
# Werkzeugsystem / Tooling System

swiss MULTI

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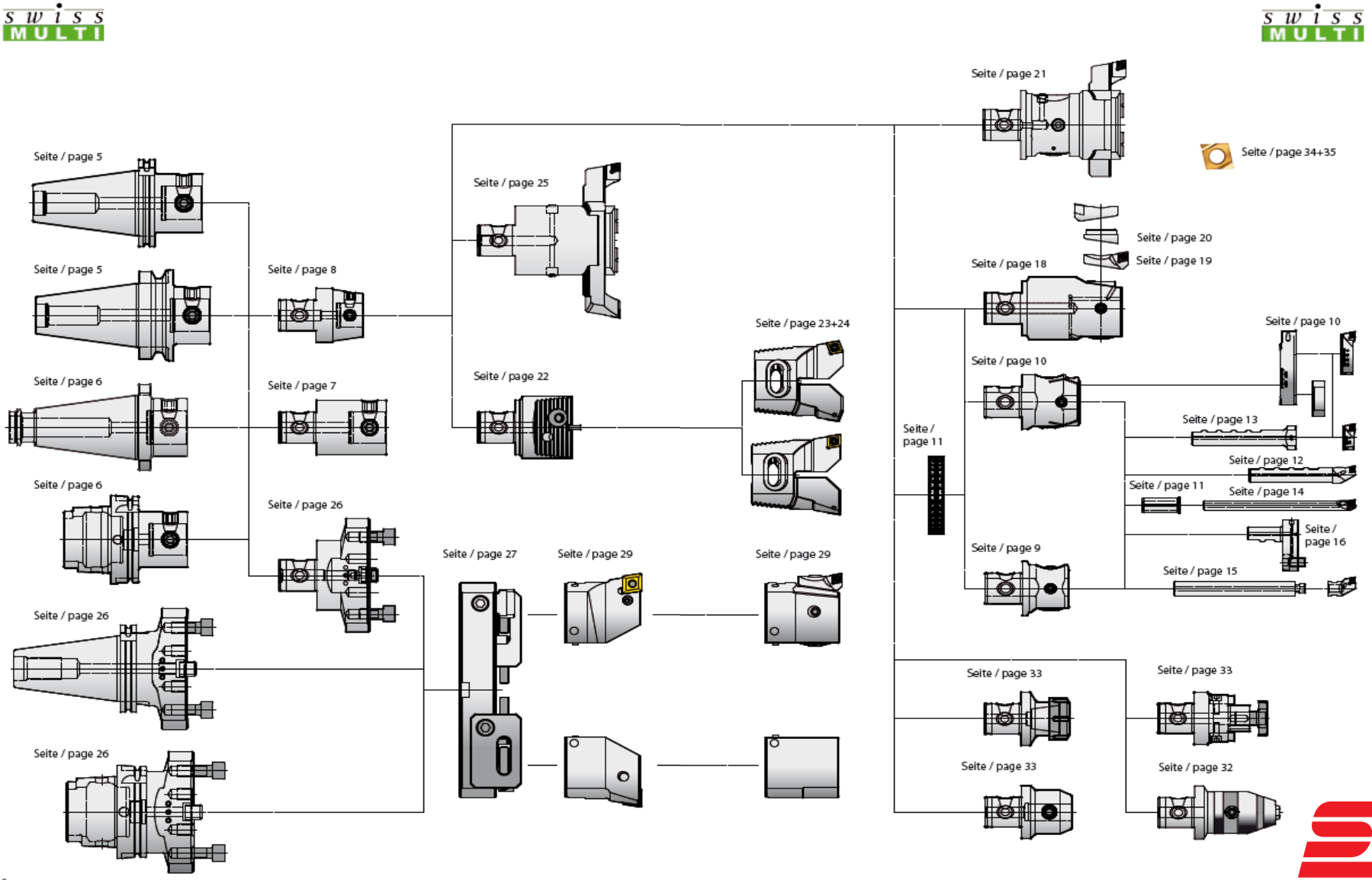
in g

