

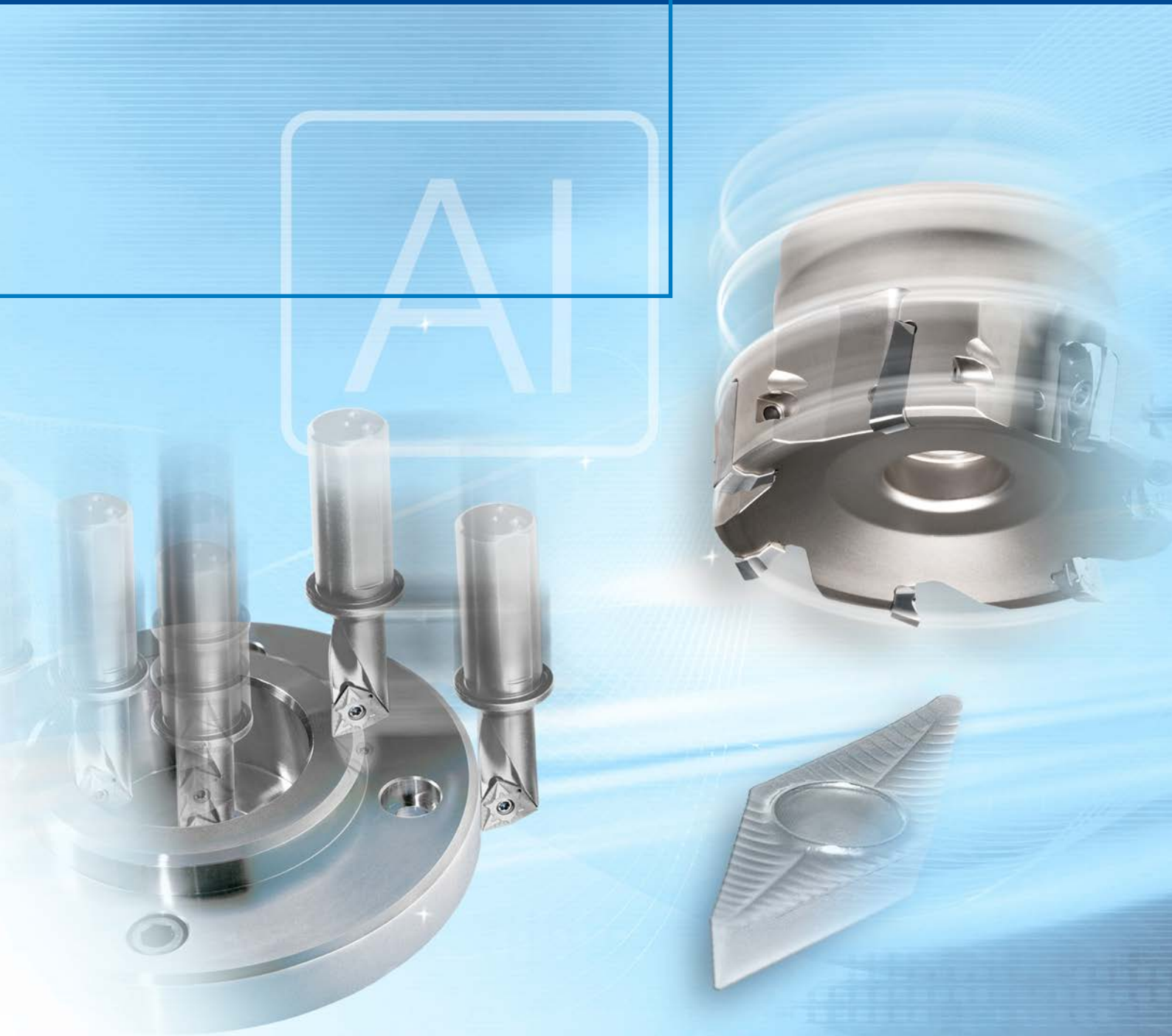
# boehlerit

## Aluminiumbearbeitung

Drehen, Quattrotec, Pentatec, Fräsen

## Aluminium machining

Turning, Quattrotec, Pentatec, Milling



Hartmetalle und Werkzeuge von Boehlerit setzen Maßstäbe in der Bearbeitung von Metall, Holz, Kunststoff und Verbundwerkstoffen. Die Schneidstoff- und Werkzeugspezialisten aus der Stahlstadt Kapfenberg in der Steiermark lösen durch ihre Nähe zum Stahllabor anspruchsvollste Bearbeitungsaufgaben in Werkstoffen der Zukunft. Schneidstoffe, Halbzeuge und Präzisionswerkzeuge sowie Werkzeugsysteme zum Fräsen, Drehen, Bohren und Umformen sorgen weltweit für Prozesssicherheit und Effizienz. Zum umfassenden Produktspektrum von Boehlerit gehören auch hoch spezialisierte Werkzeuge für die Kurbelwellenbearbeitung sowie für die Hüttentechnik zum Drehschalen, zur Rohr- und Blechbearbeitung sowie der Schwerzerspanung. Eine weitere Stärke von Boehlerit sind Hartmetalle für Konstruktionsteile und für den Verschleißschutz. Auch im Bereich der Beschichtungstechnologie schafft Boehlerit von der weltweit ersten Nano-CVD Anbindungsschicht bis zur härtesten Diamantschicht globale Alleinstellung. Außerdem ist Boehlerit mit seinem langjährigen Know-How in der Metallurgie, der Beschichtungstechnologie und mit modernster Presstechnik ein kompetenter Entwicklungspartner für Toolmaker.

Die Marke Boehlerit wurde 1932 für die Hartmetallfertigung des Stahlherstellers Böhler in Düsseldorf gegründet. 1950 begann der Aufbau einer zweiten Hartmetallfertigung in Kapfenberg/Österreich, am heutigen Hauptsitz der Boehlerit Gruppe. Zwischenzeitlich hat Boehlerit auch Produktions- und Vertriebsstandorte in Deutschland, Spanien, Türkei, Ungarn, Tschechien, Slowakei, Singapur, China, USA, Polen, Brasilien und Mexiko. Mit weiteren exklusiven Vertriebspartnern und gemeinsam mit der Bilz-Gruppe ist Boehlerit auf fast allen Kontinenten, in über 40 Industrieländern, heimisch.

Seit dem Jahr 1991 gehört Boehlerit zum Leitz Firmenverband in Oberkochen/Deutschland und somit zur heutigen Unternehmensgruppe der Familie Brucklacher (Bilz, Boehlerit und Leitz) mit weltweit 4000 Mitarbeitern. 800 erfahrene Mitarbeiter (500 am Standort Kapfenberg) erwirtschaften, in der Boehlerit Gruppe, jährlich einen Umsatz von ca. 110 Mio. Euro. Davon investiert Boehlerit 5% direkt in Forschung und Entwicklung. Mit modernsten Analysemethoden und in enger Zusammenarbeit mit Universitäten und Forschungseinrichtungen werden ständig neue Produkte rund um den Schneid- und Verschleißschutzstoff Hartmetall entwickelt. Das macht die Innovationsfabrik Boehlerit zu einem der international führenden Anbieter kundenspezifischer Lösungen und Dienstleistungen in anspruchsvollen Anwendungsbereichen.

## Boehlerit – Pioneers in Carbide Development

Carbides and tools from Boehlerit are the pace-setters for new standards in the machining of metal, wood, synthetic and composite materials. The cutting materials and tools specialist from the steel town Kapfenberg in Styria has the answers for the most challenging machining tasks for materials of the future with its direct line to the 'steel lab'. Reliable and efficient processes are ensured worldwide with cutting materials, semi-finished products, precision tools and tooling systems for milling, turning, drilling and forming. The comprehensive Boehlerit product range includes highly specialised tools for crankshaft machining, tube and pipe machining, bar peeling and heavy-duty machining operations in the steel industry. Further Boehlerit strengths include carbides for structural components and for wear-protection. In coating technology, Boehlerit achieved a world first and unique positioning globally with its Nano CVD bonding layer through to the hardest diamond coatings. Added to this, Boehlerit is the expert development partner for toolmakers with its unrivalled know-how and many years of mastery in metallurgy, coatings systems and the latest pressing technologies.

The Boehlerit brand was established in 1932 for the carbide production of the Böhler Steelworks in Dusseldorf, Germany. A second carbide production centre was established at Kapfenberg/Austria in 1950, at what is now the world headquarters of the Boehlerit Group. Boehlerit today has production and sales locations in Germany, Spain, Turkey, Hungary, the Czech Republic, Slovakia, Singapore, China, the USA, Poland, Brazil and Mexico. Boehlerit is at home on virtually every continent and in 40 leading industrial nations working hand-in-hand with exclusive sales partners and its partners in the Bilz Group.

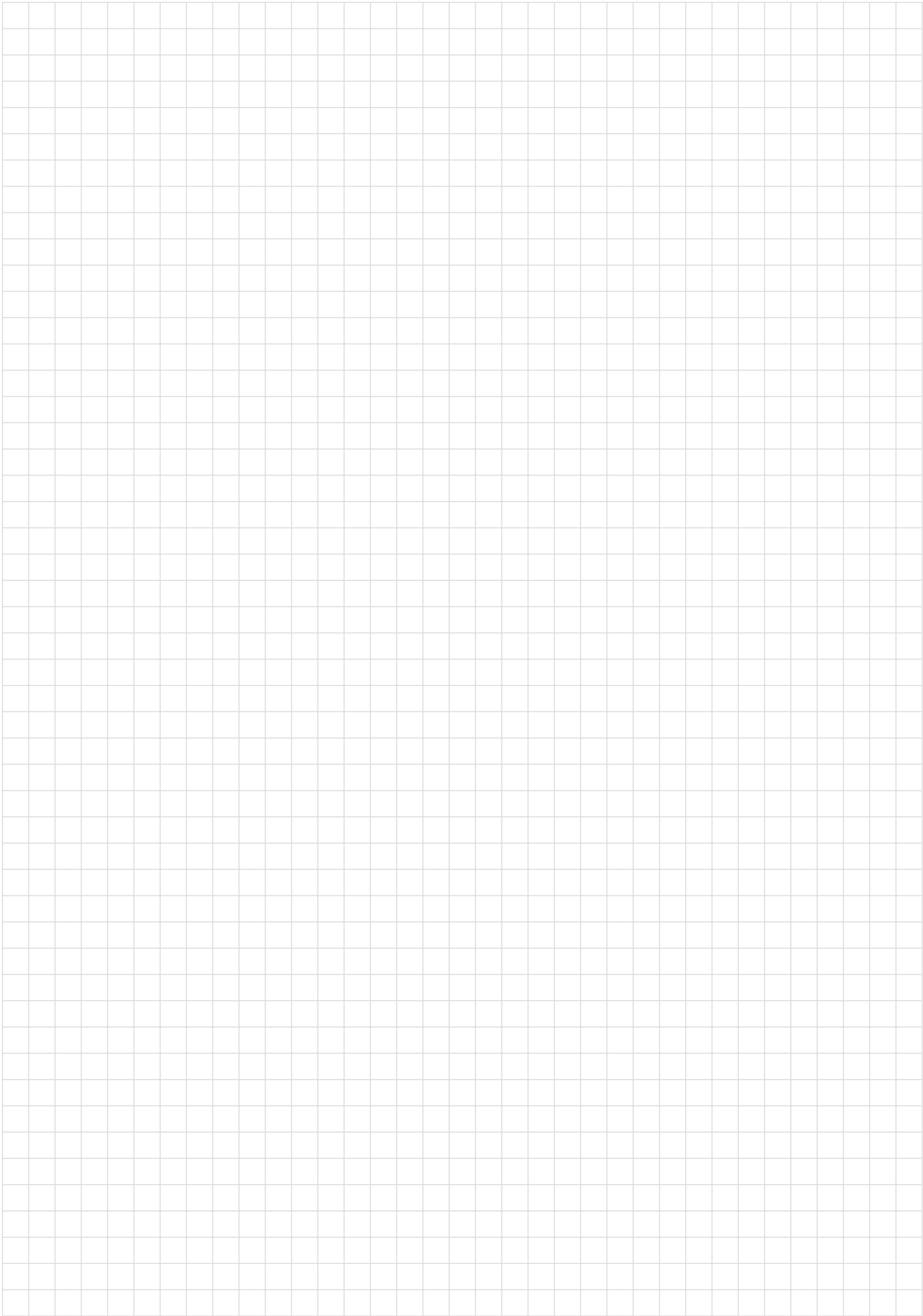
Since 1991, Boehlerit has been a part of the Leitz Corporate Group in Oberkochen/Germany and is thus a part of the group of companies owned by the Brucklacher family (Bilz, Boehlerit and Leitz). Boehlerit employs 800 experienced employees (500 in Kapfenberg) 4,000 worldwide in the Leitz Corporate Group. 5 % of its annual turnover of around 110 million euros in the Boehlerit Group is invested directly in research and development every year. Using state-of-the art analytical methods and profiting from its close cooperation with universities and research institutes, Boehlerit generates a constant flow of new products and solutions revolving around carbides and their use for cutting and wear-protection. All of this has made the innovation factory Boehlerit one of the world's leading providers of customised solutions and services for industries with the most demanding applications.



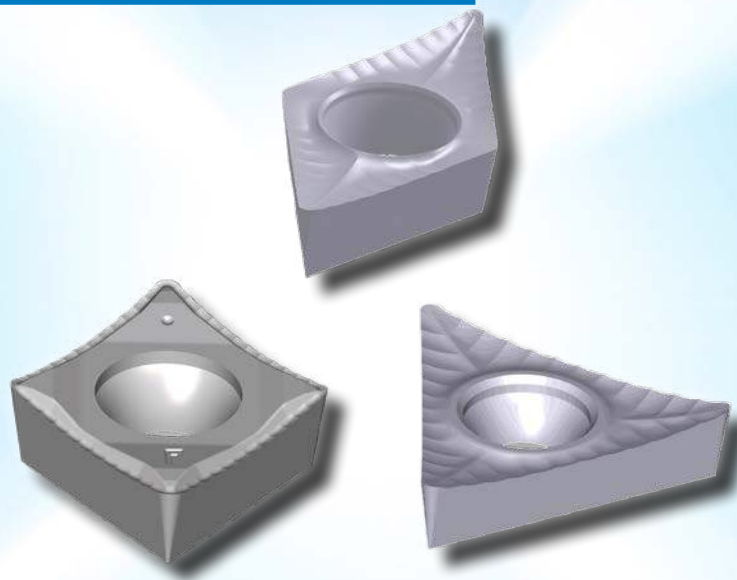
**Kapfenberg** in der Steiermark / Kapfenberg in Styria / AUSTRIA

|                                               |                                                   |           |
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| <b>Vertriebstöchter und Repräsentanten</b>    | <b>Subsidiaries and representatives</b>           | <b>72</b> |

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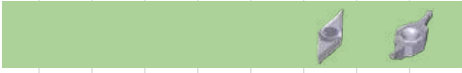


Drehen für die  
Aluminiumbearbeitung  
Turning for Aluminium  
machining



## Schnitttiefen der Spanformstufengeometrien Depth of cut for chipbreaker

www.boehlerit.com

|                                                                                         | $a_p$ mm  | 0,5                                                                               | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 | 5,5 | 6   | 6,5 | 7 | 7,5 | 8 | 8,5 | 9 | 9,5 | 10 | 11 | 12 |
|-----------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------|---|-----|---|-----|---|-----|---|-----|---|-----|-----|-----|---|-----|---|-----|---|-----|----|----|----|
| <b>Feine und Mittlere Bearbeitung f (mm/U)<br/>Fine and medium machining f (mm/rev)</b> | 0,03-0,4  |  |   |     |   |     |   |     |   |     |   |     | FN  |     |   |     |   |     |   |     |    |    |    |
|                                                                                         | 0,05-0,65 |  |   |     |   |     |   |     |   |     |   |     | BAL | FMN |   |     |   |     |   |     |    |    |    |
|                                                                                         | 0,01-0,6  |  |   |     |   |     |   |     |   |     |   |     | P   |     |   |     |   |     |   |     |    |    |    |

\* genaue Schnittwertempfehlungen bei den jeweiligen Wendeschneidplatten ersichtlich

\* exact data recommendations can be found with the respective inserts

## Sortenübersicht Grade overview

| Sorte<br>Grade                                          | ISO    | Anwendungsbereich<br>Application range | Werkstoffgruppe<br>Material group           |                       |                            |                                  |                                            |                                       | Bearbeitungsverfahren<br>Application |                   |                    |                                      |                        |                      |
|---------------------------------------------------------|--------|----------------------------------------|---------------------------------------------|-----------------------|----------------------------|----------------------------------|--------------------------------------------|---------------------------------------|--------------------------------------|-------------------|--------------------|--------------------------------------|------------------------|----------------------|
|                                                         |        |                                        | P                                           | M                     | K                          | N                                | S                                          | H                                     | T                                    | M                 | D                  | S                                    | G                      | P                    |
|                                                         |        |                                        | Stahl<br>Steel                              | Rostfrei<br>Stainless | Grauguss<br>Grey cast iron | NE-Metalle<br>Non-ferrous metals | Hochwarmfest<br>High temperature materials | Harte<br>Werkstoffe<br>Hard materials | Drehen<br>Turning                    | Fräsen<br>Milling | Bohren<br>Drilling | Gewinde-<br>bearbeitung<br>Threading | Einstechen<br>Grooving | Abstechen<br>Parting |
|                                                         |        | 01 05 10 15 20 25 30 35 40 45 50       |                                             |                       |                            |                                  |                                            |                                       |                                      |                   |                    |                                      |                        |                      |
| BCN10T                                                  | HC-N10 |                                        |                                             |                       |                            |                                  |                                            |                                       |                                      |                   |                    |                                      |                        |                      |
| BWN10T                                                  | HW-N10 |                                        |                                             |                       |                            |                                  |                                            |                                       |                                      |                   |                    |                                      |                        |                      |
| LC610T                                                  | HC-N10 |                                        |                                             |                       |                            |                                  |                                            |                                       |                                      |                   |                    |                                      |                        |                      |
| LW610                                                   | HW-N10 |                                        |                                             |                       |                            |                                  |                                            |                                       |                                      |                   |                    |                                      |                        |                      |
| Anwendungsschwerpunkt<br>Application peak               |        |                                        | Hauptanwendung<br>Main application          |                       |                            |                                  |                                            |                                       | Standardsorte<br>Standard grade      |                   |                    |                                      |                        |                      |
| <br>Gesamtbereich nach ISO 513<br>Full range to ISO 513 |        |                                        | Weitere Anwendungen<br>Further applications |                       |                            |                                  |                                            |                                       |                                      |                   |                    |                                      |                        |                      |

### ● BCN10T und LC610T (HC-N10)

Ideale Sorte für die Bearbeitung von Aluminiumwerkstoffen und NE-Metallen. Durch eine hauchdünne PVD, TiAlN Schicht ebenfalls hervorragend für die Schlichtzerspanung von rostfreien Stählen und Grauguss geeignet.

### ● BWN10T und LW610 (HW-N10)

Drehsorte mit hoher Verschleißfestigkeit für die Bearbeitung von Aluminiumlegierungen und NE-Metallen bei mittleren bis hohen Schnittgeschwindigkeiten, auch unter ungünstigen Bedingungen

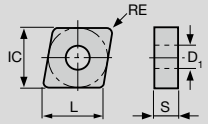
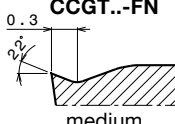
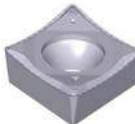
### ● BCN10T und LC610T (HC-N10)

The ideal grade for working aluminium materials and other non-ferrous metals. Thanks to a very thin PVD, TiAlN coating it is also excellent for finish machining of stainless steels and grey cast iron.

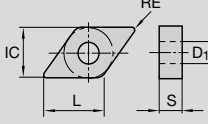
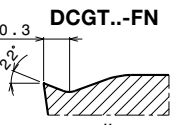
### ● BWN10T und LW610 (HW-N10)

Turning grade with high wear resistance for machining of aluminium alloys, and non-ferrous metals at medium to higher cutting speeds, even under unfavourable machining conditions.

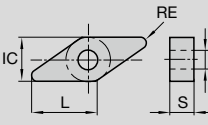
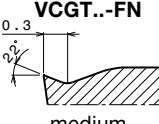


|  | Sorte Grade      | ISO-Klasse ISO-class                                                                |
|-----------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------|
|                                                                                   | BCN10T<br>BWN10T | HC-N10<br>HW-N10                                                                    |
|  |                  |  |

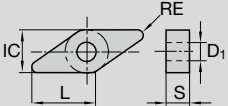
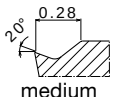
| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |       |      |     | BCN10T  | BWN10T  |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|-------|------|-----|---------|---------|
|              |                       |                                    |                                                  | L                                   | IC    | S    | RE  |         |         |
| CCGT060202   | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 6,4                                 | 6,35  | 2,38 | 0,2 | 5185060 | 5185054 |
| CCGT060204   | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 6,4                                 | 6,35  | 2,38 | 0,4 | 5172790 | 5170778 |
| CCGT09T304   | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 9,7                                 | 9,52  | 3,97 | 0,4 | 5172792 | 5170779 |
| CCGT09T308   | FN                    | 0,05 - 0,25                        | 0,8 - 2,0                                        | 9,7                                 | 9,52  | 3,97 | 0,8 | 5172795 | 5172794 |
| CCGT120404   | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 12,9                                | 12,70 | 4,76 | 0,4 | 5174628 | 5170780 |
| CCGT120408   | FN                    | 0,05 - 0,25                        | 0,8 - 2,0                                        | 12,9                                | 12,70 | 4,76 | 0,8 | 5174634 | 5174632 |

|    | Sorte Grade      | ISO-Klasse ISO-class                                                                  |
|-------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------|
|                                                                                     | BCN10T<br>BWN10T | HC-N10<br>HW-N10                                                                      |
|  |                  |  |

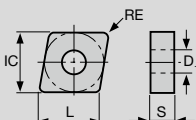
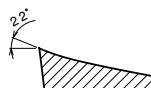
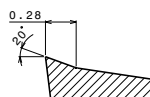
| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |      |      |     | BCN10T  | BWN10T  |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|------|------|-----|---------|---------|
|              |                       |                                    |                                                  | L                                   | IC   | S    | RE  |         |         |
| DCGT 070202  | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 7,7                                 | 6,35 | 2,38 | 0,2 | 5185105 | 5185100 |
| DCGT 070204  | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 7,7                                 | 6,35 | 2,38 | 0,4 | 5172782 | 5170773 |
| DCGT 11T304  | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 11,6                                | 9,52 | 3,97 | 0,4 | 5172784 | 5170775 |
| DCGT 11T308  | FN                    | 0,05 - 0,25                        | 0,8 - 2,0                                        | 11,6                                | 9,52 | 3,97 | 0,8 | 5172786 | 5170776 |

|  | Sorte Grade      | ISO-Klasse ISO-class                                                                  |
|-------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------|
|                                                                                     | BCN10T<br>BWN10T | HC-N10<br>HW-N10                                                                      |
|  |                  |  |

| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |       |      |     | BCN10T  | BWN10T  |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|-------|------|-----|---------|---------|
|              |                       |                                    |                                                  | L                                   | IC    | S    | RE  |         |         |
| VCGT 110304  | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 11,1                                | 6,35  | 3,18 | 0,4 | 5172774 | 5170769 |
| VCGT 160404  | FN                    | 0,03 - 0,20                        | 0,4 - 1,5                                        | 16,60                               | 9,52  | 4,76 | 0,4 | 5172776 | 5170771 |
| VCGT 160408  | FN                    | 0,05 - 0,25                        | 0,8 - 2,0                                        | 16,60                               | 9,52  | 4,76 | 0,8 | 5172778 | 5170772 |
| VCGT 160412  | FN                    | 0,05 - 0,30                        | 1,2 - 2,5                                        | 16,60                               | 9,52  | 4,76 | 0,8 | 5172423 | 5172422 |
| VCGT 220530  | FN                    | 0,10 - 0,40                        | 2,0 - 5,0                                        | 22,10                               | 12,70 | 5,56 | 3,0 | 5169230 | 5169229 |
| VPGT 220516  | FN                    | 0,10 - 0,40                        | 1,6 - 4,0                                        | 22,10                               | 12,70 | 5,56 | 1,6 | 5179299 | 5179298 |

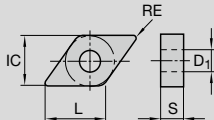
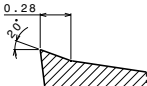
|                      | Sorte Grade      | ISO-Klasse ISO-class                                                                |
|-------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------|
|                                                                                                       | BCN10T<br>BWN10T | HC-N10<br>HW-N10                                                                    |
| <b>VCGT..FMN</b><br> |                  |  |

| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |      |      |     | BCN10T  | BWN10T  |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|------|------|-----|---------|---------|
|              |                       |                                    |                                                  | L                                   | IC   | S    | RE  |         |         |
| VCGT 220530  | FMN                   | 0,10 - 0,60                        | 3,0 - 5,0                                        | 22,1                                | 12,7 | 5,56 | 3,0 | 5176315 | 5176314 |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |

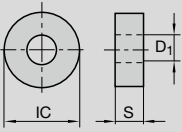
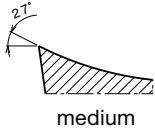
|                                   | Sorte Grade                                                                         | ISO-Klasse ISO-class                                                                                               |                                                                                       |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                                                                     | BCN10T<br>BWN10T                                                                    | HC-N10<br>HW-N10                                                                                                   |                                                                                       |
| <b>CCGT...-BAL</b><br><br>medium |  | <b>CCGT...-P</b><br><br>medium |  |

| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |      |      |     | LC610T  | LW610   |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|------|------|-----|---------|---------|
|              |                       |                                    |                                                  | L                                   | IC   | S    | RE  |         |         |
| CCGT 060202  | BAL                   | 0,05 - 0,13                        | 0,2 - 2,5                                        | 6,4                                 | 6,35 | 2,38 | 0,2 | 6403001 | 6403002 |
| CCGT 060204  | BAL                   | 0,10 - 0,25                        | 0,4 - 2,5                                        | 6,4                                 | 6,35 | 2,38 | 0,4 | 6403003 | 6403004 |
| CCGT 09T302  | BAL                   | 0,05 - 0,13                        | 0,2 - 3,0                                        | 9,7                                 | 9,52 | 3,97 | 0,2 | 6403006 | 6403007 |
| CCGT 09T304  | BAL                   | 0,10 - 0,25                        | 0,4 - 3,0                                        | 9,7                                 | 9,52 | 3,97 | 0,4 | 6403010 | 6403011 |
| CCGT 09T308  | BAL                   | 0,15 - 0,65                        | 0,8 - 3,0                                        | 9,7                                 | 9,52 | 3,97 | 0,8 | 6403012 | 6403013 |
| CCGT 120404  | BAL                   | 0,10 - 0,25                        | 0,4 - 4,0                                        | 12,9                                | 12,7 | 4,76 | 0,4 | 6403017 | 6403018 |
| CCGT 120408  | BAL                   | 0,15 - 0,60                        | 0,8 - 4,0                                        | 12,9                                | 12,7 | 4,76 | 0,8 | 6403022 | 6403023 |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |
| CCGT 030101  | P                     | 0,01 - 0,15                        | 0,10 - 0,8                                       |                                     | 3,5  | 1,59 | 0,1 | 5193881 | 5140566 |
| CCGT 030102  | P                     | 0,01 - 0,15                        | 0,20 - 1,5                                       |                                     | 3,5  | 1,59 | 0,2 | 5193883 | 5140567 |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |

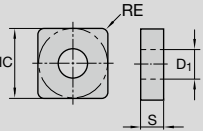
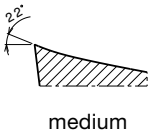
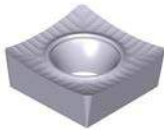


|                                          |                                                                                   | Sorte Grade                                                                                                              | ISO-Klasse ISO-class                                                                |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                                                           |                                                                                   | LC610T<br>LW610                                                                                                          | HC-N10<br>HC-N10                                                                    |
| <p><b>DCGT...-BAL</b></p>  <p>medium</p> |  | <p><b>DCGT...-P</b></p>  <p>medium</p> |  |

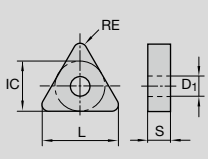
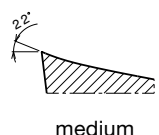
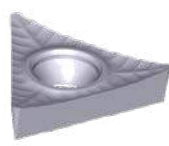
[illegible]

|                               | Sorte Grade                                                                         | ISO-Klasse ISO-class |
|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------|
|                                                                                                                | LC610T<br>LW610                                                                     | HC-K10<br>HC-K10     |
| <p><b>RCGT...-MO-BAL</b></p>  |  |                      |

| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |      |    | LC610T  | LW610   |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|------|----|---------|---------|
|              |                       |                                    |                                                  | IC                                  | S    | RE |         |         |
| RCGT 0602    | MO-BAL                | 0,15 - 0,65                        | 0,5 - 2,5                                        | 6                                   | 2,38 | -  | 6406442 | 6406443 |
| RCGT 0803    | MO-BAL                | 0,15 - 0,65                        | 0,8 - 3,5                                        | 8                                   | 3,18 | -  | 6406447 | 6406448 |
| RCGT 1003    | MO-BAL                | 0,15 - 0,65                        | 1,0 - 4,0                                        | 10                                  | 3,18 | -  | 6406451 | 6406452 |
| RCGT 1204    | MO-BAL                | 0,15 - 0,65                        | 1,0 - 4,0                                        | 12                                  | 4,76 | -  | 5106434 | 5106432 |
|              |                       |                                    |                                                  |                                     |      |    |         |         |
|              |                       |                                    |                                                  |                                     |      |    |         |         |
|              |                       |                                    |                                                  |                                     |      |    |         |         |

|                            | Sorte Grade                                                                          | ISO-Klasse ISO-class |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------|
|                                                                                                               | LC610T<br>LW610                                                                      | HC-K10<br>HC-K10     |
| <p><b>SCGT...-BAL</b></p>  |  |                      |

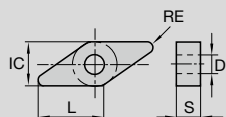
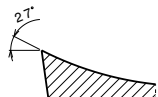
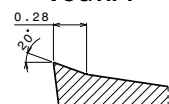
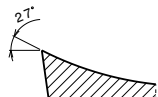
| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |      |     | LC610T  | LW610   |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|------|-----|---------|---------|
|              |                       |                                    |                                                  | IC                                  | S    | RE  |         |         |
| SCGT 120408  | BAL                   | 0,15 - 0,65                        | 0,8 - 3,5                                        | 12,7                                | 4,76 | 0,8 | 6406596 | 6406597 |
|              |                       |                                    |                                                  |                                     |      |     |         |         |
|              |                       |                                    |                                                  |                                     |      |     |         |         |

|                                                                                                                              | Sorte Grade     | ISO-Klasse ISO-class |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
|                                                                                                                                                                                                               | LC610T<br>LW610 | HC-K10<br>HC-K10     |
| <p><b>TCGT...-BAL</b></p>  <p>medium</p>  |                 |                      |

| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |      |      |     | LC610T  | LW610   |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|------|------|-----|---------|---------|
|              |                       |                                    |                                                  | L                                   | IC   | S    | RE  |         |         |
| TCGT 110204  | BAL                   | 0,10 - 0,25                        | 0,4 - 2,0                                        | 11,00                               | 6,35 | 2,38 | 0,4 | 6407354 | 6407355 |
| TCGT 16T304  | BAL                   | 0,10 - 0,25                        | 0,4 - 3,0                                        | 16,50                               | 9,52 | 3,97 | 0,4 | 6407358 | 6407359 |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |
|              |                       |                                    |                                                  |                                     |      |      |     |         |         |

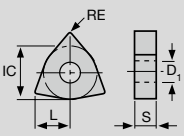
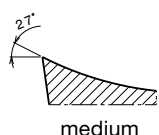
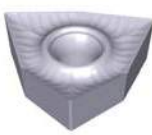
## Indexable inserts for machining aluminium

[www.boehlerit.com](http://www.boehlerit.com)

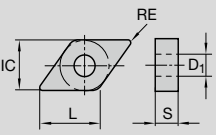
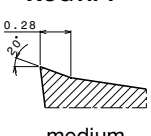
|                                  |                                                                                   | Sorte Grade                                                                                                     | ISO-Klasse ISO-class                                                              |                                                                                                                              |                                                                                     |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                                                   |                                                                                   | LC610T<br>LW610                                                                                                 | HC-N10<br>HC-N10                                                                  |                                                                                                                              |                                                                                     |
| <b>VC GT...BAL</b><br><br>medium |  | <b>VC GT...P</b><br><br>medium |  | <b>VP GT...BAL</b><br><br>medium roughing |  |

[illegible]

