

Spindle system  
*Spindelsystem*

**CAD & MULTI** New



ZCC Cutting Tools Europe GmbH

your Partner | your Value



## **HERZLICH WILLKOMMEN BEI ZCC CUTTING TOOLS EUROPE**

*ZCC-CT, einer der weltweit führenden Hartmetall-Werkzeughersteller, begrüßt Sie recht herzlich. Mit unserer umfangreichen Produktpalette an Hochleistungs-Zerspanungswerkzeugen und entsprechenden Serviceleistungen möchten wir gerne bei Ihnen die Bearbeitungssicherheit und die Wirtschaftlichkeit erhöhen.*

*Wir freuen uns auf eine gute Zusammenarbeit.  
Ihr Team von ZCC Cutting Tools Europe steht Ihnen als Partner zur Seite!*

## **WELCOME TO ZCC CUTTING TOOLS EUROPE**

ZCC-CT, one of the world's leading carbide tooling manufacturers, welcomes you to its products. We are able to offer you a wide product range of high performance cutting tools at economic prices and a good supply service to support the production and productivity at your manufacturing facilities.

We are looking forward to working with you and developing good cooperation together. Our team at ZCC Cutting Tools Europe is ready to support you in all of your requirements.



**Member of Minmetals Group**



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|                                                                                                                   |           |
|-------------------------------------------------------------------------------------------------------------------|-----------|
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## Quick-change coupling system CAD Spannsystem CAD

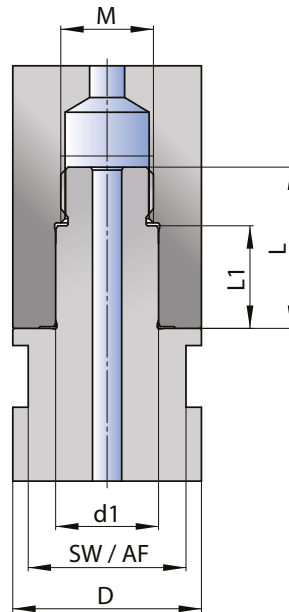
The male pilot will be clamped into the bore by the central screw thread. The central thread ensures a connection without distortion. A very high rigidity is achieved by the large contact area and high prestress.

### The CAD program of ZCC CT:

With diameters from 24 to 171 mm, ZCC Cutting Tools offers an extensive program to guarantee the best possible tool combination for every application.

CAD by ZCC Cutting Tools means:

- Easy to handle, no special keys or devices required
- Highest stiffness because of high preload force and surface area
- Transmission of high torques because of direct thread connection
- Reduced purchase costs: standard ISO inserts fit
- Reduced storage costs: one insert size for a large application field
- Basic balanced tools: better surface, higher tool life, longer spindle life
- Reduced investment: only a few heads are required for processing a wide diameter range



Durch die zentrale Schraubverbindung wird der Zapfen in die Aufnahme gezogen. Das zentrale Gewinde erlaubt eine verzugfreie Verbindung. Dank großer Auflageflächen und hoher Vorspannung wird eine sehr große Steifigkeit erzielt.

### Das CAD-Programm von ZCC CT:

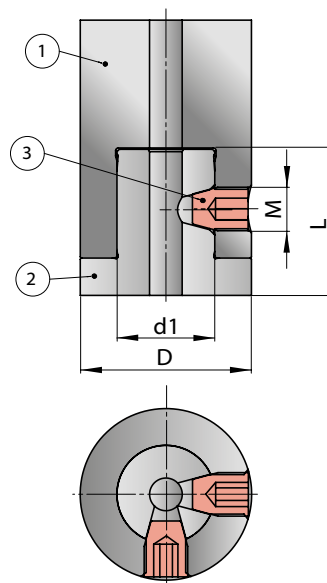
Mit Durchmessern von 24 bis 171 mm bietet ZCC Cutting Tools ein umfangreiches Werkzeugprogramm an, das für jede Bearbeitung die optimale Werkzeugkombination bietet.

CAD von ZCC Cutting Tools bedeutet:

- Einfache rationelle Handhabung ohne Spezialschlüssel und Vorrichtungen
- Größtmögliche Steifigkeit durch hohe Vorspannkraft und große Auflageflächen
- Übertragung von hohen Drehmomenten durch einfache und bereits bei Einschraubfräsen bewährte Schraubverbindung
- Niedrige Folgekosten: freie Wahl der ISO-Wendelplatten
- Reduzierung von Lagerhaltungskosten: eine Plattengrößefür ein großes Anwendungsfeld
- Grundgewichteteres Werkzeug: bessere Oberflächengüte, höhere Standzeit, höhere Spindelauflaufzeit
- Reduzierte Anschaffungskosten: wenige Bearbeitungsköpfe für die Bearbeitung eines großen Durchmesserbereiches nötig.

## Quick-change coupling system Multi Spannsystem Multi

The male pilot (2) will be clamped into the female receptacle (1) by using radial clamping screws (3). A very high rigidity is achieved by a big contact surface and high prestress.



Durch die seitlichen Spannschrauben (3) wird der Zapfen (2) in die Aufnahme (1) gezogen. Dank grosser Auflageflächen und hoher Vorspannung wird eine sehr grosse Steifigkeit erzielt.

Meanwhile dimensions D20 and D25 are each containing just one clamping screw, D32 and following dimensions are featuring two of these, shifted at 90°.

Während die Dimensionen D20 und D25 jeweils nur eine Spannschraube aufweisen, kommen ab D32 zwei um 90° versetzte Spannschrauben zum Einsatz.

| D  | d1 | L  | M       | Anzugsdrehmoment |
|----|----|----|---------|------------------|
| 20 | 11 | 13 | M5x0.5  | 3.5Nm            |
| 25 | 14 | 18 | M8x1    | 12Nm             |
| 32 | 18 | 22 | M8x1    | 12Nm             |
| 40 | 22 | 28 | M10x1   | 22Nm             |
| 50 | 28 | 28 | M12x1   | 25Nm             |
| 63 | 36 | 40 | M16x1.5 | 30Nm             |
| 80 | 36 | 40 | M16x1.5 | 30Nm             |



## CAD colour code

### CAD Farbcodierung

To get a quick overview of which tools can be combined a colour code is used. The code is based on the different system diameters:

*Um einen schnellen Überblick zu erhalten, welche Bauteile kombinierbar sind, wurde eine Farbkennzeichnung verwendet. Diese Kennzeichnung basiert auf den unterschiedlichen Systemdurchmessern:*

#### Dimension / Dimensionen

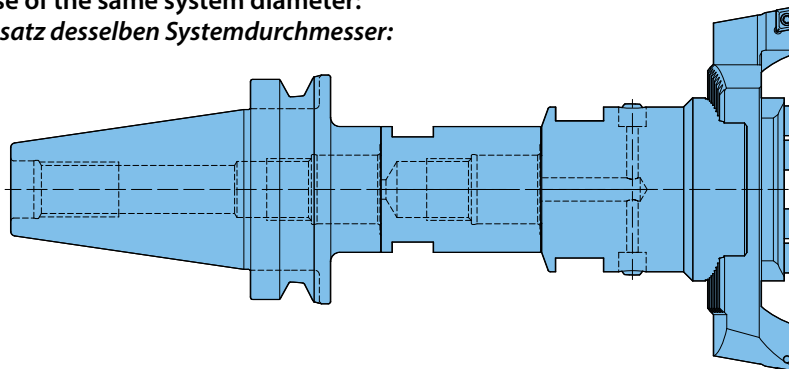
|  | CAD    | D  | d1 | L1 | L  | M        | SW / AF |
|--|--------|----|----|----|----|----------|---------|
|  | CAD 20 | 20 | 11 | 10 | 18 | M10x0.75 | 17      |
|  | CAD 25 | 25 | 14 | 14 | 24 | M12x1.75 | 22      |
|  | CAD 32 | 32 | 18 | 18 | 31 | M16x2    | 27      |
|  | CAD 42 | 42 | 24 | 24 | 39 | M22x2.5  | 36      |
|  | CAD 55 | 55 | 30 | 30 | 47 | M27x3    | 46      |
|  | CAD 72 | 72 | 40 | 40 | 62 | M36x4    | 60      |
|  | CAD 94 | 94 | 50 | 50 | 79 | M48x5    | 80      |

All articles of one colour can be inter-combined.

*Alle Artikel einer Farbe sind untereinander kombinierbar.*

#### Example for the use of the same system diameter:

*Beispiel für den Einsatz desselben Systemdurchmesser:*

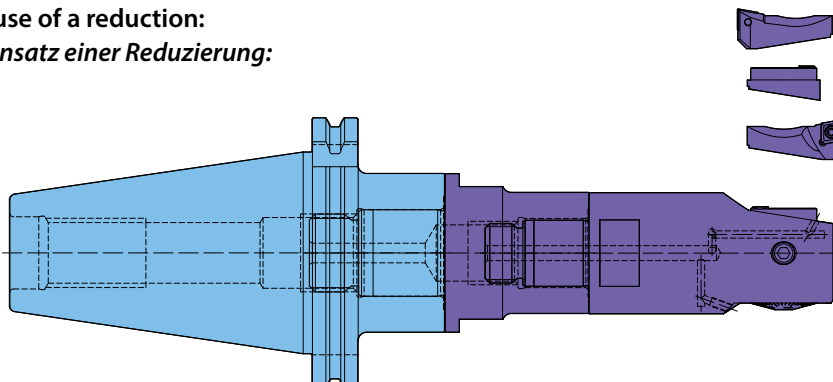


With the use of the reductions the system diameter can be used with other colour code for the following components changes.

*Mit Hilfe von Reduzierungen kann der Systemdurchmesser verringert werden, womit sich für die folgenden Bauteile auch der Farbcode ändert.*

#### Example for the use of a reduction:

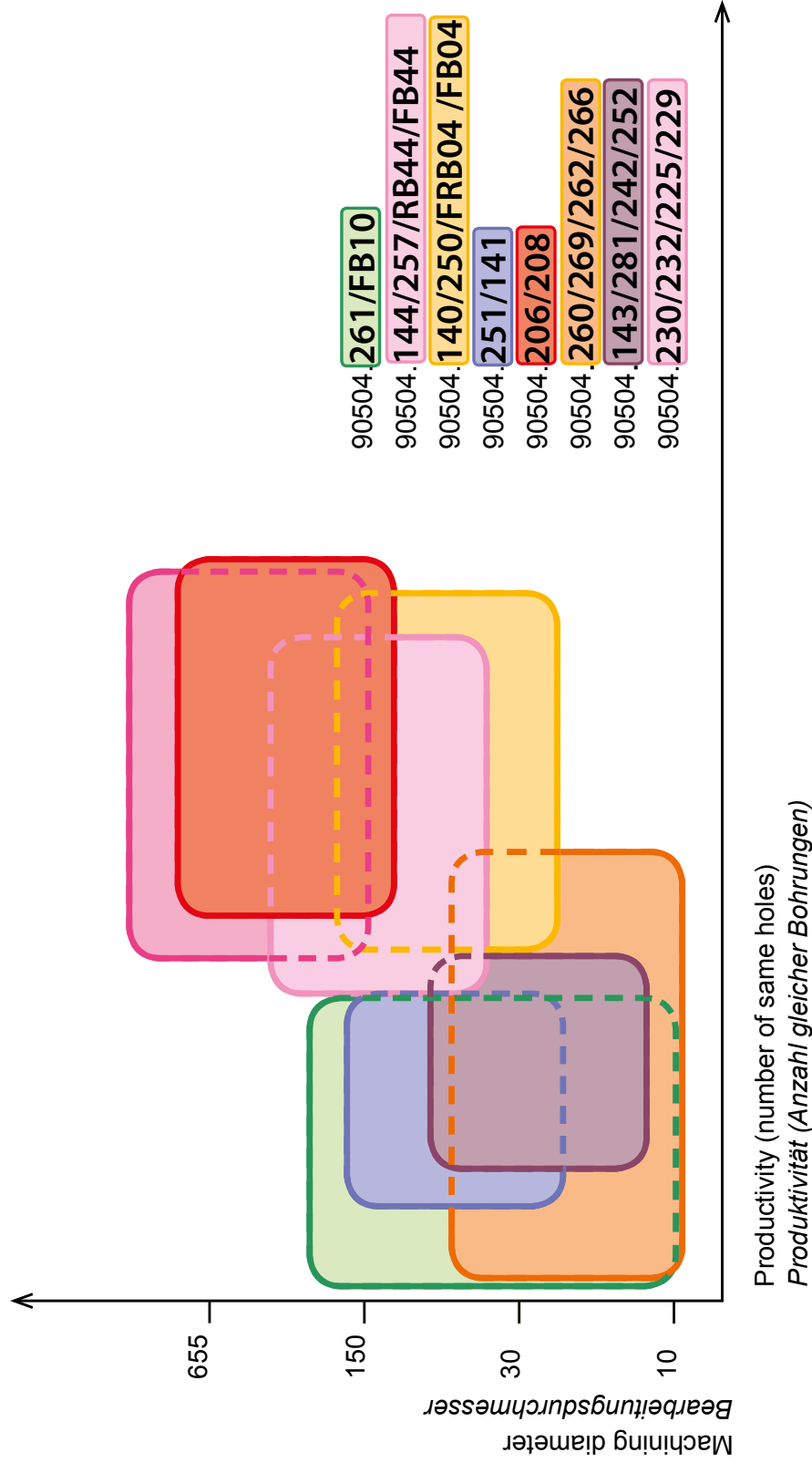
*Beispiel für den Einsatz einer Reduzierung:*



Please find more detailed information on the single articles and further tools following starting on page 8.

*Ausführlichere Informationen zu den einzelnen Artikeln und weitere Werkzeuge sind im Anschluss ab Seite 8 zu finden.*

Application recommendation for selected modules  
Einsatzempfehlungen für ausgewählte Module



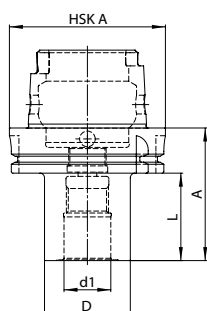


# Master Shanks Grundaufnahmen

## Master shanks to DIN 69893

### Aufnahmen DIN 69893

CAD



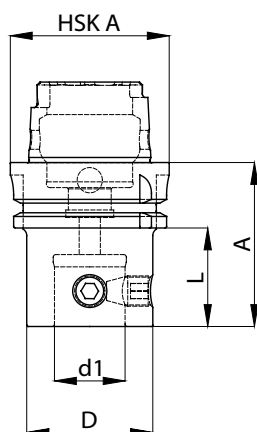
| Part number/<br>Bestell-Nr. | HSK A | D  | d1 | A   | L  |
|-----------------------------|-------|----|----|-----|----|
| 90504.100.063.201           | 63    | 20 | 11 | 60  | 34 |
| 90504.100.063.251           | 63    | 25 | 14 | 60  | 34 |
| 90504.100.063.321           | 63    | 32 | 18 | 70  | 44 |
| 90504.100.063.421           | 63    | 42 | 24 | 70  | 44 |
| 90504.100.063.551           | 63    | 55 | 30 | 80  | 54 |
| 90504.100.063.721           | 63    | 72 | 40 | 95  | 69 |
| 90504.100.100.321           | 100   | 32 | 18 | 70  | 41 |
| 90504.100.100.421           | 100   | 42 | 24 | 80  | 51 |
| 90504.100.100.551           | 100   | 55 | 30 | 85  | 56 |
| 90504.100.100.721           | 100   | 72 | 40 | 100 | 71 |
| 90504.100.100.941           | 100   | 94 | 50 | 120 | 91 |



## Master shanks to DIN 69893

### Aufnahmen DIN 69893

MULTI



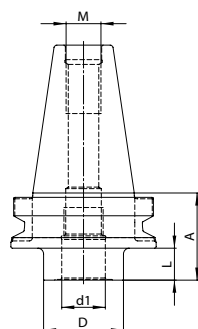
| Part number/<br>Bestell-Nr. | HSK A | D  | d1 | A   | L   |
|-----------------------------|-------|----|----|-----|-----|
| HSK63A-CN20-42L             | 63    | 20 | 11 | 42  | 16  |
| HSK63A-CN20-86L             | 63    | 20 | 11 | 86  | 60  |
| HSK63A-CN25-42L             | 63    | 25 | 14 | 42  | 16  |
| HSK63A-CN25-86L             | 63    | 25 | 14 | 86  | 60  |
| HSK63A-CN25-126L            | 63    | 25 | 14 | 126 | 100 |
| HSK63A-CN32-48L             | 63    | 32 | 18 | 48  | 22  |
| HSK63A-CN32-100L            | 63    | 32 | 18 | 100 | 74  |
| HSK63A-CN40-55L             | 63    | 40 | 22 | 55  | 29  |
| HSK63A-CN40-100L            | 63    | 40 | 22 | 100 | 74  |
| HSK63A-CN50-65L             | 63    | 50 | 28 | 65  | 39  |
| HSK63A-CN50-100L            | 63    | 50 | 28 | 100 | 74  |
| HSK63A-CN63-80L             | 63    | 63 | 36 | 80  | 54  |
| HSK100A-CN50-65L            | 100   | 50 | 28 | 65  | 36  |
| HSK100A-CN63-80L            | 100   | 63 | 36 | 80  | 51  |
| HSK100A-CN80-80L            | 100   | 80 | 36 | 80  | 51  |



## Master shanks to MAS-BT «A/D»

### Aufnahmen MAS-BT «A/D»

CAD



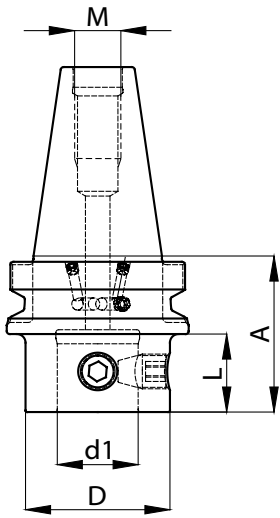
| Part number/<br>Bestell-Nr. | BT | D  | d1 | A  | L  | M    |
|-----------------------------|----|----|----|----|----|------|
| 90504.100.412.201           | 40 | 20 | 11 | 47 | 20 | M 16 |
| 90504.100.412.251           | 40 | 25 | 14 | 47 | 20 | M 16 |
| 90504.100.412.321           | 40 | 32 | 18 | 47 | 20 | M 16 |
| 90504.100.412.421           | 40 | 42 | 24 | 49 | 22 | M 16 |
| 90504.100.412.551           | 40 | 55 | 30 | 49 | 22 | M 16 |
| 90504.100.412.721           | 40 | 72 | 40 | 59 | 32 | M 16 |
| 90504.100.512.551           | 50 | 55 | 30 | 60 | 22 | M 24 |
| 90504.100.512.721           | 50 | 72 | 40 | 70 | 32 | M 24 |
| 90504.100.512.941           | 50 | 94 | 50 | 70 | 32 | M 24 |



## Master shanks to MAS-BT «A/D»

### Aufnahmen MAS-BT «A/D»

MULTI



| Part number/<br>Bestell-Nr. | D  | d1 | A   | L     | M   |
|-----------------------------|----|----|-----|-------|-----|
| BT30-CN25-49L               | 25 | 14 | 49  | 26.9  | M12 |
| BT30-CN50-49L               | 50 | 28 | 49  | 28.9  | M12 |
| BT40-CN20-54L               | 20 | 11 | 54  | 26.9  | M16 |
| BT40-CN20-93L               | 20 | 11 | 93  | 65.9  | M16 |
| BT40-CN25-54L               | 25 | 14 | 54  | 26.9  | M16 |
| BT40-CN25-93L               | 25 | 14 | 93  | 65.9  | M16 |
| BT40-CN25-127L              | 25 | 14 | 127 | 100.9 | M16 |
| BT40-CN32-54L               | 32 | 18 | 54  | 26.9  | M16 |
| BT40-CN32-93L               | 32 | 18 | 93  | 65.9  | M16 |
| BT40-CN32-127L              | 32 | 18 | 127 | 100.9 | M16 |
| BT40-CN40-54L               | 40 | 22 | 54  | 26.9  | M16 |
| BT40-CN40-107L              | 40 | 22 | 107 | 80.9  | M16 |
| BT40-CN50-54L               | 50 | 28 | 54  | 26.9  | M16 |
| BT40-CN50-107L              | 50 | 28 | 107 | 80.9  | M16 |
| BT40-CN63-64L               | 63 | 36 | 64  | 46.9  | M16 |
| BT50-CN20-54L               | 20 | 14 | 54  | 26.9  | M24 |
| BT50-CN25-104L              | 25 | 14 | 104 | 65.9  | M24 |
| BT50-CN32-65L               | 32 | 18 | 65  | 26.9  | M24 |
| BT50-CN32-118L              | 32 | 18 | 118 | 80.9  | M24 |
| BT50-CN40-65L               | 40 | 22 | 65  | 26.9  | M24 |
| BT50-CN40-118L              | 40 | 22 | 118 | 80.9  | M24 |
| BT50-CN50-65L               | 50 | 28 | 65  | 26.9  | M24 |
| BT50-CN50-104L              | 50 | 28 | 104 | 65.9  | M24 |
| BT50-CN50-138L              | 50 | 28 | 138 | 100.9 | M24 |
| BT50-CN63-75L               | 63 | 36 | 75  | 46.9  | M24 |
| BT50-CN63-104L              | 63 | 36 | 104 | 80.9  | M24 |
| BT50-CN80-75L               | 80 | 36 | 75  | 26.9  | M24 |
| BT50-CN80-104L              | 80 | 36 | 104 | 65.9  | M24 |

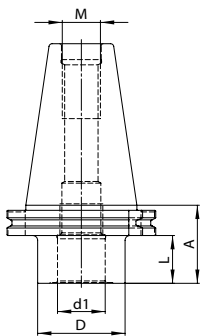


Master shanks  
Grundaufnahmen

## Master shanks to DIN 69871 A/D

### Aufnahmen DIN 69871 A/D

CAD



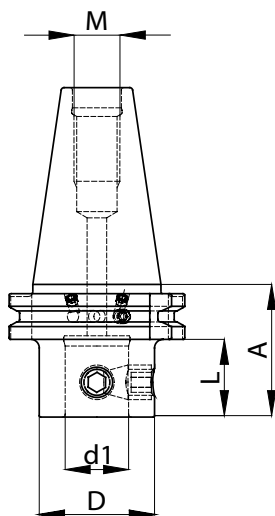
| Part number/<br>Bestell-Nr. | SK | D  | d1 | A    | L  | M    |
|-----------------------------|----|----|----|------|----|------|
| 90504.100.415.201           | 40 | 20 | 11 | 34.1 | 15 | M 16 |
| 90504.100.415.251           | 40 | 25 | 14 | 44.1 | 25 | M 16 |
| 90504.100.415.321           | 40 | 32 | 18 | 44.1 | 25 | M 16 |
| 90504.100.415.421           | 40 | 42 | 24 | 49.1 | 30 | M 16 |
| 90504.100.415.551           | 40 | 55 | 30 | 49.1 | 30 | M 16 |
| 90504.100.415.721           | 40 | 72 | 40 | 59.1 | 40 | M 16 |
| 90504.100.515.551           | 50 | 55 | 30 | 49.1 | 30 | M 24 |
| 90504.100.515.721           | 50 | 72 | 40 | 59.1 | 40 | M 24 |
| 90504.100.515.941           | 50 | 94 | 50 | 66.1 | 47 | M 24 |



# Master Shanks Grundaufnahmen

## Master shanks to DIN 69871 Aufnahmen DIN 69871

MULTI

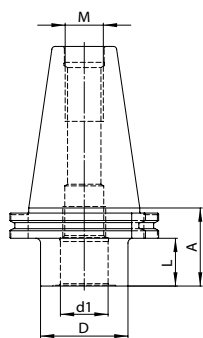


| Part number/<br>Bestell-Nr. | D  | d1 | A   | L     | M   |
|-----------------------------|----|----|-----|-------|-----|
| JT30-CN25-48L               | 25 | 14 | 48  | 26.9  | M12 |
| JT30-CN50-48L               | 50 | 28 | 48  | 28.9  | M12 |
| JT40-CN20-46L               | 20 | 11 | 46  | 26.9  | M16 |
| JT40-CN20-85L               | 20 | 11 | 85  | 65.9  | M16 |
| JT40-CN25-46L               | 25 | 14 | 46  | 26.9  | M16 |
| JT40-CN25-85L               | 25 | 14 | 85  | 65.9  | M16 |
| JT40-CN25-120L              | 25 | 14 | 120 | 100.9 | M16 |
| JT40-CN32-46L               | 32 | 18 | 46  | 26.9  | M16 |
| JT40-CN32-85L               | 32 | 18 | 85  | 65.9  | M16 |
| JT40-CN32-120L              | 32 | 18 | 120 | 100.9 | M16 |
| JT40-CN40-46L               | 40 | 22 | 46  | 26.9  | M16 |
| JT40-CN40-100L              | 40 | 22 | 100 | 80.9  | M16 |
| JT40-CN50-46L               | 50 | 28 | 46  | 26.9  | M16 |
| JT40-CN50-100L              | 50 | 28 | 100 | 80.9  | M16 |
| JT40-CN63-66L               | 63 | 36 | 66  | 46.9  | M16 |
| JT50-CN25-85L               | 25 | 14 | 85  | 65.9  | M24 |
| JT50-CN32-46L               | 32 | 18 | 46  | 26.9  | M24 |
| JT50-CN32-100L              | 32 | 18 | 100 | 80.9  | M24 |
| JT50-CN40-46L               | 40 | 22 | 46  | 26.9  | M24 |
| JT50-CN40-100L              | 40 | 22 | 100 | 80.9  | M24 |
| JT50-CN50-46L               | 50 | 28 | 46  | 26.9  | M24 |
| JT50-CN50-85L               | 50 | 28 | 85  | 65.9  | M24 |
| JT50-CN50-120L              | 50 | 28 | 120 | 100.9 | M24 |
| JT50-CN63-66L               | 63 | 36 | 66  | 46.9  | M24 |
| JT50-CN63-100L              | 63 | 36 | 100 | 80.9  | M24 |
| JT50-CN80-46L               | 80 | 36 | 46  | 26.9  | M24 |
| JT50-CN80-85L               | 80 | 36 | 85  | 65.9  | M24 |



## Master shanks to DIN 2080 A/D Aufnahmen DIN 2080 A/D

CAD



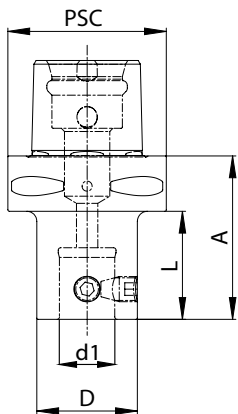
| Part number/<br>Bestell-Nr. | SK | D    | d1 | A  | L  |
|-----------------------------|----|------|----|----|----|
| 90504.100.418.251           | 40 | 24,5 | 14 | 40 | 28 |
| 90504.100.418.321           | 40 | 32   | 18 | 60 | 48 |
| 90504.100.418.421           | 40 | 42   | 24 | 60 | 48 |
| 90504.100.418.551           | 40 | 55   | 30 | 60 | 48 |
| 90504.100.518.251           | 50 | 24,5 | 14 | 40 | 45 |
| 90504.100.518.321           | 50 | 32   | 18 | 60 | 45 |
| 90504.100.518.421           | 50 | 42   | 24 | 60 | 45 |
| 90504.100.518.551           | 50 | 55   | 30 | 60 | 45 |
| 90504.100.518.721           | 50 | 72   | 40 | 60 | 45 |
| 90504.100.518.941           | 50 | 94   | 50 | 60 | 45 |





## Master shanks to ISO 26623-1 Aufnahmen ISO 26623-1

MULTI



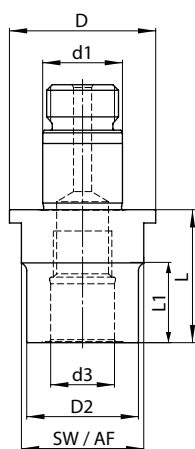
| Part number/<br>Bestell-Nr. | D  | d1 | A  | L  |
|-----------------------------|----|----|----|----|
| PSC63-CN20-54L              | 20 | 11 | 54 | 32 |
| PSC63-CN25-54L              | 25 | 14 | 54 | 32 |
| PSC63-CN32-54L              | 32 | 18 | 54 | 32 |
| PSC63-CN40-65L              | 42 | 22 | 65 | 43 |
| PSC63-CN50-65L              | 50 | 28 | 65 | 43 |
| PSC63-CN63-80L              | 63 | 36 | 80 | -- |
| PSC63-CN80-80L              | 80 | 36 | 36 | 80 |



Master shanks  
Grundaufnahmen

## Reductions Reduktionen

CAD

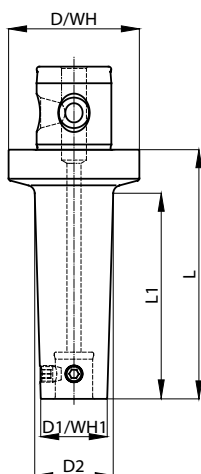


|  | Part number/<br>Bestell-Nr. | D  | d1 | D2 | d3 | L1 | L  | SW / AF |
|--|-----------------------------|----|----|----|----|----|----|---------|
|  | 90504.120.250.201           | 25 | 14 | 20 | 11 | 15 | 30 | 22      |
|  | 90504.120.320.201           | 32 | 18 | 20 | 11 | 15 | 30 | 27      |
|  | 90504.120.320.251           | 32 | 18 | 25 | 14 | 25 | 40 | 27      |
|  | 90504.120.420.201           | 42 | 24 | 20 | 11 | 15 | 35 | 36      |
|  | 90504.120.420.251           | 42 | 24 | 25 | 14 | 25 | 45 | 36      |
|  | 90504.120.420.321           | 42 | 24 | 32 | 18 | 25 | 45 | 36      |
|  | 90504.120.550.201           | 55 | 30 | 20 | 11 | 15 | 35 | 46      |
|  | 90504.120.550.251           | 55 | 30 | 25 | 14 | 20 | 40 | 46      |
|  | 90504.120.550.321           | 55 | 30 | 32 | 18 | 25 | 45 | 46      |
|  | 90504.120.550.421           | 55 | 30 | 42 | 24 | 30 | 50 | 46      |
|  | 90504.120.720.321           | 72 | 40 | 32 | 18 | 25 | 55 | 60      |
|  | 90504.120.720.421           | 72 | 40 | 42 | 24 | 30 | 60 | 60      |
|  | 90504.120.720.551           | 72 | 40 | 55 | 30 | 30 | 60 | 60      |
|  | 90504.120.940.421           | 94 | 50 | 42 | 24 | 30 | 65 | 75      |
|  | 90504.120.940.551           | 94 | 50 | 55 | 30 | 30 | 65 | 75      |
|  | 90504.120.940.721           | 94 | 50 | 72 | 40 | 45 | 80 | 75      |



## Reductions Reduktionen

MULTI

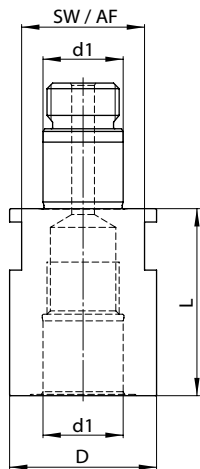


|  | Part number/<br>Bestell-Nr. | D  | D1 | D2 | L   | L1  |
|--|-----------------------------|----|----|----|-----|-----|
|  | CN2520-36L                  | 25 | 20 | 23 | 36  | 26  |
|  | CN3220-38L                  | 32 | 20 | 23 | 38  | 26  |
|  | CN3225-38L                  | 32 | 25 | 29 | 38  | 26  |
|  | CN4020-40L                  | 40 | 20 | 23 | 40  | 26  |
|  | CN4025-40L                  | 40 | 25 | 29 | 40  | 26  |
|  | CN4032-40L                  | 40 | 32 | 38 | 40  | 26  |
|  | CN5020-44L                  | 50 | 20 | 23 | 44  | 28  |
|  | CN5020-80L                  | 50 | 20 | 23 | 80  | 64  |
|  | CN5025-44L                  | 50 | 25 | 29 | 44  | 28  |
|  | CN5025-90L                  | 50 | 25 | 29 | 90  | 74  |
|  | CN5032-44L                  | 50 | 32 | 38 | 44  | 28  |
|  | CN5032-100L                 | 50 | 32 | 38 | 100 | 84  |
|  | CN5040-44L                  | 50 | 40 | 48 | 44  | 28  |
|  | CN5040-115L                 | 50 | 40 | 48 | 115 | 99  |
|  | CN6320-50L                  | 63 | 20 | 23 | 50  | 32  |
|  | CN6320-100L                 | 63 | 20 | 23 | 100 | 82  |
|  | CN6325-50L                  | 63 | 25 | 29 | 50  | 32  |
|  | CN6325-110L                 | 63 | 25 | 29 | 110 | 92  |
|  | CN6332-50L                  | 63 | 32 | 38 | 50  | 32  |
|  | CN6332-120L                 | 63 | 32 | 38 | 120 | 102 |
|  | CN6340-50L                  | 63 | 40 | 48 | 50  | 32  |
|  | CN6340-140L                 | 63 | 40 | 48 | 140 | 122 |
|  | CN6350-50L                  | 63 | 50 | 60 | 50  | 32  |
|  | CN6350-160L                 | 63 | 50 | 60 | 160 | 142 |
|  | CN8063-60L                  | 80 | 63 | 75 | 60  | 40  |



