISO 8977B / not in acc. with ISO 8977B

[SE]



SE 711 EDL

Type EDL, ohne Bund

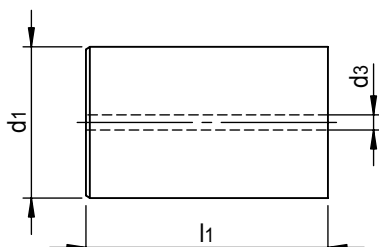
Type EDL, without collar

 **SE 711 EDL /
20 x 35**

Mat.: HSS
Härte: 64 ±2 HRC

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

Andere Längen auf Wunsch lieferbar. Other lengths available on request.



| d1 n5 | d3 | l1 +0,5 35 |
|----------|-----|------------------|
| 5 | 1,5 | ● |
| 6 | 1,5 | ● |
| 8 | 2 | ● |
| 10 | 3 | ● |
| 13 | 3 | ● |
| 16 | 3 | ● |
| 19* | 3 | ● |
| 20 | 4 | ● |
| 22 | 4 | ● |
| 25 | 4 | ● |
| 32 | 4 | ● |
| 38* | 5 | ● |
| 40 | 5 | ● |
| 50 | 5 | ● |
| 55* | 5 | ● |

* = nicht nach ISO 8977A / not in acc. with ISO 8977A

[SE]



SE 713 EKDL

Type EKDL, mit Bund

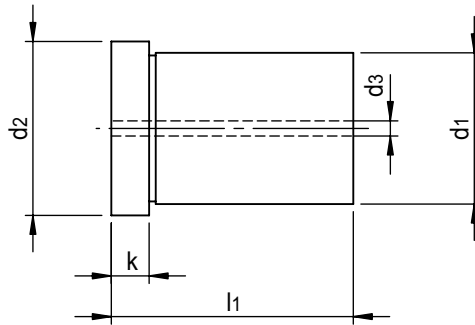
Mat.: HSS
Härte: 64 ±2 HRC

Type EKDL, with collar

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

 **SE 713 EKDL / 20 x 35**

Andere Längen auf Wunsch lieferbar. Other lengths available on request.



[SE]

| d1 m5 | d2 | d3 | k +0,25 | l1 +0,5 35 |
|----------|----|-----|------------|------------------|
| 5 | 8 | 1,5 | 5 | ● |
| 6 | 9 | 1,5 | 5 | ● |
| 8 | 11 | 2 | 5 | ● |
| 10 | 13 | 3 | 5 | ● |
| 13 | 16 | 3 | 5 | ● |
| 16 | 19 | 3 | 5 | ● |
| 19* | 22 | 3 | 5 | ● |
| 20 | 23 | 4 | 5 | ● |
| 22 | 25 | 4 | 5 | ● |
| 25 | 28 | 4 | 5 | ● |
| 32 | 35 | 4 | 5 | ● |
| 38* | 42 | 5 | 5 | ● |
| 40 | 43 | 5 | 5 | ● |
| 50 | 53 | 5 | 5 | ● |
| 55* | 58 | 5 | 5 | ● |

* = nicht nach ISO 8977B / not in acc. with ISO 8977B

SE 711 EDM

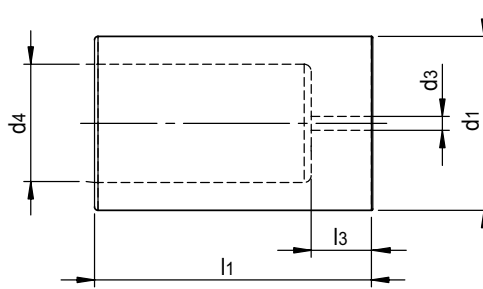
Type EDM, ohne Bund

Mat.: HSS
Härte: 64 ±2 HRC

Type EDM, without collar

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

SE 711 EDM /
20 x 35



| d1 n5 | d3 | l3 | d4 | l1 +0,5 | | | | | | | | |
|----------|-----|----|------|------------|----|----|----|----|----|----|----|----|
| | | | | 16 | 19 | 20 | 22 | 25 | 28 | 30 | 32 | 35 |
| 5 | 1,5 | 2 | 2,8 | ● | | ● | ● | ● | ● | ● | ● | ● |
| 6 | 1,5 | 3 | 3,5 | ● | | ● | ● | ● | ● | ● | ● | ● |
| 8 | 2,0 | 4 | 4,0 | ● | | ● | ● | ● | ● | ● | ● | ● |
| 10 | 3,0 | 4 | 5,8 | ● | | ● | ● | ● | ● | ● | ● | ● |
| 13 | 3,0 | 5 | 8,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 3,0 | 5 | 9,5 | | | ● | ● | ● | ● | ● | ● | ● |
| 19* | 3,0 | 5 | 11,0 | | ● | | | ● | | ● | ● | |
| 20 | 4,0 | 8 | 12,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 22 | 4,0 | 8 | 15,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 25 | 4,0 | 8 | 17,3 | | | ● | ● | ● | ● | ● | ● | ● |
| 32 | 4,0 | 8 | 20,7 | | | ● | ● | ● | ● | ● | ● | ● |
| 38* | 5,0 | 6 | 28,0 | | | | | | | ● | ● | |
| 40 | 5,0 | 8 | 27,7 | | | ● | ● | ● | ● | ● | ● | ● |
| 50 | 5,0 | 8 | 37,0 | | | ● | ● | ● | ● | ● | ● | ● |
| 55* | 5,0 | 8 | 42,0 | | | | | | | ● | ● | |

* = nicht nach ISO 8977A / not in acc. with ISO 8977A



SE 713 EKDM

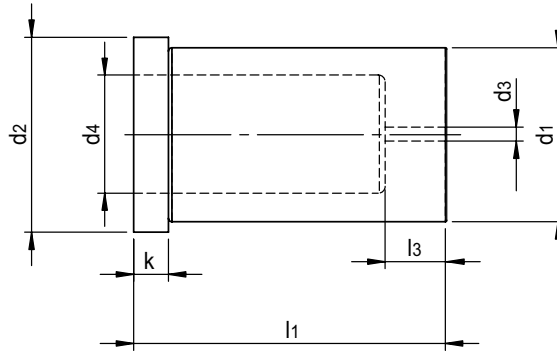
Type EKDM, mit Bund

Mat.: HSS
Härte: 64 ±2 HRC

Type EKDM, with collar

Mat.: HSS (e.g. M2)
Hardness: 64 ±2 HRC

 **SE 713 EKDM / 20 x 35**



[SE]

| d1 m5 | d3 | d2 +0,3 | l3 | d4 | k +0,25 | l1 +0,5 | | | | | | | |
|----------|-----|------------|-----|------|------------|------------|----|----|----|----|----|----|----|
| | | | | | | 16 | 20 | 22 | 25 | 28 | 30 | 32 | 35 |
| 5 | 1,5 | 8 | 2,0 | 2,8 | 5 | ● | ● | ● | ● | ● | ● | ● | ● |
| 6 | 1,5 | 9 | 3,0 | 3,5 | 5 | ● | ● | ● | ● | ● | ● | ● | ● |
| 8 | 2,0 | 11 | 4,0 | 4,0 | 5 | ● | ● | ● | ● | ● | ● | ● | ● |
| 10 | 3,0 | 13 | 4,0 | 5,8 | 5 | ● | ● | ● | ● | ● | ● | ● | ● |
| 13 | 3,0 | 16 | 5,0 | 8,0 | 5 | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 3,0 | 19 | 5,0 | 9,5 | 5 | | ● | ● | ● | ● | ● | ● | ● |
| 19* | 3,0 | 22 | 4,0 | 11,0 | 5 | | | | ● | ● | ● | ● | ● |
| 20 | 4,0 | 23 | 8,0 | 12,0 | 5 | | ● | ● | ● | ● | ● | ● | ● |
| 22 | 4,0 | 25 | 8,0 | 15,0 | 5 | | ● | ● | ● | ● | ● | ● | ● |
| 25 | 4,0 | 28 | 8,0 | 17,3 | 5 | | ● | ● | ● | ● | ● | ● | ● |
| 32 | 4,0 | 35 | 8,0 | 20,7 | 5 | | ● | ● | ● | ● | ● | ● | ● |
| 38* | 5,0 | 42 | 6,0 | 28,0 | 5 | | | | | ● | | ● | ● |
| 40 | 5,0 | 43 | 8,0 | 27,7 | 5 | | ● | ● | ● | ● | ● | ● | ● |
| 50 | 5,0 | 53 | 8,0 | 37,0 | 5 | | ● | ● | ● | ● | ● | ● | ● |
| 55* | 5,0 | 58 | 8,0 | 42,0 | 5 | | | | | | | | ● |