Bestellbeispiel Order example: 10 Stück 10 pieces 6407748 oder or VCGT 110302 BAL LC610T Alle Wendeschneidplatten sind ab Lager verfügbar  
All inserts are available from stock

|                                                                                                               | Sorte Grade     | ISO-Klasse ISO-class |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
|                                                                                                                                                                                                | LC610T<br>LW610 | HC-K10<br>HC-K10     |
| <p><b>WCGT..-BAL</b></p>   |                 |                      |

| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |       |      |     | LC610T  | LW610   |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|-------|------|-----|---------|---------|
|              |                       |                                    |                                                  | L                                   | IC    | S    | RE  |         |         |
| WCGT 06T302  | BAL                   | 0,05 - 0,13                        | 0,2 - 2,5                                        | 6,50                                | 9,52  | 3,97 | 0,2 |         | 6407944 |
| WCGT 06T304  | BAL                   | 0,10 - 0,30                        | 0,4 - 2,5                                        | 6,50                                | 9,52  | 3,97 | 0,4 | 6407945 | 6407946 |
| WCGT 06T308  | BAL                   | 0,15 - 0,65                        | 0,8 - 2,5                                        | 6,50                                | 9,52  | 3,97 | 0,8 | 6407947 | 6407948 |
| WCGT 080404  | BAL                   | 0,10 - 0,30                        | 0,4 - 3,0                                        | 8,60                                | 12,70 | 4,76 | 0,4 |         | 6407952 |
| WCGT 080408  | BAL                   | 0,15 - 0,60                        | 0,8 - 3,0                                        | 8,60                                | 12,70 | 4,76 | 0,8 | 6407955 | 6407956 |

|                                                                                                               | Sorte Grade     | ISO-Klasse ISO-class |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|
|                                                                                                                                                                                                  | LC610T<br>LW610 | HC-K10<br>HC-K10     |
| <p><b>XCGT..-P</b></p>   |                 |                      |

| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>Cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |      |      |     | LC610T | LW610   |
|--------------|-----------------------|------------------------------------|--------------------------------------------------|-------------------------------------|------|------|-----|--------|---------|
|              |                       |                                    |                                                  | L                                   | IC   | S    | RE  |        |         |
| XCGT 260407  | P                     | 0,10 - 0,30                        | 0,7 - 4,0                                        | -                                   | 9,52 | 4,76 | 0,7 |        | 6437585 |
| XCGT 260410  | P                     | 0,10 - 0,30                        | 1,0 - 4,0                                        | -                                   | 9,52 | 4,76 | 1   |        | 6437586 |
| XCGT 280408  | P                     | 0,10 - 0,30                        | 0,8 - 4,5                                        | -                                   | 9,45 | 7,76 | 0,8 |        | 6437587 |
|              |                       |                                    |                                                  |                                     |      |      |     |        |         |
|              |                       |                                    |                                                  |                                     |      |      |     |        |         |

| Werkstoffgruppe<br>Material group | Werkstoff<br>Material                                                                          |                                                                                                           | Brinell<br>Härte<br>Brinell<br>hardness<br>HB | Schnittgeschwindigkeit Cutting speed<br>$v_c$ (m/min) |            |            |
|-----------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------|------------|------------|
|                                   |                                                                                                |                                                                                                           |                                               | $f = \text{mm/U rev}$                                 |            |            |
|                                   |                                                                                                |                                                                                                           |                                               | 0,4–0,8                                               | 0,25–0,4   | 0,05–0,25  |
| N                                 | Aluminium-Knetlegierungen<br>Aluminium wrought alloys                                          | nicht aushärtbar<br>unhardenable                                                                          | 230                                           | 500 – 2000                                            | 600 – 2500 | 700 – 3000 |
|                                   |                                                                                                | aushärtbar, ausgehärtet<br>hardenable, hardened                                                           | 60                                            | 200 – 1000                                            | 300 – 1500 | 400 – 2000 |
|                                   | Aluminium-Gusslegierungen<br>Aluminium cast alloys                                             | ca. 12 % Si. nicht aushärtbar<br>ca. 12 % Si. unhardenable                                                | 100                                           | 400 – 800                                             | 500 – 1200 | 600 – 1500 |
|                                   |                                                                                                | ca. 12 % Si. aushärtbar, ausgehärtet<br>ca. 12 % Si. hardenable, hardened                                 | 75                                            | 300 – 600                                             | 400 – 900  | 500 – 1200 |
|                                   |                                                                                                | > 12 % Si. nicht aushärtbar<br>> 12 % Si. unhardenable                                                    | 90                                            | 200 – 600                                             | 300 – 800  | 400 – 1000 |
|                                   | Kupfer und Kupferlegierungen<br>(Bronze/Messing)<br>Copper and copper alloys<br>(Bronze/Brass) | Automatenlegierung Pb > 1 %<br>Free cutting alloys Pb > 1 %                                               | 130                                           | 250 – 400                                             | 250 – 500  | 450 – 650  |
|                                   |                                                                                                | Messing, Rotguss<br>Brass, Red bronze                                                                     | 110                                           | 250 – 600                                             | 250 – 800  | 450 – 1000 |
|                                   |                                                                                                | Bronze, bleifreies Kupfer und<br>Elektrolytkupfer<br>Bronze, non leaded copper and<br>electrolytic copper | 90<br>100                                     | 150 – 250                                             | 180 – 300  | 200 – 400  |
|                                   | Nichtmetallische Werkstoffe<br>Nonmetallic materials                                           | Duroplaste<br>Duroplastics                                                                                |                                               | 60 – 70                                               | 80 – 100   | 90 – 120   |
|                                   |                                                                                                | Faserverstärkte Kunststoffe<br>Fibre reinforced plastics                                                  |                                               |                                                       |            |            |
|                                   |                                                                                                | Hartgummi<br>Hard rubber                                                                                  |                                               |                                                       |            |            |

**Schnittwertempfehlungen für Drehen LW610 und BWN10T**  
Turning data recommendations for LW610 and BWN10T

| Werkstoffgruppe<br>Material group | Werkstoff<br>Material                                                                          |                                                                                                           | Brinell<br>Härte<br>Brinell<br>hardness<br>HB | Schnittgeschwindigkeit Cutting speed<br>$v_c$ (m/min) |  |
|-----------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------|--|
|                                   |                                                                                                |                                                                                                           |                                               | $f = \text{mm/U rev}$                                 |  |
|                                   |                                                                                                |                                                                                                           |                                               | 0,1–0,4                                               |  |
| N                                 | Aluminium-Knetlegierungen<br>Aluminium wrought alloys                                          | nicht aushärtbar<br>unhardenable                                                                          | 60                                            | 400 – 2400                                            |  |
|                                   |                                                                                                | aushärtbar, ausgehärtet<br>hardenable, hardened                                                           | 100                                           | 160 – 1600                                            |  |
|                                   | Aluminium-Gusslegierungen<br>Aluminium cast alloys                                             | ca. 12 % Si. nicht aushärtbar<br>ca. 12 % Si. unhardenable                                                | 75                                            | 320 – 1200                                            |  |
|                                   |                                                                                                | ca. 12 % Si. aushärtbar, ausgehärtet<br>ca. 12 % Si. hardenable, hardened                                 | 90                                            | 240 – 950                                             |  |
|                                   |                                                                                                | > 12 % Si. nicht aushärtbar<br>> 12 % Si. unhardenable                                                    | 130                                           | 160 – 800                                             |  |
|                                   | Kupfer und Kupferlegierungen<br>(Bronze/Messing)<br>Copper and copper alloys<br>(Bronze/Brass) | Automatenlegierung Pb > 1 %<br>Free cutting alloys Pb > 1 %                                               | 110                                           | 200 – 520                                             |  |
|                                   |                                                                                                | Messing, Rotguss<br>Brass, Red bronze                                                                     | 90                                            | 200 – 800                                             |  |
|                                   |                                                                                                | Bronze, bleifreies Kupfer und<br>Elektrolytkupfer<br>Bronze, non leaded copper and<br>electrolytic copper | 100                                           | 120 – 320                                             |  |
|                                   | Nichtmetallische Werkstoffe<br>Nonmetallic materials                                           | Duroplaste<br>Duroplastics                                                                                |                                               |                                                       |  |
|                                   |                                                                                                | Faserverstärkte Kunststoffe<br>Fibre reinforced plastics                                                  |                                               |                                                       |  |
|                                   |                                                                                                | Hartgummi<br>Hard rubber                                                                                  |                                               |                                                       |  |

<sup>1)</sup> und Stahlguss  
and cast steel

<sup>2)</sup> und austenitische/ferritische  
and austenitic/ferritic



Trockenbearbeitung  
Dry machining



Nassbearbeitung  
Wet machining





## Easy safe system

Durch spezielle Konstruktion vom Plattensitz und der Wendeschneidplatte nach dem Pocka Yoke Prinzip ist ein falsches Einbauen der Wendeschneidplatte nicht möglich.

Due to the special construction of the insert seat and of the insert according to the Pocka Yoke principle a wrong mounting of the insert is not possible.



#### Hard Facts

Werkzeugträger Tool holder  
Ø 10 mm - 25 mm

jeweils in always in  
1,50 x D & 2,25 x D

Plattengröße Insert size  
05 - 13 mm

2 Sorten Grades



#### Besondere Merkmale:

- Multifunktionales Werkzeug
- Signifikante Zeitersparnis durch Wegfall von Werkzeugwechsel
- Einsparung Werkzeugplätze (besonders bei Bohr & Ausdreh- Anwendungen)
- Schnelle & einfache Herstellung von Sacklöchern
- Kein falscher Einbau der Wendeplatte möglich (Easy Safe)
- Schneidstoffvielfalt für optimales Bearbeitungsergebnis
- Minimale Vibrationsneigung, trotz einschneidiger Anwendung
- Einsatzoptimierte Geometrien und Sorten
- Unterstützter Späneabtransport beim Bohren durch speziell ausgeführten Kühlmittelzufluss
- Optimiertes Trägerwerkzeug hinsichtlich Dauerfestigkeit und Stabilität
- Integration von Designmerkmalen zur Gewährleistung der Prozesssicherheit, besonders beim Bohren
- Ausschließliche Verwendung von Schrauben mit Torx plus® Köpfen

#### Speciale features:

- Multifunctional tool
- Significant saving time due to no tool change
- Saving of tool stations (especially on drilling and boring applications)
- Quick and simple production of blind holes
- Wrong mounting of the insert is not possible (Easy Safe)
- Cutting material diversity for optimal machining result
- Minimal tendency to vibration despite single-edged application
- Application optimized geometries and grades
- Supported chip transport on drilling through special designed coolant supply
- Optimized tools concerning fatigue strength and stability
- Integration of designer characteristics to guarantee process security, especially on drilling
- Exclusive application of screws with Torx plus® heads

**1. Plandrehen**  
Face turning



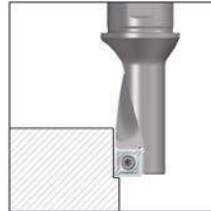
**2. Bohren ins Volle mit geradem Bohrgrund**  
Drilling into solid with flat drilling base



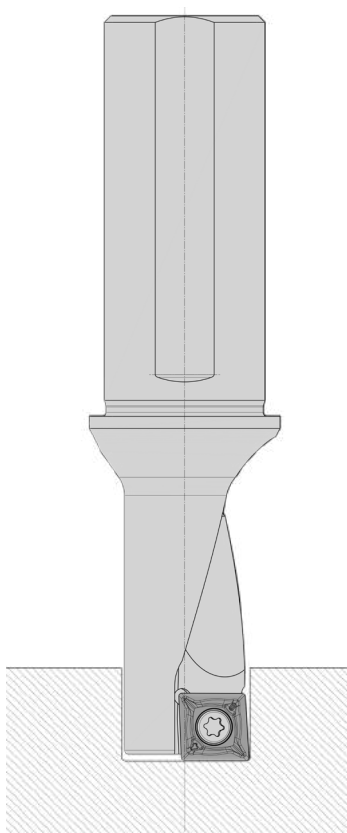
**3. Innenlängsdrehen**  
Internal turning



**4. Längsdrehen**  
External turning

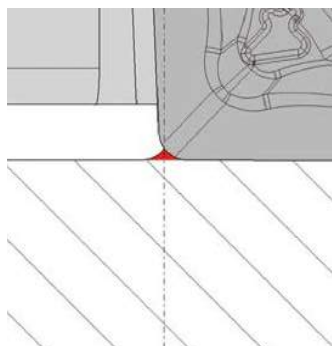


| Werkzeug Tool<br>2,25D / 1,50D | Abmessungen Dimensions [mm] |                   |                   |                               |
|--------------------------------|-----------------------------|-------------------|-------------------|-------------------------------|
|                                | D                           | D <sub>min.</sub> | D <sub>max.</sub> | max. Bohrtiefe drilling depth |
| QR/L 10 - 1,50D-05             | 10                          | 9,8               | 10,4              | 15                            |
| QR/L 10 - 2,25D-05             | 10                          | 9,8               | 10,4              | 22,5                          |
| QR/L 12 - 1,50D-06             | 12                          | 11,8              | 12,4              | 18                            |
| QR/L 12 - 2,25D-06             | 12                          | 11,8              | 12,4              | 27                            |
| QR/L 16 - 1,50D-08             | 16                          | 15,8              | 16,5              | 24                            |
| QR/L 16 - 2,25D-08             | 16                          | 15,8              | 16,5              | 36                            |
| QR/L 18 - 1,50D-09             | 18                          | 17,8              | 18,5              | 27                            |
| QR/L 18 - 2,25D-09             | 18                          | 17,8              | 18,5              | 40,5                          |
| QR/L 20 - 1,50D-10             | 20                          | 19,8              | 20,5              | 30                            |
| QR/L 20 - 2,25D-10             | 20                          | 19,8              | 20,5              | 45                            |
| QR/L 25 - 1,50D-09             | 25                          | 24,8              | 25,5              | 37,5                          |
| QR/L 25 - 2,25D-09             | 25                          | 24,8              | 25,5              | 56                            |

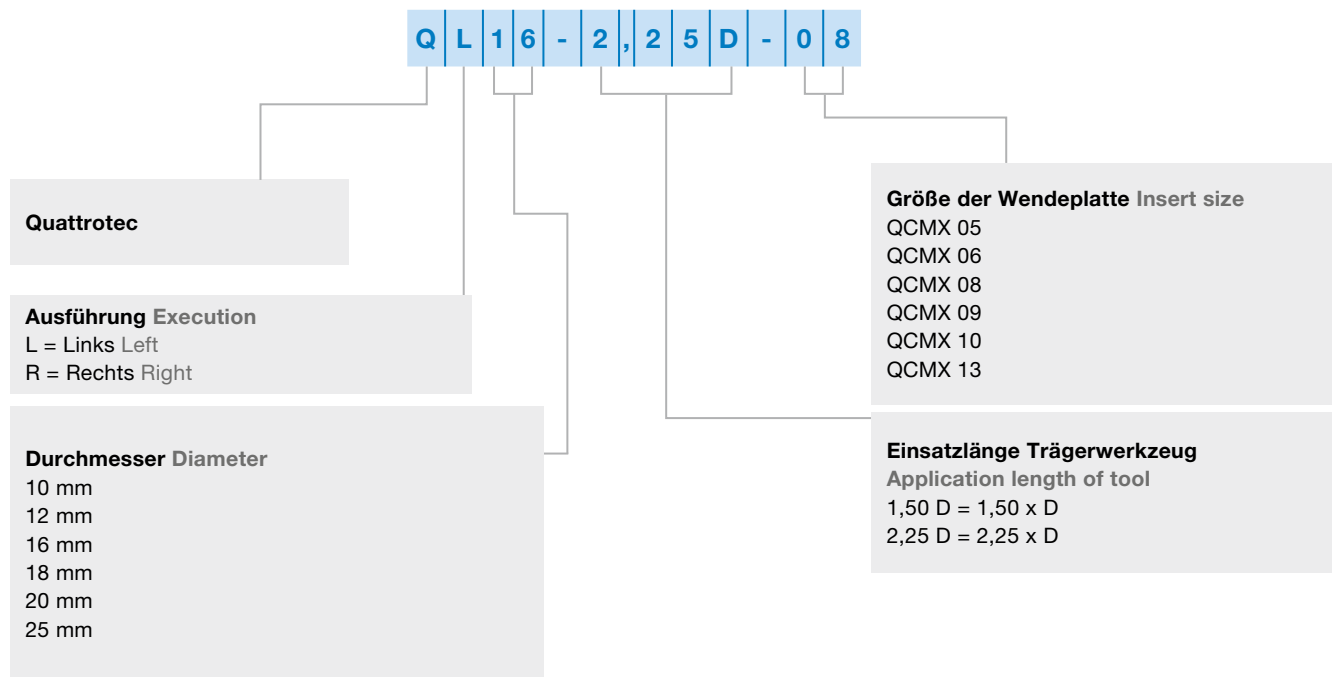


- Optimaler Durchmesser beim Bohren ist der Nenndurchmesser selbst
- Bohrtiefen >1xD – Verwendung von Emulsion erforderlich
- Bei angetriebenem Werkzeug (Spannung mittels Spannzange) ausschließlich die Trägerwerkzeuge 2,25xD verwenden (Plananschlag!)
- Prozesssicheres Bohren wird mit PVD-Sorten und zähen Substrat: BCP35Q, BCM40Q gewährleistet
- Größtmögliches Werkzeug wählen, um Stabilität zu erhöhen
- Wenn das Werkzeug axial unter Mitte steht (z. B.: verursacht durch inkorrekte Revolverausrichtung), nicht den angegebenen Minstdurchmesser verwenden

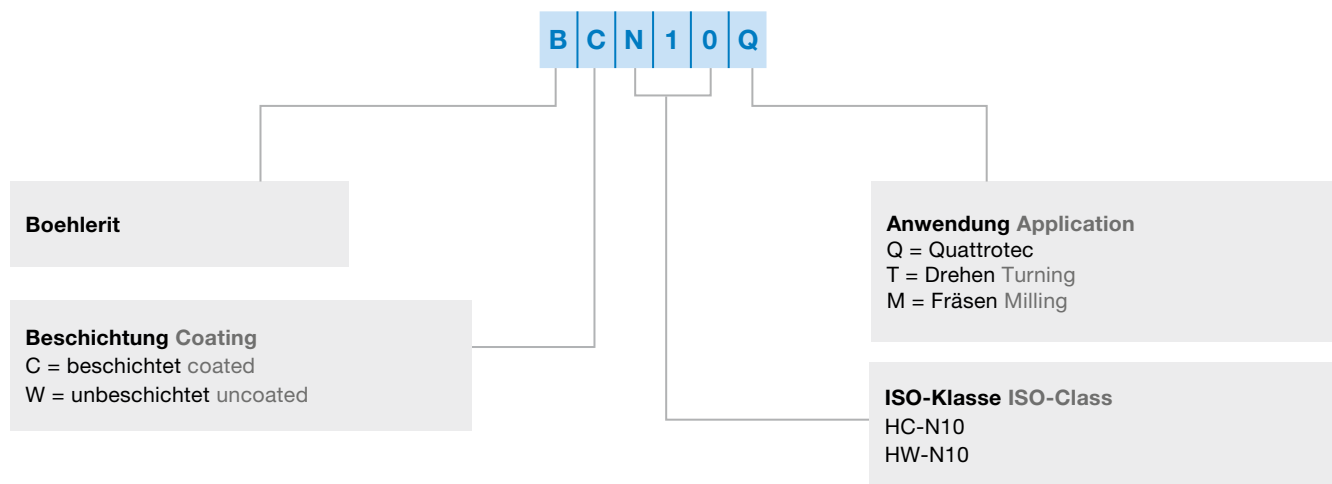
- The optimal diameter on drilling is the nominal diameter itself
- Drilling depth >1xD – application of emulsion necessary
- Use only tools 2,25xD with driven tools (tension with collet) (backstop point!)
- Process sure drilling with PVD grade and tough substrate: BCP35Q, BCM40Q is ensured
- Choose biggest tool, to increase stability
- If the tool is axial below center (e.g. caused by incorrect turret adjustment) please don't use the indicated minimum diameter



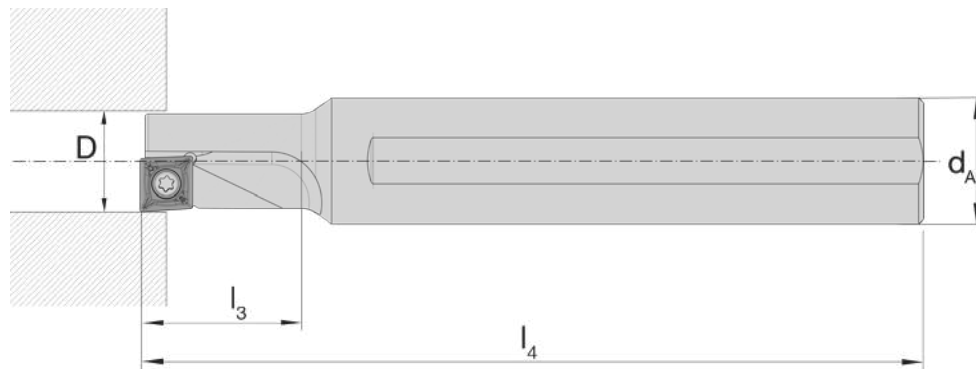
- Beim Bohren über dem Nenndurchmesser, bleibt ein Restmaterial stehen siehe Skizze:  
z.B.: QL20 - 2,25 Bohrdurchmesser 20,4 mm
- On drilling over the nominal diameter residual material is left over, see drawing:  
e.g. QL20 - 2,25 Drilling diameter 20,4 mm



Bezeichnungssystem Quattrotec Sorte  
Designation system Quattrotec grade



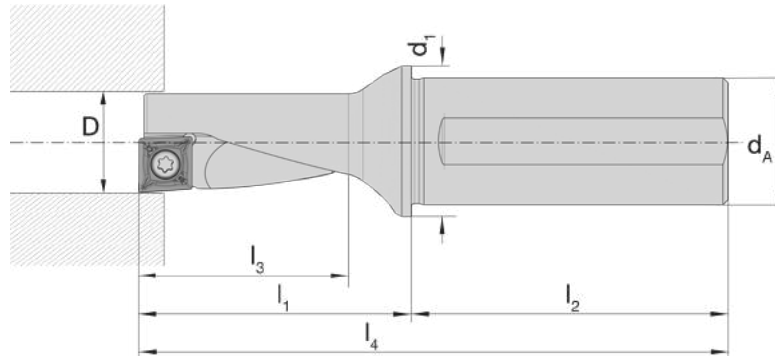
**Typ 1,5**



| Bestellbezeichnung<br>Ordering code | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |                |                |                |                |                |                | Passende<br>Wendeplatte<br>Indexable<br>insert |
|-------------------------------------|--------------------------|-------------------------------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------------------------------------|
|                                     |                          |                               | D                                   | d <sub>A</sub> | d <sub>1</sub> | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> |                                                |
| QL 10 - 1,50D-05                    | 5146533                  | ●                             | 10                                  | 12             | -              | -              | -              | 15             | 90             | QCMX 05                                        |
| QR 10 - 1,50D-05                    | 5146534                  | ●                             | 10                                  | 12             | -              | -              | -              | 15             | 90             |                                                |
| QL 12 - 1,50D-06                    | 5146529                  | ●                             | 12                                  | 16             | -              | -              | -              | 18             | 100            | QCMX 06                                        |
| QR 12 - 1,50D-06                    | 5146530                  | ●                             | 12                                  | 16             | -              | -              | -              | 18             | 100            |                                                |
| QL 16 - 1,50D-08                    | 5146522                  | ●                             | 16                                  | 20             | -              | -              | -              | 24             | 125            | QCMX 08                                        |
| QR 16 - 1,50D-08                    | 5146524                  | ●                             | 16                                  | 20             | -              | -              | -              | 24             | 125            |                                                |
| QL 18 - 1,50D-09                    | 5168389                  | ●                             | 18                                  | 25             | -              | -              | -              | 27             | 135            | QCMX 09                                        |
| QR 18 - 1,50D-09                    | 5168390                  | ●                             | 18                                  | 25             | -              | -              | -              | 27             | 135            |                                                |
| QL 20 - 1,50D-10                    | 5146537                  | ●                             | 20                                  | 25             | -              | -              | -              | 30             | 150            | QCMX 10                                        |
| QR 20 - 1,50D-10                    | 5146538                  | ●                             | 20                                  | 25             | -              | -              | -              | 30             | 150            |                                                |
| QL 25 - 1,50D-13                    | 5168394                  | ●                             | 25                                  | 32             | -              | -              | -              | 37,5           | 180            | QCMX 13                                        |
| QR 25 - 1,50D-13                    | 5168397                  | ●                             | 25                                  | 32             | -              | -              | -              | 37,5           | 180            |                                                |

| Ersatzteile<br>Spare parts                  |                   |                          |      |                  |                                |
|---------------------------------------------|-------------------|--------------------------|------|------------------|--------------------------------|
| Halter Quattrotec<br>Tool holder Quattrotec | Schraube<br>Screw | Ident.-Nr.<br>Ident.-No. | Torx | Schlüssel<br>Key | Anzugsmoment<br>Torque<br>[Nm] |
| QR/L10                                      | AP13-20040        | 5146268                  | IP6  | 5126412          | 0,6 Nm                         |
| QR/L12                                      | AP13-22050        | 5146272                  | IP7  | 5118123          | 0,9 Nm                         |
| QR/L16                                      | AP13-30065        | 5146273                  | IP9  | 5118124          | 1,4 Nm                         |
| QR/L18                                      | AP13-30075        | 5171723                  | IP10 | 5118726          | 2,0 Nm                         |
| QR/L20                                      | AP13-35080        | 5146274                  | IP10 | 5118726          | 2,0 Nm                         |
| QR/L25                                      | AP13-45105        | 5118121                  | IP20 | 5088521          | 5,0 Nm                         |

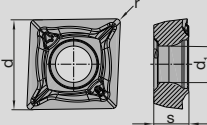
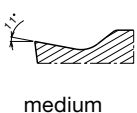
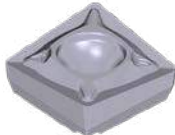
**Typ 2,25**



| Bestellbezeichnung<br>Ordering code | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |                |                |                |                |                |                | Passende<br>Wendeplatte<br>Indexable<br>insert |
|-------------------------------------|--------------------------|-------------------------------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------------------------------------|
|                                     |                          |                               | D                                   | d <sub>A</sub> | d <sub>1</sub> | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> |                                                |
| QL 10 - 2,25D-05                    | 5146531                  | ●                             | 10                                  | 12             | 16             | 29             | 42             | 22,5           | 71             | QCMX 05                                        |
| QR 10 - 2,25D-05                    | 5146532                  | ●                             | 10                                  | 12             | 16             | 29             | 42             | 22,5           | 71             |                                                |
| QL 12 - 2,25D-06                    | 5146527                  | ●                             | 12                                  | 16             | 20             | 35             | 45             | 27             | 80             | QCMX 06                                        |
| QR 12 - 2,25D-06                    | 5146528                  | ●                             | 12                                  | 16             | 20             | 35             | 45             | 27             | 80             |                                                |
| QL 16 - 2,25D-08                    | 5146516                  | ●                             | 16                                  | 20             | 25             | 43             | 50             | 36             | 93             | QCMX 08                                        |
| QR 16 - 2,25D-08                    | 5146518                  | ●                             | 16                                  | 20             | 25             | 43             | 50             | 36             | 93             |                                                |
| QL 18 - 2,25D-09                    | 5168385                  | ●                             | 18                                  | 25             | 32             | 53             | 56             | 40,5           | 109            | QCMX 09                                        |
| QR 18 - 2,25D-09                    | 5168388                  | ●                             | 18                                  | 25             | 32             | 53             | 56             | 40,5           | 109            |                                                |
| QL 20 - 2,25D-10                    | 5146535                  | ●                             | 20                                  | 25             | 32             | 57,5           | 56             | 45             | 113,5          | QCMX 10                                        |
| QR 20 - 2,25D-10                    | 5146536                  | ●                             | 20                                  | 25             | 32             | 57,5           | 56             | 45             | 113,5          |                                                |
| QL 25 - 2,25D-13                    | 5168391                  | ●                             | 25                                  | 32             | 40             | 73             | 60             | 56             | 133            | QCMX 13                                        |
| QR 25 - 2,25D-13                    | 5168393                  | ●                             | 25                                  | 32             | 40             | 73             | 60             | 56             | 133            |                                                |

| Ersatzteile<br>Spare parts                  |                   |                          |      |                  |                                |
|---------------------------------------------|-------------------|--------------------------|------|------------------|--------------------------------|
| Halter Quattrotec<br>Tool holder Quattrotec | Schraube<br>Screw | Ident.-Nr.<br>Ident.-No. | Torx | Schlüssel<br>Key | Anzugsmoment<br>Torque<br>[Nm] |
| QR/L10                                      | AP13-20040        | 5146268                  | IP6  | 5126412          | 0,6 Nm                         |
| QR/L12                                      | AP13-22050        | 5146272                  | IP7  | 5118123          | 0,9 Nm                         |
| QR/L16                                      | AP13-30065        | 5146273                  | IP9  | 5118124          | 1,4 Nm                         |
| QR/L18                                      | AP13-30075        | 5171723                  | IP10 | 5118726          | 2,0 Nm                         |
| QR/L20                                      | AP13-35080        | 5146274                  | IP10 | 5118726          | 2,0 Nm                         |
| QR/L25                                      | AP13-45105        | 5118121                  | IP20 | 5088521          | 5,0 Nm                         |



|                                          | Sorte Grade      | ISO-Klasse ISO-class                                                                |
|---------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------|
|                                                                                                                           | BCN10Q<br>BWN10Q | HC-N10<br>HW-N10                                                                    |
| <p><b>QCGX....-MN</b></p>  <p>medium</p> |                  |  |

| Type<br>Type | Geometrie<br>Geometry | Vorschub<br>Bohren<br>Feed f<br>[mm / U rev] | Vorschub<br>Drehen<br>Feed f<br>[mm / U rev] | Schnitttiefe<br>cutting depth<br>ap max.<br>[mm] | Abmessungen [mm]<br>Dimensions [mm] |      |                |     | BCN10Q  | BWN10Q  |
|--------------|-----------------------|----------------------------------------------|----------------------------------------------|--------------------------------------------------|-------------------------------------|------|----------------|-----|---------|---------|
|              |                       |                                              |                                              |                                                  | d                                   | s    | d <sub>1</sub> | r   |         |         |
| QCGX 050202  | MN                    | 0,02 - 0,25                                  | 0,03 - 0,35                                  | 0,2 - 2,5                                        | 5,75                                | 2,38 | 2,25           | 0,2 | 5160206 | 5160205 |
| QCGX 050204  | MN                    | 0,02 - 0,25                                  | 0,03 - 0,35                                  | 0,4 - 2,5                                        | 5,75                                | 2,38 | 2,25           | 0,4 | 5160204 | 5160203 |
| QCGX 060202  | MN                    | 0,02 - 0,25                                  | 0,03 - 0,35                                  | 0,2 - 2,5                                        | 6,47                                | 2,38 | 2,5            | 0,2 | 5160280 | 5160279 |
| QCGX 060204  | MN                    | 0,02 - 0,25                                  | 0,03 - 0,35                                  | 0,4 - 2,5                                        | 6,47                                | 2,38 | 2,5            | 0,4 | 5160278 | 5160277 |
| QCGX 080302  | MN                    | 0,02 - 0,30                                  | 0,03 - 0,40                                  | 0,2 - 3,5                                        | 8,5                                 | 3,14 | 3,4            | 0,2 | 5159363 | 5159362 |
| QCGX 080304  | MN                    | 0,02 - 0,30                                  | 0,03 - 0,40                                  | 0,4 - 3,5                                        | 8,5                                 | 3,14 | 3,4            | 0,4 | 5159361 | 5159360 |
| QCGX 09T302  | MN                    | 0,02 - 0,30                                  | 0,03 - 0,40                                  | 0,2 - 3,5                                        | 9,6                                 | 3,98 | 3,4            | 0,2 | 5170651 | 5170650 |
| QCGX 09T304  | MN                    | 0,02 - 0,30                                  | 0,03 - 0,40                                  | 0,4 - 3,5                                        | 9,6                                 | 3,98 | 3,4            | 0,4 | 5170653 | 5170652 |
| QCGX 10T302  | MN                    | 0,03 - 0,30                                  | 0,03 - 0,40                                  | 0,2 - 4,0                                        | 10,6                                | 3,98 | 4,4            | 0,2 | 5160289 | 5160288 |
| QCGX 10T304  | MN                    | 0,03 - 0,30                                  | 0,03 - 0,40                                  | 0,4 - 4,0                                        | 10,6                                | 3,98 | 4,4            | 0,4 | 5160287 | 5160286 |
| QCGX 130402  | MN                    | 0,03 - 0,30                                  | 0,03 - 0,40                                  | 0,2 - 4,0                                        | 13,47                               | 4,65 | 5,25           | 0,2 | 5170659 | 5170658 |
| QCGX 130404  | MN                    | 0,03 - 0,30                                  | 0,03 - 0,40                                  | 0,4 - 4,0                                        | 13,47                               | 4,65 | 5,25           | 0,4 | 5170661 | 5170660 |
|              |                       |                                              |                                              |                                                  |                                     |      |                |     |         |         |

| Sorte<br>Grade                                                                                                                       | ISO    | Anwendungsbereich<br>Application range                                                                                                                     | Werkstoffgruppe<br>Material group             |                       |                            |                                     |                                                 |                                       | Bearbeitungsverfahren<br>Application |                   |                    |                                      | Farbliche<br>Darstellung<br>der WSP<br>je nach<br>Beschichtung<br>Color guide<br>for inserts<br>depending<br>on coating |
|--------------------------------------------------------------------------------------------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------|----------------------------|-------------------------------------|-------------------------------------------------|---------------------------------------|--------------------------------------|-------------------|--------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                      |        |                                                                                                                                                            | P                                             | M                     | K                          | N                                   | S                                               | H                                     | T                                    | M                 | D                  | S                                    |                                                                                                                         |
|                                                                                                                                      |        | <div><div>01</div><div>05</div><div>10</div><div>15</div><div>20</div><div>25</div><div>30</div><div>35</div><div>40</div><div>45</div><div>50</div></div> | Stahl<br>Steel                                | Rostfrei<br>Stainless | Grauguss<br>Grey cast iron | NE-Metalle<br>Non-ferrous<br>metals | Hochwarmfest<br>High tempera-<br>ture materials | Harte<br>Werkstoffe<br>Hard materials | Drehen<br>Turning                    | Fräsen<br>Milling | Bohren<br>Drilling | Gewinde-<br>bearbeitung<br>Threading |                                                                                                                         |
| BCN10Q                                                                                                                               | HC-N10 | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>                       |                                               |                       |                            | <div></div>                         |                                                 |                                       | <div></div>                          |                   | <div></div>        |                                      | <div></div>                                                                                                             |
| BWN10Q                                                                                                                               | HW-N10 | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>                       |                                               |                       |                            | <div></div>                         |                                                 |                                       | <div></div>                          |                   | <div></div>        |                                      |                                                                                                                         |
| Anwendungsschwerpunkt<br>Application peak                                                                                            |        |                                                                                                                                                            | ■ Hauptanwendung<br>Main application          |                       |                            |                                     |                                                 |                                       | ● Standardsorte<br>Standard grade    |                   |                    |                                      |                                                                                                                         |
| <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |        |                                                                                                                                                            | □ Weitere Anwendungen<br>Further applications |                       |                            |                                     |                                                 |                                       |                                      |                   |                    |                                      |                                                                                                                         |
| Gesamtbereich nach ISO 513<br>Full range to ISO 513                                                                                  |        |                                                                                                                                                            |                                               |                       |                            |                                     |                                                 |                                       |                                      |                   |                    |                                      |                                                                                                                         |

● BCN10Q (HC-N10)

Ideale Sorte für die Bearbeitung von Aluminiumwerkstoffen und NE-Metallen. Durch eine hauchdünne Micropuls® Plasma-CVD TiAlN Schicht ebenfalls hervorragend für die Schlichtzerspanung von rostfreien Stählen und Grauguss geeignet.