EROGLU® Präzisionswerkzeuge

ST GROUP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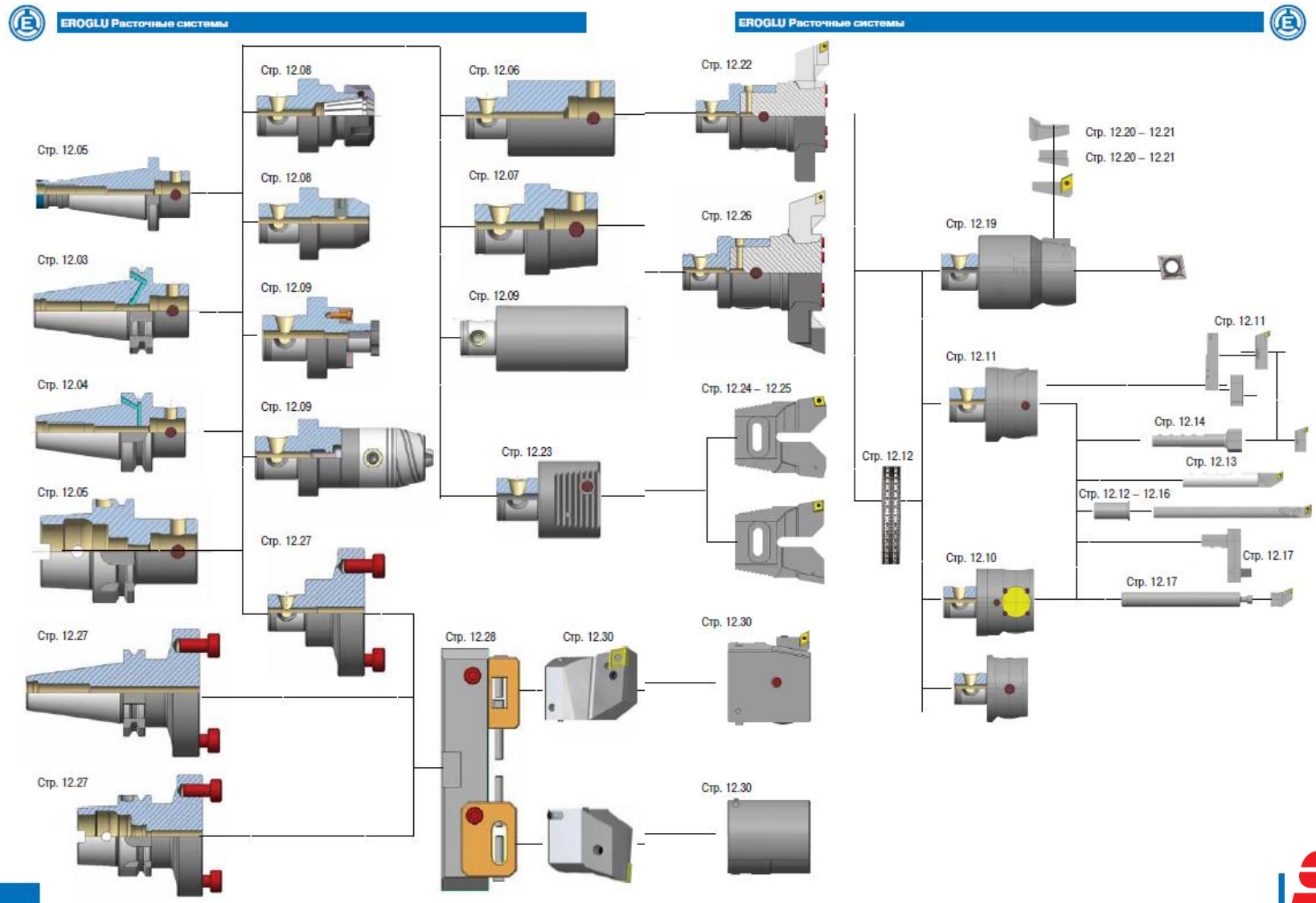
EROGLU Расточные системы
Стр. 12.05
Стр. 12.03
Стр. 12.04
Стр. 12.05
Стр. 12.27
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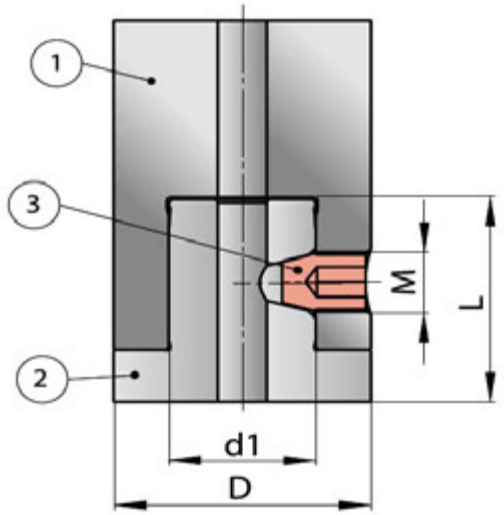
## Spannsystem WH