## Extensions Verlängerungen

CAD

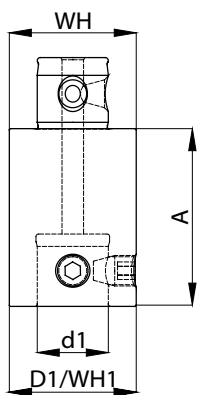


| Part number/<br>Bestell-Nr. | D  | d1 | L   | SW / AF |
|-----------------------------|----|----|-----|---------|
| 90504.130.200.001           | 20 | 11 | 25  | 17      |
| 90504.130.200.002           | 20 | 11 | 35  | 17      |
| 90504.130.250.001           | 25 | 14 | 30  | 22      |
| 90504.130.250.002           | 25 | 14 | 45  | 22      |
| 90504.130.320.001           | 32 | 18 | 40  | 27      |
| 90504.130.320.002           | 32 | 18 | 60  | 27      |
| 90504.130.420.001           | 42 | 24 | 50  | 36      |
| 90504.130.420.002           | 42 | 24 | 80  | 36      |
| 90504.130.550.001           | 55 | 30 | 70  | 46      |
| 90504.130.550.002           | 55 | 30 | 105 | 46      |
| 90504.130.720.001           | 72 | 40 | 75  | 60      |
| 90504.130.720.002           | 72 | 40 | 135 | 60      |
| 90504.130.940.001           | 94 | 50 | 100 | 75      |
| 90504.130.940.002           | 94 | 50 | 180 | 75      |



## Extensions Verlängerungen

MULTI



| Part number/<br>Bestell-Nr. | D1 | d1 | A   |
|-----------------------------|----|----|-----|
| CN2020-25L                  | 20 | 11 | 25  |
| CN2020-35L                  | 20 | 11 | 35  |
| CN2525-30L                  | 25 | 14 | 30  |
| CN2525-45L                  | 25 | 14 | 45  |
| CN3232-40L                  | 32 | 18 | 40  |
| CN3232-60L                  | 32 | 18 | 60  |
| CN4040-50L                  | 40 | 22 | 50  |
| CN4040-80L                  | 40 | 22 | 80  |
| CN5050-50L                  | 50 | 28 | 50  |
| CN5050-70L                  | 50 | 28 | 70  |
| CN5050-100L                 | 50 | 28 | 100 |
| CN6363-75L                  | 63 | 36 | 75  |
| CN6363-135L                 | 63 | 36 | 135 |
| CN8080-100L                 | 80 | 36 | 100 |
| CN8080-180L                 | 80 | 36 | 180 |



## Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

### Boring heads (for roughing and heavy machining) *Schrupp-Ausdrehköpfe (für die Schwerzerspanung ausgelegt)*

- **Reduced setup times:** diameter adjustment synchronous (easy to measure/no measuring machine required) and single by using the same basic body
  - **Bigger cutting depths** by axial staggered insert holders (optional)
  - **Higher cutting speeds** and **optimal force absorption:** insert holder turned by 75° on the base body → spline leads to large contact surface between body and insert seat on which force is spread out → extra stable construction
  - **With internal coolant supply**
  - **Highest flexibility**
- 
- **Kürzere Rüstzeiten:** *Durchmessereinstellung synchron verstellbar (einfaches Ausmessen/kein Voreinstellgerät benötigt) und einzeln verstellbar mit demselben Grundkörper möglich*
  - **Größere Spantiefen** *durch axial versetzte Wendeplattenhalter (optional)*
  - **Höhere Vorschübe** und **optimale Kraftaufnahme:** *Wendeplattenhalter um 75° am Grundkörper befestigt → Kerbverzahnung führt zu sehr großer Kontaktfläche zwischen Körper und Plattenhalter auf die, die Kraft verteilt wird; extrem stabiler Aufbau*
  - **Mit Innenkühlung**
  - **Höchste Flexibilität**



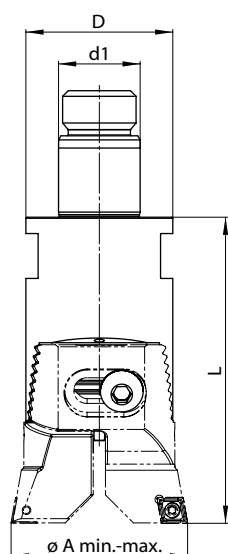
# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

## Twin cutter boring heads Zweischneiderköpfe

CAD

• with internal coolant supply

• mit Innenkühlung



| Part number/<br>Bestell-Nr. | D  | d1 | ø A<br>min. | ø A<br>max. | L   | SW /<br>AF | Insert holder /<br>Wendeplattenhalter                                                                                                                              |
|-----------------------------|----|----|-------------|-------------|-----|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 90504.140.200.000           | 20 | 11 | 23.5        | 30.5        | 40  | 17         | 90504.162.200.006 (CC..0602..)<br>90504.182.200.006 (CC..0602..)<br>90504.166.200.006 (CC..0602..)<br>90504.167.200.006 (CC..0602..)                               |
| 90504.140.250.000           | 25 | 14 | 29.5        | 40.1        | 50  | 22         | 90504.162.250.006 (CC..0602..)<br>90504.182.250.006 (CC..0602..)<br>90504.166.250.006 (CC..0602..)<br>90504.167.250.006 (CC..0602..)                               |
| 90504.140.320.000           | 32 | 18 | 39.5        | 50.5        | 65  | 27         | 90504.162.320.009 (CC..09T3..)<br>90504.182.320.009 (CC..09T3..)<br>90504.166.320.009 (CC..09T3..)<br>90504.167.320.009 (CC..09T3..)                               |
| 90504.140.420.000           | 42 | 24 | 49.5        | 66.5        | 90  | 36         | 90504.162.420.009 (CC..09T3..)<br>90504.182.420.009 (CC..09T3..)<br>90504.166.420.009 (CC..09T3..)<br>90504.167.420.009 (CC..09T3..)                               |
| 90504.140.550.000           | 55 | 30 | 65.5        | 87.5        | 115 | 46         | 90504.162.550.012/112 (CN..1204../CC..1204..)<br>90504.182.550.012/112 (CN..1204../CC..1204..)<br>90504.166.550.012 (CN..1204..)<br>90504.167.550.012 (CN..1204..) |
| 90504.140.720.000           | 72 | 40 | 86.5        | 115.5       | 150 | 60         | 90504.162.720.016/112 (CN..1606../CC..1204..)<br>90504.182.720.016/112 (CN..1606../CC..1204..)<br>90504.166.720.012 (CN..1204..)<br>90504.167.720.012 (CN..1204..) |
| 90504.140.940.000           | 94 | 50 | 114.5       | 153         | 195 | 75         | 90504.162.940.016/112 (CN..1606../CC..1204..)<br>90504.182.940.016 (CN..1606..)<br>90504.166.940.012 (CN..1204..)<br>90504.167.940.012 (CN..1204..)                |

• insert holders must be ordered separately

• Wendeplattenhalter müssen separat  
bestellt werden



Boring heads  
Schrupp-Ausdrehköpfe

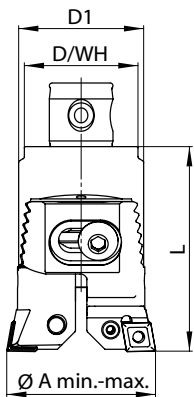
# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

## Twin cutter boring heads Zweischneiderköpfe

MULTI

• with internal coolant supply

• mit Innenkühlung



| Part number/<br>Bestell-Nr. | D  | d1 | ø A<br>min. | ø A<br>max. | L   | SW /<br>AF | Insert holder /<br>Wendeplattenhalter         |
|-----------------------------|----|----|-------------|-------------|-----|------------|-----------------------------------------------|
| RB04-CN20-2430-45L          | 20 | 20 | 23.5        | 30.5        | 45  |            | 90504.162.200.006 (CC..0602..)                |
|                             |    |    |             |             |     |            | 90504.182.200.006 (CC..0602..)                |
|                             |    |    |             |             |     |            | 90504.166.200.006 (CC..0602..)                |
|                             |    |    |             |             |     |            | 90504.167.200.006 (CC..0602..)                |
| RB04-CN25-3140-56L          | 25 | 25 | 29.5        | 40.1        | 56  |            | 90504.162.250.006 (CC..0602..)                |
|                             |    |    |             |             |     |            | 90504.182.250.006 (CC..0602..)                |
|                             |    |    |             |             |     |            | 90504.166.250.006 (CC..0602..)                |
|                             |    |    |             |             |     |            | 90504.167.250.006 (CC..0602..)                |
| RB04-CN32-4050-66L          | 32 | 32 | 39.5        | 50.5        | 66  |            | 90504.162.320.009 (CC..09T3..)                |
|                             |    |    |             |             |     |            | 90504.182.320.009 (CC..09T3..)                |
|                             |    |    |             |             |     |            | 90504.166.320.009 (CC..09T3..)                |
|                             |    |    |             |             |     |            | 90504.167.320.009 (CC..09T3..)                |
| RB04-CN40-5166-75L          | 40 | 42 | 49.5        | 66.5        | 75  |            | 90504.162.420.009 (CC..09T3..)                |
|                             |    |    |             |             |     |            | 90504.182.420.009 (CC..09T3..)                |
|                             |    |    |             |             |     |            | 90504.166.420.009 (CC..09T3..)                |
|                             |    |    |             |             |     |            | 90504.167.420.009 (CC..09T3..)                |
| RB04-CN50-6787-90L          | 50 | 55 | 66.5        | 87.5        | 90  |            | 90504.162.550.012/112 (CN..1204../CC..1204..) |
|                             |    |    |             |             |     |            | 90504.182.550.012/112 (CN..1204../CC..1204..) |
|                             |    |    |             |             |     |            | 90504.166.550.012 (CN..1204..)                |
|                             |    |    |             |             |     |            | 90504.167.550.012 (CN..1204..)                |
| RB04-CN63-87115-110L        | 63 | 72 | 86.5        | 115.5       | 110 |            | 90504.162.720.016/112 (CN..1606../CC..1204..) |
|                             |    |    |             |             |     |            | 90504.182.720.016/112 (CN..1606../CC..1204..) |
|                             |    |    |             |             |     |            | 90504.166.720.012 (CN..1204..)                |
|                             |    |    |             |             |     |            | 90504.167.720.012 (CN..1204..)                |
| RB04-CN80-115153-140L       | 80 | 94 | 114.5       | 153         | 140 |            | 90504.162.940.016/112 (CN..1606../CC..1204..) |
|                             |    |    |             |             |     |            | 90504.182.940.016 (CN..1606..)                |
|                             |    |    |             |             |     |            | 90504.166.940.012 (CN..1204..)                |
|                             |    |    |             |             |     |            | 90504.167.940.012 (CN..1204..)                |



• insert holders must be ordered separately

• Wendeplattenhalter müssen separat bestellt werden

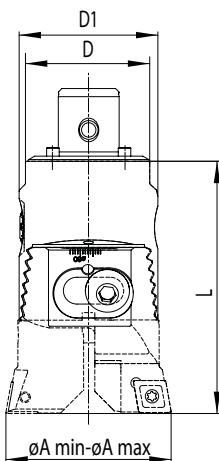
## Twin cutter "combo" Combi heads

## Zweischneider "combo" Schrupp-Schlichtkopf

MULTI

• with internal coolant supply

• mit Innenkühlung



| Part number/<br>Bestell-Nr. | D  | d1 | ø A<br>min. | ø A<br>max. | L   | Insert holder /<br>Wendeplattenhalter |
|-----------------------------|----|----|-------------|-------------|-----|---------------------------------------|
| FRB04-CN25-3040-56L         | 25 | 25 | 29.5        | 40.1        | 56  | RBI74-3040-CC06                       |
| FRB04-CN32-4050-66L         | 32 | 32 | 39.5        | 50.5        | 66  | RBI74-4050-CC09                       |
| FRB04-CN40-4966-82L         | 40 | 42 | 49.5        | 66.5        | 75  | RBI74-4966-CC09                       |
| FRB04-CN50-6687-100L        | 50 | 55 | 65.5        | 87.5        | 100 | RBI74-6687-CC012                      |
| FRB04-CN63-87115-125L       | 63 | 72 | 86.5        | 115.5       | 125 | RBI74-87115-CC012                     |

• insert holders must be ordered separately

• Wendeplattenhalter müssen separat bestellt werden

- Roughing and finishing in one step
- Setting accuracy 0.01mm in diameter
- Fine boring cutting edge axial
- 0.4mm staggered

- Schruppen und Schlichten in einem Arbeitsgang
- Zustellgenauigkeit von 0.01mm im Ø
- Schlichtschneide axial 0.4mm zurückgesetzt



# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

## Damped solid carbide shanks

### Schwingungsgedämpfte Vollhartmetallschäfte



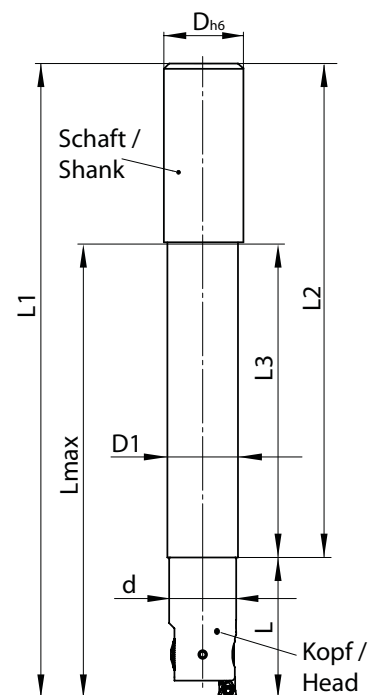
• with inner coolant supply

• mit Innenkühlung

| Part number/<br>Bestell-Nr. | D  | D1 | L<br>max | L1  | L2  | L3  | M   | for screwable head /<br>für Einschraubkopf |
|-----------------------------|----|----|----------|-----|-----|-----|-----|--------------------------------------------|
| 90504.277.250.170           | 25 | 23 | 146      | 211 | 170 | 105 | M12 | 90504.143.200.000<br>90504.281.200.000     |
| 90504.277.250.220           | 25 | 23 | 196      | 261 | 220 | 155 | M12 | 90504.143.200.000<br>90504.281.200.000     |
| 90504.277.250.265           | 25 | 23 | 241      | 306 | 265 | 200 | M12 | 90504.143.200.000<br>90504.281.200.000     |
| 90504.277.320.220           | 32 | 29 | 200      | 265 | 220 | 155 | M16 | 90504.143.250.000<br>90504.281.250.000     |
| 90504.277.320.260           | 32 | 29 | 240      | 305 | 260 | 195 | M16 | 90504.143.250.000<br>90504.281.250.000     |
| 90504.277.320.310           | 32 | 29 | 290      | 355 | 310 | 245 | M16 | 90504.143.250.000<br>90504.281.250.000     |
| 90504.277.320.217           | 32 | 32 | 203      | 268 | 217 | 152 | M16 | 90504.143.320.000<br>90504.281.320.000     |
| 90504.277.320.287           | 32 | 32 | 273      | 338 | 287 | 222 | M16 | 90504.143.320.000<br>90504.281.320.000     |
| 90504.277.320.357           | 32 | 32 | 343      | 408 | 357 | 292 | M16 | 90504.143.320.000<br>90504.281.320.000     |

Article **90504.281** is on page 32.

Artikel **90504.281** finden Sie auf Seite 32.



Boring heads  
Schrupp-Ausdrehköpfe

## Twin cutter heads with thread connection

### Zweischneiderköpfe zum Einschrauben



• with inner coolant supply

• mit Innenkühlung

| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | d  | L  | M   | Insert holder /<br>Wendeplattenhalter                                                                                                    |
|-----------------------------|-------------|-------------|----|----|-----|------------------------------------------------------------------------------------------------------------------------------------------|
| 90504.143.200.000           | 23.5        | 30.5        | 20 | 41 | M12 | 90504.162.200.006 (CC..0602...)<br>90504.182.200.006 (CC..0602...)<br>90504.166.200.006 (CC..0602...)<br>90504.167.200.006 (CC..0602...) |
| 90504.143.250.000           | 29.5        | 40.1        | 25 | 45 | M16 | 90504.162.250.006 (CC..0602...)<br>90504.182.250.006 (CC..0602...)<br>90504.166.250.006 (CC..0602...)<br>90504.167.250.006 (CC..0602...) |
| 90504.143.320.000           | 39.5        | 50.5        | 32 | 51 | M16 | 90504.162.320.009 (CC..0602...)<br>90504.182.320.009 (CC..0602...)<br>90504.166.320.009 (CC..0602...)<br>90504.167.320.009 (CC..0602...) |

• insert holders must be ordered separately

• Wendeplattenhalter müssen separat bestellt werden



# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

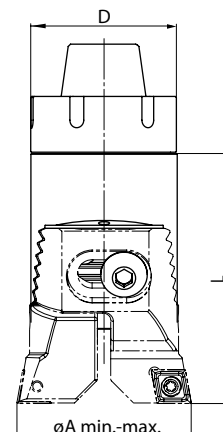
## Twin cutter boring heads Zweischneiderköpfe



| Part number/<br>Bestell-Nr. | Ø D/<br>System | Ø A<br>min. | Ø A<br>max. | L  | Insert holder w/<br>Wendeplattenhalter                                                                                               |
|-----------------------------|----------------|-------------|-------------|----|--------------------------------------------------------------------------------------------------------------------------------------|
| 90504.141.320.000           | 32 / ER25      | 39.5        | 51.1        | 65 | 90504.162.320.009 (CC..09T3..)<br>90504.166.320.009 (CC..09T3..)<br>90504.167.320.009 (CC..09T3..)<br>90504.182.320.009 (CC..09T3..) |
| 90504.141.420.000           | 42 / ER32      | 49.5        | 67.1        | 75 | 90504.162.420.009 (CC..09T3..)<br>90504.166.420.009 (CC..09T3..)<br>90504.167.420.009 (CC..09T3..)<br>90504.182.420.009 (CC..09T3..) |
| 90504.141.550.000           | 55 / ER40      | 65.5        | 87.1        | 85 | 90504.162.550.112 (CC..1204..)<br>90504.166.520.112 (CC..1204..)<br>90504.167.550.112 (CC..1204..)<br>90504.182.550.112 (CC..1204..) |

- Clamp tool in a collet chuck.
- **Insert holder included**

- Werkzeug in einem Spannzangenfutter spannen.
- **Inklusive Wendeplattenhalter**



## Twin cutter boring heads Zweischneiderköpfe



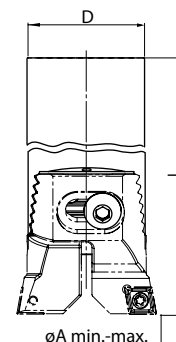
- with inner coolant supply

- mit Innenkühlung

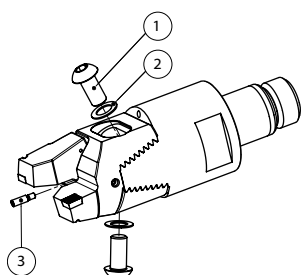
| Part number/<br>Bestell-Nr. | Ø D/<br>System | Ø A<br>min. | Ø A<br>max. | L   | Insert holder /<br>Wendeplattenhalter                                                                                                |
|-----------------------------|----------------|-------------|-------------|-----|--------------------------------------------------------------------------------------------------------------------------------------|
| 90504.142.200.000           | 20             | 23.5        | 31.1        | 150 | 90504.162.200.006 (CC..0602..)<br>90504.166.200.006 (CC..0602..)<br>90504.167.200.006 (CC..0602..)<br>90504.182.200.006 (CC..0602..) |
| 90504.142.250.000           | 25             | 29.5        | 40.1        | 170 | 90504.162.250.006 (CC..0602..)<br>90504.166.250.006 (CC..0602..)<br>90504.167.250.006 (CC..0602..)<br>90504.182.250.006 (CC..0602..) |

- Clamp tool in a collet or hydraulic chuck.
- **Insert holder included**

- Werkzeug in einem Spannzangen- oder Hydrodehnfutter spannen.
- **Inklusive Wendeplattenhalter**



## Spare parts / Accessories Ersatzteile / Zubehör



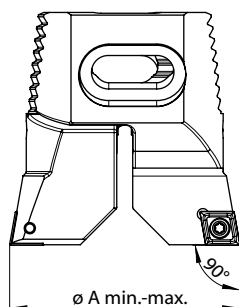
| For twin cutter boring head/<br>Für Zweischneiderkopf | Part number/<br>Bestell-Nr.                 | Part number/<br>Bestell-Nr.  | Part number/<br>Bestell-Nr. |
|-------------------------------------------------------|---------------------------------------------|------------------------------|-----------------------------|
|                                                       | ① Fastening screw /<br>Befestigungsschraube | Spring washer /<br>Federring | ② Stopper /<br>Anschlag     |
| 90504.140/141/142/143.200.000 // RB04-CN20            | 90504.840.142.200                           | 90504.841.142.200            | 90504.841.342.200           |
| 90504.140/141/142/143.250.000 // RB04-CN25            | 90504.840.142.250                           | 90504.841.142.250            | 90504.841.342.200           |
| 90504.140/141/142/143.320.000 // RB04-CN32            | 90504.840.142.320                           | 90504.841.142.320            | 90504.841.342.200           |
| 90504.140/141.420.000 // RB04-CN40                    | 90504.840.142.420                           | 90504.841.142.420            | 90504.841.342.420           |
| 90504.140/141.550.000 // RB04-CN50                    | 90504.840.142.550                           | 90504.841.142.550            | 90504.841.342.420           |
| 90504.140.720.000 // RB04-CN63                        | 90504.840.142.720                           | 90504.841.142.720            | 90504.841.342.420           |
| 90504.140.940.000 // RB04-CN80                        | 90504.840.142.940                           | 90504.841.142.940            | 90504.841.342.420           |

# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

## Insert holders 90°

### Wendeplattenhalter 90°

- for use in twin cutter boring heads from serie 90504.140/141/142/143/RB04
- für die Verwendung in Zweischneiderköpfen der Serie 90504.140/141/142/143/RB04



| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | Insert /<br>Wendeplatte | twin cutter boring head/<br>Zweischneiderkopf                            |
|-----------------------------|-------------|-------------|-------------------------|--------------------------------------------------------------------------|
| 90504.162.200.006           | 23.5        | 30.5        | CC..0602..              | 90504.140.200.000<br>90504.142.200.000<br>90504.143.200.000<br>RB04-CN20 |
| 90504.162.250.006           | 29.5        | 40.1        | CC..0602..              | 90504.140.250.000<br>90504.142.250.000<br>90504.143.250.000<br>RB04-CN25 |
| 90504.162.320.009           | 39.5        | 50.5        | CC..09T3..              | 90504.140.320.000<br>90504.142.320.000<br>90504.143.320.000<br>RB04-CN32 |
| 90504.162.420.009           | 49.5        | 66.5        | CC..09T3..              | 90504.140.420.000<br>90504.141.420.000<br>RB04-CN40                      |
| 90504.162.550.112           | 65.5        | 87.5        | CC..1204..              | 90504.140.550.000<br>90504.141.550.000                                   |
| 90504.162.550.012           | 65.5        | 87.5        | CN..1204..              | 90504.140.550.000<br>RB04-CN50                                           |
| 90504.162.720.112           | 86.5        | 115.5       | CC..1204..              | 90504.140.720.000<br>RB04-CN63                                           |
| 90504.162.720.016           | 86.5        | 115.5       | CN..1606..              | 90504.140.720.000<br>RB04-CN63                                           |
| 90504.162.940.112           | 114.5       | 153.0       | CC..1204..              | 90504.140.940.000<br>RB04-CN80                                           |
| 90504.162.940.016           | 114.5       | 153.0       | CN..1606..              | 90504.140.940.000<br>RB04-CN80                                           |

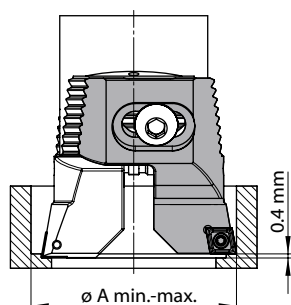


- insert holders will be supplied in pairs
- Wendeplattenhalter werden paarweise geliefert

## Insert holders 90° axial 0.4mm staggered

### Wendeplattenhalter 90° axial 0.4mm zurückgesetzt

- for use in twin cutter boring heads from serie 90504.140/141/142/143/RB04
- für die Verwendung in Zweischneiderköpfen der Serie 90504.140/141/142/143/RB04
- for bigger cutting depth
- zur Schnittaufteilung bei großer Spantiefe



| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | Insert/<br>Wendeplatte | twin cutter boring head/<br>Zweischneiderkopf                            |
|-----------------------------|-------------|-------------|------------------------|--------------------------------------------------------------------------|
| 90504.167.200.006           | 23.5        | 30.5        | CC..0602..             | 90504.140.200.000<br>90504.142.200.000<br>90504.143.200.000<br>RB04-CN20 |
| 90504.167.250.006           | 29.5        | 40.1        | CC..0602..             | 90504.140.250.000<br>90504.142.250.000<br>90504.143.250.000<br>RB04-CN25 |
| 90504.167.320.009           | 39.5        | 50.5        | CC..09T3..             | 90504.140.320.000<br>90504.141.320.000<br>90504.143.320.000<br>RB04-CN32 |
| 90504.167.420.009           | 49.5        | 66.5        | CC..09T3..             | 90504.140.420.000<br>90504.141.420.000<br>RB04-CN40                      |
| 90504.167.550.012           | 65.5        | 87.5        | CC..1204..             | 90504.140.550.000<br>90504.141.550.000<br>RB04-CN50                      |
| 90504.167.720.012           | 86.5        | 115.5       | CC..1204..             | 90504.140.720.000<br>RB04-CN63                                           |
| 90504.167.940.012           | 114.5       | 153         | CC..1204..             | 90504.140.940.000<br>RB04-CN80                                           |

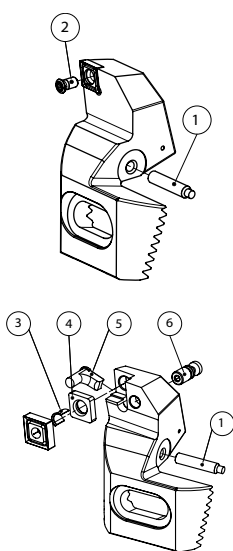


- insert holders will be supplied in pairs
- Wendeplattenhalter werden paarweise geliefert

# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

## Spare parts / Accessories

### Ersatzteile / Zubehör



| For insert holder/<br>Für Wendepplattenhalter | Part number/<br>Bestell-Nr.               | Part number/<br>Bestell-Nr.       | Part number/<br>Bestell-Nr.     |
|-----------------------------------------------|-------------------------------------------|-----------------------------------|---------------------------------|
|                                               | Adjustment screw/<br>Einstellschraube (1) | Torx screw /<br>Torx-Schraube (2) | Torx driver /<br>Torx-Schlüssel |
| 90504.162/167.200.006                         | 90504.848.200.407                         | 90504.843.006.000 (I60M2,5x6,5)   | 90504.842.006.000 (WT07P)       |
| 90504.162/167.250.006                         | 90504.848.250.409                         | 90504.843.006.000 (I60M2,5x6,5)   | 90504.842.006.000 (WT07P)       |
| 90504.162/167.320.009                         | 90504.848.320.413                         | 90504.843.009.000 (I60M4x8,4)     | 90504.842.009.000 (WT15P)       |
| 90504.162/167.420.009                         | 90504.848.420.614                         | 90504.843.009.000 (I60M4x8,4)     | 90504.842.009.000 (WT15P)       |
| 90504.162/167.550.***                         | 90504.848.550.620                         | 90504.843.012.000 (I60M5x13)      | 90504.842.012.000 (WT20P)       |
| 90504.162/167.720.***                         | 90504.848.720.000                         | 90504.843.012.000 (I60M5x13)      | 90504.842.012.000 (WT20P)       |
| 90504.162/167.940.***                         | 90504.848.940.640                         | 90504.843.012.000 (I60M5x13)      | 90504.842.012.000 (WT20P)       |

| For insert holder/<br>Für Wendepplattenhalter | Part number/<br>Bestell-Nr.  | Part number/<br>Bestell-Nr.  | Part number/<br>Bestell-Nr. | Part number/<br>Bestell-Nr.            |
|-----------------------------------------------|------------------------------|------------------------------|-----------------------------|----------------------------------------|
|                                               | Hollow pin/<br>Rohrstift (3) | Tip pad/<br>Zwischenlage (4) | Lever/<br>Kniehebel (5)     | Lever screw /<br>Schraube zu Kniehebel |
| 90504.162/167.550.012                         | 90504.844.012.000            | 90504.845.012.000            | 90504.846.012.000           | 90504.847.012.000                      |
| 90504.162/167.720.016                         | 90504.844.016.000            | 90504.845.016.000            | 90504.846.016.000           | 90504.847.016.000                      |
| 90504.162/167.940.016                         | 90504.844.016.000            | 90504.845.016.000            | 90504.846.016.000           | 90504.847.016.000                      |

## Insert holders combi head "combo"

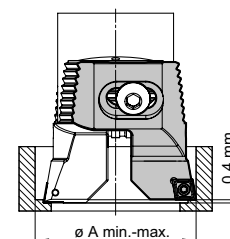
### Wendepplattenhalter Schrupp-Schlicht "combo"

- for use in combi heads FRB

- für die Verwendung in Schrupp-Schlichtköpfen FRB



| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | Insert/<br>Wendepplatte | twin cutter boring head/<br>Zweischneiderkopf |
|-----------------------------|-------------|-------------|-------------------------|-----------------------------------------------|
| RBI74-3040-CC06             | 29.5        | 40.1        | CC..0602..              | FRB04-CN25-3040-56L                           |
| RBI74-4050-CC09             | 39.5        | 50.5        | CC..09T3..              | FRB04-CN32-4050-66L                           |
| RBI74-4966-CC09             | 49.5        | 66.5        | CC..09T3..              | FRB04-CN40-4966-82L                           |
| RBI74-6787-CC12             | 65.5        | 87.5        | CC..1204..              | FRB04-CN50-6687-100L                          |
| RBI74-87115-CC12            | 86.5        | 115.5       | CC..1204..              | FRB04-CN63-87115-125L                         |

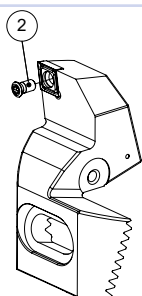


- insert holders will be supplied in pairs

- Wendepplattenhalter werden paarweise geliefert

## Spare parts / Accessories

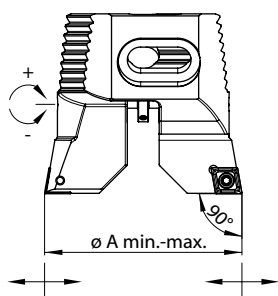
### Ersatzteile / Zubehör



| For insert holder/<br>Für Wendepplattenhalter | Part number/<br>Bestell-Nr. (2) | Part number/<br>Bestell-Nr.    |
|-----------------------------------------------|---------------------------------|--------------------------------|
|                                               | Torx screw/<br>Torx-Schraube    | Torx driver/<br>Torx-Schlüssel |
| RBI74-3040-CC6                                | I60M2,5x6,5                     | WT07P                          |
| RBI74-4050-CC09                               | I60M4x8,4                       | WT15P                          |
| RBI74-4966-CC09                               | I60M4x8,4                       | WT15P                          |
| RBI74-6787-CC12                               | I60M5x13                        | WT20P                          |
| RBI74-87115-CC12                              | I60M5x13                        | WT20P                          |

# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

## Synchronised insert holders 90° Synchro-Wendeplattenhalter 90°



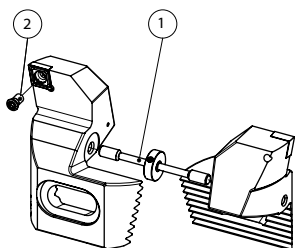
- for use in twin cutter boring heads from serie 90504.140/141/142/143/RB04
- with synchro spindle both insert holders can be adjusted synchronously and symmetrically
- für die Verwendung in Zweischneiderköpfen der Serie 90504.140/141/142/143/RB04
- mit der Synchrospindel können beide Wendeplattenhalter gleichzeitig symmetrisch eingestellt werden



| Part number/<br>Bestell-Nr. | $\varnothing A$<br>min. | $\varnothing A$<br>max. | Insert /<br>Wendeplatte | twin cutter boring head /<br>Zweischneiderkopf                           |
|-----------------------------|-------------------------|-------------------------|-------------------------|--------------------------------------------------------------------------|
| 90504.166.200.006           | 23.5                    | 30.5                    | CC..0602..              | 90504.140.200.000<br>90504.142.200.000<br>90504.143.200.000<br>RB04-CN20 |
| 90504.166.250.006           | 29.5                    | 40.1                    | CC..0602..              | 90504.140.250.000<br>90504.142.250.000<br>90504.143.250.000<br>RB04-CN25 |
| 90504.166.320.009           | 39.5                    | 50.5                    | CC..09T3..              | 90504.140.320.000<br>90504.142.320.000<br>90504.143.320.000<br>RB04-CN32 |
| 90504.166.420.009           | 49.5                    | 66.5                    | CC..09T3..              | 90504.140.420.000<br>90504.141.420.000<br>RB04-CN40                      |
| 90504.166.550.012           | 65.5                    | 87.5                    | CC..1204..              | 90504.140.550.000<br>90504.141.550.000<br>RB04-CN50                      |
| 90504.166.720.012           | 86.5                    | 115.5                   | CC..1204..              | 90504.140.720.000<br>RB04-CN63                                           |
| 90504.166.940.012           | 114.5                   | 153                     | CC..1204..              | 90504.140.940.000<br>RB04-CN80                                           |

