



DIN 69871-A

| | |
|--|------------------|
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| Technical information Technische Auskünfte | I29 |
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| Sets Sätze | I63 |
| Special tool request Sonderwerkzeug-Anfrage | I76 |



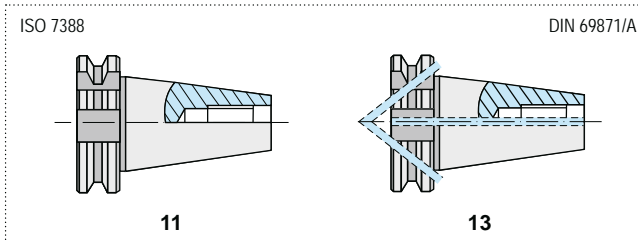
Code system / Kodifizierung

A **11** **160** **30** **16**

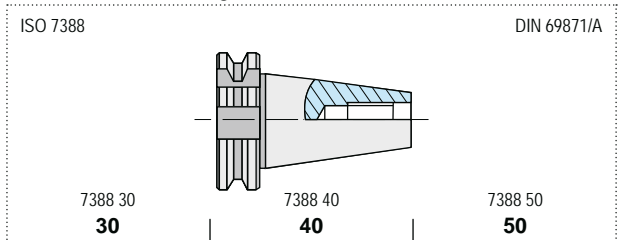
***** **1** **2** **3** **4**

***** Antivibratory adaptors
Schwingungsgedämpfte Aufnahmen

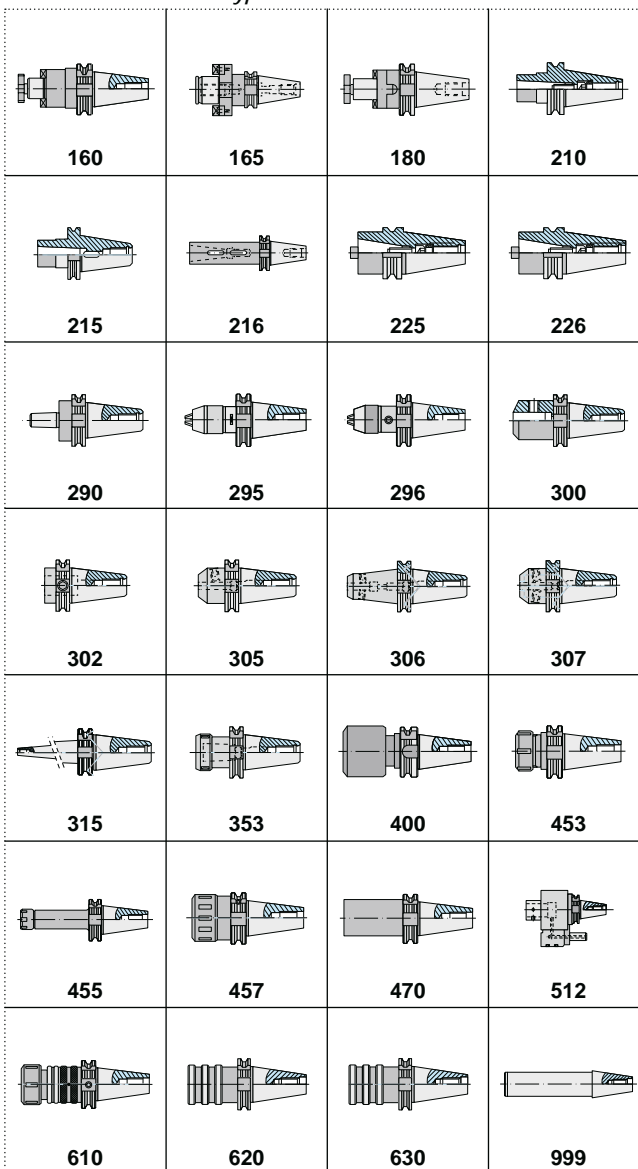
1 Model
Modell



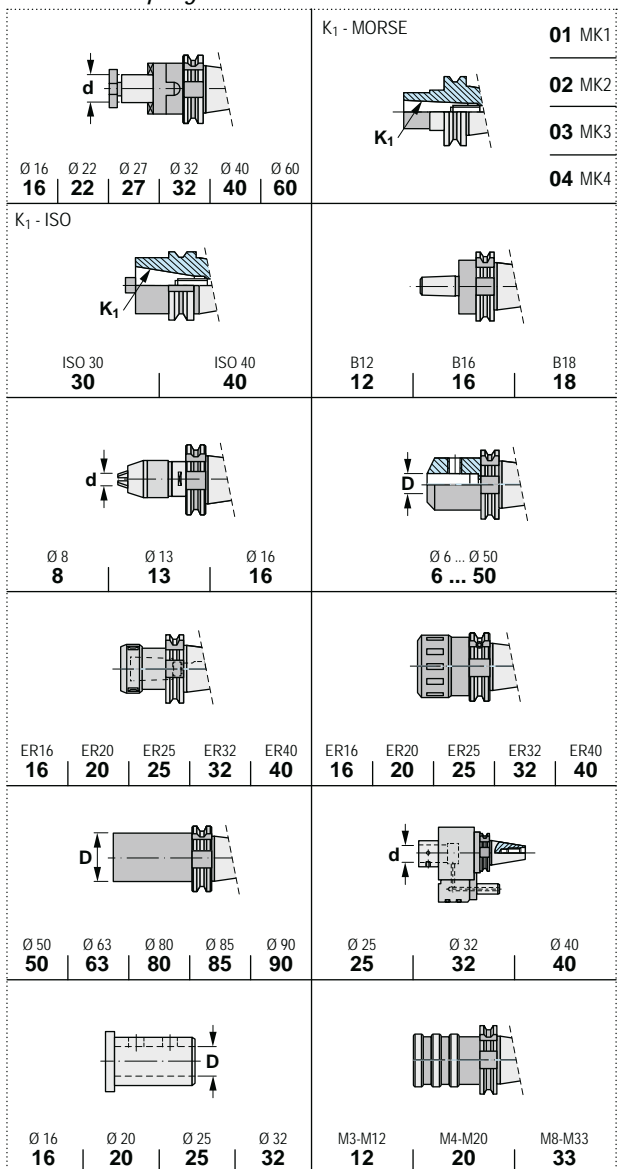
3 Arbor size
Aufnahmengröße



2 Arbor type
Aufnahmen-Typ



4 Adaptor size
Adaptergröße



AT3 TECHNICAL CHARACTERISTICS OF THE TOOLHOLDERS AT3 TECHNISCHE EIGENSCHAFTEN DER AUFNAHMEN

MATERIAL:

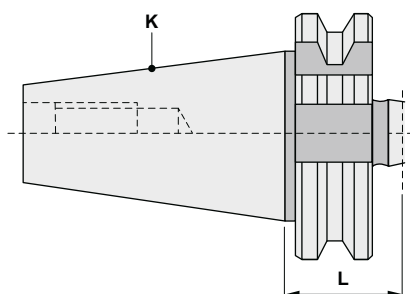
- Chromium-manganese carburised steel 1.7131 (16MnCr5).

EXECUTION:

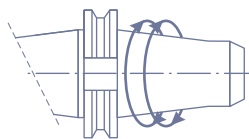
- Carburised, hardened and tempered.
- Surface hardness HRC 58±2 (670±40 HV30)
- Depth of carburised layer minimum 0,5 mm.
- Tensile strength in core minimum 800 N/mm2 after carburizing.

ACCURACY:

- Taper according to DIN 254
- Taper angle:
tolerance AT 3 DIN 7178 part 1 and DIN 2080 part 1.
- Other tolerances according to DIN 7160 and 7168.
- Taper surface roughness RZ<0,001 mm.



PREBALANCED TOOLHOLDERS VORGEWUCHTETE AUFNAHMEN



ISO 40 ▶ 8000 rpm ISO 50 ▶ 8000 rpm

MATERIALIEN:

- Legierter aufgekohlter Stahl mit Chrom-Mangan 1.7131 (16MnCr5).

KONSTRUKTIONS DATEN:

- Aufgekühlt, gehärtet und angelassen.
- Oberflächenhärte HRC 58±2 (670±40 HV30)
- Aufgekühlt auf minimum 0,5 mm Tiefe.
- Zugfestigkeit im Kern minimum 800 N/mm2 nach der Aufkohlung.

GENAUIGKEIT:

- Dorn nach DIN 254
- Kegelminkel:
Toleranz AT 3 DIN 7178 Teil 1 und DIN 2080 Teil 1.
- Andere Toleranzen entsprechend DIN 7160 und 7168.
- Rauigkeit der Oberfläche RZ<0,001 mm.

| K | AT3 mm |
|--------|--------|
| ISO 30 | 0,002 |
| ISO 40 | 0,003 |
| ISO 45 | 0,003 |
| ISO 50 | 0,004 |
| ISO 60 | 0,005 |

TOLERANCE AT:

- Indicates the tolerance of measuring plane D between the real and the theoretical value of the taper conicity.
- This value of measuring plane D must always be less (negative), never more (positive) in order to GUARANTEE a good toolholder fixation at the bigger taper diameter.

TOLERANZ AT:

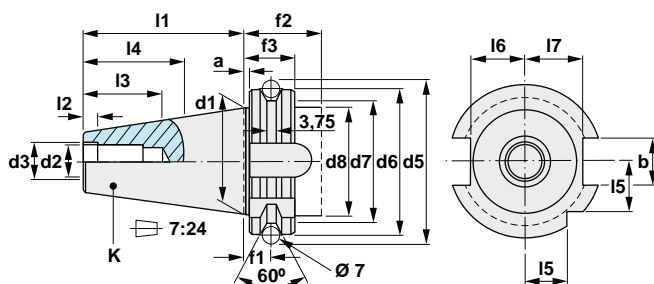
- Zeigt die Toleranz auf der Messebene D zwischen dem tatsächlichen Wert der Kegelminkel und dem theoretischen Wert.
- Dieser Wert auf der Messebene D sollte immer minus (negativ) sein, nie plus (positiv), um für einen guten Halt des Futter in den größeren Durchmesser des Kegels zu GARANTIEREN.

11 DIN 69871/A-AD

FORM A: SIMILAR DIN 69871 AD

ÄHNLICH WIE DIN 69871 AD

Without through hole / Ohne Durchgangsbohrung



| K | a1±0,1 | b H12 | d1 | d2 | d3 H7 | d5±0,5 | d6 0/-0,1 | d7 0/-0,5 | d8 max |
|----|--------|-------|--------|------|-------|--------|-----------|-----------|--------|
| 30 | 3,2 | 16,1 | 31,75 | M 12 | 13 | 59,30 | 50,00 | 44,30 | 45 |
| 40 | 3,2 | 16,1 | 44,45 | M 16 | 17 | 72,30 | 63,55 | 56,25 | 50 |
| 50 | 3,2 | 25,7 | 69,85 | M 24 | 25 | 107,25 | 97,50 | 91,25 | 80 |
| 50 | 3,2 | 25,7 | 107,95 | M 30 | 32 | 164,75 | 155,00 | 147,70 | 130 |

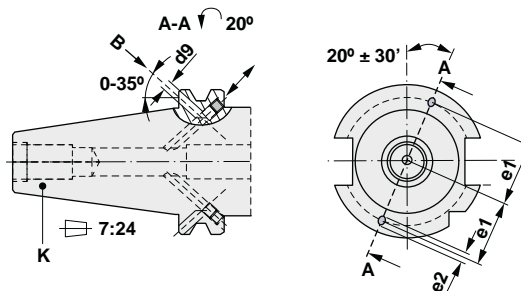
| K | f1±0,1 | f2 min | f3 0/-0,1 | l1 | l2 | l3 min | l4 min | l5 0/-0,3 | l6 0/-0,4 | l7 0/-0,4 | d9 | e1±0,1 | e2 max |
|----|--------|--------|-----------|--------|------|--------|--------|-----------|-----------|-----------|----|--------|--------|
| 30 | 11,1 | 35 | 19,1 | 47,80 | 5,5 | 24 | 33,5 | 15,0 | 16,4 | 19,0 | 4 | 21 | 5,0 |
| 40 | 11,1 | 35 | 19,1 | 68,40 | 8,2 | 32 | 42,5 | 18,5 | 22,8 | 25,0 | 4 | 27 | 5,0 |
| 50 | 11,1 | 35 | 19,1 | 101,75 | 11,5 | 47 | 61,5 | 30,0 | 35,5 | 37,7 | 6 | 42 | 7,0 |
| 50 | 11,1 | 35 | 19,1 | 161,80 | 14,0 | 59 | 76,0 | 49,0 | 54,2 | 59,3 | 8 | 66 | 9,2 |

13 DIN 69871/B

FORM B: SIMILAR DIN 69871 AD+B

ÄHNLICH WIE DIN 69871 AD+B

With central coolant feed and through the collar
Mit zentraler Kühlmittelzufuhr und durch den Bund



**Arbors and adaptors DIN 69871-A
Aufnahmen DIN 69871-A**

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Arbors and adaptors DIN 69871-A
Aufnahmen DIN 69871-A

| | | | | |
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| <p>11.630</p>  <p>Page / Seite 174</p> | <p>11.999</p>  <p>Page / Seite 175</p> | | | |

Antivibratory adaptors DIN 69871-A
Schwingungsgedämpfte Aufnahmen DIN 69871-A

| | | | | |
|--|--|--|---|--|
| <p>A11.160IK Cylindrical Zylindrische Form</p>  <p>Page / Seite 135</p> | <p>A11.160 Cylindrical Zylindrische Form</p>  <p>Page / Seite 136</p> | <p>A11.160 Conical Konische Form</p>  <p>Page / Seite 137</p> | <p>A11.315IK</p>  <p>Page / Seite 160</p> | <p>A11.315</p>  <p>Page / Seite 160</p> |
|--|--|--|---|--|

Sets DIN 69871-A
Sätze DIN 69871-A

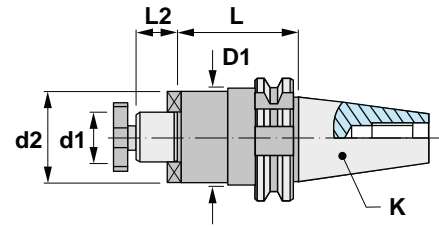
| | | | | |
|--|--|--|--|--|
| <p>SET-C20/32</p>  <p>Page / Seite 163</p> | | | | |
|--|--|--|--|--|









Characteristics:
Shell mill adaptors.
DIN 69871-A
For cutters with driving slot DIN 138.

Eigenschaften:
Aufsteckfräsdorne.
DIN 69871-A
Für Fräser mit Quernut DIN 138.

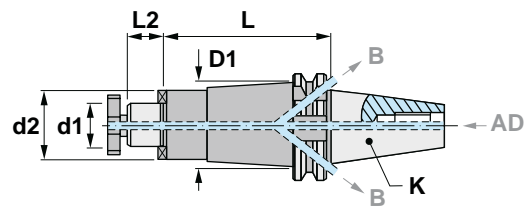


11.160

| Reference Bezeichnung | K ISO | d1 h6 | L | L2 | d2 | D1 |  |  |  |  |
|--------------------------|-------|-------|-----|----|----|----|---|---|---|---|
| 11.160.30.16 | 30 | 16 | 40 | 17 | 38 | - | 10008 | 86016 | 11103 | 0,620 |
| 11.160.30.22 | 30 | 22 | 40 | 19 | 48 | - | 10010 | 86022 | 11004 | 0,800 |
| 11.160.30.27 | 30 | 27 | 40 | 21 | 58 | - | 10012 | 86027 | 11005 | 0,740 |
| 11.160.40.16 | 40 | 16 | 35 | 17 | 38 | - | 10008 | 86016 | 11103 | 1,080 |
| 11.160.40.16/100 | 40 | 16 | 100 | 17 | 38 | 38 | 10008 | 86016 | 11103 | 1,470 |
| 11.160.40.22 | 40 | 22 | 35 | 19 | 48 | - | 10010 | 86022 | 11004 | 1,160 |
| 11.160.40.22/100 | 40 | 22 | 100 | 19 | 48 | 48 | 10010 | 86022 | 11004 | 2,130 |
| 11.160.40.27 | 40 | 27 | 60 | 21 | 58 | - | 10012 | 86027 | 11005 | 1,360 |
| 11.160.40.27/100 | 40 | 27 | 100 | 21 | 58 | 58 | 10012 | 86027 | 11005 | 2,710 |
| 11.160.40.32 | 40 | 32 | 60 | 24 | 63 | - | 10016 | 86032 | 11105 | 1,820 |
| 11.160.40.32/125 | 40 | 32 | 125 | 24 | 78 | 63 | 10016 | 86032 | 11105 | 3,000 |
| 11.160.40.40 | 40 | 40 | 60 | 27 | 73 | - | 10020 | 86040 | 11006 | 2,200 |
| 11.160.50.16 | 50 | 16 | 35 | 17 | 38 | - | 10008 | 86016 | 11103 | 2,990 |
| 11.160.50.16/100 | 50 | 16 | 100 | 17 | 38 | - | 10008 | 86016 | 11103 | 3,220 |
| 11.160.50.16/150 | 50 | 16 | 150 | 17 | 38 | - | 10008 | 86016 | 11103 | 4,040 |
| 11.160.50.22 | 50 | 22 | 35 | 19 | 48 | - | 10010 | 86022 | 11004 | 3,130 |
| 11.160.50.22/100 | 50 | 22 | 100 | 19 | 48 | - | 10010 | 86022 | 11004 | 3,620 |
| 11.160.50.22/150 | 50 | 22 | 150 | 19 | 48 | - | 10010 | 86022 | 11004 | 4,660 |
| 11.160.50.27 | 50 | 27 | 40 | 21 | 58 | - | 10012 | 86027 | 11005 | 3,440 |
| 11.160.50.27/100 | 50 | 27 | 100 | 21 | 58 | - | 10012 | 86027 | 11005 | 4,080 |
| 11.160.50.27/150 | 50 | 27 | 150 | 21 | 58 | - | 10012 | 86027 | 11005 | 5,240 |
| 11.160.50.32 | 50 | 32 | 50 | 24 | 78 | - | 10016 | 86032 | 11105 | 4,150 |
| 11.160.50.32/100 | 50 | 32 | 100 | 24 | 78 | - | 10016 | 86032 | 11105 | 3,250 |
| 11.160.50.32/150 | 50 | 32 | 150 | 24 | 78 | - | 10016 | 86032 | 11105 | 7,910 |
| 11.160.50.40 | 50 | 40 | 50 | 27 | 88 | 80 | 10020 | 86040 | 11006 | 4,120 |
| 11.160.50.40/150 | 50 | 40 | 150 | 27 | 88 | 80 | 10020 | 86040 | 11006 | 7,460 |
| 11.160.50.50 | 50 | 50 | 65 | 30 | 90 | - | 10024 | 86050 | 11008 | 5,300 |







Characteristics:
Shell mill adaptors.
DIN 69871-A
For cutters with driving slot
DIN 138.
With inner coolant AD+B.



