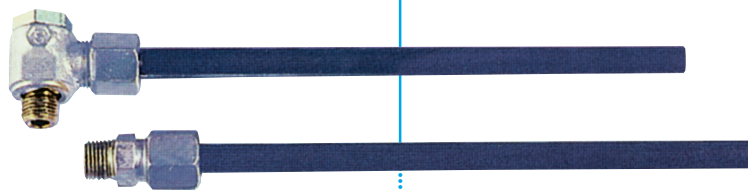
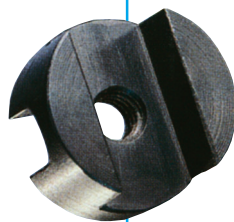
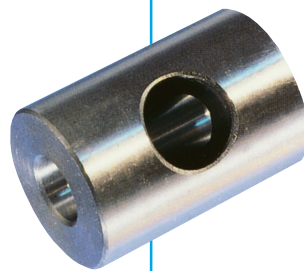


Zubehör für Werkzeughalter

Accessories For Tool Holder



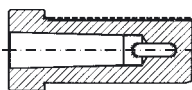
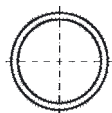
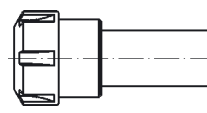
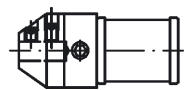
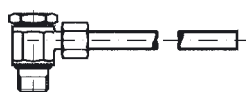

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| | | Z1.2 | Gewindebohrzangen ohne Längsausgleich |
|  | Spannzangen Collets | Z2.1 | Spannzangen DIN 6499 Schaublin |
| | | Z2.1 | Spannzangen DIN 6388 Ortlieb |
| | | Z2.1 | Spannzangen DIN 6345 Rubber-Flex |
| | | Z2.2 | Spannzangen DIN 6499 Schaublin abgedichtet |
|  | Spannmuttern und Spannschlüssel Collet Nuts And Spanner Wrenches | Z3.1 | Spannmuttern mit Innengewinde |
| | | Z3.2 | Spannmuttern mit Innengewinde für IK-Werkzeuge |
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| | | Z3.4 | Spannmuttern mit Aussengewinde für IK-Werkzeuge |
|  | Dichtringe Sealing Rings | Z4.1 | Dichtring für Spannmuttern mit Innen- und Aussengewinde DIN6499 |
|  | Reduzierbuchsen Bushings | Z5.1 | Type A Type G Type N Type B Type H Type P Type C Type I Type R Type D Type K Type S Type E Type L Type F Type M |


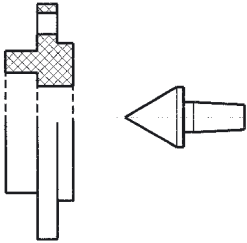
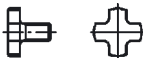
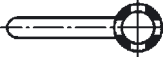

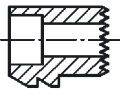

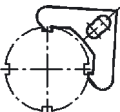
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|  <p>Reduzierhülsen Tapper Sleeves</p> | Z 6.1 | Reduzierhülsen mit Morsekegel |
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|  <p>Kühlmittelzuführungen Coolant Supply</p> | Z 9.2 | Kugeldüsen / Verschlussstücke / Rohr (M6) |
| | Z 9.3 | Ringdüsen / Verlängerung |
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|---|-----------------|---|
|  <p data-bbox="501 622 687 696">Unterlegplatten Adapter</p> | Z 11.1 | Unterlegplatten für kleinere Drehmeissel |
|  <p data-bbox="501 945 603 1012">Einsätze Inserts</p> | Z 12.1 | Einsätze für Schneideisenhalter |
| | Z 12.2 | Zentriereinsätze für Zentrierspitze |
| | | |
|  | Z 14.1 | Fräseranzugschraube |
|  <p data-bbox="443 1335 679 1402">Fräszubehör Milling Accessories</p> | Z 14.1 | Schlüssel für Fräseranzugschraube |
|  | Z 14.1 | Mitnehmerringe für Aufsteckfräserdorne |
|  <p data-bbox="443 1597 533 1664">Backen Jaws</p> | Z 14.1 | Satz Backen für Greiferfutter |
| | | |
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|  <p data-bbox="443 1995 724 2063">Doppel-Hakenschlüssel Double Hook Wrench</p> | Z 15.2 | Doppel-Hakenschlüssel für Werkzeughalterspindel |

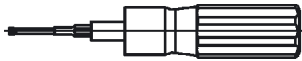
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**Gruppe
Group**

Beschreibung / Description

**Z 16.1**Drehmomentschraubendreher
Capto

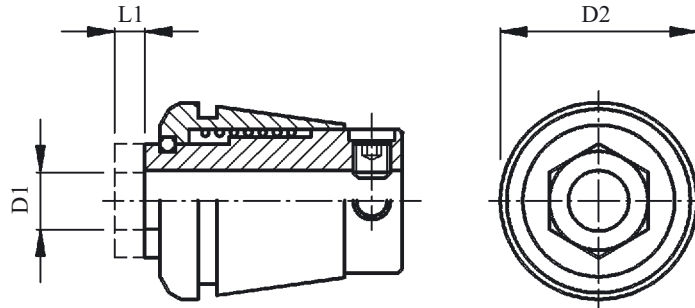
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| Übersicht / Overview | Gruppe Group | Beschreibung / Description |
|----------------------|-------------------------|----------------------------|
|----------------------|-------------------------|----------------------------|

Gewindebohrzangen mit Längenausgleich auf Zug (PCM)

Tapping Collets with Tension Compensation (PCM)

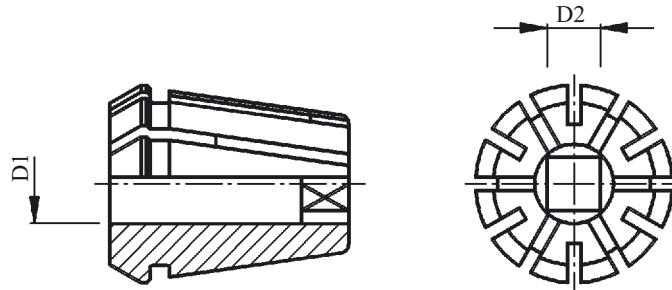


| Einh.Nr. Standard No. | 426 E | 428 E | 430 E | 470 E | 472 E | 474 E |
|--------------------------|-------|-------|-------|-------|-------|-------|
| Nenngröße DIN term | ER 16 | ER 20 | ER 25 | ER 32 | ER 40 | ER 50 |
| D2 | 17 | 21 | 26 | 33 | 41 | 51 |
| L1 | 7 | 7 | 7 | 9 | 13 | 20 |

| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
|------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 2,5 | 218.786.025 | 218.785.025 | - | - | - | - |
| 2,8 | 218.786.028 | 218.785.028 | 218.784.028 | - | - | - |
| 3,5 | 218.786.035 | 218.785.035 | 218.784.035 | - | - | - |
| 4 | 218.786.040 | 218.785.040 | 218.784.040 | - | - | - |
| 4,5 | 218.786.045 | 218.785.045 | 218.784.045 | 218.783.045 | - | - |
| 6 | - | 218.785.060 | 218.784.060 | 218.783.060 | 218.770.220 | - |
| 6,3 | - | 218.785.063 | 218.784.063 | 218.783.063 | 218.771.220 | - |
| 7 | - | 218.785.070 | 218.784.070 | 218.783.070 | 218.772.220 | - |
| 8 | - | - | 218.784.080 | 218.783.080 | 218.773.220 | - |
| 9 | - | - | 218.784.090 | 218.783.090 | 218.774.220 | 218.808.090 |
| 10 | - | - | 218.784.100 | 218.783.100 | 218.775.220 | - |
| 11 | - | - | - | 218.783.110 | 218.776.220 | - |
| 11,2 | - | - | - | - | 218.777.220 | - |
| 12 | - | - | - | 218.783.120 | 218.778.220 | 218.808.120 |
| 12,5 | - | - | - | - | 218.779.220 | - |
| 14 | - | - | - | - | 218.780.220 | 218.808.140 |
| 16 | - | - | - | - | 218.781.220 | - |
| 18 | - | - | - | - | - | 218.808.180 |

Gewindebohrzangen ohne Längenausgleich

Tapping Collets without Axial Compensation



| | | | | | | |
|---------------------------|----------|----------|----------|----------|----------|--|
| Type | 428 E | 430 E | 470 E | 472 E | 474 E | für Gewindebohrer nach for Tappers acc. |
| Einh.-Nr. Standard No. | ER 20-GB | ER 25-GB | ER 32-GB | ER 40-GB | ER 50-GB | |

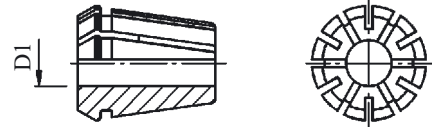
| D1 Ø | D2 □ | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | DIN 371 | DIN 374 | DIN 376 |
|---------|---------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------|----------|----------|
| 4,5 | 3,4 | 218.795.045 | 218.796.045 | 218.797.045 | - | | M4 | M6 | M6 |
| 5,5 | 4,3 | 218.795.055 | 218.796.055 | 218.797.055 | - | | - | M7 | M7 |
| 6 | 4,9 | 218.795.060 | 218.796.060 | 218.797.060 | - | | M4,5 M5 M6 | M8 | M8 |
| 7 | 5,5 | 218.795.070 | 218.796.070 | 218.797.070 | 218.798.070 | | M7 | M9, M10 | M9, M10 |
| 8 | 6,2 | 218.795.080 | 218.796.080 | 218.797.080 | 218.798.080 | | M8 | M11 | M11 |
| 9 | 7 | 218.795.090 | 218.796.090 | 218.797.090 | 218.798.090 | | M9 | M12 | M12 |
| 10 | 8 | 218.795.100 | 218.796.100 | 218.797.100 | 218.798.100 | | M10 | - | - |
| 11 | 9 | - | 218.796.110 | 218.797.110 | 218.798.110 | | - | M14 | M14 |
| 12 | 9 | - | 218.796.120 | 218.797.120 | 218.798.120 | | M12 | M16 | M16 |
| 14 | 11 | - | - | 218.797.140 | 218.798.140 | | - | M18 | M18 |
| 16 | 12 | - | - | 218.797.160 | 218.798.160 | | - | M20 | M20 |
| 18 | 14,5 | - | - | - | 218.798.180 | | - | M22, M24 | M22, M24 |
| 20 | 16 | - | - | - | 218.798.200 | | - | M27 | M27 |

Spannzangen

Collets

DIN 6499-B doppelseitig geschlitzt (Schaublin)

| ER Nenngröße DIN term | Einh.-Nr. Standard No. | Spann- bereich Range | D1* | steigend um mm increasing by | Artikel-Nr. Part No. |
|-----------------------------|------------------------------|----------------------------|-----------------------|------------------------------------|-------------------------|
| ER 8 | 4004 E | 0,5-5 | 1; ...; 5 | 0,5 | 218.585. __ |
| ER 11 | 4008 E | 0,5-7 | 1; ...; 7 | 0,5 | 218.595. __ |
| ER 16 | 426 E | 0,5-10 | 1; 2; ...; 10 | 0,5 1 | 218.605. __ |
| ER 20 | 428 E | 1 - 13 | 1; 1,5; 2; ...; 13 | 0,5 1 | 218.615. __ |
| ER 25 | 430 E | 1 - 16 | 1; 1,5; 2; ...; 16 | 0,5 1 | 218.600. __ |
| ER 32 | 470 E | 2 - 20 | 2; 2,5; 3; ...; 20 | 0,5 1 | 218.690. __ |
| ER 40 | 472 E | 3 - 26 | 3; 3,5; 4; ...; 26 | 0,5 1 | 218.610. __ |
| ER 50 | 474 E | 10 - 34 | 12; ...; 34 | 2 | 218.807. __ |



Bemerkung

__ Bei Bestellung bitte Spanndurchmesser angeben.

Bestellbeispiel: Spannzange 470 E, Spanndurchmesser = 16,0 mm : **218.690.160**

* größter Spanndurchmesser der jeweiligen Spannzange.