- insert holders will be supplied in pairs
- Wendeplattenhalter werden paarweise geliefert

## Spare parts / Accessories Ersatzteile / Zubehör



| For insert holder/<br>Für Wendeplattenhalter | Part number/<br>Bestell-Nr.             | Part number/<br>Bestell-Nr.     | Part number/<br>Bestell-Nr.    |
|----------------------------------------------|-----------------------------------------|---------------------------------|--------------------------------|
|                                              | Adjustment screw/<br>Einstellschraube ① | Torx screw/<br>Torx-Schraube ②  | Torx driver/<br>Torx-Schlüssel |
| 90504.166.200.006                            | 90504.848.200.005                       | 90504.843.006.000 (I60M2,5x6,5) | 90504.842.006.000 (WT07P)      |
| 90504.166.250.006                            | 90504.848.250.005                       | 90504.843.006.000 (I60M2,5x6,5) | 90504.842.006.000 (WT07P)      |
| 90504.166.320.009                            | 90504.848.320.005                       | 90504.843.009.000 (I60M4x8,4)   | 90504.842.009.000 (WT15P)      |
| 90504.166.420.009                            | 90504.848.420.005                       | 90504.843.009.000 (I60M4x8,4)   | 90504.842.009.000 (WT15P)      |
| 90504.166.550.012                            | 90504.848.550.005                       | 90504.843.012.000 (I60M5x13)    | 90504.842.012.000 (WT20P)      |
| 90504.166.720.012                            | 90504.848.720.005                       | 90504.843.012.000 (I60M5x13)    | 90504.842.012.000 (WT20P)      |
| 90504.166.940.012                            | 90504.848.940.005                       | 90504.843.012.000 (I60M5x13)    | 90504.842.012.000 (WT20P)      |

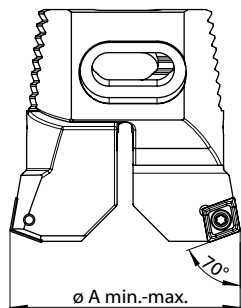
# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

## Insert holders 70°

### Wendeplattenhalter 70°

- for use in twin cutter boring heads from serie 90504.140/141/142/143/RB04

- für die Verwendung in Zweischneiderköpfen der Serie 90504.140/141/142/143/RB04



| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | Insert/<br>Wendeplatte | twin cutter boring head/<br>Zweischneiderkopf                            |
|-----------------------------|-------------|-------------|------------------------|--------------------------------------------------------------------------|
| 90504.182.200.006           | 23.5        | 30.5        | CC..0602..             | 90504.140.200.000<br>90504.142.200.000<br>90504.143.200.000<br>RB04-CN20 |
| 90504.182.250.006           | 29.5        | 40.1        | CC..0602..             | 90504.140.250.000<br>90504.142.250.000<br>90504.143.250.000<br>RB04-CN25 |
| 90504.182.320.009           | 39.5        | 50.5        | CC..09T3..             | 90504.140.320.000<br>90504.141.320.000<br>90504.143.320.000<br>RB04-CN32 |
| 90504.182.420.009           | 49.5        | 66.5        | CC..09T3..             | 90504.140.420.000<br>90504.141.420.000<br>RB04-CN40                      |
| 90504.182.550.112           | 65.5        | 87.5        | CC..1204..             | 90504.140.550.000<br>90504.141.550.000<br>RB04-CN50                      |
| 90504.182.550.012           | 65.5        | 87.5        | CN..1204..             | 90504.140.550.000<br>90504.141.550.000<br>RB04-CN50                      |
| 90504.182.720.112           | 86.5        | 115.5       | CC..1204..             | 90504.140.720.000<br>RB04-CN63                                           |
| 90504.182.720.016           | 86.5        | 115.5       | CN..1606..             | 90504.140.720.000<br>RB04-CN63                                           |
| 90504.182.940.016           | 114.5       | 153         | CN..1606..             | 90504.140.940.000<br>RB04-CN80                                           |

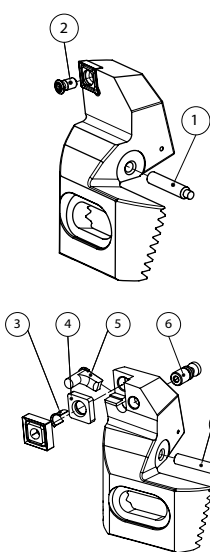


- insert holders will be supplied in pairs

- Wendeplattenhalter werden paarweise geliefert

## Spare parts / Accessories

### Ersatzteile / Zubehör

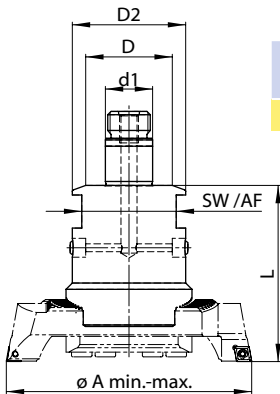


| For insert holder/<br>Für Wendeplattenhalter | Part number/<br>Bestell-Nr.             | Part number/<br>Bestell-Nr.     | Part number/<br>Bestell-Nr. | Part number/<br>Bestell-Nr.              |
|----------------------------------------------|-----------------------------------------|---------------------------------|-----------------------------|------------------------------------------|
|                                              | Adjustment screw/<br>Einstellschraube ① | Torx screw /<br>Torx-Schraube ② |                             | Torx driver /<br>Torx-Schlüssel          |
| 90504.182.200.006                            | 90504.848.200.407                       | 90504.843.006.000 (I60M2,5x6,5) |                             | 90504.842.006.000 (WT07P)                |
| 90504.182.250.006                            | 90504.848.250.409                       | 90504.843.006.000 (I60M2,5x6,5) |                             | 90504.842.006.000 (WT07P)                |
| 90504.182.320.009                            | 90504.848.320.413                       | 90504.843.009.000 (I60M4x8,4)   |                             | 90504.842.009.000 (WT15P)                |
| 90504.182.420.009                            | 90504.848.420.614                       | 90504.843.009.000 (I60M4x8,4)   |                             | 90504.842.009.000 (WT15P)                |
| 90504.182.550.xxx                            | 90504.848.550.620                       | 90504.843.012.000 (I60M5x13)    |                             | 90504.842.012.000 (WT20P)                |
| 90504.182.720.xxx                            | 90504.848.720.000                       | 90504.843.012.000 (I60M5x13)    |                             | 90504.842.012.000 (WT20P)                |
| 90504.182.940.xxx                            | 90504.848.940.640                       | 90504.843.012.000 (I60M5x13)    |                             | 90504.842.012.000 (WT20P)                |
| For insert holder/<br>Für Wendeplattenhalter | Part number/<br>Bestell-Nr.             | Part number/<br>Bestell-Nr.     | Part number/<br>Bestell-Nr. | Part number/<br>Bestell-Nr.              |
|                                              | Hollow pin/<br>Rohrstift ③              | Tip pad/<br>Zwischenlage ④      | Lever/<br>Kniehebel ⑤       | Lever screw /<br>Schraube zu Kniehebel ⑥ |
| 90504.182.550.012                            | 90504.844.012.000                       | 90504.845.012.000               | 90504.846.012.000           | 90504.847.012.000                        |
| 90504.182.720.016                            | 90504.844.016.000                       | 90504.845.016.000               | 90504.846.016.000           | 90504.847.016.000                        |
| 90504.182.940.016                            | 90504.844.016.000                       | 90504.845.016.000               | 90504.846.016.000           | 90504.847.016.000                        |

# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

## Twin cutter boring head ø86-402 Zweischneiderkopf ø86-402

CAD



• with internal coolant supply

• mit Innenkühlung

| Part number/<br>Bestell-Nr. | D  | d1 | D2 | Ø A<br>min. | Ø A<br>max. | L   | SW /<br>AF |
|-----------------------------|----|----|----|-------------|-------------|-----|------------|
| 90504.144.550.000           | 55 | 30 | 72 | 86          | 402         | 112 | 60         |

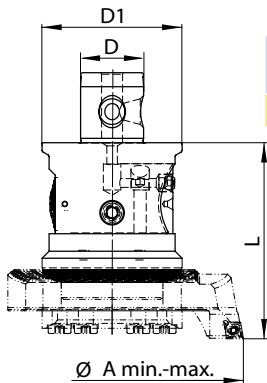
• insert holders from serie 90504.147  
must be ordered separately

• Wendeplattenhalter der Serie  
90504.147 müssen separat bestellt  
werden



## Twin cutter boring head ø86-402 Zweischneiderkopf ø86-402

MULTI



• with internal coolant supply

• mit Innenkühlung

| Part number/<br>Bestell-Nr. | D  | d1 | D2 | Ø A<br>min. | Ø A<br>max. | L   |
|-----------------------------|----|----|----|-------------|-------------|-----|
| RB44-CN80-86402-112L        | 36 | 80 | 72 | 86          | 402         | 112 |

• insert holders from serie 90504.147  
must be ordered separately

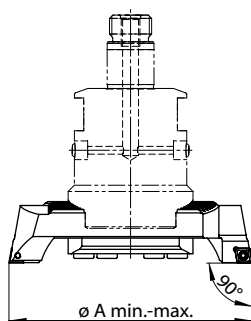
• Wendeplattenhalter der Serie  
90504.147 müssen separat bestellt  
werden



Boring heads  
Schrupp-Ausdrehköpfe

# Boring heads (for roughing and heavy machining) Schrupp-Ausdrehköpfe (f. die Schwerzersp. ausgelegt)

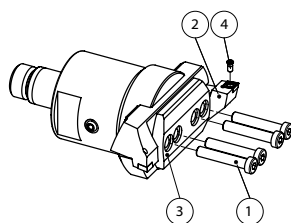
Insert holder pairs incl. clamp plate  
Wendeplattenhalterpaare inkl. Druckplatte



| Part number/<br>Bestell-Nr. | ø A min. | ø A max. | Insert/<br>Wendeplatte |
|-----------------------------|----------|----------|------------------------|
| 90504.147.550.109           | 86       | 138      | CC..09T3..             |
| 90504.147.550.112           | 86       | 138      | CC..1204..             |
| 90504.147.550.209           | 136      | 220      | CC..09T3..             |
| 90504.147.550.212           | 136      | 220      | CC..1204..             |
| 90504.147.550.309           | 188      | 302      | CC..09T3..             |
| 90504.147.550.409           | 242      | 402      | CC..09T3..             |



Spare parts / Accessories  
Ersatzteile / Zubehör



For twin cutter boring  
head/  
Für Zweischneiderkopf

Part number/  
Bestell-Nr.  
  
Fastening screw / ①  
Befestigungsschraube

90504.144.550.000  
RB44-CN80-86402-112L

90504.850.144.550

| For insert holder<br>set        | Part number/<br>Bestell-Nr.            | ② Part number/<br>Bestell-Nr. | ③ Part number/<br>Bestell-Nr. | ④ Part number/<br>Bestell-Nr.  | Part number/<br>Bestell-Nr. |
|---------------------------------|----------------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------|
| Für Wendeplatten-<br>haltersatz | Insert holder/ Wen-<br>deplattenhalter | Clamp plate/<br>Druckplatte   | Torx screw/<br>Torx-Schraube  | Torx driver/<br>Torx-Schlüssel |                             |
| 90504.147.550.109               | 90504.190.550.109                      | 90504.884.190.109             | 90504.843.009.000 (I60M4x8,4) | 90504.842.009.000 (WT15P)      |                             |
| 90504.147.550.112               | 90504.190.550.112                      | 90504.884.190.109             | 90504.843.012.000 (I60M5x13)  | 90504.842.012.000 (WT20P)      |                             |
| 90504.147.550.209               | 90504.190.550.209                      | 90504.884.190.209             | 90504.843.009.000 (I60M4x8,4) | 90504.842.009.000 (WT15P)      |                             |
| 90504.147.550.212               | 90504.190.550.212                      | 90504.884.190.209             | 90504.843.012.000 (I60M5x13)  | 90504.842.012.000 (WT20P)      |                             |
| 90504.147.550.309               | 90504.190.550.309                      | 90504.884.190.209             | 90504.843.009.000 (I60M4x8,4) | 90504.842.009.000 (WT15P)      |                             |
| 90504.147.550.409               | 90504.190.550.409                      | 90504.884.190.209             | 90504.843.009.000 (I60M4x8,4) | 90504.842.009.000 (WT15P)      |                             |



## Bridge tools Brückenwerkzeuge

- **Roughing** and **finishing** of **precision holes** Ø150-2205mm
- **Spline** on tool: force and positive locking of fine boring heads, counterweights or roughing insert holders
- **Reduced unbalance** by counter weight → better surface, higher tool life, higher spindle operating time
- **Easy presetting**: Setting plate (=path limitation) and millimeter scale on tool → reduced setup times
- **Pin turning possible**: insert holder have to be turned around by 180° (easy handling / no additional components) → less investments
- **Cooling set** for inner cooling supply available
- **Highest flexibility**
- **Vor- und Fertigbearbeitung** von **Präzisionsbohrungen** Ø150-2205mm
- **Kerbverzahnung** am Werkzeug: form- und kraftschlüssige Aufnahme von Feinbohrköpfen, Gegengewichten oder Schruppwendepaltenhaltern
- **Reduzierte Unwucht** durch Gegengewichte → bessere Oberflächen, höhere Standzeit, erhöhte Spindellaufzeit
- **Einfache Voreinstellung**: Einstellplatte (=Wegbegrenzung) und Millimeterskala am Werkzeug → reduzierte Rüstzeiten
- **Zapfenbearbeitung möglich**: Wendepaltenhalter um 180° drehen (einfache Handhabung / keine Zusatzbauteile) → minimierte Investitionsausgaben
- **Kühlmittelset** für Innenkühlung verfügbar
- **Hohe Flexibilität**

| Supplier of spindle systems / Anbieter von Spindelsystemen |            |          |             |            |          |         |          |
|------------------------------------------------------------|------------|----------|-------------|------------|----------|---------|----------|
|                                                            | ZCC CT     | KAISER   | Wohlhaupter | Seco Tools | KOMET    | Urma    | D'ANDREA |
| Ø -range in mm/<br>Ø-Bereich in mm                         | 150 - 2205 | 150-1080 | 204-3255    | 204-2205   | 364-1438 | 150-805 | 200-800  |





## Fine boring bridge tools Ø85.5-650.1

### Feinbohrbrückenwerkzeuge Ø85.5-650.1



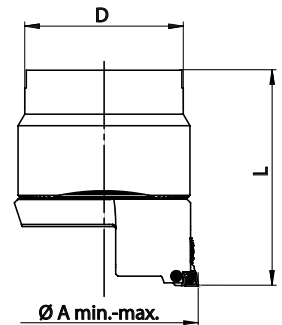
- Diameter setting with minimal reversal backlash
- 0.01 mm diametrical adjustment
- With inner coolant supply

- DurchmesserEinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0.01 mm im Durchmesser
- Mit Innenkühlung

| Part number<br>Bestell-Nr./ | Ø D/<br>System | Ø A<br>min. | Ø A<br>max. | L   | Fine bore adapter/<br>Feinbohraufsatz |
|-----------------------------|----------------|-------------|-------------|-----|---------------------------------------|
| 90504.206.320.000           | 78 / D32       | 85.5        | 140.1       | 98  | 90504.207.000.006 (CC..0602..)        |
| 90504.206.321.000           | 78 / D32       | 139.5       | 220.1       | 98  | 90504.207.001.006 (CC..0602..)        |
| 90504.206.322.000           | 78 / D32       | 219.5       | 310.1       | 98  | 90504.207.001.006 (CC..0602..)        |
| 90504.206.400.000           | 88 / D40       | 309.5       | 395.1       | 108 | 90504.207.001.006 (CC..0602..)        |
| 90504.206.401.000           | 88 / D40       | 394.5       | 480.1       | 108 | 90504.207.001.006 (CC..0602..)        |
| 90504.206.600.000           | 128 / D60      | 479.5       | 565.1       | 118 | 90504.207.001.006 (CC..0602..)        |
| 90504.206.601.000           | 128 / D60      | 564.5       | 650.1       | 118 | 90504.207.001.006 (CC..0602..)        |

- clamp tool in a shell mill holder.
- **insert holder included**

- Werkzeug in einer Fräsdorn- oder Messerkopfaufnahme spannen.
- **inklusive Wendepaltenhalter**



## Twin cutter bridge tools Ø85.5-650.1

### Zweischneiderbrückenwerkzeuge Ø85.5-650.1



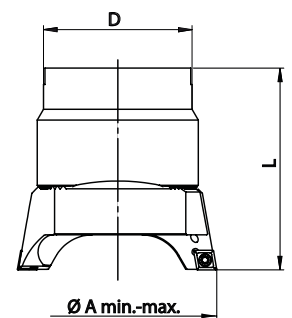
- with inner coolant supply

- mit Innenkühlung

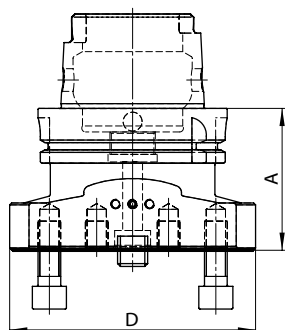
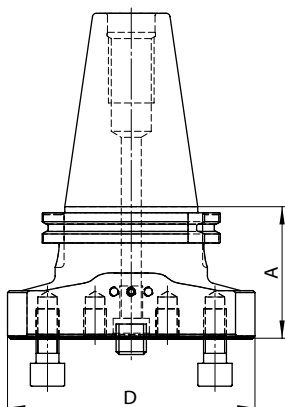
| Part number<br>Bestell-Nr./ | Ø D/<br>System | Ø A<br>min. | Ø A<br>max. | L   | Wendepaltenhalter / Insert<br>holder |
|-----------------------------|----------------|-------------|-------------|-----|--------------------------------------|
| 90504.208.320.000           | 78 / D32       | 85.5        | 140.1       | 98  | 90504.209.000.012 (CC..1204..)       |
| 90504.208.321.000           | 78 / D32       | 139.5       | 220.1       | 98  | 90504.209.001.012 (CC..1204..)       |
| 90504.208.322.000           | 78 / D32       | 219.5       | 310.1       | 98  | 90504.209.001.012 (CC..1204..)       |
| 90504.208.400.000           | 88 / D40       | 309.5       | 395.1       | 108 | 90504.209.001.012 (CC..1204..)       |
| 90504.208.401.000           | 88 / D40       | 394.5       | 480.1       | 108 | 90504.209.001.012 (CC..1204..)       |
| 90504.208.600.000           | 128 / D60      | 479.5       | 565.1       | 118 | 90504.209.001.012 (CC..1204..)       |
| 90504.208.601.000           | 128 / D60      | 564.5       | 650.1       | 118 | 90504.209.001.012 (CC..1204..)       |

- clamp tool in a shell mill holder.
- **insert holder included**

- Werkzeug in einer Fräsdorn- oder Messerkopfaufnahme spannen.
- **inklusive Wendepaltenhalter**



## Master shanks with bridge adapter (monobloc) Aufnahmen mit Konsole (Monoblock)



• DIN 69871 A/D

| Part number/<br>Bestell-Nr. | ISO | D   | A    |
|-----------------------------|-----|-----|------|
| 90504.210.415.000           | 40  | 130 | 69.1 |
| 90504.210.515.000           | 50  | 130 | 69.1 |

• MAS BT 403

| Part number/<br>Bestell-Nr. | BT | D   | A  |
|-----------------------------|----|-----|----|
| 90504.210.412.000           | 40 | 130 | 77 |
| 90504.210.512.000           | 50 | 130 | 88 |

• DIN 69893 HSK A

| Part number/<br>Bestell-Nr. | HSK A | D   | A  |
|-----------------------------|-------|-----|----|
| 90504.210.063.000           | 63    | 130 | 77 |
| 90504.210.100.000           | 100   | 130 | 88 |

• cooling set must be ordered separately 90504.920.028.015

• DIN 69871 A/D

• MAS BT 403

• DIN 69893 HSK A

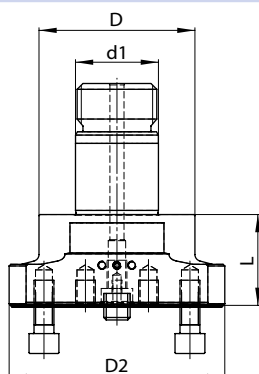
• Kühlmittelset muss separat bestellt werden 90504.920.028.015



Bridge tools  
Brückenwerkzeuge

## Bridge adapters Zwischenkonsolen

CAD



| Part number/<br>Bestell-Nr. | D  | d1 | D2  | L  | SW /<br>AF |
|-----------------------------|----|----|-----|----|------------|
| 90504.210.940.000           | 94 | 50 | 130 | 55 | 75         |

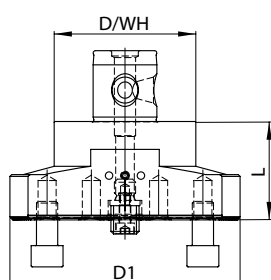
• cooling set must be ordered separately 90504.920.028.015

• Kühlmittelset muss separat bestellt werden 90504.920.028.015



## Bridge adapters Zwischenkonsolen

MULTI



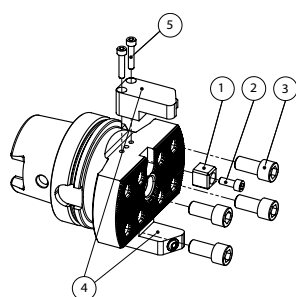
| Part number/<br>Bestell-Nr. | D  | d1  | L  |
|-----------------------------|----|-----|----|
| LD54-CN80-D130-55L          | 80 | 130 | 55 |

• cooling set must be ordered separately 90504.920.028.015

• Kühlmittelset muss separat bestellt werden 90504.920.028.015



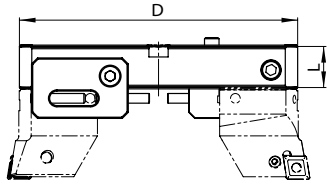
## Spare parts / Accessories Ersatzteile / Zubehör



| For bridge adapter<br>Für Konsole | Part number/<br>Bestell-Nr.       | Part number/<br>Bestell-Nr.                  | Part number/<br>Bestell-Nr.                  |
|-----------------------------------|-----------------------------------|----------------------------------------------|----------------------------------------------|
|                                   | Drive lug/<br>Mitnehmerstein (1)  | Screw/<br>Schraube (2)                       | Fastening screw/<br>Befestigungsschraube (3) |
| 90504.210<br>LD54-CN80            | 90504.810.212.362                 | 90504.811.210.212                            | 90504.812.210.212                            |
| For bridge adapter<br>Für Konsole | Part number/<br>Bestell-Nr.       | Part number/<br>Bestell-Nr.                  |                                              |
|                                   | Cooling set/<br>Kühlmittelset (4) | Fastening screw/<br>Befestigungsschraube (5) |                                              |
| 90504.210<br>LD54-CN80            | 90504.920.028.015                 | 90504.920.029.025                            |                                              |

## Extension bridges ø150-655

### Verlängerungskonsolen ø150-655

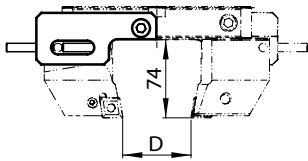


| Part number/<br>Bestell-Nr. | D   | L  | Boring diameter/<br>Ausdrehdurchmesser |
|-----------------------------|-----|----|----------------------------------------|
| 90504.221.130.000           | 130 | 30 | 150 – 205                              |
| 90504.221.180.000           | 180 | 30 | 200 – 255                              |
| 90504.221.230.000           | 230 | 35 | 250 – 305                              |
| 90504.221.280.000           | 280 | 35 | 300 – 355                              |
| 90504.221.330.000           | 330 | 40 | 350 – 405                              |
| 90504.221.380.000           | 380 | 40 | 400 – 455                              |
| 90504.221.430.000           | 430 | 40 | 450 – 505                              |
| 90504.221.480.000           | 480 | 40 | 500 – 555                              |
| 90504.221.530.000           | 530 | 50 | 550 – 605                              |
| 90504.221.580.000           | 580 | 50 | 600 – 655                              |



## Adjustment plate for pin turning

### Einstellplatte zum Überdrehen



| Part number/<br>Bestell-Nr. | For extensions bridge/<br>Für Verlängerungskonsole | D         |
|-----------------------------|----------------------------------------------------|-----------|
| 90504.878.221.000           | 90504.221.180.000                                  | 10 - 65   |
| 90504.878.221.000           | 90504.221.230.000                                  | 60 - 115  |
| 90504.878.221.000           | 90504.221.280.000                                  | 110 - 165 |
| 90504.878.221.000           | 90504.221.330.000                                  | 160 - 215 |
| 90504.878.221.000           | 90504.221.380.000                                  | 210 - 265 |
| 90504.878.221.000           | 90504.221.430.000                                  | 260 - 315 |
| 90504.878.221.000           | 90504.221.480.000                                  | 310 - 365 |
| 90504.878.221.000           | 90504.221.530.000                                  | 360 - 415 |
| 90504.878.221.000           | 90504.221.580.000                                  | 410 - 465 |

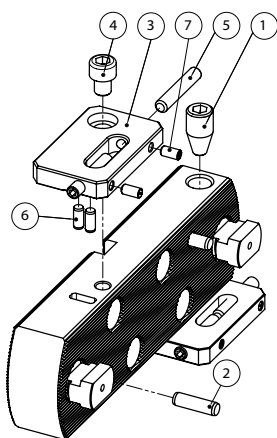


• adjustment plates will be supplied in pairs

• Einstellplatten werden paarweise geliefert

## Spare parts / Accessories

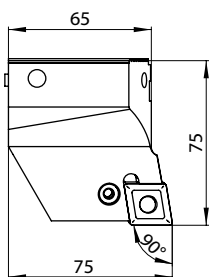
### Ersatzteile / Zubehör



|                                       |                                       |                                           |                                          |                             |
|---------------------------------------|---------------------------------------|-------------------------------------------|------------------------------------------|-----------------------------|
| For extension bridge,<br>Slider /     | Part number/<br>Bestell-Nr.           | Part number/<br>Bestell-Nr.               | Part number/<br>Bestell-Nr.              |                             |
| Für Verlängerungskonsole,<br>Schieber | Clamping screw/<br>Klemmschr. ①       | Pin/<br>Stift ②                           | Tightening screw/<br>Feststellschraube ⑦ |                             |
| 221 / 224                             | 90504. 860.220.000                    | 90504. 864.220.000                        | 90504. 877.221.112                       |                             |
| For extension bridge,<br>Slider/      | Part number/<br>Bestell-Nr.           | Part number/<br>Bestell-Nr.               | Part number/<br>Bestell-Nr.              | Part number/<br>Bestell-Nr. |
| Für Verlängerungskonsole,<br>Schieber | Adjustment plate/<br>Einstellplatte ③ | Screw/<br>Schraube ④                      | Adjustment screw/<br>Einstellschraube ⑤  | Pin/<br>Stift ⑥             |
| 90504.221.130/230.000                 | 90504.877.221.000                     | 90504.877.221.012                         | 90504.877.221.045                        | 90504.877.221.014           |
| 90504.221.180/280-580.000             | 90504.877.221.000                     | 90504.877.221.018                         | 90504.877.221.045                        | 90504.877.221.014           |
| 90504.224.xxx.048                     | 90504.877.221.000                     | 90504.877.221.018                         | 90504.877.221.045                        | 90504.877.221.014           |
| For basis<br>Für Basis                | Part number/<br>Bestell-Nr.           | Part number/<br>Bestell-Nr.               | Part number/<br>Bestell-Nr.              |                             |
|                                       | Centering sleeve/<br>Zentrierbuchse   | Screw w. washer/<br>Schraube m. U-Scheibe | Mat/<br>Unterlage                        |                             |
| 90504.223.060.xxx                     | 90504.878.223.012                     | 90504.878.223.080                         | 90504.878.223.005                        |                             |

## Insert holder 90°

### Wendeplattenhalter 90°



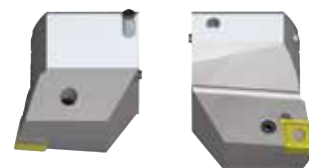
- for use on extension bridges from series 90504.221 and 90504.224

- für die Verwendung auf Verlängerungskonsolen der Serien 90504.221 und 90504.224

| Part number/<br>Bestell-Nr. | Insert/<br>Wendeplatte |
|-----------------------------|------------------------|
| 90504.225.000.009           | CC..09T3..             |
| 90504.225.000.012           | CN..1204..             |
| 90504.225.000.019           | CN..1906..             |

- insert holders will be supplied in pairs

- Wendeplattenhalter werden paarweise geliefert



## Insert holder 90° axial 1.0mm staggered

### Wendeplattenhalter 90° axial zurück gesetzt



- for use on extension bridges from series 90504.221 and 90504.224

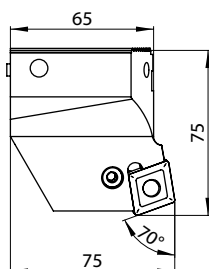
- für die Verwendung auf Verlängerungskonsolen der Serien 90504.221 und 90504.224

| Part number/<br>Bestell-Nr. | Insert/<br>Wendeplatte |
|-----------------------------|------------------------|
| 90504.227.000.009           | CC..09T3..             |
| 90504.227.000.012           | CN..1204..             |
| 90504.227.000.019           | CN..1906..             |



## Insert holder 70°

### Wendeplattenhalter 70°



- for use on extension bridges from series 90504.221 and 90504.224

- für die Verwendung auf Verlängerungskonsolen der Serien 90504.221 und 90504.224

| Part number/<br>Bestell-Nr. | Insert/<br>Wendeplatte |
|-----------------------------|------------------------|
| 90504.229.000.019           | CN..1906..             |

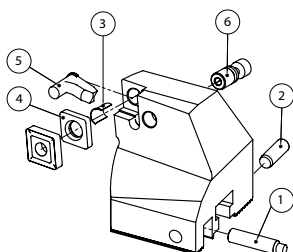
- insert holders will be supplied in pairs

- Wendeplattenhalter werden paarweise geliefert



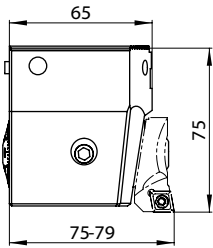
## Spare parts / Accessories

### Ersatzteile / Zubehör



| For insert holder/<br>Für Wendeplattenhalter | Part number/<br>Bestell-Nr.                        | Part number/<br>Bestell-Nr.           | Part number/<br>Bestell-Nr.      | Part number/<br>Bestell-Nr.                        |
|----------------------------------------------|----------------------------------------------------|---------------------------------------|----------------------------------|----------------------------------------------------|
|                                              | Adjustment screw/<br>Einstellschraube <sup>①</sup> | Pin/<br>Stift <sup>②</sup>            | Torx screw/<br>Torx-Schraube     | Torx driver/<br>Torx-Schlüssel                     |
| 90504.225.000.009                            | 90504.865.224.230                                  | 90504.865.225.024                     | 90504.843.009.000<br>(I60M4x8,4) | 90504.842.009.000<br>(WT15P)                       |
| 90504.227.000.009                            |                                                    |                                       |                                  |                                                    |
| 90504.225.000.012                            | 90504.865.224.230                                  | 90504.865.225.024                     |                                  |                                                    |
| 90504.227.000.012                            |                                                    |                                       |                                  |                                                    |
| 90504.225.000.019                            | 90504.865.224.230                                  | 90504.865.225.024                     |                                  |                                                    |
| 90504.227.000.019                            |                                                    |                                       |                                  |                                                    |
| 90504.229.000.019                            | 90504.865.224.230                                  | 90504.865.225.024                     |                                  |                                                    |
| For insert holder/<br>Für Wendeplattenhalter | Part number/<br>Bestell-Nr.                        | Part number/<br>Bestell-Nr.           | Part number/<br>Bestell-Nr.      | Part number/<br>Bestell-Nr.                        |
|                                              | Hollow pin/<br>Rohrstift <sup>③</sup>              | Tip pad/<br>Zwischenlage <sup>④</sup> | Lever/<br>Kniehebel <sup>⑤</sup> | Lever screw/<br>Schraube zu Kniehebel <sup>⑥</sup> |
| 90504.225.000.012                            | 90504.844.012.000                                  | 90504.845.012.000                     | 90504.846.012.000                | 90504.847.012.000                                  |
| 90504.227.000.012                            |                                                    |                                       |                                  |                                                    |
| 90504.225.000.019                            | 90504.844.019.000                                  | 90504.845.019.000                     | 90504.846.019.000                | 90504.847.019.000                                  |
| 90504.227.000.019                            |                                                    |                                       |                                  |                                                    |
| 90504.229.000.019                            | 90504.844.019.000                                  | 90504.845.019.000                     | 90504.846.019.000                | 90504.847.019.000                                  |

## Fine boring head Feinbohrkopf



- for use on extension bridges from series 90504.221 and 90504.224
- diametrical adjustment with maximal reduced reversal backlash
- 0.01mm diametrical adjustment
- für die Verwendung auf Verlängerungskonsolen der Serien 90504.221 und 90504.224
- Durchmessereinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0,01mm im Durchmesser

| Part number/<br>Bestell-Nr. | Insert/<br>Wendeplatte         |
|-----------------------------|--------------------------------|
| 90504.230.000.000           | 90504.254.550.006 (CC..0602..) |
|                             | 90504.254.550.009 (CC..09T3..) |

- insert holder must be ordered separatly
- Wendeplattenhalter müssen separat bestellt werden



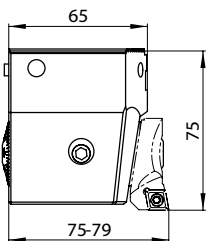
## Fine boring head DIGITAL Feinbohrkopf DIGITAL

- for use on extension bridges from series 90504.221 and 90504.224
- 0.001 accuracy in diameter
- direct measurement system (no backlash)
- no battery and electronic evaluation unit inside the tool
- very easy operation
- for digital and analog use
- für die Verwendung auf Verlängerungskonsolen der Serien 90504.221 und 90504.224
- Einstellgenauigkeit 0.001mm im Durchmesser
- direktes Wegmeßsystem (kein Umkehrspiel)
- keine Batterie und Auswerteelektronik im Werkzeug verbaut
- sehr einfache Bedienung
- digital und analog einsetzbar

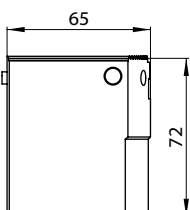


| Bestell-Nr. /<br>Order number | Wendeplattenhalter             |
|-------------------------------|--------------------------------|
| 90504.231.000.000             | 90504.254.550.006 (CC..0602..) |
|                               | 90504.254.550.009 (CC..09T3..) |

- insert holder must be ordered separatly
- Display unit must be ordered separately (90504.266.028.077).
- Wendeplattenhalter müssen separat bestellt werden
- Anzeigeeinheit muss separat bestellt werden (90504.266.028.077).