Eigenschaften:
Aufsteckfräsdorne.
DIN 69871-A
Für Fräser mit Quernut DIN 138.
Mit Innenkühlung AD+B

13.160

| Reference Bezeichnung | K ISO | d1 h6 | L | L2 | d2 | D1 |  |  |  |  |
|--------------------------|-------|-------|-----|----|----|----|---|---|---|---|
| 13.160.40.16 | 40 | 16 | 35 | 17 | 38 | - | 10008 | 86016 | 11103 | 1,070 |
| 13.160.40.16/100 | 40 | 16 | 100 | 17 | 38 | 38 | 10008 | 86016 | 11003 | 1,540 |
| 13.160.40.22 | 40 | 22 | 35 | 19 | 48 | - | 10010 | 86022 | 11004 | 1,120 |
| 13.160.40.22/100 | 40 | 22 | 100 | 19 | 48 | 48 | 10010 | 86022 | 11004 | 2,020 |
| 13.160.40.27 | 40 | 27 | 60 | 21 | 58 | - | 10012 | 86027 | 11005 | 1,360 |
| 13.160.40.27/100 | 40 | 27 | 100 | 21 | 58 | 58 | 10012 | 86027 | 11005 | 2,030 |
| 13.160.40.32 | 40 | 32 | 60 | 24 | 63 | - | 10016 | 86032 | 11105 | 1,850 |
| 13.160.40.32/125 | 40 | 32 | 125 | 24 | 78 | 63 | 10016 | 86032 | 11105 | 2,730 |
| 13.160.40.40 | 40 | 40 | 60 | 27 | 73 | - | 10020 | 86040 | 11006 | 2,060 |
| 13.160.50.16 | 50 | 16 | 35 | 17 | 38 | - | 10008 | 86016 | 11103 | 2,850 |
| 13.160.50.16/100 | 50 | 16 | 100 | 17 | 38 | - | 10008 | 86016 | 11103 | 3,220 |
| 13.160.50.16/150 | 50 | 16 | 150 | 17 | 38 | - | 10008 | 86016 | 11103 | 3,780 |
| 13.160.50.22 | 50 | 22 | 35 | 19 | 48 | - | 10010 | 86022 | 11004 | 2,990 |
| 13.160.50.22/100 | 50 | 22 | 100 | 19 | 48 | - | 10010 | 86022 | 11004 | 3,400 |
| 13.160.50.22/150 | 50 | 22 | 150 | 19 | 48 | - | 10010 | 86022 | 11004 | 4,170 |
| 13.160.50.27 | 50 | 27 | 40 | 21 | 58 | - | 10012 | 86027 | 11005 | 3,250 |
| 13.160.50.27/100 | 50 | 27 | 100 | 21 | 58 | - | 10012 | 86027 | 11005 | 4,450 |
| 13.160.50.27/150 | 50 | 27 | 150 | 21 | 58 | - | 10012 | 86027 | 11005 | 5,290 |
| 13.160.50.32 | 50 | 32 | 50 | 24 | 78 | - | 10016 | 86032 | 11105 | 3,990 |
| 13.160.50.32/100 | 50 | 32 | 100 | 24 | 78 | - | 10016 | 86032 | 11105 | 4,580 |
| 13.160.50.32/150 | 50 | 32 | 150 | 24 | 78 | - | 10016 | 86032 | 11105 | 7,560 |
| 13.160.50.40 | 50 | 40 | 50 | 27 | 88 | 80 | 10020 | 86040 | 11006 | 3,920 |
| 13.160.50.40/150 | 50 | 40 | 150 | 27 | 88 | 80 | 10020 | 86040 | 11006 | 8,190 |
| 13.160.50.50 | 50 | 50 | 65 | 30 | 90 | - | 10024 | 86050 | 11008 | 4,990 |

Antivibratory adaptors Schwingungsgedämpfte Aufsteckfräsdorne

SPECIAL FOR MOULD AND DIE MAKERS

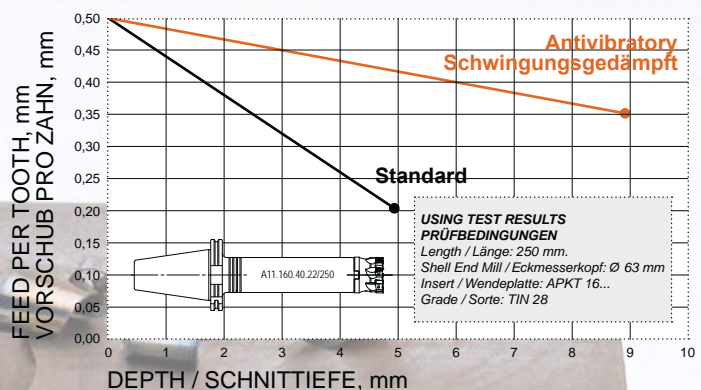
Vibration reduced up to 60% compared to any other conventional shell mill adaptor, as they are manufactured with materials and mechanisms having antivibration properties.

BESONDERS EMPFOHLEN FÜR WERKZEUG- UND FORMENBAU

60% weniger Schwingungen im Vergleich mit anderen konventionellen Aufsteckfräsdornen, da diese Ausführung mit schwingungsdämpfenden Materialien und Mechanismen hergestellt wird.

COMPARISON WHEN USING AN ANTIVIBRATORY TOOLHOLDER

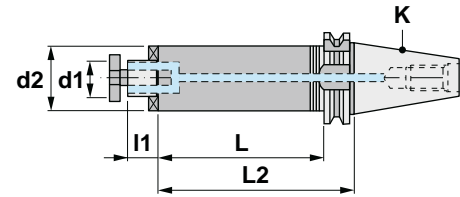
VERGLEICH ZWISCHEN EINER KONVENZIONELLEN UND EINER SCHWINGUNGSGEDÄMPFTEN AUFNAHME









Characteristics:
 Cylindrical antivibratory shell mill adaptors. DIN 69871-A
 For cutters with driving slot DIN 138.
 With internal coolant.

Eigenschaften:
 Zylindrische schwingungsgedämpfte Aufsteckfräsdorne.
 DIN 69871-A
 Für Fräser mit Quernut DIN 138.
 Mit Innenkühlung.



A11.160IK

| Reference Bezeichnung | K ISO | d1 h6 | L2 | L | l1 | d2 |  |  |  |  |
|--------------------------|-------|-------|-----|-----|----|----|---|---|---|---|
| A11.160.40.16/200-38IK | 40 | 16 | 200 | 181 | 17 | 38 | 10008 | 86016 | 11103 | 2,510 |
| A11.160.40.16/300-38IK | 40 | 16 | 300 | 281 | 17 | 38 | 10008 | 86016 | 11103 | 3,370 |
| A11.160.40.22/200-48IK | 40 | 22 | 200 | 181 | 19 | 48 | 10010 | 86022 | 11004 | 3,070 |
| A11.160.40.22/300-48IK | 40 | 22 | 300 | 281 | 19 | 48 | 10010 | 86022 | 11004 | 4,890 |
| A11.160.40.27/200-58IK | 40 | 27 | 200 | 181 | 21 | 58 | 10012 | 86027 | 11005 | 3,630 |
| A11.160.50.16/200-38IK | 50 | 16 | 200 | 181 | 17 | 38 | 10008 | 86016 | 11103 | 4,391 |
| A11.160.50.16/300-38IK | 50 | 16 | 300 | 281 | 17 | 38 | 10008 | 86016 | 11103 | 5,886 |
| A11.160.50.22/200-48IK | 50 | 22 | 200 | 181 | 19 | 48 | 10010 | 86022 | 11004 | 6,226 |
| A11.160.50.22/300-48IK | 50 | 22 | 300 | 281 | 19 | 48 | 10010 | 86022 | 11004 | 5,900 |
| A11.160.50.27/200-58IK | 50 | 27 | 200 | 181 | 21 | 58 | 10012 | 86027 | 11005 | 6,846 |
| A11.160.50.27/300-58IK | 50 | 27 | 300 | 281 | 21 | 58 | 10012 | 86027 | 11005 | 6,846 |
| A11.160.50.32/300-78IK | 50 | 32 | 300 | 281 | 24 | 78 | 10016 | 86032 | 11105 | 10,576 |



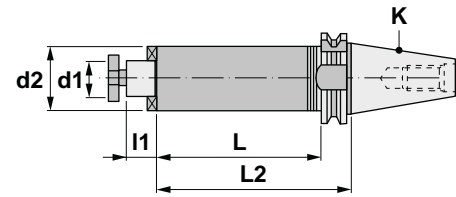


Characteristics:





Cylindrical antivibratory shell mill adaptors. DIN 69871-A
Für Fräser mit Quernut DIN 138.

Eigenschaften:

Zylindrische schwingungsgedämpfte Aufsteckfräsdorne.
DIN 69871-A
Für Fräser mit Quernut DIN 138.



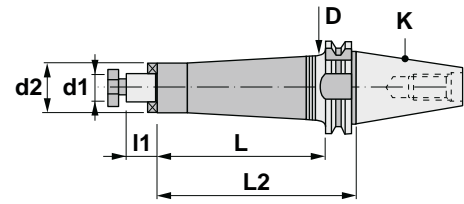
A11.160

| Reference Bezeichnung | K ISO | d1 h6 | L2 | L | l1 | d2 |  |  |  |  |
|--------------------------|-------|-------|-----|-----|----|----|---|---|---|---|
| A11.160.40.16/150-38 | 40 | 16 | 150 | 131 | 17 | 38 | 10008 | 86016 | 11103 | 2,030 |
| A11.160.40.16/200-38 | 40 | 16 | 200 | 181 | 17 | 38 | 10008 | 86016 | 11103 | 2,510 |
| A11.160.40.16/250-38 | 40 | 16 | 250 | 231 | 17 | 38 | 10008 | 86016 | 11103 | 2,920 |
| A11.160.40.16/300-38 | 40 | 16 | 300 | 281 | 17 | 38 | 10008 | 86016 | 11103 | 3,370 |
| A11.160.40.22/150-48 | 40 | 22 | 150 | 131 | 19 | 48 | 10010 | 86022 | 11004 | 2,370 |
| A11.160.40.22/200-48 | 40 | 22 | 200 | 181 | 19 | 48 | 10010 | 86022 | 11004 | 3,070 |
| A11.160.40.22/250-48 | 40 | 22 | 250 | 231 | 19 | 48 | 10010 | 86022 | 11004 | 4,180 |
| A11.160.40.22/300-48 | 40 | 22 | 300 | 281 | 19 | 48 | 10010 | 86022 | 11004 | 4,890 |
| A11.160.40.27/150-58 | 40 | 27 | 150 | 131 | 21 | 58 | 10012 | 86027 | 11005 | 2,850 |
| A11.160.40.27/200-58 | 40 | 27 | 200 | 181 | 21 | 58 | 10012 | 86027 | 11005 | 3,630 |
| A11.160.40.27/250-58 | 40 | 27 | 250 | 231 | 21 | 58 | 10012 | 86027 | 11005 | 4,440 |
| A11.160.40.27/300-58 | 40 | 27 | 300 | 281 | 21 | 58 | 10012 | 86027 | 11005 | 5,350 |
| A11.160.50.16/150-38 | 50 | 16 | 150 | 131 | 17 | 38 | 10008 | 86016 | 11103 | 4,230 |
| A11.160.50.16/200-38 | 50 | 16 | 200 | 181 | 17 | 38 | 10008 | 86016 | 11103 | 4,391 |
| A11.160.50.16/250-38 | 50 | 16 | 250 | 231 | 17 | 38 | 10008 | 86016 | 11103 | 5,280 |
| A11.160.50.16/300-38 | 50 | 16 | 300 | 281 | 17 | 38 | 10008 | 86016 | 11103 | 5,886 |
| A11.160.50.16/400-38 | 50 | 16 | 400 | 381 | 17 | 38 | 10008 | 86016 | 11103 | 5,886 |
| A11.160.50.22/200-48 | 50 | 22 | 200 | 181 | 19 | 48 | 10010 | 86022 | 11004 | 6,226 |
| A11.160.50.22/250-48 | 50 | 22 | 250 | 231 | 19 | 48 | 10010 | 86022 | 11004 | 5,330 |
| A11.160.50.22/300-48 | 50 | 22 | 300 | 281 | 19 | 48 | 10010 | 86022 | 11004 | 5,900 |
| A11.160.50.22/400-48 | 50 | 22 | 400 | 381 | 19 | 48 | 10010 | 86022 | 11004 | 7,276 |
| A11.160.50.22/500-48 | 50 | 22 | 500 | 481 | 19 | 48 | 10010 | 86022 | 11004 | 8,470 |
| A11.160.50.22/200-60 | 50 | 22 | 200 | 181 | 19 | 60 | 10010 | 86022 | 11004 | 7,276 |
| A11.160.50.22/250-60 | 50 | 22 | 250 | 231 | 19 | 60 | 10010 | 86022 | 11004 | 7,810 |
| A11.160.50.22/300-60 | 50 | 22 | 300 | 281 | 19 | 60 | 10010 | 86022 | 11004 | 8,140 |
| A11.160.50.22/400-60 | 50 | 22 | 400 | 381 | 19 | 60 | 10010 | 86022 | 11004 | 9,240 |
| A11.160.50.22/500-60 | 50 | 22 | 500 | 481 | 19 | 60 | 10010 | 86022 | 11004 | 12,280 |
| A11.160.50.27/200-58 | 50 | 27 | 200 | 181 | 21 | 58 | 10012 | 86027 | 11005 | 6,846 |
| A11.160.50.27/250-58 | 50 | 27 | 250 | 231 | 21 | 58 | 10012 | 86027 | 11005 | 7,130 |
| A11.160.50.27/300-58 | 50 | 27 | 300 | 281 | 21 | 58 | 10012 | 86027 | 11005 | 6,846 |
| A11.160.50.27/400-58 | 50 | 27 | 400 | 381 | 21 | 58 | 10012 | 86027 | 11005 | 6,846 |
| A11.160.50.27/500-58 | 50 | 27 | 500 | 481 | 21 | 58 | 10012 | 86027 | 11005 | 8,140 |
| A11.160.50.32/200-78 | 50 | 32 | 200 | 181 | 24 | 78 | 10016 | 86032 | 11105 | 7,556 |
| A11.160.50.32/250-78 | 50 | 32 | 250 | 231 | 24 | 78 | 10016 | 86032 | 11105 | 9,576 |
| A11.160.50.32/300-78 | 50 | 32 | 300 | 281 | 24 | 78 | 10016 | 86032 | 11105 | 10,576 |
| A11.160.50.32/400-78 | 50 | 32 | 400 | 381 | 24 | 78 | 10016 | 86032 | 11105 | 13,076 |
| A11.160.50.32/500-78 | 50 | 32 | 500 | 481 | 24 | 78 | 10016 | 86032 | 11105 | 16,076 |







Characteristics:
 Conical antivibratory shell mill adaptors.
 DIN 69871-A
 For cutters with driving slot DIN 138.

Eigenschaften:
 Konische schwingungsgedämpfte
 Aufsteckfräsdorne.
 DIN 69871-A
 Für Fräser mit Quernut DIN 138.