Remarks

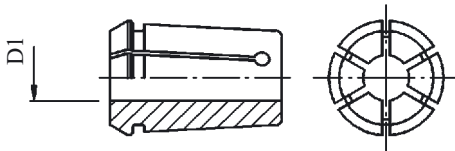
__ Please list clamping diameter when ordering.

Example of an order: Collet 470 E, clamping diameter = 16,0 mm : **218.690.160**

* maximum capacity of the corresponding collet.

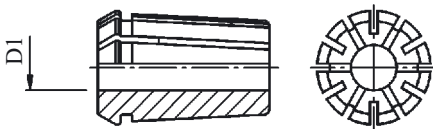
Spannzangen

Collets



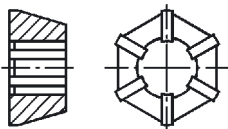
DIN 6388-A einfach geschlitzt (Ortlieb)

| Nenngröße DIN term | Einh.-Nr. Standard No. | Spann- bereich Range | D1* | steigend um mm increasing by | Artikel-Nr. Part No. |
|-----------------------|------------------------------|----------------------------|--------------|------------------------------------|-------------------------|
| NG 8 | 401 E | 1 - 8 | 1,5; ...; 8 | 0,5 | 218.505.____ |
| NG 10 | 404 E | 1 - 10 | 1,5; ...; 10 | 0,5 | 218.515.____ |
| NG 12 | 407 E | 1 - 12 | 1,5; ...; 12 | 0,5 | 218.525.____ |



DIN 6388-B doppelseitig geschlitzt (Ortlieb)

| Nenngröße DIN term | Einh.-Nr. Standard No. | Spann- bereich Range | D1* | steigend um mm increasing by | Artikel-Nr. Part No. |
|-----------------------|------------------------------|----------------------------|------------|------------------------------------|-------------------------|
| NG 16 | 415 E | 1,5-16 | 2; ...; 16 | 0,5 | 218.570.____ |
| NG 20 | 4541 E | 1,5-20 | 2; ...; 20 | 0,5 | 218.710.____ |
| NG 25 | 462 E | 1,5-25 | 2; ...; 25 | 0,5 | 218.530.____ |
| NG 32 | 467 E | 3,5-32 | 4; ...; 32 | 0,5 | 218.540.____ |
| NG 40 | 468 E | 7,5-40 | 8; ...; 40 | 0,5 | 218.550.____ |



DIN 6345 Rubber Flex

| Einh.-Nr. Standard No. | Spannbereich Range | Artikel-Nr. Part No. |
|---------------------------|-----------------------|-------------------------|
| J 444 | 1,8 - 4,5 | 218.620.220 |
| J 443 | 2,8 - 7 | 218.630.220 |
| J 441 | 4,5 - 10 | 218.635.220 |
| J 440 | 7 - 13 | 218.640.220 |

Bemerkung

- ___ Bei Bestellung bitte Spanndurchmesser angeben.
- ___ Bestellbeispiel: Spannzange 468 E, Spanndurchmesser = 20,5 mm : 218.550.205
- * größter Spanndurchmesser der jeweiligen Spannzange.

Remarks

- ___ Please list clamping diameter when ordering.
- ___ Example of an order: Collet 468 E, clamping diameter = 20,5 mm : 218.550.205
- * maximum capacity of the corresponding collet.

Spannzangen abgedichtet

Collets with Sealing

DIN 6499 doppelseitig geschlitzt

| ER Nenngröße DIN term | Einh.-Nr. Standard No. | Spann- bereich Range | steigend um mm increasing by | Artikel-Nr. Part No. |
|-----------------------------|------------------------------|----------------------------|------------------------------------|-------------------------|
| ER 11 | 4008 E | 3 - 7* | 0,5 | 218.800. __ |
| ER 16 | 426 E | 3 - 10* | 1,0 | 218.801. __ |
| ER 20 | 428 E | 3 - 13* | 1,0 | 218.802. __ |
| ER 25 | 430 E | 3 - 16* | 1,0 | 218.803. __ |
| ER 32 | 470 E | 3 - 20* | 1,0 | 218.804. __ |
| ER 40 | 472 E | 4 - 26* | 2,0 | 218.805. __ |
| ER 50 | 474 E | 12 - 34* | 2,0 | 218.806. __ |



Bemerkungen

__ Bei Bestellung bitte Spanndurchmesser angeben.

Bestellbeispiel: Spannzange 472 E, Spanndurchmesser = 12,7 mm : **218.805.127**

* **Achtung!** Spanndurchmesser muss Werkzeugdurchmesser sein.

Remarks

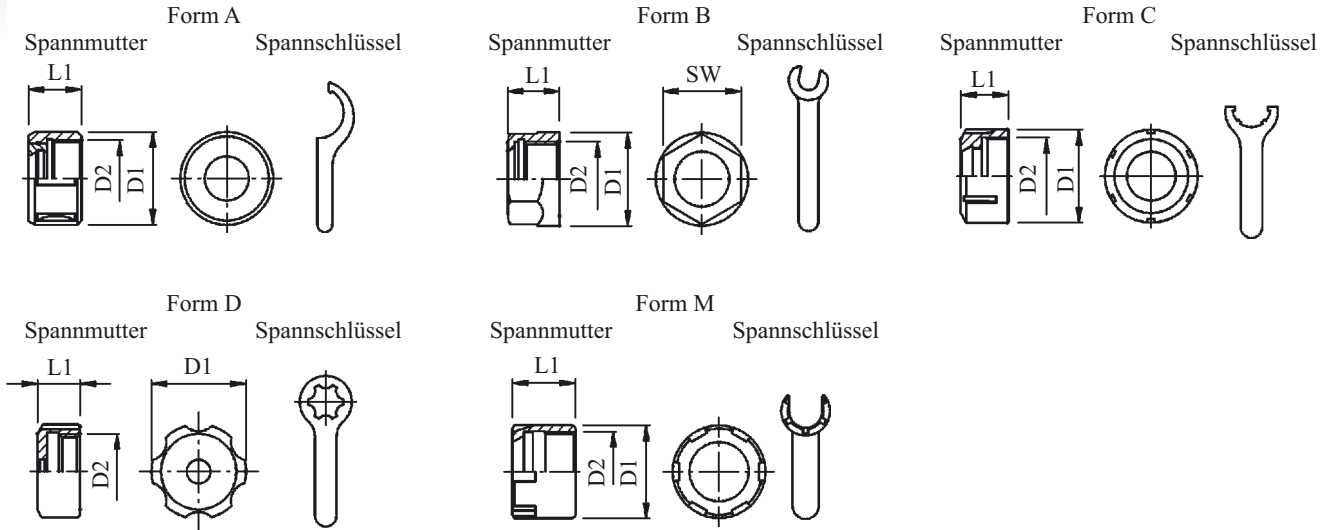
__ Please list clamping diameter when ordering.

Example of an order: Collet 472 E, clamping diameter = 12,7 mm : **218.805.127**

* **Important!** clamping and tooling diameter must be identical.