* = nicht nach ISO 8977B / not in acc. with ISO 8977B

Stempelführungsbuchsen DIN 9845, Form C



Punch - guide bushings DIN 9845, Form C

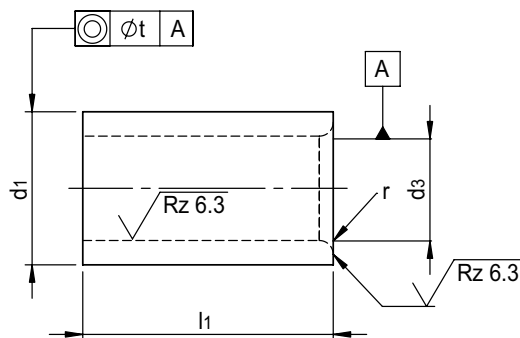
SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 793

Mat.: Einsatzstahl
Härte: 62 ±2 HRC

Mat.: Case-hardening steel
Hardness: 62 ±2 HRC

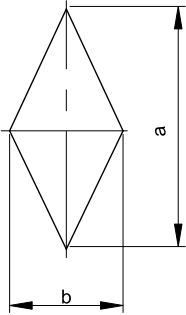
SE 793 / 3,0



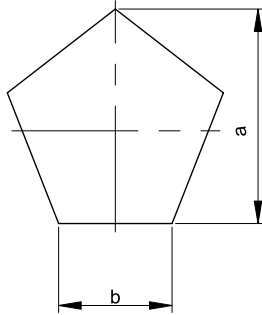
| d3 H7 | Stufung Graduation | d1 n6 | l1 | r | t |
|-----------|-----------------------|----------|----|-----|------|
| 1,0 | 0,1 | 5 | 9 | 1,0 | 0,01 |
| 1,1-2,0 | 0,1 | 6 | 12 | 1,0 | 0,01 |
| 2,1-3,0 | 0,1 | 7 | 12 | 1,0 | 0,01 |
| 3,1-4,0 | 0,1 | 8 | 12 | 1,0 | 0,01 |
| 4,1-5,0 | 0,1 | 10 | 16 | 1,0 | 0,01 |
| 5,1-6,0 | 0,1 | 12 | 16 | 1,5 | 0,02 |
| 6,1-8,0 | 0,1 | 15 | 20 | 1,5 | 0,02 |
| 8,1-10,0 | 0,1 | 18 | 20 | 2,0 | 0,02 |
| 10,1-12,0 | 0,1 | 22 | 28 | 2,0 | 0,02 |
| 12,1-15,0 | 0,1 | 26 | 28 | 2,0 | 0,02 |
| 15,5-18,0 | 0,5 | 30 | 36 | 2,0 | 0,02 |