A11.160

| Reference Bezeichnung | K ISO | d1 h6 | L2 | L | D | l1 | d2 |  |  |  |  |
|--------------------------|-------|-------|-----|-----|----|----|----|---|---|---|---|
| A11.160.40.16/150 | 40 | 16 | 150 | 131 | 50 | 17 | 38 | 10008 | 86016 | 11103 | 2,200 |
| A11.160.40.16/200 | 40 | 16 | 200 | 181 | 50 | 17 | 38 | 10008 | 86016 | 11103 | 2,710 |
| A11.160.40.16/250 | 40 | 16 | 250 | 231 | 50 | 17 | 38 | 10008 | 86016 | 11103 | 3,250 |
| A11.160.40.16/300 | 40 | 16 | 300 | 281 | 50 | 17 | 38 | 10008 | 86016 | 11103 | 3,740 |
| A11.160.40.22/150 | 40 | 22 | 150 | 131 | 50 | 19 | 48 | 10010 | 86022 | 11004 | 2,640 |
| A11.160.40.22/200 | 40 | 22 | 200 | 181 | 50 | 19 | 48 | 10010 | 86022 | 11004 | 3,320 |
| A11.160.40.22/250 | 40 | 22 | 250 | 231 | 50 | 19 | 48 | 10010 | 86022 | 11004 | 4,030 |
| A11.160.40.22/300 | 40 | 22 | 300 | 281 | 50 | 19 | 48 | 10010 | 86022 | 11004 | 4,750 |
| A11.160.50.16/150 | 50 | 16 | 150 | 131 | 80 | 17 | 38 | 10008 | 86016 | 11103 | 4,610 |
| A11.160.50.16/200 | 50 | 16 | 200 | 181 | 80 | 17 | 38 | 10008 | 86016 | 11103 | 5,886 |
| A11.160.50.16/250 | 50 | 16 | 250 | 231 | 80 | 17 | 38 | 10008 | 86016 | 11103 | 5,940 |
| A11.160.50.16/300 | 50 | 16 | 300 | 281 | 80 | 17 | 38 | 10008 | 86016 | 11103 | 6,750 |
| A11.160.50.16/400 | 50 | 16 | 400 | 381 | 80 | 17 | 38 | 10008 | 86016 | 11103 | 10,540 |
| A11.160.50.22/200 | 50 | 22 | 200 | 181 | 80 | 19 | 48 | 10010 | 86022 | 11004 | 5,780 |
| A11.160.50.22/250 | 50 | 22 | 250 | 231 | 80 | 19 | 48 | 10010 | 86022 | 11004 | 6,550 |
| A11.160.50.22/300 | 50 | 22 | 300 | 281 | 80 | 19 | 48 | 10010 | 86022 | 11004 | 7,380 |
| A11.160.50.22/400 | 50 | 22 | 400 | 381 | 80 | 19 | 48 | 10010 | 86022 | 11004 | 10,426 |
| A11.160.50.22/500 | 50 | 22 | 500 | 481 | 80 | 19 | 48 | 10010 | 86022 | 11004 | 11,530 |
| A11.160.50.27/200 | 50 | 27 | 200 | 181 | 80 | 21 | 58 | 10012 | 86027 | 11005 | 6,550 |
| A11.160.50.27/250 | 50 | 27 | 250 | 231 | 80 | 21 | 58 | 10012 | 86027 | 11005 | 7,500 |
| A11.160.50.27/300 | 50 | 27 | 300 | 281 | 80 | 21 | 58 | 10012 | 86027 | 11005 | 8,600 |
| A11.160.50.27/400 | 50 | 27 | 400 | 381 | 80 | 21 | 58 | 10012 | 86027 | 11005 | 10,670 |
| A11.160.50.27/500 | 50 | 27 | 500 | 481 | 80 | 21 | 58 | 10012 | 86027 | 11005 | 13,520 |



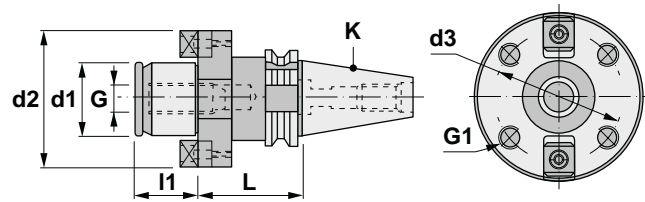


Characteristics:


Adaptors for indexable milling cutters. DIN 69871-A/ DIN 6357 - Form A


Eigenschaften:

Zwischenhülsen für Fräser. DIN 69871-A/ DIN 6357 - Form A



11.165

| Reference Bezeichnung | K ISO | d1 g5 | L | d2 | d3 | G | G1 | I1 |  |
|--------------------------|-------|-------|----|-----|-------|------|------|----|---|
| 11.165.40.40 | 40 | 40 | 60 | 89 | 66,7 | M-20 | M-12 | 30 | 2,540 |
| 11.165.50.40 | 50 | 40 | 70 | 89 | 66,7 | M-20 | M-12 | 30 | 5,190 |
| 11.165.50.60 | 50 | 60 | 70 | 129 | 101,6 | M-30 | M-16 | 40 | 7,010 |

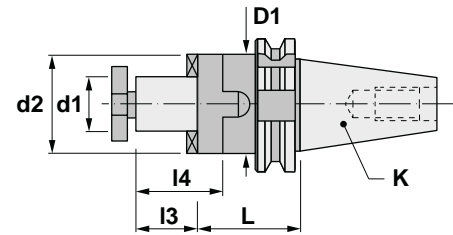
| Reference Bezeichnung |  |  |
|--------------------------|---|---|
| 11.165.40.40 | 80040 | 11006 |
| 11.165.50.40 | 80040 | 11006 |
| 11.165.50.60 | 80060 | 11012 |

**Characteristics:**

Combi-Shell mill adaptor.
DIN 69871-A / DIN 6358 - Form B
For cutters with keyway or driving slot
DIN 138.

Eigenschaften:

Kombi-Aufsteckfräsdorne.
DIN 69871-A / DIN 6358 - Form B
Für Fräser mit Längsnut oder
Stirnmitnehmer DIN 138.



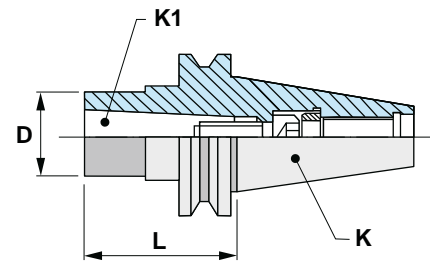
11.180

| Reference Bezeichnung | K ISO | d1 h6 | L | I3 | I4 | d2 | D1 |  |  |  |  |
|--------------------------|-------|-------|-----|----|----|----|----|---|---|---|---|
| 11.180.30.16 | 30 | 16 | 50 | 17 | 27 | 32 | - | 10008 | 60116 | 88016 | 0,660 |
| 11.180.30.22 | 30 | 22 | 50 | 19 | 31 | 40 | - | 10010 | 60122 | 88022 | 0,680 |
| 11.180.30.27 | 30 | 27 | 55 | 21 | 33 | 48 | - | 10012 | 60127 | 88027 | 1,000 |
| 11.180.40.16 | 40 | 16 | 55 | 17 | 27 | 32 | - | 10008 | 60116 | 88016 | 1,140 |
| 11.180.40.16/100 | 40 | 16 | 100 | 17 | 27 | 32 | 35 | 10008 | 60116 | 88016 | 1,490 |
| 11.180.40.22 | 40 | 22 | 55 | 19 | 31 | 40 | - | 10010 | 60122 | 88022 | 1,300 |
| 11.180.40.22/100 | 40 | 22 | 100 | 19 | 31 | 40 | 48 | 10010 | 60122 | 88022 | 1,900 |
| 11.180.40.27 | 40 | 27 | 55 | 21 | 33 | 48 | - | 10012 | 60127 | 88027 | 1,510 |
| 11.180.40.27/100 | 40 | 27 | 100 | 21 | 33 | 48 | 48 | 10012 | 60127 | 88027 | 2,040 |
| 11.180.40.32 | 40 | 32 | 60 | 24 | 38 | 58 | - | 10016 | 60132 | 88032 | 1,820 |
| 11.180.40.32/100 | 40 | 32 | 100 | 24 | 38 | 58 | 58 | 10016 | 60132 | 88032 | 2,660 |
| 11.180.40.40 | 40 | 40 | 60 | 27 | 41 | 70 | - | 10020 | 60140 | 88040 | 2,210 |
| 11.180.50.16 | 50 | 16 | 55 | 17 | 27 | 32 | - | 10008 | 60116 | 88016 | 3,010 |
| 11.180.50.16/100 | 50 | 16 | 100 | 17 | 27 | 32 | 35 | 10008 | 60116 | 88016 | 3,590 |
| 11.180.50.22 | 50 | 22 | 55 | 19 | 31 | 40 | - | 10010 | 60122 | 88022 | 3,250 |
| 11.180.50.22/100 | 50 | 22 | 100 | 19 | 31 | 40 | 48 | 10010 | 60122 | 88022 | 3,820 |
| 11.180.50.27 | 50 | 27 | 55 | 21 | 33 | 48 | - | 10012 | 60127 | 88027 | 3,400 |
| 11.180.50.27/100 | 50 | 27 | 100 | 21 | 33 | 48 | 60 | 10012 | 60127 | 88027 | 4,300 |
| 11.180.50.32 | 50 | 32 | 55 | 24 | 38 | 58 | - | 10016 | 60132 | 88032 | 3,750 |
| 11.180.50.32/100 | 50 | 32 | 100 | 24 | 38 | 58 | 78 | 10016 | 60132 | 88032 | 5,260 |
| 11.180.50.40 | 50 | 40 | 55 | 27 | 41 | 70 | - | 10020 | 60140 | 88040 | 3,750 |
| 11.180.50.40/100 | 50 | 40 | 100 | 27 | 41 | 70 | 78 | 10020 | 60140 | 88040 | 5,820 |
| 11.180.50.50 | 50 | 50 | 70 | 30 | 46 | 90 | - | 10024 | 60150 | 88050 | 5,730 |






Characteristics:
Reducing adaptors.
DIN 69871-A / ISO 3937
For tools with Morse taper shank
and drawbar thread DIN 228-A.

Eigenschaften:
Reduzierhülsen.
DIN 69871-A / ISO 3937
Für Werkzeuge mit Morsekegel
und Anzugsgewinde DIN 228-A.



11.210

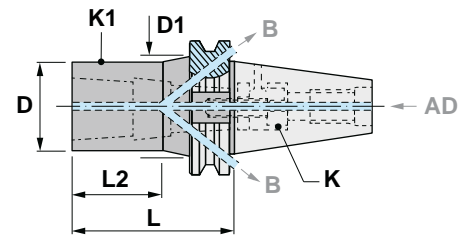
| Reference Bezeichnung | K ISO | K1 MORSE | L | D |  |
|--------------------------|-------|----------|-----|----|---|
| 11.210.30.01 | 30 | 1 | 50 | 25 | 0,530 |
| 11.210.30.02 | 30 | 2 | 70 | 32 | 0,670 |
| 11.210.30.03 | 30 | 3 | 100 | 40 | 1,000 |
| 11.210.40.01 | 40 | 1 | 50 | 25 | 1,000 |
| 11.210.40.02 | 40 | 2 | 50 | 32 | 0,990 |
| 11.210.40.03 | 40 | 3 | 70 | 40 | 1,170 |
| 11.210.40.04 | 40 | 4 | 95 | 48 | 1,410 |
| 11.210.50.01 | 50 | 1 | 45 | 25 | 2,870 |
| 11.210.50.02 | 50 | 2 | 60 | 32 | 2,950 |
| 11.210.50.03 | 50 | 3 | 65 | 40 | 3,060 |
| 11.210.50.04 | 50 | 4 | 70 | 48 | 3,080 |
| 11.210.50.05 | 50 | 5 | 100 | 63 | 3,480 |

| Reference Bezeichnung |  |  |  |
|--------------------------|---|---|---|
| 11.210.30.01 | 16105 | 19312 | 11106 |
| 11.210.30.02 | 16105 | 19315 | 12110 |
| 11.210.30.03 | 16105 | 19318 | 12012 |
| 11.210.40.01 | 16205 | 19516 | 11206 |
| 11.210.40.02 | 16205 | 19416 | 18010 |
| 11.210.40.03 | 16205 | 19420 | 11312 |
| 11.210.40.04 | 16205 | 19322 | 12016 |
| 11.210.50.01 | 16205 | 19624 | 11206 |
| 11.210.50.02 | 16205 | 19324 | 11110 |
| 11.210.50.03 | 16205 | 19524 | 11212 |
| 11.210.50.04 | 16205 | 19424 | 12016 |
| 11.210.50.05 | 16205 | 19338 | 11020 |







Characteristics:
Reducing adaptors.
DIN 69871-A / ISO 3937
For tools with Morse taper shank
and drawbar thread DIN 228-A.

Eigenschaften:
Reduzierhülsen.
DIN 69871-A / ISO 3937.
Für Werkzeuge mit Morsekegel
und Anzugsgewinde DIN 228-A.



13.210

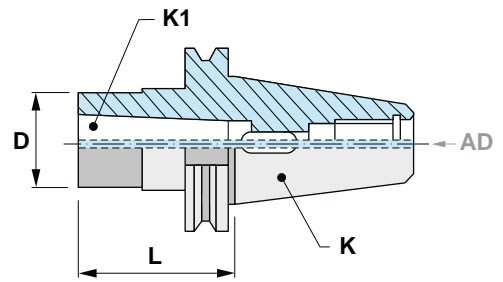
| Reference Bezeichnung | K ISO | K1 MORSE | L | D | D1 | L2 |  |
|--------------------------|-------|----------|-----|----|----|----|---|
| 13.210.40.01 | 40 | 1 | 50 | 25 | 45 | 16 | 1,010 |
| 13.210.40.02 | 40 | 2 | 50 | 32 | 50 | 19 | 1,020 |
| 13.210.40.03 | 40 | 3 | 70 | 40 | 50 | 42 | 1,160 |
| 13.210.40.04 | 40 | 4 | 95 | 48 | - | - | 1,420 |
| 13.210.50.01 | 50 | 1 | 45 | 25 | 80 | 16 | 3,060 |
| 13.210.50.02 | 50 | 2 | 60 | 32 | 80 | 23 | 3,520 |
| 13.210.50.03 | 50 | 3 | 65 | 40 | 80 | 28 | 3,530 |
| 13.210.50.04 | 50 | 4 | 70 | 48 | 80 | 37 | 3,360 |
| 13.210.50.05 | 50 | 5 | 100 | 63 | 80 | 66 | 3,400 |

| Reference Bezeichnung |  |  |  |
|--------------------------|---|---|---|
| 13.210.40.01 | 16205 | 19516 | 18006 |
| 13.210.40.02 | 16205 | 19416 | 18010 |
| 13.210.40.03 | 16205 | 19420 | 18012 |
| 13.210.40.04 | 16205 | 19322 | 18016 |
| 13.210.50.01 | 16205 | 19624 | 18006 |
| 13.210.50.02 | 16205 | 19324 | 18110 |
| 13.210.50.03 | 16205 | 19524 | 18112 |
| 13.210.50.04 | 16205 | 19424 | 18016 |
| 13.210.50.05 | 16205 | 19338 | 18020 |




Characteristics:
Reducing adaptors.
DIN 69871-A
For tools with Morse taper shank
and tang. DIN 228-B.

Eigenschaften:
Reduzierhülsen.
DIN 69871-A
Für Werkzeuge mit Morsekegel
und Austreibblappen. DIN 228-B.



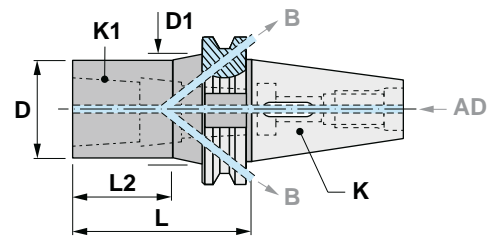
11.215

| Reference Bezeichnung | K ISO | K1 MORSE | L | D |  |
|--------------------------|-------|----------|-----|----|---|
| 11.215.30.01 | 30 | 1 | 50 | 25 | 0,490 |
| 11.215.30.02 | 30 | 2 | 60 | 32 | 0,550 |
| 11.215.30.03 | 30 | 3 | 80 | 40 | 0,760 |
| 11.215.40.01 | 40 | 1 | 50 | 25 | 0,920 |
| 11.215.40.02 | 40 | 2 | 50 | 32 | 0,940 |
| 11.215.40.03 | 40 | 3 | 70 | 40 | 1,090 |
| 11.215.40.04 | 40 | 4 | 95 | 48 | 1,330 |
| 11.215.50.01 | 50 | 1 | 45 | 25 | 2,810 |
| 11.215.50.02 | 50 | 2 | 60 | 32 | 2,870 |
| 11.215.50.03 | 50 | 3 | 65 | 40 | 2,910 |
| 11.215.50.04 | 50 | 4 | 95 | 48 | 3,150 |
| 11.215.50.05 | 50 | 5 | 105 | 63 | 3,340 |




Characteristics:
Reducing adaptors.
DIN 69871-A
For tools with Morse taper shank
and tang. DIN 228-B.

Eigenschaften:
Reduzierhülsen.
DIN 69871-A
Für Werkzeuge mit Morsekegel
und Austreibblappen. DIN 228-B.