## Counterweight Gegengewicht

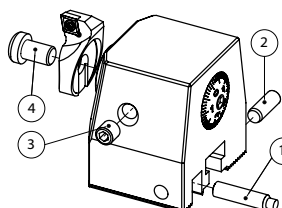


- for use with fine boring head from serie 90504.230/231
- zur Verwendung mit Feinbohrkopf der Serie 90504.230/231

| Part number/<br>Bestell-Nr. |
|-----------------------------|
| 90504.232.000.000           |



## Spare parts / Accessories Ersatzteile / Zubehör



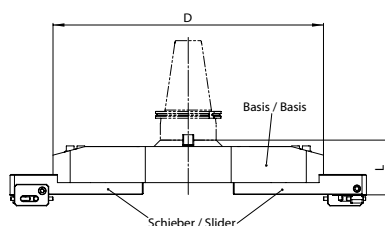
| For fine boring head<br>Für Feinbohrkopf | Part number/<br>Bestell-Nr.             | Part number/<br>Bestell-Nr. | Part number/<br>Bestell-Nr.        | Part number/<br>Bestell-Nr.                 |
|------------------------------------------|-----------------------------------------|-----------------------------|------------------------------------|---------------------------------------------|
|                                          | Adjustment screw/<br>Einstellschraube ① | Pin/<br>Stift ②             | Clamping screw/<br>Klemmschraube ③ | Fastening screw /<br>Befestigungsschraube ④ |
| 90504.230.000.000                        | 90504.865.224.230                       | 90504.865.225.024           | 90504.881.230.000                  | 90504.880.252.550                           |

## Extension bridges ø 650-2205 Verlängerungskonsolen ø 650-2205

- for use on holding arbor ø60 / ø129
- basis made of aluminium
- please get in touch with us for customised solutions
- für die Verwendung auf Aufnahmearbor ø60 / ø129 DIN 6357
- Basis aus Aluminium
- fragen Sie uns an für optimierte Komplettlösungen

| Basis / Basis<br>Part number/<br>Bestell-Nr. | Slider/ Schieber<br>Part number/<br>Bestell-Nr. | D    | L   | Boring diameter/<br>Ausdrehdurchmesser |
|----------------------------------------------|-------------------------------------------------|------|-----|----------------------------------------|
| 90504.223.060.063                            | 90504.224.310.048                               | 630  | 128 | 650 – 1105                             |
| 90504.223.060.108                            | 90504.224.360.048                               | 1080 | 128 | 1100 – 1655                            |
| 90504.223.060.163                            | 90504.224.360.048                               | 1630 | 128 | 1650 – 2205                            |

- sliders must be ordered separately and will be supplied in pairs
- spare parts see page 26
- Schieber müssen separat bestellt werden und werden paarweise geliefert
- Ersatzteile siehe Seite 26





## Cartridges

ISO-cartridges offer an unique flexibility and superior design options, whenever a custom made tool solution is required.

Especially when huge tool diameters are crafted, cartridges should be considered as a "first choice" option, due to their easy handling, which reduces production efforts and therefore tool costs.

An additional benefit is provided by the axial and radial adjustment possibility of the cartridge, which compensates inaccuracies of the tool.

Characteristics:

- standard ISO-inserts can be mounted
- cutting forces are absorbed by the insert seat
- damaged insert seats or belated changes of the tool design can be handled without great effort
- offers an easy adjustment possibility, while cutting inserts are mounted
- low storage costs, unique usability
- guarantees short reaction times and a fast product development, from art to part to profit, due to standard assembly parts which can be replaced at any time.
- radial adjustment through jack screw

## Kurzklemmhalter

ISO-Kurzklemmhalter bieten bei der Gestaltung von kundenspezifischen Werkzeuglösungen ein Höchstmaß an Flexibilität.

Gerade bei großen Werkzeugdurchmessern lassen sich durch den relativ einfachen Einbau der Kurzklemmhalter kostengünstige Trägerwerkzeuge herstellen.

Eventuell auftretende Ungenauigkeiten des Grundkörpers, kann man durch die axiale und radiale Einstellbarkeit der Kurzklemmhalter einfach kompensieren.

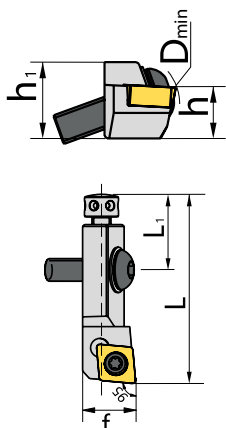
Merkmale:

- Standard ISO-Wendeschneidplatten können verwendet werden
- Optimale Aufnahme der Schnittkräfte im Plattensitz
- Beschädigte Plattensitze oder Änderungen der Einlauffase an Bohrungen sind durch einfaches Austauschen der Kurzklemmhalter jederzeit und ohne großen Aufwand möglich.
- Einfaches Einstellen im gespannten Zustand der Schneidplatte.
- Niedrige Lagerhaltungskosten und universelle Verwendbarkeit.
- Gewährleistet kurze Reaktionszeiten und eine schnelle Umsetzung in neue, wie auch vorhandene Werkzeugkonzepte mittels Standard-Einbauteilen, welche jederzeit flexibel austauschbar sind.
- Radiale Einstellung mittels Abdrückschraube.



## KR= 95° Cartridges/ Kurzklemmhalter

## SCLCR/L



- cartridges for tailor made tools

- Zur Verwendung in Sonderwerkzeugen

| Part number/<br>Bestell-Nr. | Insert<br>WSP | Dimension<br>Abmessung |    |    |                |                |                  |
|-----------------------------|---------------|------------------------|----|----|----------------|----------------|------------------|
|                             |               | h                      | f  | L  | h <sub>1</sub> | L <sub>1</sub> | D <sub>min</sub> |
| SCLCR-10CA-09               | CC..09T3..    | 10                     | 14 | 50 | 15             | 20             | 40               |
| SCLCL-10CA-09               | CC..09T3..    | 10                     | 14 | 50 | 15             | 20             | 40               |
| SCLCR-12CA-12               | CC..1204..    | 12                     | 20 | 55 | 20             | 20             | 50               |
| SCLCL-12CA-12               | CC..1204..    | 12                     | 20 | 55 | 20             | 20             | 50               |

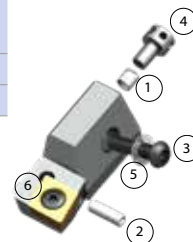


### Spare parts / Accessories

#### Ersatzteile / Zubehör

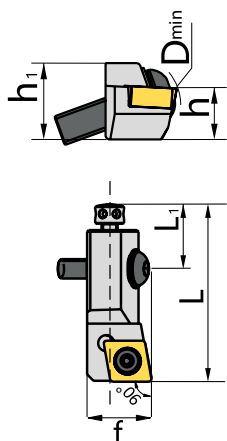
#### SCLCR/L

| Size/<br>Größe | Sleeve/<br>Hülse<br>① | radial<br>adjusting<br>screw/<br>radiale<br>Einstell-<br>schraube<br>② | Wrench/<br>Schlüssel<br>② | Screw/<br>Schraube<br>③ | axial adju-<br>sting<br>screw/<br>axiale<br>Anstell-<br>schraube<br>④ | Wrench/<br>Schlüssel<br>④ | Washer /<br>Unterleg-<br>scheibe<br>⑤ | Screw for<br>Insert/<br>Schraube für<br>WSP ⑥ | Wrench/<br>Schlüssel<br>⑥ |
|----------------|-----------------------|------------------------------------------------------------------------|---------------------------|-------------------------|-----------------------------------------------------------------------|---------------------------|---------------------------------------|-----------------------------------------------|---------------------------|
| 10CA           | LT-M5                 | RSM4x8                                                                 | WH20L                     | M6x20                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M3.5x8                                     | WT15IP                    |
| 12CA           | LT-M5                 | RSM4x12                                                                | WH20L                     | M6x25                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M4x11X                                     | WT15IP                    |



## KR= 90° Cartridges/ Kurzklemmhalter

## SCFCR/L



- cartridges for tailor made tools

- Zur Verwendung in Sonderwerkzeugen

| Part number/<br>Bestell-Nr. | Insert<br>WSP | Dimension<br>Abmessung |    |    |                |                |                  |
|-----------------------------|---------------|------------------------|----|----|----------------|----------------|------------------|
|                             |               | h                      | f  | L  | h <sub>1</sub> | L <sub>1</sub> | D <sub>min</sub> |
| SCFCR-10CA-09               | CC..09T3..    | 10                     | 14 | 50 | 15             | 20             | 40               |
| SCFCL-10CA-09               | CC..09T3..    | 10                     | 14 | 50 | 15             | 20             | 40               |
| SCFCR-12CA-12               | CC..1204..    | 12                     | 20 | 55 | 20             | 20             | 50               |
| SCFCL-12CA-12               | CC..1204..    | 12                     | 20 | 55 | 20             | 20             | 50               |

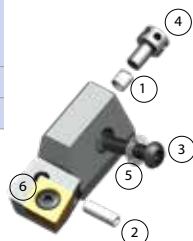


### Spare parts / Accessories

#### Ersatzteile / Zubehör

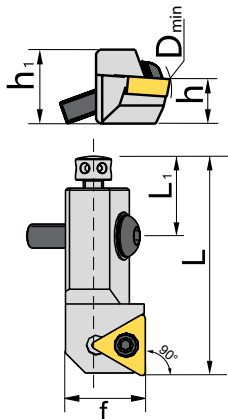
#### SCFCR/L

| Size/<br>Größe | Sleeve/<br>Hülse<br>① | radial<br>adjusting<br>screw/<br>radiale<br>Einstell-<br>schraube<br>② | Wrench/<br>Schlüssel<br>② | Screw/<br>Schraube<br>③ | axial adju-<br>sting<br>screw/<br>axiale<br>Anstell-<br>schraube<br>④ | Wrench/<br>Schlüssel<br>④ | Washer /<br>Unterleg-<br>scheibe<br>⑤ | Screw for<br>Insert/<br>Schraube für<br>WSP ⑥ | Wrench/<br>Schlüssel<br>⑥ |
|----------------|-----------------------|------------------------------------------------------------------------|---------------------------|-------------------------|-----------------------------------------------------------------------|---------------------------|---------------------------------------|-----------------------------------------------|---------------------------|
| 10CA           | LT-M5                 | RSM4x8                                                                 | WH20L                     | M6x20                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M3.5x8                                     | WT15IP                    |
| 12CA           | LT-M5                 | RSM4x12                                                                | WH20L                     | M6x25                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M4x11X                                     | WT15IP                    |



## KR=90° Cartridges/ Kurzklammhalter

## STGCR/L



- cartridges for tailor made tools

- Zur Verwendung in Sonderwerkzeugen

| Part number/<br>Bestell-Nr. | Insert<br>WSP | Dimension<br>Abmessung |    |    |                |                |                  |  |
|-----------------------------|---------------|------------------------|----|----|----------------|----------------|------------------|--|
|                             |               | h                      | f  | L  | h <sub>1</sub> | L <sub>1</sub> | D <sub>min</sub> |  |
| STGCR-10CA-11               | TC..1103..    | 10                     | 14 | 50 | 15             | 20             | 40               |  |
| STGCL-10CA-11               | TC..1103..    | 10                     | 14 | 50 | 15             | 20             | 40               |  |
| STGCR-12CA-16               | TC..16T3..    | 12                     | 20 | 55 | 20             | 20             | 50               |  |
| STGCL-12CA-16               | TC..16T3..    | 12                     | 20 | 55 | 20             | 20             | 50               |  |

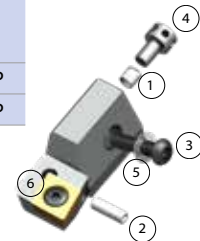


### Spare parts / Accessories

### Ersatzteile / Zubehör

### STGCR/L

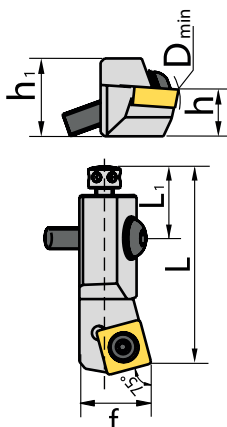
| Size/<br>Größe | Sleeve/<br>Hülse<br>① | radial<br>adjusting<br>screw/<br>radiale<br>Einstell-<br>schraube<br>② | Wrench/<br>Schlüssel<br>② | Screw/<br>Schraube<br>③ | axial adju-<br>sting<br>screw/<br>axiale<br>Anstell-<br>schraube<br>④ | Wrench/<br>Schlüssel<br>④ | Washer /<br>Unterleg-<br>scheibe<br>⑤ | Screw for<br>Insert/<br>Schraube für<br>WSP ⑥ | Wrench/<br>Schlüssel<br>⑥ |
|----------------|-----------------------|------------------------------------------------------------------------|---------------------------|-------------------------|-----------------------------------------------------------------------|---------------------------|---------------------------------------|-----------------------------------------------|---------------------------|
| 10CA           | LT-M5                 | RSM4x8                                                                 | WH20L                     | M6x20                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M3.5x8                                     | WT15IP                    |
| 12CA           | LT-M5                 | RSM4x12                                                                | WH20L                     | M6x25                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M4x11X                                     | WT15IP                    |



Cartridges  
kurzklammhalter

## KR= 75° Cartridges/ Kurzklammhalter

## SSKCR/L



- cartridges for tailor made tools

- Zur Verwendung in Sonderwerkzeugen

| Part number/<br>Bestell-Nr. | Insert<br>WSP | Dimension<br>Abmessung |    |    |                |                |                  |  |
|-----------------------------|---------------|------------------------|----|----|----------------|----------------|------------------|--|
|                             |               | h                      | f  | L  | h <sub>1</sub> | L <sub>1</sub> | D <sub>min</sub> |  |
| SSKCL12CA12                 | SC..1204..    | 12                     | 20 | 55 | 20             | 20             | 50               |  |
| SSKCL16CA12                 | SC..1204..    | 12                     | 20 | 55 | 20             | 20             | 50               |  |
| SSKCR12CA12                 | SC..1204..    | 16                     | 25 | 63 | 21             | 25             | 55               |  |
| SSKCR16CA12                 | SC..1204..    | 16                     | 25 | 63 | 21             | 25             | 55               |  |

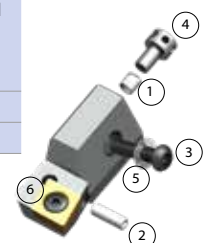


### Spare parts / Accessories

### Ersatzteile / Zubehör

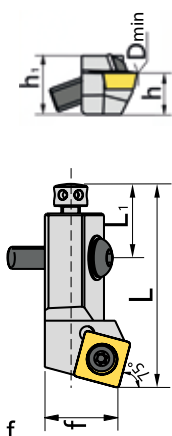
### SSKCR/L

| Size/<br>Größe | Sleeve/<br>Hülse<br>① | radial<br>adjusting<br>screw/<br>radiale<br>Einstell-<br>schraube<br>② | Wrench/<br>Schlüssel<br>② | Screw/<br>Schraube<br>③ | axial adju-<br>sting<br>screw/<br>axiale<br>Anstell-<br>schraube<br>④ | Wrench/<br>Schlüssel<br>④ | Washer /<br>Unterleg-<br>scheibe<br>⑤ | Screw for<br>Insert/<br>Schraube für<br>WSP ⑥ | Wrench/<br>Schlüssel<br>⑥ |
|----------------|-----------------------|------------------------------------------------------------------------|---------------------------|-------------------------|-----------------------------------------------------------------------|---------------------------|---------------------------------------|-----------------------------------------------|---------------------------|
| 12CA           | LT-M5                 | RSM4x12                                                                | WH20L                     | M6x25                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M4x11X                                     | WT15IP                    |
| 16CA           | LT-M6                 | RSM4x12                                                                | WH25L                     | M6x25                   | ASM6x18                                                               | WH50L                     | P-M8                                  | I60M4x11X                                     | WT15IP                    |



## KR= 75° Cartridges/ Kurzklammhalter

## SSRCR/L



- cartridges for tailor made tools

- Zur Verwendung in Sonderwerkzeugen

| Part number/<br>Bestell-Nr. | Insert<br>WSP | Dimension<br>Abmessung |    |    |                |                |                  |
|-----------------------------|---------------|------------------------|----|----|----------------|----------------|------------------|
|                             |               | h                      | f  | L  | h <sub>1</sub> | L <sub>1</sub> | D <sub>min</sub> |
| SSRCR-10CA-09               | SC..09T3..    | 10                     | 14 | 44 | 15             | 20             | 40               |
| SSRCL-10CA-09               | SC..09T3..    | 10                     | 14 | 44 | 15             | 20             | 40               |
| SSRCR-12CA-12               | SC..1204..    | 12                     | 20 | 47 | 20             | 20             | 50               |
| SSRCL-12CA-12               | SC..1204..    | 12                     | 20 | 47 | 20             | 20             | 50               |

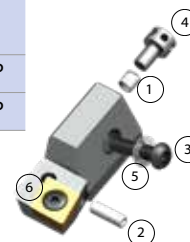


### Spare parts / Accessories

### Ersatzteile / Zubehör

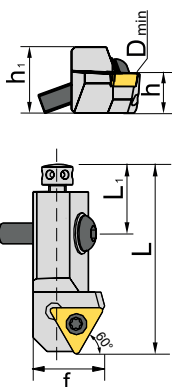
### SSRCR/L

| Size/<br>Größe | Sleeve/<br>Hülse<br>① | radial<br>adjusting<br>screw/<br>radiale<br>Einstell-<br>schraube<br>② | Wrench/<br>Schlüssel<br>② | Screw/<br>Schraube<br>③ | axial adju-<br>sting<br>screw/<br>axiale<br>Anstell-<br>schraube<br>④ | Wrench/<br>Schlüssel<br>④ | Washer /<br>Unterleg-<br>scheibe<br>⑤ | Screw for<br>Insert/<br>Schraube für<br>WSP ⑥ | Wrench/<br>Schlüssel<br>⑥ |
|----------------|-----------------------|------------------------------------------------------------------------|---------------------------|-------------------------|-----------------------------------------------------------------------|---------------------------|---------------------------------------|-----------------------------------------------|---------------------------|
| 10CA           | LT-M5                 | RSM4x8                                                                 | WH20L                     | M6x20                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M3.5x8                                     | WT15IP                    |
| 12CA           | LT-M5                 | RSM4x12                                                                | WH20L                     | M6x25                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M5x13                                      | WT20IP                    |



## KR= 60° Cartridges/ Kurzklammhalter

## STTCR/L



- cartridges for tailor made tools

- Zur Verwendung in Sonderwerkzeugen

| Part number/<br>Bestell-Nr. | Insert<br>WSP | Dimension<br>Abmessung |    |    |                |                |                  |
|-----------------------------|---------------|------------------------|----|----|----------------|----------------|------------------|
|                             |               | h                      | f  | L  | h <sub>1</sub> | L <sub>1</sub> | D <sub>min</sub> |
| STTCR-10CA-11               | TC..1103..    | 10                     | 9  | 50 | 15             | 20             | 40               |
| STTCL-10CA-11               | TC..1103..    | 10                     | 9  | 50 | 15             | 20             | 40               |
| STTCR-12CA-16               | TC..16T3..    | 12                     | 13 | 55 | 20             | 20             | 50               |
| STTCL-12CA-16               | TC..16T3..    | 12                     | 13 | 55 | 20             | 20             | 50               |

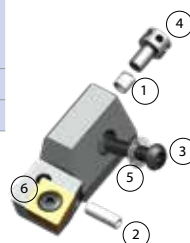


### Spare parts / Accessories

### Ersatzteile / Zubehör

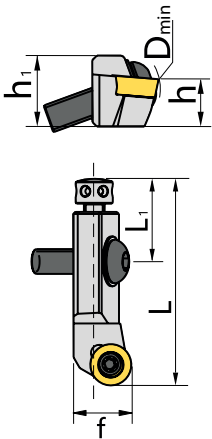
### STTCR/L

| Size/<br>Größe | Sleeve/<br>Hülse<br>① | radial<br>adjusting<br>screw/<br>radiale<br>Einstell-<br>schraube<br>② | Wrench/<br>Schlüssel<br>② | Screw/<br>Schraube<br>③ | axial adju-<br>sting<br>screw/<br>axiale<br>Anstell-<br>schraube<br>④ | Wrench/<br>Schlüssel<br>④ | Washer /<br>Unterleg-<br>scheibe<br>⑤ | Screw for<br>Insert/<br>Schraube für<br>WSP ⑥ | Wrench/<br>Schlüssel<br>⑥ |
|----------------|-----------------------|------------------------------------------------------------------------|---------------------------|-------------------------|-----------------------------------------------------------------------|---------------------------|---------------------------------------|-----------------------------------------------|---------------------------|
| 10CA           | LT-M5                 | RSM4x8                                                                 | WH20L                     | M6x20                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M2,5x6,5                                   | WT07IP                    |
| 12CA           | LT-M5                 | RSM4x12                                                                | WH20L                     | M6x25                   | ASM5x14                                                               | WH40L                     | P-M6                                  | I60M4x8,4                                     | WT20IP                    |



## Round-insert/Rundplatte Cartridges/ Kurzklammhalter

## SRSCR/L



- cartridges for tailor made tools

- Zur Verwendung in Sonderwerkzeugen

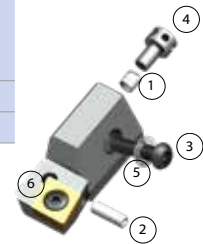
| Part number/<br>Bestell-Nr. | Insert<br>WSP | Dimension<br>Abmessung |    |    |                |                |                  |
|-----------------------------|---------------|------------------------|----|----|----------------|----------------|------------------|
|                             |               | h                      | f  | L  | h <sub>1</sub> | L <sub>1</sub> | D <sub>min</sub> |
| SRSCR-10CA-10               | RC..10T3      | 10                     | 14 | 44 | 15             | 20             | 40               |
| SRSCCL-10CA-10              | RC..10T3      | 10                     | 14 | 44 | 15             | 20             | 40               |
| SRSCR-12CA-12               | RC..1204      | 12                     | 20 | 47 | 20             | 20             | 50               |
| SRSCCL-12CA-12              | RC..1204      | 12                     | 20 | 47 | 20             | 20             | 50               |



### Spare parts / Accessories Ersatzteile / Zubehör

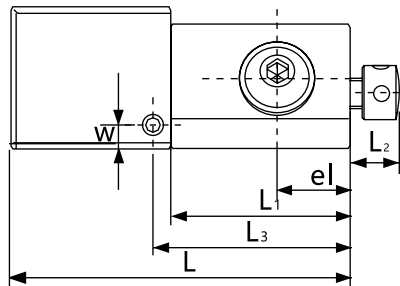
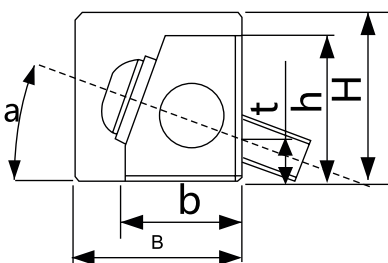
### SRSCR/L

| Size/<br>Größe | Sleeve/<br>Hülse<br>① | radial<br>adjusting<br>screw/<br>radiale<br>Einstell-<br>schraube<br>② | Wrench/<br>Schlüssel<br>② | Screw/<br>Schraube<br>③ | axial<br>adjusting<br>screw/<br>axiale<br>Anstell-<br>schraube<br>④ | Wrench/<br>Schlüssel<br>④ | Washer /<br>Unterleg-<br>scheibe<br>⑤ | Screw for<br>Insert/<br>Schraube für<br>WSP ⑥ | Wrench/<br>Schlüssel<br>⑥ |
|----------------|-----------------------|------------------------------------------------------------------------|---------------------------|-------------------------|---------------------------------------------------------------------|---------------------------|---------------------------------------|-----------------------------------------------|---------------------------|
| 10CA           | LT-M5                 | RSM4x8                                                                 | WH20L                     | M6x20                   | ASM5x14                                                             | WH40L                     | P-M6                                  | I60M3.5x10                                    | WT15IP                    |
| 12CA           | LT-M5                 | RSM4x12                                                                | WH20L                     | M6x25                   | ASM5x14                                                             | WH40L                     | P-M6                                  | I60M3.5x10.4                                  | WT20IP                    |



## Blank/Rohling Cartridges/ Kurzklammhalter

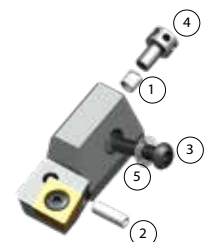
## A-\*\*CA



Schnittstelle der Kassete wird nach ISO5611 konzipiert, Plattensitz kann nach Kundenanforderung individuell angefertigt werden.  
Dieses System bietet dem Kunden Lösungen nach Maß an.

| Part number/<br>Bestell-Nr. | Dimension<br>Abmessung |     |    |    |                |                |                |                |    |     |
|-----------------------------|------------------------|-----|----|----|----------------|----------------|----------------|----------------|----|-----|
|                             | h                      | t   | b  | a  | l <sub>2</sub> | e <sub>1</sub> | L <sub>1</sub> | L <sub>2</sub> | L  | W   |
| A-06CA                      | 8,5                    | 3,5 | 6  | 20 | 4,5            | 12             | 16             | 18             | 25 | 2,2 |
| A-08CA                      | 11                     | 4,5 | 8  | 20 | 6              | 17             | 22             | 24,2           | 32 | 2,5 |
| A-10CA                      | 15                     | 5   | 11 | 20 | 8              | 20             | 35             | 38             | 53 | 3,5 |
| A-12CA                      | 20                     | 6   | 16 | 20 | 8              | 20             | 37             | 40             | 63 | 4   |
| A-16CA                      | 25                     | 0   | 20 | 45 | 8              | 25             | 37             | 48             | 63 | 5   |

| Size/<br>Größe | Sleeve/<br>Hülse<br>① | radial<br>adjusting<br>screw/<br>Radiale<br>Einstell-<br>schraube<br>② | Wrench/<br>Schlüssel<br>② | Screw/<br>Schraube<br>③ | Axial adjusting<br>screw/<br>Axiale Anstell-<br>schraube<br>④ | Wrench/<br>Schlüssel<br>④ | Washer /<br>Unterleg-<br>scheibe<br>⑤ |
|----------------|-----------------------|------------------------------------------------------------------------|---------------------------|-------------------------|---------------------------------------------------------------|---------------------------|---------------------------------------|
| 06CA           | LT-M3                 | RSM3x6                                                                 | WH15L                     | M3.5x10                 | ASM3x9                                                        | WH20L                     | P-M3.5                                |
| 08CA           | LT-M4                 | RSM3x6                                                                 | WH15L                     | M4x14                   | ASM4x12                                                       | WH25L                     | P-M4                                  |
| 10CA           | LT-M5                 | RSM4x8                                                                 | WH20L                     | M6x20                   | ASM5x14                                                       | WH40L                     | P-M6                                  |
| 12CA           | LT-M5                 | RSM4x12                                                                | WH20L                     | M6x25                   | ASM5x14                                                       | WH40L                     | P-M6                                  |
| 16CA           | LT-M6                 | RSM5x16                                                                | WH25L                     | M8x30                   | ASM6x18                                                       | WH50L                     | P-M8                                  |



- **Bigger adjustment cylinder** than other systems → more stable
  - **Expansion of diameter range** by use of different insert holders
  - **Basic balanced**, additional reduction of unbalance by using **balancing rings** without the need for a balancing machine
  - Adjusted **diameter locked in position** because of indirect clamping system
  - **Adjustment precision** is **0.002mm** with the vernier (*Digital Systems 0,001*)
  - Diameter range with **minimum backlash**
  - **Big** and easy to read **vernier**
  - With **internal coolant supply**
- 
- **Größerer Verstellzylinder** als vergleichbare Systeme → stabiler
  - **Vergrößerung des Durchmesserbereichs** durch unterschiedliche Wendeplattenhalter
  - **Grundgewuchtet**, zusätzliche Reduzierung der Unwucht mit **Auswuchtringen** um bis zu 90 % ohne Wuchtmaschine
  - **Durchmesser bleibt** bei einstellen der Klemmschraube dank indirekter Spannung auf **eingestelltem Maß**
  - Durchmesserbereich auf **0,002mm** über den **Nonius** einstellbar (*Digitale Systeme 0,001*)
  - Durchmesserbereich mit **geringstem Umkehrspiel**
  - **Große** gut ablesbare **Skalenschraube**
  - Mit **Innenkühlung**

## Supplier of spindle systems / Anbieter von Spindelsystemen

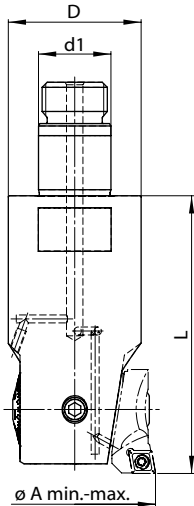
|                                                                                 | ZCC CT | KAISER | Wohl-haupter | Seco Tools | KOMET  | Urma   | D'ANDREA |
|---------------------------------------------------------------------------------|--------|--------|--------------|------------|--------|--------|----------|
| Ø –range in mm<br>Ø-Bereich in mm                                               | 24-171 | 20-203 | 29-205       | 15-205     | 29-199 | 20-153 | 18-160   |
| Number of heads to machine Ø-range/<br>Anzahl Köpfe, um Ø-Bereich zu bearbeiten | 7      | 7      | 9            | 9          | 15     | 8      | 8        |





## Fine boring heads Feinbohrköpfe

- diametrical adjustment with minimum-reversal backlash
- 0.01mm diametrical adjustment 0.002mm by vernier
- with internal coolant supply
- DurchmesserEinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0.01mm resp. über Nonius 0.002mm im Durchmesser
- mit Innenkühlung



| Part number/<br>Bestell-Nr. | D  | d1 | ø A<br>min. | ø A<br>max. | L   | SW | Insert holder /<br>Wendeplattenhalter                                                                                                                                                                            |
|-----------------------------|----|----|-------------|-------------|-----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 90504.250.200.000           | 20 | 11 | 23.9        | 31.1        | 40  | 17 | <b>90504.254.200.006* (CC..0602..)</b><br>90504.254.205.006 (CC..0602..)<br>90504.254.201.006 (CC..0602..)                                                                                                       |
| 90504.250.250.000           | 25 | 14 | 30.9        | 40.1        | 50  | 22 | <b>90504.254.250.006* (CC..0602..)</b><br>90504.254.255.006 (CC..0602..)<br>90504.254.251.006 (CC..0602..)                                                                                                       |
| 90504.250.320.000           | 32 | 18 | 39.9        | 51.1        | 65  | 27 | <b>90504.254.320.006* (CC..0602..)</b><br>90504.254.325.006 (CC..0602..)<br>90504.254.321.006 (CC..0602..)                                                                                                       |
| 90504.250.420.000           | 42 | 24 | 50.9        | 67.1        | 90  | 36 | <b>90504.254.420.006* (CC..0602..)</b><br>90504.254.425.006 (CC..0602..)<br>90504.254.421.006 (CC..0602..)                                                                                                       |
| 90504.250.550.000           | 55 | 30 | 66.9        | 87.1        | 115 | 46 | <b>90504.254.550.009* (CC..09T3..)</b><br>90504.254.555.009 (CC..09T3..)<br>90504.254.550.006 (CC..09T3..)<br>90504.254.551.006/9 (CC..0602../CC..09T3..)                                                        |
| 90504.250.720.000           | 72 | 40 | 86.9        | 116.1       | 75  | 60 | <b>90504.254.550.009* (CC..09T3..)</b><br>90504.254.555.009 (CC..09T3..)<br>90504.254.550.006 (CC..09T3..)<br>90504.254.551.006/9 (CC..0602../CC..09T3..)                                                        |
| 90504.250.940.000           | 94 | 50 | 115.9       | 153.1       | 99  | 75 | <b>90504.254.550.009* (CC..09T3..)</b><br>90504.254.555.009 (CC..09T3..)<br>90504.254.550.006 (CC..09T3..)<br>90504.254.551.006 (CC..09T3..)<br>90504.254.551.009 (CC..09T3..)<br>90504.254.263.009 (CC..09T3..) |

\* The highlighted articles meet high end stability needs.  
Insert holders must be ordered separately.