Spannmutter mit Innengewinde und Spannschlüssel

Collet Nuts with Internal Thread, Spanner Wrenches

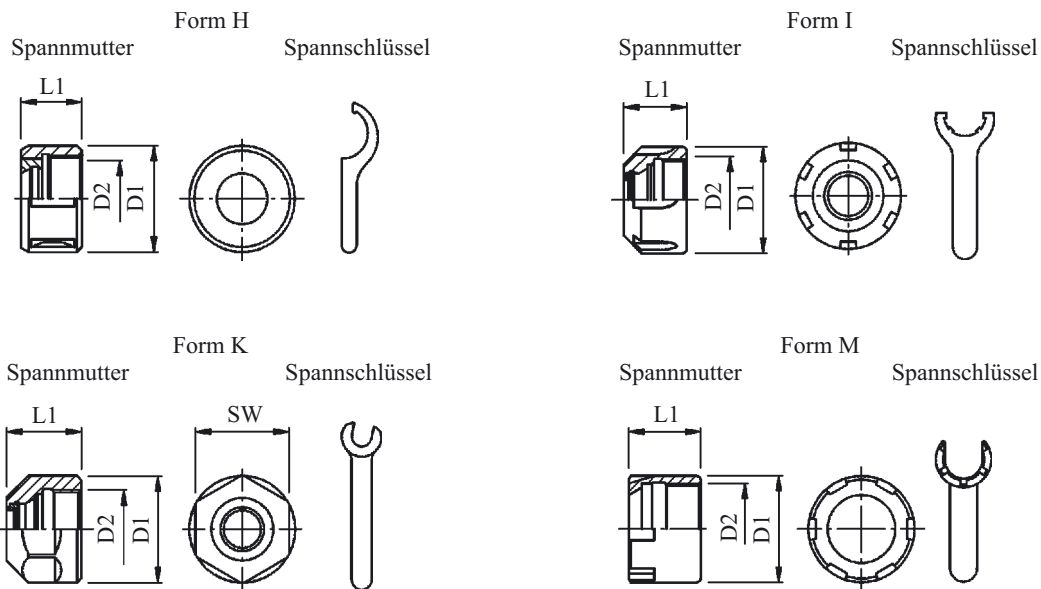


| für Spannzangen for Collets | | | Spannmuttern Collet Nuts | | | | Spannschlüssel Spanner Wrenches | | |
|--------------------------------|-----------------------|---------------------------|-----------------------------|----|-------|----------|------------------------------------|------|-------------------------|
| nach according | Nenngröße DIN term | Einh.-Nr. Standard No. | Bezeichnung Term | D1 | L1 | D2 | Artikel-Nr. Part No. | Form | Artikel-Nr. Part No. |
| DIN 6388 | NG 8 | 401 E | * OZ 1820 | 26 | 19 | M20x1,5 | 10089 | A | 10002 |
| DIN 6388 | NG 10 | 404 E | * OZ 1821 | 30 | 19 | M22x1,5 | 10090 | A | 10002 |
| DIN 6388 | NG 12 | 407 E | * OZ 1822 | 35 | 20 | M27x1,5 | 10091 | A | 10004 |
| DIN 6388 | NG 16 | 415 E | OZ 1823 | 43 | 24 | M33x1,5 | 10084 | A | 10005 |
| DIN 6388 | NG 20 | 454 E | OZ 1824 | 50 | 28 | M42x2,0 | 10088 | A | 10006 |
| DIN 6388 | NG 25 | 462 E | OZ 1825 | 60 | 30 | M48x2,0 | 10085 | A | 10008 |
| DIN 6388 | NG 32 | 467 E | OZ 1826 | 72 | 33,50 | M60x2,5 | 10086 | A | 10009 |
| DIN 6388 | NG 40 | 468 E | OZ 1827 | 85 | 37 | M68x2,5 | 10087 | A | 10010 |
| DIN 6499 | ER 11 | 424 E | ER 11 6 kt. | 19 | 12 | M14x0,75 | 10098 | B | 22294 (SW 17) |
| DIN 6499 | ER 16 | 426 E | ER 16 6 kt. | 28 | 18 | M22x1,5 | 10099 | B | 13573 (SW 25) |
| DIN 6499 | ER 16 | 426 E | ER 16/M | 22 | 18 | M19x1 | 10117 | M | 10022 |
| DIN 6499 | ER 20 | 428 E | ER 20/M | 28 | 19,5 | M24x1 | 12155 | M | 13797 |
| DIN 6499 | ER 20 | 428 E | ER 20 6 kt. | 34 | 19,5 | M25x1,5 | 10100 | B | 14793 (SW 30) |
| DIN 6499 | ER 25 | 430 E | ER 25/M | 35 | 21 | M30x1 | 13116 | M | 13115 |
| DIN 6499 | ER 25 | 430 E | ER 25 | 42 | 21 | M32x1,5 | 10095 | C | 10011 |
| DIN 6499 | ER 32 | 470 E | ER 32 | 50 | 23 | M40x1,5 | 10097 | C | 10012 |
| DIN 6499 | ER 32 | 470 E | ER 32/GM | 50 | 23 | M40x1,5 | 14389 | C | 10012 |
| DIN 6499 | ER 40 | 472 E | ER 40 | 63 | 28 | M50x1,5 | 10096 | C | 10013 |
| DIN 6499 | ER 40 | 472 E | ER 40/KM | 63 | 26 | M50x1,5 | 14426 | C | 10013 |
| DIN 6499 | ER 50 | 474 E | ER 50/GM | 78 | 38,1 | M64x2,0 | 12638 | C | 12740 |
| DIN 6345 Rubber Flex | | J444, J443 J441, J440 | OZ 3159 | 40 | 18 | M32x1,5 | 10092 | D | 10016 |

Bemerkungen / Remarks * einteilige Spannmutter / one part collet nut

Spannmuttern (dichtend) mit Innengewinde und Spannschlüssel für Werkzeuge mit innerer Kühlmittelzufuhr

Collet Nuts (Sealing) with Internal Thread for Tools with Internal Coolant Supply



| für Spannzangen for Collets | | | Spannmuttern Collet Nuts | | | | | | Spannschlüssel Spanner Wrenches | |
|--------------------------------|-----------------------|---------------------------|-----------------------------|---------------------------|------|----|----------|------|------------------------------------|--|
| nach according | Nenngröße DIN term | Einh.-Nr. Standard No. | Bezeichnung Term | Artikel-Nr. Part No. | L1 | D1 | D2 | Form | Artikel-Nr. Part No. | |
| DIN 6388 | NG 16 | 415 E | OZ 1823 | 10084 ¹⁾ | 24 | 43 | M33x1,5 | H | 10005 | |
| DIN 6388 | NG 20 | 454 E | OZ 1824 | 10088 ¹⁾ | 28 | 50 | M42x2,0 | H | 10006 | |
| DIN 6388 | NG 25 | 462 E | OZ 1825 | 10085 ¹⁾ | 30 | 60 | M48x2,0 | H | 10008 | |
| DIN 6388 | NG 32 | 467 E | OZ 1826 | 10086 ¹⁾ | 33,5 | 72 | M60x2,5 | H | 10009 | |
| DIN 6388 | NG 40 | 468 E | OZ 1827 | 10087 ¹⁾ | 37 | 85 | M68x2,5 | H | 10010 | |
| DIN 6499 | ER 25 | 430 E | ER 25/C | 15808 | 25 | 42 | M32x1,5 | I | 10011 | |
| DIN 6499 | ER 32 | 470 E | ER 32/C | 15810 | 27,5 | 50 | M40x1,5 | I | 10012 | |
| DIN 6499 | ER 40 | 472 E | ER 40/C | 15811 | 30,5 | 63 | M50x1,5 | I | 10013 | |
| DIN 6499 | ER 50 | 474 E | ER 50/GM | 12638 ¹⁾ | 38,1 | 78 | M64x2,0 | I | 12740 | |
| DIN 6499 | ER 11 | 424 E | ER 11/M | 219.090. __ ²⁾ | 14,6 | 16 | M13x0,75 | M | 14357 | |
| DIN 6499 | ER 16 | 426 E | ER 16/M | 15666 | 24 | 22 | M19x1,0 | M | 10022 | |
| DIN 6499 | ER 16 | 426 E | ER 16/C 6 kt. | 15805 | 22,5 | 28 | M22x1,5 | K | 13573 (SW 25) | |
| DIN 6499 | ER 20 | 428 E | ER 20/C 6 kt. | 15807 | 24 | 34 | M25x1,5 | K | 14793 (SW 30) | |
| DIN 6499 | ER 20 | 428 E | ER 20/M | 15667 | 24 | 28 | M24x1,0 | M | 13797 | |
| DIN 6499 | ER 25 | 430 E | ER 25/M | 15668 | 27 | 35 | M30x1,0 | M | 13115 | |

Bemerkungen / Remarks

¹⁾ Abgedichtete Spannzange verwenden / To use collets with Sealing

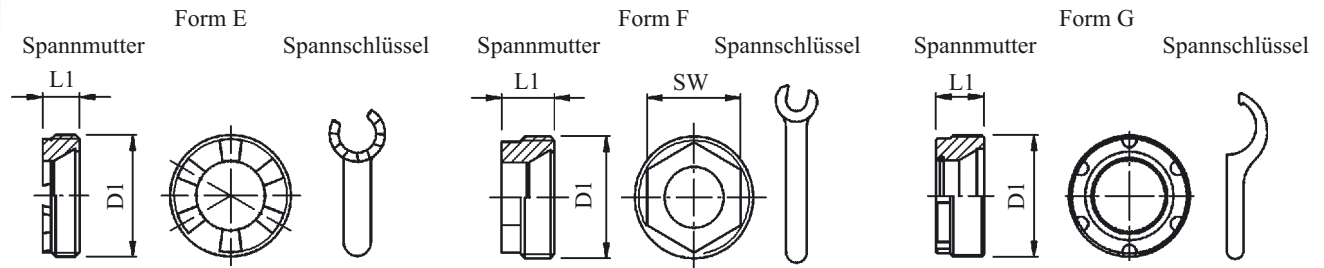
²⁾ Dichtung in Spannmutter integriert / Sealing rings for Collet Nuts integrated

Bei Bestellung bitte Durchmesser angeben: Durchmesser 3 mm = 219.090.030 (siehe Z4.1)

Please list clamping diameter when ordering: diameter 3 mm = 219.090.030 (see Z4.1)

Spannmutter mit Aussengewinde und Spannschlüssel

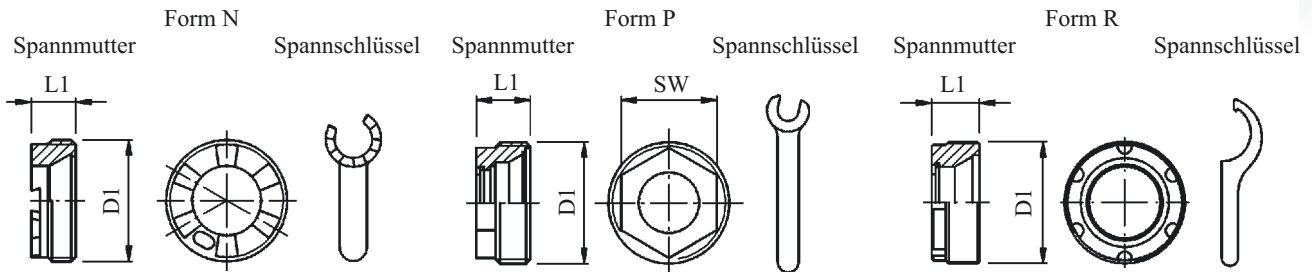
Collet Nuts with External Thread, Spanner Wrenches



| für Spannzangen for Collets | | | Spannmuttern Collet Nuts | | | | | Spannschlüssel Spanner Wrenches | |
|--------------------------------|-----------------------|---------------------------|-----------------------------|-------------------------|------|---------|------|------------------------------------|--|
| nach according | Nenngröße DIN term | Einh.-Nr. Standard No. | Bezeichnung Term | Artikel-Nr. Part No. | L1 | D1 | Form | Artikel-Nr. Part No. | |
| DIN 6499 | ER 11 | 424 E | ER 11 AX | 15386 | 7,5 | M18x1,0 | E | 15879 | |
| DIN 6499 | ER 16 | 426 E | ER 16 AX | 15387 | 7,6 | M24x1,0 | E | 15497 | |
| DIN 6499 | ER 20 | 428 E | ER 20 AX | 15388 | 8,5 | M28x1,5 | E | 15830 | |
| DIN 6499 | ER 25 | 430 E | ER 25 AX | 15389 | 8,8 | M32x1,5 | E | 15562 | |
| DIN 6499 | ER 32 | 470 E | ER 32 AX | 15674 | 9,8 | M40x1,5 | E | 15672 | |
| DIN 6499 | ER 40 | 472 E | ER 40 AX | 16138 | 11,7 | M50x1,5 | E | 16140 | |
| DIN 6499 | ER 11 | 424 E | ER 11 A 6 kt | 12590 | 8 | M18x1,0 | F | 16143 (SW 13) | |
| DIN 6499 | ER 16 | 426 E | ER 16 A 6 kt | 15806 | 11 | M24x1,0 | F | 16144 (SW 19) | |
| DIN 6499 | ER 20 | 428 E | ER 20 A 6 kt | 12364 | 12,5 | M28x1,5 | F | 14701 (SW 22) | |
| DIN 6499 | ER 25 | 430 E | ER 25 A 6 kt | 15809 | 14 | M32x1,5 | F | 15920 (SW 24) | |
| DIN 6499 | ER 32 | 470 E | ER 32 A 6 kt | 12946 | 17,7 | M40x1,5 | F | 15687 (SW 32) | |
| DIN 6499 | ER 40 | 472 E | ER 40 AC | 15812 | 20 | M50x1,5 | G | 10006 | |
| DIN 6499 | ER 50 | 474 E | ER 50 AK | 15309 | 27 | M68x1,5 | G | 10008 | |

Spannmuttern (dichtend) mit Aussengewinde und Spannschlüssel für Werkzeuge mit innerer Kühlmittelzufuhr