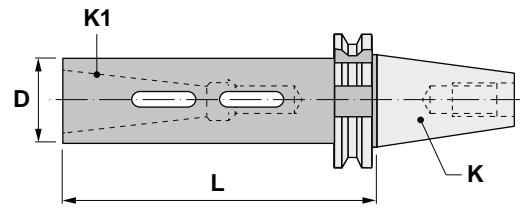
13.215

| Reference Bezeichnung | K ISO | K1 MORSE | L | D | D1 | L2 |  |
|--------------------------|-------|----------|-----|----|----|----|---|
| 13.215.40.01 | 40 | 1 | 50 | 25 | 45 | 16 | 0,940 |
| 13.215.40.02 | 40 | 2 | 50 | 32 | 50 | 18 | 0,970 |
| 13.215.40.03 | 40 | 3 | 70 | 40 | 50 | 42 | 1,100 |
| 13.215.40.04 | 40 | 4 | 95 | 48 | - | - | 1,310 |
| 13.215.50.01 | 50 | 1 | 45 | 25 | 80 | 16 | 3,080 |
| 13.215.50.02 | 50 | 2 | 60 | 32 | 80 | 23 | 3,400 |
| 13.215.50.03 | 50 | 3 | 65 | 40 | 80 | 28 | 3,380 |
| 13.215.50.04 | 50 | 4 | 95 | 48 | 80 | 49 | 3,460 |
| 13.215.50.05 | 50 | 5 | 105 | 63 | 80 | 71 | 3,410 |




Characteristics:
Long reducing adaptors.
DIN 69871-A
For tools with Morse taper shank
and tang. DIN 228-B.

Eigenschaften:
Lange Reduzierhülsen.
DIN 69871-A
Für Werkzeuge mit Morsekegel
und Austreiblappen. DIN 228-B.



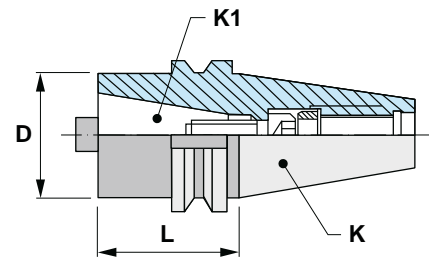
11.216

| Reference Bezeichnung | K ISO | K1 MORSE | L | D |  |
|--------------------------|-------|----------|-----|----|---|
| 11.216.30.01 | 30 | 1 | 115 | 25 | 0,750 |
| 11.216.30.02 | 30 | 2 | 125 | 32 | 0,960 |
| 11.216.30.03 | 30 | 3 | 145 | 40 | 1,320 |
| 11.216.40.01 | 40 | 1 | 115 | 25 | 1,200 |
| 11.216.40.02 | 40 | 2 | 125 | 32 | 1,440 |
| 11.216.40.03 | 40 | 3 | 145 | 40 | 1,770 |
| 11.216.40.04 | 40 | 4 | 165 | 48 | 2,230 |
| 11.216.50.01 | 50 | 1 | 120 | 25 | 2,980 |
| 11.216.50.02 | 50 | 2 | 135 | 32 | 3,410 |
| 11.216.50.03 | 50 | 3 | 155 | 40 | 3,810 |
| 11.216.50.04 | 50 | 4 | 180 | 48 | 4,380 |
| 11.216.50.05 | 50 | 5 | 215 | 63 | 5,840 |







Characteristics:
Reducing adaptors.
DIN 69871-A
For tools with DIN 2080 ISO
taper shank.

Eigenschaften:
Reduzierhülsen.
DIN 69871-A
Für Werkzeuge mit DIN 2080
Kegel.



11.225

| Reference Bezeichnung | K ISO | K1 DIN 2080 | L | D |  |
|--------------------------|-------|-------------|-----|----|---|
| 11.225.40.30 | 40 | 30 | 50 | 50 | 1,200 |
| 11.225.40.40 | 40 | 40 | 100 | 63 | 2,060 |
| 11.225.50.30 | 50 | 30 | 50 | 50 | 3,110 |
| 11.225.50.40 | 50 | 40 | 70 | 63 | 3,750 |
| 11.225.50.50 | 50 | 50 | 120 | 97 | 6,120 |

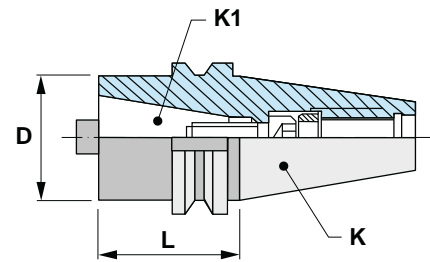
| Reference Bezeichnung |  |  |  |
|--------------------------|---|---|---|
| 11.225.40.30 | 16205 | 19320 | 11312 |
| 11.225.40.40 | 16205 | 19322 | 12016 |
| 11.225.50.30 | 16205 | 19524 | 11112 |
| 11.225.50.40 | 16205 | 19424 | 12016 |
| 11.225.50.50 | 16205 | 19438 | 12024 |









Characteristics:
Reducing adaptors.
DIN 69871-A
For tools with DIN 69871-A
and BT shanks.

Eigenschaften:
Reduzierhülsen.
DIN 69871-A.
Für Werkzeuge mit DIN 69871-A
und BT Kegel.



11.226

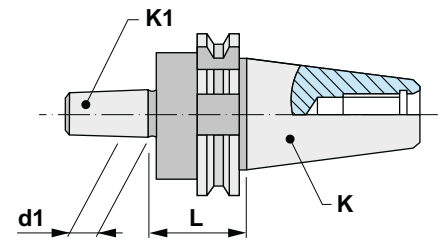
| Reference Bezeichnung | K ISO | K1 DIN 69871 JIS B 6339-BT | L | D |  |
|--------------------------|-------|----------------------------------|-----|----|---|
| 11.226.40.30 | 40 | 30 | 50 | 50 | 1,170 |
| 11.226.40.40 | 40 | 40 | 100 | 63 | 2,090 |
| 11.226.50.30 | 50 | 30 | 50 | 50 | 2,800 |
| 11.226.50.40 | 50 | 40 | 70 | 63 | 3,550 |
| 11.226.50.50 | 50 | 50 | 120 | 97 | 6,240 |

| Reference Bezeichnung |  |  |  |
|--------------------------|---|---|---|
| 11.226.40.30 | 16205 | 19320 | 11412 |
| 11.226.40.40 | 16205 | 19322 | 12116 |
| 11.226.50.30 | 16205 | 19524 | 11412 |
| 11.226.50.40 | 16205 | 19424 | 12116 |
| 11.226.50.50 | 16205 | 19438 | 12124 |




Characteristics:
Drill chuck adaptors.
DIN 69871-A
For drill chucks with DIN 238 taper.

Eigenschaften:
Bohrfutteraufnahmen.
DIN 69871-A.
Für Bohrfutter mit DIN 238 Kegel.



11.290

| Reference Bezeichnung | K ISO | K1 DIN | L | d1 |  |
|--------------------------|-------|--------|----|--------|---|
| 11.290.30.12 | 30 | B-12 | 25 | 12,065 | 0,450 |
| 11.290.30.16 | 30 | B-16 | 25 | 15,733 | 0,450 |
| 11.290.40.12 | 40 | B-12 | 25 | 12,065 | 0,910 |
| 11.290.40.16 | 40 | B-16 | 25 | 15,733 | 0,930 |
| 11.290.40.18 | 40 | B-18 | 25 | 17,780 | 0,950 |
| 11.290.50.16 | 50 | B-16 | 25 | 15,733 | 2,850 |
| 11.290.50.18 | 50 | B-18 | 25 | 17,780 | 2,850 |

MU

 I199

| Ref. / Bez. | Accessories / Zubehör |
|-------------|---|
| MU | Standard keyless drill chucks DIN 238 Standard Schnellspann-Bohrfutter DIN 238 |



MP

 I200

| Ref. / Bez. | Accessories / Zubehör |
|-------------|--|
| MP | Super precision keyless drill chucks DIN 238 Höchst-Genauigkeit-Selbstspannbohrfutter DIN 238 |



MK

 I201

| Ref. / Bez. | Accessories / Zubehör |
|-------------|--|
| MK | Super precision keyless drill chucks DIN 238 with gripping tongue Höchst-Genauigkeit-Selbstspannbohrfutter DIN 238 mit Schlüsselflächen |





Characteristics:

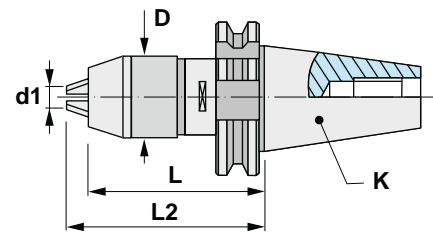
Self clamping short precision drill chucks.
DIN 69871-A
For right turn only.

*** SUPPLIED WITH WRENCH**


Eigenschaften:



Selbstspann-Kurzbohrfutter,
Genauigkeitsausführung.
DIN 69871-A.
Nur für rechtslaufende Bearbeitungen.

*** LIEFERUNG MIT SCHLÜSSEL**



11.295

| Reference Bezeichnung | K ISO | d1 | D | L | L2 max |  |
|--------------------------|-------|-------|----|----|--------|---|
| 11.295.30.08 | 30 | 0,3-8 | 38 | 77 | 83 | 0,980 |
| 11.295.40.08 | 40 | 0,3-8 | 38 | 70 | 76 | 1,500 |
| 11.295.40.13 | 40 | 1-13 | 48 | 80 | 91 | 1,620 |
| 11.295.40.16 | 40 | 3-16 | 55 | 97 | 108 | 2,040 |
| 11.295.50.13 | 50 | 1-13 | 48 | 78 | 89 | 3,470 |
| 11.295.50.16 | 50 | 3-16 | 55 | 76 | 89 | 3,700 |

| Reference Bezeichnung |  |  |
|--------------------------|---|---|
| 11.295.30.08 | 50008 | 11206 |
| 11.295.40.08 | 50008 | 11206 |
| 11.295.40.13 | 50013 | 11108 |
| 11.295.40.16 | 50016 | 11108 |
| 11.295.50.13 | 50013 | 11108 |
| 11.295.50.16 | 50016 | 11108 |

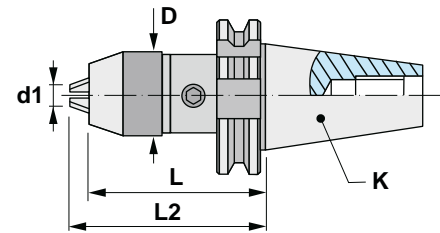


Characteristics:
CNC-Universal precision drill chucks.
DIN 69871-A
For left and right hand turn.

*** SUPPLIED WITH WRENCH**



Eigenschaften:
CNC-Universal Bohrfutter,
Genauigkeitsausführung.
DIN 69871-A.
Für links- und rechtslaufende
Bearbeitungen.

*** LIEFERUNG MIT SCHLÜSSEL**



11.296

| Reference Bezeichnung | K ISO | d1 | D | L | L2 max | KG |
|--------------------------|-------|------|----|----|--------|-------|
| 11.296.40.13 | 40 | 1-13 | 54 | 91 | 100 | 1,550 |
| 11.296.40.16 | 40 | 3-16 | 57 | 94 | 101 | 1,830 |
| 11.296.50.13 | 50 | 1-13 | 54 | 93 | 102 | 3,500 |
| 11.296.50.16 | 50 | 3-16 | 57 | 96 | 103 | 3,760 |

| Reference Bezeichnung |  | 3x  |
|--------------------------|---|--|
| 11.296.40.13 | 5006 | 60313 |
| 11.296.40.16 | 5006 | 60313 |
| 11.296.50.13 | 5006 | 60313 |
| 11.296.50.16 | 5006 | 60313 |



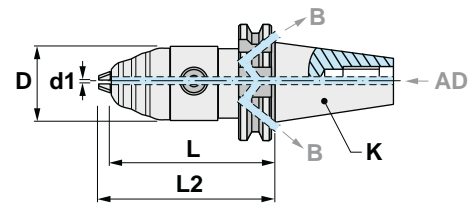


Characteristics:
CNC-Universal precision drill chucks.
DIN 69871-A
For left and right hand turn.


*** SUPPLIED WITH WRENCH**



Eigenschaften:
CNC-Universal Bohrfutter,
Genauigkeitsausführung.
DIN 69871-A.
Für links- und rechtslaufende
Bearbeitungen.

*** LIEFERUNG MIT SCHLÜSSEL**



13.296

| Reference Bezeichnung | K ISO | d1 | D | L | L2 max |  |
|--------------------------|-------|------|----|----|--------|---|
| 13.296.40.13 | 40 | 1-13 | 54 | 91 | 100 | 1,920 |
| 13.296.40.16 | 40 | 3-16 | 57 | 94 | 101 | 2,100 |
| 13.296.50.13 | 50 | 1-13 | 54 | 93 | 102 | 3,420 |
| 13.296.50.16 | 50 | 3-16 | 57 | 96 | 103 | 3,690 |

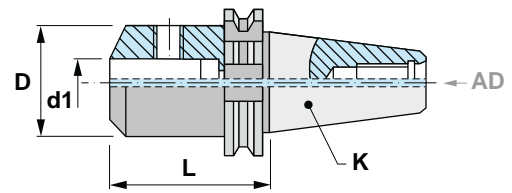
| Reference Bezeichnung |  | 3x  |
|--------------------------|---|--|
| 13.296.40.13 | 5006 | 60313 |
| 13.296.40.16 | 5006 | 60313 |
| 13.296.50.13 | 5006 | 60313 |
| 13.296.50.16 | 5006 | 60313 |

**Characteristics:**



Weldon end mill adaptors.
DIN 69871-A
For cutters with cylindrical shank
and Weldon flat DIN 1835-B.

Eigenschaften:

Zylinderschaft-Aufnahme Weldon.
DIN 69871-A.
Für Fräser mit zylindrischem Schaft
und Weldon-Fläche DIN 1835-B.



11.300

| Reference Bezeichnung | K ISO | d1 H4 | L | D |  |  |
|--------------------------|-------|-------|-----|----|---|---|
| 11.300.30.06 | 30 | 6 | 50 | 25 | 15106 | 0,500 |
| 11.300.30.08 | 30 | 8 | 50 | 28 | 15108 | 0,520 |
| 11.300.30.10 | 30 | 10 | 50 | 35 | 15110 | 0,610 |
| 11.300.30.12 | 30 | 12 | 50 | 42 | 15212 | 0,620 |
| 11.300.30.14 | 30 | 14 | 50 | 44 | 15212 | 0,625 |
| 11.300.30.16 | 30 | 16 | 63 | 48 | 15314 | 0,850 |
| 11.300.30.18 | 30 | 18 | 63 | 50 | 15314 | 0,880 |
| 11.300.40.06 | 40 | 6 | 50 | 25 | 15106 | 0,940 |
| 11.300.40.08 | 40 | 8 | 50 | 28 | 15108 | 0,970 |
| 11.300.40.10 | 40 | 10 | 50 | 35 | 15110 | 1,030 |
| 11.300.40.12 | 40 | 12 | 50 | 42 | 15212 | 1,120 |
| 11.300.40.14 | 40 | 14 | 50 | 44 | 15212 | 1,130 |
| 11.300.40.16 | 40 | 16 | 63 | 48 | 15314 | 1,340 |
| 11.300.40.18 | 40 | 18 | 63 | 50 | 15314 | 1,370 |
| 11.300.40.20 | 40 | 20 | 63 | 52 | 15216 | 1,380 |
| 11.300.40.25 | 40 | 25 | 100 | 65 | 2 x 15218 | 2,370 |
| 11.300.40.32 | 40 | 32 | 100 | 72 | 2 x 15220 | 2,710 |
| 11.300.40.40 | 40 | 40 | 120 | 90 | 2 x 15220 | 4,280 |
| 11.300.50.06 | 50 | 6 | 63 | 25 | 15106 | 2,860 |
| 11.300.50.08 | 50 | 8 | 63 | 28 | 15108 | 2,890 |
| 11.300.50.10 | 50 | 10 | 63 | 35 | 15110 | 2,920 |
| 11.300.50.12 | 50 | 12 | 63 | 42 | 15212 | 3,070 |
| 11.300.50.14 | 50 | 14 | 63 | 44 | 15212 | 3,110 |
| 11.300.50.16 | 50 | 16 | 63 | 48 | 15314 | 3,170 |
| 11.300.50.18 | 50 | 18 | 63 | 50 | 15314 | 3,190 |
| 11.300.50.20 | 50 | 20 | 63 | 52 | 15216 | 3,260 |
| 11.300.50.25 | 50 | 25 | 80 | 65 | 2 x 15218 | 3,910 |
| 11.300.50.32 | 50 | 32 | 100 | 72 | 2 x 15220 | 4,670 |
| 11.300.50.40 | 50 | 40 | 120 | 90 | 2 x 15220 | 6,310 |
| 11.300.50.50 | 50 | 50 | 120 | 98 | 2 x 15024 | 6,700 |

42.300

 I182

Ref. / Bez.

Accessories / Zubehör

42.300

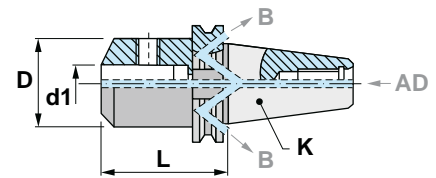
Short and long reducing bushings DIN 1835-B Form A and B

Kurze und lange Reduzierhülsen DIN 1835-B Form A und B







Characteristics:
Weldon end mill adaptors.
DIN 69871-A
For cutters with cylindrical shank
and Weldon flat DIN 1835-B.



Eigenschaften:
Zylinderschaft-Aufnahme Weldon.
DIN 69871-A.
Für Fräser mit zylindrischem
Schaft und Weldon-Fläche DIN
1835-B.