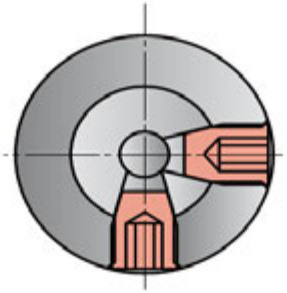
## quick-change coupling system WH

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.




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.

Während die Dimensionen WH1 und WH2 jeweils nur eine Spannschraube aufweisen, kommen ab WH3 zwei um 90° versetzte Spannschrauben zum Einsatz.



Meanwhile dimensions WH1 and WH2 are each containing just one clamping screw, WH3 and following dimensions are featuring two of these, shifted at 90°.

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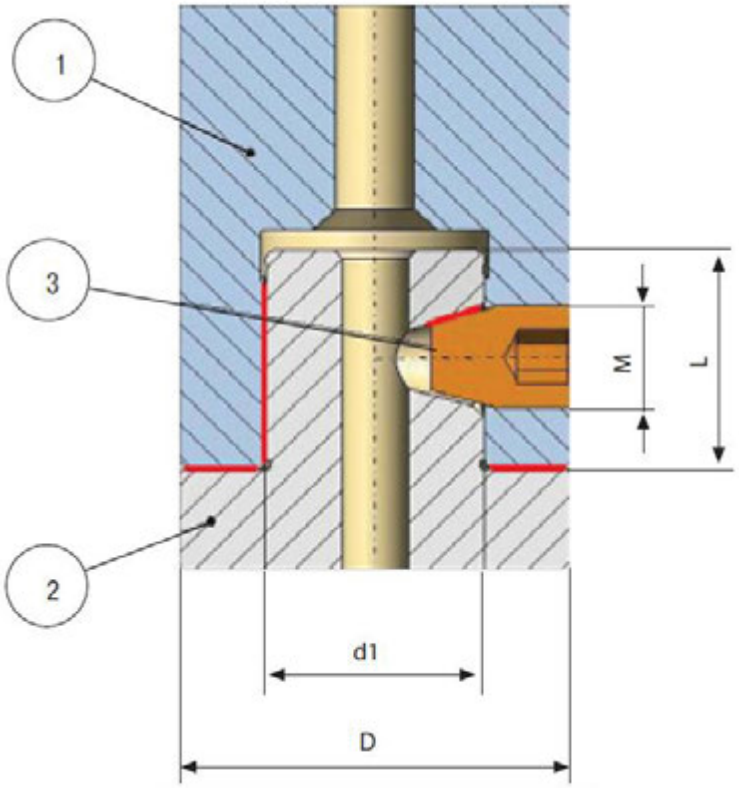
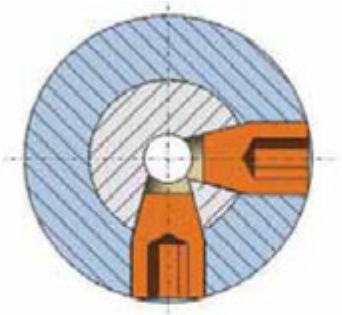
**Быстросменная модульная система**