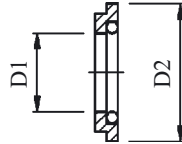
Collet Nuts (Sealing) with External Thread for Tools with Internal Coolant Supply



| für Spannzangen for Collets | | | Spannmuttern Collet Nuts | | | | | Spannschlüssel Spanner Wrenches |
|--------------------------------|-----------------------|---------------------------|-----------------------------|-------------------------|------|---------|------|------------------------------------|
| nach according | Nenngröße DIN term | Einh.-Nr. Standard No. | Bezeichnung Term | Artikel-Nr. Part No. | L1 | D1 | Form | Artikel-Nr. Part No. |
| DIN 6499 | ER 16 | 426 E | ER 16 AXC | 16020 | 12,5 | M24x1 | N | 15497 |
| DIN 6499 | ER 20 | 428 E | ER 20 AXC | 15922 | 13,5 | M28x1,5 | N | 15830 |
| DIN 6499 | ER 25 | 430 E | ER 25 AXC | 15737 | 13,8 | M32x1,5 | N | 15562 |
| DIN 6499 | ER 32 | 470 E | ER 32 AXC | 15626 | 14,9 | M40x1,5 | N | 15672 |
| DIN 6499 | ER 40 | 472 E | ER 40 AXC | 16139 | 16,6 | M50x1,5 | N | 16140 |
| DIN 6499 | ER 16 | 426 E | ER 16 AC 6 kt. | 15806 | 11 | M24x1,0 | P | 16144 (SW 19) |
| DIN 6499 | ER 20 | 428 E | ER 20 AC 6 kt. | 12364 | 12,5 | M28x1,5 | P | 14701 (SW 22) |
| DIN 6499 | ER 25 | 430 E | ER 25 AC 6 kt. | 15809 | 14 | M32x1,5 | P | 15920 (SW 24) |
| DIN 6499 | ER 32 | 470 E | ER 32 AC 6 kt. | 12946 | 17,7 | M40x1,5 | P | 15687 (SW 32) |
| DIN 6499 | ER 40 | 472 E | ER 40 AC | 15812 | 20 | M50x1,5 | R | 10006 |
| DIN 6499 | ER 50 | 474 E | ER 50 AC | 15309 | 27 | M68x1,5 | R | 10008 |

Dichtringe für Spannmutter mit Innen- oder Aussengewinde

Sealing Rings for Collet Nuts with Internal or External Thread



| Spannmutter Collet Nuts | | | | Dichtringe Sealing Rings | | | | | |
|----------------------------|--|---------------------------|--|-----------------------------|------------------|------|---------------------|-------------------------|----------------------------------|
| nach according | | Größe Size | Artikel-Nr. Part No. | Dichtbereich Range | D1 ²⁾ | D2 | Bezeichnung Term | Artikel-Nr. Part No. | Artikel-Nr. Satz Part No. set |
| DIN 6499 | | ER 11 M M13x0,75 | 219.090. __ | 2,5 – 7 | 2,5 ... 7 | - | ¹⁾ | 219.090. __ | 219.090.000 |
| DIN 6499 | | ER 16 C 6 kt. M22x1,5 | 15805 | 2,5 – 10 | 2,5 ... 10 | 13 | DS/ER 16 | 219.091. __ | 219.091.000 |
| DIN 6499 | | ER 16 M M19x1,0 | 15666 | 2,5 – 10 | 2,5 ... 10 | 13 | DS/ER 16 | 219.091. __ | 219.091.000 |
| DIN 6499 | | ER 16 AC 6 kt. M24x1,0 | 15806 | 2,5 – 10 | 2,5 ... 10 | 13 | DS/ER 16 | 219.091. __ | 219.091.000 |
| DIN 6499 | | ER 20 C 6 kt. M25x1,5 | 15807 | 2,5 – 13 | 2,5 ... 13 | 16 | DS/ER 20 | 218.713. __ | 218.713.000 |
| DIN 6499 | | ER 20 M M24x1,0 | 15667 | 2,5 – 13 | 2,5 ... 13 | 16 | DS/ER 20 | 218.713. __ | 218.713.000 |
| DIN 6499 | | ER 20 AC 6 kt. M28x1,5 | 12364 | 2,5 – 13 | 2,5 ... 13 | 16 | DS/ER 20 | 218.713. __ | 218.713.000 |
| DIN 6499 | | ER 25 C M32x1,5 | 15808 | 2,5 – 16 | 2,5 ... 16 | 21 | DS/ER 25 | 219.093. __ | 219.093.000 |
| DIN 6499 | | ER 25 M M30x1,0 | 15668 | 2,5 – 16 | 2,5 ... 16 | 21 | DS/ER 25 | 219.093. __ | 219.093.000 |
| DIN 6499 | | ER 25 AC 6 kt. M32x1,5 | 15809 | 2,5 – 16 | 2,5 ... 16 | 21 | DS/ER 25 | 219.093. __ | 219.093.000 |
| DIN 6499 | | ER 25 AXC M32x1,5 | 15737 | 2,5 – 16 | 2,5 ... 16 | 21 | DS/ER 25 | 219.093. __ | 219.093.000 |
| DIN 6499 | | ER 32 C M40x1,5 | 15810 | 2,5 – 20 | 2,5 ... 20 | 27 | DS/ER 32 | 219.094. __ | 219.094.000 |
| DIN 6499 | | ER 32 AC 6 kt. M40x1,5 | 12946 | 2,5 – 20 | 2,5 ... 20 | 27 | DS/ER 32 | 219.094. __ | 219.094.000 |
| DIN 6499 | | ER 32 AXC M40x1,5 | 15626 | 2,5 – 20 | 2,5 ... 20 | 27 | DS/ER 32 | 219.094. __ | 219.094.000 |
| DIN 6499 | | ER 40 C M50x1,5 | 15811 | 2,5 – 26 | 2,5 ... 26 | 33,5 | DS/ER 40 | 219.095. __ | 219.095.000 |
| DIN 6499 | | ER 40 AC M50x1,5 | 15812 | 2,5 – 26 | 2,5 ... 26 | 33,5 | DS/ER 40 | 219.095. __ | 219.095.000 |
| DIN 6499 | | ER 50 AC M65x1,5 | 18878 | 3,0 – 31 | 3; 4; .. 31 | 39,8 | DS/ER 50 | 219.140. __ | 219.140.000 |
| DIN 6499 | | ER 50 | Abgedichtete Spannzangen verwenden / to use collets with sealing | | | | | | |

Bemerkungen

__ Bei Bestellung bitte Durchmesser angeben. Bestellbeispiel: Dichtring DS/ER 25, Durchmesser D1 = 3 mm : **219.093.030**

¹⁾ Für DIN 6388 Abgedichtete Spannzangen (Typ NG) verwenden

²⁾ Dichtbereich z.B.: 2,5; 3; 3,5; 4; 4,5;

Remarks

__ Please list clamping diameter when ordering. Example of an order: Sealing rings DS/ER 25, diameter D1 = 3 mm : **218.093.030**

¹⁾ For DIN 6388 to use collets (Type NG) with sealing

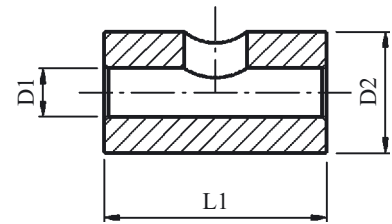
²⁾ Range Example: 2,5; 3; 3,5; 4; 4,5;

Reduzierbuchsen

Bushing

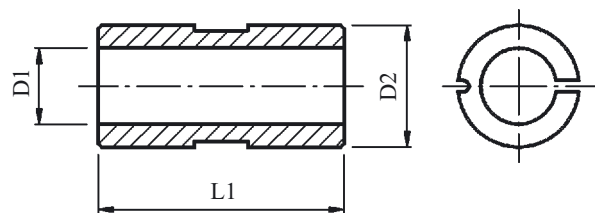
Ausführung A · Type A

| | | | | | |
|-----|-------------------------|-------------------------|------|-------------------------|-------------------------|
| D2 | 18 | 25 | D2 | 18 h6 | 25 h6 |
| L1 | 26 | 36 | L1 | 26 | 36 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 2,2 | | 218.246.220 | 7 | 218.854.220 | 118.237.220 |
| 2,5 | | 218.471.220 | 8 | 218.855.220 | 118.238.220 |
| 2,8 | | 218.247.220 | 9 | 218.856.220 | 118.239.220 |
| 3 | | 218.473.220 | 10 | 118.220.220 | 118.240.220 |
| 3,5 | 218.848.220 | 218.248.220 | 11 | | 118.241.220 |
| 4 | 218.849.220 | 118.234.220 | 12 | | 118.242.220 |
| 4,5 | 218.850.220 | 218.249.220 | 12,5 | 118.227.220 | 218.476.220 |
| 5 | 218.851.220 | 118.235.220 | 14 | 118.224.220 | 118.244.220 |
| 5,6 | 218.852.220 | 218.474.220 | 16 | 118.226.220 | 118.246.220 |
| 6 | | 118.236.220 | 18 | | 118.248.220 |
| 6,3 | 218.853.220 | 218.475.220 | 20 | | 118.250.220 |



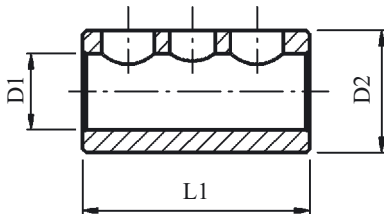
Ausführung B · Type B

| | | |
|----|-------------------------|-------------------------|
| D2 | 32 | 40 |
| L1 | 65 | 72 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 8 | 218.380.220 | 218.446.220 |
| 10 | 218.381.220 | 218.447.220 |
| 12 | 218.382.220 | 218.448.220 |
| 16 | 218.383.220 | 218.449.220 |
| 20 | 218.384.220 | 218.450.220 |
| 25 | 218.385.220 | 218.451.220 |
| 30 | | 218.452.220 |
| 32 | | 218.453.220 |



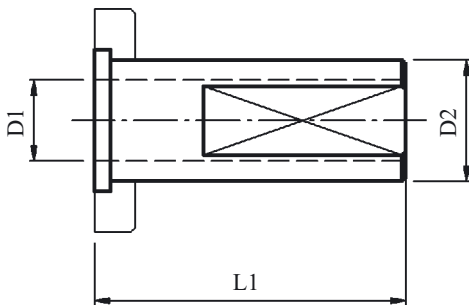
Reduzierbuchsen

Bushing



Ausführung C · Type C

| D2 | 32 | 40 | 50 | 32 |
|----|-------------------------|-------------------------|-------------------------|-------------------------|
| L1 | 60 | 75 | 85 | 60 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 6 | 218.858.220 | - | - | - |
| 8 | 218.862.220 | 218.868.220 | - | - |
| 10 | 218.863.220 | 218.869.220 | - | - |
| 12 | 218.864.220 | 218.870.220 | - | - |
| 16 | 218.865.220 | 218.871.220 | - | - |
| 20 | 218.866.220 | 218.872.220 | - | - |
| 25 | 218.867.220 | 218.873.220 | - | 218.882.220 |
| 32 | - | 218.874.220 | - | - |
| 40 | - | - | - | - |



für Verwendung mit Klemmring
DIN 69 880, Form Z1

for Use with Clamping Ring
DIN 69 880, Form Z1

Ausführung D · Type D

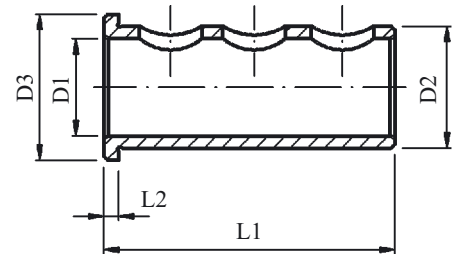
| D2 | 20 | 30 | 40 | 50 | 60 |
|-------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| L1 | 55 | 77 | 85 | 106 | 88 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| Klemmring Clamping Ring | 201.020.150 | 202.020.150 | 203.030.150 | 204.040.150 | 205.020.150 |
| 6 | 211.001.220 | - | - | - | - |
| 8 | 211.002.220 | - | - | - | - |
| 10 | 211.003.220 | 211.010.220 | 211.022.220 | - | - |
| 12 | 211.004.220 | 211.011.220 | 211.023.220 | - | - |
| 16 | 211.005.220 | 211.013.220 | 211.025.220 | - | - |
| 20 | - | 211.014.220 | 211.026.220 | 211.029.220 | - |
| 25 | - | 211.015.220 | 211.027.220 | 211.030.220 | 211.033.220 |
| 32 | - | - | 211.028.220 | 211.031.220 | 211.034.220 |
| 40 | - | - | - | 211.032.220 | 211.035.220 |
| 50 | - | - | - | - | 211.036.220 |