13.300

| Reference Bezeichnung | K ISO | d1 H4 | L | D |  |  |
|--------------------------|-------|-------|-----|----|---|---|
| 13.300.40.06 | 40 | 6 | 50 | 25 | 15106 | 0,930 |
| 13.300.40.08 | 40 | 8 | 50 | 28 | 15108 | 0,980 |
| 13.300.40.10 | 40 | 10 | 50 | 35 | 15110 | 1,050 |
| 13.300.40.12 | 40 | 12 | 50 | 42 | 15212 | 1,090 |
| 13.300.40.14 | 40 | 14 | 50 | 44 | 15212 | 1,120 |
| 13.300.40.16 | 40 | 16 | 63 | 48 | 15314 | 1,350 |
| 13.300.40.18 | 40 | 18 | 63 | 50 | 15314 | 1,370 |
| 13.300.40.20 | 40 | 20 | 63 | 52 | 15216 | 1,350 |
| 13.300.40.25 | 40 | 25 | 100 | 65 | 2 x 15218 | 2,360 |
| 13.300.40.32 | 40 | 32 | 100 | 72 | 2 x 15220 | 2,580 |
| 13.300.40.40 | 40 | 40 | 120 | 90 | 2 x 15220 | 4,260 |
| 13.300.50.06 | 50 | 6 | 63 | 25 | 15106 | 2,940 |
| 13.300.50.08 | 50 | 8 | 63 | 28 | 15108 | 2,780 |
| 13.300.50.10 | 50 | 10 | 63 | 35 | 15110 | 2,960 |
| 13.300.50.12 | 50 | 12 | 63 | 42 | 15212 | 3,070 |
| 13.300.50.14 | 50 | 14 | 63 | 44 | 15212 | 3,060 |
| 13.300.50.16 | 50 | 16 | 63 | 48 | 15314 | 3,110 |
| 13.300.50.18 | 50 | 18 | 63 | 50 | 15314 | 3,200 |
| 13.300.50.20 | 50 | 20 | 63 | 52 | 15216 | 3,220 |
| 13.300.50.25 | 50 | 25 | 80 | 65 | 2 x 15218 | 3,880 |
| 13.300.50.32 | 50 | 32 | 100 | 72 | 2 x 15220 | 4,690 |
| 13.300.50.40 | 50 | 40 | 120 | 90 | 2 x 15220 | 6,290 |
| 13.300.50.50 | 50 | 50 | 120 | 98 | 2 x 15024 | 6,740 |

42.300

 I182

| Ref. / Bez. | Accessories / Zubehör |
|-------------|--|
| 42.300 | Short and long reducing bushings DIN 1835-B Form A and B Kurze und lange Reduzierhülsen DIN 1835-B Form A und B |



**Characteristics:**

Short end mill adaptors.

DIN 69871-A

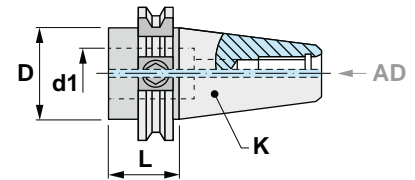
For cutters and tooling with cylindrical shank and Weldon flat DIN 1835-B.

Eigenschaften:


Kurze Aufsteckfräsdorne.

DIN 69871-A.

Für Fräser und Werkzeuge mit zylindrischem Schaft und Weldon-Fläche DIN 1835-B.



11.302

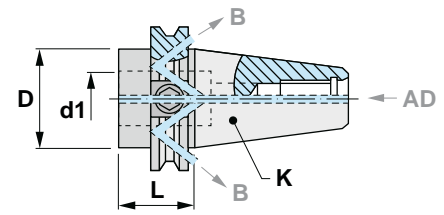
| Reference Bezeichnung | K ISO | d1 H4 | L | D |  |
|-----------------------|-------|-------|----|----|---|
| 11.302.30.16 | 30 | 16 | 32 | 32 | 0,440 |
| 11.302.30.20 | 30 | 20 | 34 | 36 | 0,500 |
| 11.302.40.16 | 40 | 16 | 35 | 44 | 0,980 |
| 11.302.40.20 | 40 | 20 | 35 | 44 | 1,000 |
| 11.302.40.25 | 40 | 25 | 35 | 45 | 0,850 |
| 11.302.40.32 | 40 | 32 | 45 | 50 | 0,820 |
| 11.302.50.16 | 50 | 16 | 35 | 70 | 3,140 |
| 11.302.50.20 | 50 | 20 | 35 | 70 | 3,100 |
| 11.302.50.25 | 50 | 25 | 35 | 70 | 2,980 |
| 11.302.50.32 | 50 | 32 | 35 | 70 | 2,830 |

| Reference Bezeichnung |  |
|-----------------------|---|
| 11.302.30.16 | 15114 |
| 11.302.30.20 | 15014 |
| 11.302.40.16 | 15214 |
| 11.302.40.20 | 15116 |
| 11.302.40.25 | 15016 |
| 11.302.40.32 | 15020 |
| 11.302.50.16 | 15314 |
| 11.302.50.20 | 15216 |
| 11.302.50.25 | 15118 + 15218 |
| 11.302.50.32 | 15020 + 15120 |



Characteristics:
Short end mill adaptors.
DIN 69871-A
For cutters and tooling with cylindrical shank and Weldon flat DIN 1835-B.

Eigenschaften:
Kurze Aufsteckfräsdorne.
DIN 69871-A.
Für Fräser und Werkzeuge mit zylindrischem Schaft und Weldon-Fläche DIN 1835-B.



13.302

| Reference Bezeichnung | K ISO | d1 H4 | L | D | KG |
|-----------------------|-------|-------|----|----|-------|
| 13.302.40.16 | 40 | 16 | 35 | 44 | 0,950 |
| 13.302.40.20 | 40 | 20 | 35 | 44 | 0,890 |
| 13.302.40.25 | 40 | 25 | 35 | 45 | 0,840 |
| 13.302.40.32 | 40 | 32 | 45 | 50 | 0,800 |
| 13.302.50.16 | 50 | 16 | 35 | 70 | 3,030 |
| 13.302.50.20 | 50 | 20 | 35 | 70 | 3,070 |
| 13.302.50.25 | 50 | 25 | 35 | 70 | 2,910 |
| 13.302.50.32 | 50 | 32 | 35 | 70 | 2,790 |

| Reference Bezeichnung | |
|-----------------------|---|
| |  |
| 13.302.40.16 | 15214 |
| 13.302.40.20 | 15116 |
| 13.302.40.25 | 15016 |
| 13.302.40.32 | 15020 |
| 13.302.50.16 | 15314 |
| 13.302.50.20 | 15216 |
| 13.302.50.25 | 15118 + 15218 |
| 13.302.50.32 | 15020 + 15120 |

42.610

 I183

Ref. / Bez. Accessories / Zubehör

42.610 Tapping head with axial compensation DIN 1835-B
Gewindeschneidfutter mit Längenausgleich DIN 1835-B



42.620

 I184

Ref. / Bez. Accessories / Zubehör

42.620 Quick change tapping head with axial compensation DIN 1835-B+E
Gewindeschneid-Schnellwechselfutter mit Längenausgleich DIN 1835-B+E



**Characteristics:**

End mill adaptors type Whistle-Notch.

DIN 69871-A

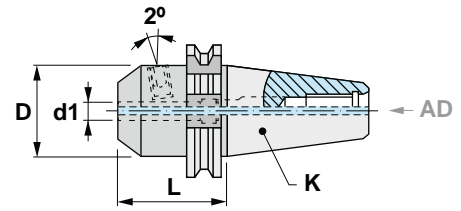
For tools with cylindrical shank and tightening inclined flat DIN 1835-E.

Eigenschaften:




Whistle-Notch Zylinderschaft-Aufnahme.

DIN 69871-A.

Für Werkzeuge mit zylindrischem Schaft und geneigter Spannfläche DIN 1835-E.

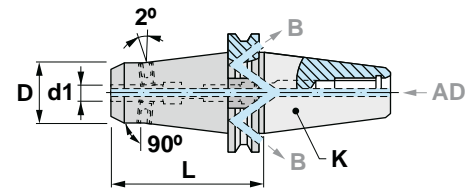


11.305

| Reference Bezeichnung | K ISO | d1 H4 | L | D |  |  |  |
|--------------------------|-------|-------|-----|----|---|---|---|
| 11.305.30.06 | 30 | 6 | 50 | 25 | 19005 | 15106 | 0,560 |
| 11.305.30.08 | 30 | 8 | 50 | 28 | 19106 | 15108 | 0,560 |
| 11.305.30.10 | 30 | 10 | 50 | 35 | 19008 | 15110 | 0,640 |
| 11.305.30.12 | 30 | 12 | 50 | 42 | 19110 | 15212 | 0,700 |
| 11.305.30.14 | 30 | 14 | 50 | 44 | 19110 | 15212 | 0,660 |
| 11.305.30.16 | 30 | 16 | 63 | 48 | 19012 | 15314 | 0,880 |
| 11.305.30.18 | 30 | 18 | 63 | 50 | 19012 | 15314 | 0,850 |
| 11.305.40.06 | 40 | 6 | 50 | 25 | 19005 | 15106 | 0,960 |
| 11.305.40.08 | 40 | 8 | 50 | 28 | 19106 | 15108 | 0,980 |
| 11.305.40.10 | 40 | 10 | 50 | 35 | 19008 | 15110 | 1,050 |
| 11.305.40.12 | 40 | 12 | 50 | 42 | 19110 | 15212 | 1,140 |
| 11.305.40.14 | 40 | 14 | 50 | 44 | 19110 | 15212 | 1,150 |
| 11.305.40.16 | 40 | 16 | 63 | 48 | 19012 | 15314 | 1,360 |
| 11.305.40.18 | 40 | 18 | 63 | 50 | 19012 | 15314 | 1,370 |
| 11.305.40.20 | 40 | 20 | 63 | 52 | 19016 | 15216 | 1,380 |
| 11.305.40.25 | 40 | 25 | 100 | 65 | 19020 | 2 x 15218 | 2,370 |
| 11.305.40.32 | 40 | 32 | 100 | 72 | 19020 | 2 x 15220 | 2,700 |
| 11.305.50.06 | 50 | 6 | 63 | 25 | 19005 | 15106 | 2,900 |
| 11.305.50.08 | 50 | 8 | 63 | 28 | 19106 | 15108 | 2,920 |
| 11.305.50.10 | 50 | 10 | 63 | 35 | 19008 | 15110 | 3,060 |
| 11.305.50.12 | 50 | 12 | 63 | 42 | 19110 | 15212 | 3,100 |
| 11.305.50.14 | 50 | 14 | 63 | 44 | 19110 | 15212 | 3,160 |
| 11.305.50.16 | 50 | 16 | 63 | 48 | 19012 | 15314 | 3,250 |
| 11.305.50.18 | 50 | 18 | 63 | 50 | 19012 | 15314 | 3,380 |
| 11.305.50.20 | 50 | 20 | 63 | 52 | 19016 | 15216 | 3,280 |
| 11.305.50.25 | 50 | 25 | 80 | 65 | 19020 | 2 x 15218 | 3,990 |
| 11.305.50.32 | 50 | 32 | 100 | 72 | 19020 | 2 x 15220 | 4,700 |
| 11.305.50.40 | 50 | 40 | 120 | 90 | 19020 | 2 x 15220 | 6,400 |







Characteristics:
Combined end mill adaptors type
Weldon / Whistle-Notch.
DIN 69871-A
For tools with cylindrical shank and
tightening inclined flat DIN 1835-B+E.



Eigenschaften:
Kombi-Aufnahme Typ Weldon /
Whistle-Notch.
DIN 69871-A.
Für Werkzeuge mit zylindrischem
Schaft und geneigter Spannfläche
DIN 1835-B+E.

13.306

| Reference Bezeichnung | K ISO | d1 H4 | L | D | D1 | 2x  |  |
|--------------------------|-------|-------|-----|----|----|--|---|
| 13.306.40.06/100 | 40 | 6 | 100 | 22 | 28 | 15006 | 1,170 |
| 13.306.40.06/130 | 40 | 6 | 130 | 22 | 28 | 15006 | 1,220 |
| 13.306.40.06/160 | 40 | 6 | 160 | 22 | 33 | 15006 | 1,410 |
| 13.306.40.08/100 | 40 | 8 | 100 | 24 | 30 | 15008 | 1,130 |
| 13.306.40.08/130 | 40 | 8 | 130 | 24 | 30 | 15008 | 1,260 |
| 13.306.40.08/160 | 40 | 8 | 160 | 24 | 35 | 15008 | 1,480 |
| 13.306.40.10/100 | 40 | 10 | 100 | 30 | 38 | 15010 | 1,410 |
| 13.306.40.10/130 | 40 | 10 | 130 | 30 | 38 | 15010 | 1,480 |
| 13.306.40.10/160 | 40 | 10 | 160 | 30 | 39 | 15010 | 1,690 |
| 13.306.40.12/100 | 40 | 12 | 100 | 32 | 40 | 15012 | 1,340 |
| 13.306.40.12/130 | 40 | 12 | 130 | 32 | 40 | 15012 | 1,610 |
| 13.306.40.12/160 | 40 | 12 | 160 | 32 | 43 | 15012 | 1,870 |
| 13.306.40.14/100 | 40 | 14 | 100 | 32 | 40 | 15012 | 1,360 |
| 13.306.40.14/130 | 40 | 14 | 130 | 32 | 40 | 15012 | 1,540 |
| 13.306.40.14/160 | 40 | 14 | 160 | 32 | 44 | 15012 | 1,840 |
| 13.306.40.16/100 | 40 | 16 | 100 | 36 | 44 | 15114 | 1,450 |
| 13.306.40.16/130 | 40 | 16 | 130 | 36 | 44 | 15114 | 1,740 |
| 13.306.40.16/160 | 40 | 16 | 160 | 36 | 44 | 15114 | 1,960 |
| 13.306.40.18/100 | 40 | 18 | 100 | 38 | 46 | 15114 | 1,490 |
| 13.306.40.18/130 | 40 | 18 | 130 | 38 | 46 | 15114 | 1,800 |
| 13.306.40.18/160 | 40 | 18 | 160 | 38 | 46 | 15114 | 2,110 |
| 13.306.40.20/100 | 40 | 20 | 100 | 44 | 50 | 15116 | 1,650 |
| 13.306.40.20/130 | 40 | 20 | 130 | 44 | 50 | 15116 | 2,060 |
| 13.306.40.20/160 | 40 | 20 | 160 | 44 | 50 | 15116 | 2,420 |
| 13.306.40.25/100 | 40 | 25 | 100 | 50 | 50 | 15018 | 1,760 |
| 13.306.40.25/130 | 40 | 25 | 130 | 50 | 50 | 4 x 15018 | 2,220 |
| 13.306.40.25/160 | 40 | 25 | 160 | 50 | 50 | 4 x 15018 | 2,620 |

| Reference Bezeichnung | K ISO | d1 H4 | L | D | D1 | 2x  |  kg |
|--------------------------|-------|-------|-----|----|----|--|--|
| 13.306.50.06/130 | 50 | 6 | 130 | 22 | 28 | 15006 | 3,050 |
| 13.306.50.06/160 | 50 | 6 | 160 | 22 | 33 | 15006 | 3,250 |
| 13.306.50.06/200 | 50 | 6 | 200 | 22 | 36 | 15006 | 3,500 |
| 13.306.50.08/130 | 50 | 8 | 130 | 24 | 30 | 15008 | 3,100 |
| 13.306.50.08/160 | 50 | 8 | 160 | 24 | 35 | 15008 | 3,350 |
| 13.306.50.08/200 | 50 | 8 | 200 | 24 | 38 | 15008 | 3,600 |
| 13.306.50.10/130 | 50 | 10 | 130 | 30 | 38 | 15010 | 3,330 |
| 13.306.50.10/160 | 50 | 10 | 160 | 30 | 39 | 15010 | 3,600 |
| 13.306.50.10/200 | 50 | 10 | 200 | 30 | 43 | 15010 | 4,000 |
| 13.306.50.12/130 | 50 | 12 | 130 | 32 | 40 | 15012 | 3,360 |
| 13.306.50.12/160 | 50 | 12 | 160 | 32 | 43 | 15012 | 3,660 |
| 13.306.50.12/200 | 50 | 12 | 200 | 32 | 46 | 15012 | 4,100 |
| 13.306.50.14/130 | 50 | 14 | 130 | 32 | 40 | 15012 | 3,370 |
| 13.306.50.14/160 | 50 | 14 | 160 | 32 | 44 | 15012 | 3,670 |
| 13.306.50.14/200 | 50 | 14 | 200 | 32 | 48 | 15012 | 4,200 |
| 13.306.50.16/130 | 50 | 16 | 130 | 36 | 44 | 15114 | 3,600 |
| 13.306.50.16/160 | 50 | 16 | 160 | 36 | 44 | 15114 | 3,800 |
| 13.306.50.16/200 | 50 | 16 | 200 | 36 | 50 | 15114 | 4,400 |
| 13.306.50.18/130 | 50 | 18 | 130 | 38 | 46 | 15114 | 3,600 |
| 13.306.50.18/160 | 50 | 18 | 160 | 38 | 46 | 15114 | 3,920 |
| 13.306.50.18/200 | 50 | 18 | 200 | 38 | 52 | 15114 | 4,610 |
| 13.306.50.20/100 | 50 | 20 | 100 | 44 | 50 | 15116 | 3,280 |
| 13.306.50.20/130 | 50 | 20 | 130 | 44 | 50 | 15116 | 3,840 |
| 13.306.50.20/160 | 50 | 20 | 160 | 44 | 50 | 15116 | 4,300 |
| 13.306.50.20/200 | 50 | 20 | 200 | 44 | 55 | 15116 | 4,900 |
| 13.306.50.25/130 | 50 | 25 | 130 | 50 | 56 | 4 x 15018 | 4,200 |
| 13.306.50.25/160 | 50 | 25 | 160 | 50 | 60 | 4 x 15018 | 4,800 |
| 13.306.50.25/200 | 50 | 25 | 200 | 50 | 64 | 4 x 15018 | 5,600 |
| 13.306.50.32/200 | 50 | 32 | 200 | 58 | 72 | 4 x 15120 | 6,500 |
| 13.306.50.40/200 | 50 | 40 | 200 | 66 | 80 | 4 x 15120 | 6,670 |



I

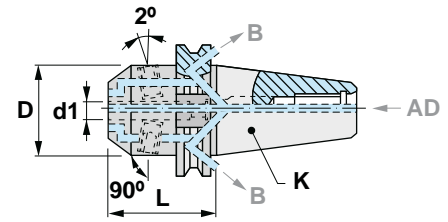


Characteristics:

Combined end mill adaptors type Weldon / Whistle-Notch.