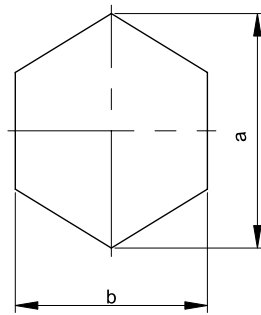
SP1



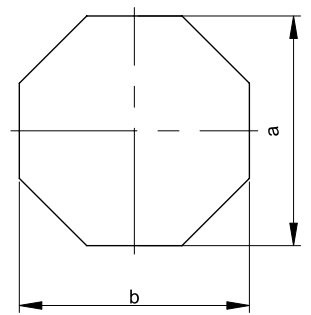
SP2



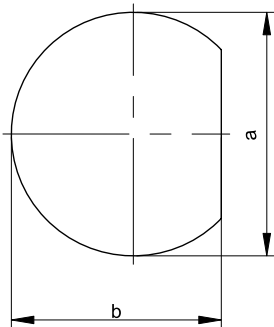
SP3



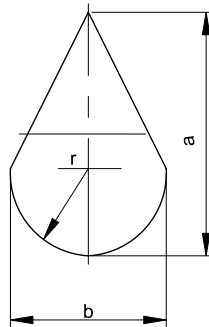
SP4



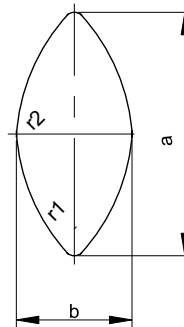
SP5



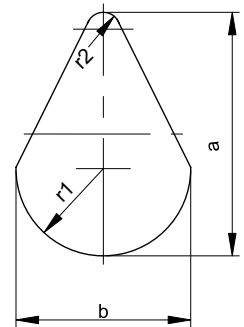
SP6



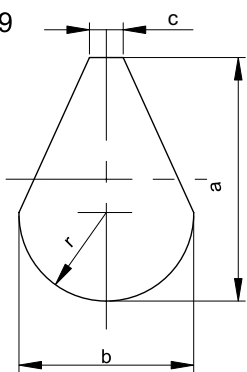
SP7



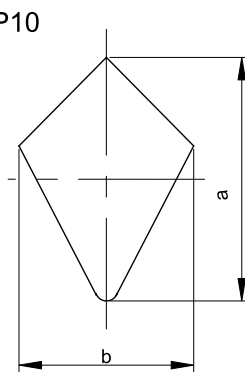
SP8



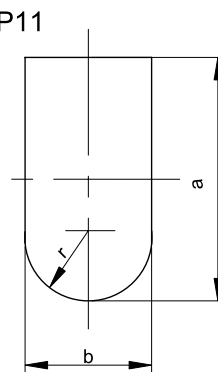
SP9



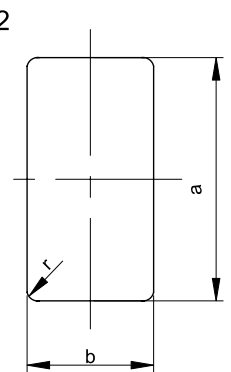
SP10



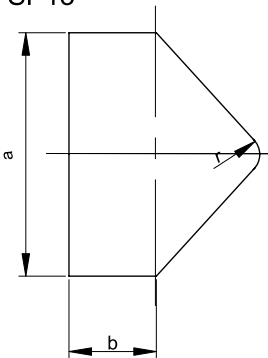
SP11



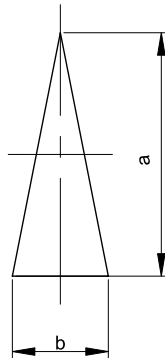
SP12



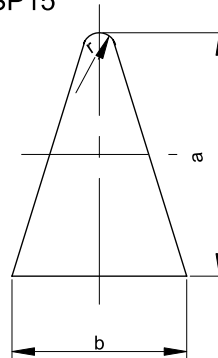
SP13



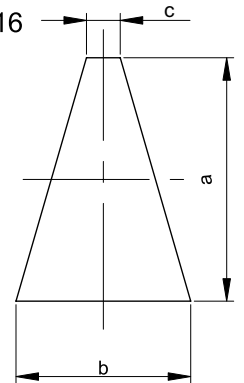
SP14



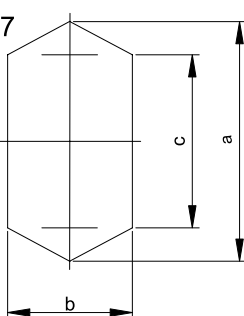
SP15



SP16



SP17



SE 300

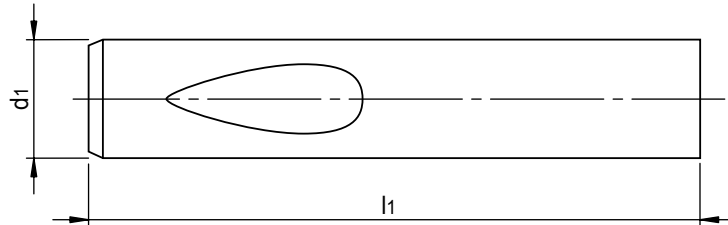
Schwere Ausführung

Mat.: HSS
Härte: 60 - 63 HRC

Heavy duty

Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC

SE 300 / 13 x 80



| d1 g ⁵ | l1 +0,3 | | | | | | |
|----------------------|------------|----|----|----|-----|-----|-----|
| | 63 | 71 | 80 | 90 | 100 | 110 | 125 |
| 10 | ● | ● | ● | ● | ● | ● | ● |
| 13 | ● | ● | ● | ● | ● | ● | ● |
| 16 | ● | ● | ● | ● | ● | ● | ● |
| 20 | ● | ● | ● | ● | ● | ● | ● |
| 25 | | ● | ● | ● | ● | ● | ● |
| 32 | | ● | ● | ● | ● | ● | ● |
| 40 | | | ● | ● | ● | ● | ● |

[SE]



Ball lock punches

SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 320

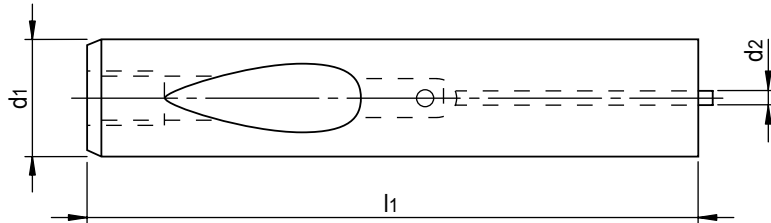
Schwere Ausführung
mit federndem Auswerferstift

Heavy duty
with spring ejector

 **SE 320 / 13 x 80**

Mat.: HSS
Härte: 60 - 63 HRC

Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC



[SE]

| d1 g5 | d2 | l1 | | | | | | |
|----------|-----|----|----|----|------------|-----|-----|-----|
| | | 63 | 71 | 80 | 90 +0,3 | 100 | 110 | 125 |
| 10 | 1,5 | ● | ● | ● | ● | ● | | |
| 13 | 1,5 | ● | ● | ● | ● | ● | ● | ● |
| 16 | 1,5 | ● | ● | ● | ● | ● | ● | ● |
| 20 | 2,4 | ● | ● | ● | ● | ● | ● | ● |
| 25 | 2,4 | | ● | ● | ● | ● | ● | ● |
| 32 | 2,4 | | ● | ● | ● | ● | ● | ● |
| 40 | 2,4 | | | ● | ● | ● | ● | ● |

SE 301

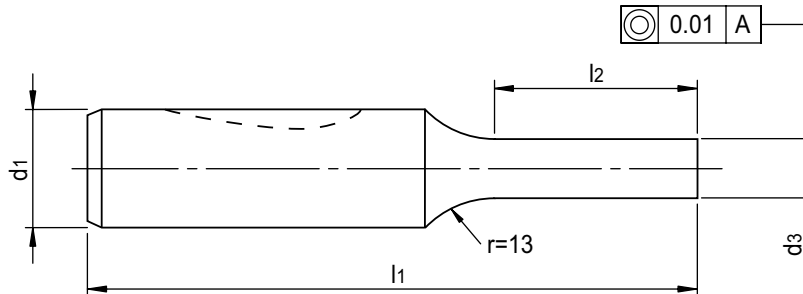
Schwere Ausführung

Heavy duty

SE 301 /
20 x 19 x 80 / d3

Mat.: HSS
Härte: 60 - 63 HRC

Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC



| d1 g5 | d3 min. +0,01 | l2 +1 | | | | l1 +0,3 | | | | | | |
|----------|---------------------|----------|----|----|----|------------|----|----|----|-----|-----|-----|
| | | 10 | 13 | 19 | 25 | 63 | 71 | 80 | 90 | 100 | 110 | 125 |
| 10 | 2,1 | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| 13 | 5 | | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 8 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 20 | 12 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 25 | 16 | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 32 | 24 | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 40 | 30 | | | ● | ● | | | ● | ● | ● | ● | ● |

[SE]



SE 321

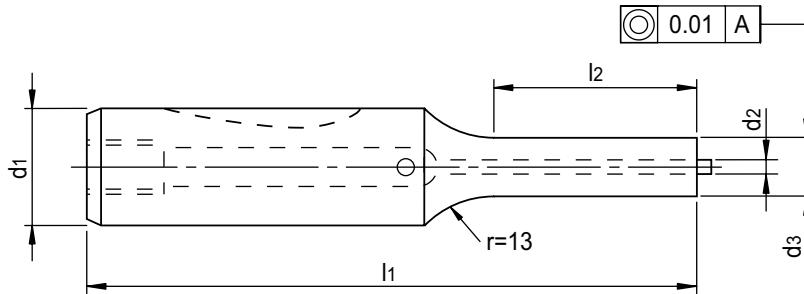
Schwere Ausführung
mit federndem Auswerferstift

Heavy duty
with spring ejector

SE 321 /
20 x 13 x 80 / d3

Mat.: HSS
Härte: 60 - 63 HRC

Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC



| d1 g5 | d2 | d3 min. +0,01 | l2 +1 | | | | l1 +0,3 | | | | | | |
|----------|-----|---------------------|----------|----|----|----|------------|----|----|----|-----|-----|-----|
| | | | 10 | 13 | 19 | 25 | 63 | 71 | 80 | 90 | 100 | 110 | 125 |
| 10 | 1,5 | 2,1 | ● | ● | ● | | ● | ● | ● | ● | ● | ● | |
| 13 | 1,5 | 5 | | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 1,5 | 8 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 20 | 2,4 | 12 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 25 | 2,4 | 16 | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 32 | 2,4 | 24 | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 40 | 2,4 | 30 | | | ● | ● | | | ● | ● | ● | ● | ● |

[SE]

SE 302 .

Schwere Ausführung

Mat.: HSS
Härte: 60 - 63 HRC

Bei der Bestellung bitte die Position der Kugellage angeben (Bild 1).

Heavy duty

Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC

When ordering, please specify the ball position (Fig. 1).

SE 302 O / 20 x 19 x 80 / a x b / 45°

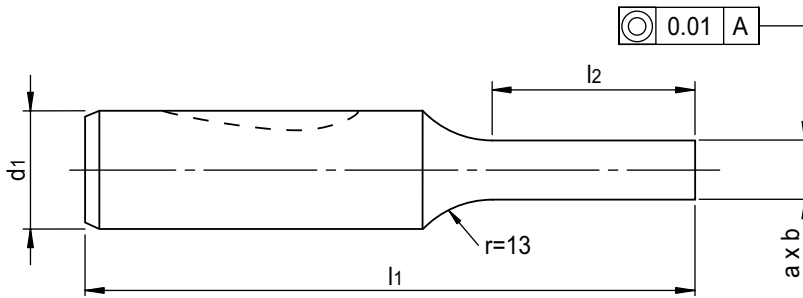
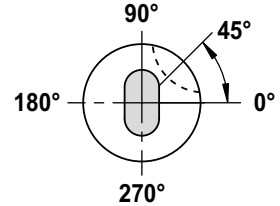
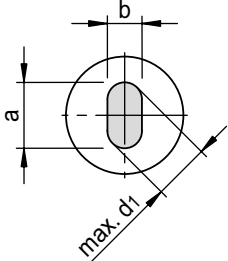


Bild 1/ Fig. 1

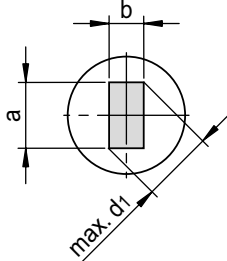


Typ / Type O



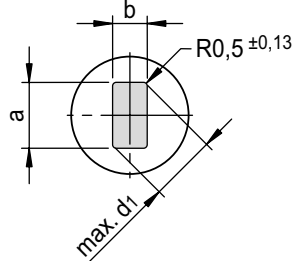
Langloch / oblong

Typ / Type S



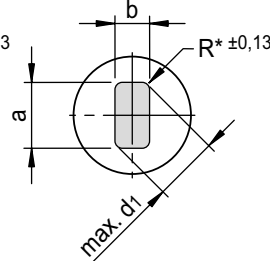
Quadrat, Rechteck / square, rectangular

Typ / Type H



Profil mit Radius R0,5 / Profile with radius R0,5

Typ / Type L



Profil mit frei wählbarem Radius / Profile with freely selectable radius

* Bei Typ L ist der Radius R frei wählbar. Bitte bei der Bestellung den Radius angeben.