Reduzierbuchsen

Bushing

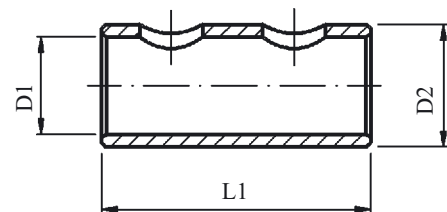
Ausführung E · Type E

| D2 | 16 | 25 | 32 | 50 | 1 1/4" |
|------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| D3 | 20 | 30 | 37 | 59 | 37 |
| L1 | 44 | 60 | 60 | 60 | 60 |
| L2 | 3 | 3 | 3 | 5,5 | 3 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 6 | - | 218.995.220 | 1012090 | - | - |
| 8 | - | 218.990.220 | 1012091 | - | - |
| 10 | 7.030.021 | 218.991.220 | 1012092 | 219.070.220 | - |
| 12 | 7.030.020 | 218.992.220 | 1012093 | 219.071.220 | - |
| 14 | - | - | 218.988.220 | - | - |
| 16 | - | 218.993.220 | 1012094 | 219.072.220 | - |
| 18 | - | - | 218.989.220 | - | - |
| 20 | - | 218.994.220 | 1012095 | 219.073.220 | - |
| 25 | - | - | 1012096 | 219.074.220 | - |
| 32 | - | - | - | 219.075.220 | - |
| 40 | - | - | - | 219.076.220 | - |
| 50 | - | - | - | - | - |
| 3/8" | - | - | - | - | 218.970.220 |
| 1/2" | - | - | - | - | 218.971.220 |
| 5/8" | - | - | - | - | 218.972.220 |
| 3/4" | - | - | - | - | 218.973.220 |
| 1" | - | - | - | - | 218.974.220 |



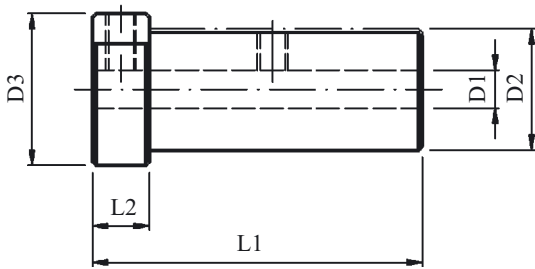
Ausführung F · Type F

| D2 | 16 | 40 | 50 |
|----|-------------------------|-------------------------|-------------------------|
| L1 | 36 | 61 | 75 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 6 | - | - | - |
| 8 | - | 219.030.220 | - |
| 10 | 7.040.119 | 219.031.220 | 219.020.220 |
| 12 | - | 219.032.220 | 219.021.220 |
| 16 | - | 219.033.220 | 219.022.220 |
| 20 | - | 219.034.220 | 219.023.220 |
| 25 | - | 219.035.220 | 219.024.220 |
| 32 | - | 219.036.220 | 219.025.220 |
| 40 | - | - | 219.026.220 |
| 50 | - | - | - |



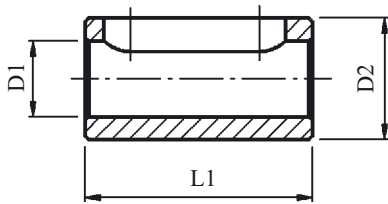
Reduzierbuchsen

Bushing



Ausführung G · Type G

| D2 | 32 | 32 |
|----|-------------------------|-------------------------|
| D3 | 40 | 40 |
| L1 | 87 | 82 |
| L2 | 15 | 10 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 8 | 218.945.220 | - |
| 10 | 218.946.220 | - |
| 12 | 218.947.220 | - |
| 16 | - | 218.948.220 |
| 20 | - | 218.949.220 |
| 25 | - | 218.950.220 |



Ausführung H · Type H

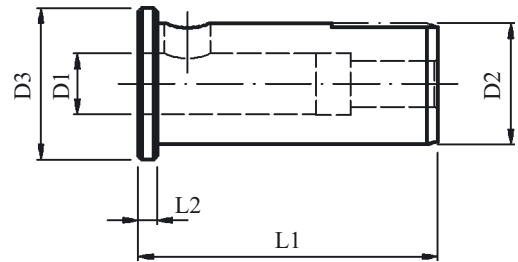
| D2 | 32 | 40 | 50 |
|----|-------------------------|-------------------------|-------------------------|
| L1 | | | 85 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 10 | - | - | 218.883.220 |
| 12 | - | - | 218.884.220 |
| 16 | - | - | 218.885.220 |
| 20 | - | - | 218.886.220 |
| 25 | - | - | 218.887.220 |
| 32 | - | - | 218.888.220 |
| 40 | - | - | 218.877.220 |

Reduzierbuchsen

Bushing

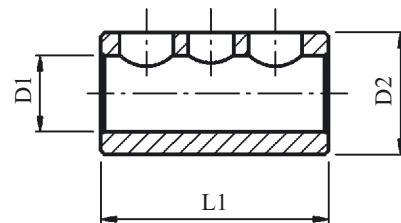
Ausführung I · Type I

| | | | |
|----|---------------------------------|---------------------------------|--|
| D2 | 32 | 32 | |
| D3 | 40 | 40 | |
| L1 | 79 | 92 | |
| L2 | 5 | 18 | |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | |
| 16 | 218.953.220 | - | |
| 20 | 218.954.220 | - | |
| 25 | - | 218.955.220 | |



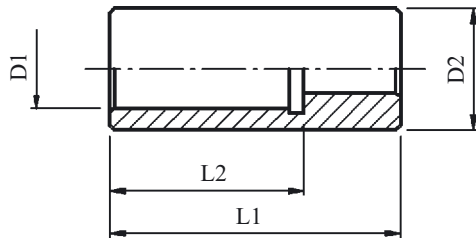
Ausführung K · Type K

| | | | |
|------|---------------------------------|----|---------------------------------|
| D2 | 1 1/4" | D2 | 1 1/2" |
| L1 | 60 | L1 | 85 |
| D1 | Artikel-Nr. Part No. | D1 | Artikel-Nr. Part No. |
| - | - | 6 | - |
| 3/8" | 218.927.220 | 8 | 218.920.220 |
| 1/2" | 218.928.220 | 10 | 218.921.220 |
| 5/8" | 218.929.220 | 12 | 218.922.220 |
| 3/4" | 218.930.220 | 16 | 218.923.220 |
| 7/8" | 218.931.220 | 20 | 218.924.220 |
| 1" | 218.932.220 | 25 | 218.925.220 |
| - | - | 32 | 218.926.220 |
| - | - | 40 | - |



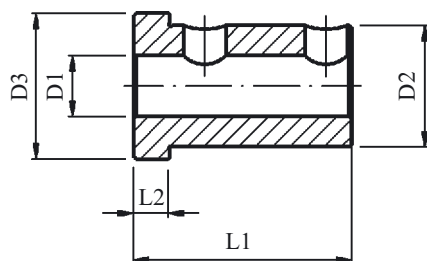
Reduzierbuchsen

Bushing



Ausführung L · Type L

| Spann-Ø D1 | Artikel-Nr. Part No. | D2 | L1 | L2 |
|---------------|-------------------------|----|----|----|
| 16 | 218.242.220 | 25 | 60 | 42 |
| 20 | 218.241.220 | 25 | 60 | 40 |



Ausführung M · Type M

| D2 | 40 | 40 |
|----|-------------------------|-------------------------|
| D3 | 48 | 48 |
| L1 | 72 | 88 |
| L2 | 12 | 10 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 8 | 219.050.220* | 219.010.220 |
| 10 | 219.051.220 | 219.011.220 |
| 12 | 219.052.220 | 219.012.220 |
| 16 | 219.053.220 | 219.013.220 |
| 20 | 219.054.220 | 219.014.220 |
| 25 | 219.055.220 | 219.015.220 |
| 32 | 219.056.220 | 219.016.220 |

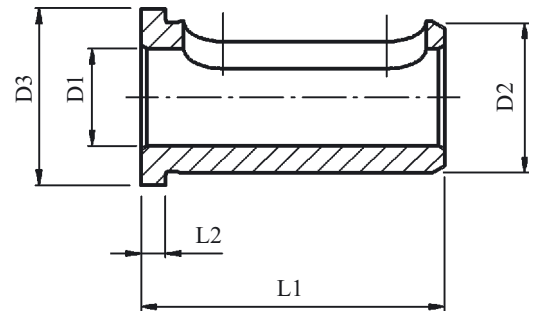
* Reduzierbuchse vorgezogen – stimmt nicht mit der Zeichnung überein.

Reduzierbuchsen

Bushing

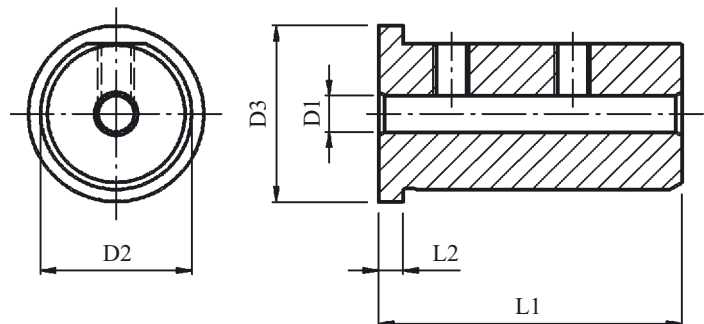
Ausführung N · Type N

| | | | |
|----|---------------------------------|---------------------------------|---------------------------------|
| D2 | 25 | 40 | 40 |
| D3 | 29 | 44 | 44 |
| L1 | 50 | 58 | 73,5 |
| L2 | 4 | 5 | 8 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 8 | - | - | 219.130.220 |
| 10 | - | - | 219.131.220 |
| 12 | - | - | 219.132.220 |
| 16 | 219.114.220 | 219.103.220 | 219.133.220 |
| 20 | 219.115.220 | 219.104.220 | 219.134.220 |
| 25 | - | 219.105.220 | 219.135.220 |
| 32 | - | 219.106.220 | 219.136.220 |



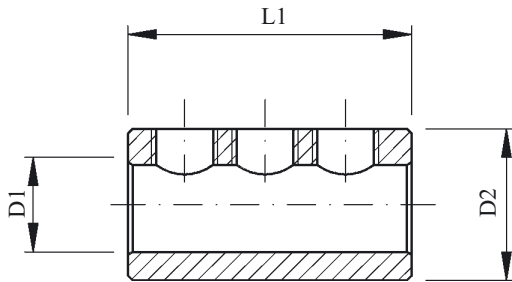
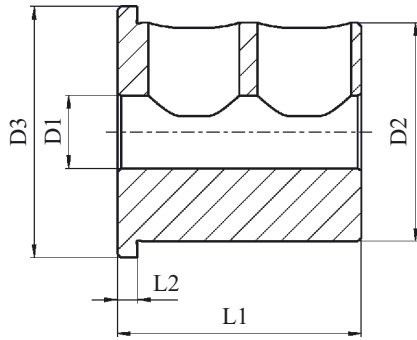
Ausführung P · Type P

| | | |
|----|---------------------------------|---------------------------------|
| D2 | 25 | 40 |
| D3 | 29 | 44 |
| L1 | 50 | 58 |
| L2 | 4 | 5 |
| D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 6 | 219.110.220 | - |
| 8 | 219.111.220 | 219.100.220 |
| 10 | 219.112.220 | 219.101.220 |
| 12 | 219.113.220 | 219.102.220 |