DIN 69871-A

For tools with cylindrical shank and tightening inclined flat DIN 1835-B+E. Coolant distribution trough the centre or through the flange of the tool.






Eigenschaften:

Kombi-Aufnahme Typ Weldon / Whistle-Notch.

DIN 69871-A.

Für Werkzeuge mit zylindrischem Schaft und geneigter Spannfläche DIN 1835-B+E. Kühlmittel-Verteilung durch die Zentralbohrung oder durch den Bund.

13.307

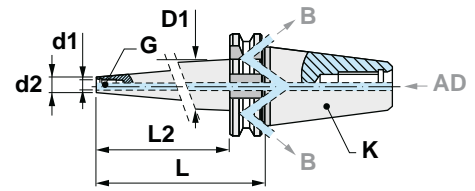
| Reference Bezeichnung | K ISO | d1 H4 | L | D |  | 2x  |  |
|--------------------------|-------|-------|-----|----|---|--|---|
| 13.307.40.06 | 40 | 6 | 50 | 25 | 19005 | 15106 | 0,970 |
| 13.307.40.08 | 40 | 8 | 50 | 28 | 19106 | 15108 | 0,990 |
| 13.307.40.10 | 40 | 10 | 50 | 35 | 19008 | 15110 | 1,060 |
| 13.307.40.12 | 40 | 12 | 50 | 42 | 19110 | 15212 | 1,140 |
| 13.307.40.14 | 40 | 14 | 50 | 44 | 19110 | 15212 | 1,160 |
| 13.307.40.16 | 40 | 16 | 63 | 48 | 19012 | 15314 | 1,350 |
| 13.307.40.18 | 40 | 18 | 63 | 50 | 19012 | 15314 | 1,380 |
| 13.307.40.20 | 40 | 20 | 63 | 52 | 19016 | 15216 | 1,380 |
| 13.307.40.25 | 40 | 25 | 100 | 65 | 19020 | 4 x 15218 | 2,360 |
| 13.307.40.32 | 40 | 32 | 100 | 72 | 19020 | 4 x 15220 | 2,560 |
| 13.307.50.06 | 50 | 6 | 63 | 25 | 19005 | 15106 | 2,910 |
| 13.307.50.08 | 50 | 8 | 63 | 28 | 19106 | 15108 | 2,840 |
| 13.307.50.10 | 50 | 10 | 63 | 35 | 19008 | 15110 | 2,920 |
| 13.307.50.12 | 50 | 12 | 63 | 42 | 19110 | 15212 | 3,210 |
| 13.307.50.14 | 50 | 14 | 63 | 44 | 19110 | 15212 | 3,080 |
| 13.307.50.16 | 50 | 16 | 63 | 48 | 19012 | 15314 | 3,210 |
| 13.307.50.18 | 50 | 18 | 63 | 50 | 19012 | 15314 | 3,350 |
| 13.307.50.20 | 50 | 20 | 63 | 52 | 19016 | 15216 | 3,300 |
| 13.307.50.25 | 50 | 25 | 80 | 65 | 19020 | 4 x 15218 | 3,970 |
| 13.307.50.32 | 50 | 32 | 100 | 72 | 19020 | 4 x 15220 | 4,740 |
| 13.307.50.40 | 50 | 40 | 120 | 90 | 19020 | 4 x 15220 | 5,990 |






Characteristics:
Mill adaptors.
DIN 69871-A
For frontal end mill support
screwed shanks.

Eigenschaften:
Spannfutter.
DIN 69871-A.
Für Einschraubfräser.



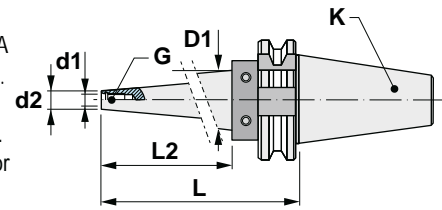
13.315

| Reference Bezeichnung | K ISO | L | d1 | G | d2 | L2 | D1 |  |
|--------------------------|-------|-----|------|-----|----|-----|----|---|
| 13.315.40.10/045 | 40 | 45 | 10,5 | M10 | 18 | 25 | 20 | 0,910 |
| 13.315.40.10/070 | 40 | 70 | 10,5 | M10 | 18 | 50 | 23 | 0,960 |
| 13.315.40.10/120 | 40 | 120 | 10,5 | M10 | 18 | 100 | 29 | 1,150 |
| 13.315.40.12/045 | 40 | 45 | 12,5 | M12 | 21 | 25 | 24 | 0,920 |
| 13.315.40.12/070 | 40 | 70 | 12,5 | M12 | 21 | 50 | 26 | 0,980 |
| 13.315.40.12/120 | 40 | 120 | 12,5 | M12 | 21 | 100 | 32 | 1,260 |
| 13.315.40.16/045 | 40 | 45 | 17,0 | M16 | 29 | 25 | 32 | 0,930 |
| 13.315.40.16/070 | 40 | 70 | 17,0 | M16 | 29 | 50 | 35 | 1,040 |
| 13.315.40.16/120 | 40 | 120 | 17,0 | M16 | 29 | 100 | 40 | 1,530 |
| 13.315.50.12/070 | 50 | 70 | 12,5 | M12 | 21 | 50 | 26 | 2,810 |
| 13.315.50.12/120 | 50 | 120 | 12,5 | M12 | 21 | 100 | 32 | 3,110 |
| 13.315.50.12/170 | 50 | 170 | 12,5 | M12 | 21 | 150 | 37 | 3,450 |
| 13.315.50.16/070 | 50 | 70 | 17,0 | M16 | 29 | 50 | 35 | 2,910 |
| 13.315.50.16/120 | 50 | 120 | 17,0 | M16 | 29 | 100 | 40 | 3,370 |
| 13.315.50.16/170 | 50 | 170 | 17,0 | M16 | 29 | 150 | 45 | 3,910 |



Characteristics:

Antivibratory end mill adaptors. DIN 69871-A
For frontal end mill support screwed shanks.
Manufactured with materials and mechanisms having antivibration properties.
Standard and extra long lengths, suitable for moulding and special manufactures.



PRE-BALANCED

ISO-40: 15.000 r.p.m. G-6,3

ISO-50: 10.000 r.p.m. G-6,3

Eigenschaften:

Schwingungsgedämpfte
Aufsteckfräsdorne für Einschraubfräser. DIN 69871-A
Hergestellt mit schwingungsdämpfenden Materialien und Mechanismen.
Standard und extralange Ausführungen sind für Werkzeug- und Formenbau besonders geeignet.

VORGEWUCHTET

ISO-40: 15.000 r.p.m. G-6,3

ISO-50: 10.000 r.p.m. G-6,3

A11.315

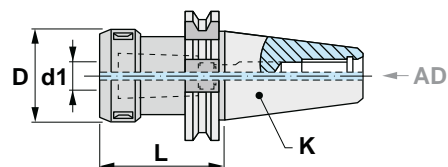
| Reference Bezeichnung | K ISO | L2 | D1 | L | D | d1 | G | d2 | ⚖️ |
|-----------------------|-------|-----|----|-----|----|------|-----|----|--------|
| A11.315.40.10/200 | 40 | 165 | 35 | 200 | 50 | 10,5 | M10 | 18 | 1,740 |
| A11.315.40.10/250 | 40 | 215 | 41 | 250 | 50 | 10,5 | M10 | 18 | 2,160 |
| A11.315.40.10/300 | 40 | 265 | 46 | 300 | 50 | 10,5 | M10 | 18 | 2,750 |
| A11.315.40.12/200 | 40 | 165 | 38 | 200 | 50 | 12,5 | M12 | 21 | 2,110 |
| A11.315.40.12/250 | 40 | 215 | 44 | 250 | 50 | 12,5 | M12 | 21 | 2,410 |
| A11.315.40.12/300 | 40 | 265 | 49 | 300 | 50 | 12,5 | M12 | 21 | 3,080 |
| A11.315.40.16/200 | 40 | 165 | 46 | 200 | 50 | 17,0 | M16 | 29 | 2,310 |
| A11.315.40.16/250 | 40 | 215 | 48 | 250 | 50 | 17,0 | M16 | 29 | 2,740 |
| A11.315.40.16/300 | 40 | 265 | 50 | 300 | 50 | 17,0 | M16 | 29 | 3,400 |
| A11.315.50.12/250 | 50 | 215 | 44 | 250 | 80 | 12,5 | M12 | 21 | 4,790 |
| A11.315.50.12/300 | 50 | 265 | 49 | 300 | 80 | 12,5 | M12 | 21 | 5,120 |
| A11.315.50.12/400 | 50 | 365 | 60 | 400 | 80 | 12,5 | M12 | 21 | 6,950 |
| A11.315.50.16/250 | 50 | 215 | 52 | 250 | 80 | 17,0 | M16 | 29 | 5,510 |
| A11.315.50.16/300 | 50 | 265 | 57 | 300 | 80 | 17,0 | M16 | 29 | 6,140 |
| A11.315.50.16/400 | 50 | 365 | 68 | 400 | 80 | 17,0 | M16 | 29 | 7,580 |
| A11.315.50.16/500 | 50 | 465 | 78 | 500 | 80 | 17,0 | M16 | 29 | 11,680 |

A11.315IK

| Reference Bezeichnung | K ISO | L2 | D1 | L | D | d1 | G | d2 | ⚖️ |
|-----------------------|-------|-----|----|-----|----|------|-----|----|-------|
| A11.315.40.10/200IK | 40 | 165 | 35 | 200 | 50 | 10,5 | M10 | 18 | 1,740 |
| A11.315.40.10/250IK | 40 | 215 | 41 | 250 | 50 | 10,5 | M10 | 18 | 2,160 |
| A11.315.40.12/200IK | 40 | 165 | 38 | 200 | 50 | 12,5 | M12 | 21 | 2,110 |
| A11.315.40.12/250IK | 40 | 215 | 44 | 250 | 50 | 12,5 | M12 | 21 | 2,410 |
| A11.315.40.16/250IK | 40 | 215 | 48 | 250 | 50 | 17,0 | M16 | 29 | 2,740 |
| A11.315.50.12/300IK | 50 | 265 | 49 | 300 | 80 | 12,5 | M12 | 21 | 5,120 |
| A11.315.50.16/300IK | 50 | 265 | 57 | 300 | 80 | 17,0 | M16 | 29 | 6,140 |

**Characteristics:**

Collet chucks for DIN 6388 collets.
DIN 69871-A
For tools with cylindrical shank
DIN 1835-B.
* Ball bearing nut, see page: I220







*** SUPPLIED WITHOUT WRENCH**

Eigenschaften:

Spannzangenfutter für Spannzangen
DIN 6388.
DIN 69871-A.
Für Werkzeuge mit zylindrischem
Schaft DIN 1835-B.
* Für Kugellager-Mutter, siehe Seite: I220

*** LIEFERUNG OHNE SCHLÜSSEL**

11.353

| Reference Bezeichnung | K ISO | L | d1 | D |  |  |  |  |
|--------------------------|-------|-----|------|----|--|---|---|---|
| 11.353.30.16 | 30 | 65 | 2-16 | 43 | 43316 | 50116 | 19216 | 0,900 |
| 11.353.30.25 | 30 | 70 | 3-25 | 60 | 43325 | 50125 | 19216 | 0,960 |
| 11.353.40.16 | 40 | 70 | 2-16 | 43 | 43316 | 50116 | 19216 | 1,120 |
| 11.353.40.16/120 | 40 | 120 | 2-16 | 43 | 43316 | 50116 | 19216 | 1,300 |
| 11.353.40.25 | 40 | 70 | 3-25 | 60 | 43325 | 50125 | 19224 | 1,270 |
| 11.353.40.25/120 | 40 | 120 | 3-25 | 60 | 43325 | 50125 | 19224 | 1,910 |
| 11.353.40.32 | 40 | 90 | 4-32 | 72 | 43332 | 50132 | 19224 | 1,780 |
| 11.353.50.16 | 50 | 70 | 2-16 | 43 | 43316 | 50116 | 19216 | 3,000 |
| 11.353.50.25 | 50 | 70 | 3-25 | 60 | 43325 | 50125 | 19224 | 2,690 |
| 11.353.50.25/120 | 50 | 120 | 3-25 | 60 | 43325 | 50125 | 19224 | 3,440 |
| 11.353.50.32 | 50 | 80 | 4-32 | 72 | 43332 | 50132 | 19230 | 3,560 |

BXX

 I206-208

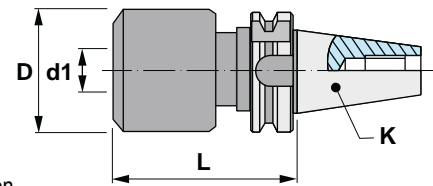
| Ref. / Bez. | Accessories / Zubehör |
|-------------|---|
| BXX | Collets with double slot DIN 6388 - Form B Spannzangen mit Doppelnut DIN 6388 - Form B |






Characteristics:
Strong hold collet chuck for cylindrical collets.
DIN 69871-A

Eigenschaften:
Kraftspannfutter für zylindrische Spannzangen.
DIN 69871-A

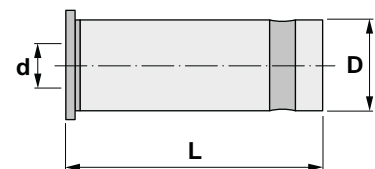


11.400

| Reference Bezeichnung | K ISO | L | d1 | D |  |
|--------------------------|-------|-----|----|----|---|
| 11.400.40.20 | 40 | 105 | 20 | 54 | 1,950 |
| 11.400.40.32 | 40 | 105 | 32 | 72 | 2,550 |
| 11.400.50.20 | 50 | 105 | 20 | 54 | 3,850 |
| 11.400.50.32 | 50 | 105 | 32 | 72 | 4,450 |

Complements (Collets type C) / Zubehör (Spannzangen Typ C)

| Reference / Bezeichnung | d | D | L |
|-------------------------|----|----|----|
| C2006 | 6 | 20 | 55 |
| C2008 | 8 | 20 | 55 |
| C2010 | 10 | 20 | 55 |
| C2012 | 12 | 20 | 55 |
| C2016 | 16 | 20 | 55 |
| C3206 | 6 | 32 | 65 |
| C3208 | 8 | 32 | 65 |
| C3210 | 10 | 32 | 65 |
| C3212 | 12 | 32 | 65 |
| C3216 | 16 | 32 | 65 |
| C3220 | 20 | 32 | 65 |
| C3225 | 25 | 32 | 65 |




**Characteristics:**

Set of strong hold milling chuck and collets.
DIN 69871-A / BT

Eigenschaften:

Satz mit Kraftspannfutter und Spannzangen.
DIN 69871-A / BT

SET-C20/32

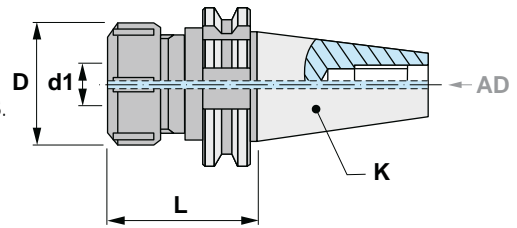
| Reference Bezeichnung | DIN | Composition Bestehend aus |  Kg |
|--------------------------|-------------|--|--|
| SET-11.40.C20 | DIN 69871-A | 1 x 11.400.40.20 + 5 collets / Spannzangen | 4,500 |
| SET-11.40.C32 | DIN 69871-A | 1 x 11.400.40.32 + 7 collets / Spannzangen | 6,700 |
| SET-11.50.C32 | DIN 69871-A | 1 x 11.400.50.32 + 7 collets / Spannzangen | 9,150 |










Characteristics:
Collet chucks for DIN 6499 (ER) collets.
DIN 69871-A
For tools with cylindrical shank DIN 1835-B.
* Ball bearing nut, see page: I221