Хвостовик модульной системы (2) закрепляется в держателе (1) посредством конического зажимного винта (3), а центрирование осуществляется по диаметру d1 за счет высокой точности сопрягаемых деталей. Такой вид закрепления позволяет достичь высокой жесткости и точности всего крепления за счет большой площади контактных поверхностей и высокой силы давления винта.

Clean the parts to be assembled and apply thin oxidation protection film. Tighten the screw with the correct torque.



В держателях с d1=11 и 14 мм при креплении используется 1 винт, на больших диаметрах 2 винта.

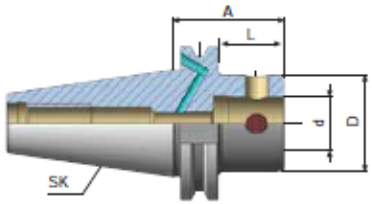
**Размеры**

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

## Базовые держатели с хвостовиком SK — DIN 69871 AD/B

| Номер по каталогу | SK | d | D | A | L |
|---|---|---|---|---|---|
| 302.70.28* | 30 | 28 | 50 | 48 | 28.9 |
| 403.70.11 | 40 | 11 | 20 | 46 | 26.9 |
| 403.70.11.1 | 40 | 11 | 20 | 85 | 65.9 |
| 403.70.14 | 40 | 14 | 25 | 46 | 26.9 |
| 403.70.14.1 | 40 | 14 | 25 | 85 | 65.9 |
| 403.70.14.2 | 40 | 14 | 25 | 120 | 100.9 |
| 403.70.18 | 40 | 18 | 32 | 46 | 26.9 |
| 403.70.18.1 | 40 | 18 | 32 | 85 | 65.9 |
| 403.70.18.2 | 40 | 18 | 32 | 120 | 100.9 |
| 403.70.22 | 40 | 22 | 40 | 46 | 26.9 |
| 403.70.22.1 | 40 | 22 | 40 | 100 | 80.9 |
| 403.70.28 | 40 | 28 | 50 | 46 | 26.9 |
| 403.70.28.1 | 40 | 28 | 50 | 100 | 80.9 |
| 403.70.36 | 40 | 36 | 63 | 66 | 46.9 |
| 503.70.14.1 | 50 | 14 | 25 | 85 | 65.9 |
| 503.70.18 | 50 | 18 | 32 | 46 | 26.9 |
| 503.70.18.1 | 50 | 18 | 32 | 100 | 80.9 |
| 503.70.22 | 50 | 22 | 40 | 46 | 26.9 |
| 503.70.22.1 | 50 | 22 | 40 | 100 | 80.9 |
| 503.70.28 | 50 | 28 | 50 | 46 | 26.9 |
| 503.70.28.1 | 50 | 28 | 50 | 85 | 65.9 |
| 503.70.28.2 | 50 | 28 | 50 | 120 | 100.9 |
| 503.70.36 | 50 | 36 | 63 | 66 | 46.9 |
| 503.70.36.1 | 50 | 36 | 63 | 100 | 80.9 |
| 503.70.36.11 | 50 | 36 | 80 | 46 | 26.9 |
| 503.70.36.12 | 50 | 36 | 80 | 85 | 65.9 |