● BWN10Q (HW-N10)

Drehsorte mit hoher Verschleißfestigkeit für die Bearbeitung von Aluminiumlegierungen und NE-Metallen bei mittleren bis hohen Schnittgeschwindigkeiten, auch unter ungünstigen Bedingungen.

● BCN10Q (HC-N10)

The ideal grade for working aluminium materials and other non-ferrous metals. Thanks to a very thin micropuls® plasma CVD TiAlN coating it is also excellent for finish machining of stainless steels and grey cast iron.

● BWN10Q (HW-N10)

Turning grade with high wear resistance for machining of aluminium alloys, and non-ferrous metals at medium to higher cutting speeds, even under unfavourable machining conditions.

Schnittwertempfehlungen

Cutting data recommendations

Dreh-Bohr-Werkzeug Quattrotec

Turning-Drilling-Tool Quattrotec

|   | Werkstoff<br>Material                                                                             |                                                                                                           | Brinell<br>Härte<br>Brinell<br>hardness<br>HB | Drehen und Bohren<br>Turning and drilling<br>$v_c$ (m/min) |            |
|---|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------|------------|
|   |                                                                                                   |                                                                                                           |                                               | BCN10Q                                                     | BWN10Q     |
| N | Aluminium-<br>Knetlegierungen<br>Aluminium wrought alloys                                         | nicht aushärtbar<br>unhardenable                                                                          | 60                                            | 400 - 3000                                                 | 400 - 2400 |
|   |                                                                                                   | aushärtbar, ausgehärtet<br>hardenable, hardened                                                           | 100                                           | 160 - 2000                                                 | 160 - 1600 |
|   | Aluminium-<br>Gusslegierungen<br>Aluminium cast alloys                                            | ca. 12 % Si. nicht aushärtbar<br>ca. 12 % Si. unhardenable                                                | 75                                            | 320 - 1600                                                 | 320 - 1200 |
|   |                                                                                                   | ca. 12 % Si. aushärtbar,<br>ausgehärtet<br>ca. 12 % Si. hardenable, hardened                              | 90                                            | 240 - 1200                                                 | 240 - 950  |
|   |                                                                                                   | > 12 % Si. nicht aushärtbar<br>> 12 % Si. unhardenable                                                    | 130                                           | 170 - 1000                                                 | 160 - 800  |
|   | Kupfer und<br>Kupferlegierungen<br>(Bronze/Messing)<br>Copper and copper alloys<br>(Bronze/Brass) | Automatenlegierung Pb > 1 %<br>Free cutting alloys Pb > 1 %                                               | 110                                           | 220 - 650                                                  | 200 - 520  |
|   |                                                                                                   | Messing, Rotguss<br>Brass, Red bronze                                                                     | 90                                            | 230 - 900                                                  | 200 - 800  |
|   |                                                                                                   | Bronze, bleifreies Kupfer und<br>Elektrolytkupfer<br>Bronze, non leaded<br>copper and electrolytic copper | 100                                           | 150 - 400                                                  | 120 - 320  |
|   | Nichtmetallische<br>Werkstoffe<br>Nonmetallic materials                                           | Duroplaste Duroplastics                                                                                   |                                               |                                                            |            |
|   |                                                                                                   | Faserverstärkte Kunststoffe<br>Fibre reinforced plastics                                                  |                                               |                                                            |            |
|   |                                                                                                   | Hartgummi Hard rubber                                                                                     |                                               |                                                            |            |



Pentatec®

Pentatec®

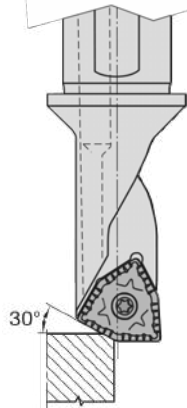
Das universellste Dreh-Bohr-Werkzeug  
Kostenreduktion auf allen Hauptwerkstoffen  
The most universal turning-drilling-tool  
Cost reduction on all main materials



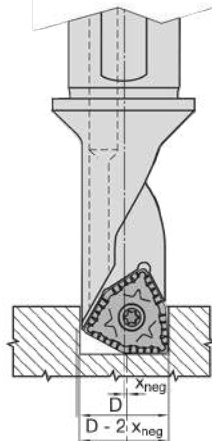
**Nebenschneide einsetzbar**

Secondary cutting edge can be used

**Bohren ins Volle außer der Mitte, positiver Versatz**  
Drilling off center, positive offset

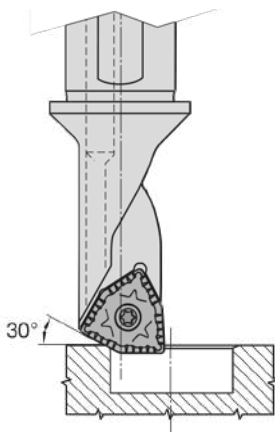


**Bohren ins Volle außer der Mitte, negativer Versatz**  
Drilling off center, negative offset

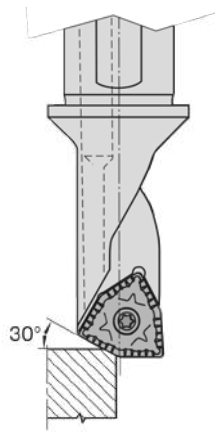


Werkstück → Work piece

**Anfasen innen**  
Internal chamfering



**Anfasen außen**  
External chamfering



$x_{pos}$ : Versatz aus der Mitte positiv  
Offset off center, positive

D: Nenndurchmesser Werkzeug  
Nominal tool diameter

$$\text{Stahl} \quad x_{pos} = \frac{(1,1 \times D) - D}{2}$$

$$\text{Aluminium} \quad x_{pos} = \frac{(1,5 \times D) - D}{2}$$

| Werkzeug<br>Tool<br>2,25D/1,50D | D     | Stahl<br>Steel   |                  | Aluminium        |                  |
|---------------------------------|-------|------------------|------------------|------------------|------------------|
|                                 |       | D <sub>max</sub> | x <sub>pos</sub> | D <sub>max</sub> | x <sub>pos</sub> |
| PTR/L 08 -x,xxD- 04             | 08H13 | 8,8              | 0,40             | 12,0             | 2,00             |
| PTR/L 10 -x,xxD- 05             | 10H13 | 11,0             | 0,50             | 15,0             | 2,50             |
| PTR/L 11 -x,xxD- 06             | 11H13 | 12,1             | 0,55             | 16,5             | 2,75             |
| PTR/L 15 -x,xxD- 07             | 15H13 | 16,5             | 0,75             | 22,5             | 3,75             |
| PTR/L 18 -x,xxD- 09             | 18H13 | 19,8             | 0,90             | 27,0             | 4,50             |
| PTR/L 20 -x,xxD- 10             | 20H13 | 22,0             | 1,00             | 30,0             | 5,00             |
| PTR/L 26 -x,xxD- 13             | 26H13 | 28,6             | 1,30             | 39,0             | 6,50             |

$x_{neg}$ : Versatz aus der Mitte negativ  
Offset off center, negative

D: Nenndurchmesser Werkzeug  
Nominal tool diameter

$$x_{neg} = \frac{D_{min} - D}{2}$$

| Werkzeug<br>Tool<br>2,25D/1,50D | D     | D <sub>min</sub> | x <sub>neg</sub> |
|---------------------------------|-------|------------------|------------------|
| PTR/L 08 -x,xxD- 04             | 08H13 | 7,8              | 0,10             |
| PTR/L 10 -x,xxD- 05             | 10H13 | 9,8              | 0,10             |
| PTR/L 11 -x,xxD- 06             | 11H13 | 10,8             | 0,10             |
| PTR/L 15 -x,xxD- 07             | 15H13 | 14,7             | 0,15             |
| PTR/L 18 -x,xxD- 09             | 18H13 | 17,7             | 0,15             |
| PTR/L 20 -x,xxD- 10             | 20H13 | 19,7             | 0,15             |
| PTR/L 26 -x,xxD- 13             | 26H13 | 25,7             | 0,15             |

**Senkbohrung mit Pentatec®-Werkzeugen**  
Core drilling with Pentatec®-tools

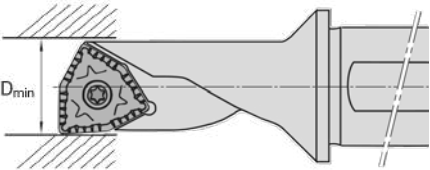
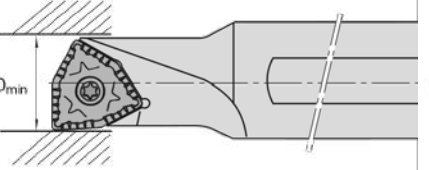
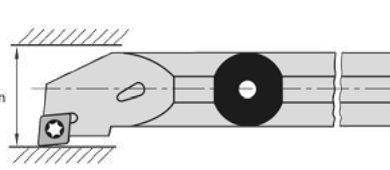
Die Durchmesserreihe der Pentatec®-Werkzeuge ist so ausgelegt, dass damit Senkbohrungen nach DIN 74 Form H3, J3 und K3 in einem Arbeitsgang produziert werden können.

The diameters of the Pentatec®-tools are designed to produce counter-bores according to DIN 74 forms H3, J3 and K3 in one operation.

|              |                                                                                                                                                                         |                                        |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Form H3 für: | Zylinderschrauben nach DIN 84 und DIN 7984<br>Gewindeschneidschrauben nach DIN 7513 Form B<br>Gewindefurchende Schrauben nach DIN 7500 Teil 1 Form A                    | mit Federring nach DIN 7980            |
| Form J3 für: | Zylinderschrauben nach DIN 6912<br>(niedriger Kopf, Schlüsselführung)                                                                                                   |                                        |
| Form K3 für: | Zylinderschrauben nach DIN 912                                                                                                                                          |                                        |
| Form H3 for: | socket head cap screws according to DIN 84<br>and DIN 7984<br>cheese-head screws according to DIN 7513 form B<br>cheese-head screws according to DIN 7500 part 1 form A | with lock washer according to DIN 7980 |
| Form J3 for: | socket head cap screws according to DIN 6912<br>(low screw head, key guide)                                                                                             |                                        |
| Form K3 for: | socket head cap screws according to DIN 912                                                                                                                             |                                        |

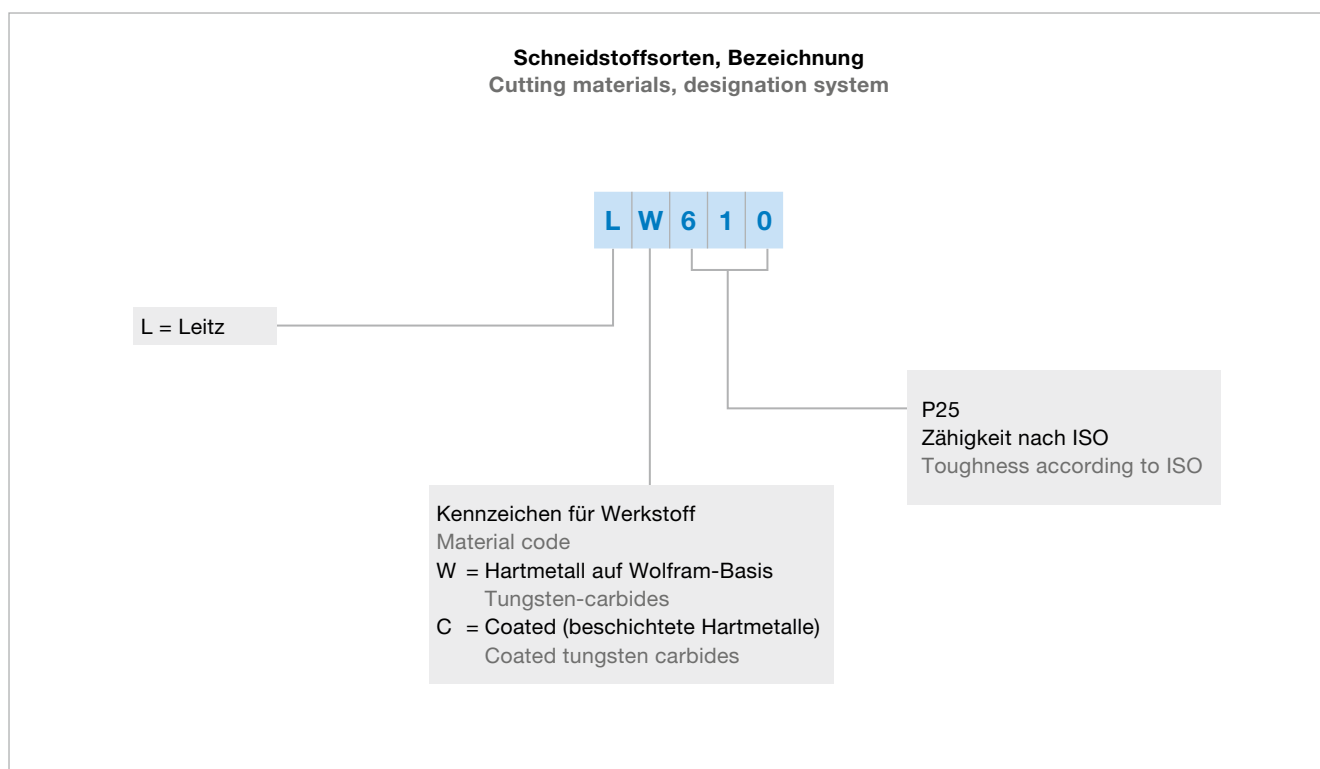
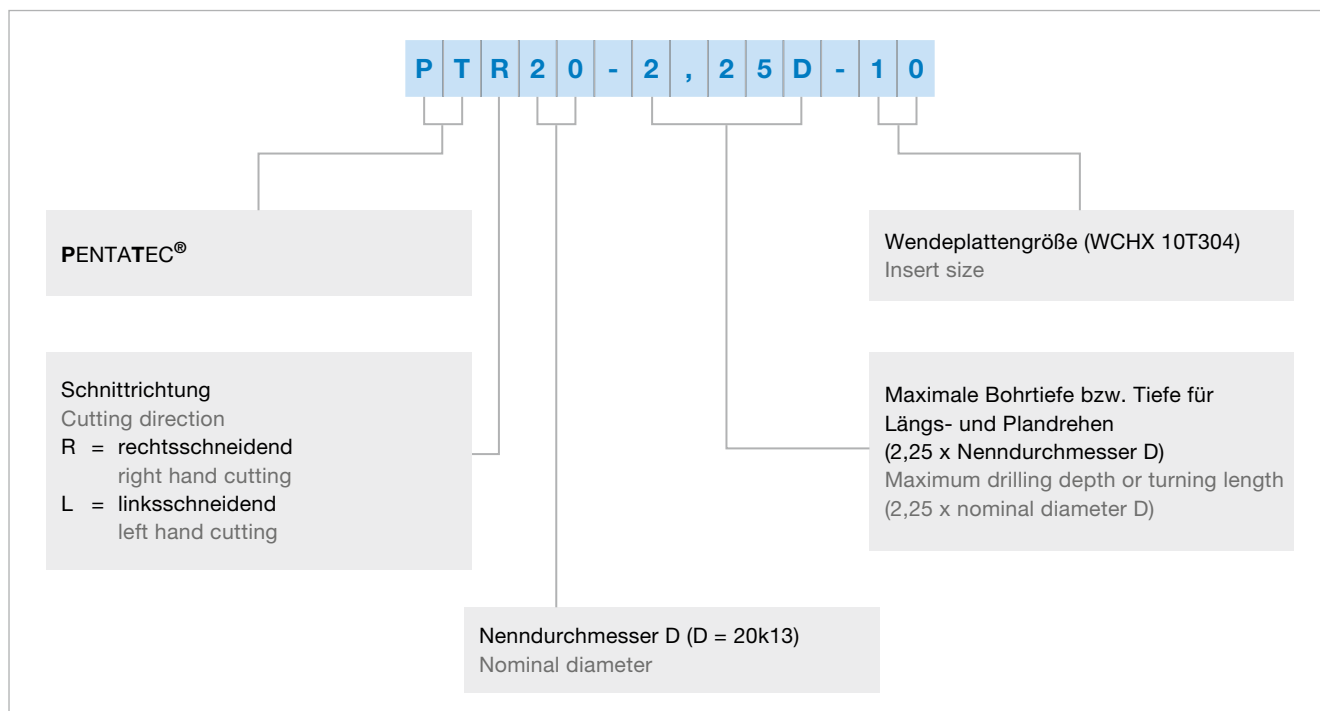
| Werkzeug<br>Tool<br>2,25D/1,50D | Gewinde-<br>Nenn Durchmesser<br>Thread nominal<br>diameter | D  | H13      |
|---------------------------------|------------------------------------------------------------|----|----------|
| PTR/L 08 -x,xxD- 04             | M 4                                                        | 8  | 0/+0,220 |
| PTR/L 10 -x,xxD- 05             | M 5                                                        | 10 | 0/+0,220 |
| PTR/L 11 -x,xxD- 06             | M 6                                                        | 11 | 0/+0,270 |
| PTR/L 15 -x,xxD- 07             | M 8                                                        | 15 | 0/+0,270 |
| PTR/L 18 -x,xxD- 09             | M 10                                                       | 18 | 0/+0,330 |
| PTR/L 20 -x,xxD- 10             | M 12                                                       | 20 | 0/+0,330 |
| PTR/L 26 -x,xxD- 13             | M 16                                                       | 26 | 0/+0,330 |

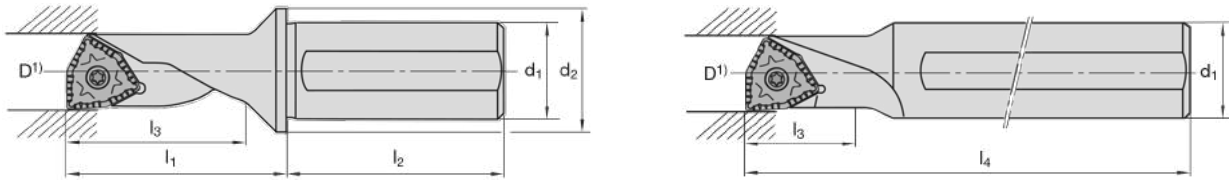
**Große Aufnahmedurchmesser und Plananlage**  
Large mounting diameter and location face

| Pentatec®                                                                           |                                                                                      | ISO-Bohrstange<br>ISO-boring bar                                                      |  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|
| PTR20 -2,25D                                                                        | PTR20 -1,50D                                                                         | ISO-Bohrstange<br>ISO-boring bar                                                      |  |
|  |  |  |  |
| D <sub>min</sub>                                                                    | 20                                                                                   | 21                                                                                    |  |
| d<br>Schaft Shank                                                                   | 25/32 <sup>1)</sup>                                                                  | 16                                                                                    |  |
| Plananlage<br>Seating face                                                          | Ja<br>Yes                                                                            | Nein<br>No                                                                            |  |

<sup>1)</sup> Durchmesser am Bund  
Diameter on the flange

Pentatec®-Nutzen: Höhere Stabilität und geringere Vibrationsneigung durch größere Aufnahmedurchmesser und zusätzliche Plananlage bei PT-2,25D  
Pentatec®-benefits: More stability and less tendency to vibrate through larger locating diameters and the additional seating face for PT-2,25D





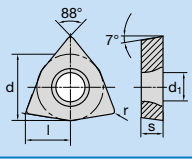
| Bestellbezeichnung<br>Ordering code | D <sup>1)</sup> | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | l <sub>4</sub> | Passende Wendeplatte<br>Indexable insert |
|-------------------------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------------------------------|
| PTR/L 08 - 2,25D-04                 | 8               | 10             | 12             | 22,5           | 38             | 18,0           | –              | WCHX 04...                               |
| PTR/L 08 - 1,50D-04                 | 8               | 12             | –              | –              | –              | 12,0           | 80             |                                          |
| PTR/L 10 - 2,25D-05                 | 10              | 12             | 16             | 28             | 42             | 22,5           | –              | WCHX 05...                               |
| PTR/L 10 - 1,50D-05                 | 10              | 12             | –              | –              | –              | 15,0           | 90             |                                          |
| PTR/L 11 - 2,25D-06                 | 11              | 16             | 20             | 32             | 45             | 24,75          | –              | WCHX 06...                               |
| PTR/L 11 - 1,50D-06                 | 11              | 16             | –              | –              | –              | 16,5           | 100            |                                          |
| PTR/L 15 - 2,25D-07                 | 15              | 20             | 25             | 43             | 50             | 33,75          | –              | WCHX 07...                               |
| PTR/L 15 - 1,50D-07                 | 15              | 20             | –              | –              | –              | 22,5           | 125            |                                          |
| PTR/L 18 - 2,25D-09                 | 18              | 25             | 32             | 53             | 56             | 40,5           | –              | WCHX 09...                               |
| PTR/L 18 - 1,50D-09                 | 18              | 25             | –              | –              | –              | 27,0           | 135            |                                          |
| PTR/L 20 - 2,25D-10                 | 20              | 25             | 32             | 56             | 56             | 45,0           | –              | WCHX 10...                               |
| PTR/L 20 - 1,50D-10                 | 20              | 25             | –              | –              | –              | 30,0           | 150            |                                          |
| PTR/L 26 - 2,25D-13                 | 26              | 32             | 40             | 73             | 60             | 58,5           | –              | WCHX 13...                               |
| PTR/L 26 - 1,50D-13                 | 26              | 32             | –              | –              | –              | 39,0           | 180            |                                          |

<sup>1)</sup> Durchmesser für Senkbohrung laut DIN 74  
Diameter for plunge drilling according to DIN 74

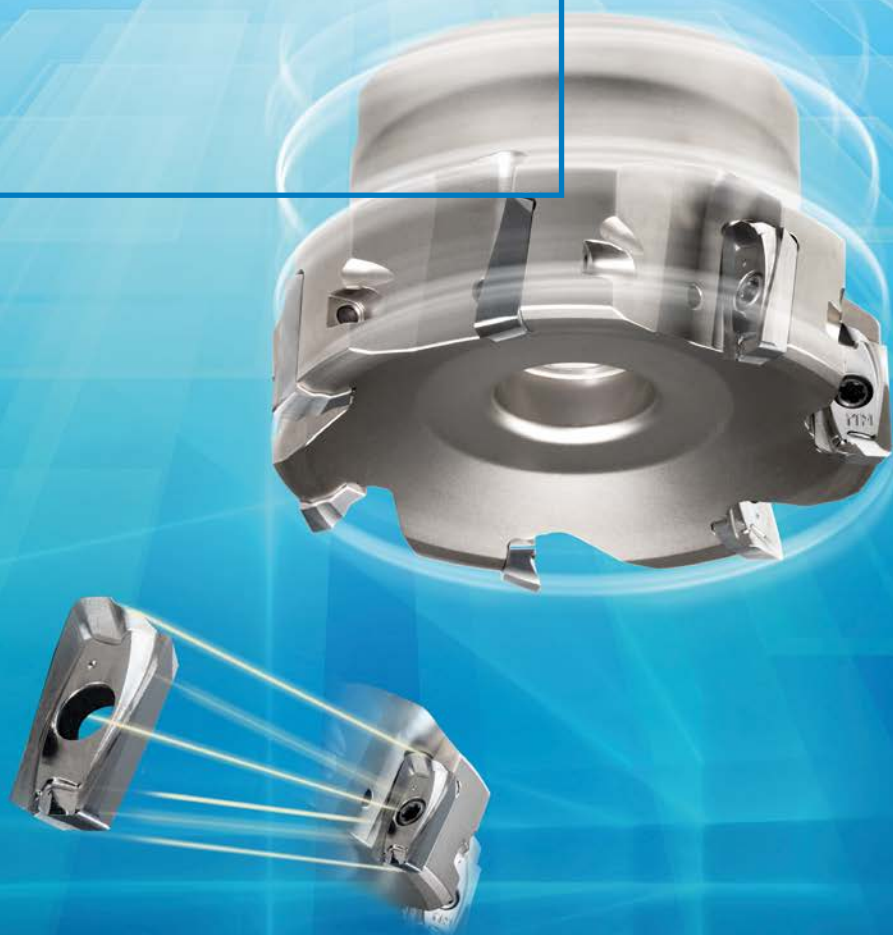
Auf Anfrage bieten wir Pentatec® Werkzeuge mit schwingungsdämpfenden Densimet (Schwermetall) an.  
On request we offer Pentatec® tools with vibration damping Densimet (heavy duty metal).

| Ersatzteile<br>Spare parts |                                                                                                          |                                                                                                         |      |                                 |
|----------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------|---------------------------------|
|                            | <br>Schraube<br>Screw | <br>Schlüssel<br>Key | Torx | Anzugsmoment<br>Torque<br>[Ncm] |
| PTR/L 08                   | A02-20033                                                                                                | V04-T0600                                                                                               | 06   | 62                              |
| PTR/L 10                   | A13-25042                                                                                                | V04-T0800                                                                                               | 08   | 128                             |
| PTR/L 11                   | A13-25050                                                                                                | V04-T0800                                                                                               | 08   | 128                             |
| PTR/L 15                   | A13-30073                                                                                                | V04-T0800                                                                                               | 08   | 180                             |
| PTR/L 18                   | A02-35082                                                                                                | V04-T1500                                                                                               | 15   | 345                             |
| PTR/L 20                   | A06-50088                                                                                                | V04-T2000                                                                                               | 20   | 1020                            |
| PTR/L 26                   | A02-60120                                                                                                | V04-T2500                                                                                               | 25   | 1750                            |



|                              | Bestellbezeichnung<br>Ordering code |             |              |             |             |     | Schneidstoff Grade |
|---------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------|--------------|-------------|-------------|-----|--------------------|
|                                                                                                               |                                     | l           | d            | s           | d1          | r   | LW610              |
| <b>WCHX...FN-BAL</b><br><br> | <b>WCHX 040102FN-BAL</b>            | 4,0         | 6,35         | 1,59        | 2,25        | 0,2 | 6409963            |
|                                                                                                               | <b>WCHX 040104FN-BAL</b>            | 4,0         | 6,35         | 1,59        | 2,25        | 0,4 | 6407959            |
|                                                                                                               | <b>WCHX 05T102FN-BAL</b>            | 5,0         | 7,93         | 1,98        | 2,80        | 0,2 | 6409964            |
|                                                                                                               | <b>WCHX 05T104FN-BAL</b>            | 5,0         | 7,93         | 1,98        | 2,80        | 0,4 | 6407962            |
|                                                                                                               | <b>WCHX 060202FN-BAL</b>            | 5,5         | 8,93         | 2,38        | 2,80        | 0,2 | 6409965            |
|                                                                                                               | <b>WCHX 060204FN-BAL</b>            | 5,5         | 8,93         | 2,38        | 2,80        | 0,4 | 6407965            |
|                                                                                                               | <b>WCHX 070304FN-BAL</b>            | 7,5         | 12,00        | 3,18        | 3,40        | 0,4 | 6409966            |
|                                                                                                               | <b>WCHX 070308FN-BAL</b>            | 7,5         | 12,00        | 3,18        | 3,40        | 0,8 | 6407968            |
|                                                                                                               | <b>WCHX 090304FN-BAL</b>            | 9,0         | 14,29        | 3,18        | 4,40        | 0,4 | 6409967            |
|                                                                                                               | <b>WCHX 090308FN-BAL</b>            | 9,0         | 14,29        | 3,18        | 4,40        | 0,8 | 6407971            |
|                                                                                                               | <b>WCHX 10T304FN-BAL</b>            | <b>10,0</b> | <b>15,87</b> | <b>3,97</b> | <b>5,90</b> | 0,4 | 6409968            |
|                                                                                                               | <b>WCHX 10T308FN-BAL</b>            | <b>10,0</b> | <b>15,87</b> | <b>3,97</b> | <b>5,90</b> | 0,8 | 6400540            |
|                                                                                                               | <b>WCHX 130508FN-BAL</b>            | <b>13,0</b> | <b>21,00</b> | <b>5,56</b> | <b>7,00</b> | 0,8 | 6407975            |
|                                                                                                               |                                     |             |              |             |             |     |                    |

# Aluminium Fräsen Aluminium Milling

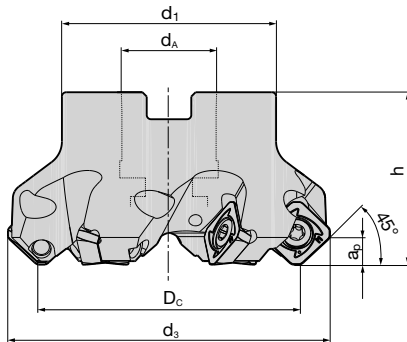


# ISO 45P

Systemgröße 12 System size 12

[www.boehlerit.com](http://www.boehlerit.com)

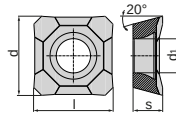
## Aufsteckfräser 45° / SE.. 12 Face milling cutter 45° / SE.. 12



| Abmessungen [mm] Dimensions [mm] |                |                |                |    |                |    | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                                             |                                                                                                                                                         |
|----------------------------------|----------------|----------------|----------------|----|----------------|----|---------------------------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| D <sub>c</sub>                   | d <sub>s</sub> | d <sub>A</sub> | d <sub>i</sub> | h  | a <sub>p</sub> | z  |                                 |                             |                               | <br>Spann-<br>schraube<br>Fixation<br>screw<br><b>AP13-45108</b><br>5085713<br>M <sub>A</sub> = 5Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP20</b><br>5088521 |
| 32                               | 44             | 16             | 32             | 40 | 6              | 3  | <b>BF45 SE12.032 Z03</b>        | 5142940                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 40                               | 53             | 16             | 32             | 40 | 6              | 4  | <b>BF45 SE12.040 Z04</b>        | 5079243                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 50                               | 63             | 22             | 50             | 40 | 6              | 5  | <b>BF45 SE12.050 Z05</b>        | 5079244                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 63                               | 76             | 22             | 50             | 40 | 6              | 5  | <b>BF45 SE12.063 Z05</b>        | 5092994                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 63                               | 76             | 22             | 50             | 40 | 6              | 6  | <b>BF45 SE12.063 Z06</b>        | 5079245                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 63                               | 76             | 22             | 50             | 40 | 6              | 7  | <b>BF45 SE12.063 Z07</b>        | 5092995                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 80                               | 93             | 27             | 52             | 50 | 6              | 6  | <b>BF45 SE12.080 Z06</b>        | 5092997                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 80                               | 93             | 27             | 52             | 50 | 6              | 7  | <b>BF45 SE12.080 Z07</b>        | 5079247                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 100                              | 113            | 32             | 78             | 50 | 6              | 6  | <b>BF45 SE12.100 Z06</b>        | 5092998                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 100                              | 113            | 32             | 78             | 50 | 6              | 8  | <b>BF45 SE12.100 Z08</b>        | 5079248                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 125                              | 138            | 40             | 90             | 63 | 6              | 10 | <b>BF45 SE12.125 Z10</b>        | 5079249                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 160                              | 173            | 40             | 114            | 63 | 6              | 12 | <b>BF45 SE12.160 Z12 NC</b>     | 5093001                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |                |    |                |    |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |

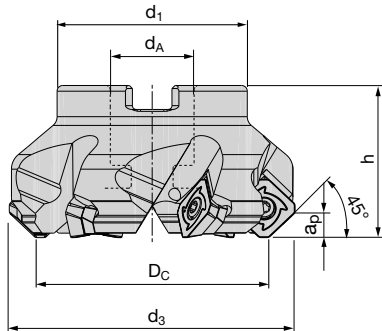
Bestellbeispiel Order Example: 1 Stück piece 5142940 oder or BF45 SE12.032 Z03