Eigenschaften:
Spannzangenfutter DIN 69871-A für
Spannzangen DIN 6499 (ER).
Für Werkzeuge mit zylindrischem Schaft
DIN 1835-B.
* Für Kugellager-Mutter, siehe Seite: I221



*** SUPPLIED WITHOUT WRENCH**
*** LIEFERUNG OHNE SCHLÜSSEL**

11.453

| Reference Bezeichnung | K ISO |  | L | d1 | D |  |  |  |  |
|--------------------------|-------|---|-----|--------|----|---|---|---|---|
| 11.453.30.16 | 30 | ER16 | 55 | 0,5-10 | 32 | 45316 | 50216 | 19210 | 0,490 |
| 11.453.30.20 | 30 | ER20 | 55 | 1-13 | 35 | 45320 | 50220 | 19212 | 0,500 |
| 11.453.30.25 | 30 | ER25 | 55 | 1-16 | 42 | 45325 | 50225 | 19216 | 0,530 |
| 11.453.30.32 | 30 | ER32 | 60 | 2-20 | 50 | 45332 | 50232 | 19218 | 0,600 |
| 11.453.40.16 | 40 | ER16 | 70 | 0,5-10 | 32 | 45316 | 50216 | 19210 | 0,990 |
| 11.453.40.16/100 | 40 | ER16 | 100 | 0,5-10 | 32 | 45316 | 50216 | 19210 | 1,100 |
| 11.453.40.16/150 | 40 | ER16 | 150 | 0,5-10 | 32 | 45316 | 50216 | 19210 | 1,280 |
| 11.453.40.20 | 40 | ER20 | 70 | 1-13 | 35 | 45320 | 50220 | 19212 | 1,020 |
| 11.453.40.20/100 | 40 | ER20 | 100 | 1-13 | 35 | 45320 | 50220 | 19212 | 1,170 |
| 11.453.40.20/150 | 40 | ER20 | 150 | 1-13 | 35 | 45320 | 50220 | 19212 | 1,400 |
| 11.453.40.25 | 40 | ER25 | 70 | 1-16 | 42 | 45325 | 50225 | 19216 | 1,090 |
| 11.453.40.25/100 | 40 | ER25 | 100 | 1-16 | 42 | 45325 | 50225 | 19216 | 1,160 |
| 11.453.40.25/150 | 40 | ER25 | 150 | 1-16 | 42 | 45325 | 50225 | 19216 | 1,780 |
| 11.453.40.32 | 40 | ER32 | 70 | 2-20 | 50 | 45332 | 50232 | 19222 | 1,150 |
| 11.453.40.32/100 | 40 | ER32 | 100 | 2-20 | 50 | 45332 | 50232 | 19222 | 1,310 |
| 11.453.40.32/150 | 40 | ER32 | 150 | 2-20 | 50 | 45332 | 50232 | 19222 | 1,650 |
| 11.453.40.40 | 40 | ER40 | 70 | 3-30 | 63 | 45340 | 50240 | 19224 | 1,280 |
| 11.453.40.40/100 | 40 | ER40 | 100 | 3-30 | 63 | 45340 | 50240 | 19224 | 1,340 |
| 11.453.40.40/150 | 40 | ER40 | 150 | 3-30 | 63 | 45340 | 50240 | 19224 | 2,430 |
| 11.453.50.16/100 | 50 | ER16 | 100 | 0,5-10 | 32 | 45316 | 50216 | 19210 | 3,010 |
| 11.453.50.16/150 | 50 | ER16 | 150 | 0,5-10 | 32 | 45316 | 50216 | 19210 | 3,100 |
| 11.453.50.20/100 | 50 | ER20 | 100 | 1-13 | 35 | 45320 | 50220 | 19212 | 3,100 |
| 11.453.50.20/150 | 50 | ER20 | 150 | 1-13 | 35 | 45320 | 50220 | 19212 | 3,300 |
| 11.453.50.25 | 50 | ER25 | 70 | 1-16 | 42 | 45325 | 50225 | 19216 | 2,980 |
| 11.453.50.25/150 | 50 | ER25 | 150 | 1-16 | 42 | 45325 | 50225 | 19216 | 3,540 |
| 11.453.50.32 | 50 | ER32 | 70 | 2-20 | 50 | 45332 | 50232 | 19222 | 3,030 |
| 11.453.50.32/100 | 50 | ER32 | 100 | 2-20 | 50 | 45332 | 50232 | 19222 | 3,100 |
| 11.453.50.32/150 | 50 | ER32 | 150 | 2-20 | 50 | 45332 | 50232 | 19222 | 3,890 |
| 11.453.50.40 | 50 | ER40 | 80 | 3-30 | 63 | 45340 | 50240 | 19224 | 3,310 |
| 11.453.50.40/150 | 50 | ER40 | 150 | 3-30 | 63 | 45340 | 50240 | 19224 | 4,690 |
| 11.453.50.50 | 50 | ER50 | 90 | 10-34 | 78 | 45350 | 50250 | 19230 | 3,700 |

ERXX I210-212

Reference / Bezeichnung

ERXX



40.453.. I180

Reference / Bezeichnung

40.453..



ERCXX I215-216

Reference / Bezeichnung

ERCXX



40.455.. I181

Reference / Bezeichnung

40.455..



ERTXX I217-218

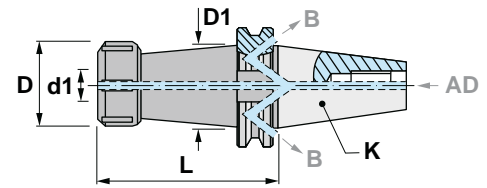
Reference / Bezeichnung

ERTXX



**Characteristics:**






Collet chucks for DIN 6499 (ER) collets.
DIN 69871-A
For tools with cylindrical shank
DIN 1835-B.
* Ball bearing nut, see page: I221

**Eigenschaften:**

Spannzangenfutter DIN 69871-A für
Spannzangen DIN 6499 (ER).
Für Werkzeuge mit zylindrischem Schaft
DIN 1835-B.
* Für Kugellager-Mutter, siehe Seite: I221

*** SUPPLIED WITHOUT WRENCH**
*** LIEFERUNG OHNE SCHLÜSSEL**

13.453

| Reference Bezeichnung | K ISO |  | L | d1 | D | D1 |  |  |  |  |
|--------------------------|-------|---|-----|--------|----|----|---|---|---|---|
| 13.453.40.16 | 40 | ER16 | 70 | 0,5-10 | 32 | - | 45316 | 50216 | 19210 | 0,980 |
| 13.453.40.16/100 | 40 | ER16 | 100 | 0,5-10 | 32 | 28 | 45316 | 50216 | 19210 | 1,090 |
| 13.453.40.16/150 | 40 | ER16 | 150 | 0,5-10 | 32 | 28 | 45316 | 50216 | 19210 | 1,260 |
| 13.453.40.20 | 40 | ER20 | 70 | 1-13 | 35 | - | 45320 | 50220 | 19212 | 1,020 |
| 13.453.40.20/100 | 40 | ER20 | 100 | 1-13 | 35 | 34 | 45320 | 50220 | 19212 | 1,160 |
| 13.453.40.20/150 | 40 | ER20 | 150 | 1-13 | 35 | 34 | 45320 | 50220 | 19212 | 1,400 |
| 13.453.40.25 | 40 | ER25 | 70 | 1-16 | 42 | - | 45325 | 50225 | 19216 | 1,080 |
| 13.453.40.25/150 | 40 | ER25 | 150 | 1-16 | 42 | 42 | 45325 | 50225 | 19216 | 1,690 |
| 13.453.40.32 | 40 | ER32 | 70 | 2-20 | 50 | - | 45332 | 50232 | 19222 | 1,140 |
| 13.453.40.32/100 | 40 | ER32 | 100 | 2-20 | 50 | 50 | 45332 | 50232 | 19222 | 1,310 |
| 13.453.40.32/150 | 40 | ER32 | 150 | 2-20 | 50 | 50 | 45332 | 50232 | 19222 | 2,010 |
| 13.453.40.40 | 40 | ER40 | 70 | 3-30 | 63 | - | 45340 | 50240 | 19224 | 1,270 |
| 13.453.40.40/150 | 40 | ER40 | 150 | 3-30 | 63 | 63 | 45340 | 50240 | 19224 | 1,970 |
| 13.453.50.16/100 | 50 | ER16 | 100 | 0,5-10 | 32 | 28 | 45316 | 50216 | 19210 | 2,910 |
| 13.453.50.16/150 | 50 | ER16 | 150 | 0,5-10 | 32 | 28 | 45316 | 50216 | 19210 | 3,070 |
| 13.453.50.20/100 | 50 | ER20 | 100 | 1-13 | 35 | 34 | 45320 | 50220 | 19212 | 3,030 |
| 13.453.50.20/150 | 50 | ER20 | 150 | 1-13 | 35 | 34 | 45320 | 50220 | 19212 | 3,260 |
| 13.453.50.25 | 50 | ER25 | 70 | 1-16 | 42 | - | 45325 | 50225 | 19216 | 2,960 |
| 13.453.50.25/150 | 50 | ER25 | 150 | 1-16 | 42 | 42 | 45325 | 50225 | 19216 | 3,530 |
| 13.453.50.32 | 50 | ER32 | 70 | 2-20 | 50 | - | 45332 | 50232 | 19222 | 2,980 |
| 13.453.50.32/100 | 50 | ER32 | 100 | 2-20 | 50 | 50 | 45332 | 50232 | 19222 | 3,050 |
| 13.453.50.32/150 | 50 | ER32 | 150 | 2-20 | 50 | 50 | 45332 | 50232 | 19222 | 3,820 |
| 13.453.50.32/200 | 50 | ER32 | 200 | 2-20 | 50 | 50 | 45332 | 50232 | 19222 | 4,150 |
| 13.453.50.40 | 50 | ER40 | 80 | 3-30 | 63 | - | 45340 | 50240 | 19224 | 3,320 |
| 13.453.50.40/150 | 50 | ER40 | 150 | 3-30 | 63 | 63 | 45340 | 50240 | 19224 | 4,670 |
| 13.453.50.40/200 | 50 | ER40 | 200 | 3-30 | 63 | 63 | 45340 | 50240 | 19224 | 4,958 |
| 13.453.50.50 | 50 | ER50 | 90 | 10-34 | 78 | - | 45350 | 50250 | 19230 | 2,950 |

ERXX
 I210-212


Reference / Bezeichnung

ERXX

**40.453..**
 I180

Reference / Bezeichnung

40.453..

**ERCXX**
 I215-216

Reference / Bezeichnung

ERCXX

**40.455..**
 I181

Reference / Bezeichnung

40.455..

**ERTXX**
 I217-218

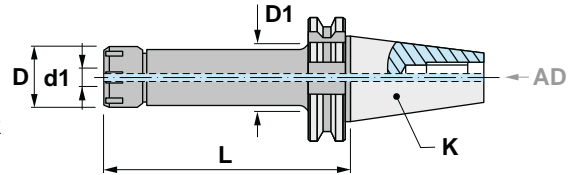
Reference / Bezeichnung

ERTXX





Characteristics:
Long collet chuck for
DIN 6499 (ER) collets.
DIN 69871-A
For tools with cylindrical shank
With "mini" collet nut.



*** SUPPLIED WITHOUT WRENCH**

Eigenschaften:
Lange Spannzangenfutter für
Spannzangen DIN 6499 (ER).
DIN 69871-A
Für Werkzeuge mit zylindrischem
Schaft.
Mit "Mini"-Spannmutter.

*** LIEFERUNG OHNE SCHLÜSSEL**

11.455

| Reference Bezeichnung | K ISO |  | L | d1 | D | D1 |  |  |  |  |
|--------------------------|-------|---|-----|--------|----|----|---|---|---|---|
| 11.455.40.16/100 | 40 | ER16 | 100 | 0,5-10 | 22 | 22 | 45516 | 50916 | 19210 | 1,050 |
| 11.455.40.16/130 | 40 | ER16 | 130 | 0,5-10 | 22 | 22 | 45516 | 50916 | 19210 | 1,140 |
| 11.455.40.16/160 | 40 | ER16 | 160 | 0,5-10 | 22 | 22 | 45516 | 50916 | 19210 | 1,200 |
| 11.455.40.16/200 | 40 | ER16 | 200 | 0,5-10 | 22 | 22 | 45516 | 50916 | 19210 | 1,310 |
| 11.455.40.20/100 | 40 | ER20 | 100 | 1-13 | 28 | 28 | 45520 | 50920 | 19212 | 1,180 |
| 11.455.40.20/160 | 40 | ER20 | 160 | 1-13 | 28 | 28 | 45520 | 50920 | 19212 | 1,430 |
| 11.455.40.25/100 | 40 | ER25 | 100 | 1-16 | 35 | 35 | 45525 | 50925 | 19216 | 1,380 |
| 11.455.40.25/160 | 40 | ER25 | 160 | 1-16 | 35 | 35 | 45525 | 50925 | 19216 | 1,770 |

ERXX

 I210-212

Ref. / Bez. Accessories / Zubehör

ERXX Collets with double slot DIN 6499 - Form B (ER)
Spannzangen mit Doppelnut DIN 6499 - Form B (ER)



ERCXX

 I215-216

Ref. / Bez. Accessories / Zubehör

ERCXX Sealed collets DIN 6499 (ER)
Abgedichtete Spannzangen DIN 6499 (ER)



ERTXX

 I217-218

Ref. / Bez. Accessories / Zubehör

ERTXX Collets DIN 6499 - Form Mexin (ER)
Spannzangen DIN 6499 - Form Mexin (ER)



**Characteristics:**

Mechanical collet chuck with high tightening torque and precision.

DIN 69871-A

For DIN 6499 (ER) collets.

The alternative to hydraulic or other systems. Central coolant supply.

*** SUPPLIED WITH WRENCH**

Eigenschaften:

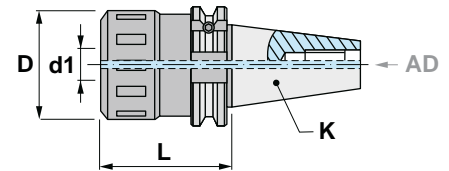
Mechanisches Spannzangenfutter mit hohem Anzugsmoment.

DIN 69871-A

Für Spannzangen DIN 6499 (ER).

Die Alternative zu hydraulischen und anderen Systemen. Mit Innenkühlung.

*** LIEFERUNG MIT SCHLÜSSEL**



11.457

| Reference Bezeichnung | K ISO |  | L | d1 | D |  |  |  |  |
|--------------------------|-------|---|-----|------|----|--|---|---|---|
| 11.457.40.32 | 40 | ER32 | 80 | 2-20 | 54 | 45732 | 50704 | 19006 | 1,420 |
| 11.457.50.32 | 50 | ER32 | 110 | 2-20 | 54 | 45732 | 50704 | 19006 | 3,580 |
| 11.457.50.40 | 50 | ER40 | 120 | 3-30 | 65 | 45740 | 50706 | 19010 | 4,480 |

ERXX

 I210-212

Ref. / Bez. Accessories / Zubehör

ERXX Collets with double slot DIN 6499 - Form B (ER)
Spannzangen mit Doppelnut DIN 6499 - Form B (ER)



ERCXX

 I215-216

Ref. / Bez. Accessories / Zubehör

ERCXX Sealed collets DIN 6499 (ER)
Abgedichtete Spannzangen DIN 6499 (ER)



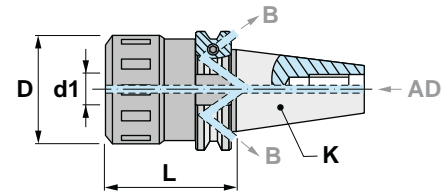


Characteristics:

Mechanical collet chuck with high tightening torque and precision.
DIN 69871-A
For DIN 6499 (ER) collets.

The alternative to hydraulic or other systems. Central coolant supply.

*** SUPPLIED WITH WRENCH**



Eigenschaften:

Mechanisches Spannzangenfutter mit hohem Anzugsmoment.
DIN 69871-A
Für Spannzangen DIN 6499 (ER).

Die Alternative zu hydraulischen und anderen Systemen. Mit Innenkühlung.

*** LIEFERUNG MIT SCHLÜSSEL**

13.457

| Reference Bezeichnung | K ISO | | L | d1 | D | | | | |
|--------------------------|-------|------|-----|------|----|-------|-------|-------|-------|
| 13.457.40.32 | 40 | ER32 | 80 | 2-20 | 54 | 45732 | 50704 | 19006 | 1,420 |
| 13.457.50.32 | 50 | ER32 | 110 | 2-20 | 54 | 45732 | 50704 | 19006 | 3,560 |
| 13.457.50.40 | 50 | ER40 | 120 | 3-30 | 65 | 45740 | 50706 | 19010 | 4,530 |

ERXX

I210-212

Ref. / Bez. Accessories / Zubehör

ERXX Collets with double slot DIN 6499 - Form B (ER)
Spannzangen mit Doppelnut DIN 6499 - Form B (ER)



ERCXX

I215-216

Ref. / Bez. Accessories / Zubehör

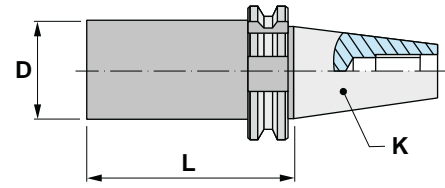
ERCXX Sealed collets DIN 6499 (ER)
Abgedichtete Spannzangen DIN 6499 (ER)






Characteristics:
Blank adaptors.
DIN 69871-A

Eigenschaften:
Rohlinge.
DIN 69871-A



11.470

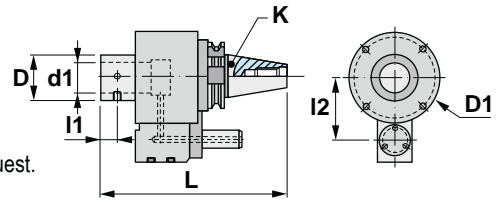
| Reference Bezeichnung | K ISO | D | L |  Kg |
|--------------------------|-------|------|-----|--|
| 11.470.30.40 | 30 | 40,5 | 160 | 1,940 |
| 11.470.40.63/250 | 40 | 63,5 | 250 | 6,450 |
| 11.470.50.95/315 | 50 | 95,5 | 315 | 19,000 |



Characteristics:

Cooling fluid supply unit.
DIN 69871-A similar to DIN 6359
For tools with cylindrical shank
DIN 1835-B/E.