\* Die fettgedruckten Nummern sind für eine optimale Stabilität zu bevorzugen.  
Wendeplattenhalter müssen separat bestellt werden



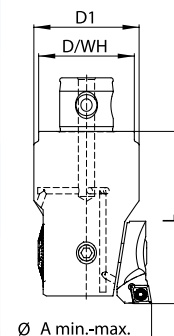
Fine boring heads  
Feinschlichtköpfe

# Fine boring heads Feinschlichtköpfe

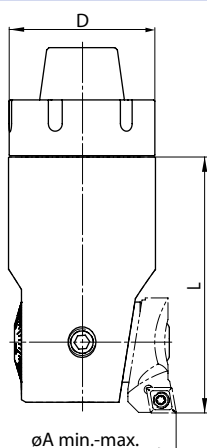
## Boring heads Einschneiderköpfe



| Part number/<br>Bestell-Nr.                     | D             | d1 | Ø A<br>min. | Ø A<br>max. | L   | Insert holder w/<br>Wendeplattenhalter                                                                                                                                                                    |
|-------------------------------------------------|---------------|----|-------------|-------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FB04-CN20-2437-45L<br>FBD06-CN20-2437-45L       | 20<br>DIGITAL | 20 | 23.9        | 31.1        | 45  | 90504.254.200.006* (CC..0602..)<br>90504.254.205.006 (CC..0602..)<br>90504.254.201.006 (CC..0602..)                                                                                                       |
| FB04-CN25-3147-56L<br>FBD06-CN25-3147-56L       | 25<br>DIGITAL | 25 | 30.9        | 40.1        | 56  | 90504.254.250.006* (CC..0602..)<br>90504.254.255.006 (CC..0602..)<br>90504.254.251.006 (CC..0602..)                                                                                                       |
| FB04-CN32-4059-66L<br>FBD06-CN32-4059-66L       | 32<br>DIGITAL | 32 | 39.9        | 51.1        | 66  | 90504.254.320.006* (CC..0602..)<br>90504.254.325.006 (CC..0602..)<br>90504.254.321.006 (CC..0602..)                                                                                                       |
| FB04-CN40-5181-75L<br>FBD06-CN40-5181-75L       | 40<br>DIGITAL | 42 | 50.9        | 67.1        | 75  | 90504.254.420.006* (CC..0602..)<br>90504.254.425.006 (CC..0602..)<br>90504.254.421.006 (CC..0602..)                                                                                                       |
| FB04-CN50-67105-90L<br>FBD06-CN50-67105-90L     | 50<br>DIGITAL | 55 | 66.9        | 87.1        | 90  | 90504.254.550.009* (CC..09T3..)<br>90504.254.555.009 (CC..09T3..)<br>90504.254.550.006 (CC..09T3..)<br>90504.254.551.006/9 (CC..0602../CC..09T3..)                                                        |
| FB04-CN63-87134-110L<br>FBD06-CN63-87134-110L   | 63<br>DIGITAL | 72 | 86.9        | 116.1       | 110 | 90504.254.550.009* (CC..09T3..)<br>90504.254.555.009 (CC..09T3..)<br>90504.254.550.006 (CC..09T3..)<br>90504.254.551.006/9 (CC..0602../CC..09T3..)                                                        |
| FB04-CN80-116171-140L<br>FBD06-CN80-116171-140L | 80<br>DIGITAL | 94 | 115.9       | 153.1       | 140 | 90504.254.550.009* (CC..09T3..)<br>90504.254.555.009 (CC..09T3..)<br>90504.254.550.006 (CC..09T3..)<br>90504.254.551.006 (CC..09T3..)<br>90504.254.551.009 (CC..09T3..)<br>90504.254.263.009 (CC..09T3..) |



## Fine boring heads Feinbohrköpfe



| Bestell-Nr./<br>Order number | Ø D/<br>System | Ø A<br>min. | Ø A<br>max. | L  | Insert holder/<br>Wendeplattenhalter                                                                                                                                        |
|------------------------------|----------------|-------------|-------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 90504.251.320.000            | 32 / ER25      | 39.9        | 51.1        | 65 | 90504. 254.320.006 (CC..0602..)<br>90504. 254.320.006 (CC..0602..)<br>90504. 254.321.006 (CC..0602..)                                                                       |
| 90504.251.420.000            | 42 / ER32      | 50.9        | 67.1        | 75 | 90504. 254.420.006 (CC..0602..)<br>90504. 254.425.006 (CC..0602..)<br>90504. 254.421.006 (CC..0602..)                                                                       |
| 90504.251.550.000            | 55 / ER40      | 66.9        | 87.1        | 85 | 90504. 254.550.006 (CC..0602..)<br>90504. 254.550.009 (CC..09T3..)<br>90504. 254.555.009 (CC..09T3..)<br>90504. 254.551.006 (CC..0602..)<br>90504. 254.551.009 (CC..09T3..) |

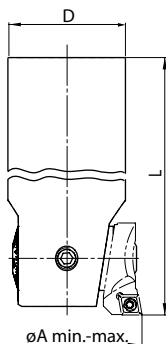


• insert holder must be ordered separately

• Wendeplattenhalter müssen separat bestellt werden



## Fine boring heads Feinbohrköpfe



- diameter setting with minimal reversal backlash
- 0.01mm diametrical adjustment resp. 0.002mm by nonius
- with inner coolant supply

- DurchmesserEinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0.01mm resp. über Nonius 0.002mm im Durchmesser
- mit Innenkühlung

| Part number/<br>Bestell-Nr. | Ø D/<br>System | Ø A<br>min. | Ø A<br>max. | L   | Insert holder /<br>Wendeplattenhalter |
|-----------------------------|----------------|-------------|-------------|-----|---------------------------------------|
| 90504.252.200.000           | 20             | 23.9        | 31.1        | 150 | 90504.254.200.006 (CC..0602..)        |
|                             |                |             |             |     | 90504.254.205.006 (CC..0602..)        |
|                             |                | 29.9        | 37.1        |     | 90504.254.201.006 (CC..0602..)        |
| 90504.252.250.000           | 25             | 30.9        | 40.1        | 170 | 90504.254.250.006 (CC..0602..)        |
|                             |                |             |             |     | 90504.254.255.006 (CC..0602..)        |
|                             |                | 37.9        | 47.1        |     | 90504.254.251.006 (CC..0602..)        |

- clamp tool in a collet or hydraulic chuck.
- insert holders must be ordered separately

- Werkzeug in einem Spannzangen- oder Hydrodehnfutter spannen.
- Wendeplattenhalter müssen separat bestellt werden



Fine boring heads  
Feinschlichtköpfe

## Fine boring heads with thread connection Feinbohrköpfe zum Einschrauben



- diametrical adjustment nearly with-out reversal backlash
- 0.002mm diametrical adjustment by nonius
- with inner coolant supply

- DurchmesserEinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0.002mm über Nonius im Durchmesser
- mit Innenkühlung

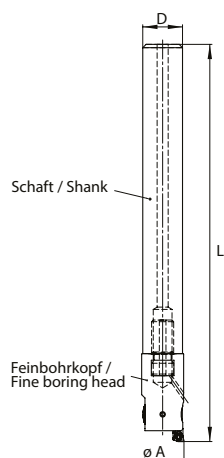
| Bestell-Nr. /<br>Order number | ø A<br>min. | ø A<br>max. | d  | L  | M   | Insert holder /<br>Wendeplattenhalter |
|-------------------------------|-------------|-------------|----|----|-----|---------------------------------------|
| 90504.281.200.000             | 23.9        | 31.1        | 20 | 41 | M12 | 90504.254.200.006 (CC..0602..)        |
|                               |             |             |    |    |     | 90504.254.205.006 (CC..0602..)        |
|                               | 29.9        | 37.1        |    |    |     | 90504.254.201.006 (CC..0602..)        |
| 90504.281.250.000             | 30.9        | 40.1        | 25 | 45 | M16 | 90504.254.250.006 (CC..0602..)        |
|                               |             |             |    |    |     | 90504.254.255.006 (CC..0602..)        |
|                               | 37.9        | 47.1        |    |    |     | 90504.254.251.006 (CC..0602..)        |
| 90504.281.320.000             | 39.9        | 51.1        | 32 | 51 | M16 | 90504.254.320.006 (CC..0602..)        |
|                               |             |             |    |    |     | 90504.254.325.006 (CC..0602..)        |
|                               | 47.9        | 59.1        |    |    |     | 90504.254.321.006 (CC..0602..)        |

- Wendeplattenhalter müssen separat bestellt werden

- insert holders must be ordered separately

Damped solid carbide shanks Article **90504.276** is on page 16  
Schwingungsgedämpfte VHM- Schaft Artikel **90504.276** finden Sie auf Seite 16

## High-Speed fine boring heads High-Speed Feinbohrköpfe



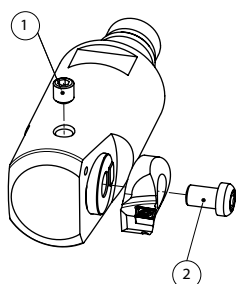
- with solid carbide shank
- diametrical adjustment with maximal reduced reversal backlash
- 0.01mm diametrical adjustment 0.002mm by vernier
- with internal coolant supply
- mit Hartmetallschaft
- Durchmessereinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0,01mm resp. über Nonius 0,002mm im Durchmesser
- mit Innenkühlung

| Fine boring head/<br>Feinbohrkopf | HS-shank/<br>HS-Schaft | D  | ø A<br>min. | ø A<br>max. | L   | Insert holder /<br>Wendeplattenhalter |
|-----------------------------------|------------------------|----|-------------|-------------|-----|---------------------------------------|
| 90504.280.200.000                 | 90504.276.020.010      | 20 | 23.9        | 31.1        | 250 | 90504.254.200.006 (CC..0602..)        |
|                                   |                        |    | 29.9        | 37.1        |     | 90504.254.205.006 (CC..0602..)        |
|                                   |                        |    |             |             |     | 90504.254.201.006 (CC..0602..)        |
| 90504.280.250.000                 | 90504.276.025.012      | 25 | 30.9        | 40.1        | 306 | 90504.254.250.006 (CC..0602..)        |
|                                   |                        |    |             |             |     | 90504.254.255.006 (CC..0602..)        |
|                                   |                        |    | 37.9        | 47.1        |     | 90504.254.251.006 (CC..0602..)        |
| 90504.280.320.000                 | 90504.276.032.016      | 32 | 39.9        | 51.1        | 380 | 90504.254.320.006 (CC..0602..)        |
|                                   |                        |    |             |             |     | 90504.254.325.006 (CC..0602..)        |
|                                   |                        |    | 47.9        | 59.1        |     | 90504.254.321.006 (CC..0602..)        |

- fine boring head, shank and insert holder must be ordered separately
- Feinbohrkopf, Schaft und Wendeplattenhalter müssen separat bestellt werden



## Spare parts / Accessories Ersatzteile / Zubehör



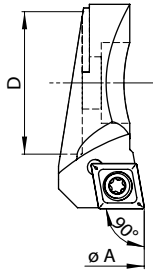
| For fine boring head Für Feinbohrkopf   | Part number/<br>Bestell-Nr.          | Part number/<br>Bestell-Nr.                  |
|-----------------------------------------|--------------------------------------|----------------------------------------------|
|                                         | (1) Clamping screw/<br>Klemmschraube | (2) Fastening screw/<br>Befestigungsschraube |
| 90504.250/252/280/281/200.000/FB04-CN20 | 90504.881.252.200                    | 90504.880.252.200                            |
| 90504.250/252/280/281/250.000/FB04-CN25 | 90504.881.252.250                    | 90504.880.252.250                            |
| 90504.250/251/280/281/320.000/FB04-CN32 | 90504.881.252.320                    | 90504.880.252.320                            |
| 90504.250/251/420.000/FB04-CN40         | 90504.881.252.420                    | 90504.880.252.420                            |
| 90504.250/251/550.000/FB04-CN50         | 90504.881.252.550                    | 90504.880.252.550                            |
| 90504.250.720.000/FB04-CN63             | 90504.881.252.720                    | 90504.880.252.550                            |
| 90504.250.940.000/FB04-CN80             | 90504.881.252.940                    | 90504.880.252.550                            |

## Insert holder 90°

### Wendeplattenhalter 90°

• for use in fine boring heads from  
serie 90504.230/250/251/252/280/281/FB04

• für die Verwendung in Feinbohrköpfen der Serie  
90504.230/250/251/252/280/281/FB04



| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | D  | Insert /<br>Wendeplatte | fine boring head/<br>Feinbohrkopf       |
|-----------------------------|-------------|-------------|----|-------------------------|-----------------------------------------|
| <b>90504.254.200.006*</b>   | 23.9        | 31.1        | 11 | CC..0602..              | 90504.250/252/280/281/200.000/FB04-CN20 |
| 90504.254.201.006           | 29.9        | 37.1        | 11 | CC..0602..              | 90504.250/252/280/281/200.000/FB04-CN20 |
| <b>90504.254.250.006*</b>   | 30.9        | 40.1        | 13 | CC..0602..              | 90504.250/252/280/281/250.000/FB04-CN25 |
| 90504.254.251.006           | 37.9        | 47.1        | 13 | CC..0602..              | 90504.250/252/280/281/250.000/FB04-CN25 |
| <b>90504.254.320.006*</b>   | 39.9        | 51.1        | 17 | CC..0602..              | 90504.250/252/280/281/320.000/FB04-CN32 |
| 90504.254.321.006           | 47.9        | 59.1        | 17 | CC..0602..              | 90504.250/252/280/281/320.000/FB04-CN32 |
| <b>90504.254.420.006*</b>   | 50.9        | 67.1        | 22 | CC..0602..              | 90504.250/251/420.000/FB04-CN40         |
| 90504.254.421.006           | 64.9        | 81.1        | 22 | CC..0602..              | 90504.250/251/420.000/FB04-CN40         |
| 90504.254.550.006           | 66.9        | 87.1        | 30 | CC..0602..              | 90504.250/251/550.000/FB04-CN50         |
| <b>90504.254.550.009*</b>   | 66.9        | 87.1        | 30 | CC..09T3..              | 90504.250/251/550.000/FB04-CN50         |
| 90504.254.551.006           | 84.9        | 105.1       | 30 | CC..0602..              | 90504.250/251/550.000/FB04-CN50         |
| 90504.254.551.009           | 84.9        | 105.1       | 30 | CC..09T3..              | 90504.250/251/550.000/FB04-CN50         |
| 90504.254.550.006           | 86.9        | 116.1       | 30 | CC..0602..              | 90504.250.720.000/FB04-CN63             |
| <b>90504.254.550.009*</b>   | 86.9        | 116.1       | 30 | CC..09T3..              | 90504.250.720.000/FB04-CN63             |
| 90504.254.551.006           | 104.9       | 134.1       | 30 | CC..0602..              | 90504.250.720.000/FB04-CN63             |
| 90504.254.551.009           | 104.9       | 134.1       | 30 | CC..09T3..              | 90504.250.720.000/FB04-CN63             |
| 90504.254.550.006           | 115.9       | 153.1       | 30 | CC..0602..              | 90504.250.940.000/FB04-CN90             |
| <b>90504.254.550.009*</b>   | 115.9       | 153.1       | 30 | CC..09T3..              | 90504.250.940.000/FB04-CN90             |
| 90504.254.551.006           | 133.9       | 171.1       | 30 | CC..0602..              | 90504.250.940.000/FB04-CN90             |
| 90504.254.551.009           | 133.9       | 171.1       | 30 | CC..09T3..              | 90504.250.940.000/FB04-CN90             |
| 90504.254.263.009           | 153.9       | 191.1       | 30 | CC..09T3..              | 90504.250.940.000/FB04-CN90             |

\* The highlighted articles meet high end stability needs.

\* Die fettgedruckten Nummern sind für eine optimale Stabilität zu bevorzugen.



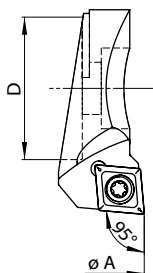
Fine boring heads  
Feinschlichtköpfe

## Insert holder 95°

### Wendeplattenhalter 95°

• for use in fine boring heads from  
serie 90504.230/250/251/252/280/281/FB04

• für die Verwendung in Feinbohrköpfen der  
Serie 90504.230/250/251/252/280/281/FB04



| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | D  | Insert/<br>Wendeplatte | fine boring head/<br>Feinbohrkopf       |
|-----------------------------|-------------|-------------|----|------------------------|-----------------------------------------|
| 90504.254.205.006           | 23.9        | 31.1        | 11 | CC..0602..             | 90504.250/252/280/281/200.000/FB04-CN20 |
| 90504.254.255.006           | 30.9        | 40.1        | 13 | CC..0602..             | 90504.250/252/280/281/250.000/FB04-CN25 |
| 90504.254.325.006           | 39.9        | 51.1        | 17 | CC..0602..             | 90504.250/252/280/281/320.000/FB04-CN32 |
| 90504.254.425.006           | 50.9        | 67.1        | 22 | CC..0602..             | 90504.250/251/420.000/FB04-CN40         |
| 90504.254.555.009           | 66.9        | 87.1        | 30 | CC..09T3..             | 90504.250/251/550.000/FB04-CN50         |
| 90504.254.555.009           | 86.9        | 116.1       | 30 | CC..09T3..             | 90504.250.720.000/FB04-CN63             |
| 90504.254.555.009           | 115.9       | 153.1       | 30 | CC..09T3..             | 90504.250.940.000/FB04-CN90             |



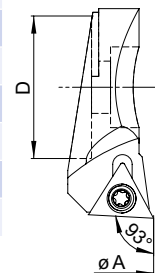
## Insert holder 93°

### Wendeplattenhalter 93°

• for use in fine boring heads from  
serie 90504.230/250/251/252/280/281/RB04

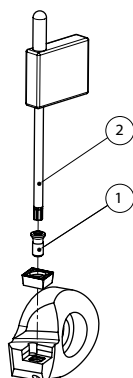
• für die Verwendung in Feinbohrköpfen der Serie  
90504.230/250/251/252/280/281/RB04

| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | D  | Insert/<br>Wendeplatte | fine boring head/<br>Feinbohrkopf        |
|-----------------------------|-------------|-------------|----|------------------------|------------------------------------------|
| 90504.254.250.T09           | 30.9        | 40.1        | 13 | TP0902..               | 90504.250/252/280/281/250.000/FB04-CN25  |
| 90504.254.320.T09           | 39.9        | 51.1        | 17 | TP0902..               | 90504.250/252/280/281/320.000/FB04-CN32  |
| 90504.254.420.T11           | 50.9        | 67.1        | 22 | TP1103..               | 90504.250/252/280/281/420.000/FB04-CN40  |
| 90504.254.550.T11           | 66.9        | 87.1        | 30 | TP1103..               | 90504.250/252/280/281/550.000/FB04-CN50  |
| 90504.254.550.T11           | 86.9        | 116.1       | 30 | TP1103..               | 90504.250/252/280/281/720.000//FB04-CN63 |
| 90504.254.550.T11           | 115.9       | 153.1       | 30 | TP1103..               | 90504.250/252/280/281/940.000/FB04-CN80  |
| 90504.254.551.T11           | 84.9        | 105.1       | 30 | TP1103..               | 90504.250/252/280/281/550.000/FB04-CN50  |
| 90504.254.551.T11           | 104.9       | 134.1       | 30 | TP1103..               | 90504.250/252/280/281/720.000/FB04-CN63  |
| 90504.254.551.T11           | 133.9       | 171.1       | 30 | TP1103..               | 90504.250/252/280/281/940.000/FB04-CN80  |



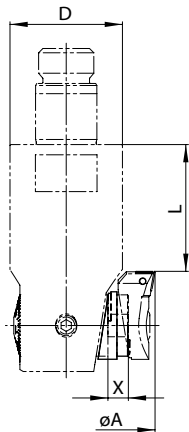
## Spare parts / Accessories

### Ersatzteile / Zubehör



| For insert holder/ Für<br>Wendeplattenhalter | Part number/<br>Bestell-Nr.        | Part number/<br>Bestell-Nr.      |
|----------------------------------------------|------------------------------------|----------------------------------|
|                                              | Torx screw/<br>Torx-Schraube ①     | Torx driver/<br>Torx-Schlüssel ② |
| 90504.254.xxx.TP09                           | I60M2,5x6,5                        | WT07IP                           |
| 90504.254.xxx.TP11                           | I60M3x7                            | WT07IP                           |
| 90504.254.xxx.006                            | 90504.843.006.000<br>(I60M2,5x6,5) | 90504.842.006.000<br>(WT07P)     |
| 90504.254.xxx.009                            | 90504.843.009.000<br>(I60M4x8,4)   | 90504.842.009.000<br>(WT15P)     |

## Reversal adapter for reverse machining Umkehradapter für Rückwärtsbearbeitung



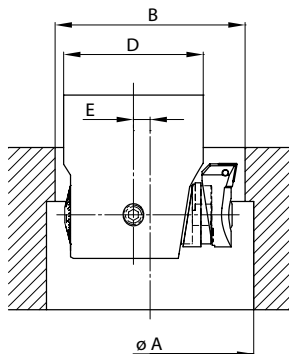
- for use in fine boring heads from serie 90504.250
- the insert holders from serie 90504.254 will be fitted backwards on the adapter
- für die Verwendung in Feinbohrköpfen der Serie 90504.250
- damit können die Wendepplattenhalter der Serie 90504.254 rückwärts montiert werden

| Part number/<br>Bestell-Nr. | ø A<br>min. | ø A<br>max. | D  | L    | X    | fine boring head/<br>Feinbohrkopf |
|-----------------------------|-------------|-------------|----|------|------|-----------------------------------|
| 90504.255.200.001           | 37          | 44          | 20 | 13.0 | 6.5  | 90504.250.200.000/FB04-CN20       |
| 90504.255.200.002           | 40          | 51          | 20 | 13.0 | 8.0  | 90504.250.200.000/FB04-CN20       |
| 90504.255.250.001           | 44          | 53          | 25 | 17.6 | 6.5  | 90504.250.250.000/FB04-CN25       |
| 90504.255.250.002           | 51          | 60          | 25 | 17.6 | 10.0 | 90504.250.250.000/FB04-CN25       |
| 90504.255.320.001           | 53          | 64          | 32 | 31.3 | 6.5  | 90504.250.320.000/FB04-CN32       |
| 90504.255.320.002           | 60          | 71          | 32 | 31.3 | 10.0 | 90504.250.320.000/FB04-CN32       |
| 90504.255.420.001           | 64          | 80          | 42 | 49.2 | 6.5  | 90504.250.420.000/FB04-CN40       |
| 90504.255.420.002           | 75          | 91          | 42 | 49.2 | 12.0 | 90504.250.420.000/FB04-CN40       |
| 90504.255.550.000           | 87          | 107         | 55 | 62.0 | 10.0 | 90504.250.550.000/FB04-CN50       |
| 90504.255.550.000           | 107         | 136         | 72 | 22.0 | 10.0 | 90504.250.720.000/FB04-CN63       |
| 90504.255.550.000           | 136         | 173         | 94 | 46.0 | 10.0 | 90504.250.940.000/FB04-CN80       |



- fastening screws will be delivered with adapters
- **Caution: counterclockwise rotation**
- Befestigungsschrauben werden mitgeliefert
- **Achtung: Linkslauf**

### Enter into the bore/ Einfahren in die Bohrung



minimum entry bore diameter

$$B = \frac{D + A}{2} - 1^*$$

- minimum off centre to enter into the bore

$$E = \frac{A - B}{2} + 0.5^*$$

\*safety distance

- Minstdurchmesser der Eintrittsbohrung

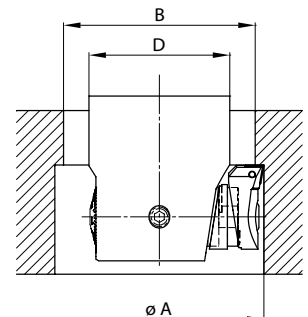
$$B = \frac{D + A}{2} - 1^*$$

- Mindestversatz zum Einfahren

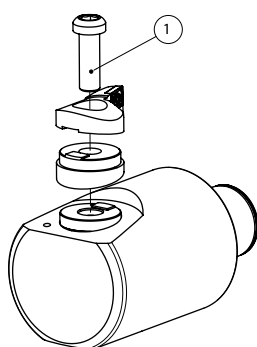
$$E = \frac{A - B}{2} + 0.5^*$$

\*Sicherheitsabstand

### Back boring Rückwärtsbearbeitung



## Spare parts / Accessories Ersatzteile / Zubehör

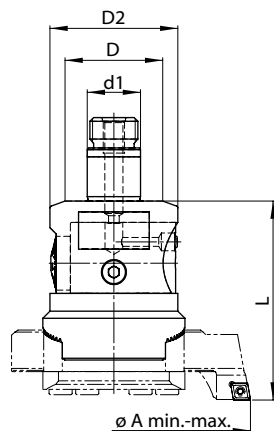


| For reversal adapter/<br>Für Umkehradapter | Part number/<br>Bestell-Nr.              | ① |
|--------------------------------------------|------------------------------------------|---|
|                                            | Fastening screw/<br>Befestigungsschraube |   |
| 90504.255.200.001                          | 90504.880.252.201                        |   |
| 90504.255.200.002                          | 90504.880.252.202                        |   |
| 90504.255.250.001                          | 90504.880.252.251                        |   |
| 90504.255.250.002                          | 90504.880.252.252                        |   |
| 90504.255.320.001                          | 90504.880.252.321                        |   |
| 90504.255.320.002                          | 90504.880.252.322                        |   |
| 90504.255.420.001                          | 90504.880.252.421                        |   |
| 90504.255.420.002                          | 90504.880.252.422                        |   |
| 90504.255.550.000                          | 90504.880.252.551                        |   |

## Fine boring head ø86-402

### Feinbohrkopf ø86-402

CAD



- diametrical adjustment with minimum reduced reversal backlash
- 0.01mm diametrical adjustment
- with internal coolant supply

- Durchmessereinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0,01mm im Durchmesser
- mit Innenkühlung

| Part number/<br>Bestell-Nr. | D  | d1 | D2 | ø A<br>min. | ø A<br>max. | L   | SW /<br>AF |
|-----------------------------|----|----|----|-------------|-------------|-----|------------|
| 90504.257.550.000           | 55 | 30 | 72 | 86          | 402         | 112 | 60         |

insert holders from serie 90504.259 must be ordered separately

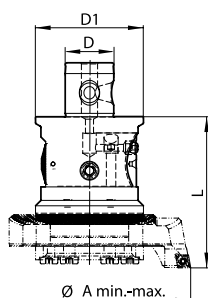
Wendeplattenhalter der Serie 90504.259 müssen separat bestellt werden



## Fine boring head ø86-402

### Feinbohrkopf ø86-402

MULTI



- diametrical adjustment with minimum reduced reversal backlash
- 0.01mm diametrical adjustment
- with internal coolant supply

- Durchmessereinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0,01mm im Durchmesser
- mit Innenkühlung

| Part number/<br>Bestell-Nr. | D  | d1 | ø A<br>min. | ø A<br>max. | L   |
|-----------------------------|----|----|-------------|-------------|-----|
| FB44-CN80-86402-112L        | 36 | 80 | 86          | 402         | 112 |

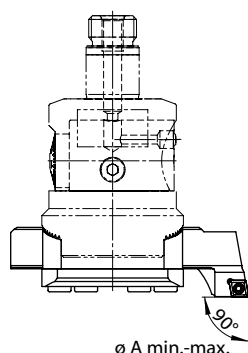
insert holders from serie 90504.259 must be ordered separately

Wendeplattenhalter der Serie 90504.259 müssen separat bestellt werden



## Insert holders with clamp plate and support block

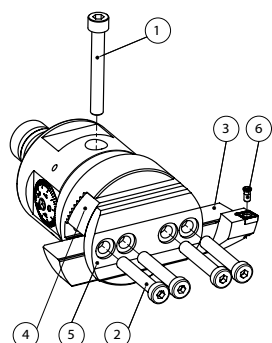
### Wendeplattenhalter inkl. Druckplatte und Abstützung



| Part number/<br>Bestell-Nr. | ø A min. | ø A max. | Insert/<br>Wendeplatte |
|-----------------------------|----------|----------|------------------------|
| 90504.259.550.109           | 86       | 138      | CC..09T3..             |
| 90504.259.550.209           | 136      | 220      | CC..09T3..             |
| 90504.259.550.309           | 188      | 302      | CC..09T3..             |
| 90504.259.550.409           | 242      | 402      | CC..09T3..             |



## Spare parts / Accessories Ersatzteile / Zubehör



| For fine boring head/<br>Für Feinbohrkopf | Part number/<br>Bestell-Nr.        | Part number/<br>Bestell-Nr.                |
|-------------------------------------------|------------------------------------|--------------------------------------------|
|                                           | Clamping screw/<br>Klemmschraube ① | Fastening screw/<br>Befestigungsschraube ② |
| FB44-CN80                                 | 90504.850.256.550                  | 90504.850.144.550                          |
| 90504.257.550.000                         |                                    |                                            |

| For insert holder<br>set        | Part number/<br>Bestell-Nr.             | Part number/<br>Bestell-Nr.    | Part number/<br>Bestell-Nr.   | Part number/<br>Bestell-Nr.      | Part number/<br>Bestell-Nr.    |
|---------------------------------|-----------------------------------------|--------------------------------|-------------------------------|----------------------------------|--------------------------------|
| Für Wendeplat-<br>tenhaltersatz | Insert holder/Wen-<br>deplattenhalter ③ | Support block/<br>Abstützung ④ | Clamp plate/<br>Druckplatte ⑤ | Torx screw/<br>Torx-Schraube ⑥   | Torx driver/<br>Torx-Schlüssel |
| 90504.259.550.109               | 90504.190.550.109                       | 90504.885.190.109              | 90504.884.190.109             | 90504.843.009.000<br>(I60M4x8,4) | 90504.842.009.000<br>(WT15P)   |
| 90504.259.550.209               | 90504.190.550.209                       | 90504.885.190.209              | 90504.884.190.209             | 90504.843.009.000<br>(I60M4x8,4) | 90504.842.009.000<br>(WT15P)   |
| 90504.259.550.309               | 90504.190.550.309                       | 90504.885.190.209              | 90504.884.190.209             | 90504.843.009.000<br>(I60M4x8,4) | 90504.842.009.000<br>(WT15P)   |
| 90504.259.550.409               | 90504.190.550.409                       | 90504.885.190.209              | 90504.884.190.209             | 90504.843.009.000<br>(I60M4x8,4) | 90504.842.009.000<br>(WT15P)   |



# Boring heads with boring bars Ausdrehköpfe mit Bohrstange

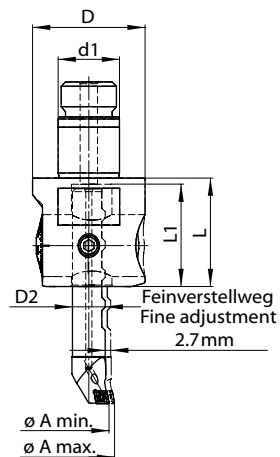
- **Adjustable boring bar length** by pushing trough of boring bar  $\Rightarrow$  stable construction
  - **Boring head basic balanced**, additional reduction of unbalance by using **balancing rings** without the need for a balancing machine
  - With **solid Ø16 boring bars**
  - Diameter range with **minimum backlash**
  - With **internal coolant supply**
- 
- **Anpassbare Bohrstangenlänge** durch durchschieben der Bohrstange  $\Rightarrow$  stabiler Aufbau
  - **Körper grundgewuchtet**, zusätzliche Reduzierung der Unwucht mit **Auswuchtringen** um bis zu 90 % ohne Wuchtmaschine
  - Mit **stabilen Ø16 Bohrstangen**
  - Durchmesserbereich mit **geringstem Umkehrspiel**
  - Mit **Innenkühlung**

## Supplier of spindle systems / Anbieter von Spindelsystemen

|                                              | ZCC CT                                                                              | Kaiser                                                                              | Wohlhaupter                                                    | Seco Tools                                                     | Komet                                                          | Urma                                          | D'Andrea                                                                            |
|----------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------|
| Ø-range in mm/ Ø-Bereich in mm               | 9,75 - 88                                                                           | 2 - 54                                                                              | 3 - 102                                                        | 3 - 32                                                         | 8 - 36                                                         | 10 - 40                                       | 3 - 30                                                                              |
| Length adjustment/ Längeneinstellung         | Yes / Ja                                                                            | Yes / Ja                                                                            | No / Nein                                                      | No / Nein                                                      | No / Nein                                                      | No / Nein                                     | No / Nein                                                                           |
| Offered boring bars / Angebotene Bohrstangen | Steel, carbide, adjustable boring bars/ Stahl, Hartmetall, verstellbare Bohrstangen | Steel, carbide, adjustable boring bars/ Stahl, Hartmetall, verstellbare Bohrstangen | Steel, adjustable boring bars/ Stahl, verstellbare Bohrstangen | Steel, adjustable boring bars/ Stahl, verstellbare Bohrstangen | Steel, adjustable boring bars/ Stahl, verstellbare Bohrstangen | Steel, carbide boring bars/ Stahl, Hartmetall | Steel, carbide, adjustable boring bars/ Stahl, Hartmetall, verstellbare Bohrstangen |