Reduzierbuchsen

Bushing



Ausführung R · Type R

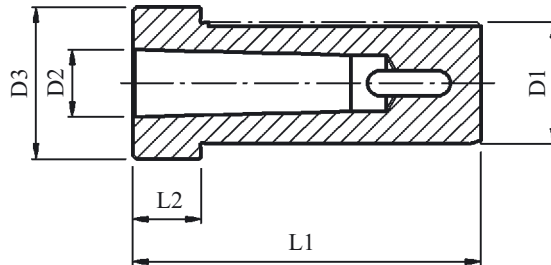
| | | |
|----|---------------------------------|--|
| D2 | 60 | |
| D3 | 69 | |
| L1 | 67 | |
| L2 | 5,5 | |
| D1 | Artikel-Nr. Part No. | |
| 10 | 219.080.220 | |
| 12 | 219.081.220 | |
| 16 | 219.082.220 | |
| 20 | 219.083.220 | |
| 25 | 219.084.220 | |
| 32 | 219.085.220 | |
| 40 | 219.086.220 | |
| 50 | 219.087.220 | |

Ausführung S · Type S

| | | |
|----|---------------------------------|--|
| D2 | 80 | |
| L1 | 130 | |
| D1 | Artikel-Nr. Part No. | |
| 25 | 219.163.220 | |
| 32 | 219.164.220 | |
| 40 | 219.165.220 | |
| 50 | 219.166.220 | |
| 60 | 219.167.220 | |

Reduzierhülse mit Morsekegel

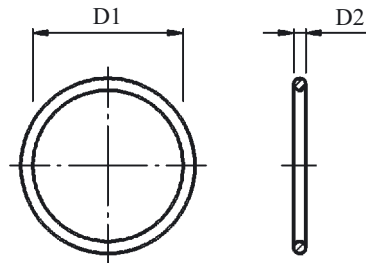
Taper Sleeves with Morse Taper



| D1 | (D2) MK-DK | L1 | Artikel-Nr. Part No. | Klemmring Form Z1 Clamping Ring Form Z1 | D3 | L2 |
|---------------|---------------|-----|-------------------------|--|----|----|
| 30 | 1 | 76 | 202.151.220 | 202.020.150 | | |
| 30 | 2 | 77 | 212.000.220 | 202.020.150 | | |
| 30 | 3 | 90 | 212.161.220 | 202.020.150 | | |
| 32 | 1 | 79 | 218.951.220 | - | 40 | 5 |
| 32 | 2 | 92 | 218.952.220 | - | 40 | 18 |
| 32 | 3 | 112 | 218.956.220 | - | 40 | 38 |
| 40 | 1 | 115 | 213.024.220 | 203.030.150 | | |
| 40 | 2 | 95 | 223.025.220 | 203.030.150 | | |
| 40 | 3 | 90 | 213.030.220 | 203.030.150 | | |
| 40 | 4 | 115 | 213.035.220 | 203.030.150 | | |
| 40 | 1 | 79 | 219.057.220 | - | 48 | 9 |
| 40 | 2 | 92 | 219.058.220 | - | 48 | 22 |
| 40 | 3 | 112 | 219.059.220 | - | 48 | 42 |
| 50 | 2 | 118 | 214.040.220 | 204.040.150 | | |
| 50 | 3 | 118 | 214.045.220 | 204.040.150 | | |
| 50 | 4 | 118 | 214.050.220 | 204.040.150 | | |
| 60 | 3 | 150 | 215.015.220 | 205.020.150 | | |
| 60 | 4 | 150 | 215.020.220 | 205.020.150 | | |
| 60 | 5 | 150 | 215.025.220 | 205.020.150 | | |
| 1 1/4" | 1 | 79 | 218.957.220 | - | 40 | 5 |
| 1 1/4" | 2 | 92 | 218.958.220 | - | 40 | 18 |
| 1 1/4" | 3 | 112 | 218.959.220 | - | 40 | 38 |

O-Ring

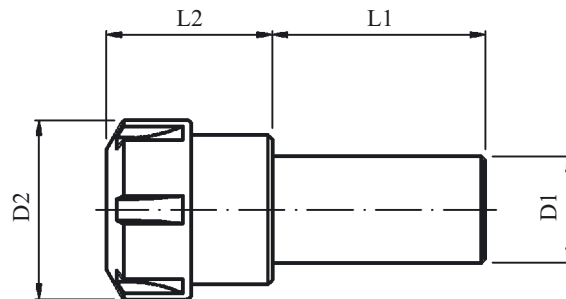
Sealing Ring



| Für Schaft-Ø for Shaft-Ø | Artikel-Nr. Part No. | Abmessung D1 x D2 Dimension D1 x D2 |
|-----------------------------|-------------------------|--|
| 16 | 11094 | Ø15,00 x 1,50 |
| 20 | 11126 | Ø18,77 x 1,78 |
| 25 | 11128 | Ø23,52 x 1,78 |
| 30 | 11131 | Ø28,30 x 1,78 |
| 40 | 11219 | Ø37,77 x 2,62 |
| 50 | 11212 | Ø47,29 x 2,62 |
| 60 | 11236 | Ø56,74 x 3,53 |

Spannzangenfutter mit Zylinderschaft

Collet Chuck with Cylindrical Shank

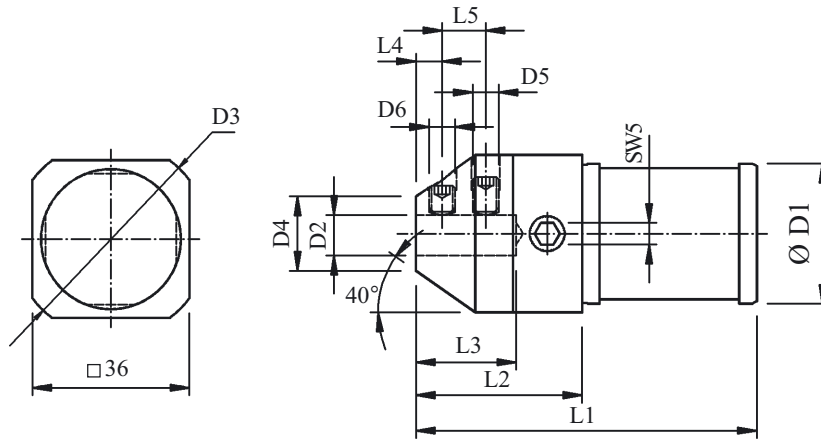


| D1 | Für Spannzangen for Collets | | | Artikel-Nr. Part No. | D2 | L1 | L2 |
|----|--------------------------------|-----------------------|-------------------|-------------------------|----|----|----|
| | Spannbereich Range | Nenngröße DIN term | nach according | | | | |
| 25 | 0,5 - 16 | ER 25 | DIN 6499 | 218.944.220 | 42 | 50 | 39 |
| 32 | 0,5 - 16 | ER 25 | DIN 6499 | 218.942.220 | 42 | 75 | 20 |
| 32 | 1,5 - 20 | ER 32 | DIN 6499 | 218.943.220 | 50 | 60 | 39 |
| 32 | 3,0 - 26 | ER 40 | DIN 6499 | 218.939.220 | 63 | 60 | 39 |
| 40 | 1,5 - 20 | ER 32 | DIN 6499 | 218.940.220 | 50 | 80 | 25 |
| 40 | 3,0 - 26 | ER 40 | DIN 6499 | 218.941.220 | 63 | 75 | 37 |

Bemerkungen / Remarks Spannmutter siehe Z 3.1 Form C / Collet Nut see Z 3.1 Type C

Nutstosshalter mit Zylinderschaft

Shaping Tool with Cylindrical Shank

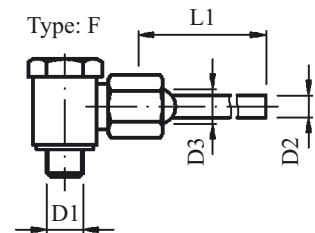
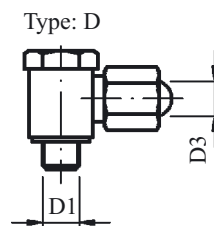
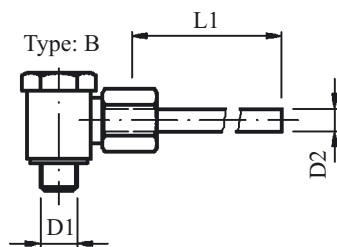
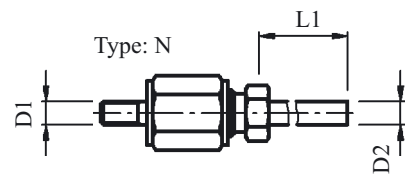
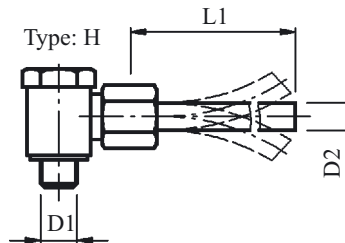
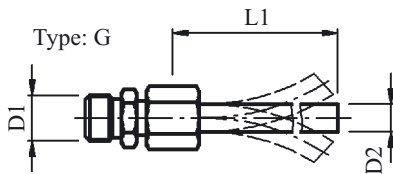
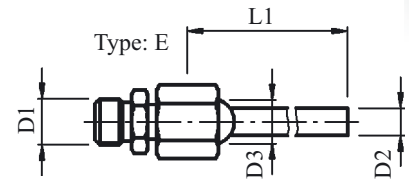
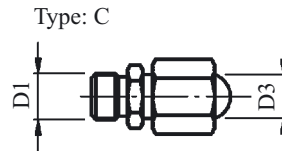
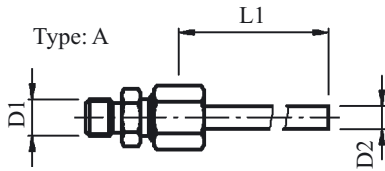


| Größe/Size D1 | Artikel-Nr. Part No. | D2 | D3 | D4 | D5 | D6 | L1 | L2 | L3 | L4 | L5 |
|------------------|-------------------------|----|----|----|------|------|----|----|----|----|----|
| 32 | 7.030.675 | 7 | 45 | 10 | M5x8 | M5x6 | 80 | 40 | 25 | 6 | 10 |
| 32 | 7.030.670 | 10 | 45 | 17 | M6x8 | M6x6 | 78 | 38 | 23 | 6 | 10 |

Bemerkungen / Remarks Siehe Eppinger Montage und Bedienungsanleitung für Nutstosshalter NSH auf Eppinger Homepage (www.eppinger.de)
See Eppinger Manual (Assembling and Handling) for Shaping Tool at the Eppinger Homepage (www.eppinger.de)