* With type L the radius R is freely selectable. Please specify the radius when ordering.



| d1 g5 | a min. ±0,01 | b min. ±0,01 | l2 +1 | | | | l1 +0,3 | | | | | | |
|----------|--------------------|--------------------|----------|----|----|----|------------|----|----|----|-----|-----|-----|
| | | | 10 | 13 | 19 | 25 | 63 | 71 | 80 | 90 | 100 | 110 | 125 |
| 10 | 2,1 | 2,1 | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| 13 | 5 | 4,5 | | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 8 | 6 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 20 | 12 | 8 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 25 | 16 | 10 | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 32 | 24 | 12,5 | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 40 | 30 | 14 | | | ● | ● | | | ● | ● | ● | ● | ● |



SE 322 .

Schwere Ausführung mit federndem Auswerferstift

Heavy duty with spring ejector

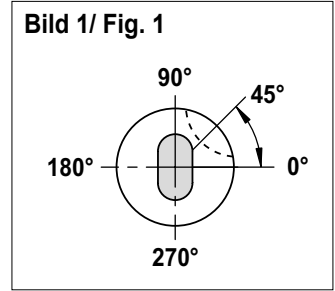
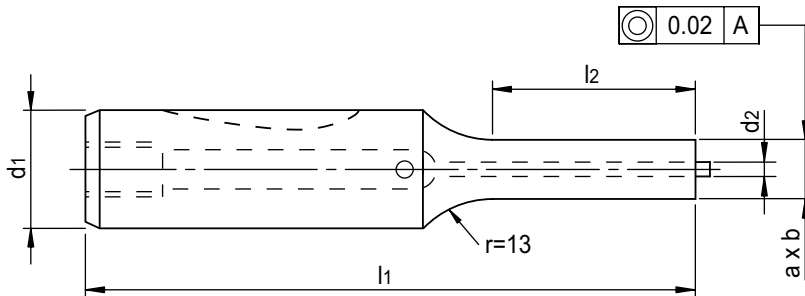
SE 322 O / 20 x 19 x 80 / a x b / 45°

Mat.: HSS
Härte: 60 - 63 HRC

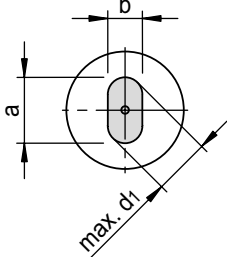
Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC

Bei der Bestellung bitte die Position der Kugellage angeben (Bild 1).

When ordering, please specify the ball position (Fig. 1).

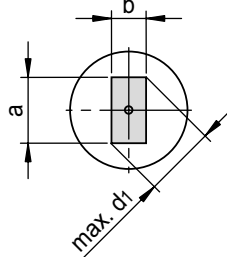


Typ / Type O



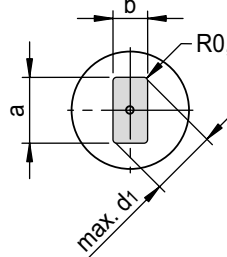
Langloch / oblong

Typ / Type S



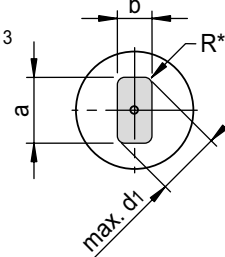
Quadrat, Rechteck / square, rectangular

Typ / Type H



Profil mit Radius R0,5 / Profile with radius R0,5

Typ / Type L



Profil mit frei wählbarem Radius / Profile with freely selectable radius

* Bei Typ L ist der Radius R frei wählbar. Bitte bei der Bestellung den Radius angeben.

* With type L the radius R is freely selectable. Please specify the radius when ordering.



| d1 g5 | d2 | a min. ±0,01 | b min. ±0,01 | l2 +1 | | | | l1 +0,3 | | | | | | |
|----------|-----|--------------------|--------------------|----------|----|----|----|------------|----|----|----|-----|-----|-----|
| | | | | 10 | 13 | 19 | 25 | 63 | 71 | 80 | 90 | 100 | 110 | 125 |
| 10 | 1,5 | 2,1 | 2,1 | ● | ● | ● | | ● | ● | ● | ● | ● | ● | |
| 13 | 1,5 | 5 | 4,5 | | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| 16 | 1,5 | 8 | 6 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 20 | 2,4 | 12 | 8 | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 25 | 2,4 | 16 | 10 | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 32 | 2,4 | 24 | 12,5 | | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 40 | 2,4 | 30 | 14 | | | ● | ● | | | ● | ● | ● | ● | ● |

SE 303

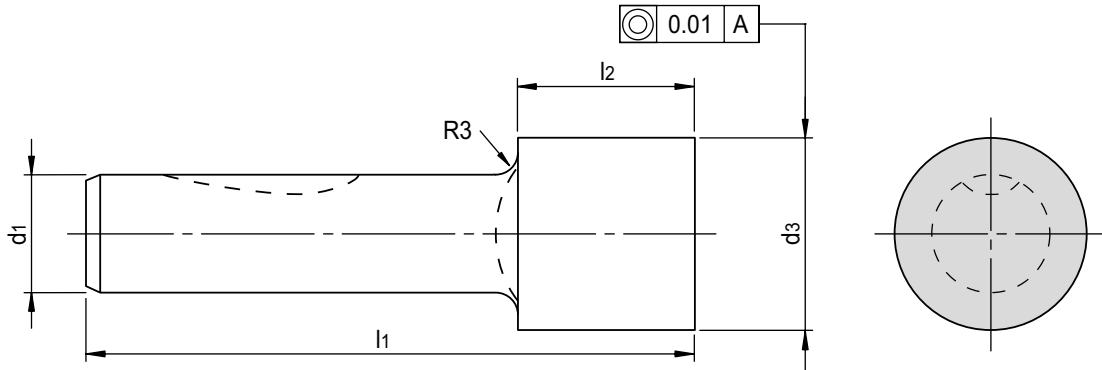
Schwere Ausführung

Heavy duty

Mat.: HSS
Härte: 60 - 63 HRC

Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC

 **SE 303 /**
20 x 30 x 71 / d3



| d1 g5 | d3 min. +0,01 | d3 max. +0,01 | l2 +1 | | l1 +0,3 | | | |
|----------|---------------------|---------------------|----------|----|------------|----|----|-----|
| | | | 19 | 30 | 71 | 80 | 90 | 100 |
| 13 | 13,1 | 32 | ● | ● | ● | ● | ● | ● |
| 16 | 16,1 | 38 | ● | ● | ● | ● | ● | ● |
| 20 | 20,1 | 40 | ● | ● | ● | ● | ● | ● |
| 25 | 25,1 | 44 | ● | ● | ● | ● | ● | ● |
| 32 | 32,1 | 50 | ● | ● | | ● | ● | ● |
| 40 | 40,1 | 56 | ● | ● | | ● | ● | ● |