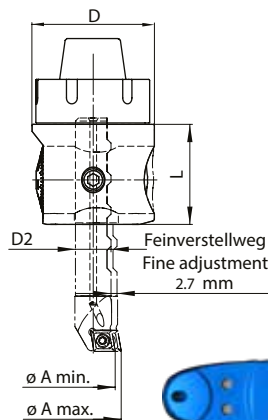
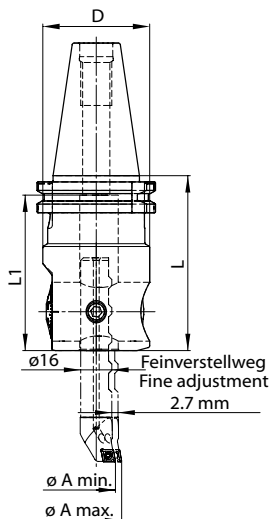


## Fine boring heads $\varnothing 9.75-88.1$ Ausdrehköpfe $\varnothing 9,75-88.1$



- diametrical adjustment with minimum reduced reversal backlash
- 0.01 mm diametrical adjustment 0.002 mm by vernier
- with internal coolant supply
- boring bars go through head
- Durchmessereinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0,01 mm resp. über Nonius 0,002 mm im Durchmesser
- mit Innenkühlung
- Ausdrehstähle durchschiebbar

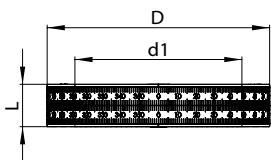
| Part number/<br>Bestell-Nr. | D       | d1 | D2 | ø A<br>min. | ø A<br>max. | L  | L1 | SW /<br>AF |
|-----------------------------|---------|----|----|-------------|-------------|----|----|------------|
| <b>CAD 55 modular</b>       |         |    |    |             |             |    |    |            |
| 90504.260.550.053           | 55      | 30 | 16 | 9.75        | 88.1        | 53 | 50 | 46         |
| <b>MULTI TOOL</b>           |         |    |    |             |             |    |    |            |
| FB04-CN63-0388-50L          | 63      | 55 | -  | 9.75        | 88.1        | 50 | -  | -          |
| FBD06-CN63-0388-50L         | DIGITAL |    |    |             |             |    |    |            |
| <b>DIN 69893 HSK 63 A</b>   |         |    |    |             |             |    |    |            |
| 90504.269.063.095           | 55      | -  | 16 | 9.75        | 88.1        | 95 | 70 | -          |
| 90504.266.063.095           | DIGITAL |    |    |             |             |    |    |            |
| <b>DIN 69871 AD 40</b>      |         |    |    |             |             |    |    |            |
| 90504.269.415.090           | 55      | -  | 16 | 9.75        | 88.1        | 90 | 80 | -          |
| 90504.266.063.095           | DIGITAL |    |    |             |             |    |    |            |
| <b>MAS BT 40</b>            |         |    |    |             |             |    |    |            |
| 90504.269.412.090           | 55      | -  | 16 | 9.75        | 88.1        | 90 | 80 | -          |
| 90504.266.063.095           | DIGITAL |    |    |             |             |    |    |            |
| <b>SMART ER32</b>           |         |    |    |             |             |    |    |            |
| 90504.262.032.060           | 55      | -  | 16 | 9.75        | 88.1        | 60 | 91 | -          |



- length L1 stands for the maximal put in depth for the boring bar
- boring bars must be ordered separately
- boring diameter  $\varnothing A$  min. -  $\varnothing A$  max. are only available with boring bars from series 90504.272-278

- Länge L1 bezeichnet die maximale Durchlasstiefe für den Ausdrehstahl
- Ausdrehstähle müssen separat bestellt werden
- die Ausdrehdurchmesser  $\varnothing A$  min. -  $\varnothing A$  max. werden mit Ausdrehstählen der Serien 90504.272-278 erreicht

## Universal balancing rings Universal-Auswuchtringe



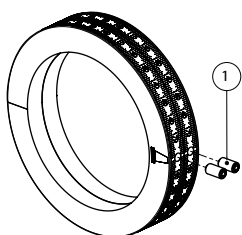
- to balance adjustable tools, e.g. fine boring heads from series 90504.260-263
- balancing charts for fine boring heads from serie 90504.260 and 90504.263 (with boring bars from serie 90504.272,274,276,278) are available in order to reduce unbalance by 90%

- zum Auswuchten verstellbarer Werkzeuge, z.B. Ausdrehköpfe der Serien 90504.260 - 263
- für die Ausdrehköpfe der Serie 90504.260 und 90504.263 (mit den Ausdrehstählen der Serie 90504.272,274,276,278) sind Einstelltabelle verfügbar, womit die Unwucht über 90% reduziert wird

| Part number/<br>Bestell-Nr. | D  | d1 | L  |
|-----------------------------|----|----|----|
| 90504.264.550.100           | 75 | 55 | 16 |

## Spare parts / Accessories Ersatzteile / Zubehör

| For balancing ring<br>Für Auswuchtring | Part number/<br>Bestell-Nr. ① |
|----------------------------------------|-------------------------------|
|                                        | Clamp screw/<br>Klemmschraube |
| 90504.264.xxx.100                      | 90504.857.550.000             |



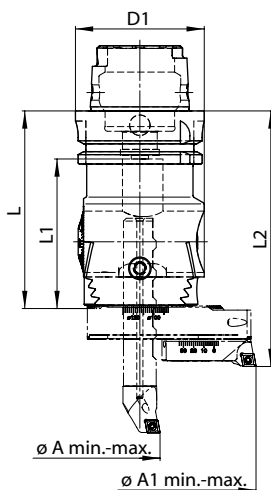
Boring heads with boring bars  
Ausdrehköpfe mit Bohrstange

# Boring heads with boring bars Ausdrehköpfe mit Bohrstange

## Fine boring head ø9.75-320

### Ausdrehkopf ø9,75-320

- for boring bars with a shank diameter of 16mm and fine boring bridges
- diametrical adjustment with minimum reduced reversal backlash
- 0.01mm diametrical adjustment 0.002mm by vernier
- with internal coolant supply
- boring bars go through head
- für Ausdrehstähle mit Schaftdurchmesser 16mm und Feinbohrbrücken
- Durchmessereinstellung mit geringstem Umkehrspiel
- Zustellgenauigkeit von 0,01mm resp. über Nonius 0,002mm im Durchmesser
- mit Innenkühlung
- Ausdrehstähle durchschiebbar



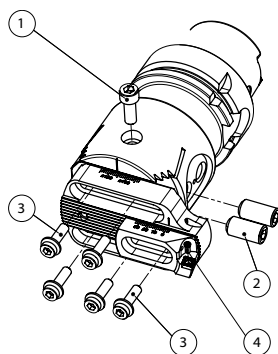
| Part number/<br>Bestell-Nr. | D  | ø A min.-<br>max. | ø A1<br>min.-max. | L  | L1   | L2  |
|-----------------------------|----|-------------------|-------------------|----|------|-----|
| <b>MULTI</b>                |    |                   |                   |    |      |     |
| FB10-CN63-09320-60L         | 63 | 8.75-88.1         | 86-320            | 60 | -    | 89  |
| <b>DIN 69893 HSK 63 A</b>   |    |                   |                   |    |      |     |
| 90504.261.063.095           | 63 | 9.75 - 88.1       | 86 - 320          | 96 | 72.5 | 125 |
| <b>DIN 69871 AD 40</b>      |    |                   |                   |    |      |     |
| 90504.261.415.090           | 63 | 9.75 - 88.1       | 86 - 320          | 91 | 81   | 120 |
| <b>MAS BT 40</b>            |    |                   |                   |    |      |     |
| 90504.261.412.090           | 63 | 9.75 - 88.1       | 86 - 320          | 91 | 81   | 120 |

- length L1 stands for the maximal put in depth for the boring bar
- boring bars, fine boring bridges and insert holders must be ordered separately
- boring diameters ø A min.-max. are only available with boring bars from series 90504.270-278
- boring diameters ø A min.-max. are only available with fine boring bridges from series 90504.886
- Länge L1 bezeichnet die maximale Durchlasstiefe für den Ausdrehstahl
- Ausdrehstähle, Feinbohrbrücken und Wendepplattenhalter müssen separat bestellt werden
- die Ausdrehdurchmesser ø A min.-max. werden mit Ausdrehstählen der Serien 90504.270-278 erreicht
- die Ausdrehdurchmesser ø A1 min.-max. werden mit Feinbohrbrücken der Serie 90504.886 erreicht



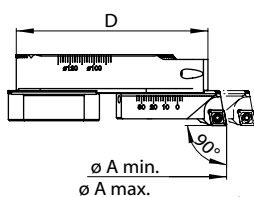
## Spare parts / Accessories

### Ersatzteile / Zubehör



| For boring head/<br>Für Ausdrehkopf  | Part number/<br>Bestell-Nr.         | Part number/<br>Bestell-Nr.                 | Part number/<br>Bestell-Nr.                |
|--------------------------------------|-------------------------------------|---------------------------------------------|--------------------------------------------|
|                                      | Clamping screw/<br>Klemmschraube ①  | Fastening screw/<br>Befestigungsschraube ②  | Fastening screw/<br>Befestigungsschraube ③ |
| 90504.261.xxx                        | 90504.881.261.016                   | 90504.881.261.020                           | 90504.883.261.016                          |
| For insert holder/<br>Für WSP-Halter | Part number/<br>Bestell-Nr.         | Part number/<br>Bestell-Nr.                 |                                            |
|                                      | Torx screw/<br>Torx-Schraube ④      | Torx driver/<br>Torx-Schlüssel              |                                            |
| 90504.253.048.006                    | 90504.843.006.000<br>(I60M2,5x6,5)  | 90504.842.006.000<br>(WT07P)                |                                            |
| 90504.253.048.009                    | 90504.843.009.000<br>(I60M4x8,4)    | 90504.842.009.000<br>(WT15P)                |                                            |
| For boring head/<br>Für Ausdrehkopf  | Part number/<br>Bestell-Nr.         | Part number/<br>Bestell-Nr.                 |                                            |
|                                      | Clamping screw /<br>Klemmschraube ① | Fastening screw /<br>Befestigungsschraube ② |                                            |
| 90504.260.550.053                    | 90504.881.262.551                   | 90504.882.262.551                           |                                            |
| 90504.269.xxx.xxx                    | 90504.881.262.551                   | 90504.882.262.551                           |                                            |
| 90504.262.032.060                    | 90504.881.262.551                   | 90504.882.262.551                           |                                            |

## Fine boring bridges ø86-320 Feinbohrbrücken ø86-320



### Aluminium bridges • with internal coolant supply

| Part number/<br>Bestell-Nr. | D   | ø A min. | ø A max. |
|-----------------------------|-----|----------|----------|
| 90504.886.086.164           | 80  | 86       | 164      |
| 90504.886.162.320           | 158 | 162      | 320      |



### Insert holders • with internal coolant supply

| Part number/<br>Bestell-Nr. | Insert/<br>Wendeplatte | ø A min. | ø A max. |
|-----------------------------|------------------------|----------|----------|
| 90504.253.048.006           | CC..0602..             | 86       | 320      |
| 90504.253.048.009           | CC..09T3..             | 86       | 320      |



### Wendeplattenhalter • mit Innenkühlung

### Counter weight • for high RPM

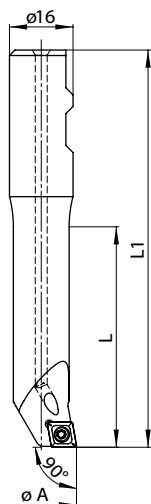
| Part number/<br>Bestell-Nr. |
|-----------------------------|
| 90504.886.038.045           |

### Gegengewicht • für hohe Drehzahlen



Boring heads with boring bars  
Ausdrehköpfe mit Bohrstange

## Boring bars ø9.75-30.1 Ausdrehstähle ø9.75-30.1



- with internal coolant supply
- if the boring bars are clamped centrally (weldon adapter), the minimum diameter (ø A min.) is provided

- mit Innenkühlung
- werden die Ausdrehstähle zentrisch gespannt (Weldonfutter), kann mit ø A min. ausgedreht werden

| Part number/<br>Bestell-Nr. | ø A min. | ø A max. | L  | L1  | Insert/<br>Wendeplatte |
|-----------------------------|----------|----------|----|-----|------------------------|
| 90504.272.010.006           | 9.75     | 15.1     | 30 | 75  | CC..0602..             |
| 90504.272.012.006           | 11.75    | 17.1     | 37 | 80  | CC..0602..             |
| 90504.272.014.006           | 13.75    | 19.1     | 43 | 85  | CC..0602..             |
| 90504.272.015.006           | 14.75    | 20.1     | 51 | 90  | CC..0602..             |
| 90504.272.016.006           | 15.75    | 21.1     | 57 | 95  | CC..0602..             |
| 90504.272.018.006           | 17.75    | 23.1     | 67 | 100 | CC..0602..             |
| 90504.272.020.006           | 19.75    | 25.1     | 72 | 105 | CC..0602..             |
| 90504.272.025.006           | 24.75    | 30.1     | 82 | 115 | CC..0602..             |

- length L stands for the maximal boring depth
- boring diameters ø A min. - A max. are only available with fine boring heads from series 90504.260-269

- Länge L bezeichnet die maximale Ausdrehlänge
- die Ausdrehdurchmesser ø A min. - A max. werden mit Ausdrehköpfen der Serien 90504.260-269 erreicht



# Boring heads with boring bars Ausdrehköpfe mit Bohrstange

## Adjustable boring bars 90° Verstellbare Ausdrehstähle 90°

### Shanks

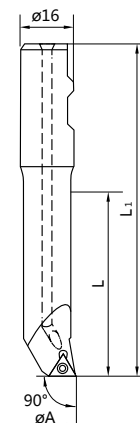
- with internal coolant supply

### Schäfte

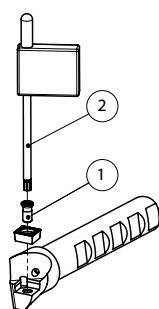
- mit Innenkühlung



| Part number/<br>Bestell-Nr. | ø A min. | ø A max. | L  | L1  | Insert/<br>Wendeplatte |
|-----------------------------|----------|----------|----|-----|------------------------|
| 90504.273.014.T09           | 13.75    | 19.1     | 43 | 85  | TP0902..               |
| 90504.273.015.T09           | 14.75    | 20.1     | 51 | 90  | TP0902..               |
| 90504.273.016.T09           | 15.75    | 21.1     | 57 | 95  | TP0902..               |
| 90504.273.018.T09           | 17.75    | 23.1     | 67 | 100 | TP09020..              |
| 90504.273.020.T11           | 19.75    | 25.1     | 72 | 105 | TP01103..              |
| 90504.273.025.T11           | 24.75    | 30.1     | 87 | 115 | TP01103..              |

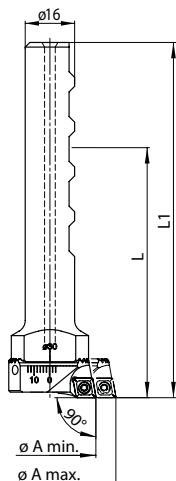


## Spare parts / Accessories Ersatzteile / Zubehör



| For boring bar/<br>Für Ausdrehstahl | Part number/<br>Bestell-Nr.              | Part number/<br>Bestell-Nr.    |
|-------------------------------------|------------------------------------------|--------------------------------|
|                                     | Fastening screw/<br>Befestigungsschraube | Torx driver/<br>Torx-Schlüssel |
| 90504.272.010-012.006               | 90504.843.007.000                        | 90504.842.006.000              |
| 90504.272.xxx.006                   | 90504.843.006.000<br>(I60M2,5x6,5)       | 90504.842.006.000<br>(WT07P)   |
| 90504.273.xxx.T09                   | I60M2.5x5,5                              | WT07IP                         |
| 90504.273.xxx.T11                   | I60M3x7                                  | WT15IP                         |

## Adjustable boring bars $\varnothing 29.75-88.1$ Verstellbare Ausdrehstähle $\varnothing 29.75-88.1$



### Shanks

- with internal coolant supply

### Schäfte

- mit Innenkühlung

| Part number/<br>Bestell-Nr. | $\varnothing A$<br>min. | $\varnothing A$<br>max. | L  | L1  | for insert holder/<br>für Wendeplattenhalter |
|-----------------------------|-------------------------|-------------------------|----|-----|----------------------------------------------|
| 90504.271.030.048           | 29.75                   | 48.1                    | 85 | 115 | 90504.253.030.006                            |
| 90504.271.048.088           | 47.75                   | 88.1                    | 85 | 115 | 90504.253.048.xxx                            |

### Insert holders

- with internal coolant supply

### Wendeplattenhalter

- mit Innenkühlung

| Part number/<br>Bestell-Nr. | $\varnothing A$<br>min. | $\varnothing A$<br>max. | Insert /<br>Wendeplatte | for shank/<br>für Schaft |
|-----------------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| 90504.253.030.006           | 29.75                   | 48.1                    | CC..0602..              | 90504.271.030.048        |
| 90504.253.048.006           | 47.75                   | 88.1                    | CC..0602..              | 90504.271.048.088        |
| 90504.253.048.009           | 47.75                   | 88.1                    | CC..09T3..              | 90504.271.048.088        |

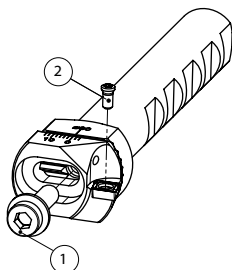
- length L stands for the maximal boring depth
- using boring bars for  $\varnothing 67$  or bigger the maximal boring depth can be increased by extensions from serie 90504.130
- boring diameters  $\varnothing A$  min. - A max. are only available with fine boring heads from series 90504.260-269
- shanks and insert holder must be ordered separately

- Länge L bezeichnet die maximale Ausdrehlänge
- ab  $\varnothing 67$  kann die Ausdrehlänge mit Verlängerungen der Serie 90504.130 erhöht werden
- die Ausdrehdurchmesser  $\varnothing A$  min. - A max. werden mit Ausdrehköpfen der Serien 90504.260-269 erreicht
- Schäfte und Wendeplattenhalter müssen separat bestellt werden



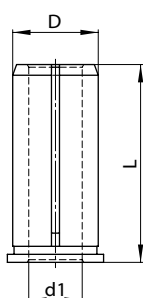
Boring heads with boring bars  
Ausdrehköpfe mit Bohrstange

## Spare parts / Accessories Ersatzteile / Zubehör



| For shank/<br>Für Schaft | Part number/<br>Bestell-Nr.                             | For insert holder<br>Für WSP-Halter | Part number/<br>Bestell-Nr.        | Part number/<br>Bestell-Nr.                   |
|--------------------------|---------------------------------------------------------|-------------------------------------|------------------------------------|-----------------------------------------------|
|                          | Fastening screw/ <sup>(1)</sup><br>Befestigungsschraube |                                     | Torx screw/<br>Torx-Schraube       | Torx driver/ <sup>(2)</sup><br>Torx-Schlüssel |
| 90504.271.030.048        | 90504.883.261.016                                       | 90504.253.xxx.006                   | 90504.843.006.000<br>(I60M2,5x6,5) | 90504.842.006.000<br>(WT07P)                  |
| 90504.271.048.088        | 90504.883.261.016                                       | 90504.253.xxx.009                   | 90504.843.009.000<br>(I60M4x8,4)   | 90504.842.009.000<br>(WT15P)                  |

## Reduction sleeves Reduktionshülsen



| Part number/<br>Bestell-Nr. | D  | d1 | L  |
|-----------------------------|----|----|----|
| 90504.265.016.008           | 16 | 8  | 37 |
| 90504.265.016.010           | 16 | 10 | 37 |
| 90504.265.016.012           | 16 | 12 | 37 |
| 90504.265.016.014           | 16 | 14 | 37 |

- for using boring bars  $< \varnothing 16$  for fine boring heads 90504.260/261/269

- Für die Verwendung von Bohrstangen  $< \varnothing 16$  für die Ausdrehköpfe 90504.260/261/269



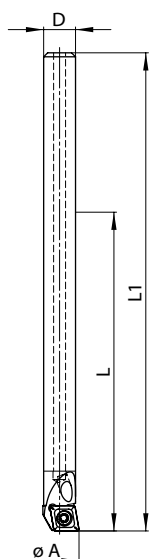
# Boring heads with boring bars Ausdrehköpfe mit Bohrstange

## Boring bars with solid carbide shank $\varnothing 9.8-27.0$

### Ausdrehstähle mit Hartmetallschaft $\varnothing 9.8-27.0$

- high end absorability

- sehr gute Dämpfungseigenschaften



| Part number/<br>Bestell-Nr. | $\varnothing A$ min. | $\varnothing A$ max. | D  | L   | L1  | Insert/<br>Wendeplatte |
|-----------------------------|----------------------|----------------------|----|-----|-----|------------------------|
| 90504.274.010.006           | 9.8                  | 15.0                 | 8  | 80  | 120 | CC..0602..             |
| 90504.274.014.006           | 13.8                 | 19.0                 | 10 | 100 | 140 | CC..0602..             |
| 90504.274.018.009           | 17.8                 | 23.0                 | 12 | 120 | 170 | CC..09T3..             |
| 90504.274.022.009           | 21.8                 | 27.0                 | 16 | 160 | 210 | CC..09T3..             |

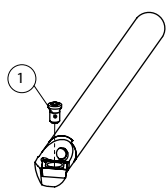
- length L stands for the maximal boring depth
- boring diameters  $\varnothing A$  min. - A max. are only available with fine boring heads from series 90504.260-269
- for boring bars < diameter 16 reduction sleeves must be inserted

- Länge L bezeichnet die maximale Ausdrehlänge
- die Ausdrehdurchmesser  $\varnothing A$  min. - A max. werden mit Ausdrehköpfen der Serien 90504.260-269 erreicht
- Für Bohrstangen < Durchmesser 16 müssen Reduzierhülsen verwendet werden



## Spare parts / Accessories

### Ersatzteile / Zubehör



| For boring bar<br>Für Ausdrehstahl | Part number/<br>Bestell-Nr.        | Part number/<br>Bestell-Nr.    |
|------------------------------------|------------------------------------|--------------------------------|
|                                    | Torx screw/<br>Torx-Schraube ①     | Torx driver/<br>Torx-Schlüssel |
| 90504.274.010.006                  | 90504.843.007.000                  | 90504.842.006.000<br>(WT07P)   |
| 90504.274.xxx.006                  | 90504.843.006.000<br>(I60M2,5x6,5) | 90504.842.006.000<br>(WT07P)   |
| 90504.274.xxx.009                  | 90504.843.009.000<br>(I60M4x8,4)   | 90504.842.009.000<br>(WT15P)   |

## Boring bars with carbide tips

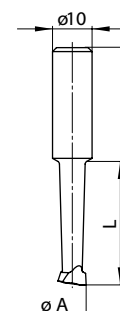
### Ausdrehstähle mit Hartmetallschneide



| Bestell-Nr. /<br>Order number | $\varnothing A$ min. | $\varnothing A$ max. | L  | HM Sorte /<br>Carbide quality |
|-------------------------------|----------------------|----------------------|----|-------------------------------|
| 17130.275.003.010             | 3.0                  | 8.0                  | 20 | YK40F                         |
| 17140.275.003.010             | 3.0                  | 8.0                  | 20 | KMG405                        |
| 17130.275.005.010             | 5.0                  | 10.0                 | 25 | YK40F                         |
| 17140.275.005.010             | 5.0                  | 10.0                 | 25 | KMG405                        |
| 17130.275.007.010             | 7.0                  | 12.0                 | 31 | YK40F                         |
| 17140.275.007.010             | 7.0                  | 12.0                 | 31 | KMG405                        |

- die Ausdrehdurchmesser  $\varnothing A$  min. - A max. werden mit Ausdrehköpfen der Serien 260 bis 269 erreicht

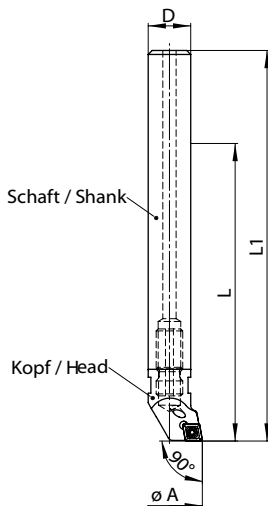
- boring diameters  $\varnothing A$  min. - A max. are only available with fine boring heads from series 260 to 269





## High-Speed boring bars $\varnothing 8.75-30.1$ (solid carbide shank)

### High-Speed Ausdrehstähle $\varnothing 8.75-30.1$ (Hartmetallschaft)



- to machine deep holes
- high end absorability by solid carbide shank
- with internal coolant supply

- zum Ausdrehen von tiefen Bohrungen
- sehr gute Dämpfungseigenschaften durch Hartmetallschaft
- mit Innenkühlung

| HS-head/<br>HS-Kopf | HS-shank /<br>HS-Schaft | $\varnothing A$<br>min. | $\varnothing A$<br>max. | D  | L   | L1  | Insert/<br>Wende-<br>platte |
|---------------------|-------------------------|-------------------------|-------------------------|----|-----|-----|-----------------------------|
| 90504.278.087.005   | 90504.276.008.005       | 8.75                    | 14.1                    | 8  | 56  | 91  | CC..0602..                  |
| 90504.278.097.005   | 90504.276.009.005       | 9.75                    | 15.1                    | 9  | 63  | 98  | CC..0602..                  |
| 90504.278.107.006   | 90504.276.010.006       | 10.75                   | 16.1                    | 10 | 70  | 105 | CC..0602..                  |
| 90504.278.127.006   | 90504.276.012.006       | 12.75                   | 18.1                    | 12 | 84  | 119 | CC..0602..                  |
| 90504.278.147.006   | 90504.276.014.006       | 14.75                   | 20.1                    | 14 | 98  | 133 | CC..0602..                  |
| 90504.278.177.006   | 90504.276.016.010       | 17.75                   | 23.1                    | 16 | 112 | 147 | CC..0602..                  |
| 90504.278.197.006   | 90504.276.016.010       | 19.75                   | 25.1                    | 16 | 112 | 147 | CC..0602..                  |
| 90504.278.247.006   | 90504.276.016.010       | 24.75                   | 30.1                    | 16 | 112 | 147 | CC..0602..                  |

- length L stands for the maximal boring depth
- the maximal boring depth can be increased by extensions from serie 90504.286
- boring diameters  $\varnothing A$  min. - A max. are only available with fine boring heads from series 90504.260-269
- head and shank must be ordered separately

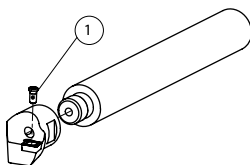
- Länge L bezeichnet die maximale Ausdrehlänge
- die maximale Ausdrehlänge kann mit den Verlängerungen der Serie 90504.286 verlängert werden
- die Ausdrehdurchmesser  $\varnothing A$  min. - A max. werden mit Ausdrehköpfen der Serien 90504.260-269 erreicht
- Kopf und Schaft müssen separat bestellt werden



Boring heads with boring bars  
Ausdrehköpfe mit Bohrstange

## Spare parts / Accessories

### Ersatzteile / Zubehör



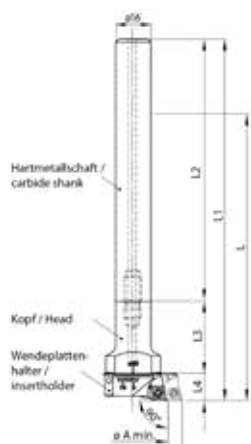
| For head<br>Für Kopf                    | Part number/<br>Bestell-Nr.        | Part number/<br>Bestell-Nr.    |
|-----------------------------------------|------------------------------------|--------------------------------|
|                                         | Torx screw/<br>Torx-Schraube ①     | Torx driver/<br>Torx-Schlüssel |
| 90504.278.087.005-<br>90504.278.107.006 | 90504.843.007.000                  | 90504.842.006.000              |
| 90504.278.127.006-<br>90504.278.347.006 | 90504.843.006.000<br>(I60M2,5x6,5) | 90504.842.006.000<br>(WT07P)   |



## Boring heads with boring bars Ausdrehköpfe mit Bohrstange

### Adjustable boring bars (solid carbide shank) ø29.75-88.1

### Verstellbare Ausdrehstähle (Hartmetallschaft) ø29.75-88.1



## Carbide shank

- high end absorbability
- with inner coolant supply

## Hartmetallschaft

- sehr gute Dämpfungseigenschaften
- mit Innenkühlung

| part number/<br>Bestell-Nr. | D  | L2  | für Kopf /<br>for head                 |
|-----------------------------|----|-----|----------------------------------------|
| 90504.276.016.010           | 16 | 120 | 90504.271.130.033<br>90504.271.148.031 |

### Head with inner coolant supply

## Kopf mit Innenkühlung

| part number/<br>Bestell-Nr. | ø A min. | ø A max. | L   | L1  | L3 | for insert holder/<br>für Wendeplattenhalter |
|-----------------------------|----------|----------|-----|-----|----|----------------------------------------------|
| 90504.271.130.033           | 29.75    | 48.1     | 135 | 165 | 33 | 90504.253.030.006 (CC..0602..)               |
| 90504.271.148.031           | 47.75    | 88.1     | 135 | 165 | 31 | 90504.253.048.006 (CC..0602..)               |
| 90504.271.148.031           | 47.75    | 88.1     | 135 | 165 | 31 | 90504.253.048.009 (CC..09T3..)               |

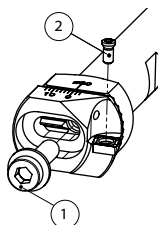
- insert holder must be ordered separately

- Wendeplattenhalter müssen separat bestellt werden



## Spare parts / Accessories

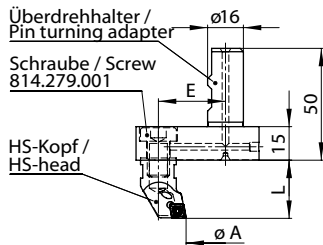
### Ersatzteile / Zubehör



| For insert holder Für<br>WSP-Halter | Part number/<br>Bestell-Nr.                           | Part number/<br>Bestell-Nr.        | Part number/<br>Bestell-Nr.                 |
|-------------------------------------|-------------------------------------------------------|------------------------------------|---------------------------------------------|
|                                     | Fastening screw/<br>Befestigungsschraube <sup>①</sup> | Torx screw/<br>Torx-Schraube       | Torx driver/<br>Torx-Schlüssel <sup>①</sup> |
| 90504.253.xxx.006                   | 90504.883.261.016                                     | 90504.843.006.000<br>(I60M2,5x6,5) | 90504.842.006.000<br>(WT07P)                |
| 90504.253.xxx.009                   | 90504.883.261.016                                     | 90504.843.009.000<br>(I60M4x8,4)   | 90504.842.009.000<br>(WT15P)                |

## Pin turning adapter ø15.3-48.6

### Überdrehhalter ø15.3-48.6



- for use in fine boring heads from series 90504.260-269
- with internal coolant supply
- für die Verwendung in Ausdrehköpfen der Serien 90504.260-269
- mit Innenkühlung

| Pin turning adapter/<br>Überdrehhalter | HS-head/<br>HS-Kopf | ø A<br>min. | ø A<br>max. | E  | L  | Insert/<br>Wende-<br>platte |
|----------------------------------------|---------------------|-------------|-------------|----|----|-----------------------------|
| 90504.279.020.010                      | 90504.271.130.053   | 0           | 15.5        | 20 | 45 | CC..0602..                  |
| 90504.279.020.010                      | 90504.278.247.006   | 15.3        | 20.6        | 20 | 27 | CC..0602..                  |
| 90504.279.020.010                      | 90504.278.217.006   | 18.3        | 23.6        | 20 | 27 | CC..0602..                  |
| 90504.279.020.010                      | 90504.278.197.006   | 20.3        | 25.6        | 20 | 27 | CC..0602..                  |
| 90504.279.020.010                      | 90504.278.177.006   | 22.3        | 27.6        | 20 | 27 | CC..0602..                  |
| 90504.279.020.010                      | 90504.278.167.006   | 23.3        | 28.6        | 20 | 27 | CC..0602..                  |
| 90504.279.030.010                      | 90504.278.347.006   | 25.3        | 30.6        | 30 | 27 | CC..0602..                  |
| 90504.279.030.010                      | 90504.278.317.006   | 28.3        | 33.6        | 30 | 27 | CC..0602..                  |
| 90504.279.030.010                      | 90504.278.277.006   | 32.3        | 37.6        | 30 | 27 | CC..0602..                  |
| 90504.279.030.010                      | 90504.278.247.006   | 35.3        | 40.6        | 30 | 27 | CC..0602..                  |
| 90504.279.030.010                      | 90504.278.217.006   | 38.3        | 43.6        | 30 | 27 | CC..0602..                  |
| 90504.279.030.010                      | 90504.278.197.006   | 40.3        | 45.6        | 30 | 27 | CC..0602..                  |
| 90504.279.030.010                      | 90504.278.177.006   | 42.3        | 47.6        | 30 | 27 | CC..0602..                  |
| 90504.279.030.010                      | 90504.278.167.006   | 43.3        | 48.6        | 30 | 27 | CC..0602..                  |

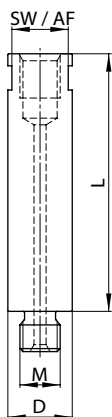
- the maximal turning length L can be increased by extension 90504.286.016.032 or 90504.286.016.064
- pin turning adapter and head must be ordered separately
- for HS-head 90504.271.130.053 insert holder 90504.253.030.006 must be ordered separately
- **Caution: anticlockwise rotation**
- die maximale Überdrehlänge L kann mit der Verlängerung 90504.286.016.032 oder 90504.286.016.064 verlängert werden
- Überdrehhalter und Kopf müssen separat bestellt werden
- für HS-Kopf 90504.271.130.053 muss zusätzlich der WSP-Halter 90504.253.030.006 bestellt werden
- **Achtung: Linkslauf**