Rohrverschraubungen

Coolant Tubes

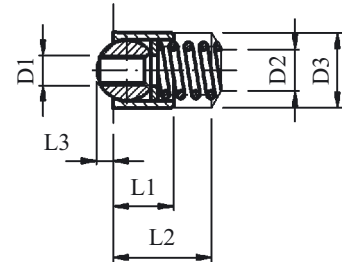


| D1 | Type Type | D2 | D3 Kugeldüse Nozzle | L1 | Artikel-Nr. Part No. |
|--------|--------------|-----------------|---------------------------|-----|-------------------------|
| M 8x1 | A | Ø6 | - | 90 | 218.844.220 |
| M 8x1 | B | Ø5 | - | 60 | 218.845.220 |
| M 8x1 | G | Ø6 (flex. Rohr) | - | 100 | 0.000.398 |
| M 8x1 | H | Ø6 (flex. Rohr) | - | 100 | 0.000.400 |
| M 10x1 | A | Ø6 | - | 90 | 218.469.220 |
| M 10x1 | B | Ø6 | - | 90 | 218.468.220 |
| M 10x1 | G | Ø6 (flex. Rohr) | - | 100 | 0.000.407 |
| M 10x1 | H | Ø6 (flex. Rohr) | - | 100 | 0.000.412 |
| M 10x1 | A | Ø8 | - | 100 | 218.445.220 |
| M 10x1 | B | Ø8 | - | 100 | 218.460.220 |
| M 10x1 | C | - | Ø10 (M 6) | - | 218.825.220 |
| M 10x1 | D | - | Ø10 (M 6) | - | 218.824.220 |
| M 10x1 | E | Ø6 | Ø10 (M 6) | 90 | 0.000.135 |
| M 10x1 | F | Ø6 | Ø10 (M 6) | 90 | 0.000.366 |
| M 4 | - | Ø4 | - | 100 | 0.001.159 |

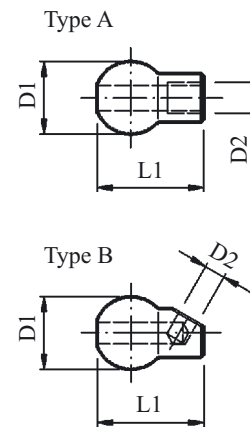
Kugeldüsen

Nozzle Unit

| Kugel Ball | D1 | Artikel-Nr. Part No. | D2 | D3 +0,03 | L1 | L2 | L3 |
|---------------|-----|-------------------------|-----|----------|----|----|-----|
| Ø8 | M 4 | 218.180.000 | 5,5 | 9,88 | 8 | 13 | 2,2 |
| Ø10 | M 6 | 218.181.000 | 6,8 | 11,88 | 10 | 15 | 3 |
| Ø12 | M 6 | 218.182.000 | 6,8 | 13,88 | 12 | 17 | 4 |



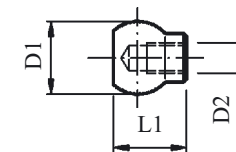
| Kugel D1 Ball D1 | Type Type | D2 | L1 | Artikel-Nr. Part No. |
|---------------------|--------------|------|------|-------------------------|
| Ø12 | A | M 5 | 17,5 | 7.070.066 |
| Ø12 | B | Ø3,5 | 17,5 | 7.070.067 |
| Ø15 | A | M 6 | 20 | 7.070.052 |
| Ø15 | B | Ø3,8 | 20 | 7.070.053 |



Verschlussstücke

Nozzle Unit

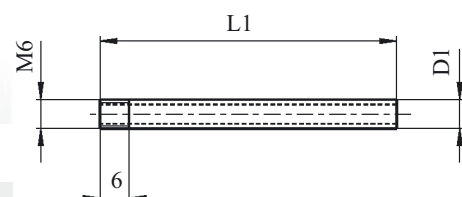
| Kugel D1 Ball D1 | Artikel-Nr. Part No. | D2 | L1 |
|---------------------|-------------------------|-----|----|
| Ø12 | 7.070.065 | M 5 | 12 |
| Ø15 | 7.070.051 | M 5 | 17 |



Rohr

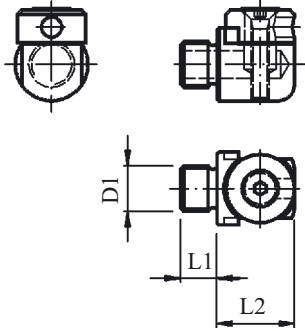
Pipe

| Rohr D1 Pipe D1 | Artikel-Nr. Part No. | L1 |
|--------------------|-------------------------|------|
| Ø6 | 0.000.490 | 61,5 |
| Ø6 | 0.000.134 | 90 |



Ringdüsen

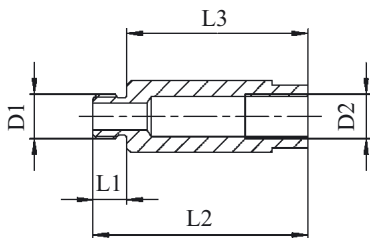
Nozzle Unit



| D1 | Artikel-Nr. Part No. | L1 | L2 |
|--------|-------------------------|----|----|
| M 8x1 | 0.000.377 | 8 | 14 |
| M 10x1 | 0.000.378 | 8 | 17 |

Verlängerung für Ringdüsen

Nozzle Unit



| D1 | Artikel-Nr. Part No. | L1 | L2 | L3 | D2 |
|--------|-------------------------|------|----|------|--------|
| M 8x1 | 7.071.299 | 10,5 | 20 | 9,5 | M 8x1 |
| M 8x1 | 7.071.084 | 7,5 | 30 | 22,5 | M 8x1 |
| M 10x1 | 7.040.524 | 7,5 | 32 | 24,5 | M 10x1 |
| M 10x1 | 7.071.083 | 7,5 | 48 | 40,5 | M 10x1 |

Mitnehmer für Gewindebohrer

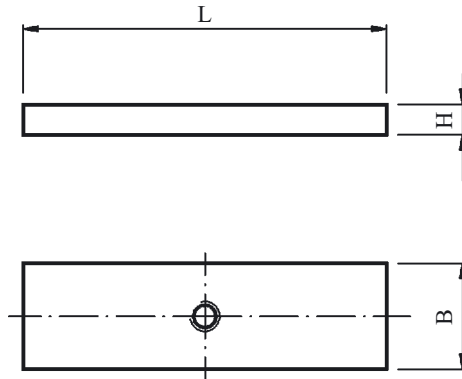
Drivers for Tap



| | | | | | | | | |
|--|-------------------------|-------------------------|-------------------------|-------------------------|------------|-----------|----------|--|
| | 8.010 | 221.390.220 | | | | | | |
| | 8.011 | 227.390.220 | | | | | | |
| | 8.206 | 8.202 | | | | | | |
| | 9.028 | 8.410 | | | | | | |
| | 9.029 | 8.411 | 8.610 | | | | | |
| | 9.030 | 8.412 | 8.611 | | | | | |
| | 9.031 | 9.208 | 9.628 | | | | | |
| Für Wkz.-Nr. for Tool No. | 9.032 | 9.209 | 9.629 | 222.390.220 | | | | für Gewindebohrer nach for Tappers acc. |
| | 9.033 | 9.428 | 9.630 | 223.390.220 | | | | |
| | 9.034 | 9.429 | 9.631 | 224.390.220 | | | | |
| | 9.035 | 9.430 | 9.632 | | | | | |
| | 9.036 | 9.431 | 9.633 | | | | | |
| | 9.037 | 9.432 | 9.634 | | | | | |
| | 9.225 | 9.433 | 9.635 | | | | | |
| | 9.226 | 9.434 | | | | | | |
| | 9.436 | 9.435 | | | | | | |
| | 9.437 | 9.636 | | | | | | |
| | 9.447 | 9.637 | | | | | | |
| | 9.448 | | | | | | | |
| □ | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. | DIN 371 | DIN 374 | DIN 376 | Schaft- Ø Shank Dia. |
| 2,7 | 0.000.010 | 0.000.137 | 0.000.024 | - | M 3 | M 5 | M4,5/M 5 | 3,5 |
| 3 | 0.000.011 | 0.000.138 | 0.000.025 | - | M 3,5 | - | - | 4 |
| 3,4 | 0.000.012 | 0.000.139 | 0.000.026 | 218.826.220 | M 4 | M 6 | M 6 | 4,5 |
| 4,9 | 0.000.013 | 0.000.140 | 0.000.027 | 218.827.220 | M4,5/M5/M6 | M 8 | M 8 | 6 |
| 5,5 | - | 0.000.141 | 0.000.028 | 218.828.220 | M 7 | M9/M10 | M9/M10 | 7 |
| 6,2 | - | 0.000.142 | 0.000.029 | 218.829.220 | M 8 | M 11 | M 11 | 8 |
| 7 | - | - | 0.000.030 | 218.830.220 | M 9 | M 12 | M 12 | 9 |
| 8 | - | - | - | 218.831.220 | M 10 | - | - | 10 |
| 9 | - | - | 0.000.228 | 218.832.220 | M 12 | M14/15/16 | M14/M16 | 12 |
| 11 | - | - | - | 218.833.220 | - | M 18 | M 18 | 14 |
| 12 | - | - | - | 218.834.220 | - | M 20 | M 20 | 16 |
| Artikel.Nr. Satz Part No. set | 0.000.130 | 0.000.136 | 0.000.132 | 218.890.220 | - | - | - | - |

Unterlegplatten für kleinere Drehmeissel

Adapter for smaller Lathe Chisel

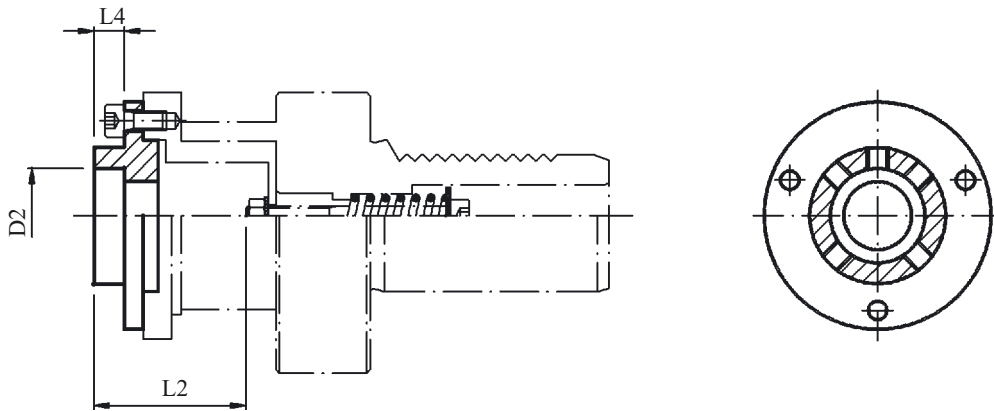


| Artikel-Nr. Part No. | H | L | B |
|-------------------------|---|-----|----|
| 218.328.220 | 4 | 38 | 14 |
| 218.330.220 | 4 | 48 | 14 |
| 218.329.220 | 4 | 54 | 14 |
| 218.275.220 | 4 | 55 | 12 |
| 218.280.220 | 4 | 69 | 16 |
| 218.331.220 | 4 | 73 | 14 |
| 218.281.220 | 4 | 99 | 16 |
| 218.286.220 | 5 | 84 | 20 |
| 218.288.220 | 5 | 117 | 20 |
| 218.290.220 | 7 | 99 | 25 |
| 218.031.220 | 7 | 120 | 25 |
| 218.291.220 | 7 | 129 | 25 |
| 218.349.220 | 7 | 143 | 25 |

| Artikel-Nr. Part No. | H | L | B |
|-------------------------|------|-----|----|
| 218.477.220 | 1/8" | 38 | 14 |
| 218.478.220 | 1/8" | 48 | 14 |
| 218.479.220 | 1/8" | 54 | 14 |
| 218.480.220 | 1/8" | 55 | 12 |
| 218.481.220 | 1/8" | 69 | 16 |
| 218.482.220 | 1/8" | 73 | 14 |
| 218.483.220 | 1/8" | 75 | 12 |
| 218.484.220 | 1/8" | 99 | 16 |
| 218.485.220 | 1/4" | 84 | 20 |
| 218.486.220 | 1/4" | 117 | 20 |
| 218.487.220 | 1/4" | 99 | 25 |
| 218.488.220 | 1/4" | 120 | 25 |
| 218.489.220 | 1/4" | 129 | 25 |
| 218.490.220 | 1/4" | 143 | 25 |