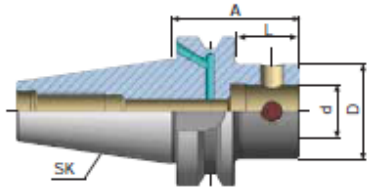
* Форма AD




## Базовые держатели с хвостовиком BT — JIS B 6339 MAS 403 BT AD/B

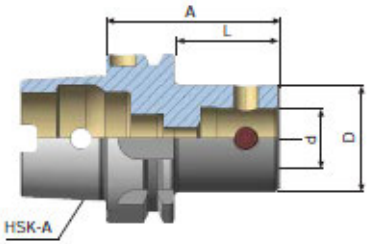
| Номер по каталогу | BT | d | D | A | L |
|---|---|---|---|---|---|
| 305.70.28* | 30 | 28 | 50 | 49 | 27 |
| 406.70.11 | 40 | 11 | 20 | 54 | 27 |
| 406.70.11.1 | 40 | 11 | 20 | 93 | 66 |
| 406.70.14 | 40 | 14 | 25 | 54 | 27 |
| 406.70.14.1 | 40 | 14 | 25 | 93 | 66 |
| 406.70.14.2 | 40 | 14 | 25 | 127 | 100 |
| 406.70.18 | 40 | 18 | 32 | 54 | 27 |
| 406.70.18.1 | 40 | 18 | 32 | 93 | 66 |
| 406.70.18.2 | 40 | 18 | 32 | 127 | 100 |
| 406.70.22 | 40 | 22 | 40 | 54 | 27 |
| 406.70.22.1 | 40 | 22 | 40 | 107 | 80 |
| 406.70.28 | 40 | 28 | 50 | 54 | 27 |
| 406.70.28.1 | 40 | 28 | 50 | 107 | 80 |
| 406.70.36 | 40 | 36 | 63 | 64 | 37 |
| 506.70.14.1 | 50 | 14 | 25 | 104 | 66 |
| 506.70.18 | 50 | 18 | 32 | 65 | 27 |
| 506.70.18.1 | 50 | 18 | 32 | 118 | 80 |
| 506.70.22 | 50 | 22 | 40 | 65 | 27 |
| 506.70.22.1 | 50 | 22 | 40 | 118 | 80 |
| 506.70.28 | 50 | 28 | 50 | 65 | 27 |
| 506.70.28.1 | 50 | 28 | 50 | 104 | 66 |
| 506.70.28.2 | 50 | 28 | 50 | 138 | 100 |
| 506.70.36 | 50 | 36 | 63 | 75 | 37 |
| 506.70.36.1 | 50 | 36 | 63 | 104 | 66 |
| 506.70.36.11 | 50 | 36 | 80 | 75 | 37 |
| 506.70.36.12 | 50 | 36 | 80 | 104 | 66 |

* Форма AD



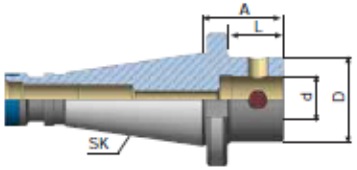

## Базовые держатели с хвостовиком HSK — HSK – A DIN 69893 / ISO 12164 - 1

| Номер по каталогу | HSK A | d | D | A | L |
|---|---|---|---|---|---|
| A63.70.11 | 63 | 11 | 20 | 42 | 16 |
| A63.70.11.1 | 63 | 11 | 20 | 86 | 60 |
| A63.70.14 | 63 | 14 | 25 | 42 | 16 |
| A63.70.14.1 | 63 | 14 | 25 | 86 | 60 |
| A63.70.14.2 | 63 | 14 | 25 | 126 | 100 |
| A63.70.18 | 63 | 18 | 32 | 48 | 22 |
| A63.70.18.1 | 63 | 18 | 32 | 100 | 74 |
| A63.70.22 | 63 | 22 | 40 | 55 | 29 |
| A63.70.22.1 | 63 | 22 | 40 | 100 | 74 |
| A63.70.28 | 63 | 28 | 50 | 65 | 39 |
| A63.70.28.1 | 63 | 28 | 50 | 100 | 74 |
| A63.70.36 | 63 | 36 | 63 | 80 | 54 |
| A100.70.28 | 100 | 28 | 50 | 65 | 36 |
| A100.70.36 | 100 | 36 | 63 | 80 | 51 |
| A100.70.36.11 | 100 | 36 | 80 | 80 | 51 |