Boring heads with boring bars  
Ausdrehköpfe mit Bohrstange

## HS-shank extensions

### HS-Schaftverlängerungen



- to extend HS-shanks and pin turning adapter
- with internal coolant supply
- made of hardened steel
- zur Verlängerung von HS-Schäften und Überdrehhaltern
- mit Innenkühlung
- aus gehärtetem Stahl

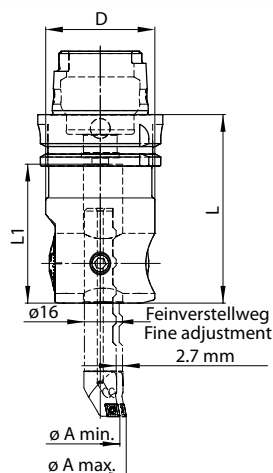
| Part number/<br>Bestell-Nr. | D  | L  | M   | SW / AF |
|-----------------------------|----|----|-----|---------|
| 90504.286.016.032           | 16 | 32 | M10 | 14      |
| 90504.286.016.064           | 16 | 64 | M10 | 14      |



# Fine boring heads set Ausdrehset

## Fine boring set $\varnothing 9.75-88.1$

### Ausdrehset $\varnothing 9.75-88.1$



| Part number/<br>Bestell-Nr. | D  | $\varnothing A$<br>min. | $\varnothing A$<br>max. | L  | L1 | Fine boring head/<br>Ausdrehkopf |
|-----------------------------|----|-------------------------|-------------------------|----|----|----------------------------------|
| <b>CAD 55 modular</b>       |    |                         |                         |    |    |                                  |
| 90504.527.000.088           | 55 | 9.75                    | 88.1                    | 53 | 50 | 90504.260.550.053                |
| <b>DIN 69893 HSK 63 A</b>   |    |                         |                         |    |    |                                  |
| 90504.527.063.088           | 55 | 9.75                    | 88.1                    | 95 | 70 | 90504.269.063.095                |
| <b>DIN 69871 AD 40</b>      |    |                         |                         |    |    |                                  |
| 90504.527.415.088           | 55 | 9.75                    | 88.1                    | 90 | 80 | 90504.269.415.090                |
| <b>MAS BT 40</b>            |    |                         |                         |    |    |                                  |
| 90504.527.412.088           | 55 | 9.75                    | 88.1                    | 90 | 80 | 90504.269.412.090                |

#### Content / Inhalt

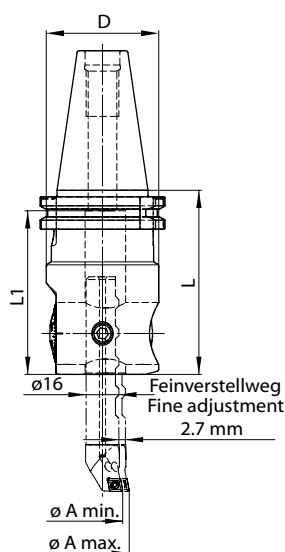
|                                      |                          |                   |  |
|--------------------------------------|--------------------------|-------------------|--|
| 1 Case / Koffer                      |                          |                   |  |
| 1 Fine boring head / Ausdrehkopf     |                          |                   |  |
| 1 Boring bar / Ausdrehstahl          | $\varnothing 9.75-15.1$  | 90504.272.010.006 |  |
| 1 Boring bar / Ausdrehstahl          | $\varnothing 14.75-20.1$ | 90504.272.015.006 |  |
| 1 Boring bar / Ausdrehstahl          | $\varnothing 19.75-25.1$ | 90504.272.020.006 |  |
| 1 Boring bar / Ausdrehstahl          | $\varnothing 24.75-30.1$ | 90504.272.025.006 |  |
| 1 Shank / Schaft                     | $\varnothing 29.75-48.1$ | 90504.271.030.048 |  |
| 1 Shank / Schaft                     | $\varnothing 47.75-88.1$ | 90504.271.048.088 |  |
| 1 Insert holder / Wendeplattenhalter | $\varnothing 29.75-48.1$ | 90504.253.030.006 |  |
| 1 Insert holder / Wendeplattenhalter | $\varnothing 47.75-88.1$ | 90504.253.048.006 |  |
| 1 Allen wrench / Inbusschlüssel      | SW4(WH40L)               |                   |  |
| 1 Allen wrench / Inbusschlüssel      | SW5(WH50L)               |                   |  |
| 1 Torx driver / Torx-Schlüssel       | T7 (WT07P)               |                   |  |



## Fine boring set $\varnothing 9.75-30.1$

### Ausdrehset $\varnothing 9.75-30.1$

- can be upgraded from  $\varnothing 9.75$  up to  $\varnothing 88.1$
- erweiterbar von  $\varnothing 9.75$  bis  $\varnothing 88.1$



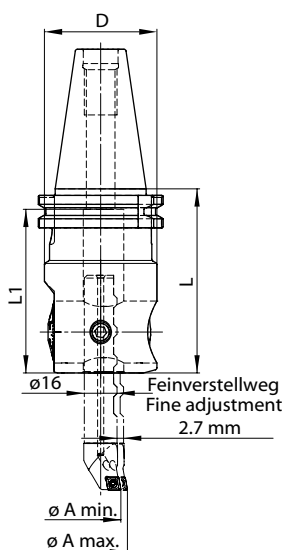
| Part number/<br>Bestell-Nr. | D  | $\varnothing A$<br>min. | $\varnothing A$<br>max. | L  | L1 | Fine boring head /<br>Ausdrehkopf |
|-----------------------------|----|-------------------------|-------------------------|----|----|-----------------------------------|
| <b>CAD 55 modular</b>       |    |                         |                         |    |    |                                   |
| 90504.528.000.030           | 55 | 9.75                    | 30.1                    | 53 | 50 | 90504.260.550.053                 |
| <b>DIN 69893 HSK 63 A</b>   |    |                         |                         |    |    |                                   |
| 90504.528.063.030           | 55 | 9.75                    | 30.1                    | 95 | 70 | 90504.269.063.095                 |
| <b>DIN 69871 AD 40</b>      |    |                         |                         |    |    |                                   |
| 90504.528.415.030           | 55 | 9.75                    | 30.1                    | 90 | 80 | 90504.269.415.090                 |
| <b>MAS BT 40</b>            |    |                         |                         |    |    |                                   |
| 90504.528.412.030           | 55 | 9.75                    | 30.1                    | 90 | 80 | 90504.269.412.090                 |
| <b>SMART ER32</b>           |    |                         |                         |    |    |                                   |
| 90504.528.032.030           | 55 | 9.75                    | 30.1                    | 60 | -  | 90504.262.032.060                 |

#### Content / Inhalt

|                                  |                          |                   |  |
|----------------------------------|--------------------------|-------------------|--|
| 1 Case / Koffer                  |                          |                   |  |
| 1 Fine boring head / Ausdrehkopf |                          |                   |  |
| 1 Boring bar / Ausdrehstahl      | $\varnothing 9.75-15.1$  | 90504.272.010.006 |  |
| 1 Boring bar / Ausdrehstahl      | $\varnothing 14.75-20.1$ | 90504.272.015.006 |  |
| 1 Boring bar / Ausdrehstahl      | $\varnothing 19.75-25.1$ | 90504.272.020.006 |  |
| 1 Boring bar / Ausdrehstahl      | $\varnothing 24.75-30.1$ | 90504.272.025.006 |  |
| 1 Allen wrench / Inbusschlüssel  | SW5 (WH50L)              |                   |  |
| 1 Torx driver / Torx-Schlüssel   | T7 (WT07P)               |                   |  |



## Fine boring set $\varnothing 9.75-30.1$ DIGITAL Ausdrehset $\varnothing 9.75-30.1$ DIGITAL



- can be upgraded up 9.75 to  $\varnothing 88.1$
- erweiterbar von 9.75 bis  $\varnothing 88.1$

| Part number/<br>Bestell-Nr. | D  | $\varnothing A$<br>min. | $\varnothing A$<br>max. | L  | L1 | Fine boring head / Ausdrehkopf |
|-----------------------------|----|-------------------------|-------------------------|----|----|--------------------------------|
| <b>DIN 69893 HSK 63 A</b>   |    |                         |                         |    |    |                                |
| 90504.522.063.030           | 55 | 9.75                    | 30.1                    | 95 | 70 | 90504.266.063.095              |
| <b>DIN 69871 AD 40</b>      |    |                         |                         |    |    |                                |
| 90504.522.415.030           | 55 | 9.75                    | 30.1                    | 90 | 80 | 90504.266.415.090              |
| <b>MAS BT 40</b>            |    |                         |                         |    |    |                                |
| 90504.522.412.030           | 55 | 9.75                    | 30.1                    | 90 | 80 | 90504.266.412.090              |

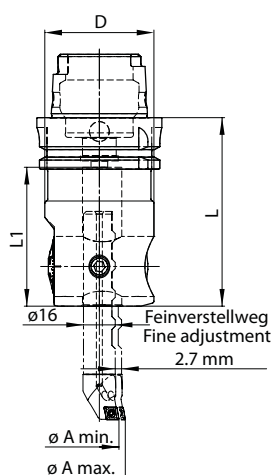
### Content / Inhalt

|                                          |                                            |
|------------------------------------------|--------------------------------------------|
| 1 Case / Koffer                          |                                            |
| 1 Fine boring head / Ausdrehkopf         |                                            |
| 1 Boring bar / Ausdrehstahl              | $\varnothing 9.75-15.1$ 90504.272.010.006  |
| 1 Boring bar / Ausdrehstahl              | $\varnothing 14.75-20.1$ 90504.272.015.006 |
| 1 Boring bar / Ausdrehstahl              | $\varnothing 19.75-25.1$ 90504.272.020.006 |
| 1 Boring bar / Ausdrehstahl              | $\varnothing 24.75-30.1$ 90504.272.025.006 |
| 1 Allen wrench / Inbusschlüssel          | SW5                                        |
| 1 Torx driver / Torx-Schlüssel           | T7                                         |
| 1 dig. display / Digitale Anzeigeeinheit | 90504.266.028.077                          |



Fine boring heads set  
Ausdrehset

## Fine boring set $\varnothing 9.75-88.1$ DIGITAL Ausdrehset $\varnothing 9.75-88.1$ DIGITAL



| Part number/<br>Bestell-Nr. | D  | $\varnothing A$<br>min. | $\varnothing A$<br>max. | L  | L1 | Fine boring head / Ausdrehkopf |
|-----------------------------|----|-------------------------|-------------------------|----|----|--------------------------------|
| <b>DIN 69893 HSK 63 A</b>   |    |                         |                         |    |    |                                |
| 90504.521.063.088           | 55 | 9.75                    | 88.1                    | 95 | 70 | 90504.266.063.095              |
| <b>DIN 69871 AD 40</b>      |    |                         |                         |    |    |                                |
| 90504.521.415.088           | 55 | 9.75                    | 88.1                    | 90 | 80 | 90504.266.415.090              |
| <b>MAS BT 40</b>            |    |                         |                         |    |    |                                |
| 90504.521.412.088           | 55 | 9.75                    | 88.1                    | 90 | 80 | 90504.266.412.090              |

### Content / Inhalt

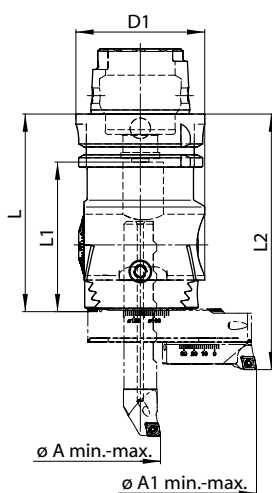
|                                          |                                            |
|------------------------------------------|--------------------------------------------|
| 1 Case / Koffer                          |                                            |
| 1 Fine boring head / Ausdrehkopf         |                                            |
| 1 Boring bar / Ausdrehstahl              | $\varnothing 9.75-15.1$ 90504.272.010.006  |
| 1 Boring bar / Ausdrehstahl              | $\varnothing 14.75-20.1$ 90504.272.015.006 |
| 1 Boring bar / Ausdrehstahl              | $\varnothing 19.75-25.1$ 90504.272.020.006 |
| 1 Boring bar / Ausdrehstahl              | $\varnothing 24.75-30.1$ 90504.272.025.006 |
| 1 shank / Schaft                         | $\varnothing 29.75-48.1$ 90504.271.030.048 |
| 1 shank / Schaft                         | $\varnothing 47.75-88.1$ 90504.271.048.088 |
| 1 Insert holder / Wendeplattenhalter     | $\varnothing 29.75-48.1$ 90504.253.030.006 |
| 1 Insert holder / Wendeplattenhalter     | $\varnothing 47.75-88.1$ 90504.253.048.006 |
| 1 Allen wrench / Inbusschlüssel          | SW4                                        |
| 1 Allen wrench / Inbusschlüssel          | SW5                                        |
| 1 Torx driver / Torx-Schlüssel           | T7                                         |
| 1 dig. display / Digitale Anzeigeeinheit | 90504.266.028.077                          |



# Fine boring heads set Ausdrehset

## Fine boring set $\varnothing 9.75-164$

### Ausdrehset $\varnothing 9.75-164$



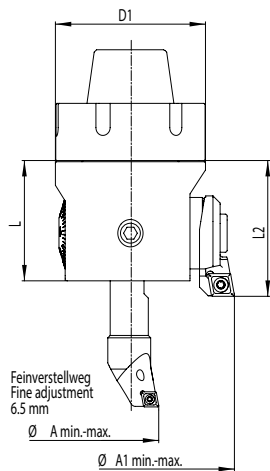
- can be upgraded from  $\varnothing 9.75$  up to  $\varnothing 320$
- erweiterbar von  $\varnothing 9.75$  bis  $\varnothing 320$

| Part number/<br>Bestell-Nr. | D  | $\varnothing A \text{ min} - \varnothing A1 \text{ max.}$ | L  | L1   | L2  | Fine boring head /<br>Ausdrehkopf |
|-----------------------------|----|-----------------------------------------------------------|----|------|-----|-----------------------------------|
| <b>DIN 69893 HSK 63 A</b>   |    |                                                           |    |      |     |                                   |
| 90504.530.063.164           | 63 | 9.75-164                                                  | 96 | 72.5 | 125 | 90504.263.063.095                 |
| <b>DIN 69871 AD 40</b>      |    |                                                           |    |      |     |                                   |
| 90504.530.415.164           | 63 | 9.75-164                                                  | 91 | 81   | 120 | 90504.263.415.090                 |
| <b>MAS BT 40</b>            |    |                                                           |    |      |     |                                   |
| 90504.530.412.164           | 63 | 9.75-164                                                  | 91 | 81   | 120 | 90504.263.412.090                 |



| Content                              | Inhalt                   |                   |
|--------------------------------------|--------------------------|-------------------|
| 1 Case / Koffer                      |                          |                   |
| 1 Fine boring head / Ausdrehkopf     |                          |                   |
| 1 Boring bar / Ausdrehstahl          | $\varnothing 9.75-15.1$  | 90504.272.010.006 |
| 1 Boring bar / Ausdrehstahl          | $\varnothing 14.75-20.1$ | 90504.272.015.006 |
| 1 Boring bar / Ausdrehstahl          | $\varnothing 19.75-25.1$ | 90504.272.020.006 |
| 1 Boring bar / Ausdrehstahl          | $\varnothing 24.75-30.1$ | 90504.272.025.006 |
| 1 Shank / Schaft                     | $\varnothing 29.75-48.1$ | 90504.271.030.048 |
| 1 Shank / Schaft                     | $\varnothing 47.75-88.1$ | 90504.271.048.088 |
| 1 Bridge / Brücke                    | $\varnothing 80$         | 90504.886.086.164 |
| 1 Insert holder / Wendeplattenhalter | $\varnothing 29.75-48.1$ | 90504.253.030.006 |
| 1 Insert holder / Wendeplattenhalter | $\varnothing 47.75-88.1$ | 90504.253.048.006 |
| 1 Allen wrench / Inbusschlüssel      | SW4 (WH40L)              |                   |
| 1 Allen wrench / Inbusschlüssel      | SW5 (WH50L)              |                   |
| 1 Torx driver / Torx-Schlüssel       | T7 (WT07P)               |                   |

## Fine boring set Ø9.75-101.1 Ausdrehset Ø9.75-101.1



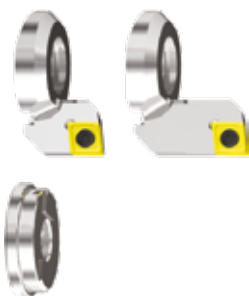
- connection ER40 DIN 6499
- 0.01mm diametrical adjustment resp. 0.002mm by nonius
- can be upgraded from Ø9.75 up to Ø101.1
- Schnittstelle ER40 DIN6499
- Zustellgenauigkeit 0.01mm resp. über Nonius 0.002mm im Durchmesser
- erweiterbar von Ø9.75 bis Ø101.1

| Order number/<br>Bestell-Nr. | D1 | L    | L2 | Ø A<br>min. | Ø A<br>max. | Fine boring head/<br>Ausdrehkopf |
|------------------------------|----|------|----|-------------|-------------|----------------------------------|
| 90504.525.001.101            | 63 | 50.5 | 57 | 9.75        | 101.1       | 90504.267.002.152                |

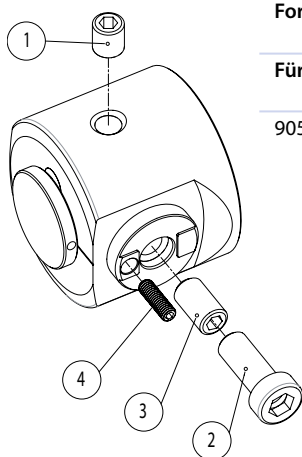


| Content                                         | Inhalt                                                          |
|-------------------------------------------------|-----------------------------------------------------------------|
| 1 Case / Koffer                                 |                                                                 |
| 1 Fine boring head / Ausdrehkopf                | ER40 90504.267.003.152                                          |
| 1 Boring bar / Ausdrehstahl                     | Ø9.75-20.1 90504.272.010.006                                    |
| 1 Boring bar / Ausdrehstahl                     | Ø19.75-30.1 90504.272.020.006                                   |
| 1 Shank / Schaft                                | Ø29.75-48.1 90504.271.030.048                                   |
| 1 Shank / Schaft                                | Ø47.75-88.1 90504.271.048.088                                   |
| 1 Insert holder / Wendeplattenhalter            | Ø29.75-48.1 90504.253.030.006                                   |
| 1 Insert holder / Wendeplattenhalter            | Ø47.75-88.1 90504.253.048.006                                   |
| 1 Insert holder / Wendeplattenhalter CC..09T3.. | Ø87.75-101.1 (Ø114.1) 90504.254.261.009                         |
| 1 Coolant plug / Kühlmittleinsatz               | 90504.918.000.032                                               |
| 2 Torx driver / Torx-Schlüssel                  | T7 (WT07P) / 90504.842.006.000<br>T15 (WT15P) 90504.842.009.000 |
| 4 Allen wrench set / Inbusschlüsselset          | SW 2.5/4/5/8 (WH25L/WH40L/WH50L/WH80L)                          |

| Accessories                                   | Zubehör                                    |
|-----------------------------------------------|--------------------------------------------|
| Insert holder / Wendeplattenhalter CC..09T3.. | Ø105.75 - 119.0 (Ø132.0) 90504.254.262.009 |
| Insert holder / Wendeplattenhalter CC..09T3.. | Ø125.75 - 139.0 (Ø152.0) 90504.254.263.009 |
| Adapter / Distanzstück F=6.5 mm               | Ø114.0 / Ø132.0 / Ø152.0 90504.889.000.006 |



## Spare parts / Accessories Ersatzteile / Zubehör



| For fine boring head | Order number/<br>Bestell-Nr.       | Order number/<br>Bestell-Nr. | Order number/<br>Bestell-Nr. | Order number/<br>Bestell-Nr. |
|----------------------|------------------------------------|------------------------------|------------------------------|------------------------------|
| Für Feinbohrkopf     | Clamping screw/<br>Klemmschraube ① | Screw/<br>Schraube ②         | Screw/<br>Schraube ③         | Screw/<br>Schraube ④         |
| 90504.267.003.152    | 90504.881.267.012                  | 90504.880.267.025            | 90504.881.267.018            | 90504.881.267.014            |

# Insert suggestion finishing WSP-Empfehlung Schlichten

| CCGT | CCGX | CCMT |
|------|------|------|
|      |      |      |

| Insert shape<br>Plattenform | Type / Typ      | Dimensions / Abmessung |       |      |      |     | Additional information<br>Zusätzliche Informationen                                                                               |
|-----------------------------|-----------------|------------------------|-------|------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------|
|                             |                 | L                      | I.C   | s    | d    | r   |                                                                                                                                   |
|                             | CCGT060202-L    | 6,4                    | 6,35  | 2,38 | 2,8  | 0,2 | Periphery ground inserts, ground chip groove/polished<br><i>Wendeplatte umfangsgeschliffen, Spanleitstufe geschliffen/poliert</i> |
|                             | CCGT09T302-L    | 9,7                    | 9,525 | 3,97 | 4,4  | 0,2 |                                                                                                                                   |
|                             | CCGT09T304-L    | 9,7                    | 9,525 | 3,97 | 4,4  | 0,4 |                                                                                                                                   |
|                             | CCGT09T302L-USF | 9.7                    | 9.525 | 4.38 | 4.4  | 0.2 | Periphery ground inserts, ground chip groove<br><i>Wendeplatte umfangsgeschliffen, Spanleitstufe geschliffen</i>                  |
|                             | CCGT09T304L-USF | 9.7                    | 9.525 | 5.38 | 4.4  | 0.4 |                                                                                                                                   |
|                             |                 |                        |       |      |      |     |                                                                                                                                   |
|                             | CCGX060202-LC   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.2 | Periphery ground insert chip groove pressed<br><i>Wendeplatte umfangsgeschliffen, Spanleitstufe gepresst</i>                      |
|                             | CCGX060204-LC   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.4 |                                                                                                                                   |
|                             | CCGX09T304-LC   | 9.7                    | 9.525 | 3.97 | 4.4  | 0.4 |                                                                                                                                   |
|                             | CCGX060202-LH   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.2 | Periphery ground insert chip groove pressed<br><i>Wendeplatte umfangsgeschliffen, Spanleitstufe gepresst</i>                      |
|                             | CCGX060204-LH   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.4 |                                                                                                                                   |
|                             | CCGX09T304-LH   | 9.7                    | 9.525 | 3.97 | 4.4  | 0.4 |                                                                                                                                   |
|                             | CCGT060202-SF   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.2 | Periphery ground insert, chip groove pressed<br><i>Wendeplatte umfangsgeschliffen, Spanleitstufe gepresst</i>                     |
|                             | CCGT060204-SF   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.4 |                                                                                                                                   |
|                             | CCGT09T304-SF   | 9.7                    | 9.525 | 3.97 | 4.4  | 0.4 |                                                                                                                                   |
|                             | CCGT120404-SF   | 12.9                   | 12.7  | 4.76 | 5.56 | 0.4 |                                                                                                                                   |
|                             | CCMT060202-EF   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.2 | Insert pressed, chip groove pressed<br><i>Wendeplatte gepresst, Spanleitstufe gepresst</i>                                        |
|                             | CCMT060204-EF   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.4 |                                                                                                                                   |
|                             | CCMT09T304-EF   | 9.7                    | 9.525 | 3.97 | 4.4  | 0.4 |                                                                                                                                   |
|                             | CCMT120404-EF   | 12.9                   | 12.7  | 4.76 | 5.56 | 0.4 |                                                                                                                                   |
|                             | CCMT060202-EF   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.2 | Insert pressed, chip groove pressed / <i>Wendeplatte gepresst, Spanleitstufe gepresst</i>                                         |
|                             | CCMT120404-EF   | 12.9                   | 12.7  | 4.76 | 5.56 | 0.4 |                                                                                                                                   |
|                             | CCMT060202-HF   | 6.4                    | 6.35  | 2.38 | 2.8  | 0.2 | Insert pressed, chip groove pressed / <i>Wendeplatte gepresst, Spanleitstufe gepresst</i>                                         |
|                             | CCMT120404-HF   | 12.9                   | 12.7  | 4.76 | 5.56 | 0.4 |                                                                                                                                   |
|                             |                 |                        |       |      |      |     |                                                                                                                                   |

Cutting edge stability / Schneidkantenstabilität

Insert sharpness / Schneidplattenschärfe



| TCMT | SCMT |
|------|------|
|      |      |

| Insert shape/<br>Plattenform | Type / Typ     | Dimensions / Abmessung |       |      |     |     | Additional information/<br>Zusätzliche Informationen                                   |
|------------------------------|----------------|------------------------|-------|------|-----|-----|----------------------------------------------------------------------------------------|
|                              |                | L                      | I.C   | s    | d   | r   |                                                                                        |
|                              | TCMT110204-EF  | 11                     | 6.35  | 2.38 | 2.8 | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst,<br>Spanleitstufe gepresst |
|                              | TCMT110208-EF  | 11                     | 6.35  | 2.38 | 2.8 | 0.8 |                                                                                        |
|                              | TCMT16T304-EF  | 16.5                   | 9.525 | 3.97 | 4.4 | 0.4 |                                                                                        |
|                              | TCMT16T308-EF  | 16.5                   | 9.525 | 3.97 | 4.4 | 0.8 |                                                                                        |
|                              | TCMT110208-HF  | 11                     | 6.35  | 2.38 | 2.8 | 0.8 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst,<br>Spanleitstufe gepresst |
|                              | TCMT110208-HF  | 11                     | 6.35  | 2.38 | 2.8 | 0.8 |                                                                                        |
|                              | TCMT16T304-HF  | 16.5                   | 9.525 | 3.97 | 4.4 | 0.4 |                                                                                        |
|                              | TCMT16T308-HF  | 16.5                   | 9.525 | 3.97 | 4.4 | 0.8 |                                                                                        |
|                              | TCMT110204-AHF | 11                     | 6.35  | 2.38 | 2.8 | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst,<br>Spanleitstufe gepresst |
|                              | TCMT110208-AHF | 11                     | 6.35  | 2.38 | 2.8 | 0.8 |                                                                                        |
|                              | TCMT16T304-AHF | 16.5                   | 9.525 | 3.97 | 4.4 | 0.4 |                                                                                        |
|                              | TCMT16T308-AHF | 16.5                   | 9.525 | 3.97 | 4.4 | 0.8 |                                                                                        |
|                              | SCMT09T304-EF  | 9.525                  | 9.525 | 3.97 | 4.4 | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst,<br>Spanleitstufe gepresst |
|                              | SCMT09T308-EF  | 9.525                  | 9.525 | 3.97 | 4.4 | 0.8 |                                                                                        |
|                              |                |                        |       |      |     |     |                                                                                        |
|                              | SCMT09T304-HF  | 9.525                  | 9.525 | 3.97 | 4.4 | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst,<br>Spanleitstufe gepresst |
|                              | SCMT09T308-HF  | 9.525                  | 9.525 | 3.97 | 4.4 | 0.8 |                                                                                        |
|                              | SCMT09T304-HF  | 9.525                  | 9.525 | 3.97 | 4.4 | 0.4 |                                                                                        |
|                              | SCMT09T308-HF  | 9.525                  | 9.525 | 3.97 | 4.4 | 0.8 |                                                                                        |

Cutting edge stability / Schneidkantenstabilität

Insert sharpness / Schneidplattenschärfe

Insert suggestion finishing  
WSP-Empfehlung Schlichten



# Cutting speed data Schnittdatenempfehlungen

|                        |                                                                                               |                                                 |                                 |                                                              | Feed rate in mm per revolution related to cutting edge radius/ Vorschub fz in mm pro Umdrehung bezogen auf Schneidkantenradius |                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| ISO Group / ISO Gruppe | Workpiece material/ Werkstoff                                                                 | Tensile strenght [N/mm²]/ Zugfestigkeit [N/mm²] | Cutting material / Schneidstoff | Cutting speed Vc [m/min] / Schnittgeschwindigkeit Vc [m/min] | Cutting edge radius/ Schneidkantenradius 0,2 mm<br>Cutting depth/ Schnitttiefe ap = 0,1 - 0,25 mm                              | Cutting edge radius/ Schneidkantenradius 0,4 mm<br>Cutting depth/ Schnitttiefe ap = 0,2 - 0,45 mm |
| <b>P</b>               | Unalloyed steel/ Unlegierter Stahl                                                            | <600N/mm²                                       | YBG205/<br>YBC152/<br>YBC252    | 140-250                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        |                                                                                               | >600N/mm²                                       | YBG205/<br>YBC152/<br>YBC252    | 125-220                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        | Alloyed steel & cast steel/ Legierter Stahl & Stahlguss                                       | <900N/mm²                                       | YBG205/<br>YBC152/<br>YBC252    | 125-220                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        |                                                                                               | >900N/mm²                                       | YBG205/<br>YBC152/<br>YBC252    | 110-180                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        | High alloy steel/ Hochlegierter Stahl                                                         | <1000N/mm²                                      | YBG205/<br>YBC152/<br>YBC252    | 110-150                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        |                                                                                               | >1000N/mm²                                      | YBG205/<br>YBC152/<br>YBC252    | 90-130                                                       | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
| <b>M</b>               | Stainless steels (ferritic/martensetic)/ Nichtrostende Materialien (ferritisch/martensitisch) |                                                 | YBG205/<br>YBM153/<br>YBM253    | 80-120                                                       | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        | Stainless steels (austenitic)/ Nichtrostende Materialien (austenitisch)                       |                                                 | YBM153/<br>YBM253/<br>YBG205    | 75-120                                                       | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
| <b>K</b>               | GTW, GTS/ Temperguss                                                                          |                                                 | YBG205/<br>YBD152               | 150-240                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        | GGL, GJL                                                                                      |                                                 | YBG205/<br>YBD152               | 150-240                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        | GJS                                                                                           |                                                 | YBG205/<br>YBD152               | 150-200                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
| <b>N</b>               | Aluminium alloys / Aluminiumlegierung                                                         |                                                 | YD101                           | 100-800                                                      | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
| <b>S</b>               | Inconell, Hastelloy                                                                           |                                                 | YBG205                          | 40-120                                                       | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |
|                        | Titanium and titanium alloys / Titan und Titanlegierungen                                     |                                                 | YBG205                          | 40-100                                                       | 0,04-0,08                                                                                                                      | 0,1-0,16                                                                                          |

| CCMT | CNMG |
|------|------|
|      |      |

| Insert shape/<br>Plattenform | Type / Typ    | Dimensions / Abmessung |        |      |      |     | Additional information/<br>Zusätzliche Informationen                                |
|------------------------------|---------------|------------------------|--------|------|------|-----|-------------------------------------------------------------------------------------|
|                              |               | L                      | I.C    | s    | d    | r   |                                                                                     |
|                              | CCMT060204-EM | 6.4                    | 6.35   | 2.38 | 2.8  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | CCMT09T304-EM | 9.7                    | 9.525  | 3.97 | 4.4  | 0.4 |                                                                                     |
|                              | CCMT120404-EM | 12.9                   | 12.7   | 4.76 | 5.56 | 0.4 |                                                                                     |
|                              | CCMT120408-EM | 12.9                   | 12.7   | 4.76 | 5.56 | 0.8 |                                                                                     |
|                              | CCMT060204-HM | 6.4                    | 6.35   | 2.38 | 2.8  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | CCMT09T304-HM | 9.7                    | 9.525  | 3.97 | 4.4  | 0.4 |                                                                                     |
|                              | CCMT120404-HM | 12.9                   | 12.7   | 4.76 | 5.56 | 0.4 |                                                                                     |
|                              | CCMT060204-HR | 6.4                    | 6.35   | 2.38 | 2.8  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | CCMT09T304-HR | 9.7                    | 9.525  | 3.97 | 4.4  | 0.4 |                                                                                     |
|                              | CCMT120408-HR | 12.9                   | 12.7   | 4.76 | 5.56 | 0.8 |                                                                                     |
|                              | CCMT120404-TC | 12.9                   | 12.7   | 4.76 | 5.16 | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | CCMT120408-TC | 12.9                   | 12.7   | 4.76 | 5.16 | 0.8 |                                                                                     |
|                              | CNMG120404-TC | 12.9                   | 12.7   | 4.76 | 5.16 | 0.4 |                                                                                     |
|                              | CNMG120408-TC | 12.9                   | 12.7   | 4.76 | 5.16 | 0.8 |                                                                                     |
|                              | CNMG120408-EM | 12.9                   | 12.7   | 4.76 | 5.16 | 0.8 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | CNMG160608-EM | 16.1                   | 15.875 | 6.35 | 6.35 | 0.8 |                                                                                     |
|                              | CNMG120408-DM | 12.9                   | 12.7   | 4.76 | 5.16 | 0.8 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | CNMG160608-DM | 16.1                   | 15.875 | 6.35 | 6.35 | 0.8 |                                                                                     |
|                              |               |                        |        |      |      |     |                                                                                     |
|                              | CNMG120408-PM | 12.9                   | 12.7   | 4.76 | 5.16 | 0.8 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | CNMG160608-PM | 16.1                   | 15.875 | 6.35 | 6.35 | 0.8 |                                                                                     |
|                              |               |                        |        |      |      |     |                                                                                     |