NC = Keine Kühlung / no coolant

| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges                                                                                                                 | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |      |                |   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|------|------|----------------|---|
|                                                                                                                                                                                   |                                     |                                        |                          |                               | l                                   | d    | s    | d <sub>i</sub> | r |
| <br><br>N=4 | <b>SEHT 1204 AFFN-ALC</b>           | BCN10M                                 | 5080918                  | ●                             | 12,70                               | 12,7 | 4,76 | 5,5            | - |
|                                                                                                                                                                                   | <b>SEHT 1204 AFFN-ALC</b>           | BWN10M                                 | 5080919                  | ●                             | 12,70                               | 12,7 | 4,76 | 5,5            | - |
|                                                                                                                                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |   |
|                                                                                                                                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |   |
|                                                                                                                                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |   |
|                                                                                                                                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |   |
|                                                                                                                                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |   |

Bestellbeispiel Order example: 10 Stück pieces 5126228 oder or SEHT 13T3 AZFN-MN BCN10M

- Verfügbar ab Lager Available from stock
- Lieferzeit auf Anfrage Delivery time on request

**Aufsteckfräser 45° / SE.. 13**  
**Face milling cutter 45° / SE.. 13**


| Abmessungen [mm] Dimensions [mm] |                |                |                |    |                |    | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                       |                                                               |                                                                                 |
|----------------------------------|----------------|----------------|----------------|----|----------------|----|---------------------------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------|
| D <sub>c</sub>                   | d <sub>3</sub> | d <sub>A</sub> | d <sub>1</sub> | h  | a <sub>p</sub> | z  |                                 |                             |                               |                                                                                  |                                                               |                                                                                 |
| 50                               | 63             | 22             | 44             | 40 | 6              | 4  | <b>BF45 SE13.050 Z04</b>        | 5131670                     | ○                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-35121</b><br>M <sub>A</sub> = 5Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP15</b><br>5088520 | <br>+<br>Schraube SE13<br>Screw 5171188<br>Unterlegsplatte SE13<br>Shim 5171189 |
| 50                               | 63             | 22             | 44             | 40 | 6              | 5  | <b>BF45 SE13.050 Z05</b>        | 5131681                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 63                               | 76             | 22             | 50             | 40 | 6              | 5  | <b>BF45 SE13.063 Z05</b>        | 5131672                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 63                               | 76             | 22             | 50             | 40 | 6              | 6  | <b>BF45 SE13.063 Z06</b>        | 5131682                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 80                               | 93             | 27             | 60             | 50 | 6              | 6  | <b>BF45 SE13.080 Z06</b>        | 5131673                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 80                               | 93             | 27             | 60             | 50 | 6              | 8  | <b>BF45 SE13.080 Z08</b>        | 5131683                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 100                              | 113            | 32             | 80             | 50 | 6              | 7  | <b>BF45 SE13.100 Z07</b>        | 5131674                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 100                              | 113            | 32             | 80             | 50 | 6              | 10 | <b>BF45 SE13.100 Z10</b>        | 5131685                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 125                              | 138            | 40             | 95             | 63 | 6              | 8  | <b>BF45 SE13.125 Z08</b>        | 5131675                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 125                              | 138            | 40             | 95             | 63 | 6              | 12 | <b>BF45 SE13.125 Z12</b>        | 5131686                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 160                              | 173            | 40             | 115            | 63 | 6              | 7  | <b>BF45 SE13.160 Z07</b>        | 5131687                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 160                              | 173            | 40             | 115            | 63 | 6              | 10 | <b>BF45 SE13.160 Z10</b>        | 5131677                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 200                              | 213            | 60             | 164            | 63 | 6              | 8  | <b>BF45 SE13.200 Z08</b>        | 5131688                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 200                              | 213            | 60             | 164            | 63 | 6              | 12 | <b>BF45 SE13.200 Z12</b>        | 5131678                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 250                              | 263            | 60             | 184            | 63 | 6              | 10 | <b>BF45 SE13.250 Z10</b>        | 5131689                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 250                              | 263            | 60             | 184            | 63 | 6              | 14 | <b>BF45 SE13.250 Z14</b>        | 5131679                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 315                              | 334            | 60             | 265            | 80 | 6              | 12 | <b>BF45 SE13.315 Z12</b>        | 5131691                     | ○                             |                                                                                  |                                                               |                                                                                 |
| 315                              | 334            | 60             | 265            | 80 | 6              | 18 | <b>BF45 SE13.315 Z18</b>        | 5131680                     | ○                             |                                                                                  |                                                               |                                                                                 |

Bestellbeispiel Order Example: 1 Stück piece 5131670 oder or BF45 SE13.050 Z04

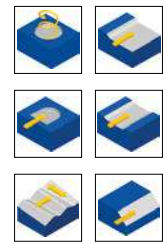
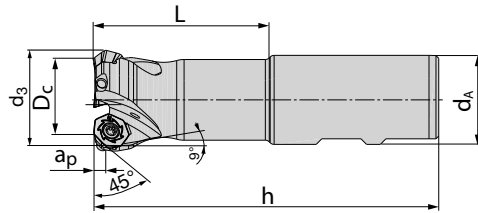
| N = Anzahl der Schneidkanten<br>N = Number of cutting edges | Artikelbezeichnung<br>Item code | Schneidstoffsorte<br>Cutting materials | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |      |                |
|-------------------------------------------------------------|---------------------------------|----------------------------------------|-----------------------------|-------------------------------|-------------------------------------|------|------|----------------|
|                                                             |                                 |                                        |                             |                               | l                                   | d    | s    | d <sub>i</sub> |
| <br>N = 4                                                   | <b>SEHT 13T3 AZFN-MN</b>        | BCN10M                                 | 5126228                     | ●                             | 13,4                                | 13,4 | 3,97 | 4,2            |
|                                                             | <b>SEHT 13T3 AZFN-MN</b>        | BWN10M                                 | 5126227                     | ●                             | 13,4                                | 13,4 | 3,97 | 4,2            |
|                                                             |                                 |                                        |                             |                               |                                     |      |      |                |
|                                                             |                                 |                                        |                             |                               |                                     |      |      |                |
|                                                             |                                 |                                        |                             |                               |                                     |      |      |                |
|                                                             |                                 |                                        |                             |                               |                                     |      |      |                |
|                                                             |                                 |                                        |                             |                               |                                     |      |      |                |

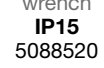
Bestellbeispiel Order example: 10 Stück pieces 5080918 oder or SEHT 1204 AFFN-ALC BCN10M

- Verfügbar ab Lager Available from stock
- Lieferzeit auf Anfrage Delivery time on request

## Schaftfräser 45° / XE.. 04 & RE.. 13

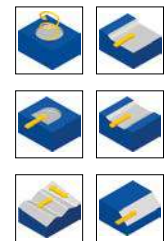
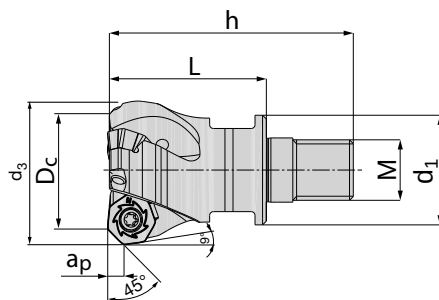
End milling cutter 45° / XE.. 04 & RE.. 13



| Abmessungen [mm] Dimensions [mm] |                |                |     |    |                |   | Schaft<br>Shank | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                                     |                                                                                                                                                          |
|----------------------------------|----------------|----------------|-----|----|----------------|---|-----------------|---------------------------------|-----------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| D <sub>c</sub>                   | d <sub>3</sub> | d <sub>A</sub> | h   | L  | a <sub>p</sub> | z |                 |                                 |                             |                               |                                                                                                                                                                                |                                                                                                                                                          |
| 25                               | 32,5           | 25             | 106 | 50 | 4              | 2 | HB              | <b>BE45 XE04.025 Z02</b>        | 5103614                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-40082</b><br>5122796<br>M <sub>A</sub> = 3Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP15</b><br>5088520  |
| 32                               | 39,5           | 32             | 124 | 64 | 4              | 3 | HB              | <b>BE45 XE04.032 Z03</b>        | 5103616                     | ●                             |                                                                                                                                                                                |                                                                                                                                                          |
| 36                               | 43,5           | 32             | 124 | 64 | 4              | 3 | HB              | <b>BE45 XE04.036 Z03</b>        | 5103623                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-40054</b><br>5085714<br>M <sub>A</sub> = 3Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP15</b><br>5088520 |
| 40                               | 47,5           | 32             | 130 | 65 | 4              | 4 | HB              | <b>BE45 XE04.040 Z04</b>        | 5103617                     | ●                             |                                                                                                                                                                                |                                                                                                                                                          |

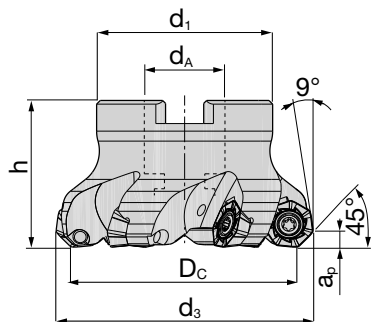
## Einschraubfräser 45° / XE.. 04 & RE.. 13

Screw on type 45° / XE.. 04 & RE.. 13



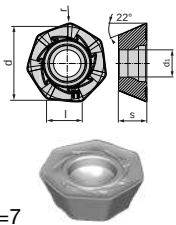
| Abmessungen [mm] Dimensions [mm] |                |                |    |    |                |    |   | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                                       |                                                                                                                                                           |
|----------------------------------|----------------|----------------|----|----|----------------|----|---|---------------------------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| D <sub>c</sub>                   | d <sub>3</sub> | d <sub>1</sub> | L  | h  | a <sub>p</sub> | M  | z |                                 |                             |                               |                                                                                                                                                                                  |                                                                                                                                                           |
| 25                               | 32,5           | 21             | 32 | 54 | 4              | 12 | 2 | <b>BS45 XE04.025 Z02 M12</b>    | 5103620                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-40082</b><br>5122796<br>M <sub>A</sub> = 3Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP15</b><br>5088520 |
| 32                               | 39,5           | 29             | 42 | 65 | 4              | 16 | 3 | <b>BS45 XE04.032 Z03 M16</b>    | 5103621                     | ●                             |                                                                                                                                                                                  |                                                                                                                                                           |
| 40                               | 47,5           | 29             | 43 | 66 | 4              | 16 | 4 | <b>BS45 XE04.040 Z04 M16</b>    | 5103628                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-40054</b><br>5085714<br>M <sub>A</sub> = 3Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP15</b><br>5088520 |

## Aufsteckfräser 45° / XE.. 04 & RE.. 13 Face milling cutter 45° / XE.. 04 & RE.. 13



| Abmessungen [mm] Dimensions [mm] |                |                |                |    |                |                | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                                     |                                                                                                                                                  |
|----------------------------------|----------------|----------------|----------------|----|----------------|----------------|---------------------------------|-----------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| D <sub>c</sub>                   | d <sub>3</sub> | d <sub>A</sub> | d <sub>1</sub> | h  | a <sub>p</sub> | z <sub>0</sub> |                                 |                             |                               |                                                                                                                                                                                |                                                                                                                                                  |
| 50                               | 57,5           | 22             | 43             | 40 | 4              | 5              | BF45 XE04.050 Z05               | 5103595                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-40054</b><br>5085714<br>M <sub>A</sub> = 3Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP15</b><br>5088520 |
| 52                               | 59,5           | 22             | 43             | 40 | 4              | 5              | BF45 XE04.052 Z05               | 5103596                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 63                               | 70,5           | 22             | 48             | 40 | 4              | 5              | BF45 XE04.063 Z05               | 5103598                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 63                               | 70,5           | 22             | 48             | 40 | 4              | 6              | BF45 XE04.063 Z06               | 5103599                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 66                               | 73,5           | 22             | 48             | 40 | 4              | 6              | BF45 XE04.066 Z06               | 5103601                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 80                               | 87,5           | 27             | 60             | 50 | 4              | 6              | BF45 XE04.080 Z06               | 5103602                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 80                               | 87,5           | 27             | 60             | 50 | 4              | 8              | BF45 XE04.080 Z08               | 5103603                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 100                              | 107,5          | 32             | 78             | 50 | 4              | 8              | BF45 XE04.100 Z08               | 5103606                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 100                              | 107,5          | 32             | 78             | 50 | 4              | 10             | BF45 XE04.100 Z10               | 5103607                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 125                              | 132,5          | 40             | 90             | 60 | 4              | 10             | BF45 XE04.125 Z10               | 5103608                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 125                              | 132,5          | 40             | 90             | 60 | 4              | 12             | BF45 XE04.125 Z12               | 5103609                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 160                              | 167,5          | 40             | 115            | 65 | 4              | 10             | BF45 XE04.160 Z10 NC            | 5103610                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 160                              | 167,5          | 40             | 115            | 65 | 4              | 14             | BF45 XE04.160 Z14 NC            | 5103611                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 200                              | 207,5          | 60             | 140            | 65 | 4              | 16             | BF45 XE04.200 Z16 NC            | 5103612                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |

Bestellbeispiel Order example: 10 Stück pieces 5103595 oder or BF45 XE04.050 Z05

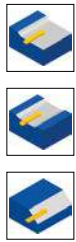
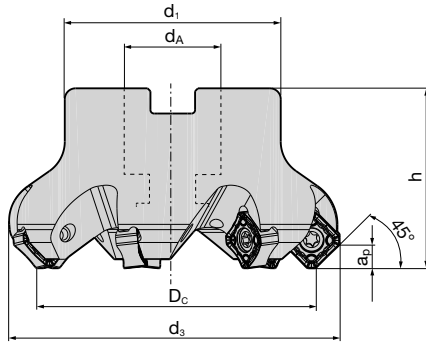
| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges                          | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |      |                |     |
|--------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|------|------|----------------|-----|
|                                                                                            |                                     |                                        |                          |                               | l                                   | d    | s    | d <sub>i</sub> | r   |
| <br>N=7 | XEHT 040408-MN                      | BCN10M                                 | 5141454                  | ●                             | 4                                   | 12,7 | 4,76 | 4,6            | 0,8 |
|                                                                                            | XEHT 040408-MN                      | BWN10M                                 | 5141453                  | ●                             | 4                                   | 12,7 | 4,76 | 4,6            | 0,8 |
|                                                                                            |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                            |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                            |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                            |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                            |                                     |                                        |                          |                               |                                     |      |      |                |     |

- Verfügbar ab Lager Available from stock
- Lieferzeit auf Anfrage Delivery time on request

Bestellbeispiel Order example: 10 Stück pieces 514454 oder or XEHT 040408-MN BCN10M



## Aufsteckfräser 45° / SN.. 12 Face milling cutter 45° / SN.. 12



| Abmessungen [mm] Dimensions [mm] |                |                |                |    |                |    | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                         |                                                                      |
|----------------------------------|----------------|----------------|----------------|----|----------------|----|---------------------------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| D <sub>c</sub>                   | d <sub>3</sub> | d <sub>A</sub> | d <sub>1</sub> | h  | a <sub>p</sub> | z  |                                 |                             |                               |                                                                                                    |                                                                      |
| 50                               | 63,4           | 22             | 50             | 40 | 6,5            | 4  | BF45 SN12.050 Z04               | 5079179                     | ●                             | <br>Spann-<br>schraube<br>Fixation<br>screw<br><b>AP06-40115</b><br>5131917<br>M <sub>A</sub> =5Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP20</b><br>5088521 |
| 50                               | 63,4           | 22             | 50             | 40 | 6,5            | 6  | BF45 SN12.050 Z06               | 5079186                     | ●                             |                                                                                                    |                                                                      |
| 63                               | 76,4           | 22             | 50             | 40 | 6,5            | 5  | BF45 SN12.063 Z05               | 5131664                     | ○                             |                                                                                                    |                                                                      |
| 63                               | 76,4           | 22             | 50             | 40 | 6,5            | 6  | BF45 SN12.063 Z06               | 5079187                     | ●                             |                                                                                                    |                                                                      |
| 63                               | 76,4           | 22             | 50             | 40 | 6,5            | 8  | BF45 SN12.063 Z08               | 5079188                     | ●                             |                                                                                                    |                                                                      |
| 80                               | 93,4           | 27             | 60             | 50 | 6,5            | 6  | BF45 SN12.080 Z06               | 5103109                     | ○                             |                                                                                                    |                                                                      |
| 80                               | 93,4           | 27             | 60             | 50 | 6,5            | 7  | BF45 SN12.080 Z07               | 5079189                     | ●                             |                                                                                                    |                                                                      |
| 80                               | 93,4           | 27             | 60             | 50 | 6,5            | 10 | BF45 SN12.080 Z10               | 5079190                     | ●                             |                                                                                                    |                                                                      |
| 100                              | 113,4          | 32             | 80             | 50 | 6,5            | 8  | BF45 SN12.100 Z08               | 5079191                     | ●                             |                                                                                                    |                                                                      |
| 100                              | 113,4          | 32             | 80             | 50 | 6,5            | 12 | BF45 SN12.100 Z12               | 5079192                     | ●                             |                                                                                                    |                                                                      |
| 125                              | 138,4          | 40             | 95             | 63 | 6,5            | 8  | BF45 SN12.125 Z08               | 5131666                     | ○                             |                                                                                                    |                                                                      |
| 125                              | 138,4          | 40             | 95             | 63 | 6,5            | 10 | BF45 SN12.125 Z10               | 5079193                     | ●                             |                                                                                                    |                                                                      |
| 125                              | 138,4          | 40             | 95             | 63 | 6,5            | 16 | BF45 SN12.125 Z16               | 5079194                     | ●                             |                                                                                                    |                                                                      |
| 160                              | 173,4          | 40             | 115            | 63 | 6,5            | 10 | BF45 SN12.160 Z10 NC            | 5131667                     | ○                             |                                                                                                    |                                                                      |
| 160                              | 173,4          | 40             | 115            | 63 | 6,5            | 12 | BF45 SN12.160 Z12               | 5091855                     | ○                             |                                                                                                    |                                                                      |
| 160                              | 173,4          | 40             | 115            | 63 | 6,5            | 12 | BF45 SN12.160 Z12 NC            | 5079195                     | ●                             |                                                                                                    |                                                                      |
| 160                              | 173,4          | 40             | 115            | 63 | 6,5            | 20 | BF45 SN12.160 Z20 NC            | 5085863                     | ○                             |                                                                                                    |                                                                      |
| 200                              | 213,4          | 60             | 164            | 63 | 6,5            | 18 | BF45 SN12.200 Z18 NC            | 5079196                     | ●                             |                                                                                                    |                                                                      |
| 200                              | 213,4          | 60             | 164            | 63 | 6,5            | 26 | BF45 SN12.200 Z26 NC            | 5085873                     | ○                             |                                                                                                    |                                                                      |
| 250                              | 263,4          | 60             | 184            | 63 | 6,5            | 20 | BF45 SN12.250 Z20 NC            | 5079197                     | ●                             |                                                                                                    |                                                                      |
| 250                              | 263,4          | 60             | 184            | 63 | 6,5            | 30 | BF45 SN12.250 Z30 NC            | 5085874                     | ○                             |                                                                                                    |                                                                      |

Bestellbeispiel Order example: 1 Stück piece 5079179 oder or BF45 SN12.050 Z04

NC = Keine Kühlung / no coolant

| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |      |                |     |
|-------------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|------|------|----------------|-----|
|                                                                   |                                     |                                        |                          |                               | l                                   | d    | s    | d <sub>1</sub> | r   |
| <br>N=8                                                           | SNHX 1206 ANFN-MN                   | BCN10M                                 | 5141461                  | ●                             | 12,7                                | 12,7 | 6,35 | 5,2            | 0,8 |
|                                                                   | SNHX 1206 ANFN-MN                   | BWN10M                                 | 5141458                  | ●                             | 12,7                                | 12,7 | 6,35 | 5,2            | 0,8 |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |

Bestellbeispiel Order example: 10 Stück pieces 5141458 oder or SNHX 1206 ANFN-MN BCN10M

● Verfügbar ab Lager Available from stock  
○ Lieferzeit auf Anfrage Delivery time on request

## ISO 45P

| WSP<br>Geometrie<br>Insert<br>geometry | SE.. 12, SE.. 13                                                                   |                                                                   |
|----------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------|
|                                        | Schnitttiefe <sub>x</sub><br>Cutting depth <sub>x</sub><br>[mm] a <sub>p</sub> max | Vorschub <sub>x</sub><br>Feed <sub>x</sub><br>[mm] f <sub>z</sub> |
| ALC                                    | 0,7 <b>4,0</b> 5,0                                                                 | 0,1 <b>0,2</b> 0,3                                                |

## ETAtec 45P

| WSP<br>Geometrie<br>Insert<br>geometry | XEM. 04                                                                            |                                                                   | REM. 13                                                                            |                                                                   |
|----------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------|
|                                        | Schnitttiefe <sub>x</sub><br>Cutting depth <sub>x</sub><br>[mm] a <sub>p</sub> max | Vorschub <sub>x</sub><br>Feed <sub>x</sub><br>[mm] f <sub>z</sub> | Schnitttiefe <sub>x</sub><br>Cutting depth <sub>x</sub><br>[mm] a <sub>p</sub> max | Vorschub <sub>x</sub><br>Feed <sub>x</sub><br>[mm] f <sub>z</sub> |
| MN                                     | 1,0 <b>3,0</b> 4,0                                                                 | 0,1 <b>0,2</b> 0,3                                                | ---                                                                                | ---                                                               |

## THETAtec 45N

| WSP<br>Geometrie<br>Insert<br>geometry | SN.. 12                                                                            |                                                                   |
|----------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------|
|                                        | Schnitttiefe <sub>x</sub><br>Cutting depth <sub>x</sub><br>[mm] a <sub>p</sub> max | Vorschub <sub>x</sub><br>Feed <sub>x</sub><br>[mm] f <sub>z</sub> |
| MN                                     | 0,7 <b>4,0</b> 6,5                                                                 | 0,15 <b>0,22</b> 0,35                                             |

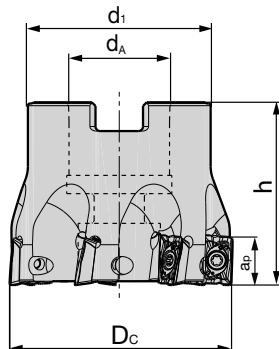
## Schnittwertempfehlung für Fräsen 45°

Cutting data recommendation for milling 45°

| ISO 513 | BZG | Kühlung Cooling |                     |                |             |             |             |
|---------|-----|-----------------|---------------------|----------------|-------------|-------------|-------------|
|         |     |                 | MMS/Luft<br>MMS/Air | Trocken<br>Dry | Nass<br>Wet | BWN10M      | BCN10M      |
| N       | N1  |                 | •                   | •              | •           | 1200 - 2400 | 1500 - 3000 |
|         | N2  |                 | •                   | •              | •           | 240 - 550   | 310 - 750   |
|         | N3  |                 | •                   | •              | •           | 120 - 380   | 160 - 480   |
|         | N4  |                 | •                   | •              | •           | 400 - 500   | 600 - 800   |

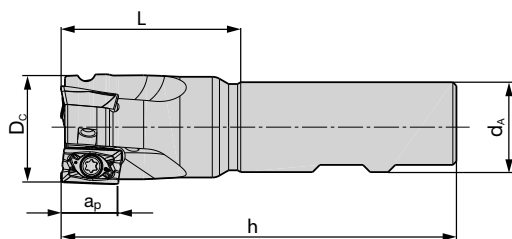


## Aufsteckfräser 90° / AP.. 10 Face milling cutter 90° / AP.. 10



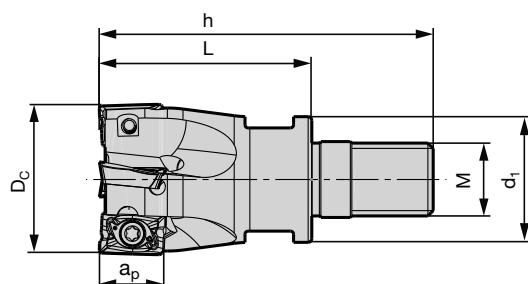
| Abmessungen [mm] Dimensions [mm] |    |    |    |    |    | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                       |                                                                                                                                                 |
|----------------------------------|----|----|----|----|----|---------------------------------|-----------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| DC                               | dA | d1 | h  | ap | z  |                                 |                             |                               |                                                                                                                                                                  |                                                                                                                                                 |
| 40                               | 16 | 32 | 40 | 9  | 6  | <b>BF90 AP10.040 Z06</b>        | 5079217                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP17-25055</b><br>5085710<br>MA=2Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP8</b><br>5088519 |
| 50                               | 22 | 40 | 40 | 9  | 6  | <b>BF90 AP10.050 Z06</b>        | 5079218                     | ●                             |                                                                                                                                                                  |                                                                                                                                                 |
| 50                               | 22 | 40 | 40 | 9  | 7  | <b>BF90 AP10.050 Z07</b>        | 5079220                     | ●                             |                                                                                                                                                                  |                                                                                                                                                 |
| 63                               | 22 | 46 | 40 | 9  | 8  | <b>BF90 AP10.063 Z08</b>        | 5079221                     | ●                             |                                                                                                                                                                  |                                                                                                                                                 |
| 80                               | 27 | 54 | 50 | 9  | 10 | <b>BF90 AP10.080 Z10</b>        | 5079222                     | ●                             |                                                                                                                                                                  |                                                                                                                                                 |
|                                  |    |    |    |    |    |                                 |                             |                               |                                                                                                                                                                  |                                                                                                                                                 |
|                                  |    |    |    |    |    |                                 |                             |                               |                                                                                                                                                                  |                                                                                                                                                 |
|                                  |    |    |    |    |    |                                 |                             |                               |                                                                                                                                                                  |                                                                                                                                                 |
|                                  |    |    |    |    |    |                                 |                             |                               |                                                                                                                                                                  |                                                                                                                                                 |
|                                  |    |    |    |    |    |                                 |                             |                               |                                                                                                                                                                  |                                                                                                                                                 |
|                                  |    |    |    |    |    |                                 |                             |                               |                                                                                                                                                                  |                                                                                                                                                 |

## Schaftfräser 90° / AP.. 10 End milling cutter 90° / AP.. 10



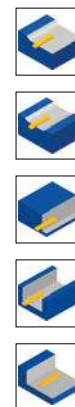
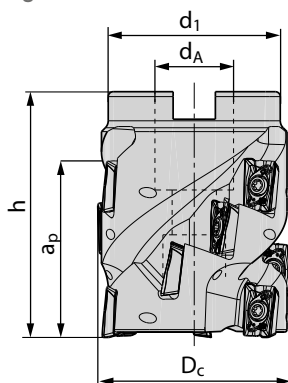
| Abmessungen [mm] Dimensions [mm] |    |     |    |    |   | Artikelbezeichnung<br>Item code | Schaft<br>Shank | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                         |                                                                                                                                                   |
|----------------------------------|----|-----|----|----|---|---------------------------------|-----------------|-----------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| DC                               | dA | h   | ap | L  | z |                                 |                 |                             |                               |                                                                                                                                                                    |                                                                                                                                                   |
| 12                               | 16 | 80  | 9  | 32 | 1 | <b>BE90 AP10.012 Z01</b>        | HB              | 5079223                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP17-25055</b><br>5085710<br>MA=2Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP8</b><br>5088519 |
| 12                               | 16 | 120 | 9  | 32 | 1 | <b>BE90 AP10.012 Z01 120</b>    | HA              | 5104926                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
| 16                               | 16 | 85  | 9  | 37 | 2 | <b>BE90 AP10.016 Z02</b>        | HB              | 5079224                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
| 16                               | 16 | 130 | 9  | 37 | 2 | <b>BE90 AP10.016 Z02 130</b>    | HA              | 5104927                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
| 20                               | 20 | 90  | 9  | 40 | 3 | <b>BE90 AP10.020 Z03</b>        | HB              | 5079225                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
| 20                               | 20 | 150 | 9  | 40 | 3 | <b>BE90 AP10.020 Z03 150</b>    | HA              | 5104928                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
| 25                               | 25 | 105 | 9  | 49 | 4 | <b>BE90 AP10.025 Z04</b>        | HB              | 5079226                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
| 25                               | 25 | 170 | 9  | 49 | 4 | <b>BE90 AP10.025 Z04 170</b>    | HA              | 5104930                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
| 32                               | 25 | 110 | 9  | 54 | 5 | <b>BE90 AP10.032 Z05</b>        | HB              | 5079227                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
| 32                               | 25 | 195 | 9  | 54 | 5 | <b>BE90 AP10.032 Z05 195</b>    | HA              | 5104931                     | ●                             |                                                                                                                                                                    |                                                                                                                                                   |
|                                  |    |     |    |    |   |                                 |                 |                             |                               |                                                                                                                                                                    |                                                                                                                                                   |
|                                  |    |     |    |    |   |                                 |                 |                             |                               |                                                                                                                                                                    |                                                                                                                                                   |

### Einschraubfräser 90° / AP.. 10 Screw on type 90° / AP.. 10



| Abmessungen [mm] Dimensions [mm] |                |    |    |                |     |   | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts |  |
|----------------------------------|----------------|----|----|----------------|-----|---|---------------------------------|-----------------------------|-------------------------------|----------------------------|--|
| D <sub>C</sub>                   | d <sub>1</sub> | L  | h  | a <sub>p</sub> | M   | z |                                 |                             |                               |                            |  |
| 16                               | 12,7           | 23 | 41 | 9              | M8  | 2 | <b>BS90 AP10.016 Z02 M8</b>     | 5079228                     | ●                             |                            |  |
| 20                               | 17,7           | 30 | 50 | 9              | M10 | 3 | <b>BS90 AP10.020 Z03 M10</b>    | 5079229                     | ●                             |                            |  |
| 25                               | 20,7           | 35 | 57 | 9              | M12 | 4 | <b>BS90 AP10.025 Z04 M12</b>    | 5079230                     | ●                             |                            |  |
| 32                               | 28,7           | 43 | 67 | 9              | M16 | 5 | <b>BS90 AP10.032 Z05 M16</b>    | 5079231                     | ●                             |                            |  |
|                                  |                |    |    |                |     |   |                                 |                             |                               |                            |  |
|                                  |                |    |    |                |     |   |                                 |                             |                               |                            |  |
|                                  |                |    |    |                |     |   |                                 |                             |                               |                            |  |
|                                  |                |    |    |                |     |   |                                 |                             |                               |                            |  |
|                                  |                |    |    |                |     |   |                                 |                             |                               |                            |  |
|                                  |                |    |    |                |     |   |                                 |                             |                               |                            |  |

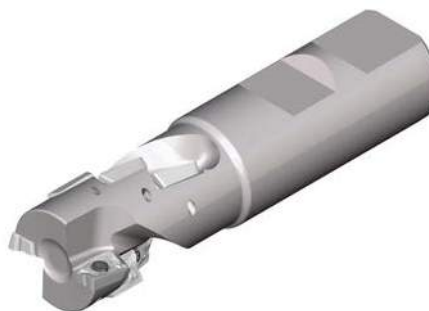
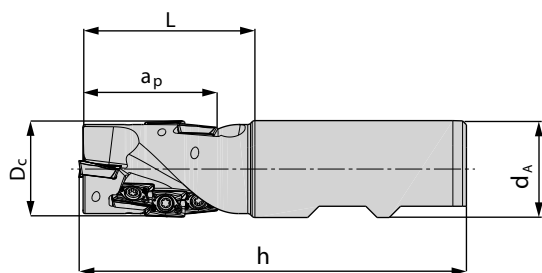
### Aufsteckfräser 90° / AP.. 10 Face milling cutter 90° / AP.. 10



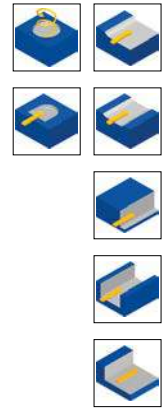
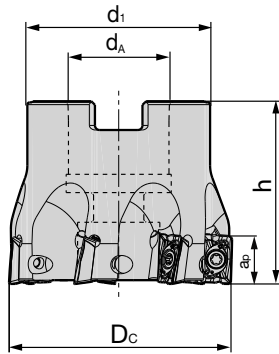
| Abmessungen [mm] Dimensions [mm] |                |                |    |                    |   |                             | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts |  |
|----------------------------------|----------------|----------------|----|--------------------|---|-----------------------------|---------------------------------|-----------------------------|-------------------------------|----------------------------|--|
| D <sub>C</sub>                   | d <sub>A</sub> | d <sub>1</sub> | h  | a <sub>p</sub> 90° | z | Anzahl WSP<br>Pieces Insert |                                 |                             |                               |                            |  |
| 40                               | 16             | 35             | 50 | 37                 | 3 | 12                          | <b>BFH90 AP10.040 Z03 037</b>   | 5108639                     | ●                             |                            |  |
| 40                               | 16             | 35             | 50 | 37                 | 5 | 20                          | <b>BFH90 AP10.040 Z05 037</b>   | 5108640                     | ●                             |                            |  |
| 50                               | 22             | 48             | 60 | 46                 | 3 | 15                          | <b>BFH90 AP10.050 Z03 046</b>   | 5108641                     | ●                             |                            |  |
| 50                               | 22             | 48             | 60 | 46                 | 5 | 25                          | <b>BFH90 AP10.050 Z05 046</b>   | 5108642                     | ●                             |                            |  |
| 63                               | 27             | 53             | 60 | 46                 | 4 | 20                          | <b>BFH90 AP10.063 Z04 046</b>   | 5108643                     | ●                             |                            |  |
| 63                               | 27             | 53             | 60 | 46                 | 7 | 35                          | <b>BFH90 AP10.063 Z07 046</b>   | 5108644                     | ●                             |                            |  |
|                                  |                |                |    |                    |   |                             |                                 |                             |                               |                            |  |
|                                  |                |                |    |                    |   |                             |                                 |                             |                               |                            |  |
|                                  |                |                |    |                    |   |                             |                                 |                             |                               |                            |  |
|                                  |                |                |    |                    |   |                             |                                 |                             |                               |                            |  |
|                                  |                |                |    |                    |   |                             |                                 |                             |                               |                            |  |