SE 323

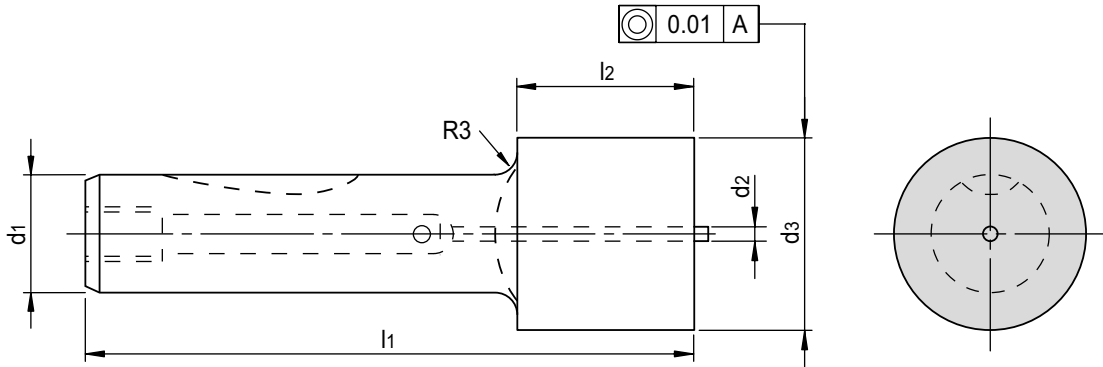
Schwere Ausführung
mit federndem Auswerferstift

Heavy duty
with spring ejector

SE 323 /
20 x 30 x 71 / d3

Mat.: HSS
Härte: 60 - 63 HRC

Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC



| d1 g5 | d2 | d3 min. +0,01 | d3 max. +0,01 | l2 +1 | | | l1 +0,3 | | |
|----------|-----|---------------------|---------------------|----------|----|----|------------|----|-----|
| | | | | 19 | 30 | 71 | 80 | 90 | 100 |
| 13 | 1,5 | 13,1 | 32 | ● | ● | ● | ● | ● | ● |
| 16 | 1,5 | 16,1 | 38 | ● | ● | ● | ● | ● | ● |
| 20 | 2,4 | 20,1 | 40 | ● | ● | ● | ● | ● | ● |
| 25 | 2,4 | 25,1 | 44 | ● | ● | ● | ● | ● | ● |
| 32 | 2,4 | 32,1 | 50 | ● | ● | | ● | ● | ● |
| 40 | 2,4 | 40,1 | 56 | ● | ● | | ● | ● | ● |

[SE]

SE 304 .

Schwere Ausführung

Heavy duty

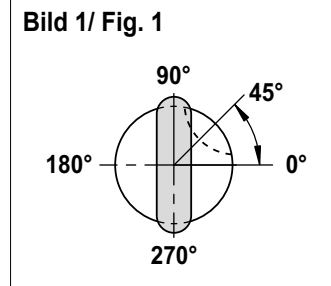
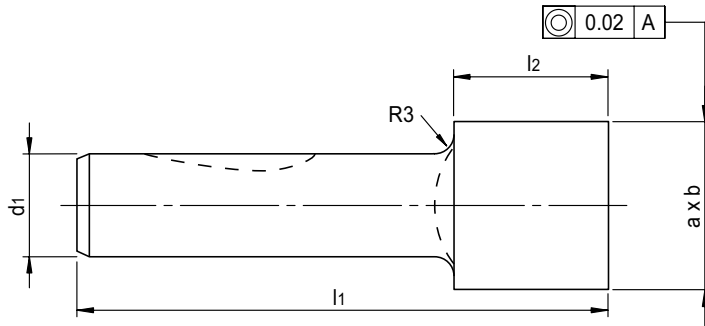
Mat.: HSS
Härte: 60 - 63 HRC

Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC

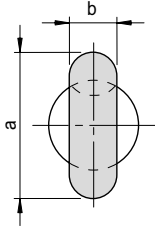
Bei der Bestellung bitte die Position der Kugellage angeben (Bild 1).

When ordering, please specify the ball position (Fig. 1).

SE 304 O / 20 x 30 x 80 / a x b / 45°

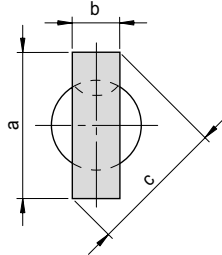


Typ / Type O



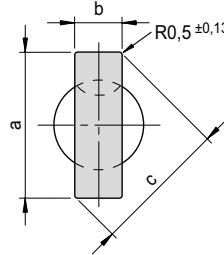
Langloch / oblong

Typ / Type S



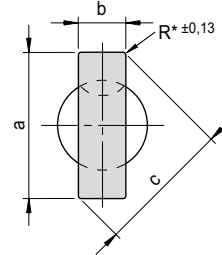
Quadrat, Rechteck / square, rectangular

Typ / Type H



Profil mit Radius R0,5 / Profile with radius R0,5

Typ / Type L



Profil mit frei wählbarem Radius / Profile with freely selectable radius

* Bei Typ L ist der Radius R frei wählbar. Bitte bei der Bestellung den Radius angeben.

* With type L the radius R is freely selectable. Please specify the radius when ordering.



| d1 g ⁵ | a max. ±0,01 | b min. ±0,01 | c max. | l2 +1 | | l1 +0,3 | | | |
|----------------------|--------------------|--------------------|-----------|----------|----|------------|----|----|-----|
| | | | | 19 | 30 | 71 | 80 | 90 | 100 |
| 13 | 32 | 5 | 32 | ● | ● | ● | ● | ● | ● |
| 16 | 38 | 6,5 | 38 | ● | ● | ● | ● | ● | ● |
| 20 | 40 | 8 | 40 | ● | ● | ● | ● | ● | ● |
| 25 | 44 | 11 | 44 | ● | ● | ● | ● | ● | ● |
| 32 | 50 | 12,5 | 50 | ● | ● | ● | ● | ● | ● |
| 40 | 56 | 14 | 56 | ● | ● | ● | ● | ● | ● |



Ball lock punches, inverted

SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 324 .

Schwere Ausführung
mit federndem Auswerferstift

Heavy duty
with spring ejector

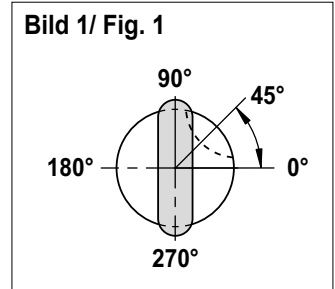
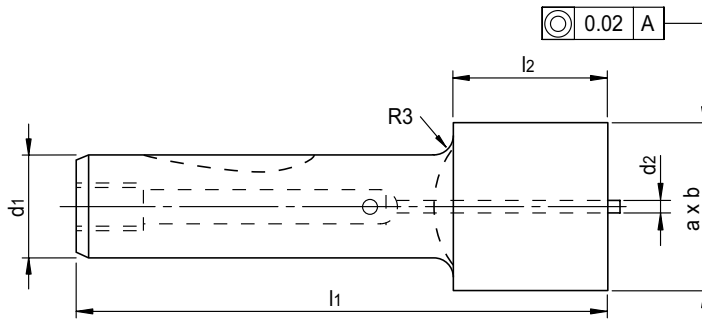
SE 324 O/ 20 x 30 x
80 / a x b / 45°

Mat.: HSS
Härte: 60 - 63 HRC

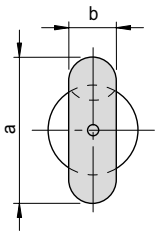
Mat.: HSS (e.g. M2)
Hardness: 60 - 63 HRC

Bei der Bestellung bitte die Position
der Kugellage angeben (Bild 1).

When ordering, please specify the
ball position (Fig. 1).