* Other sizes are manufactured on request.





rpm max 4.000 min. -1 □ 25 bar max

Eigenschaften:

Drehverteiler für Innenkühlung.
DIN 69871-A ähnlich wie DIN 6359
für Werkzeuge mit zylindrischem
Schaft DIN 1835-B/E
* Andere Größen werden auf Anfrage hergestellt.

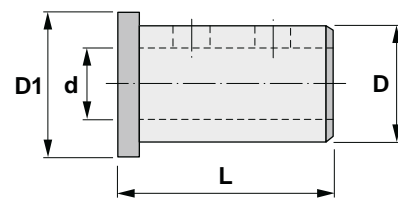
11.512

| Reference Bezeichnung | K ISO | d1 G6 | L | D | D1 | I1 | I2* |  |  |
|--------------------------|-------|-------|-----|----|----|----|-----|---|---|
| 11.512.40.25 | 40 | 25 | 152 | 45 | 95 | 15 | 65 | 14116 | 5,150 |
| 11.512.40.32 | 40 | 32 | 152 | 48 | 95 | 16 | 65 | 14116 | 5,490 |
| 11.512.50.32 | 50 | 32 | 152 | 48 | 90 | 24 | 80 | 14116 | 7,550 |
| 11.512.50.40 | 50 | 40 | 152 | 58 | 90 | 17 | 80 | 14116 | 7,680 |

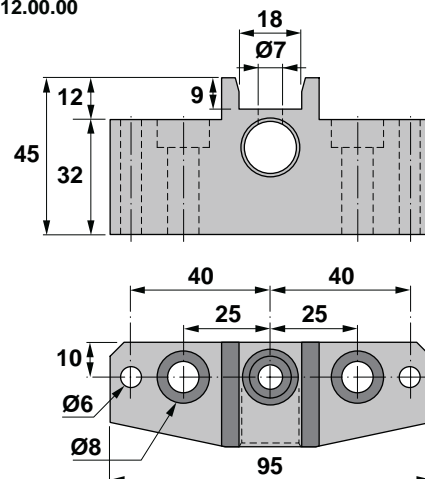
Complements of 512 group / Zubehör von gruppe 512

| Ref. / Bez. | D | d | D1 | L |
|-------------|----|----|----|----|
| 512.25.16 | 25 | 16 | 33 | 60 |
| 512.25.20 | | 20 | 33 | 60 |
| 512.32.16 | 32 | 16 | 40 | 60 |
| 512.32.20 | | 20 | 40 | 60 |
| 512.32.25 | | 25 | 40 | 60 |
| 512.40.16 | 40 | 16 | 48 | 60 |
| 512.40.20 | | 20 | 48 | 60 |
| 512.40.25 | | 25 | 48 | 60 |
| 512.40.32 | | 32 | 48 | 60 |
| 512.00.00 | | | | |

512..



512.00.00



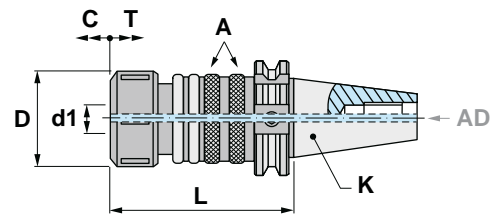
**Characteristics:**

Tapping head with axial compensation.

DIN 69871-A

For DIN 6499 (ER) collets and with central coolant supply.

Compensation in compression (C) and tension (T). Compression can be blocked by turning the rear ring (A).

*** SUPPLIED WITH WRENCH****Eigenschaften:**

Gewindeschneidfutter mit

Längenausgleich DIN 69871-A.

Befestigung mit Spannzangen 6499

(ER) und mit Innenkühlung.






Ausgleich der Kompression (C) und

der Traktion (T). Die Kompression

kann mit dem Ring (A) blockiert

werden.

*** LIEFERUNG MIT SCHLÜSSEL****11.610**

| Reference Bezeichnung | K ISO |  |  | d1 | L | D | C | T |  |  |  |
|--------------------------|-------|---|---|-----|----|------|------|-------|---|---|---|
| 11.610.30.16 | 30 | ER16 | M3-M12 | 99 | 28 | 5,5 | 6,0 | 45316 | 50216 | 0,890 | |
| 11.610.40.16 | 40 | ER16 | M3-M12 | 100 | 28 | 5,5 | 6,0 | 45316 | 50216 | 1,300 | |
| 11.610.40.25 | 40 | ER25 | M4-M20 | 125 | 42 | 10,5 | 7,5 | 45325 | 50225 | 1,690 | |
| 11.610.40.40 | 40 | ER40 | M8-M33 | 141 | 63 | 10,0 | 10,0 | 45340 | 50240 | 3,200 | |
| 11.610.50.16 | 50 | ER16 | M3-M12 | 100 | 28 | 5,5 | 6,0 | 45316 | 50216 | 3,620 | |
| 11.610.50.25 | 50 | ER25 | M4-M20 | 134 | 42 | 10,5 | 7,5 | 45325 | 50225 | 4,150 | |
| 11.610.50.40 | 50 | ER40 | M8-M33 | 150 | 63 | 10,0 | 10,0 | 45340 | 50240 | 4,520 | |

ERXX
 I210-212

Ref. / Bez. Accessories / Zubehör

ERXX Collets with double slot DIN 6499 - Form B (ER)
Spannzangen mit Doppelnut DIN 6499 - Form B (ER)

**ERCXX**
 I215-216

Ref. / Bez. Accessories / Zubehör

ERCXX Sealed collets DIN 6499 (ER)
Abgedichtete Spannzangen DIN 6499 (ER)

**ERTXX**
 I217-218

Ref. / Bez. Accessories / Zubehör

ERTXX Collets DIN 6499 - Form Mexin (ER)
Spannzangen DIN 6499 - Form Mexin (ER)

**40.453..**
 I180

Ref. / Bez. Accessories / Zubehör

40.453.. Collet chucks for DIN 6499 (ER) collets
Spannzangenfutter für DIN 6499 (ER) Spannzangen

**40.455..**
 I181

Ref. / Bez. Accessories / Zubehör

40.455.. Long collet chucks for DIN 6499 (ER) collets
Lange Spannzangenfutter für DIN 6499 (ER) Spannzangen





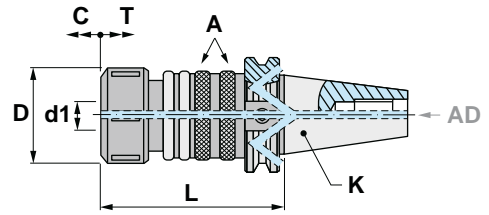
Characteristics:

Tapping head with axial compensation.
DIN 69871-A

For DIN 6499 (ER) collets and with central coolant supply.

Compensation in compression (C) and tension (T). Compression can be blocked by turning the rear ring (A).

Control of threading depth.



*** SUPPLIED WITH WRENCH**

Eigenschaften:

Gewindeschneidfutter mit Längenausgleich DIN 69871-A.

Befestigung mit Spannzangen 6499 (ER) und mit Innenkühlung.

Ausgleich der Kompression (C) und der Traktion (T). Die Kompression kann mit dem Ring (A) blockiert werden. Kontrolle der Gewindetiefe.

*** LIEFERUNG MIT SCHLÜSSEL**

13.610

| Reference Bezeichnung | K ISO | | | d1 | L | D | C | T | | |
|--------------------------|-------|------|--------|-----|----|------|------|-------|-------|-------|
| 13.610.40.16 | 40 | ER16 | M3-M12 | 100 | 28 | 5,5 | 6,0 | 45316 | 50216 | 1,430 |
| 13.610.40.25 | 40 | ER25 | M4-M20 | 125 | 42 | 10,5 | 7,5 | 45325 | 50225 | 1,990 |
| 13.610.40.40 | 40 | ER40 | M8-M33 | 141 | 63 | 10,0 | 10,0 | 45340 | 50240 | 3,200 |
| 13.610.50.16 | 50 | ER16 | M3-M12 | 100 | 28 | 5,5 | 6,0 | 45316 | 50216 | 3,480 |
| 13.610.50.25 | 50 | ER25 | M4-M20 | 134 | 42 | 10,5 | 7,5 | 45325 | 50225 | 4,150 |
| 13.610.50.40 | 50 | ER40 | M8-M33 | 150 | 63 | 10,0 | 10,0 | 45340 | 50240 | 5,360 |

ERXX

I210-212

Ref. / Bez. Accessories / Zubehör

ERXX Collets with double slot DIN 6499 - Form B (ER)
Spannzangen mit Doppelnut DIN 6499 - Form B (ER)



ERCXX

I215-216

Ref. / Bez. Accessories / Zubehör

ERCXX Sealed collets DIN 6499 (ER)
Abgedichtete Spannzangen DIN 6499 (ER)



ERTXX

I217-218

Ref. / Bez. Accessories / Zubehör

ERTXX Collets DIN 6499 - Form Mexin (ER)
Spannzangen DIN 6499 - Form Mexin (ER)



40.453..

I180

Ref. / Bez. Accessories / Zubehör

40.453.. Collet chucks for DIN 6499 (ER) collets
Spannzangenfutter für DIN 6499 (ER) Spannzangen



40.455..

I181

Ref. / Bez. Accessories / Zubehör

40.455.. Long collet chucks for DIN 6499 (ER) collets
Lange Spannzangenfutter für DIN 6499 (ER) Spannzangen



**Characteristics:**

Quick change tapping head with axial compensation.

DIN 69871-A

With Bilz system tap chucks bushings.

Compensation in compression (C) and tension (T).

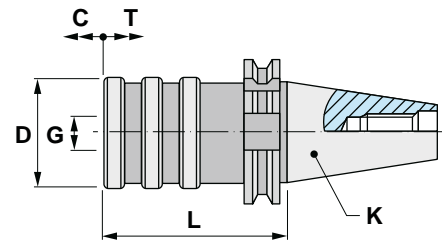
Eigenschaften:

Gewindeschneid-Schnellwechselfutter mit Längenausgleich.




DIN 69871-A

Mit Schnellwechseleinsätze Bilz-System.

Ausgleich der Kompression (C) und der Traktion (T).



11.620

| Reference Bezeichnung | K ISO | N ^G Ø | d1 | L | D | C | T |  |  |  |
|--------------------------|-------|------------------|---------|-----|----|----|----|---|---|---|
| 11.620.30.12 | 30 | 1 19 | M3-M12 | 63 | 38 | 9 | 9 | 710XX | 750XX | 0,620 |
| 11.620.40.12 | 40 | 1 19 | M3-M12 | 68 | 38 | 9 | 9 | 710XX | 750XX | 1,060 |
| 11.620.40.20 | 40 | 2 31 | M8-M20 | 93 | 55 | 15 | 15 | 720XX | 760XX | 1,660 |
| 11.620.40.33 | 40 | 3 48 | M14-M33 | 138 | 79 | 24 | 24 | 730XX | 770XX | 3,490 |
| 11.620.50.12 | 50 | 1 19 | M3-M12 | 80 | 38 | 9 | 9 | 710XX | 750XX | 2,960 |
| 11.620.50.20 | 50 | 2 31 | M8-M20 | 102 | 55 | 15 | 15 | 720XX | 760XX | 3,410 |
| 11.620.50.33 | 50 | 3 48 | M14-M33 | 135 | 79 | 24 | 24 | 730XX | 770XX | 5,110 |

710XX..730XX

 I202

Ref. / Bezeichnung

Accessories / Zubehör

710XX..730XX

Quick change adapters without overload clutch

Schnellwechseleinsätze ohne Sicherheitskupplung



750XX..770XX

 I203

Ref. / Bezeichnung

Accessories / Zubehör

750XX..770XX

Quick change adapters with overload clutch

Schnellwechseleinsätze mit Sicherheitskupplung





Characteristics:

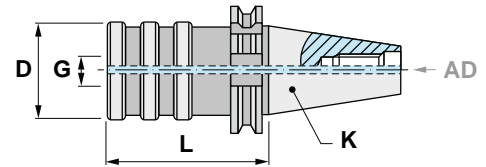
Quick change tapping head for rigid tapping. DIN69871-A.
With Bilz system tap chucks bushings.

With central coolant.




Eigenschaften:

Gewindeschneid-Schnellwechselfutter ohne Längenausgleich.
DIN69871-A
Mit Schnellwechseleinsätze Bilz-System.

Mit Innenkühlung.



11.630

| Reference Bezeichnung | K ISO | N ^o . Ø ^G | d1 | L | D |  |  |  |
|--------------------------|-------|---------------------------------|---------|-----|----|---|---|---|
| 11.630.30.12 | 30 | 1 19 | M3-M12 | 60 | 33 | 710XX | 750XX | 1,000 |
| 11.630.40.12 | 40 | 1 19 | M3-M12 | 67 | 33 | 710XX | 750XX | 1,040 |
| 11.630.40.20 | 40 | 2 31 | M8-M20 | 90 | 50 | 720XX | 760XX | 1,510 |
| 11.630.40.33 | 40 | 3 48 | M14-M33 | 117 | 72 | 730XX | 770XX | 3,150 |
| 11.630.50.12 | 50 | 1 19 | M3-M12 | 78 | 33 | 710XX | 750XX | 3,100 |
| 11.630.50.20 | 50 | 2 31 | M8-M20 | 101 | 50 | 720XX | 760XX | 3,830 |
| 11.630.50.33 | 50 | 3 48 | M14-M33 | 125 | 72 | 730XX | 770XX | 5,200 |

710XX..730XX

 I202

Ref. / Bezeichnung Accessories / Zubehör

710XX..730XX Quick change adapters without overload clutch
Schnellwechseleinsätze ohne Sicherheitskupplung



750XX..770XX

 I203

Ref. / Bezeichnung Accessories / Zubehör

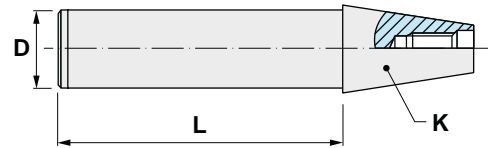
750XX..770XX Quick change adapters with overload clutch
Schnellwechseleinsätze mit Sicherheitskupplung






Characteristics:
Test arbors.
DIN 69871-A

Eigenschaften:
Prüfdorne.
DIN 69871-A



11.999

| Reference Bezeichnung | K ISO | L | D |  |
|--------------------------|-------|-----|----|---|
| 11.999.30 | 30 | 300 | 32 | 4,450 |
| 11.999.40 | 40 | 300 | 40 | 5,450 |
| 11.999.50 | 50 | 300 | 50 | 7,000 |

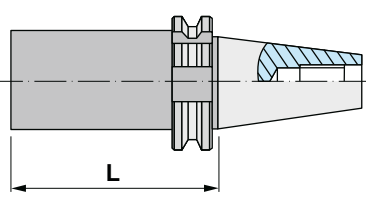
1 TYPE / TYP

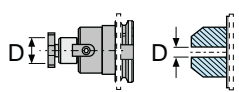
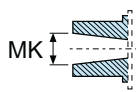
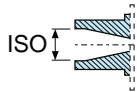
| | | | | | | | | |
|-----------|---------|--------|--------|--------|--------|-----------|---------|---------|
| 11.160 | 11.165 | 11.180 | 11.210 | 11.215 | 11.216 | 11.225 | 11.226 | 11.290 |
| 11.295 | 11.296 | 11.300 | 11.302 | 11.305 | 11.353 | 11.400 | 11.453 | 11.455 |
| 11.457 | 11.470 | 11.512 | 11.610 | 11.620 | 11.630 | A11.160IK | A11.160 | A11.160 |
| A11.315IK | A11.315 | 13.160 | 13.210 | 13.215 | 13.296 | 13.300 | 13.302 | 13.306 |
| 13.307 | 13.315 | 13.453 | 13.457 | 13.610 | | | | |

2 DIMENSION / ABMESSUNGEN

| | | | |
|-----------|-----------|-----------|-----------|
| 30 | 40 | 50 | 60 |
|-----------|-----------|-----------|-----------|

3 LENGTH / LÄNGE (L)



| | | | |
|---|---|---|-------------------------------|
| <p>Ø DIAMETER / DURCHMESSER</p>  | <p>MK</p>  | <p>ISO</p>  | <p>COLLET SPANNZANGEN</p> |
| | | | |

NOTES / BEMERKUNGEN: _____