Einsätze für Schneideisenhalter

Inserts for Extensible Die Holder

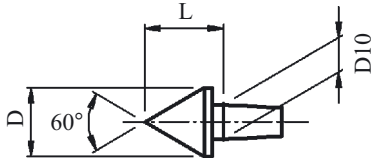


| Artikel-Nr. Part No. | Für Gewinde nach DIN 13 for Thread | Für Feingewinde nach DIN 13 for fine Thread | Abmessungen Dimensions | | max. Gewindelänge max. Thread Length | | |
|-------------------------|--|---|---------------------------|----|---|-------------------|-------------------|
| | | | Aussen- Ø D2 | L4 | 241.335.220 L2 | 242.335.220 L2 | 243.335.220 L2 |
| 113.406.220 | M1 - M2,6 | - | 16 | 5 | 18 | - | - |
| 113.408.220 | M3 - M4 | M3 - M6 | 20 | 6 | 24,2 | - | - |
| 113.410.220 | M4,5 - M6 | M6 | 20 | 7 | 24,2 | - | - |
| 113.412.220 | M7 - M9 | M7 - M9 | 25 | 9 | 26,2 | - | - |
| 113.414.220 | M10 - M11 | M10 - M11 | 30 | 11 | 27,2 | - | - |
| 115.406.220 | M1 - M2,6 | - | 16 | 5 | - | 37 | 38 |
| 115.408.220 | M3 - M4 | M3 - M6 | 20 | 5 | - | 37 | 38 |
| 115.410.220 | M4,5 - M6 | M6 | 20 | 7 | - | 39 | 40 |
| 115.412.220 | M7 - M9 | M7 - M9 | 25 | 9 | - | 41 | 42 |
| 115.414.220 | M10 - M11 | M10 - M11 | 30 | 11 | - | 38 | 39 |
| 115.416.220 | - | M12 - M14 | 38 | 10 | - | 42 | 43 |
| 115.418.220 | M12 - M14 | - | 38 | 14 | - | 46 | 47 |
| 115.436.220 | - | M16 - M20 | 45 | 14 | - | 51 | 52 |
| 115.438.220 | M16 - M20 | - | 45 | 18 | - | 55 | 56 |
| 115.440.220 | - | M22 - M24 | 55 | 16 | - | 53 | 54 |
| 115.442.220 | M22 - M24 | - | 55 | 22 | - | 59 | 60 |

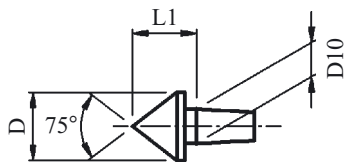
Zentriereinsätze für Zentrierspitze, mitlaufend

Centering Inserts for Revolving Center Point

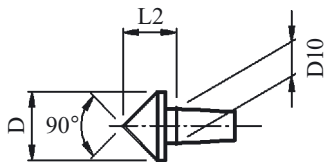
Type 1



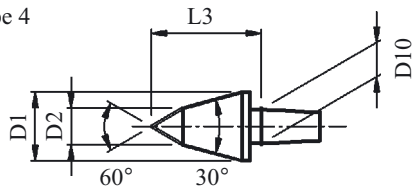
Type 2



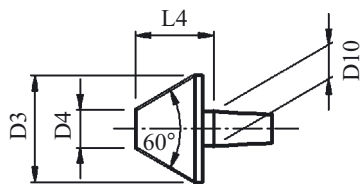
Type 3



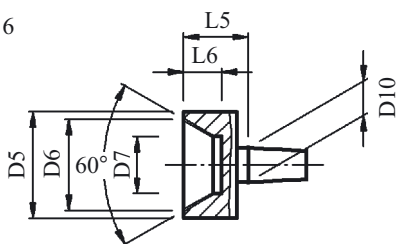
Type 4



Type 5



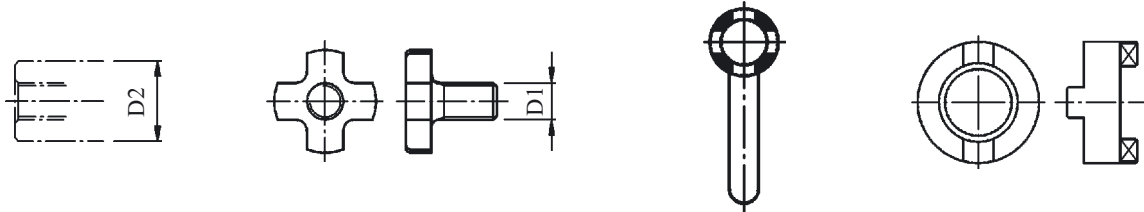
Type 6



| Zentrierspitze Artikel-Nr. Part No. Revolving Center Point | 241.201.220 | 242.201.220 | 243.201.220 |
|--|-------------------------|-------------------------|-------------------------|
| Schaft- Ø | 20 | 30 | 40 |
| D | 16 | 20 | 24 |
| D1 | 14 | 18 | 18 |
| D2 | 6 | 8 | 8 |
| D3 | 25 | 35 | 45 |
| D4 | 10 | 15 | 25 |
| D5 | 25 | 35 | 45 |
| D6 | 20 | 30 | 40 |
| D7 | 10 | 15 | 25 |
| D10 Kegel 1:10 | 7 | 12 | 12 |
| L | 20 | 24 | 27,5 |
| L1 | 17 | 19,5 | 22,5 |
| L2 | 14,5 | 16,5 | 19 |
| L3 | 25 | 30 | 30 |
| L4 | 21 | 26 | 27 |
| L5 | 18 | 24 | 25 |
| L6 | 11 | 16 | 16 |
| Type | Artikel-Nr. Part No. | Artikel-Nr. Part No. | Artikel-Nr. Part No. |
| 1 | 218.916.021 | 218.916.031 | 218.916.041 |
| 2 | 218.916.022 | 218.916.032 | 218.916.042 |
| 3 | 218.916.023 | 218.916.033 | 218.916.043 |
| 4 | 218.916.024 | 218.916.034 | 218.916.044 |
| 5 | 218.916.025 | 218.916.035 | 218.916.045 |
| 6 | 218.916.026 | 218.916.036 | 218.916.046 |
| Austreiber | 218.916.020 | 218.916.030 | 218.916.040 |

Fräseranzugsschraube, Schlüssel und Mitnehmerring

Clamping Bolt, Wrench and Driver Ring

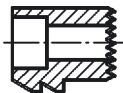


| Fräserdornaufnahme DIN 6358 Chuck for Cutter Arbor | Fräseranzugschraube Clamping Bolt | | Schlüssel Wrench | Mitnehmerring Driver Ring | |
|--|--------------------------------------|-------------------------|-------------------------|------------------------------|-------------------------|
| D2 | D1 | Artikel-Nr. Part No. | Artikel-Nr. Part No. | D3 | Artikel-Nr. Part No. |
| Ø16 | M8 | 11380 | 10023 | Ø16 | 11376 |
| Ø22 | M10 | 11381 | 10024 | Ø22 | 11377 |
| Ø27 | M12 | 14416 | 14451 | Ø27 | 14415 |
| Ø32 | M16 | 11382 | 10025 | Ø32 | 11378 |
| Ø1/2 " | 1/4"- 28 UNF | 0.001.029 | 0.001.032 | - | - |
| Ø3/4 " | 3/8"- 24 UNF | 0.001.030 | 10023 | - | - |
| Ø1 " | 1/2"- 20 UNF | 0.001.031 | 10024 | - | - |

Satz Backen für Greiferfutter



Set Jaw for Bar Puller

| Artikel-Nr. Part No. | Stangen- Ø |
|-------------------------|------------|
| 218.985.220 | 4 - 20 |
| 218.986.220 | 15 - 68 |




Spannschlüssel für Werkzeughalterspindel


Spanner Wrenches for Toolholder Spindle

|  | Artikel-Nr. Part No. |  | Artikel-Nr. Part No. |
|---|-------------------------|---|-------------------------|
| 16 - 20 | 12885 | 45 - 50 | 10006 |
| 20 - 22 | 13310 | 52 - 55 | 10007 |
| 25 - 28 | 10002 | 58 - 62 | 10008 |
| 30 - 32 | 10003 | 68 - 75 | 10009 |
| 34 - 36 | 10004 | 80 - 90 | 10010 |
| 40 - 42 | 10005 | 95 - 100 | 15230 |



|  | Artikel-Nr. Part No. |
|---|-------------------------|
| 40 - 42 | 0.000.389 |
| 45 - 50 | 0.000.361 |
| 45 - 50 | 0.000.443 |
| 45 - 50 | 0.000.451 |
| 52 - 55 | 0.000.413 |
| 52 - 55 | 0.000.442 |

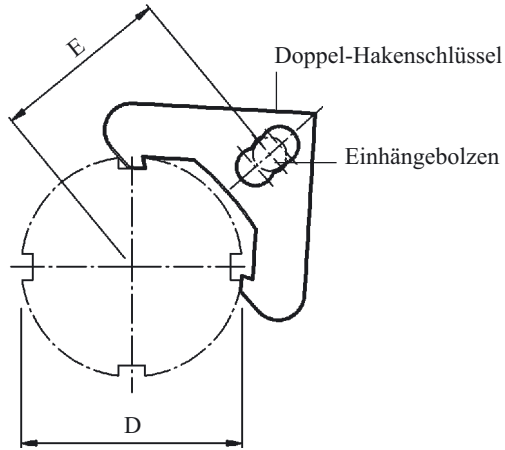


|  | Artikel-Nr. Part No. |
|---|-------------------------|
| 52 - 75 | 0.000.349 |



Doppel-Hakenschlüssel für Werkzeughalterspindel

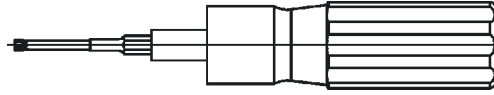
Double Hook Wrench for Toolholder Spindle



| D | E | Artikel-Nr. Part No. |
|---------|-------------|-------------------------|
| 40 - 46 | 36,4 - 41,8 | 0.001.071 |
| 48 - 60 | 34,6 - 51,7 | 0.000.468 |
| 62 - 74 | 43,2 - 60,6 | 0.000.993 |
| 76 - 90 | 51,7 - 71,0 | 0.000.994 |
| 92 - 98 | 59,5 - 72,2 | 0.000.995 |

Drehmoment-Schraubendreher für Capto

Torque-screwdriver



Für angetriebene Werkzeughalter
For Rotary Tool Holders

| Größe/Size | Artikel-Nr. Part No. | Nm | TORX |
|------------|-------------------------|----|------|
| C3 | 0.001.886 | 5 | T15 |
| C4 | 0.001.792 | 9 | T20 |
| C5 | - | | |



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