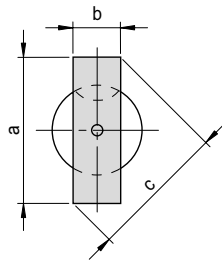


Typ / Type O



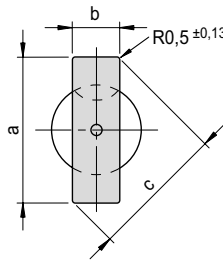
Langloch /
oblong

Typ / Type S



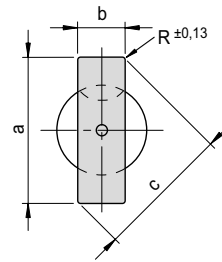
Quadrat, Rechteck /
square, rectangular

Typ / Type H



Profil mit Radius R0,5 /
Profile with radius R0,5

Typ / Type L



Profil mit frei wählbarem Radius /
Profile with freely selectable
radius

* Bei Typ L ist der
Radius R frei wählbar.
Bitte bei der Bestellung
den Radius angeben.

* With type L the radius R
is freely selectable.
Please specify the
radius when ordering.



| d1 g5 | d2 | a max. ±0,01 | b min. ±0,01 | c max. | l2 +1 | | l1 +0,3 | | | |
|----------|-----|--------------------|--------------------|-----------|----------|----|------------|----|----|-----|
| | | | | | 19 | 30 | 71 | 80 | 90 | 100 |
| 13 | 1,5 | 32 | 5 | 32 | ● | ● | ● | ● | ● | ● |
| 16 | 1,5 | 38 | 6,5 | 38 | ● | ● | ● | ● | ● | ● |
| 20 | 2,4 | 40 | 8 | 40 | ● | ● | ● | ● | ● | ● |
| 25 | 2,4 | 44 | 11 | 44 | ● | ● | ● | ● | ● | ● |
| 32 | 2,4 | 50 | 12,5 | 50 | ● | ● | ● | ● | ● | ● |
| 40 | 2,4 | 56 | 14 | 56 | ● | ● | ● | ● | ● | ● |

SE 340

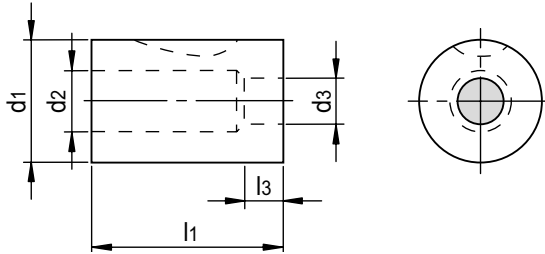
Leichte Ausführung

Light duty

 **SE 340 / 20 / d3**

Mat.: HWS
Härte: 60 - 63 HRC

Mat.: HWS (e.g. A2)
Hardness: 60 - 63 HRC



| d1 g5 | d3 +0,01 ≥ ≤ | d2 max. | l1 +0,3 | l3 |
|----------|--------------------|------------|------------|----|
| 13 | 1,5 - 5,0 | 6 | 32 | 4 |
| 16 | 3,2 - 7,0 | 8 | 32 | 5 |
| 20 | 4,0 - 11,0 | 12 | 32 | 5 |
| 25 | 8,0 - 15,0 | 16 | 32 | 6 |
| 32 | 11,0 - 19,0 | 20 | 32 | 6 |
| 38 | 16,5 - 26,0 | 27 | 32 | 8 |

[SE]



Ball lock die buttons, profiles

SCHNEIDELEMENTE / CUTTING ELEMENTS

SE 341 .

Leichte Ausführung

Mat.: HWS
Härte: 60 - 63 HRC

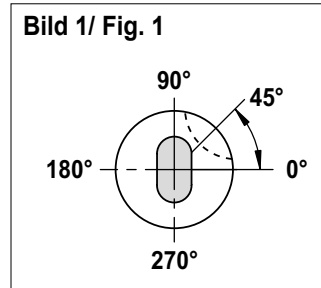
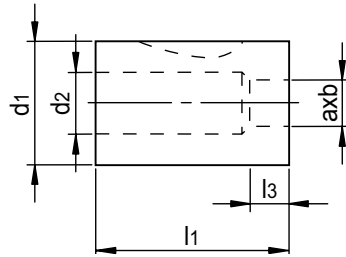
Bei der Bestellung bitte die Position der Kugellage angeben (Bild 1).

Light duty

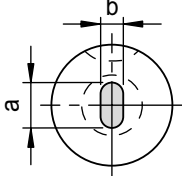
Mat.: HWS (e.g. A2)
Hardness: 60 - 63 HRC

When ordering, please specify the ball position (Fig. 1).

SE 341 S / 16 / a x b / 45°

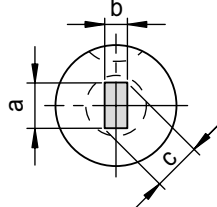


Typ / Type O



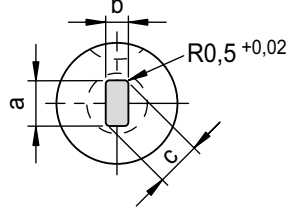
Langloch / oblong

Typ / Type S



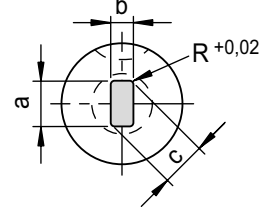
Quadrat, Rechteck / square, rectangular

Typ / Type H



Profil mit Radius R0,5 / Profile with radius R0,5

Typ / Type L



Profil mit frei wählbarem Radius / Profile with freely selectable radius

* Bei Typ L ist der Radius R frei wählbar. Bitte bei der Bestellung den Radius angeben.

* With type L the radius R is freely selectable. Please specify the radius when ordering.



| d1 g5 | a +0,02 ≥ ≤ | b +0,02 ≥ ≤ | d2 max. | c max. | l1 +0,3 | l3 |
|----------|-------------------|-------------------|------------|-----------|------------|----|
| 13 | 1,5 - 5,0 | 1,2 - 5,0 | 6 | 5,0 | 32 | 4 |
| 16 | 3,2 - 7,0 | 2,0 - 7,0 | 8 | 7,0 | 32 | 5 |
| 20 | 4,0 - 11,0 | 2,4 - 11,0 | 12 | 11,0 | 32 | 5 |
| 25 | 8,0 - 15,0 | 4,0 - 15,0 | 16 | 15,0 | 32 | 6 |
| 32 | 11,0 - 19,0 | 4,8 - 19,0 | 20 | 19,0 | 32 | 6 |
| 38 | 16,5 - 26,0 | 6,4 - 26,0 | 27 | 26,0 | 32 | 8 |

SE 390

Schwere Ausführung

Mat.: 1.7131, gegläht
Härte: 56 ±2 HRC

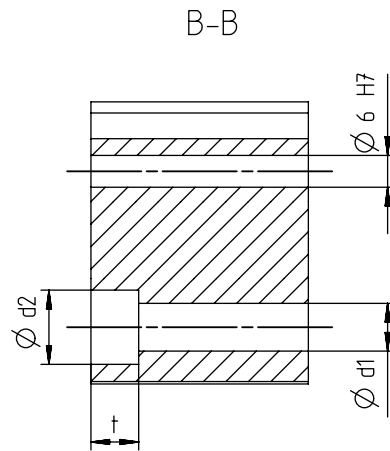
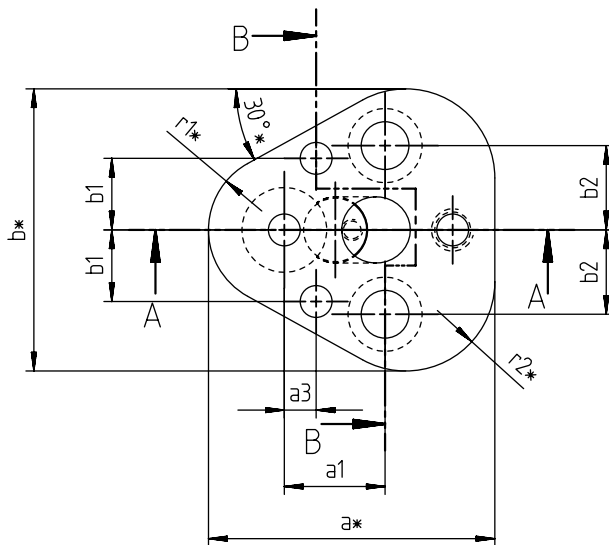
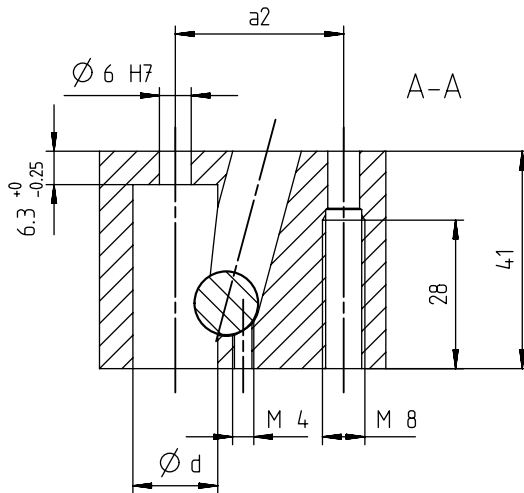
Lieferumfang:
Zylinderkopfschrauben, Zylinderstifte
und Gewindestift