Bestellbeispiel Order example: 1 Stück piece 5079228 oder or BS90 AP10.016 Z02 M8

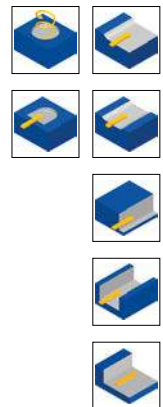
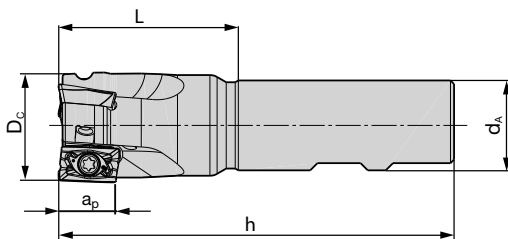
● Verfügbar ab Lager Available from stock  
○ Lieferzeit auf Anfrage Delivery time on request

[illegible][illegible]

Bestellbeispiel Order example: 10 Stück pieces 5092159 oder or APHT 100304 FR-MN2 BWN10M

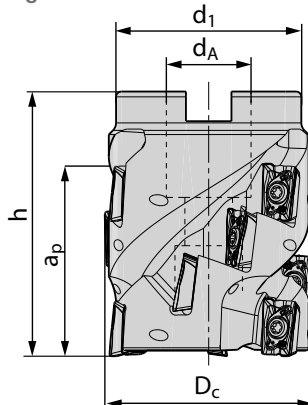
**Aufsteckfräser 90° / AP.. 16**  
**Face milling cutter 90° / AP.. 16**


| Abmessungen [mm] Dimensions [mm] |                |                |    |                |   | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                                     |                                                                                                                                                  |
|----------------------------------|----------------|----------------|----|----------------|---|---------------------------------|-----------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| D <sub>C</sub>                   | d <sub>A</sub> | d <sub>1</sub> | h  | a <sub>p</sub> | z |                                 |                             |                               | <br>Spannschraube<br>Fixation screw<br><b>AP02-40095</b><br>5085711<br>M <sub>A</sub> = 3Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP15</b><br>5088520 |
| 40                               | 16             | 32             | 40 | 15             | 4 | <b>BF90 AP16.040 Z04</b>        | 5079232                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 50                               | 22             | 42             | 40 | 15             | 5 | <b>BF90 AP16.050 Z05</b>        | 5079234                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 63                               | 22             | 48             | 40 | 15             | 6 | <b>BF90 AP16.063 Z06</b>        | 5079236                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 80                               | 27             | 58             | 50 | 15             | 7 | <b>BF90 AP16.080 Z07</b>        | 5079237                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 100                              | 32             | 76             | 50 | 15             | 8 | <b>BF90 AP16.100 Z08</b>        | 5079238                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
| 125                              | 40             | 90             | 63 | 15             | 9 | <b>BF90 AP16.125 Z09</b>        | 5079239                     | ●                             |                                                                                                                                                                                |                                                                                                                                                  |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                |                                                                                                                                                  |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                |                                                                                                                                                  |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                |                                                                                                                                                  |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                |                                                                                                                                                  |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                |                                                                                                                                                  |

**Schaftfräser 90° / AP.. 16**  
**End milling cutter 90° / AP.. 16**


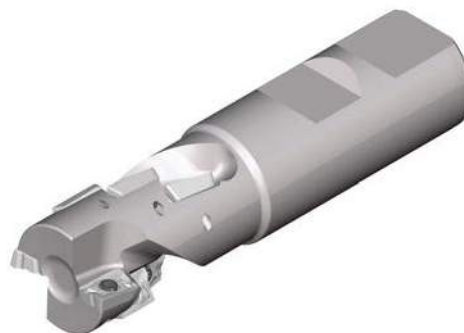
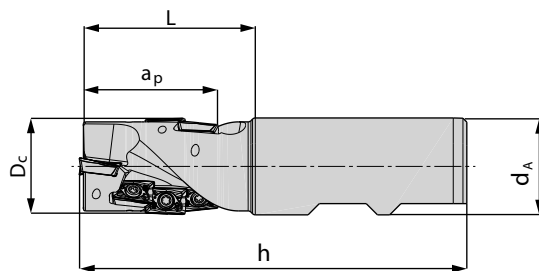
| Abmessungen [mm] Dimensions [mm] |                |     |                |    |   | Artikelbezeichnung<br>Item code | Schaft<br>Shank | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                                       |                                                                                                                                                    |
|----------------------------------|----------------|-----|----------------|----|---|---------------------------------|-----------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| D <sub>C</sub>                   | d <sub>A</sub> | h   | a <sub>p</sub> | L  | z |                                 |                 |                             |                               | <br>Spannschraube<br>Fixation screw<br><b>AP02-40095</b><br>5085711<br>M <sub>A</sub> = 3Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP15</b><br>5088520 |
| 25                               | 20             | 100 | 15             | 40 | 2 | <b>BE90 AP16.025 Z02</b>        | HB              | 5079240                     | ●                             |                                                                                                                                                                                  |                                                                                                                                                    |
| 25                               | 20             | 200 | 15             | 40 | 2 | <b>BE90 AP16.025 Z02 200</b>    | HA              | 5102014                     | ●                             |                                                                                                                                                                                  |                                                                                                                                                    |
| 32                               | 25             | 110 | 15             | 50 | 3 | <b>BE90 AP16.032 Z03</b>        | HB              | 5079241                     | ●                             |                                                                                                                                                                                  |                                                                                                                                                    |
| 32                               | 25             | 200 | 15             | 50 | 3 | <b>BE90 AP16.032 Z03 200</b>    | HA              | 5102015                     | ●                             |                                                                                                                                                                                  |                                                                                                                                                    |
| 40                               | 32             | 115 | 15             | 55 | 4 | <b>BE90 AP16.040 Z04</b>        | HB              | 5079242                     | ●                             |                                                                                                                                                                                  |                                                                                                                                                    |
|                                  |                |     |                |    |   |                                 |                 |                             |                               |                                                                                                                                                                                  |                                                                                                                                                    |
|                                  |                |     |                |    |   |                                 |                 |                             |                               |                                                                                                                                                                                  |                                                                                                                                                    |
|                                  |                |     |                |    |   |                                 |                 |                             |                               |                                                                                                                                                                                  |                                                                                                                                                    |
|                                  |                |     |                |    |   |                                 |                 |                             |                               |                                                                                                                                                                                  |                                                                                                                                                    |
|                                  |                |     |                |    |   |                                 |                 |                             |                               |                                                                                                                                                                                  |                                                                                                                                                    |
|                                  |                |     |                |    |   |                                 |                 |                             |                               |                                                                                                                                                                                  |                                                                                                                                                    |

### Aufsteckfräser 90° / AP.. 16 Face milling cutter 90° / AP.. 16



| Abmessungen [mm] Dimensions [mm] |                |                |    |                    |   |                             | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                          |                                                                      |
|----------------------------------|----------------|----------------|----|--------------------|---|-----------------------------|---------------------------------|-----------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| D <sub>C</sub>                   | d <sub>A</sub> | d <sub>1</sub> | h  | a <sub>p/90°</sub> | z | Anzahl WSP<br>Pieces Insert |                                 |                             |                               |                                                                                                     |                                                                      |
| 50                               | 27             | 48             | 50 | 30                 | 3 | 6                           | <b>BFH90 AP16.050 Z03 030</b>   | 5127230                     | ●                             | <br>Spann-<br>schraube<br>Fixation<br>screw<br><b>AP02-40095</b><br>5085711<br>M <sub>A</sub> = 3Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP15</b><br>5088520 |
| 63                               | 27             | 55             | 60 | 44                 | 4 | 12                          | <b>BFH90 AP16.063 Z04 044</b>   | 5127231                     | ●                             |                                                                                                     |                                                                      |
| 80                               | 32             | 70             | 60 | 44                 | 5 | 15                          | <b>BFH90 AP16.080 Z05 044</b>   | 5127232                     | ●                             |                                                                                                     |                                                                      |
| 100                              | 40             | 88             | 60 | 44                 | 6 | 18                          | <b>BFH90 AP16.100 Z06 044</b>   | 5127233                     | ●                             |                                                                                                     |                                                                      |
| 125                              | 40             | 95             | 60 | 44                 | 7 | 21                          | <b>BFH90 AP16.125 Z07 044</b>   | 5127234                     | ●                             |                                                                                                     |                                                                      |
|                                  |                |                |    |                    |   |                             |                                 |                             |                               |                                                                                                     |                                                                      |

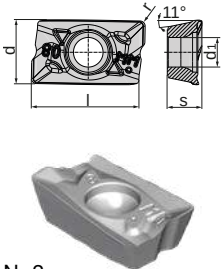
### Schaftfräser 90° / AP.. 16 End milling cutter 90° / AP.. 16



| Abmessungen [mm] Dimensions [mm] |                |    |     |                    |   |                             | Artikelbezeichnung<br>Item code | Schaft<br>Shank | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                          |                                                                      |
|----------------------------------|----------------|----|-----|--------------------|---|-----------------------------|---------------------------------|-----------------|-----------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| D <sub>C</sub>                   | d <sub>A</sub> | L  | h   | a <sub>p/90°</sub> | z | Anzahl WSP<br>Pieces Insert |                                 |                 |                             |                               |                                                                                                     |                                                                      |
| 25                               | 25             | 38 | 95  | 29                 | 1 | 3                           | <b>BEH90 AP16.025 Z01 029</b>   | <b>HB</b>       | 5127225                     | ●                             | <br>Spann-<br>schraube<br>Fixation<br>screw<br><b>AP02-40095</b><br>5085711<br>M <sub>A</sub> = 3Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP15</b><br>5088520 |
| 32                               | 32             | 53 | 115 | 44                 | 2 | 6                           | <b>BEH90 AP16.032 Z02 044</b>   | <b>HB</b>       | 5127228                     | ●                             |                                                                                                     |                                                                      |
| 40                               | 32             | 65 | 130 | 58                 | 2 | 6                           | <b>BEH90 AP16.040 Z02 058</b>   | <b>HB</b>       | 5127229                     | ●                             |                                                                                                     |                                                                      |
|                                  |                |    |     |                    |   |                             |                                 |                 |                             |                               |                                                                                                     |                                                                      |

Bestellbeispiel Order example: 1 Stück piece 5127230 oder or BFH90 AP16.050 Z03 030

● Verfügbar ab Lager Available from stock  
○ Lieferzeit auf Anfrage Delivery time on request

| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges                        | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |      |                |     |
|------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|------|------|----------------|-----|
|                                                                                          |                                     |                                        |                          |                               | l                                   | d    | s    | d <sub>i</sub> | r   |
| <br>N=2 | APHT 160408 FR-MN2                  | BWN10M                                 | 5092155                  | ●                             | 16                                  | 9,52 | 5,26 | 4,5            | 0,8 |
|                                                                                          | APHT 160408 FR-MN2                  | BCN10M                                 | 5092154                  | ●                             | 16                                  | 9,52 | 5,26 | 4,5            | 0,8 |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                                          |                                     |                                        |                          |                               |                                     |      |      |                |     |



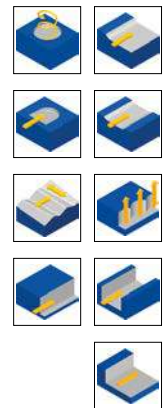
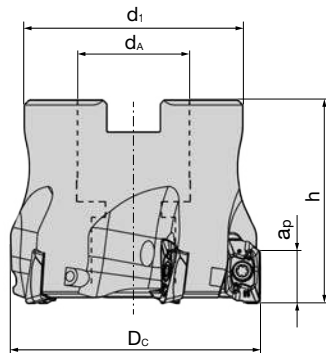
# BETatec 90P Feed

Systemgröße 10 System size 10

[www.boehlerit.com](http://www.boehlerit.com)

## Aufsteckfräser 90° / LD.. 10

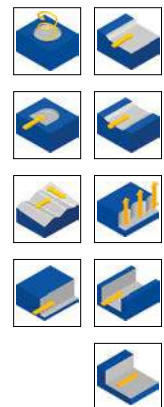
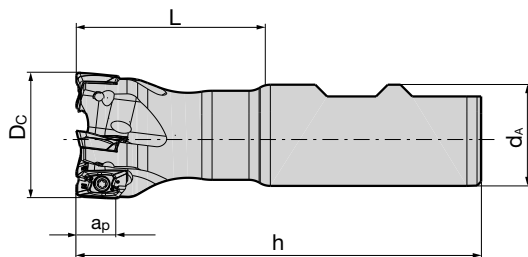
Face milling cutter 90° / LD.. 10



| Abmessungen [mm] Dimensions [mm] |    |    |    |       |        |    | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts |  |
|----------------------------------|----|----|----|-------|--------|----|---------------------------------|-----------------------------|-------------------------------|----------------------------|--|
| DC                               | dA | d1 | h  | aP/90 | aP/HFC | z  |                                 |                             |                               |                            |  |
| 40                               | 16 | 35 | 40 | 9     | 1,4    | 4  | <b>BF90 LD10.040 Z04</b>        | 5081757                     | ●                             |                            |  |
| 40                               | 16 | 35 | 40 | 9     | 1,4    | 6  | <b>BF90 LD10.040 Z06</b>        | 5081762                     | ●                             |                            |  |
| 50                               | 22 | 43 | 40 | 9     | 1,4    | 5  | <b>BF90 LD10.050 Z05</b>        | 5081765                     | ●                             |                            |  |
| 50                               | 22 | 43 | 40 | 9     | 1,4    | 7  | <b>BF90 LD10.050 Z07</b>        | 5081767                     | ●                             |                            |  |
| 63                               | 22 | 48 | 40 | 9     | 1,4    | 6  | <b>BF90 LD10.063 Z06</b>        | 5081769                     | ●                             |                            |  |
| 63                               | 22 | 48 | 40 | 9     | 1,4    | 8  | <b>BF90 LD10.063 Z08</b>        | 5081770                     | ●                             |                            |  |
| 80                               | 27 | 60 | 50 | 9     | 1,4    | 10 | <b>BF90 LD10.080 Z10</b>        | 5081771                     | ●                             |                            |  |
|                                  |    |    |    |       |        |    |                                 |                             |                               |                            |  |
|                                  |    |    |    |       |        |    |                                 |                             |                               |                            |  |
|                                  |    |    |    |       |        |    |                                 |                             |                               |                            |  |
|                                  |    |    |    |       |        |    |                                 |                             |                               |                            |  |

## Schaftfräser 90° / LD.. 10

End milling cutter 90° / LD.. 10



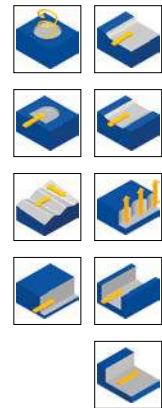
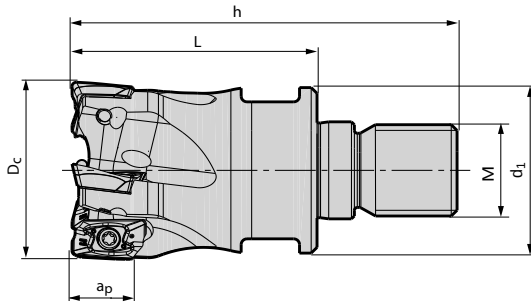
| Abmessungen [mm] Dimensions [mm] |    |    |     |       |        |   | Artikelbezeichnung<br>Item code | Schaft<br>Shank | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts |  |
|----------------------------------|----|----|-----|-------|--------|---|---------------------------------|-----------------|-----------------------------|-------------------------------|----------------------------|--|
| DC                               | dA | L  | h   | aP/90 | aP/HFC | z |                                 |                 |                             |                               |                            |  |
| 16                               | 16 | 37 | 85  | 9     | 1,4    | 2 | <b>BE90 LD10.016 Z02</b>        | HB              | 5081774                     | ●                             |                            |  |
| 18                               | 20 | 38 | 90  | 9     | 1,4    | 2 | <b>BE90 LD10.018 Z02</b>        | HB              | 5102530                     | ○                             |                            |  |
| 20                               | 20 | 40 | 90  | 9     | 1,4    | 2 | <b>BE90 LD10.020 Z02</b>        | HB              | 5113590                     | ●                             |                            |  |
| 20                               | 20 | 90 | 140 | 9     | 1,4    | 2 | <b>BE90 LD10.020 Z02 140</b>    | HA              | 5113591                     | ○                             |                            |  |
| 20                               | 20 | 40 | 90  | 9     | 1,4    | 3 | <b>BE90 LD10.020 Z03</b>        | HB              | 5081777                     | ●                             |                            |  |
| 25                               | 25 | 50 | 106 | 9     | 1,4    | 3 | <b>BE90 LD10.025 Z03</b>        | HB              | 5081778                     | ●                             |                            |  |
| 25                               | 25 | 50 | 106 | 9     | 1,4    | 4 | <b>BE90 LD10.025 Z04</b>        | HB              | 5081779                     | ●                             |                            |  |
| 32                               | 32 | 64 | 124 | 9     | 1,4    | 3 | <b>BE90 LD10.032 Z03</b>        | HB              | 5081781                     | ●                             |                            |  |
| 32                               | 32 | 64 | 124 | 9     | 1,4    | 5 | <b>BE90 LD10.032 Z05</b>        | HB              | 5081782                     | ●                             |                            |  |
|                                  |    |    |     |       |        |   |                                 |                 |                             |                               |                            |  |
|                                  |    |    |     |       |        |   |                                 |                 |                             |                               |                            |  |
|                                  |    |    |     |       |        |   |                                 |                 |                             |                               |                            |  |

Bestellbeispiel Order example: 1 Stück piece 5081757 oder or BF90 LD10.040 Z04

● Verfügbar ab Lager Available from stock  
○ Lieferzeit auf Anfrage Delivery time on request



## Einschraubfräser 90° / LD.. 10 Screw on type 90° / LD.. 10



| Abmessungen [mm] Dimensions [mm] |                |    |    |                    |                     |    |   | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                          |                                                              |
|----------------------------------|----------------|----|----|--------------------|---------------------|----|---|---------------------------------|-----------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| D <sub>C</sub>                   | d <sub>1</sub> | h  | L  | a <sub>p</sub> /90 | a <sub>p</sub> /HFC | M  | z |                                 |                             |                               |                                                                                                     |                                                              |
| 16                               | 13,8           | 49 | 31 | 9                  | 1,4                 | 8  | 2 | <b>BS90 LD10.016 Z02 M8</b>     | 5081783                     | ●                             | <b>AP02-25051</b><br>5091691<br>M <sub>A</sub> = 2Nm                                                | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP8</b><br>5088519 |
| 20                               | 18             | 49 | 30 | 9                  | 1,4                 | 10 | 3 | <b>BS90 LD10.020 Z03 M10</b>    | 5081785                     | ●                             |                                                                                                     |                                                              |
| 25                               | 21             | 54 | 32 | 9                  | 1,4                 | 12 | 3 | <b>BS90 LD10.025 Z03 M12</b>    | 5081788                     | ●                             |                                                                                                     |                                                              |
| 25                               | 21             | 54 | 32 | 9                  | 1,4                 | 12 | 4 | <b>BS90 LD10.025 Z04 M12</b>    | 5081789                     | ●                             |                                                                                                     |                                                              |
| 32                               | 29             | 66 | 43 | 9                  | 1,4                 | 16 | 3 | <b>BS90 LD10.032 Z03 M16</b>    | 5116746                     | ●                             | <br>Spann-<br>schraube<br>Fixation<br>screw<br><b>AP02-25068</b><br>5085706<br>M <sub>A</sub> = 2Nm |                                                              |
| 32                               | 29             | 66 | 43 | 9                  | 1,4                 | 16 | 5 | <b>BS90 LD10.032 Z05 M16</b>    | 5081790                     | ●                             |                                                                                                     |                                                              |
| 40                               | 29             | 66 | 43 | 9                  | 1,4                 | 16 | 6 | <b>BS90 LD10.040 Z06 M16</b>    | 5098310                     | ●                             |                                                                                                     |                                                              |
|                                  |                |    |    |                    |                     |    |   |                                 |                             |                               |                                                                                                     |                                                              |
|                                  |                |    |    |                    |                     |    |   |                                 |                             |                               |                                                                                                     |                                                              |
|                                  |                |    |    |                    |                     |    |   |                                 |                             |                               |                                                                                                     |                                                              |
|                                  |                |    |    |                    |                     |    |   |                                 |                             |                               |                                                                                                     |                                                              |
|                                  |                |    |    |                    |                     |    |   |                                 |                             |                               |                                                                                                     |                                                              |

Bestellbeispiel Order example: 1 Stück piece 5081783 oder or BS90 LD10.016 Z02 M8

| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |     |      |                |     |
|-------------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|-----|------|----------------|-----|
|                                                                   |                                     |                                        |                          |                               | l                                   | d   | s    | d <sub>1</sub> | r   |
| <br>N=2                                                           | <b>LDHX 100404 FR-MN</b>            | BCN10M                                 | 5141477                  | ●                             | 10                                  | 6,6 | 4,76 | 2,8            | 0,4 |
|                                                                   | <b>LDHX 100404 FR-MN</b>            | BWN10M                                 | 5141470                  | ●                             | 10                                  | 6,6 | 4,76 | 2,8            | 0,4 |
|                                                                   | <b>LDHX 100408 FR-MN</b>            | BCN10M                                 | 5141479                  | ●                             | 10                                  | 6,6 | 4,76 | 2,8            | 0,8 |
|                                                                   | <b>LDHX 100408 FR-MN</b>            | BWN10M                                 | 5141478                  | ●                             | 10                                  | 6,6 | 4,76 | 2,8            | 0,8 |
|                                                                   |                                     |                                        |                          |                               |                                     |     |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |     |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |     |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |     |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |     |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |     |      |                |     |

Bestellbeispiel Order example: 10 Stück pieces LDHX 100404 FR-MN BCN10M oder or 5141477

● Verfügbar ab Lager Available from stock

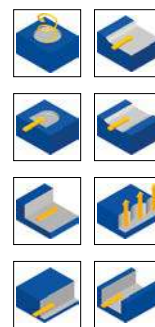
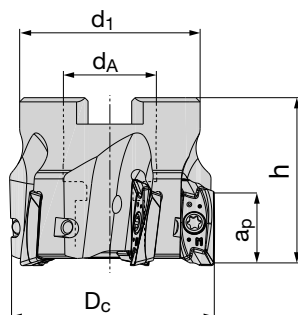
# BETatec 90P Feed

Systemgröße 18 System size 18

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## Aufsteckfräser 90° / LD.. 18

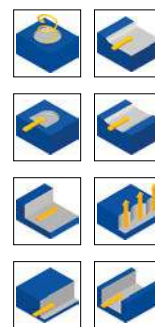
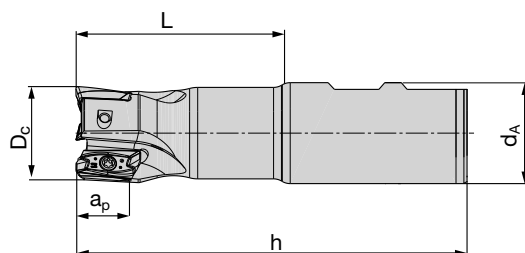
Face milling cutter 90° / LD.. 18



| Abmessungen [mm] Dimensions [mm] |    |     |    |       |    | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                         |                                                                                                                                                  |
|----------------------------------|----|-----|----|-------|----|---------------------------------|-----------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| DC                               | dA | d1  | h  | aP/90 | z  |                                 |                             |                               | <br>Spannschraube<br>Fixation screw<br><b>AP02-35100</b><br>5092669<br>MA = 3Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP15</b><br>5088520 |
| 40                               | 16 | 35  | 40 | 17    | 4  | <b>BF90 LD18.040 Z04</b>        | 5107337                     | ●                             |                                                                                                                                                                    |                                                                                                                                                  |
| 50                               | 22 | 43  | 40 | 17    | 5  | <b>BF90 LD18.050 Z05</b>        | 5107338                     | ●                             |                                                                                                                                                                    |                                                                                                                                                  |
| 52                               | 22 | 43  | 40 | 17    | 5  | <b>BF90 LD18.052 Z05</b>        | 5107339                     | ○                             |                                                                                                                                                                    |                                                                                                                                                  |
| 63                               | 22 | 48  | 40 | 17    | 5  | <b>BF90 LD18.063 Z05</b>        | 5107340                     | ●                             |                                                                                                                                                                    |                                                                                                                                                  |
| 63                               | 22 | 48  | 40 | 17    | 6  | <b>BF90 LD18.063 Z06</b>        | 5107342                     | ○                             |                                                                                                                                                                    |                                                                                                                                                  |
| 66                               | 22 | 48  | 40 | 17    | 6  | <b>BF90 LD18.066 Z06</b>        | 5107343                     | ○                             |                                                                                                                                                                    |                                                                                                                                                  |
| 80                               | 27 | 60  | 50 | 17    | 7  | <b>BF90 LD18.080 Z07</b>        | 5107344                     | ●                             |                                                                                                                                                                    |                                                                                                                                                  |
| 100                              | 32 | 78  | 50 | 17    | 7  | <b>BF90 LD18.100 Z07</b>        | 5152389                     | ●                             |                                                                                                                                                                    |                                                                                                                                                  |
| 100                              | 32 | 78  | 50 | 17    | 8  | <b>BF90 LD18.100 Z08</b>        | 5107345                     | ●                             |                                                                                                                                                                    |                                                                                                                                                  |
| 125                              | 40 | 90  | 60 | 17    | 9  | <b>BF90 LD18.125 Z09</b>        | 5107347                     | ●                             |                                                                                                                                                                    |                                                                                                                                                  |
| 160                              | 40 | 115 | 60 | 17    | 10 | <b>BF90 LD18.160 Z10 NC</b>     | 5107349                     | ●                             |                                                                                                                                                                    |                                                                                                                                                  |

## Schaftfräser 90° / LD.. 18

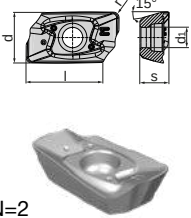
End milling cutter 90° / LD.. 18



| Abmessungen [mm] Dimensions [mm] |    |    |     |    |   | Artikelbezeichnung<br>Item code | Schaft<br>Shank | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                           |                                                                                                                                                    |
|----------------------------------|----|----|-----|----|---|---------------------------------|-----------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| DC                               | dA | L  | h   | aP | z |                                 |                 |                             |                               | <br>Spannschraube<br>Fixation screw<br><b>AP02-35100</b><br>5092669<br>MA = 3Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP15</b><br>5088520 |
| 25                               | 25 | 50 | 106 | 17 | 2 | <b>BE90 LD18.025 Z02</b>        | HB              | 5107350                     | ●                             |                                                                                                                                                                      |                                                                                                                                                    |
| 32                               | 32 | 64 | 124 | 17 | 3 | <b>BE90 LD18.032 Z03</b>        | HB              | 5107351                     | ●                             |                                                                                                                                                                      |                                                                                                                                                    |
| 40                               | 32 | 65 | 124 | 17 | 4 | <b>BE90 LD18.040 Z04</b>        | HB              | 5107352                     | ●                             |                                                                                                                                                                      |                                                                                                                                                    |
|                                  |    |    |     |    |   |                                 |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                    |
|                                  |    |    |     |    |   |                                 |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                    |
|                                  |    |    |     |    |   |                                 |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                    |
|                                  |    |    |     |    |   |                                 |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                    |
|                                  |    |    |     |    |   |                                 |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                    |
|                                  |    |    |     |    |   |                                 |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                    |
|                                  |    |    |     |    |   |                                 |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                    |

Bestellbeispiel Order example: 1 Stück piece 5107337 oder or BF90 LD18.040 Z04

● Verfügbar ab Lager Available from stock  
○ Lieferzeit auf Anfrage Delivery time on request

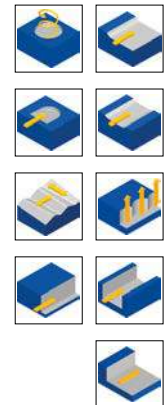
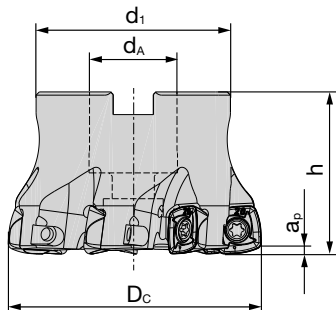
| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges                            | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |   |                |     |
|----------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|------|---|----------------|-----|
|                                                                                              |                                     |                                        |                          |                               | l                                   | d    | s | d <sub>i</sub> | r   |
|  <p>N=2</p> | <b>LDGX 180508 FR-MN</b>            | BCN10M                                 | 5104010                  | ●                             | 18                                  | 9,65 | 5 | 4,15           | 0,8 |
|                                                                                              | <b>LDGX 180508 FR-MN</b>            | BWN10M                                 | 5104009                  | ●                             | 18                                  | 9,65 | 5 | 4,15           | 0,8 |
|                                                                                              |                                     |                                        |                          |                               |                                     |      |   |                |     |
|                                                                                              |                                     |                                        |                          |                               |                                     |      |   |                |     |
|                                                                                              |                                     |                                        |                          |                               |                                     |      |   |                |     |
|                                                                                              |                                     |                                        |                          |                               |                                     |      |   |                |     |
|                                                                                              |                                     |                                        |                          |                               |                                     |      |   |                |     |
|                                                                                              |                                     |                                        |                          |                               |                                     |      |   |                |     |

# DELTAtec 90P Feed

Systemgröße 10 System size 10

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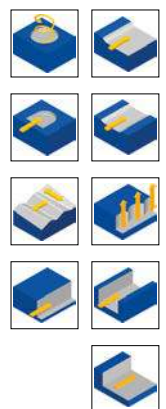
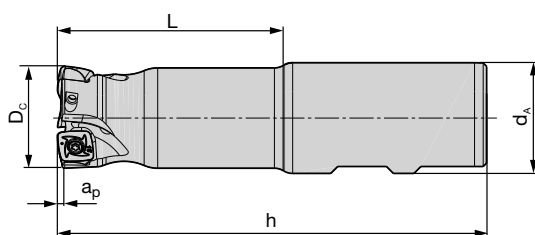
## Aufsteckfräser 90° / SD.. 10 Face milling cutter 90° / SD.. 10



| Abmessungen [mm] Dimensions [mm] |    |    |    |       |        |   | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                         |                                                                                                                                                 |                                                                                                                                                   |
|----------------------------------|----|----|----|-------|--------|---|---------------------------------|-----------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| DC                               | dA | d1 | h  | aP/90 | aP/HFC | z |                                 |                             |                               |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 40                               | 16 | 35 | 40 | 9     | 1,5    | 4 | <b>BF90 SD10.040 Z04</b> *      | 5081793                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-30083</b><br>5112357<br>MA = 2Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP9</b><br>5118124 | <br>Differentialschraube SD10<br>Centre screw SD 10<br>5127661 |
| 40                               | 16 | 35 | 40 | 9     | 1,5    | 6 | <b>BF90 SD10.040 Z06</b> *      | 5081800                     | ●                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 42                               | 16 | 35 | 40 | 9     | 1,5    | 5 | <b>BF90 SD10.042 Z05</b> *      | 5109948                     | ○                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 50                               | 22 | 43 | 40 | 9     | 1,5    | 5 | <b>BF90 SD10.050 Z05</b>        | 5081802                     | ●                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 50                               | 22 | 43 | 40 | 9     | 1,5    | 7 | <b>BF90 SD10.050 Z07</b>        | 5081804                     | ●                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 52                               | 22 | 43 | 40 | 9     | 1,5    | 5 | <b>BF90 SD10.052 Z05</b>        | 5095628                     | ●                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 63                               | 22 | 48 | 40 | 9     | 1,5    | 6 | <b>BF90 SD10.063 Z06</b>        | 5081805                     | ●                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 63                               | 22 | 48 | 40 | 9     | 1,5    | 8 | <b>BF90 SD10.063 Z08</b>        | 5081808                     | ●                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 66                               | 22 | 48 | 40 | 9     | 1,5    | 5 | <b>BF90 SD10.066 Z05</b>        | 5114793                     | ○                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 66                               | 27 | 48 | 40 | 9     | 1,5    | 8 | <b>BF90 SD10.066 Z08 DA27</b>   | 5149496                     | ○                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |
| 80                               | 27 | 60 | 50 | 9     | 1,5    | 8 | <b>BF90 SD10.080 Z08</b>        | 5081810                     | ●                             |                                                                                                                                                                    |                                                                                                                                                 |                                                                                                                                                   |