Cutting edge stability / Schneidkantenstabilität

Insert sharpness / Schneidplattenschärfe

Insert suggestion roughing  
WSP-Empfehlung Schruppen

# Insert suggestion finishing WSP-Empfehlung Schruppen

| TCMT | SCMT | RCMT |
|------|------|------|
|      |      |      |

| Insert shape/<br>Plattenform | Type / Typ    | Dimensions / Abmessung |       |      |      |     | Additional information/<br>Zusätzliche Informationen                                |
|------------------------------|---------------|------------------------|-------|------|------|-----|-------------------------------------------------------------------------------------|
|                              |               | L                      | I.C   | s    | d    | r   |                                                                                     |
|                              | TCMT110204-EM | 11                     | 6.35  | 2.38 | 2.8  | 0.4 | Insert pressed, chip groove pressed                                                 |
|                              | TCMT110208-EM | 11                     | 6.35  | 2.38 | 2.8  | 0.8 | Wendeplatte gepresst, Spanleitstufe gepresst                                        |
|                              | TCMT16T304-EM | 16.5                   | 9.525 | 3.97 | 4.4  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | TCMT16T308-EM | 16.5                   | 9.525 | 3.97 | 4.4  | 0.8 |                                                                                     |
|                              | TCMT110204-HM | 11                     | 6.35  | 2.38 | 2.8  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | TCMT110208-HM | 11                     | 6.35  | 2.38 | 2.8  | 0.8 |                                                                                     |
|                              | TCMT16T304-HM | 16.5                   | 9.525 | 3.97 | 4.4  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | TCMT16T308-HM | 16.5                   | 9.525 | 3.97 | 4.4  | 0.8 |                                                                                     |
|                              | TCMT110204-HR | 11                     | 6.35  | 2.38 | 2.8  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | TCMT110208-HR | 11                     | 6.35  | 2.38 | 2.8  | 0.8 |                                                                                     |
|                              | TCMT16T304-HR | 16.5                   | 9.525 | 3.97 | 4.4  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | TCMT16T308-HR | 16.5                   | 9.525 | 3.97 | 4.4  | 0.8 |                                                                                     |
|                              | SCMT09T304-EM | 9.525                  | 9.525 | 3.97 | 4.4  | 0.4 | Insert pressed, chip groove pressed                                                 |
|                              | SCMT09T308-EM | 9.525                  | 9.525 | 3.97 | 4.4  | 0.8 | Wendeplatte gepresst, Spanleitstufe gepresst                                        |
|                              | SCMT120404-EM | 12.7                   | 12.7  | 4.76 | 5.56 | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | SCMT120408-EM | 12.7                   | 12.7  | 4.76 | 5.56 | 0.8 |                                                                                     |
|                              | SCMT120412-EM | 12.7                   | 12.7  | 4.76 | 5.56 | 1.2 |                                                                                     |
|                              | SCMT09T304-HM | 9.525                  | 9.525 | 3.97 | 4.4  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | SCMT09T308-HM | 9.525                  | 9.525 | 3.97 | 4.4  | 0.8 |                                                                                     |
|                              | SCMT120404-HM | 12.7                   | 12.7  | 4.76 | 5.56 | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | SCMT120408-HM | 12.7                   | 12.7  | 4.76 | 5.56 | 0.8 |                                                                                     |
|                              | SCMT120412-HM | 12.7                   | 12.7  | 4.76 | 5.56 | 1.2 |                                                                                     |
|                              | SCMT09T304-HR | 9.525                  | 9.525 | 3.97 | 4.4  | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | SCMT09T308-HR | 9.525                  | 9.525 | 3.97 | 4.4  | 0.8 |                                                                                     |
|                              | SCMT120404-HR | 12.7                   | 12.7  | 4.76 | 5.56 | 0.4 | Insert pressed, chip groove pressed<br>Wendeplatte gepresst, Spanleitstufe gepresst |
|                              | SCMT120408-HR | 12.7                   | 12.7  | 4.76 | 5.56 | 0.8 |                                                                                     |
|                              | SCMT120412-HR | 12.7                   | 12.7  | 4.76 | 5.56 | 1.2 |                                                                                     |
|                              | RCMT10T3MO-DM | 10                     | 10    | 3.97 | 3.6  |     | Insert pressed, chip groove pressed                                                 |
|                              | RCMT10T3MO    | 10                     | 10    | 3.97 | 3.6  |     | Wendeplatte gepresst, Spanleitstufe gepresst                                        |
|                              |               |                        |       |      |      |     |                                                                                     |

Insert sharpness / Schneidplattenschärfe

Cutting edge stability / Schneidkantenstabilität

# Cutting speed data Schnittdatenempfehlungen

|                        |                                                                                               |                                                 |                                |                                                             | Feed rate in mm per revolution related to cutting edge radius and boring range / Vorschub fz in mm pro Umdrehung bezogen auf Schneidkantenradius und Ausdrehbereich |                                                                                                    |                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| ISO Group / ISO Gruppe | Workpiece material/ Werkstoff                                                                 | Tensile strenght [N/mm²]/ Zugfestigkeit [N/mm²] | Cutting material/ Schneidstoff | Cutting speed Vc [m/min]/ Schnittgeschwindigkeit Vc [m/min] | Cutting edge radius/ Schneidkantenradius<br>0,2 mm<br>Boring range/ Ausdrehbereich<br>23,5-40,1 mm                                                                  | Cutting edge radius/ Schneidkantenradius<br>0,4 mm<br>Boring range/ Ausdrehbereich<br>29,5-66,5 mm | Cutting edge radius/ Schneidkantenradius<br>0,8 mm<br>Boring range/ Ausdrehbereich<br>65,5-402 mm |
| <b>P</b>               |                                                                                               |                                                 |                                |                                                             | Cutting depth/ Schnitttiefe<br>ap = 1,0-2,5 mm                                                                                                                      | Cutting depth/ Schnitttiefe<br>ap = 1,5-3,5 mm                                                     | Cutting depth/ Schnitttiefe<br>ap = 2,5-5,0 mm                                                    |
|                        | Unalloyed steel/ Unlegierter Stahl                                                            | <600N/mm²                                       | YBC152/ YBC252                 | 110-250                                                     | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        |                                                                                               | >600N/mm²                                       | YBC152/ YBC252                 | 110-220                                                     | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        |                                                                                               |                                                 |                                |                                                             | Cutting depth/ Schnitttiefe<br>ap = 1,0-2,5 mm                                                                                                                      | Cutting depth/ Schnitttiefe<br>ap = 1,5-3,5 mm                                                     | Cutting depth/ Schnitttiefe<br>ap = 2,5-5,0 mm                                                    |
|                        | Alloyed steel & cast steel/ Legierter Stahl & Stahlguss                                       | <900N/mm²                                       | YBC152/ YBC252                 | 100-160                                                     | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        |                                                                                               | >900N/mm²                                       | YBC152/ YBC252                 | 90-150                                                      | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        |                                                                                               |                                                 |                                |                                                             | Cutting depth/ Schnitttiefe<br>ap = 0,75-2,3 mm                                                                                                                     | Cutting depth/ Schnitttiefe<br>ap = 1,5-3,5 mm                                                     | Cutting depth/ Schnitttiefe<br>ap = 2,5-5,0 mm                                                    |
|                        | High alloy steel/ Hochlegierter Stahl                                                         | <1000N/mm²                                      | YBC152/ YBC252                 | 80-140                                                      | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        |                                                                                               | >1000N/mm²                                      | YBC152/ YBC252                 | 90-130                                                      | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
| <b>M</b>               |                                                                                               |                                                 |                                |                                                             | Cutting depth/ Schnitttiefe<br>ap = 0,75-2,0 mm                                                                                                                     | Cutting depth/ Schnitttiefe<br>ap = 1,0-3,0 mm                                                     | Cutting depth/ Schnitttiefe<br>ap = 2,5-4,0 mm                                                    |
|                        | Stainless steels (ferritic/martensitic)/ nichtrostende Materialien (ferritisch/martensitisch) |                                                 | YBM153/ YBM253/ YBG205         | 80-120                                                      | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        | Stainless steels (austenitic)/ nichtrostende Materialien (austenitisch)                       |                                                 | YBM153/ YBM253/ YBG205         | 75-120                                                      | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
| <b>K</b>               |                                                                                               |                                                 |                                |                                                             | Cutting depth/ Schnitttiefe<br>ap = 1,0-2,5 mm                                                                                                                      | Cutting depth/ Schnitttiefe<br>ap = 2,5-3,5 mm                                                     | Cutting depth/ Schnitttiefe<br>ap = 3,5-5,0 mm                                                    |
|                        | GTS, GTW/ Temperguss                                                                          |                                                 | YBD152C/ YBD152                | 150-200                                                     | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        | GGL, GJL                                                                                      |                                                 | YBD152C/ YBD152                | 150-200                                                     | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        | GJS                                                                                           |                                                 | YBD152C/ YBD152                | 120-180                                                     | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
| <b>N</b>               |                                                                                               |                                                 |                                |                                                             | Cutting depth/ Schnitttiefe<br>ap = 1,0-2,0 mm                                                                                                                      | Cutting depth/ Schnitttiefe<br>ap = 2,5-4,0 mm                                                     | Cutting depth/ Schnitttiefe<br>ap = 4,0-6,0 mm                                                    |
|                        | Aluminium alloys/ Aluminiumlegierung                                                          |                                                 | YD101                          | 100-360                                                     | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
| <b>S</b>               |                                                                                               |                                                 |                                |                                                             | Cutting Depth/ Schnitttiefe<br>ap = 0,4-0,8 mm                                                                                                                      | Cutting Depth/ Schnitttiefe<br>ap = 0,8-1,5 mm                                                     | Cutting Depth/ Schnitttiefe<br>ap = 1,5-1,8 mm                                                    |
|                        | Inconell, Hastelloy                                                                           |                                                 | YBG205                         | 35-55                                                       | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |
|                        | Titanium and titanium alloys/ Titan und Titanlegierungen                                      |                                                 | YBG205                         | 40-80                                                       | 0,08-0,13                                                                                                                                                           | 0,18-0,25                                                                                          | 0,25-0,4                                                                                          |

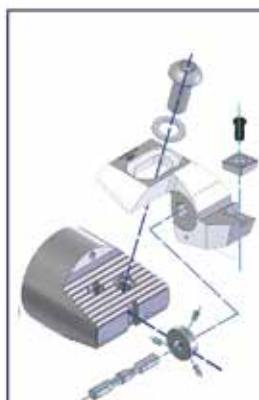
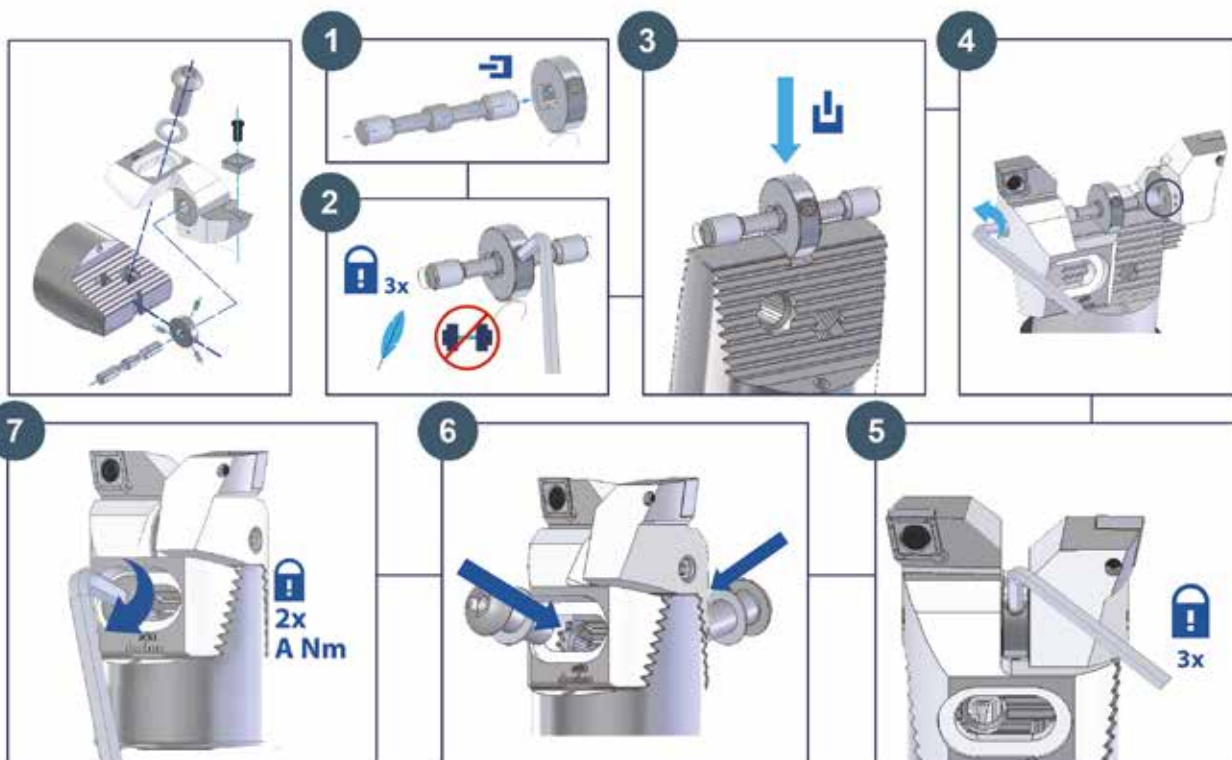
# Substrate information

## Substratinformation

|                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>YBC152</b><br>P05 – 20                         | <p>Thick TiCN and thick <math>\text{Al}_2\text{O}_3</math> coatings improve the impact toughness and abrasion resistance, which makes it suitable for finishing and semi-finishing of steel at high speed conditions. Cutting speed can be increased by more than 25 % against the first generation, while the tool life can be increased by more than 30 % at the same cutting speed.</p> <p><i>Dicke TiCN und <math>\text{Al}_2\text{O}_3</math> Beschichtung verbessern die Schlagzähigkeit und Abriebbeständigkeit. Die Sorte eignet sich somit für die Endbearbeitung und mittlere Bearbeitung von Stahl mit hohen Geschwindigkeiten. Die Schnittgeschwindigkeit kann um mehr als 25 % gegenüber der Vorgängersorte gesteigert werden, während sich die Werkzeugstandzeit bei gleicher Schnittgeschwindigkeit um mehr als 30 % erhöhen kann.</i></p>                                                                                                                                                     |
| <b>YBC252</b><br>P10 – P35                        | <p>Consists of thick TiCN and thick <math>\text{Al}_2\text{O}_3</math> coating, the grade has a high capability against plastic deformation and a hard cutting edge. Preferred grade for machining of steel from finishing to roughing. Under the same cutting conditions, the cutting speed can be increased by more than 25 % against the first generation, while the tool life can last 30 % longer under the same cutting speed.</p> <p><i>Bestehend aus dicker TiCN- und dicker <math>\text{Al}_2\text{O}_3</math>-Beschichtung. Gute Eigenschaften gegen plastische Verformung bei gleichzeitig hoher Härte. Bevorzugte Sorte für die Bearbeitung von Stahl, Schlicht- bis Schruppbearbeitung. Schnittgeschwindigkeit kann um mehr als 25 % erhöht werden gegenüber der ersten Generation, während die Standzeit bei gleicher Schnittgeschwindigkeit um 30 % verlängert werden kann.</i></p>                                                                                                            |
| <b>YNT251</b><br>K05                              | <p>Nano composite powder material, controlled ring structure and strengthened binder phase give the material outstanding wear resistance and toughness with longer service life and stability. Perfect Ta/Nb proportion combined with high N content gives excellent hardness.</p> <p><i>Nano-Composite-Pulver-Material, kontrollierte Ringstruktur und verstärkte Bindemittelphase geben dem Material hervorragende Verschleißfestigkeit und Zähigkeit mit längerer Lebensdauer und Stabilität. Perfektes Ta/Nb-Verhältnis kombiniert mit hohem N-Gehalt ergibt eine ausgezeichnete Härte.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>YBM153</b><br>M05 – M30                        | <p>Thick TiCN and thick <math>\text{Al}_2\text{O}_3</math> coating improves the impact toughness, abrasion resistance and temperature resistance. Suitable for finishing and semi-finishing of stainless steel. Cutting speed can be increased by more than 25 % against the first generation, while tool life can be increased by more than 35 % at the same cutting speed.</p> <p><i>Dicke TiCN und dicke <math>\text{Al}_2\text{O}_3</math> Beschichtung verbessern die Schlagzähigkeit, Abriebbeständigkeit und Temperaturbeständigkeit. Eignet sich somit für die Endbearbeitung und mittlere Bearbeitung von nichtrostendem Stahl. Die Schnittgeschwindigkeit kann um mehr als 25 % gegenüber der Vorgängersorte gesteigert werden, während sich die Werkzeugstandzeit bei gleicher Schnittgeschwindigkeit um mehr als 35 % erhöhen kann.</i></p>                                                                                                                                                       |
| <b>YBM253</b><br>M10 – M35                        | <p>Consists of thick TiCN and thick <math>\text{Al}_2\text{O}_3</math> coating, the grade has a high capability against plastic deformation, good hardness and temperature resistance of cutting edge. It is the preferred grade for machining of stainless steel from finishing to roughing. Under the same cutting conditions, the cutting speed can be increased by more than 25 % against the first generation, while the tool life can be 30 % longer under the same cutting speed.</p> <p><i>Bestehend aus dicker TiCN und dicker <math>\text{Al}_2\text{O}_3</math> Beschichtung. Gute Eigenschaften gegen plastische Verformung bei gleichzeitig hoher Härte und verbesserter Temperaturbeständigkeit. Bevorzugte Sorte für die Bearbeitung von nichtrostendem Stahl, Schlicht- bis Schruppbearbeitung. Schnittgeschwindigkeit kann um mehr als 25 % erhöht werden gegenüber der ersten Generation, während die Standzeit bei gleicher Schnittgeschwindigkeit um 30 % verlängert werden kann.</i></p> |
| <b>YBG205</b><br>M20 – M40<br>S05 – S30           | <p>Superfine TiAlN nano coating. Wear-resistant and heat-resistant grade. High hardness and excellent heat-resistance, providing effective protection for the cutting edge. Special coating technology ensures stronger combination of coating and substrate. Suitable for finishing of stainless steel.</p> <p><i>Superfeine TiAlN-Nanobeschichtung. Verschleißfeste und hitzebeständige Sorte mit hoher Härte, die einen wirksamen Schutz für die Schneide bietet. Spezielle Beschichtungstechnologie sorgt für eine verbesserte Kombination von Beschichtung und Substrat. Eignet sich für die Schlichtbearbeitung von nichtrostendem Stahl.</i></p>                                                                                                                                                                                                                                                                                                                                                       |
| <b>YB9320</b><br>P10 – 30<br>M10 – 30<br>S05 – 20 | <p>Nano multilayer coating with high toughness TiAlN substrate. Increased adhesion between coating and substrate and an excellent combination of toughness and hardness. The new grade also has a high temperature resistance. Suitable for a wide application range in stainless steel and also heat-resistant material.</p> <p><i>Neue TiAlN Beschichtungstechnologie mit optimaler Schichthaftung und einer guten Kombination aus Zähigkeit und Härte. Die neue Sorte hat auch eine hohe Temperaturbeständigkeit. Für ein breites Anwendungsspektrum in nichtrostendem Stahl und schwerzerspanbaren Werkstoffen.</i></p>                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>YNG151C</b><br>K05                             | <p>TiCN based cermet, through special pre-treatment, plus PVD nano TiAlN coating. Optimal combination of high wear resistance and good edge toughness, suitable for super-finishing and finishing of steel, stainless steel and cast iron for high surface finishing.</p> <p><i>TiCN + PVD Nano-TiAlN Beschichtung: Optimale Kombination von sehr hoher Verschleißfestigkeit und Schneidkantenfähigkeit. Zum Feinschlichten und Schlichten von Stahl, nichtrostendem Stahl und Gusseisen mit hohen Oberflächengüten. TiCN + PVD Nano-TiAlN Beschichtung: Optimale Kombination von sehr hoher Verschleißfestigkeit und Schneidkantenfähigkeit. Zum Feinschlichten und Schlichten von Stahl, nichtrostendem Stahl und Gusseisen mit hohen Oberflächengüten.</i></p>                                                                                                                                                                                                                                             |
| <b>YBD152C</b><br>K05 – K25                       | <p>Improved grade with thicker <math>\text{Al}_2\text{O}_3</math> coating in combination with the TC chip breaker for more stable performance, higher tool life and wear resistance under higher cutting condition up to <math>V_c = 450 \text{ m/min}</math>.</p> <p><i>Verbesserte Sorte mit dickerer <math>\text{Al}_2\text{O}_3</math> Beschichtung in Kombination mit dem TC-Spanbrecher. Für höhere Schnittleistung, mehr Standzeit und Verschleißfestigkeit bei hohen Schnittgeschwindigkeiten bis <math>V_c = 450 \text{ m/min}</math>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>YD101</b><br>N5 – N30<br>S5 – S15              | <p>Uncoated cemented carbide of tungsten with fine grain and cobalt binder phase.</p> <p><i>Unbeschichtetes Hartmetall aus Wolframcarbid mit feiner Körnung und einer Bindephase aus Cobalt. K15 – K35</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



## Rough boring head *Schruppkopf* ø23-153



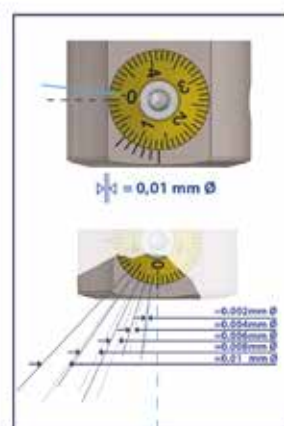
Rough boring  
head

|                   | Nm<br>A | max.<br>rpm |
|-------------------|---------|-------------|
| D20 / Ø 23-31     | 2,4     | 12.000      |
| D25 / Ø 31-40     | 5       | 10.000      |
| D32 / Ø 40-51     | 9       | 8.000       |
| D42 / Ø 51-67     | 20      | 6.500       |
| D55 / Ø 67-87     | 35      | 5.000       |
| D72 / Ø 87-116    | 35      | 4.000       |
| D94 / Ø 116 - 153 | 35      | 3.000       |

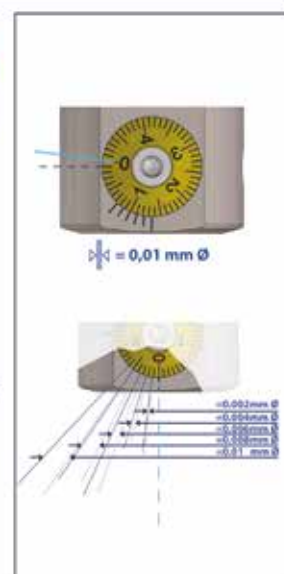


+6 +7

## Bridge tools Brückenwerkzeuge ø150-655 mm



## Bridge tools Brückenwerkzeuge ø650-2205 mm





**Fine boring head with boring bar**  
***Feinbohrkopf mit Bohrstange***

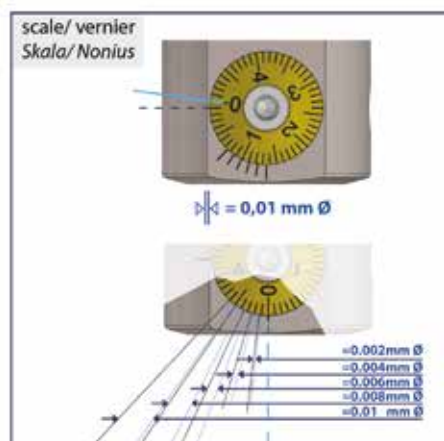
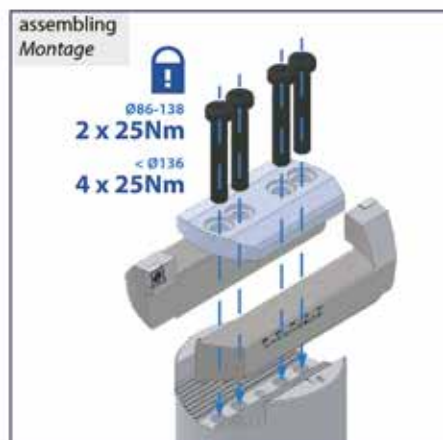


## Universal balancing ring

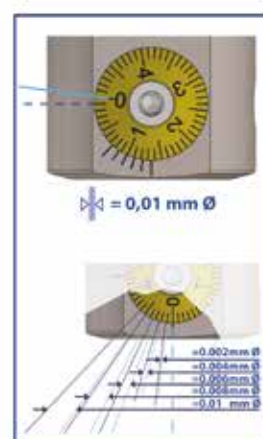
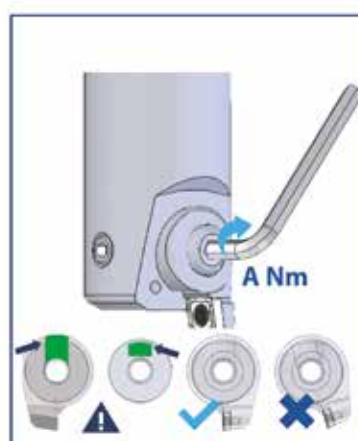
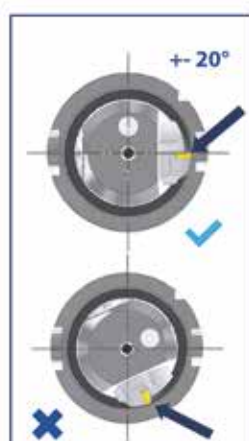
### *Universal-Auswuchtring*



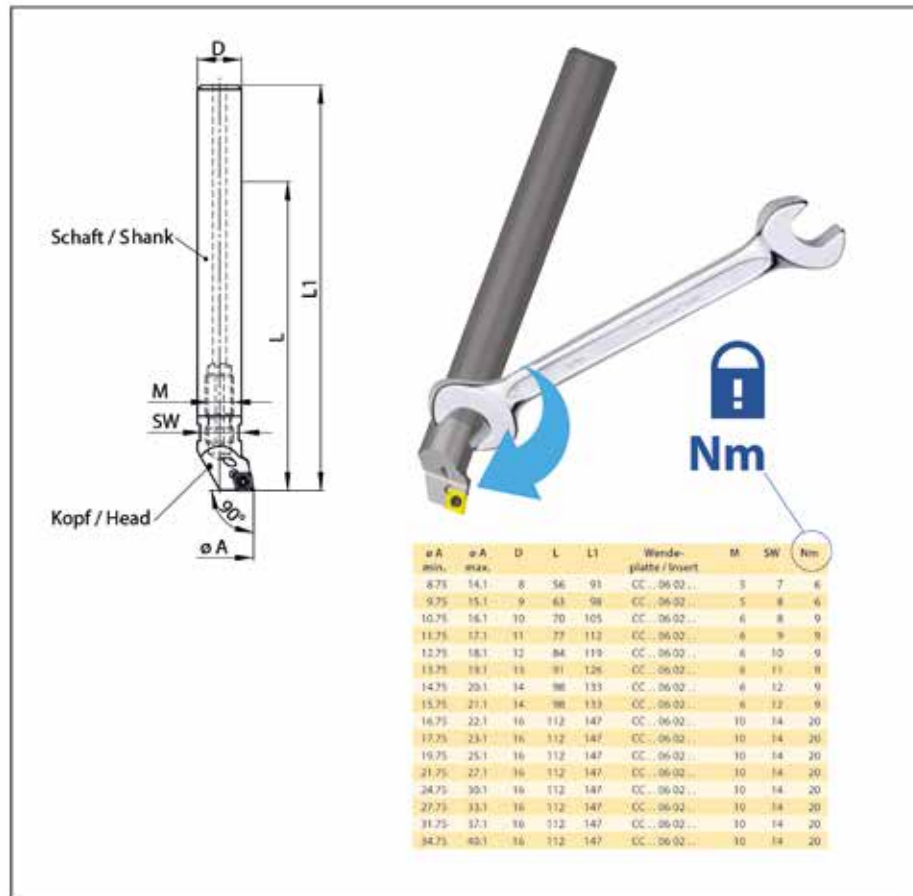
## Fine & rough boring heads Schrupp- & Schlichtköpfe



## Fine boring head Feinbohrkopf



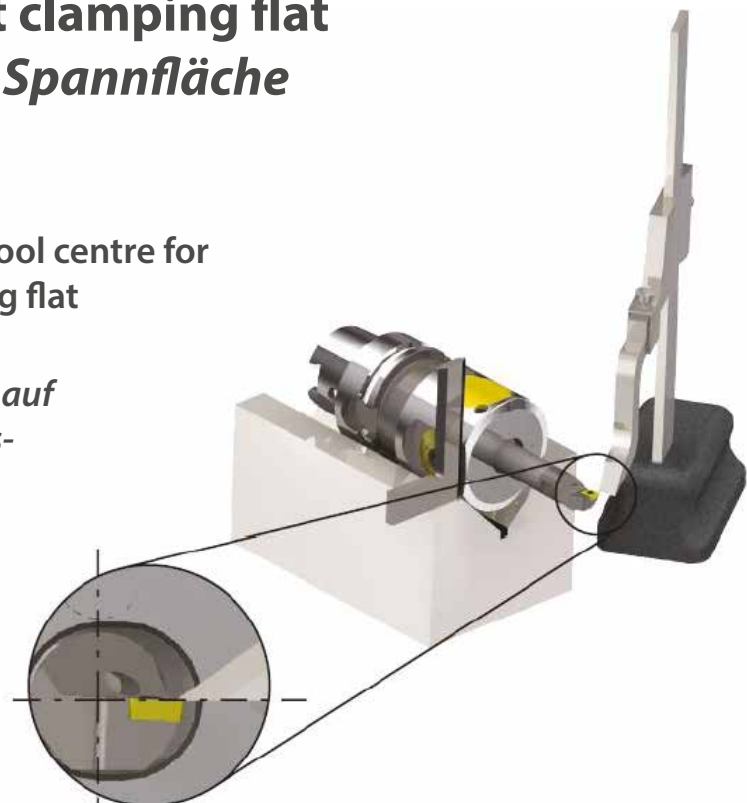
## Boring bars Bohrstangen



## Boring bars without clamping flat Ausdrehstähle ohne Spannfläche

Adjusting the tip height on tool centre for  
boring bars without clamping flat

*Einstellen der Schneidenhöhe auf  
Werkzeugzentrum für alle Aus-  
drehstähle ohne Spannfläche*



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**MULTI**

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**CAD**

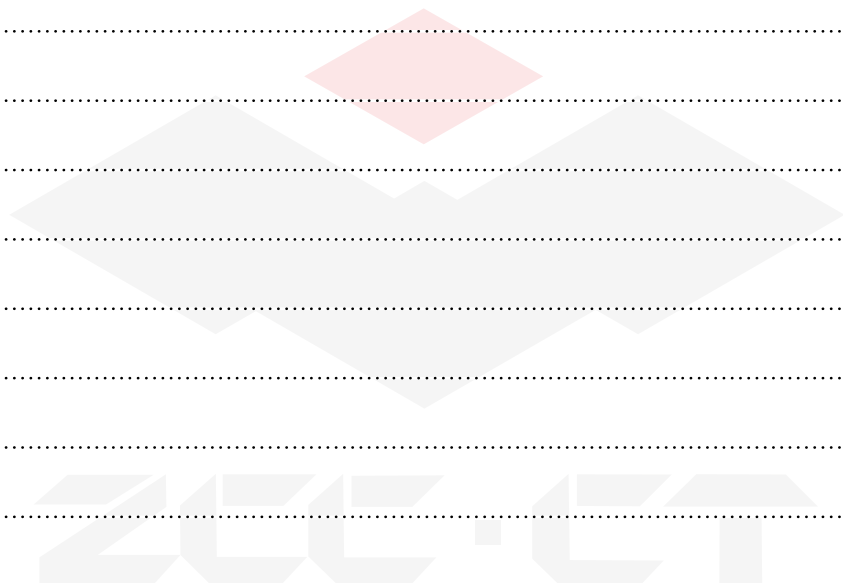
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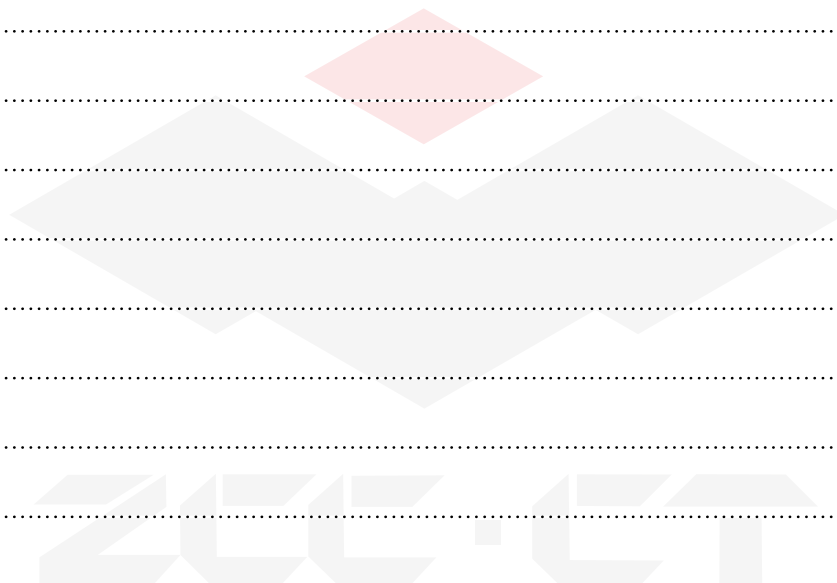
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Handwriting practice lines consisting of 20 horizontal dotted lines.











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## MULTI TOOL & CAD Spindle system *MULTI TOOL & CAD Spindelsystem*



Europe head office  
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