Heavy duty

Mat.: 1.7131, annealed
Hardness: 56 ±2 HRC

Included:
Socket head cap screws, dowel pins
and headless screw

SE 390 / 13



| d H6 | a* | b* | a3 ±0,01 | a1 ±0,13 | a2 ±0,01 | r1* | r2* | b1 ±0,01 | b2 ±0,13 | d1 | d2 | t | Kugel-Ø Ball-Ø | Schraube Screw |
|---------|------|------|-------------|-------------|-------------|------|------|-------------|-------------|------|----|----|-------------------|-------------------|
| 10 | 44,5 | 43,7 | 7,5 | 19,0 | 26,93 | 9,5 | 12,0 | 9,0 | 11,1 | 9,0 | 15 | 9 | 10 | M8 |
| 13 | 50,8 | 50,0 | 6,5 | 19,0 | 29,97 | 12,7 | 15,2 | 12,0 | 14,3 | 9,0 | 15 | 9 | 12 | M8 |
| 16 | 54,0 | 53,2 | 6,0 | 19,0 | 31,75 | 14,3 | 16,8 | 13,5 | 15,9 | 9,0 | 15 | 9 | 12 | M8 |
| 20 | 60,3 | 59,5 | 5,0 | 19,0 | 33,53 | 17,5 | 20,0 | 16,5 | 17,5 | 11,0 | 18 | 11 | 12 | M10 |
| 25 | 69,9 | 69,1 | 7,0 | 23,8 | 40,64 | 22,2 | 24,7 | 22,0 | 19,8 | 13,5 | 20 | 13 | 12 | M12 |
| 32 | 69,9 | 69,1 | 7,0 | 23,8 | 40,64 | 22,2 | 24,7 | 22,0 | 19,8 | 13,5 | 20 | 13 | 12 | M12 |
| 40 | 77,4 | 76,6 | 10,0 | 27,0 | 43,99 | 26,0 | 28,5 | 26,0 | 24,0 | 13,5 | 20 | 13 | 12 | M12 |

* Konturen können variieren. Größtmaße sind in der Tabelle angegeben.

* Contours may vary. Maximum dimensions are given in the table.

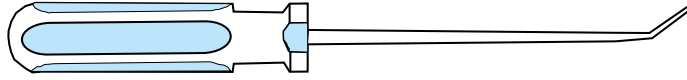


SE 360

abgewinkelte Ausführung

angular

 SE 360



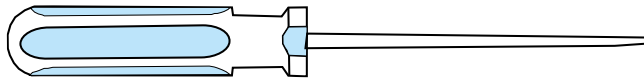
[SE]

SE 361

gerade Ausführung

straight

 SE 361

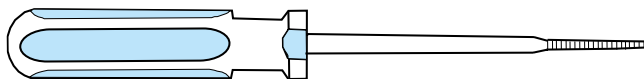


SE 362

Gewindeausführung

threaded

 SE 362

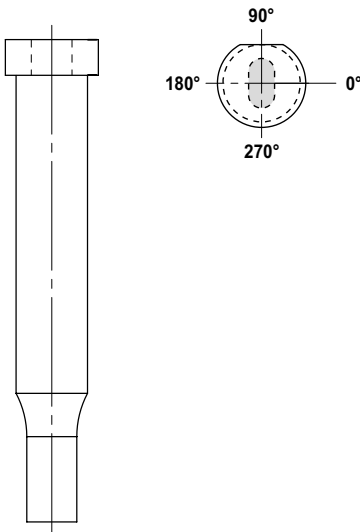




Profilierte Schneidstempel und die dazu passenden Schneidbuchsen werden von uns generell mit Verdrehsicherung ausgeliefert, wobei diese parallel zur langen Seite des Profils angebracht wird. Sollen Schneidelemente ohne Verdrehsicherung geliefert werden, muss darauf bei der Bestellung hingewiesen werden. Ebenso wenn die Verdrehsicherung an anderen Positionen oder in anderer Form gewählt werden soll, wie sie auf dieser Seite aufgeführt werden. Die Gradzahl ist frei wählbar und muss der Bestellnummer angehängt werden.

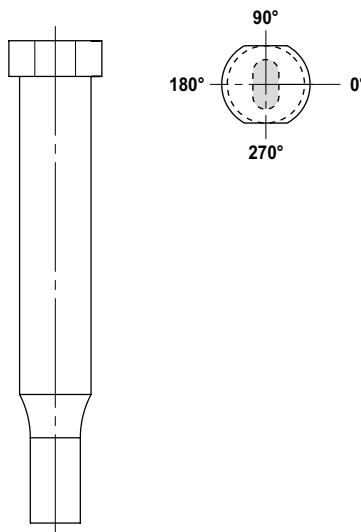
Shaped punches as well as the corresponding bushes are in general equipped with a rotation prevention, positioned alongside the longer side of the punching shape (round punches and bushes only upon request). If punches or bushes without a rotation prevention are needed, please specify during the ordering process. If a different location, shape or size (as shown below) for this purpose is requested, please specify as well. The angle is freely selectable and needs to be stated at the end of the ordering-number.

Verdrehsicherung / rotation prevention **Type V1**



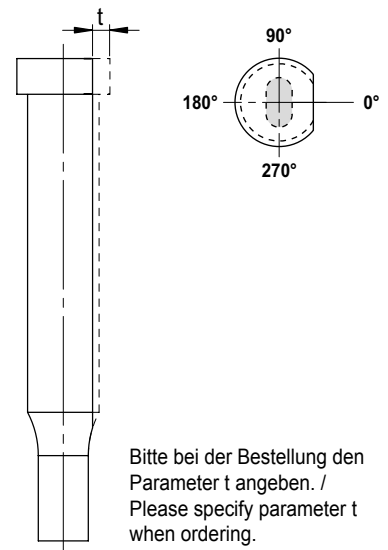
SE ... V1/ 90°

Verdrehsicherung / rotation prevention **Type V2**



SE ... V2/ 90°

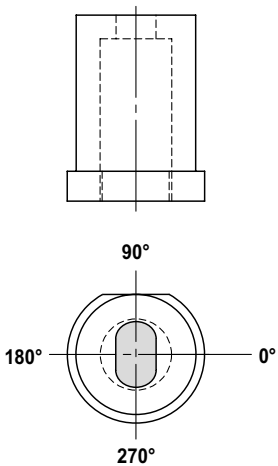
Verdrehsicherung / rotation prevention **Type V3**



Bitte bei der Bestellung den Parameter t angeben. / Please specify parameter t when ordering.