Bestellbeispiel Order example: 1 Stück piece 5081793 oder or BF90 SD10.040 Z04

## Schaftfräser 90° / SD.. 10 End milling cutter 90° / SD.. 10



| Abmessungen [mm] Dimensions [mm] |    |    |     |       |        |   | Bestellbezeichnung<br>Ordering No. | Schaft<br>Shank | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                           |                                                                                                                                                   |
|----------------------------------|----|----|-----|-------|--------|---|------------------------------------|-----------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| DC                               | dA | L  | h   | aP/90 | aP/HFC | z |                                    |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                   |
| 25                               | 25 | 50 | 106 | 9     | 1,5    | 2 | <b>BE90 SD10.025 Z02</b>           | HB              | 5081816                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-30083</b><br>5112357<br>MA = 2Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP9</b><br>5118124 |
| 25                               | 25 | 50 | 106 | 9     | 1,5    | 3 | <b>BE90 SD10.025 Z03</b>           | HB              | 5093502                     | ●                             |                                                                                                                                                                      |                                                                                                                                                   |
| 32                               | 32 | 64 | 124 | 9     | 1,5    | 3 | <b>BE90 SD10.032 Z03</b>           | HB              | 5081819                     | ●                             |                                                                                                                                                                      |                                                                                                                                                   |
|                                  |    |    |     |       |        |   |                                    |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                   |
|                                  |    |    |     |       |        |   |                                    |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                   |
|                                  |    |    |     |       |        |   |                                    |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                   |
|                                  |    |    |     |       |        |   |                                    |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                   |
|                                  |    |    |     |       |        |   |                                    |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                   |
|                                  |    |    |     |       |        |   |                                    |                 |                             |                               |                                                                                                                                                                      |                                                                                                                                                   |

Bestellbeispiel Order example: 1 Stück piece 5081816 oder or BE90 SD10.025 Z02

- Verfügbar ab Lager Available from stock
- Lieferzeit auf Anfrage Delivery time on request

# DELTatec 90P Feed

Systemgröße 10 System size 10

**Einschraubfräser 90° / SD.. 10**  
Screw on type 90° / SD.. 10

| Abmessungen [mm] Dimensions [mm] |                |    |    |                    |                     |    |   | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts |  |
|----------------------------------|----------------|----|----|--------------------|---------------------|----|---|---------------------------------|-----------------------------|-------------------------------|----------------------------|--|
| D <sub>C</sub>                   | d <sub>1</sub> | L  | h  | a <sub>p</sub> /90 | a <sub>p</sub> /HFC | M  | z |                                 |                             |                               |                            |  |
| 25                               | 21             | 32 | 54 | 9                  | 1,5                 | 12 | 2 | <b>BS90 SD10.025 Z02 M12</b>    | 5081821                     | ●                             |                            |  |
| 25                               | 21             | 32 | 54 | 9                  | 1,5                 | 12 | 3 | <b>BS90 SD10.025 Z03 M12</b>    | 5093503                     | ●                             |                            |  |
| 32                               | 29             | 43 | 66 | 9                  | 1,5                 | 16 | 3 | <b>BS90 SD10.032 Z03 M16</b>    | 5118310                     | ●                             |                            |  |
| 32                               | 29             | 43 | 66 | 9                  | 1,5                 | 16 | 4 | <b>BS90 SD10.032 Z04 M16</b>    | 5081822                     | ●                             |                            |  |
| 36                               | 29             | 43 | 66 | 9                  | 1,5                 | 16 | 4 | <b>BS90 SD10.036 Z04 M16</b>    | 5153395                     | ●                             |                            |  |
| 40                               | 29             | 43 | 66 | 9                  | 1,5                 | 16 | 4 | <b>BS90 SD10.040 Z04 M16</b>    | 5081824                     | ●                             |                            |  |
| 40                               | 29             | 43 | 66 | 9                  | 1,5                 | 16 | 6 | <b>BS90 SD10.040 Z06 M16</b>    | 5156846                     | ○                             |                            |  |

Bestellbeispiel Order example: 1 Stück piece 5081821 oder or BS90 SD10.025 Z02 M12

● Verfügbar ab Lager Available from stock  
○ Lieferzeit auf Anfrage Delivery time on request

| N = Anzahl der Schneidkanten<br>N = Number of cutting edges | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |      |                |     |
|-------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|------|------|----------------|-----|
|                                                             |                                     |                                        |                          |                               | l                                   | d    | s    | d <sub>1</sub> | r   |
| <br><br>N=4                                                 | <b>SDHT 100404 FR-MN</b>            | BCN10M                                 | 5141469                  | ●                             | 10,4                                | 10,4 | 4,86 | 3,5            | 0,4 |
|                                                             | <b>SDHT 100404 FR-MN</b>            | BWN10M                                 | 5141468                  | ●                             | 10,4                                | 10,4 | 4,86 | 3,5            | 0,4 |
|                                                             | <b>SDHT 100408 FR-MN</b>            | BCN10M                                 | 5141467                  | ●                             | 10,4                                | 10,4 | 4,86 | 3,5            | 0,8 |
|                                                             | <b>SDHT 100408 FR-MN</b>            | BWN10M                                 | 5141466                  | ●                             | 10,4                                | 10,4 | 4,86 | 3,5            | 0,8 |
|                                                             |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                             |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                             |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                             |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                             |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                             |                                     |                                        |                          |                               |                                     |      |      |                |     |

Bestellbeispiel Order example: 1 Stück piece SDHT 100404 FR-MN BCN10M oder or 5141469

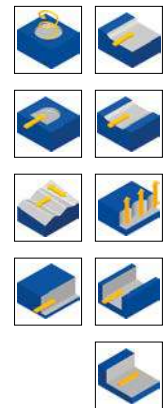
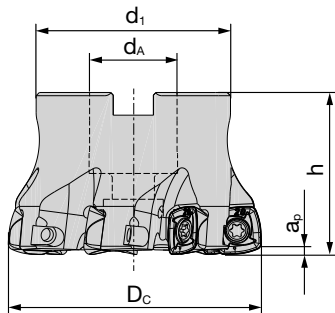
● Verfügbar ab Lager Available from stock

# DELTAtec 90P Feed

Systemgröße 14 System size 14

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## Aufsteckfräser 90° / SD.. 14 Face milling cutter 90° / SD.. 14



| Abmessungen [mm] Dimensions [mm] |    |    |    |       |        |    | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                       |                                                               |                                                                       |
|----------------------------------|----|----|----|-------|--------|----|---------------------------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------|
| DC                               | dA | d1 | h  | aP/90 | aP/HFC | z  |                                 |                             |                               |                                                                                  |                                                               |                                                                       |
| 50                               | 22 | 43 | 40 | 12    | 2,5    | 4  | <b>BF90 SD14.050 Z04</b> *      | 5123456                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP02-50108</b><br>5112356<br>MA = 5 Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP20</b><br>5088521 | <b>Differenzialschraube SD14</b><br>Centre screw SD14<br>5111638<br>* |
| 50                               | 22 | 43 | 40 | 12    | 2,5    | 5  | <b>BF90 SD14.050 Z05</b> *      | 5081825                     | ●                             |                                                                                  |                                                               |                                                                       |
| 52                               | 22 | 43 | 40 | 12    | 2,5    | 4  | <b>BF90 SD14.052 Z04</b> *      | 5095629                     | ●                             |                                                                                  |                                                               |                                                                       |
| 52                               | 22 | 43 | 40 | 12    | 2,5    | 5  | <b>BF90 SD14.052 Z05</b> *      | 5095630                     | ●                             |                                                                                  |                                                               |                                                                       |
| 63                               | 22 | 48 | 40 | 12    | 2,5    | 6  | <b>BF90 SD14.063 Z06</b>        | 5081828                     | ●                             |                                                                                  |                                                               |                                                                       |
| 63                               | 27 | 60 | 50 | 12    | 2,5    | 6  | <b>BF90 SD14.063 Z06 DA27</b>   | 5157351                     | ●                             |                                                                                  |                                                               |                                                                       |
| 66                               | 22 | 48 | 40 | 12    | 2,5    | 6  | <b>BF90 SD14.066 Z06</b>        | 5092552                     | ●                             |                                                                                  |                                                               |                                                                       |
| 66                               | 27 | 60 | 50 | 12    | 2,5    | 6  | <b>BF90 SD14.066 Z06 DA27</b>   | 5157359                     | ●                             |                                                                                  |                                                               |                                                                       |
| 80                               | 27 | 60 | 50 | 12    | 2,5    | 7  | <b>BF90 SD14.080 Z07</b>        | 5081829                     | ●                             |                                                                                  |                                                               |                                                                       |
| 100                              | 32 | 78 | 50 | 12    | 2,5    | 7  | <b>BF90 SD14.100 Z07</b>        | 5100338                     | ●                             |                                                                                  |                                                               |                                                                       |
| 100                              | 32 | 78 | 50 | 12    | 2,5    | 9  | <b>BF90 SD14.100 Z09</b>        | 5081830                     | ●                             |                                                                                  |                                                               |                                                                       |
| 125                              | 40 | 90 | 60 | 12    | 2,5    | 11 | <b>BF90 SD14.125 Z11</b>        | 5081831                     | ●                             |                                                                                  |                                                               |                                                                       |
| 160                              | 40 | 90 | 60 | 12    | 2,5    | 10 | <b>BF90 SD14.160 Z10</b>        | 5096828                     | ●                             |                                                                                  |                                                               |                                                                       |

Bestellbeispiel Order example: 1 Stück piece 5123456 oder or BF90 SD14.050 Z04

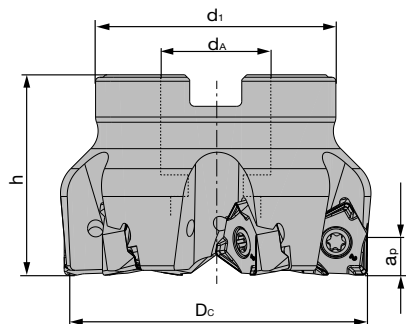
| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |     |     |     |
|-------------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|------|-----|-----|-----|
|                                                                   |                                     |                                        |                          |                               | l                                   | d    | s   | d1  | r   |
| <br>N=4                                                           | <b>SDHT 140508 FR-MN</b>            | BCN10M                                 | 5141465                  | ●                             | 14,8                                | 14,8 | 5,2 | 5,5 | 0,8 |
|                                                                   | <b>SDHT 140508 FR-MN</b>            | BWN10M                                 | 5141463                  | ●                             | 14,8                                | 14,8 | 5,2 | 5,5 | 0,8 |
|                                                                   | <b>SDHT 140512 FR-MN</b>            | BCN10M                                 | 5141464                  | ●                             | 14,8                                | 14,8 | 5,2 | 5,5 | 1,2 |
|                                                                   | <b>SDHT 140512 FR-MN</b>            | BWN10M                                 | 5141462                  | ●                             | 14,8                                | 14,8 | 5,2 | 5,5 | 1,2 |
|                                                                   |                                     |                                        |                          |                               |                                     |      |     |     |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |     |     |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |     |     |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |     |     |     |

Bestellbeispiel Order example: 1 Stück piece 5141465 oder or SDHT 140508 FR-MN BCN10M

- Verfügbar ab Lager Available from stock
- Lieferzeit auf Anfrage Delivery time on request



## Aufsteckfräser 90° / WN.. 08 Face milling cutter 90° / WN.. 08



| Abmessungen [mm] Dimensions [mm] |                |                |    |                |    | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                           |                                                        |
|----------------------------------|----------------|----------------|----|----------------|----|---------------------------------|-----------------------------|-------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------|
| D <sub>C</sub>                   | d <sub>A</sub> | d <sub>1</sub> | h  | a <sub>p</sub> | z  |                                 |                             |                               |                                                                                      |                                                        |
| 40                               | 16             | 36             | 40 | 7              | 3  | BF90 WN08.040 Z03               | 5127243                     | ○                             | <br>Spannschraube<br>Fixation screw<br>AP02-40054<br>5085714<br>M <sub>A</sub> = 3Nm | <br>Torx-Schlüssel<br>Torque wrench<br>IP15<br>5088520 |
| 50                               | 22             | 46             | 40 | 7              | 4  | BF90 WN08.050 Z04               | 5127244                     | ○                             |                                                                                      |                                                        |
| 50                               | 22             | 46             | 40 | 7              | 5  | BF90 WN08.050 Z05               | 5107256                     | ●                             |                                                                                      |                                                        |
| 63                               | 22             | 47             | 40 | 7              | 6  | BF90 WN08.063 Z06               | 5107258                     | ●                             |                                                                                      |                                                        |
| 63                               | 22             | 47             | 40 | 7              | 7  | BF90 WN08.063 Z07               | 5127245                     | ○                             |                                                                                      |                                                        |
| 80                               | 27             | 62             | 50 | 7              | 7  | BF90 WN08.080 Z07               | 5107260                     | ●                             |                                                                                      |                                                        |
| 80                               | 27             | 62             | 50 | 7              | 9  | BF90 WN08.080 Z09               | 5127246                     | ○                             |                                                                                      |                                                        |
| 100                              | 32             | 78             | 50 | 7              | 8  | BF90 WN08.100 Z08               | 5107261                     | ●                             |                                                                                      |                                                        |
| 100                              | 32             | 78             | 50 | 7              | 10 | BF90 WN08.100 Z10               | 5127247                     | ○                             |                                                                                      |                                                        |
| 125                              | 40             | 90             | 63 | 7              | 10 | BF90 WN08.125 Z10               | 5107263                     | ●                             |                                                                                      |                                                        |
| 125                              | 40             | 90             | 63 | 7              | 11 | BF90 WN08.125 Z11               | 5127248                     | ○                             |                                                                                      |                                                        |
| 160                              | 40             | 90             | 63 | 7              | 11 | BF90 WN08.160 Z11               | 5107265                     | ●                             |                                                                                      |                                                        |
| 160                              | 40             | 90             | 63 | 7              | 12 | BF90 WN08.160 Z12               | 5127249                     | ○                             |                                                                                      |                                                        |

Bestellbeispiel Order example: 1 Stück piece 5127243 oder or BF90 WN08.040 Z03

| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges | Bestellbezeichnung<br>Ordering code | Schneidstoffsorte<br>Cutting materials | Ident.-Nr.<br>Ident.-No. | Verfügbarkeit<br>Availability | Abmessungen [mm]<br>Dimensions [mm] |      |      |                |     |
|-------------------------------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|-------------------------------|-------------------------------------|------|------|----------------|-----|
|                                                                   |                                     |                                        |                          |                               | l                                   | d    | s    | d <sub>1</sub> | r   |
| <br>N=6                                                           | WNEX 080608-MN                      | BCN10M                                 | 5117591                  | ●                             | 8                                   | 12,7 | 6,55 | 4,6            | 0,8 |
|                                                                   | WNEX 080608-MN                      | BWN10M                                 | 5117589                  | ●                             | 8                                   | 12,7 | 6,55 | 4,6            | 0,8 |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |
|                                                                   |                                     |                                        |                          |                               |                                     |      |      |                |     |

Bestellbeispiel Order example: 10 Stück pieces 5117591 oder or WNEX 080608-MN BCN10M

● Verfügbar ab Lager Available from stock  
○ Lieferzeit auf Anfrage Delivery time on request



## ISO 90P

90° Fräsparameter

90° Milling parameter

| WSP<br>Geometrie<br>Insert<br>geometry | AP.T 10                                                 |                                     | AP.T 16                                                 |                                     |
|----------------------------------------|---------------------------------------------------------|-------------------------------------|---------------------------------------------------------|-------------------------------------|
|                                        | Schnitttiefe,<br>Cutting depth,<br>[mm]<br>$a_{p \max}$ | Vorschub,<br>Feed,<br>[mm]<br>$f_z$ | Schnitttiefe,<br>Cutting depth,<br>[mm]<br>$a_{p \max}$ | Vorschub,<br>Feed,<br>[mm]<br>$f_z$ |
| MN2                                    | 0,5 <b>5,0</b> 9,0                                      | 0,1 <b>0,16</b> 0,24                | 1,0 <b>9,0</b> 15,0                                     | 0,1 <b>0,16</b> 0,26                |

Walzenstirnfräser

Helical cutter

| WSP<br>Geometrie<br>Insert<br>geometry | AP.T 10                                                   |                                     | AP.T 16                                                   |                                     |
|----------------------------------------|-----------------------------------------------------------|-------------------------------------|-----------------------------------------------------------|-------------------------------------|
|                                        | Schnittbreite,<br>Cutting width,<br>[D x %]<br>$a_e \max$ | Vorschub,<br>Feed,<br>[mm]<br>$f_z$ | Schnittbreite,<br>Cutting width,<br>[D x %]<br>$a_e \max$ | Vorschub,<br>Feed,<br>[mm]<br>$f_z$ |
| MN2                                    | 5 - 80%                                                   | 0,1 <b>0,16</b> 0,24                | 5 - 80%                                                   | 0,1 <b>0,16</b> 0,26                |

## BETatec 90P Feed

Multifunktional Multifunctional

90° Fräsparameter

90° Milling parameter

| WSP<br>Geometrie<br>Insert<br>geometry | LP.. 06                                              |                                  | LD.. 10                                              |                                  | LD.. 18                                              |                                  |
|----------------------------------------|------------------------------------------------------|----------------------------------|------------------------------------------------------|----------------------------------|------------------------------------------------------|----------------------------------|
|                                        | Schnitttiefe,<br>Cutting depth,<br>[mm] $a_{p \max}$ | Vorschub,<br>Feed,<br>[mm] $f_z$ | Schnitttiefe,<br>Cutting depth,<br>[mm] $a_{p \max}$ | Vorschub,<br>Feed,<br>[mm] $f_z$ | Schnitttiefe,<br>Cutting depth,<br>[mm] $a_{p \max}$ | Vorschub,<br>Feed,<br>[mm] $f_z$ |
| MN                                     | -                                                    | -                                | 1,0 <b>3,0</b> 9,0                                   | 0,1 <b>0,14</b> 0,26             | 1,0 <b>6,0</b> 17,0                                  | 0,1 <b>0,14</b> 0,26             |

## DELTatec 90P Feed

Multifunktional Multifunctional

90° Fräsparameter

90° Milling parameter

| WSP<br>Geometrie<br>Insert<br>geometry | SD.. 10                                                 |                                     | SD.. 14                                                 |                                     |
|----------------------------------------|---------------------------------------------------------|-------------------------------------|---------------------------------------------------------|-------------------------------------|
|                                        | Schnitttiefe,<br>Cutting depth,<br>[mm]<br>$a_{p \max}$ | Vorschub,<br>Feed,<br>[mm]<br>$f_z$ | Schnitttiefe,<br>Cutting depth,<br>[mm]<br>$a_{p \max}$ | Vorschub,<br>Feed,<br>[mm]<br>$f_z$ |
| MN                                     | 0,8 <b>5,0</b> 9,0                                      | 0,05 <b>0,12</b> 0,20               | 1,2 <b>8,0</b> 12,5                                     | 0,06 <b>0,14</b> 0,22               |

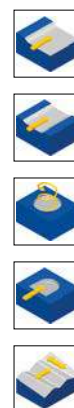
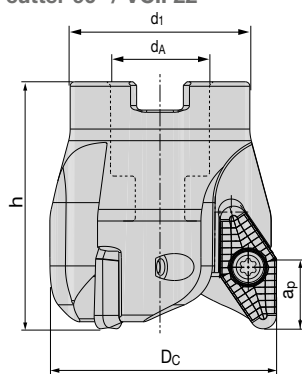
## ZETAtec 90N

| WSP<br>Geometrie<br>Insert<br>geometry | WNEX 04                                                                               |                                                                      | WNEX 08                                                                               |                                                                      |
|----------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|                                        | Schnitttiefe <sub>x</sub><br>Cutting depth <sub>x</sub><br>[mm]<br>a <sub>x</sub> max | Vorschub <sub>x</sub><br>Feed <sub>x</sub><br>[mm]<br>f <sub>z</sub> | Schnitttiefe <sub>x</sub><br>Cutting depth <sub>x</sub><br>[mm]<br>a <sub>x</sub> max | Vorschub <sub>x</sub><br>Feed <sub>x</sub><br>[mm]<br>f <sub>z</sub> |
| MN                                     | -                                                                                     | -                                                                    | 1,0 <b>4,0</b> 7,0                                                                    | 0,2 <b>0,3</b> 0,4                                                   |

**Schnittwertempfehlung für Fräsen 90°**  
**Cutting data recommendation for milling cutter 90°**

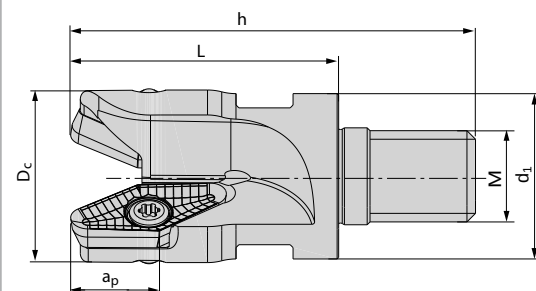
| ISO 513 | BZG | Kühlung Cooling     |                |             |             |             |
|---------|-----|---------------------|----------------|-------------|-------------|-------------|
|         |     | MMS/Luft<br>MMS/Air | Trocken<br>Dry | Nass<br>Wet | BWN10M      | BCN10M      |
| N       | N1  | •                   | •              | •           | 1200 - 2400 | 1500 - 3000 |
|         | N2  | •                   | •              | •           | 240 - 550   | 310 - 750   |
|         | N3  | •                   | •              | •           | 120 - 380   | 160 - 480   |
|         | N4  | •                   | •              | •           | 400 - 500   | 600 - 800   |

## Aufsteckfräser 90° / VC.. 22 Face milling cutter 90° / VC.. 22



| Abmessungen [mm] Dimensions [mm] |                |                |    |                |   | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                                                                                                             |                                                                                                                                                         |
|----------------------------------|----------------|----------------|----|----------------|---|---------------------------------|-----------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| D <sub>c</sub>                   | d <sub>A</sub> | d <sub>i</sub> | h  | a <sub>p</sub> | z |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
| 42                               | 16             | 32             | 55 | 15             | 3 | <b>BF90 VC22.042 Z03</b>        | 5154254                     | ●                             | <br>Spann-<br>schraube<br>Fixation<br>screw<br><b>AP13-45110</b><br>5172494<br>M <sub>A</sub> = 5Nm | <br>Torx-<br>Schlüssel<br>Torque<br>wrench<br><b>IP20</b><br>5088521 |
| 52                               | 22             | 40             | 55 | 15             | 3 | <b>BF90 VC22.052 Z03</b>        | 5154258                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 66                               | 27             | 50             | 56 | 15             | 4 | <b>BF90 VC22.066 Z04</b>        | 5154261                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
| 80                               | 27             | 60             | 56 | 15             | 4 | <b>BF90 VC22.080 Z04</b>        | 5154294                     | ●                             |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |
|                                  |                |                |    |                |   |                                 |                             |                               |                                                                                                                                                                                        |                                                                                                                                                         |

## Einschraubfräser 90° / VC.. 22 Screw on type 90° / VC.. 22



| Abmessungen [mm] Dimensions [mm] |                |    |    |                |    |   | Artikelbezeichnung<br>Item code | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability | Ersatzteile<br>Spare parts                                                                  |                                                               |
|----------------------------------|----------------|----|----|----------------|----|---|---------------------------------|-----------------------------|-------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| D <sub>c</sub>                   | d <sub>1</sub> | L  | h  | a <sub>p</sub> | M  | z |                                 |                             |                               |                                                                                             |                                                               |
| 32                               | 29             | 47 | 71 | 15             | 16 | 2 | <b>BS90 VC22.032 Z02 M16</b>    | 5154298                     | ●                             | <br>Spannschraube<br>Fixation screw<br><b>AP13-45110</b><br>5172494<br>M <sub>A</sub> = 5Nm | <br>Torx-Schlüssel<br>Torque wrench<br><b>IP20</b><br>5088521 |
| 42                               | 29             | 47 | 71 | 15             | 16 | 3 | <b>BS90 VC22.042 Z03 M16</b>    | 5154299                     | ●                             |                                                                                             |                                                               |
|                                  |                |    |    |                |    |   |                                 |                             |                               |                                                                                             |                                                               |
|                                  |                |    |    |                |    |   |                                 |                             |                               |                                                                                             |                                                               |
|                                  |                |    |    |                |    |   |                                 |                             |                               |                                                                                             |                                                               |
|                                  |                |    |    |                |    |   |                                 |                             |                               |                                                                                             |                                                               |
|                                  |                |    |    |                |    |   |                                 |                             |                               |                                                                                             |                                                               |
|                                  |                |    |    |                |    |   |                                 |                             |                               |                                                                                             |                                                               |
|                                  |                |    |    |                |    |   |                                 |                             |                               |                                                                                             |                                                               |
|                                  |                |    |    |                |    |   |                                 |                             |                               |                                                                                             |                                                               |

Bestellbeispiel Order example: 1 Stück piece 5154298 oder or BS90 VC22.032 Z02 M16

| N = Anzahl der<br>Schneidkanten<br>N = Number of<br>cutting edges | Artikelbezeichnung<br>Item code | Schneidstoffsorte<br>Cutting materials | Bestell-Nr.<br>Ordering No. | Verfügbarkeit<br>Availability |       |       |      |                |     |
|-------------------------------------------------------------------|---------------------------------|----------------------------------------|-----------------------------|-------------------------------|-------|-------|------|----------------|-----|
|                                                                   |                                 |                                        |                             |                               | l     | d     | s    | d <sub>1</sub> | r   |
| <br><br>N=2                                                       | <b>VCGT 220530-MN</b>           | BWN10M                                 | 5173008                     | ●                             | 22,10 | 12,70 | 5,56 | 5,5            | 3,0 |
|                                                                   | <b>VCGT 220530-MN</b>           | BCN10M                                 | 5173009                     | ●                             | 22,10 | 12,70 | 5,56 | 5,5            | 3,0 |
|                                                                   |                                 |                                        |                             |                               |       |       |      |                |     |
|                                                                   |                                 |                                        |                             |                               |       |       |      |                |     |
|                                                                   |                                 |                                        |                             |                               |       |       |      |                |     |
|                                                                   |                                 |                                        |                             |                               |       |       |      |                |     |
|                                                                   |                                 |                                        |                             |                               |       |       |      |                |     |
|                                                                   |                                 |                                        |                             |                               |       |       |      |                |     |
|                                                                   |                                 |                                        |                             |                               |       |       |      |                |     |
|                                                                   |                                 |                                        |                             |                               |       |       |      |                |     |

Bestellbeispiel Order example: 10 Stück pieces 5173008 oder or VCGT 220530-MN BWN10M

● Verfügbar ab Lager Available from stock  
○ kurzfristig lieferbar shortly available

## ISO Plunge 90P

| WSP<br>Geometrie<br>Insert<br>geometry | VCGT 22                                                      |                                     |
|----------------------------------------|--------------------------------------------------------------|-------------------------------------|
|                                        | Schnitttiefe*<br>Cutting depth*<br>[mm]<br>$a_p \text{ max}$ | Vorschub*<br>Feed*<br>[mm]<br>$f_z$ |
| MN                                     | 1,0 <b>7,5</b> 15,0                                          | 0,06 <b>0,18</b> 0,35               |

## **Schnittwertempfehlung für 3D Fräsen** **Cutting data recommendation for 3D milling**

| ISO 513 | BZG | Kühlung Cooling     |                |             |             |             |
|---------|-----|---------------------|----------------|-------------|-------------|-------------|
|         |     | MMS/Luft<br>MMS/Air | Trocken<br>Dry | Nass<br>Wet | BWN10M      | BCN10M      |
| Z       | N1  |                     | •              | •           | 1200 - 2400 | 1500 - 3000 |
|         | N2  |                     | •              | •           | 240 - 550   | 310 - 750   |
|         | N3  |                     | •              | •           | 120 - 380   | 160 - 480   |
|         | N4  |                     | •              | •           | 400 - 500   | 600 - 800   |

| Sorte<br>Grade                                                                                       | ISO    | Anwendungsbereich<br>Application range | Werkstoffgruppe<br>Material group                                               |                       |                            |                                  |                                            |                                    | Bearbeitungsverfahren<br>Application |                   |                    |                                 | Farbliche Darstellung der WSP je nach Beschichtung<br>Color guide for inserts depending on coating |
|------------------------------------------------------------------------------------------------------|--------|----------------------------------------|---------------------------------------------------------------------------------|-----------------------|----------------------------|----------------------------------|--------------------------------------------|------------------------------------|--------------------------------------|-------------------|--------------------|---------------------------------|----------------------------------------------------------------------------------------------------|
|                                                                                                      |        |                                        | P                                                                               | M                     | K                          | N                                | S                                          | H                                  | T                                    | M                 | D                  | S                               |                                                                                                    |
|                                                                                                      |        | 01 05 10 15 20 25 30 35 40 45 50       | Stahl<br>Steel                                                                  | Rostfrei<br>Stainless | Grauguss<br>Grey cast iron | NE-Metalle<br>Non-ferrous metals | Hochwarmfest<br>High temperature materials | Harte Werkstoffe<br>Hard materials | Drehen<br>Turning                    | Fräsen<br>Milling | Bohren<br>Drilling | Gewindebearbeitung<br>Threading |                                                                                                    |
| BCN10M                                                                                               | HC-N10 |                                        |                                                                                 |                       |                            |                                  |                                            |                                    |                                      |                   |                    |                                 |                                                                                                    |
|                                                                                                      | HC-S20 |                                        |                                                                                 |                       |                            |                                  |                                            |                                    |                                      |                   |                    |                                 |                                                                                                    |
|                                                                                                      | HC-M20 |                                        |                                                                                 |                       |                            |                                  |                                            |                                    |                                      |                   |                    |                                 |                                                                                                    |
| BWN10M                                                                                               | HW-N10 |                                        |                                                                                 |                       |                            |                                  |                                            |                                    |                                      |                   |                    |                                 |                                                                                                    |
| Anwendungsschwerpunkt<br>Application peak<br><br>Gesamtbereich nach ISO 513<br>Full range to ISO 513 |        |                                        | Hauptanwendung<br>Main application<br>Neben Anwendungen<br>Further applications |                       |                            |                                  |                                            |                                    | Standardsorte<br>Standard grade      |                   |                    |                                 |                                                                                                    |

## Sortenbeschreibung Grade description

### • BCN10M (HC-N10/S20/M20)

Ideale Sorte zur Bearbeitung von Aluminiumwerkstoffen mit Si-Gehalt >6% und weiteren NE-Metallen. Gefertigt nach dem Prinzip der unbeschichteten Sorte und in Kombination mit einer hauchdünnen PVD TiAlN-Schicht ist diese Sorte auch hervorragend zur Schlichtbearbeitung von Stählen, rostfreien Stählen und Graugussmaterialien zu verwenden.

### • BWN10M (HW-N10)

Nach höchsten Qualitätsvorgaben gefertigte, unbeschichtete Sorte zur Bearbeitung von NE-Metallen, Aluminium sowie Aluminiumlegierungen mit Si-Gehalt <6%. Sehr weiches Schnittverhalten dank speziell ausgelegter positiver Wendepלטtengeometrie. Außerdem wird durch die Verwendung von Premium Sorten mit hoher Verschleißfestigkeit, gepaart mit hochpräzisen Fertigungstechnologien hinsichtlich Schärfe und Ausführung der Schneidkante und mittels optimiertem Spanverhalten einer Aufbauschneidenbildung entgegen gewirkt.

### • BCN10M (HC-N10/S20/M20)

Ideal grade for machining aluminium materials with a Si content >6% and other non-ferrous materials. Produced according the principle of uncoated grades in combination with a very thin PVD TiAlN layer this grade is also excellent for finishing of steels, stainless steels and cast iron materials.

### • BWN10M (HW-N10)

Uncoated grade for machining non-ferrous materials, aluminium as well as aluminium alloys with Si content <6% produced according highest quality requirements. Very smooth cutting behaviour due to special designed positive insert geometry. Additionally through the application of premium grades with high wear resistance and due to high-precision production technologies regarding sharpness and design of the cutting edge as well as optimizes chip behaviour built-up edge formation is prevented.

## Schnittgeschwindigkeit Cutting speed

| Werkstoff                                                           | Material                                                        | Schnittgeschwindigkeit Cutting speed $v_c$ [m/min] |             |
|---------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------|-------------|
|                                                                     |                                                                 | BCN10M                                             | BWN10M      |
| Reinmetalle, weich<br>Aluminium Legierungen,<br>langspanend Si < 6% | Pure metals, soft<br>Aluminium alloys,<br>long chipping Si < 6% | 1500 - 3000                                        | 1000 - 2500 |
| Aluminium<br>kurzspanend Si > 6%                                    | Aluminium<br>short chipping Si > 6%                             | 500 - 2000                                         | 400 - 1500  |
| Kupfer<br>Kupfer Legierungen                                        | Copper<br>Copper alloys                                         | 160 - 500                                          | 120 - 350   |





**bilz**

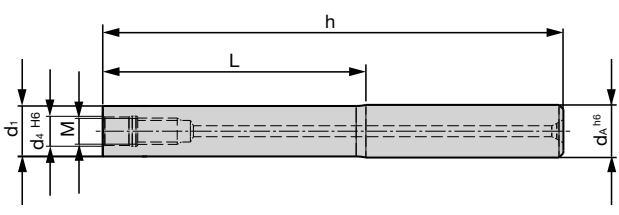
**boehlerit**

Verlängerungen  
Extensions  
Aufnahmen  
Chucks



**Vollhartmetall-Verlängerungen für Einschraubwerkzeug**  
**Solid carbide extensions for screw on type milling cutter**

[www.boehlerit.com](http://www.boehlerit.com)

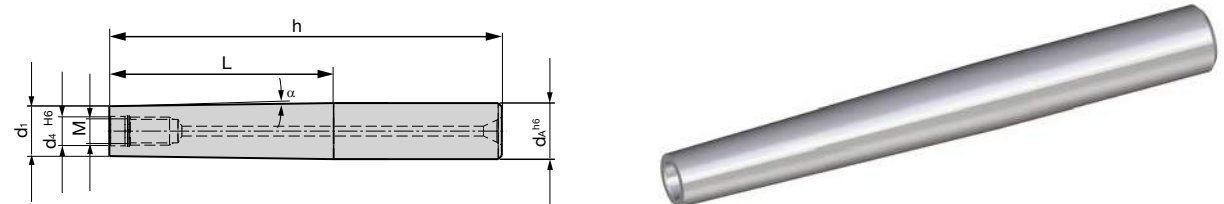
|  |                   |                |                   |    |    |                                     |                              |                               |
|-----------------------------------------------------------------------------------|-------------------|----------------|-------------------|----|----|-------------------------------------|------------------------------|-------------------------------|
| M                                                                                 | d <sub>4</sub> H6 | d <sub>1</sub> | d <sub>A</sub> H6 | L  | h  | Bestellbezeichnung<br>Ordering code | Material-Nr.<br>Material-No. | Verfügbarkeit<br>Availability |
| 4,5                                                                               | 4,8               | 7,7            | 10                | 20 | 65 | Z 10.020 M4,5                       | 5153592                      | ●                             |

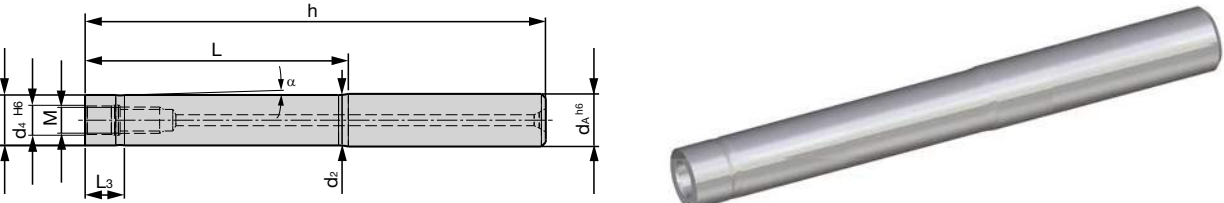
| M   | d <sub>4</sub> H6 | d <sub>1</sub> | d <sub>A</sub> H6 | α     | L   | h   | Bestellbezeichnung<br>Ordering code | Material-Nr.<br>Material-No. | Verfügbarkeit<br>Availability |
|-----|-------------------|----------------|-------------------|-------|-----|-----|-------------------------------------|------------------------------|-------------------------------|
| 4,5 | 4,8               | 7,7            | 10                | 1,65° | 40  | 85  | K 10.040 M4,5                       | 5153620                      | ●                             |
| 4,5 | 4,8               | 7,7            | 10                | 1,1°  | 60  | 105 | K 10.060 M4,5                       | 5153854                      | ●                             |
| 4,5 | 4,8               | 7,7            | 10                | 0,82° | 80  | 130 | K 10.080 M4,5                       | 5153855                      | ●                             |
| 4,5 | 4,8               | 7,7            | 10                | 0,66° | 100 | 150 | K 10.100 M4,5                       | 5153863                      | ●                             |

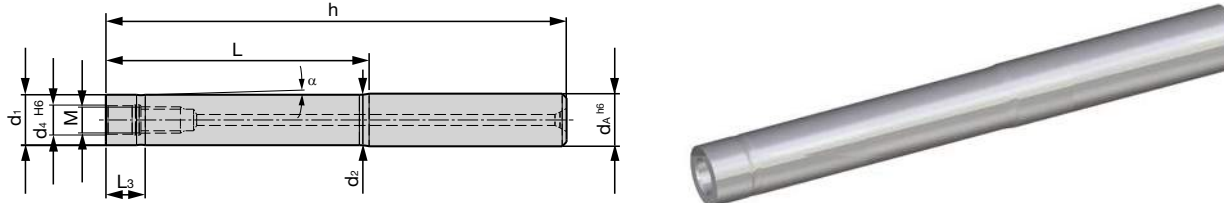
| M | d <sub>4</sub> H6 | d <sub>1</sub> | d <sub>A</sub> H6 | α     | L  | h   | L <sub>3</sub> | Bestellbezeichnung<br>Ordering code | Material-Nr.<br>Material-No. | Verfügbarkeit<br>Availability |
|---|-------------------|----------------|-------------------|-------|----|-----|----------------|-------------------------------------|------------------------------|-------------------------------|
| 6 | 6,5               | 9,5            | 10                | 0,72° | 20 | 60  | 9              | Z 10.060 M6                         | 5127650                      | ●                             |
| 6 | 6,5               | 9,5            | 10                | 0,36° | 40 | 80  | 9              | Z 10.080 M6                         | 5127652                      | ●                             |
| 6 | 6,5               | 9,5            | 10                | 0,24° | 60 | 100 | 9              | Z 10.100 M6                         | 5127653                      | ●                             |
| 6 | 6,5               | 9,5            | 10                | 0,18° | 80 | 120 | 9              | Z 10.120 M6                         | 5127655                      | ●                             |

| M | d <sub>4</sub> H6 | d <sub>1</sub> | d <sub>A</sub> H6 | α     | L   | h   | Bestellbezeichnung<br>Ordering code | Material-Nr.<br>Material-No. | Verfügbarkeit<br>Availability |
|---|-------------------|----------------|-------------------|-------|-----|-----|-------------------------------------|------------------------------|-------------------------------|
| 8 | 8,5               | 12,8           | 16                | 2,29° | 40  | 95  | K 16.040 M8                         | 5087764                      | ●                             |
| 8 | 8,5               | 12,8           | 16                | 1,53° | 60  | 115 | K 16.060 M8                         | 5088441                      | ●                             |
| 8 | 8,5               | 12,8           | 16                | 1,15° | 80  | 135 | K 16.080 M8                         | 5088442                      | ●                             |
| 8 | 8,5               | 12,8           | 16                | 0,92° | 100 | 155 | K 16.100 M8                         | 5088459                      | ●                             |
| 8 | 8,5               | 12,8           | 16                | 0,76° | 120 | 175 | K 16.120 M8                         | 5088462                      | ●                             |

Bestellbeispiel Order example: 1 Stück piece 5153592 oder or Z 10.020 M4,5

|  |                   |                |                   |       |     |     |                                     |                              |                               |
|------------------------------------------------------------------------------------|-------------------|----------------|-------------------|-------|-----|-----|-------------------------------------|------------------------------|-------------------------------|
| M                                                                                  | d <sub>4</sub> H6 | d <sub>1</sub> | d <sub>A</sub> H6 | α     | L   | h   | Bestellbezeichnung<br>Ordering code | Material-Nr.<br>Material-No. | Verfügbarkeit<br>Availability |
| 10                                                                                 | 10,5              | 17,8           | 20                | 1,58° | 40  | 100 | K 20.040 M10                        | 5088552                      | ●                             |
| 10                                                                                 | 10,5              | 17,8           | 20                | 1,05° | 60  | 120 | K 20.060 M10                        | 5088553                      | ●                             |
| 10                                                                                 | 10,5              | 17,8           | 20                | 0,79° | 80  | 140 | K 20.080 M10                        | 5088661                      | ●                             |
| 10                                                                                 | 10,5              | 17,8           | 20                | 0,63° | 100 | 160 | K 20.100 M10                        | 5088662                      | ●                             |
| 10                                                                                 | 10,5              | 17,8           | 20                | 0,53° | 120 | 180 | K 20.120 M10                        | 5088768                      | ●                             |

|  |                   |                |                |                   |        |     |     |                |                                     |                              |                               |
|-------------------------------------------------------------------------------------|-------------------|----------------|----------------|-------------------|--------|-----|-----|----------------|-------------------------------------|------------------------------|-------------------------------|
| M                                                                                   | d <sub>4</sub> H6 | d <sub>1</sub> | d <sub>2</sub> | d <sub>A</sub> H6 | α      | L   | h   | L <sub>3</sub> | Bestellbezeichnung<br>Ordering code | Material-Nr.<br>Material-No. | Verfügbarkeit<br>Availability |
| 12                                                                                  | 12,5              | 23             | 24,3           | 25                | 0,591° | 80  | 136 | 9              | K 25.080 M12                        | 5088769                      | ●                             |
| 12                                                                                  | 12,5              | 23             | 24,3           | 25                | 0,449° | 100 | 156 | 9              | K 25.100 M12                        | 5088776                      | ●                             |
| 12                                                                                  | 12,5              | 23             | 24,3           | 25                | 0,362° | 120 | 176 | 9              | K 25.120 M12                        | 5088777                      | ●                             |
| 12                                                                                  | 12,5              | 23             | 24,3           | 25                | 0,303° | 140 | 196 | 9              | K 25.140 M12                        | 5088779                      | ●                             |
| 12                                                                                  | 12,5              | 23             | 24,3           | 25                | 0,260° | 160 | 216 | 9              | K 25.160 M12                        | 5088781                      | ●                             |

|  |                   |                |                |                   |        |     |     |                |                                     |                              |                               |
|--------------------------------------------------------------------------------------|-------------------|----------------|----------------|-------------------|--------|-----|-----|----------------|-------------------------------------|------------------------------|-------------------------------|
| M                                                                                    | d <sub>4</sub> H6 | d <sub>1</sub> | d <sub>2</sub> | d <sub>A</sub> H6 | α      | L   | h   | L <sub>3</sub> | Bestellbezeichnung<br>Ordering code | Material-Nr.<br>Material-No. | Verfügbarkeit<br>Availability |
| 16                                                                                   | 17                | 29             | 31,5           | 32                | 0,828° | 100 | 160 | 9              | K 32.100 M16                        | 5088789                      | ●                             |
| 16                                                                                   | 17                | 29             | 31,5           | 32                | 0,517° | 150 | 210 | 9              | K 32.150 M16                        | 5088788                      | ●                             |
| 16                                                                                   | 17                | 29             | 31,5           | 32                | 0,376° | 200 | 260 | 9              | K 32.200 M16                        | 5088787                      | ●                             |
| 16                                                                                   | 17                | 29             | 31,5           | 32                | 0,295° | 250 | 310 | 9              | K 32.250 M16                        | 5088786                      | ●                             |
| 16                                                                                   | 17                | 29             | 31,5           | 32                | 0,243° | 300 | 360 | 9              | K 32.300 M16                        | 5088784                      | ●                             |

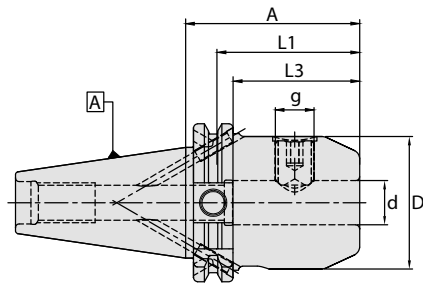
Bestellbeispiel Order example: 1 Stück piece 5088552 oder or K 20.040 M10

## SK - Aufnahmen Chucks

[www.boehlerit.com](http://www.boehlerit.com)

Fräseraufnahme (Weldon) - für Zylinderschäfte (BE Typen) gemäß DIN 1835B

End mill holder (Weldon) - for cylindrical shanks (BE Typs) according to DIN 1835B



| SK 40     |           |           |            |            |     |                                    |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|-----|------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | g   | Kühlmittelzufuhr<br>Coolant supply | N/W<br>(Kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 16        | 48        | 35        | 49         | 15.9       | M14 | Form "AD"                          | 1.0         | WSLH/16-35/SK40*           | 4600771   | ●                             |
| 20        | 50        | 35        | 51         | 15.9       | M16 | Form "AD"                          | 1.0         | WSLH/20-35/SK40*           | 4600782   | ●                             |
| 25        | 50        | 35        | 59         | 15.9       | M16 | Form "AD"                          | 1.0         | WSLH/25-35/SK40*           | 4600788   | ●                             |
| 32        | 50        | 65        | 63         | 45.9       | M16 | Form "AD"                          | 1.2         | WSLH/32-65/SK40*           | 4600792   | ●                             |
| 06        | 25        | 50        | 37         | 30.9       | M6  | Form "AD/B"                        | 1.0         | WSLH/06-50/SK40            | 4600745   | ○                             |
| 08        | 28        | 50        | 37         | 30.9       | M8  | Form "AD/B"                        | 1.0         | WSLH/08-50/SK40            | 4600750   | ○                             |
| 10        | 35        | 50        | 41         | 30.9       | M10 | Form "AD/B"                        | 1.1         | WSLH/10-50/SK40            | 4600755   | ○                             |
| 12        | 42        | 50        | 46         | 30.9       | M12 | Form "AD/B"                        | 1.2         | WSLH/12-50/SK40            | 4600760   | ○                             |
| 14        | 44        | 50        | 46         | 30.9       | M12 | Form "AD/B"                        | 1.2         | WSLH/14-50/SK40            | 4600765   | ○                             |
| 16        | 48        | 63        | 49         | 43.9       | M14 | Form "AD/B"                        | 1.2         | WSLH/16-63/SK40            | 4600770   | ○                             |
| 18        | 50        | 63        | 49         | 43.9       | M14 | Form "AD/B"                        | 1.4         | WSLH/18-63/SK40            | 4600776   | ○                             |
| 20        | 50        | 63        | 51         | 43.9       | M16 | Form "AD/B"                        | 1.5         | WSLH/20-63/SK40            | 4600781   | ○                             |
| 06        | 25        | 100       | 37         | 80.9       | M6  | Form "AD/B"                        | 1.2         | WSLH/06-100/SK40           | 4600746   | ○                             |
| 08        | 28        | 100       | 37         | 80.9       | M8  | Form "AD/B"                        | 1.2         | WSLH/08-100/SK40           | 4600751   | ○                             |
| 10        | 35        | 100       | 41         | 80.9       | M10 | Form "AD/B"                        | 1.4         | WSLH/10-100/SK40           | 4600756   | ○                             |
| 12        | 42        | 100       | 46         | 80.9       | M12 | Form "AD/B"                        | 1.6         | WSLH/12-100/SK40           | 4600761   | ○                             |
| 14        | 44        | 100       | 46         | 80.9       | M12 | Form "AD/B"                        | 1.7         | WSLH/14-100/SK40           | 4600766   | ○                             |
| 16        | 48        | 100       | 49         | 80.9       | M14 | Form "AD/B"                        | 1.7         | WSLH/16-100/SK40           | 4600772   | ○                             |
| 18        | 50        | 100       | 49         | 80.9       | M14 | Form "AD/B"                        | 2.0         | WSLH/18-100/SK40           | 4600777   | ○                             |
| 20        | 52        | 100       | 51         | 80.9       | M16 | Form "AD/B"                        | 2.0         | WSLH/20-100/SK40           | 4600783   | ○                             |
| 25        | 65        | 100       | 59         | 80.9       | M18 | Form "AD/B"                        | 2.7         | WSLH/25-100/SK40 **        | 4600787   | ○                             |
| 32        | 72        | 100       | 63         | 80.9       | M20 | Form "AD/B"                        | 2.5         | WSLH/32-100/SK40 **        | 4600791   | ○                             |
| 40        | 80        | 120       | 73         | 100.9      | M20 | Form "AD/B"                        | 3.0         | WSLH/40-120/SK40 **        | 4600795   | ○                             |
| 06        | 25        | 160       | 37         | 140.9      | M6  | Form "AD/B"                        | 1.5         | WSLH/06-160/SK40           | 4600748   | ○                             |
| 08        | 28        | 160       | 37         | 140.9      | M8  | Form "AD/B"                        | 1.5         | WSLH/08-160/SK40           | 4600753   | ○                             |
| 10        | 35        | 160       | 41         | 140.9      | M10 | Form "AD/B"                        | 1.7         | WSLH/10-160/SK40           | 4600758   | ○                             |
| 12        | 42        | 160       | 46         | 140.9      | M12 | Form "AD/B"                        | 2.2         | WSLH/12-160/SK40           | 4600763   | ○                             |
| 14        | 44        | 160       | 46         | 140.9      | M12 | Form "AD/B"                        | 2.3         | WSLH/14-160/SK40           | 4600768   | ○                             |
| 16        | 48        | 160       | 49         | 140.9      | M14 | Form "AD/B"                        | 1.7         | WSLH/16-160/SK40           | 4600774   | ○                             |
| 18        | 50        | 160       | 49         | 140.9      | M14 | Form "AD/B"                        | 2.6         | WSLH/18-160/SK40           | 4600779   | ○                             |
| 20        | 52        | 160       | 51         | 140.9      | M16 | Form "AD/B"                        | 2.8         | WSLH/20-160/SK40           | 4600785   | ○                             |
| 25        | 65        | 160       | 59         | 140.9      | M18 | Form "AD/B"                        | 3.8         | WSLH/25-160/SK40 **        | 4600789   | ○                             |
| 32        | 72        | 160       | 63         | 140.9      | M20 | Form "AD/B"                        | 4.4         | WSLH/32-160/SK40 **        | 4600793   | ○                             |

Ersatzteile und Zubehör / Spare Parts & Accessories: : Pg.D6

Pg.E2

- Datenträger-Bohrung (10mm) Standard bei allen Grundhaltern
- Bohrungstoleranz H4

\* Extra kurze Aufnahmen:

- Die Spannschrauben sind im Mitnehmer
- Maximale Steifigkeit dank kurzer Auskragslänge

• Im Lieferumfang enthalten: Spannschraube

• Höhere Wuchtgüte auf Anfrage

\*\* 2 Spannschrauben für ID Größe = 25 / 32 / 40

- Data carrier bore (10mm) as standard for all holders
- Bore tolerance H4

\* Extra short holders:

- Locking screws are located in the same plane as drive slots
- Gives maximum rigidity due to short projection

• Delivery includes: Locking screw

• Higher balancing grade on request

\*\* 2 locking screws for ID size = 25 / 32 / 40

Das gesamte Aufnahmen Sortiment mit Ersatzteilen entnehmen Sie dem Bilz-Katalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

The complete chuck range also the spare parts refer to the Bilz- catalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

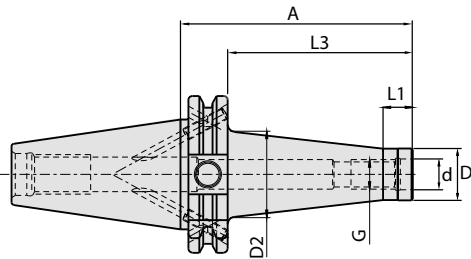
● Verfügbar ab Lager Available from stock

○ kurzfristig lieferbar shortly available

## SK - Aufnahmen Chucks

Aufnahmen für Einschraubfräser (BS Typen)

Chuck for screw on type (BS Typs)



| SK 40 |           |            |            |           |            |            |                                  |                            |           | Verfügbarkeit<br>Availability |
|-------|-----------|------------|------------|-----------|------------|------------|----------------------------------|----------------------------|-----------|-------------------------------|
| G     | d<br>(mm) | D1<br>(mm) | D2<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelfuhr<br>Coolant supply | Bezeichnung<br>Designation | Ident No. |                               |
| M6    | 6.5       | 10.0       | 13         | 44        | 12         | 24.9       | Form "AD/B"                      | WTA/M6-44/SK40             | 5054973   | ●                             |
| M6    | 6.5       | 10.0       | 20         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M6-69/SK40             | 5054974   | ●                             |
| M6    | 6.5       | 10.0       | 23         | 94        | 12         | 74.9       | Form "AD/B"                      | WTA/M6-94/SK40             | 5054975   | ●                             |
| M8    | 8.5       | 13.8       | 15         | 44        | 12         | 24.9       | Form "AD/B"                      | WTA/M8-44/SK40             | 5054979   | ●                             |
| M8    | 8.5       | 13.8       | 23         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M8-69/SK40             | 5054980   | ●                             |
| M8    | 8.5       | 13.8       | 25         | 94        | 12         | 74.9       | Form "AD/B"                      | WTA/M8-94/SK40             | 5054981   | ●                             |
| M8    | 8.5       | 13.8       | 30         | 119       | 12         | 99.9       | Form "AD/B"                      | WTA/M8-119/SK40            | 5054982   | ●                             |
| M10   | 10.5      | 18.0       | 23         | 44        | 12         | 24.9       | Form "AD/B"                      | WTA/M10-44/SK40            | 5054983   | ●                             |
| M10   | 10.5      | 18.0       | 25         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M10-69/SK40            | 5054985   | ●                             |
| M10   | 10.5      | 18.0       | 30         | 94        | 12         | 74.9       | Form "AD/B"                      | WTA/M10-94/SK40            | 5054989   | ●                             |
| M10   | 10.5      | 18.0       | 35         | 119       | 12         | 99.9       | Form "AD/B"                      | WTA/M10-119/SK40           | 5054991   | ●                             |
| M10   | 10.5      | 18.0       | 45         | 169       | 12         | 149.9      | Form "AD/B"                      | WTA/M10-169/SK40           | 5054992   | ●                             |
| M12   | 12.5      | 21.0       | 24         | 44        | 12         | 24.9       | Form "AD/B"                      | WTA/M12-44/SK40            | 5054993   | ●                             |
| M12   | 12.5      | 21.0       | 30         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M12-69/SK40            | 5054995   | ●                             |
| M12   | 12.5      | 21.0       | 35         | 94        | 12         | 74.9       | Form "AD/B"                      | WTA/M12-94/SK40            | 5054996   | ●                             |
| M12   | 12.5      | 21.0       | 38         | 119       | 12         | 99.9       | Form "AD/B"                      | WTA/M12-119/SK40           | 5054997   | ●                             |
| M12   | 12.5      | 21.0       | 48         | 169       | 12         | 149.9      | Form "AD/B"                      | WTA/M12-169/SK40           | 5054998   | ●                             |
| M16   | 17.0      | 29.0       | 29         | 44        | 12         | 24.9       | Form "AD/B"                      | WTA/M16-44/SK40            | 5054999   | ●                             |
| M16   | 17.0      | 29.0       | 34         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M16-69/SK40            | 5055001   | ●                             |
| M16   | 17.0      | 29.0       | 35         | 94        | 12         | 74.9       | Form "AD/B"                      | WTA/M16-94/SK40            | 5055002   | ●                             |
| M16   | 17.0      | 29.0       | 40         | 119       | 12         | 99.9       | Form "AD/B"                      | WTA/M16-119/SK40           | 5055003   | ●                             |
| M16   | 17.0      | 29.0       | 48         | 169       | 12         | 149.9      | Form "AD/B"                      | WTA/M16-169/SK40           | 5054004   | ●                             |

| SK 50 |           |            |            |           |            |            |                                  |                            |           | Verfügbarkeit<br>Availability |
|-------|-----------|------------|------------|-----------|------------|------------|----------------------------------|----------------------------|-----------|-------------------------------|
| G     | d<br>(mm) | D1<br>(mm) | D2<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelfuhr<br>Coolant supply | Bezeichnung<br>Designation | Ident No. |                               |
| M8    | 8.5       | 13.8       | 23         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M8-69/SK50             | 5055005   | ●                             |
| M8    | 8.5       | 13.8       | 30         | 119       | 12         | 99.9       | Form "AD/B"                      | WTA/M8-119/SK50            | 5055007   | ●                             |
| M8    | 8.5       | 13.8       | 45         | 169       | 12         | 149.9      | Form "AD/B"                      | WTA/M8-169/SK50            | 5055011   | ●                             |
| M10   | 10.5      | 18.0       | 25         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M10-69/SK50            | 5055012   | ●                             |
| M10   | 10.5      | 18.0       | 35         | 119       | 12         | 99.9       | Form "AD/B"                      | WTA/M10-119/SK50           | 5055013   | ●                             |
| M10   | 10.5      | 18.0       | 45         | 169       | 12         | 149.9      | Form "AD/B"                      | WTA/M10-169/SK50           | 5055014   | ●                             |
| M12   | 12.5      | 21.0       | 30         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M12-69/SK50            | 5055016   | ●                             |
| M12   | 12.5      | 21.0       | 38         | 119       | 12         | 99.9       | Form "AD/B"                      | WTA/M12-119/SK50           | 5055017   | ●                             |
| M12   | 12.5      | 21.0       | 52         | 169       | 12         | 149.9      | Form "AD/B"                      | WTA/M12-169/SK50           | 5055018   | ●                             |
| M16   | 17.0      | 29.0       | 34         | 69        | 12         | 49.9       | Form "AD/B"                      | WTA/M16-69/SK50            | 5055019   | ●                             |
| M16   | 17.0      | 29.0       | 40         | 119       | 12         | 99.9       | Form "AD/B"                      | WTA/M16-119/SK50           | 5055022   | ●                             |
| M16   | 17.0      | 29.0       | 48         | 169       | 12         | 149.9      | Form "AD/B"                      | WTA/M16-169/SK50           | 5055023   | ●                             |

Ersatzteile und Zubehör / Spare Parts & Accessories: Pg.D6

Siehe Seite D12 für Einschraubfräser Verlängerung & Reduzierung  
Refer page. D12 for Threaded Arbor extensions & reductions.

Das gesamte Aufnahmen Sortiment mit Ersatzteilen entnehmen Sie dem Bilz-Katalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

The complete chuck range also the spare parts refer to the Bilz- catalog  
CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

● Verfügbar ab Lager Available from stock  
○ kurzfristig lieferbar shortly available



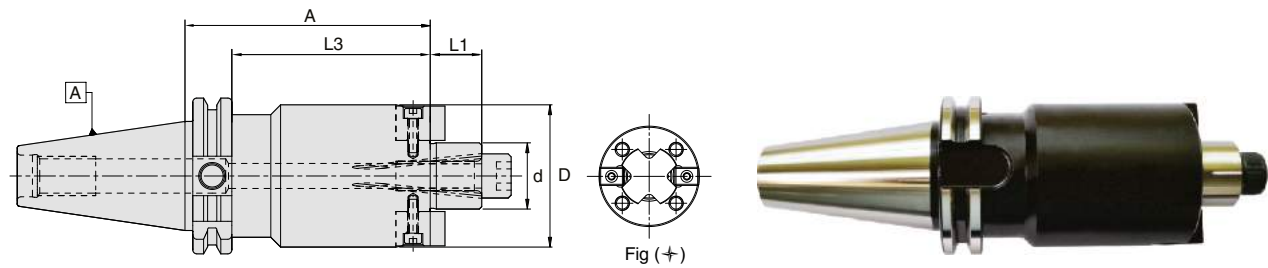
## SK - Aufnahmen Chucks

[www.boehlerit.com](http://www.boehlerit.com)

Aufnahmedorn mit Innenzentrierung DIN 6357 mit vergrößertem

Bunddurchmesser für Aufsteckfräser (BF Typen)

Shell mill holder DIN 6357 for cutters with drive key face mill type cutter (BF Typs)



| SK 40     |           |           |            |            |                                    |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelzufuhr<br>Coolant supply | N/W<br>(Kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 16        | 38        | 35        | 17         | 15.9       | Form "AD/B"                        | 1.0         | WSMH/16-35/SK40            | 4600822   | ●                             |
| 22        | 48        | 35        | 19         | 15.9       | Form "AD/B"                        | 1.0         | WSMH/22-35/SK40            | 4600823   | ●                             |
| 27        | 50        | 40        | 21         | 20.9       | Form "AD/B"                        | 1.1         | WSMH/27-40/SK40            | 4600824   | ●                             |
| 32        | 78        | 50        | 24         | 30.9       | Form "AD/B"                        | 1.3         | WSMH/32-50/SK40            | 4600825   | ●                             |
| 40        | 88        | 50        | 27         | 30.9       | Form "AD/B"                        | 1.6         | WSMH/40-50/SK40 + *        | 4600826   | ●                             |
| 16        | 38        | 100       | 17         | 80.9       | Form "AD/B"                        | 1.8         | WSMH/16-100/SK40           | 5055095   | ○                             |
| 22        | 48        | 100       | 19         | 80.9       | Form "AD/B"                        | 2.1         | WSMH/22-100/SK40           | 5055102   | ○                             |
| 27        | 58        | 100       | 21         | 80.9       | Form "AD/B"                        | 2.6         | WSMH/27-100/SK40           | 5055104   | ○                             |
| 32        | 78        | 100       | 24         | 80.9       | Form "AD/B"                        | 3.6         | WSMH/32-100/SK40           | 5055105   | ○                             |
| 40        | 88        | 100       | 27         | 80.9       | Form "AD/B"                        | 4.3         | WSMH/40-100/SK40 + *       | 5055106   | ○                             |
| 16        | 38        | 160       | 17         | 140.9      | Form "AD/B"                        | 2.1         | WSMH/16-160/SK40           | 5055107   | ○                             |
| 22        | 48        | 160       | 19         | 140.9      | Form "AD/B"                        | 2.7         | WSMH/22-160/SK40           | 5055108   | ○                             |
| 27        | 58        | 160       | 21         | 140.9      | Form "AD/B"                        | 3.7         | WSMH/27-160/SK40           | 5055109   | ○                             |
| 32        | 78        | 160       | 24         | 140.9      | Form "AD/B"                        | 5.8         | WSMH/32-160/SK40           | 5055110   | ○                             |
| 40        | 88        | 160       | 27         | 140.9      | Form "AD/B"                        | 6.6         | WSMH/40-160/SK40 + *       | 5055111   | ○                             |

| SK 50     |           |           |            |            |                                    |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelzufuhr<br>Coolant supply | N/W<br>(Kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 16        | 38        | 44        | 17         | 24.9       | Form "AD/B"                        | 2.8         | WSMH/16-44/SK50            | 5055112   | ○                             |
| 22        | 48        | 44        | 19         | 24.9       | Form "AD/B"                        | 3.0         | WSMH/22-44/SK50            | 4601356   | ○                             |
| 27        | 58        | 44        | 21         | 24.9       | Form "AD/B"                        | 3.2         | WSMH/27-44/SK50            | 4601357   | ○                             |
| 32        | 78        | 40        | 24         | 20.9       | Form "AD/B"                        | 4.0         | WSMH/32-40/SK50            | 4601358   | ○                             |
| 40        | 88        | 50        | 27         | 30.9       | Form "AD/B"                        | 4.2         | WSMH/40-50/SK50 + *        | 4601359   | ○                             |
| 60        | 129       | 70        | 40         | 50.9       | -                                  | 4.8         | WSMH/60-70/SK50 +          | 4601360   | ○                             |
| 16        | 38        | 100       | 17         | 80.9       | Form "AD/B"                        | 3.6         | WSMH/16-100/SK50           | 5055123   | ○                             |
| 22        | 48        | 100       | 19         | 80.9       | Form "AD/B"                        | 4.0         | WSMH/22-100/SK50           | 5055125   | ○                             |
| 27        | 58        | 100       | 21         | 80.9       | Form "AD/B"                        | 4.4         | WSMH/27-100/SK50           | 5055126   | ○                             |
| 32        | 78        | 100       | 24         | 80.9       | Form "AD/B"                        | 5.2         | WSMH/32-100/SK50           | 5055127   | ○                             |
| 40        | 88        | 100       | 27         | 80.9       | Form "AD/B"                        | 6.0         | WSMH/40-100/SK50 + *       | 5055128   | ○                             |
| 16        | 38        | 160       | 17         | 140.9      | Form "AD/B"                        | 3.9         | WSMH/16-160/SK50           | 5055130   | ○                             |
| 22        | 48        | 160       | 19         | 140.9      | Form "AD/B"                        | 4.2         | WSMH/22-160/SK50           | 5055131   | ○                             |
| 27        | 58        | 160       | 21         | 140.9      | Form "AD/B"                        | 5.3         | WSMH/27-160/SK50           | 5055132   | ○                             |
| 32        | 78        | 160       | 24         | 140.9      | Form "AD/B"                        | 7.2         | WSMH/32-160/SK50           | 5055133   | ○                             |
| 40        | 88        | 160       | 27         | 140.9      | Form "AD/B"                        | 8.8         | WSMH/40-160/SK50 + *       | 5055134   | ○                             |

Ersatzteile und Zubehör / Spare Parts & Accessories: Pg.D8 Pg.E3 Pg.E4 Pg.D6 Pg.E4

- Datenträger-Bohrung (10 mm) Standard bei allen Grundhaltern
- Kühlbohrung an der Stirnseite Standard bei allen Grundhaltern
- + ID = Ø 40, D = Ø 60 Mit 4 zusätzlichen Gewindebohrungen nach DIN 2079
- Im Lieferumfang enthalten: Mitnehmersteine, Fräseranzugsschraube und Spannschrauben (DIN 912)
- Spannschrauben bitte separat bestellen (DIN 6367)
- \* Im Lieferumfang enthalten: Spannschrauben (DIN 912 & DIN 6367)
- Data carrier bore (10 mm) as standard for all holders
- Coolant bore on the pilot face (holder with Form "AD/B") as standard for all holders
- + ID = Ø 40, d = Ø 60 with additional 4 screw holes to DIN 2079
- Delivery includes: Drive keys, clamping screw and locking screw (DIN 912)
- Please order locking screw (DIN 6367) separately
- \* Delivery includes: Locking screw (both DIN 912 & DIN 6367)

Das gesamte Aufnahmen Sortiment mit Ersatzteilen entnehmen Sie dem Bilz-Katalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

The complete chuck range also the spare parts refer to the Bilz- catalog

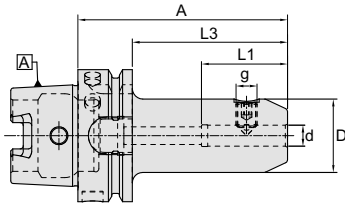
CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

- Verfügbar ab Lager Available from stock
- kurzfristig lieferbar shortly available

## HSK - Aufnahmen Chucks

Fräseraufnahmen (Weldon) - für Zylinderschäfte gemäß DIN 1835B (BE Typen)