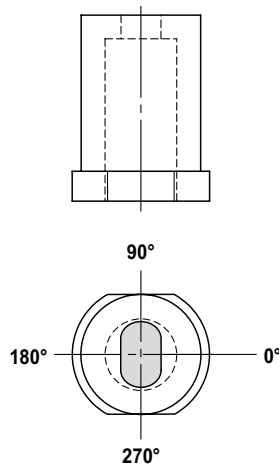
SE ... V3/ 4 / 0°

Verdrehsicherung / Rotation prevention **Type V4**



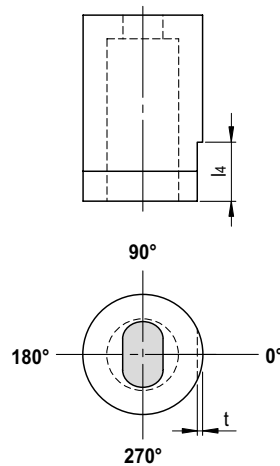
SE ... V4/ 90°

Verdrehsicherung / Rotation prevention **Type V5**



SE ... V5/ 90°

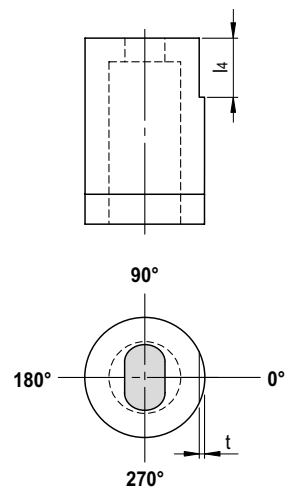
Verdrehsicherung / Rotation prevention **Type V6**



Bitte bei der Bestellung die Parameter t und l4 angeben. / Please specify parameter t and l4 when ordering.

SE ... V6/ 2 x 14 / 0°

Verdrehsicherung / Rotation prevention **Type V7**

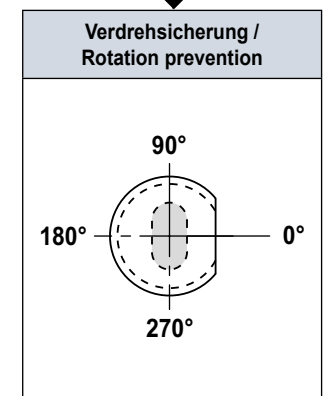
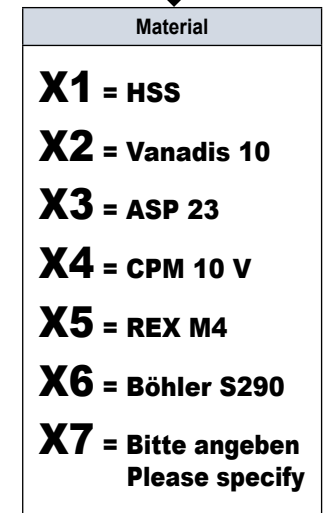
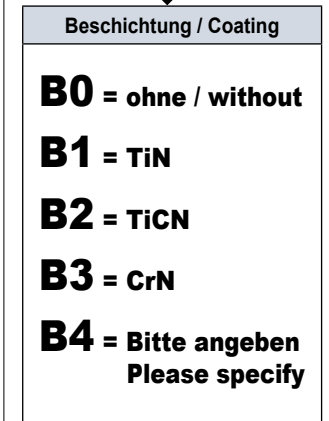
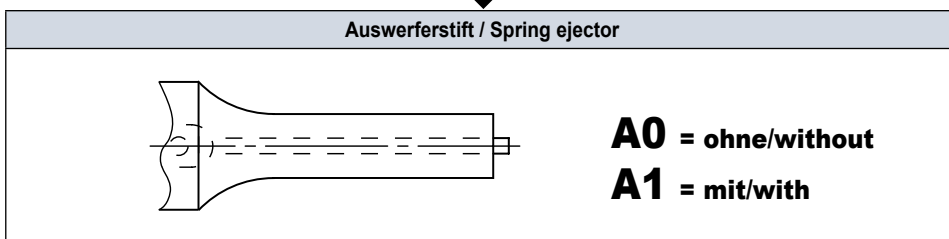
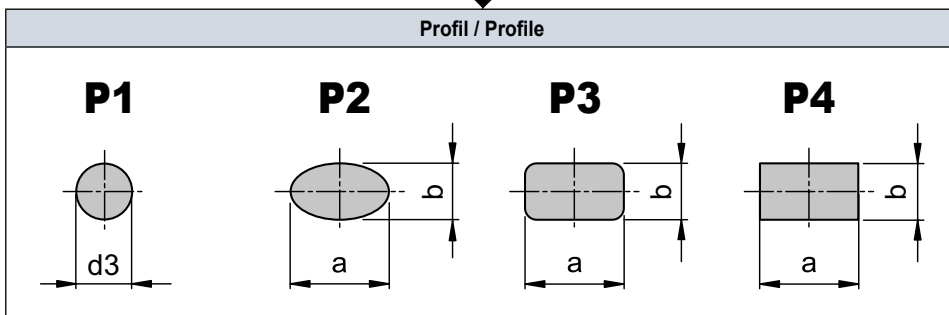
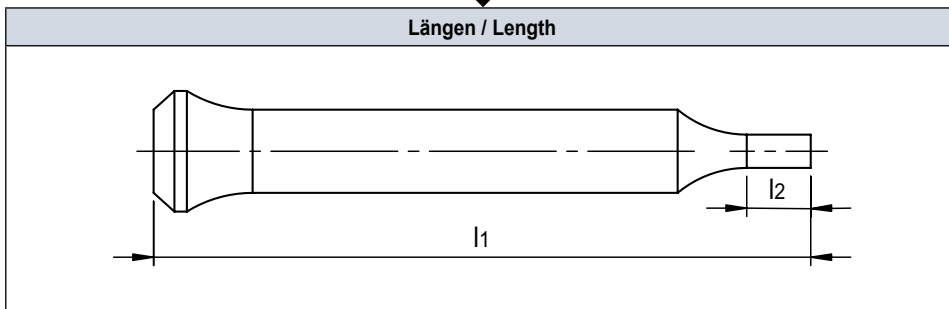
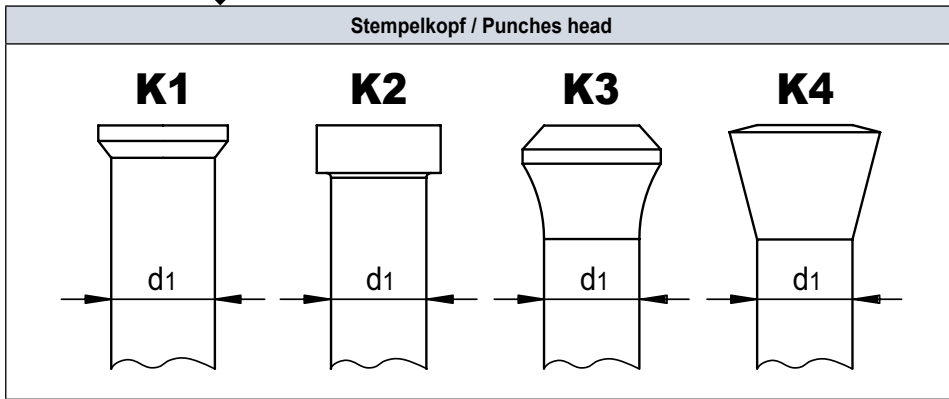


Bitte bei der Bestellung die Parameter t und l4 angeben. / Please specify parameter t and l4 when ordering.

SE ... V7/ 2 x 14 / 0°

Bestellbeispiele / Ordering examples

| | | | | | | | | | | | | | |
|-----------|-----------------------------|-----------|-----------|-----------|-------------------|----------|------------|------------|----------------------------------|---|-----------|------------------------------|-------------------|
| SE | K3 | 10 | 90 | 13 | P2 | - | 8,0 | 5,0 | A1 | 45° | X1 | B1 | 5 |
| | Stempelkopf Punches head | d1 | l1 | l2 | Profil Profile | d3 | a | b | Auswerferstift Spring ejector | Verdreh- sicherung Rotation prevention | Material | Beschich- tung Coating | Menge Quantity |



| | | | | | | | | | | | | | |
|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| SE | | | | | | | | | | | | | |
| SE | | | | | | | | | | | | | |

[SE]

Datum: _____

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