End mill holder (Weldon) - for cylindrical shanks according to DIN 1835B (BE Typs)



| HSK-A63   |           |           |            |            |        |                                     |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|--------|-------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | g      | Kühlmittelezufuhr<br>Coolant supply | N/W<br>(Kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 06        | 25        | 65        | 37         | 39         | M6     | Form "AD"                           | 1.0         | WSLH/06-65/HSK-A63         | 4601702   | ○                             |
| 08        | 28        | 65        | 37         | 39         | M8     | Form "AD"                           | 1.0         | WSLH/08-65/HSK-A63         | 4601705   | ○                             |
| 10        | 35        | 65        | 41         | 39         | M10    | Form "AD"                           | 1.0         | WSLH/10-65/HSK-A63         | 4601708   | ○                             |
| 12        | 42        | 80        | 46         | 54         | M12    | Form "AD"                           | 1.4         | WSLH/12-80/HSK-A63         | 4601711   | ○                             |
| 14        | 44        | 80        | 46         | 54         | M12    | Form "AD"                           | 1.4         | WSLH/14-80/HSK-A63         | 4601715   | ○                             |
| 16        | 48        | 80        | 49         | 54         | M14    | Form "AD"                           | 1.4         | WSLH/16-80/HSK-A63         | 4601719   | ○                             |
| 18        | 50        | 80        | 49         | 54         | M14    | Form "AD"                           | 1.7         | WSLH/18-80/HSK-A63         | 4601723   | ○                             |
| 20        | 52        | 80        | 51         | 54         | M16    | Form "AD"                           | 1.7         | WSLH/20-80/HSK-A63         | 4601727   | ●                             |
| 06        | 25        | 100       | 37         | 74         | M6     | Form "AD"                           | 1.2         | WSLH/06-100/HSK-A63        | 4601703   | ○                             |
| 08        | 28        | 100       | 37         | 74         | M8     | Form "AD"                           | 1.2         | WSLH/08-100/HSK-A63        | 4601706   | ○                             |
| 10        | 35        | 100       | 41         | 74         | M10    | Form "AD"                           | 1.2         | WSLH/10-100/HSK-A63        | 4601709   | ○                             |
| 12        | 42        | 100       | 46         | 74         | M12    | Form "AD"                           | 1.5         | WSLH/12-100/HSK-A63        | 5056629   | ○                             |
| 16        | 48        | 100       | 49         | 74         | M14    | Form "AD"                           | 1.7         | WSLH/16-100/HSK-A63        | 5056632   | ○                             |
| 20        | 52        | 100       | 51         | 74         | M16    | Form "AD"                           | 1.9         | WSLH/20-100/HSK-A63        | 5056495   | ○                             |
| 25        | 62.5      | 110       | 59         | 84         | M18 x2 | Form "AD"                           | 2.5         | WSLH/25-110/HSK-A63 **     | 4601730   | ●                             |
| 32        | 72        | 110       | 63         | 84         | M20 x2 | Form "AD"                           | 2.5         | WSLH/32-110/HSK-A63 **     | 4601732   | ●                             |
| 40        | 80        | 125       | 73         | 99         | M20 x2 | Form "AD"                           | 3.2         | WSLH/40-125/HSK-A63 **     | 4601734   | ○                             |

| HSK-A63   |           |           |            |            |     |                                     |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|-----|-------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | g   | Kühlmittelezufuhr<br>Coolant supply | N/W<br>(Kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 06        | 25        | 160       | 37         | 134        | M6  | Form "AD"                           | 1.4         | WSLH/06-160/HSK-A63        | 5056636   | ○                             |
| 08        | 28        | 160       | 37         | 134        | M8  | Form "AD"                           | 1.5         | WSLH/08-160/HSK-A63        | 5056638   | ○                             |
| 10        | 35        | 160       | 41         | 134        | M10 | Form "AD"                           | 1.8         | WSLH/10-160/HSK-A63        | 5056640   | ○                             |
| 12        | 42        | 160       | 46         | 134        | M12 | Form "AD"                           | 1.8         | WSLH/12-160/HSK-A63        | 5056642   | ○                             |
| 16        | 48        | 160       | 49         | 134        | M14 | Form "AD"                           | 1.8         | WSLH/16-160/HSK-A63        | 5056643   | ○                             |
| 20        | 52        | 160       | 51         | 134        | M16 | Form "AD"                           | 1.7         | WSLH/20-160/HSK-A63        | 5056645   | ○                             |

| HSK-A100  |           |           |            |            |        |                                     |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|--------|-------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | g      | Kühlmittelezufuhr<br>Coolant supply | N/W<br>(Kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 06        | 25        | 80        | 37         | 51         | M6     | Form "AD"                           | 2.5         | WSLH/06-80/HSK-A100        | 4601614   | ○                             |
| 08        | 28        | 80        | 37         | 51         | M8     | Form "AD"                           | 2.4         | WSLH/08-80/HSK-A100        | 4601616   | ○                             |
| 10        | 35        | 80        | 41         | 51         | M10    | Form "AD"                           | 2.5         | WSLH/10-80/HSK-A100        | 4601618   | ○                             |
| 12        | 42        | 80        | 46         | 51         | M12    | Form "AD"                           | 2.7         | WSLH/12-80/HSK-A100        | 4601620   | ○                             |
| 14        | 44        | 80        | 46         | 51         | M12    | Form "AD"                           | 2.7         | WSLH/14-80/HSK-A100        | 4601622   | ○                             |
| 16        | 48        | 100       | 49         | 71         | M14    | Form "AD"                           | 2.8         | WSLH/16-100/HSK-A100       | 4601624   | ●                             |
| 18        | 50        | 100       | 49         | 71         | M14    | Form "AD"                           | 2.9         | WSLH/18-100/HSK-A100       | 4601626   | ○                             |
| 20        | 52        | 100       | 51         | 71         | M16    | Form "AD"                           | 3.2         | WSLH/20-100/HSK-A100       | 4601628   | ●                             |
| 25        | 65        | 100       | 59         | 71         | M18 x2 | Form "AD"                           | 3.7         | WSLH/25-100/HSK-A100 **    | 4601630   | ●                             |
| 32        | 72        | 100       | 63         | 71         | M20 x2 | Form "AD"                           | 4.0         | WSLH/32-100/HSK-A100 **    | 4601632   | ●                             |
| 40        | 80        | 105       | 73         | 76         | M20 x2 | Form "AD"                           | 4.7         | WSLH/40-105/HSK-A100 **    | 4601634   | ○                             |

| HSK-A100  |           |           |            |            |        |                                     |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|--------|-------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | g      | Kühlmittelezufuhr<br>Coolant supply | N/W<br>(Kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 06        | 25        | 160       | 37         | 131        | M6     | Form "AD"                           | 2.7         | WSLH/06-160/HSK-A100       | 5056735   | ○                             |
| 08        | 28        | 160       | 37         | 131        | M8     | Form "AD"                           | 2.9         | WSLH/08-160/HSK-A100       | 5056736   | ○                             |
| 10        | 35        | 160       | 41         | 131        | M10    | Form "AD"                           | 3.1         | WSLH/10-160/HSK-A100       | 5056737   | ○                             |
| 12        | 42        | 160       | 46         | 131        | M12    | Form "AD"                           | 3.6         | WSLH/12-160/HSK-A100       | 5056739   | ○                             |
| 16        | 48        | 160       | 49         | 131        | M14    | Form "AD"                           | 3.9         | WSLH/16-160/HSK-A100       | 5056740   | ○                             |
| 20        | 52        | 160       | 51         | 131        | M16    | Form "AD"                           | 4.4         | WSLH/20-160/HSK-A100       | 5056742   | ○                             |
| 25        | 65        | 160       | 59         | 131        | M18 x2 | Form "AD"                           | 5.3         | WSLH/25-160/HSK-A100 **    | 5056743   | ○                             |

Ersatzteile und Zubehör / Spare Parts & Accessories:



Pg.E2



Pg.D8

- Bohrungstoleranz H4
- Kühlmitteleinlassrohr bitte separat bestellen (Siehe Seite D8)
- Im Lieferumfang enthalten: Spannschraube
- \*\* 2 Spannschrauben für ID Größe = 25 / 32 / 40

- Bore tolerance H4
- Please order coolant tube separately (See page D8)
- Delivery includes: Locking screw
- \*\* 2 locking screws for ID size = 25 / 32 / 40

Das gesamte Aufnahmen Sortiment mit Ersatzteilen entnehmen Sie dem Bilz-Katalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

The complete chuck range also the spare parts refer to the Bilz- catalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

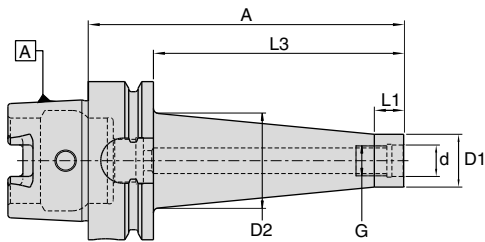
- Verfügbar ab Lager Available from stock
- kurzfristig lieferbar shortly available

## HSK - Aufnahmen Chucks

Aufnahmen für Einschraubfräser (BS Typen)

Chuck for screw on type milling heads (BS Typs)

[www.boehlerit.com](http://www.boehlerit.com)



| HSK-A63 |           |            |            |           |            |            |                                    |                            |           | Verfügbarkeit<br>Availability |
|---------|-----------|------------|------------|-----------|------------|------------|------------------------------------|----------------------------|-----------|-------------------------------|
| G       | d<br>(mm) | D1<br>(mm) | D2<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelzufuhr<br>Coolant supply | Bezeichnung<br>Designation | Ident No. |                               |
| M8      | 8.5       | 13.8       | 15         | 51        | 12         | 25         | Form "AD"                          | WTA/M8-51/HSK-A63          | 5055783   | ●                             |
| M8      | 8.5       | 13.8       | 23         | 76        | 12         | 50         | Form "AD"                          | WTA/M8-76/HSK-A63          | 5055784   | ○                             |
| M8      | 8.5       | 13.8       | 25         | 101       | 12         | 75         | Form "AD"                          | WTA/M8-101/HSK-A63         | 5055785   | ○                             |
| M10     | 10.5      | 18.0       | 23         | 51        | 12         | 25         | Form "AD"                          | WTA/M10-51/HSK-A63         | 5055786   | ●                             |
| M10     | 10.5      | 18.0       | 25         | 76        | 12         | 50         | Form "AD"                          | WTA/M10-76/HSK-A63         | 5055787   | ○                             |
| M10     | 10.5      | 18.0       | 35         | 126       | 12         | 100        | Form "AD"                          | WTA/M10-126/HSK-A63        | 5055788   | ○                             |
| M10     | 10.5      | 18.0       | 45         | 176       | 12         | 150        | Form "AD"                          | WTA/M10-176/HSK-A63        | 5055789   | ○                             |
| M12     | 12.5      | 21.0       | 24         | 51        | 12         | 25         | Form "AD"                          | WTA/M12-51/HSK-A63         | 5055790   | ●                             |
| M12     | 12.5      | 21.0       | 30         | 76        | 12         | 50         | Form "AD"                          | WTA/M12-76/HSK-A63         | 5055791   | ○                             |
| M12     | 12.5      | 21.0       | 38         | 126       | 12         | 100        | Form "AD"                          | WTA/M12-126/HSK-A63        | 5055792   | ○                             |
| M12     | 12.5      | 21.0       | 45         | 176       | 12         | 150        | Form "AD"                          | WTA/M12-176/HSK-A63        | 5055793   | ○                             |
| M16     | 17.0      | 29.0       | 29         | 51        | 12         | 25         | Form "AD"                          | WTA/M16-51/HSK-A63         | 5055794   | ●                             |
| M16     | 17.0      | 29.0       | 34         | 76        | 12         | 50         | Form "AD"                          | WTA/M16-76/HSK-A63         | 5055795   | ○                             |
| M16     | 17.0      | 29.0       | 40         | 126       | 12         | 100        | Form "AD"                          | WTA/M16-126/HSK-A63        | 5055796   | ○                             |
| M16     | 17.0      | 29.0       | 48         | 176       | 12         | 150        | Form "AD"                          | WTA/M16-176/HSK-A63        | 5055797   | ○                             |

| HSK-A100 |           |            |            |           |            |            |                                    |                            |           | Verfügbarkeit<br>Availability |
|----------|-----------|------------|------------|-----------|------------|------------|------------------------------------|----------------------------|-----------|-------------------------------|
| G        | d<br>(mm) | D1<br>(mm) | D2<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelzufuhr<br>Coolant supply | Bezeichnung<br>Designation | Ident No. |                               |
| M10      | 10.5      | 18.0       | 25         | 79        | 12         | 50         | Form "AD"                          | WTA/M10-79/HSK-A100        | 5055798   | ●                             |
| M10      | 10.5      | 18.0       | 35         | 129       | 12         | 100        | Form "AD"                          | WTA/M10-129/HSK-A100       | 5055799   | ○                             |
| M10      | 10.5      | 18.0       | 45         | 179       | 12         | 150        | Form "AD"                          | WTA/M10-179/HSK-A100       | 5055800   | ○                             |
| M12      | 12.5      | 21.0       | 30         | 79        | 12         | 50         | Form "AD"                          | WTA/M12-79/HSK-A100        | 5055801   | ●                             |
| M12      | 12.5      | 21.0       | 38         | 129       | 12         | 100        | Form "AD"                          | WTA/M12-129/HSK-A100       | 5055802   | ○                             |
| M12      | 12.5      | 21.0       | 45         | 179       | 12         | 150        | Form "AD"                          | WTA/M12-179/HSK-A100       | 5055803   | ○                             |
| M16      | 17.0      | 29.0       | 34         | 79        | 12         | 50         | Form "AD"                          | WTA/M16-79/HSK-A100        | 5055804   | ●                             |
| M16      | 17.0      | 29.0       | 40         | 129       | 12         | 100        | Form "AD"                          | WTA/M16-129/HSK-A100       | 5055805   | ○                             |
| M16      | 17.0      | 29.0       | 48         | 179       | 12         | 150        | Form "AD"                          | WTA/M16-179/HSK-A100       | 5055806   | ○                             |

Ersatzteile und Zubehör / Spare Parts & Accessories:  Pg.D8

- Kühlmittelrohr bitte separat bestellen (Siehe Seite D8)
- Siehe Seite D12 für Einschraubfräser Verlängerung & Reduzierung
- Please order coolant tube separately (See page D8)
- Refer page D12 for Threaded Arbor extensions & reductions.

Das gesamte Aufnahmen Sortiment mit Ersatzteilen entnehmen Sie dem Bilz-Katalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

The complete chuck range also the spare parts refer to the Bilz- catalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

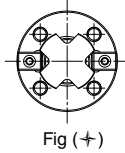
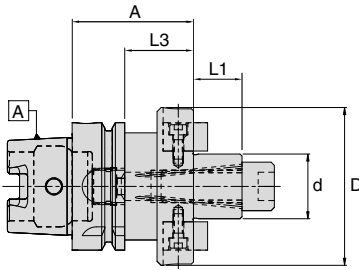
- Verfügbar ab Lager Available from stock
- kurzfristig lieferbar shortly available



## HSK - Aufnahmen Chucks

Aufnahmedorn mit Innenzentrierung DIN 6357 und vergrößertem Bunddurchmesser (BF Typen)

Shell mill holder DIN 6357 for cutters with drive key (BF Typen)



| HSK-A50   |           |           |            |            |                                     |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|-------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelezufuhr<br>Coolant supply | N/W<br>(kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 16        | 38        | 50        | 17         | 24         | Form "AD"                           | 0.8         | WSMH/16-50/HSK-A50         | 5103448   | ●                             |
| 22        | 48        | 60        | 19         | 34         | Form "AD"                           | 1.0         | WSMH/22-60/HSK-A50         | 5103450   | ●                             |
| 27        | 58        | 60        | 21         | 34         | Form "AD"                           | 1.1         | WSMH/27-60/HSK-A50         | 5103452   | ●                             |
| 32        | 78        | 60        | 24         | 34         | Form "AD"                           | 1.4         | WSMH/32-60/HSK-A50         | 5103454   | ●                             |
| 16        | 38        | 100       | 17         | 74         | Form "AD"                           | 1.2         | WSMH/16-100/HSK-A50        | 5103457   | ●                             |
| 22        | 48        | 100       | 19         | 74         | Form "AD"                           | 1.6         | WSMH/22-100/HSK-A50        | 5103459   | ●                             |
| 27        | 58        | 100       | 21         | 74         | Form "AD"                           | 1.9         | WSMH/27-100/HSK-A50        | 5103461   | ●                             |
| 32        | 78        | 100       | 24         | 74         | Form "AD"                           | 2.7         | WSMH/32-100/HSK-A50        | 5103462   | ●                             |

| HSK-A63   |           |           |            |            |                                     |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|-------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelezufuhr<br>Coolant supply | N/W<br>(kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 16        | 38        | 50        | 17         | 24         | Form "AD"                           | 1.1         | WSMH/16-50/HSK-A63         | 4601763   | ●                             |
| 22        | 48        | 50        | 19         | 24         | Form "AD"                           | 1.1         | WSMH/22-50/HSK-A63         | 4601765   | ●                             |
| 27        | 58        | 60        | 21         | 34         | Form "AD"                           | 1.3         | WSMH/27-60/HSK-A63         | 4601767   | ●                             |
| 32        | 78        | 60        | 24         | 34         | Form "AD"                           | 1.4         | WSMH/32-60/HSK-A63         | 4601769   | ●                             |
| 40        | 88        | 60        | 27         | 34         | Form "AD"                           | 1.9         | WSMH/40-60/HSK-A63 + *     | 4601771   | ●                             |
| 16        | 38        | 100       | 17         | 74         | Form "AD"                           | 1.4         | WSMH/16-100/HSK-A63        | 4601764   | ●                             |
| 22        | 48        | 100       | 19         | 74         | Form "AD"                           | 1.8         | WSMH/22-100/HSK-A63        | 4601766   | ●                             |
| 27        | 58        | 100       | 21         | 74         | Form "AD"                           | 2.0         | WSMH/27-100/HSK-A63        | 4601768   | ●                             |
| 32        | 78        | 100       | 24         | 74         | Form "AD"                           | 2.6         | WSMH/32-100/HSK-A63        | 4601770   | ●                             |
| 40        | 88        | 100       | 27         | 74         | Form "AD"                           | 3.1         | WSMH/40-100/HSK-A63 + *    | 4601772   | ●                             |

| HSK-A100  |           |           |            |            |                                     |             |                            |           | Verfügbarkeit<br>Availability |
|-----------|-----------|-----------|------------|------------|-------------------------------------|-------------|----------------------------|-----------|-------------------------------|
| d<br>(mm) | D<br>(mm) | A<br>(mm) | L1<br>(mm) | L3<br>(mm) | Kühlmittelezufuhr<br>Coolant supply | N/W<br>(kg) | Bezeichnung<br>Designation | Ident No. |                               |
| 16        | 38        | 50        | 17         | 21         | Form "AD"                           | 2.3         | WSMH/16-50/HSK-A100        | 5056120   | ●                             |
| 22        | 48        | 50        | 19         | 21         | Form "AD"                           | 2.5         | WSMH/22-50/HSK-A100        | 4601663   | ●                             |
| 27        | 58        | 50        | 21         | 21         | Form "AD"                           | 2.7         | WSMH/27-50/HSK-A100        | 4601664   | ●                             |
| 32        | 78        | 50        | 24         | 21         | Form "AD"                           | 2.8         | WSMH/32-50/HSK-A100        | 4601665   | ●                             |
| 40        | 88        | 60        | 27         | 31         | Form "AD"                           | 3.8         | WSMH/40-60/HSK-A100 + *    | 4601666   | ●                             |
| 60        | 129       | 70        | 40         | 41         | Form "AD"                           | 6.0         | WSMH/60-70/HSK-A100 +      | 5056122   | ●                             |

Ersatzteile und Zubehör / Spare Parts & Accessories:



Pg.D8



Pg.E3



Pg.E4



Pg.E4



Pg.D8

- Kühlbohrung an der Stirnseite Standard bei allen Grundhaltern  
✦ ID = Ø 40, D = Ø 60 Mit 4 zusätzlichen Gewindebohrungen nach DIN 2079
- Kühlmittelrohr bitte separat bestellen (Siehe Seite D8)
- Im Lieferumfang enthalten: Mitnehmersteine, Fräseranzugsschraube und Spannschrauben (DIN 912)
- \* Im Lieferumfang enthalten: Spannschrauben (DIN 912 & DIN 6367)
- Spannschrauben (DIN6367) bitte separat bestellen (Siehe Seite E3)

- Coolant bore on the pilot face (holder with Form "AD") as standard for all holders  
✦ ID = Ø 40, d = Ø 60 With additional 4 screw holes to DIN 2079
- Please order coolant tube separately (See page D8)
- Delivery includes : Drive keys, clamping screw and locking screw (DIN 912)
- \* Delivery includes : Locking screw (both DIN 912 & DIN 6367)
- Please order locking screw (DIN6367) separately (refer page E3)

Das gesamte Aufnahmen Sortiment mit Ersatzteilen entnehmen Sie dem Bilz-Katalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

The complete chuck range also the spare parts refer to the Bilz- catalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

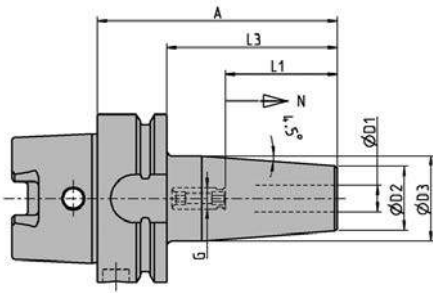
- Verfügbar ab Lager Available from stock
- kurzfristig lieferbar shortly available

# T... HSK-A63, DIN69893

Schrumpffutter für (BE Typen)

Shrink Chucks for (BE Typs)

[www.boehlerit.com](http://www.boehlerit.com)



| T... HSK-A63                                                                        |           |            |            |                                                                                     |            |           |       |  | Bezeichnung<br>Designation | Ident No. | Verfügbarkeit<br>Availability |
|-------------------------------------------------------------------------------------|-----------|------------|------------|-------------------------------------------------------------------------------------|------------|-----------|-------|--|----------------------------|-----------|-------------------------------|
| D1<br>[mm]                                                                          | A<br>[mm] | L3<br>[mm] | D2<br>[mm] | D3<br>[mm]                                                                          | L1<br>[mm] | N<br>[mm] | G     |  |                            |           |                               |
| 3                                                                                   | 80        | 54         | 15         | 20                                                                                  | 20         | 5         | M6    |  | T0300/HSK-A63              | 6726618   | ○                             |
| 4                                                                                   | 80        | 54         | 15         | 20                                                                                  | 20         | 5         | M6    |  | T0400/HSK-A63              | 6726619   | ○                             |
| 5                                                                                   | 80        | 54         | 15         | 20                                                                                  | 25         | 5         | M6    |  | T0500/HSK-A63              | 6726620   | ○                             |
| 6                                                                                   | 80        | 54         | 21         | 27                                                                                  | 36         | 10        | M5    |  | T0600/HSK-A63              | 6726201   | ○                             |
| 8                                                                                   | 80        | 54         | 21         | 27                                                                                  | 36         | 10        | M6    |  | T0800/HSK-A63              | 6726202   | ○                             |
| 10                                                                                  | 85        | 59         | 24         | 32                                                                                  | 42         | 10        | M8x1  |  | T1000/HSK-A63              | 6726203   | ●                             |
| 12                                                                                  | 90        | 64         | 24         | 32                                                                                  | 47         | 10        | M10x1 |  | T1200/HSK-A63              | 6726204   | ●                             |
| 14                                                                                  | 90        | 64         | 27         | 34                                                                                  | 47         | 10        | M10x1 |  | T1400/HSK-A63              | 6726205   | ○                             |
| 16                                                                                  | 95        | 69         | 27         | 34                                                                                  | 50         | 10        | M12x1 |  | T1600/HSK-A63              | 6726206   | ●                             |
| 18                                                                                  | 95        | 69         | 33         | 42                                                                                  | 50         | 10        | M12x1 |  | T1800/HSK-A63              | 6726211   | ○                             |
| 20                                                                                  | 100       | 74         | 33         | 42                                                                                  | 52         | 10        | M16x1 |  | T2000/HSK-A63              | 6726207   | ●                             |
| 25                                                                                  | 115       | 89         | 44         | 52,5                                                                                | 58         | 10        | M16x1 |  | T2500/HSK-A63              | 6726208   | ●                             |
| 32                                                                                  | 120       | 94         | 44         | 52,5                                                                                | 62         | 10        | M16x1 |  | T3200/HSK-A63              | 6726209   | ●                             |
| 6                                                                                   | 120       | 94         | 21         | 27                                                                                  | 36         | 10        | M5    |  | T0600-120/HSK-A63          | 6726388   | ○                             |
| 8                                                                                   | 120       | 94         | 21         | 27                                                                                  | 36         | 10        | M6    |  | T0800-120/HSK-A63          | 6726391   | ○                             |
| 10                                                                                  | 120       | 94         | 24         | 32                                                                                  | 42         | 10        | M8x1  |  | T1000-120/HSK-A63          | 6726392   | ○                             |
| 12                                                                                  | 120       | 94         | 24         | 32                                                                                  | 47         | 10        | M10x1 |  | T1200-120/HSK-A63          | 6726410   | ○                             |
| 14                                                                                  | 120       | 94         | 27         | 34                                                                                  | 47         | 10        | M10x1 |  | T1400-120/HSK-A63          | 6726401   | ○                             |
| 16                                                                                  | 120       | 94         | 27         | 34                                                                                  | 50         | 10        | M12x1 |  | T1600-120/HSK-A63          | 6726399   | ○                             |
| 18                                                                                  | 120       | 94         | 33         | 42                                                                                  | 50         | 10        | M12x1 |  | T1800-120/HSK-A63          | 6726539   | ○                             |
| 20                                                                                  | 120       | 94         | 33         | 42                                                                                  | 52         | 10        | M16x1 |  | T2000-120/HSK-A63          | 6726662   | ○                             |
| 25                                                                                  | 120       | 94         | 44         | 52,5                                                                                | 58         | 10        | M16x1 |  | T2500-120/HSK-A63          | 6726416   | ○                             |
| 6                                                                                   | 160       | 134        | 21         | 32                                                                                  | 36         | 10        | M5    |  | T0600-160/HSK-A63          | 6726411   | ○                             |
| 8                                                                                   | 160       | 134        | 21         | 32                                                                                  | 36         | 10        | M6    |  | T0800-160/HSK-A63          | 6726402   | ○                             |
| 10                                                                                  | 160       | 134        | 24         | 34                                                                                  | 42         | 10        | M8x1  |  | T1000-160/HSK-A63          | 6726403   | ○                             |
| 12                                                                                  | 160       | 134        | 24         | 34                                                                                  | 47         | 10        | M10x1 |  | T1200-160/HSK-A63          | 6726404   | ○                             |
| 14                                                                                  | 160       | 134        | 27         | 42                                                                                  | 47         | 10        | M10x1 |  | T1400-160/HSK-A63          | 6726405   | ○                             |
| 16                                                                                  | 160       | 134        | 27         | 42                                                                                  | 50         | 10        | M12x1 |  | T1600-160/HSK-A63          | 6726406   | ○                             |
| 18                                                                                  | 160       | 134        | 33         | 51                                                                                  | 50         | 10        | M12x1 |  | T1800-160/HSK-A63          | 6726407   | ○                             |
| 20                                                                                  | 160       | 134        | 33         | 51                                                                                  | 52         | 10        | M16x1 |  | T2000-160/HSK-A63          | 6726468   | ○                             |
| 25                                                                                  | 160       | 134        | 44         | 52,5                                                                                | 58         | 10        | M16x1 |  | T2500-160/HSK-A63          | 6726408   | ○                             |
| 32                                                                                  | 160       | 134        | 44         | 52,5                                                                                | 62         | 10        | M16x1 |  | T3200-160/HSK-A63          | 6726409   | ○                             |
|  |           | 5025376    |            |  |            | 6738421   |       |  |                            |           |                               |

Das gesamte Aufnahmen Sortiment mit Ersatzteilen entnehmen Sie dem Bilz-Katalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

The complete chuck range also the spare parts refer to the Bilz- catalog

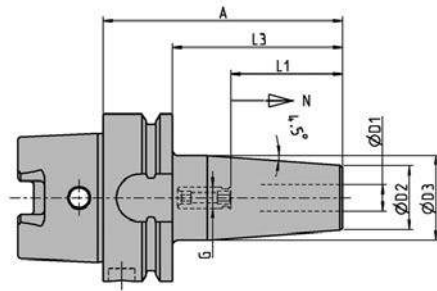
CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

- Verfügbar ab Lager Available from stock
- kurzfristig lieferbar shortly available

# T... HSK-A100, DIN69893

Schrumpffutter (für BE Typen)

Shrink Chucks for (BE Typs)



| T... HSK-A100 |           |            |            |            |            |           |       |                            |           | Verfügbarkeit<br>Availability |
|---------------|-----------|------------|------------|------------|------------|-----------|-------|----------------------------|-----------|-------------------------------|
| D1<br>[mm]    | A<br>[mm] | L3<br>[mm] | D2<br>[mm] | D3<br>[mm] | L1<br>[mm] | N<br>[mm] | G     | Bezeichnung<br>Designation | Ident No. |                               |
| 6             | 85        | 56         | 21         | 27         | 36         | 10        | M5    | T0600/HSK-A100             | 6726342   | ●                             |
| 8             | 85        | 56         | 21         | 27         | 36         | 10        | M6    | T0800/HSK-A100             | 6726343   | ●                             |
| 10            | 90        | 61         | 24         | 32         | 42         | 10        | M8x1  | T1000/HSK-A100             | 6726344   | ●                             |
| 12            | 95        | 66         | 24         | 32         | 47         | 10        | M10x1 | T1200/HSK-A100             | 6726345   | ●                             |
| 14            | 95        | 66         | 27         | 34         | 47         | 10        | M10x1 | T1400/HSK-A100             | 6726346   | ●                             |
| 16            | 100       | 71         | 27         | 34         | 50         | 10        | M12x1 | T1600/HSK-A100             | 6726347   | ●                             |
| 18            | 100       | 71         | 33         | 42         | 50         | 10        | M12x1 | T1800/HSK-A100             | 6726348   | ●                             |
| 20            | 105       | 76         | 33         | 42         | 52         | 10        | M16x1 | T2000/HSK-A100             | 6726349   | ●                             |
| 25            | 115       | 86         | 44         | 53         | 58         | 10        | M16x1 | T2500/HSK-A100             | 6726350   | ●                             |
| 32            | 120       | 91         | 44         | 53         | 62         | 10        | M16x1 | T3200/HSK-A100             | 6726351   | ●                             |
| 6             | 120       | 91         | 21         | 27         | 36         | 10        | M5    | T0600-120/HSK-A100         | 6726478   | ●                             |
| 8             | 120       | 91         | 21         | 27         | 36         | 10        | M6    | T0800-120/HSK-A100         | 6726479   | ●                             |
| 10            | 120       | 91         | 24         | 32         | 42         | 10        | M8x1  | T1000-120/HSK-A100         | 6726755   | ●                             |
| 12            | 120       | 91         | 24         | 32         | 47         | 10        | M10x1 | T1200-120/HSK-A100         | 6726480   | ●                             |
| 14            | 120       | 91         | 27         | 34         | 47         | 10        | M10x1 | T1400-120/HSK-A100         | 6726833   | ●                             |
| 16            | 120       | 91         | 27         | 34         | 50         | 10        | M12x1 | T1600-120/HSK-A100         | 6726820   | ●                             |
| 18            | 120       | 91         | 33         | 42         | 50         | 10        | M12x1 | T1800-120/HSK-A100         | 6727035   | ●                             |
| 20            | 120       | 91         | 33         | 42         | 52         | 10        | M16x1 | T2000-120/HSK-A100         | 6726821   | ●                             |
| 25            | 120       | 91         | 44         | 53         | 58         | 10        | M16x1 | T2500-120/HSK-A100         | 6727037   | ●                             |
| 6             | 160       | 131        | 21         | 32         | 36         | 10        | M5    | T0600-160/HSK-A100         | 6726645   | ●                             |
| 8             | 160       | 131        | 21         | 32         | 36         | 10        | M6    | T0800-160/HSK-A100         | 6726646   | ●                             |
| 10            | 160       | 131        | 24         | 34         | 42         | 10        | M8x1  | T1000-160/HSK-A100         | 6726647   | ●                             |
| 12            | 160       | 131        | 24         | 34         | 47         | 10        | M10x1 | T1200-160/HSK-A100         | 6726648   | ●                             |
| 14            | 160       | 131        | 27         | 42         | 47         | 10        | M10x1 | T1400-160/HSK-A100         | 6726649   | ●                             |
| 16            | 160       | 131        | 27         | 42         | 50         | 10        | M12x1 | T1600-160/HSK-A100         | 6726650   | ●                             |
| 18            | 160       | 131        | 33         | 51         | 50         | 10        | M12x1 | T1800-160/HSK-A100         | 6727036   | ●                             |
| 20            | 160       | 131        | 33         | 51         | 52         | 10        | M16x1 | T2000-160/HSK-A100         | 6726643   | ●                             |
| 25            | 160       | 131        | 44         | 60         | 58         | 10        | M16x1 | T2500-160/HSK-A100         | 6726644   | ●                             |
| 32            | 160       | 131        | 44         | 60         | 62         | 10        | M16x1 | T3200-160/HSK-A100         | 6727038   | ●                             |
|               |           | 5028428    |            |            |            | 6738303   |       |                            |           |                               |

Das gesamte Aufnahmen Sortiment mit Ersatzteilen entnehmen Sie dem Bilz-Katalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

The complete chuck range also the spare parts refer to the Bilz- catalog

CNC Grip / Thermo Grip [www.bilz.de](http://www.bilz.de)

- Verfügbar ab Lager Available from stock
- kurzfristig lieferbar shortly available



## Vertriebspartner Zerspanung

### Distributors cutting tools

#### Argentinien/Argentina

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ventas@sinpar.com.ar  
www.sinpar.net

#### Bulgarien/Bulgaria

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