## Базовые держатели с хвостовиком по DIN2080 — DIN 2080

| Номер по каталогу | SK | d | D | A | L |
|---|---|---|---|---|---|
| 301.70.28 | 30 | 28 | 50 | 40 | - |
| 401.70.22 | 40 | 22 | 40 | 40 | 28.4 |
| 401.70.28 | 40 | 28 | 50 | 40 | 28.4 |
| 401.70.36 | 40 | 36 | 63 | 63 | - |
| 501.70.28 | 50 | 28 | 50 | 42 | 26.8 |
| 501.70.36 | 50 | 36 | 63 | 52 | 36.8 |
| 501.70.36.1 | 50 | 36 | 80 | 52 | 36.8 |



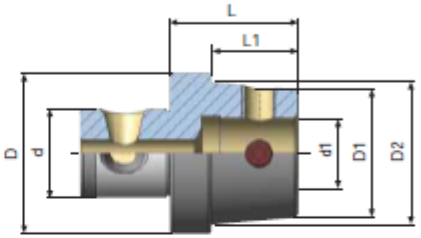


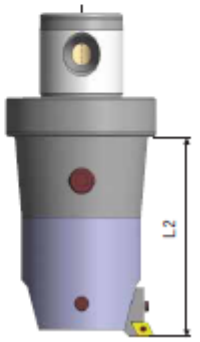
### Аксессуары

| d | Номер по каталогу |
|---|---|
| | Винт зажимной (1) |
| d 11 | J00.100.005.008 |
| d 14 | J00.100.008.010 |
| d 18 | J00.100.008.010 |
| d 22 | J00.100.010.015 |
| d 28 | J00.100.012.017 |
| d 36 | J00.100.016.021 |
| d 36 | J00.100.016.029 |

## Переходники-удлинители

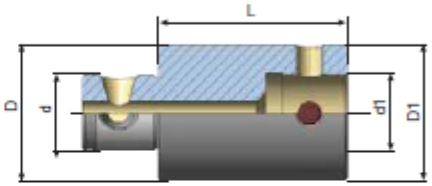
| Номер по каталогу | d | D | d1 | D1 | D2 | L | L1 | L2 |
|---|---|---|---|---|---|---|---|---|
| 774.14.11.36 | 14 | 25 | 11 | 20 | 23 | 36 | 26 | 69 |
| 774.18.11.38 | 18 | 32 | 11 | 20 | 23 | 38 | 26 | 69 |
| 774.18.14.38 | 18 | 32 | 14 | 25 | 29 | 38 | 26 | 82 |
| 774.22.11.40 | 22 | 40 | 11 | 20 | 23 | 40 | 26 | 69 |
| 774.22.14.40 | 22 | 40 | 14 | 25 | 29 | 40 | 26 | 82 |
| 774.22.18.40 | 22 | 40 | 18 | 32 | 38 | 40 | 26 | 92 |
| 774.28.11.44 | 28 | 50 | 11 | 20 | 23 | 44 | 28 | 73 |
| 774.28.11.80 | 28 | 50 | 11 | 20 | 23 | 80 | 64 | 107 |
| 774.28.14.44 | 28 | 50 | 14 | 25 | 29 | 44 | 28 | 84 |
| 774.28.14.90 | 28 | 50 | 14 | 25 | 29 | 90 | 74 | 128 |
| 774.28.18.44 | 28 | 50 | 18 | 32 | 38 | 44 | 28 | 94 |
| 774.28.18.100 | 28 | 50 | 18 | 32 | 38 | 100 | 84 | 148 |
| 774.28.22.44 | 28 | 50 | 22 | 40 | 48 | 44 | 28 | 103 |
| 774.28.22.115 | 28 | 50 | 22 | 40 | 48 | 115 | 99 | 172 |
| 774.36.11.50 | 36 | 63 | 11 | 20 | 23 | 50 | 32 | 77 |
| 774.36.11.100 | 36 | 63 | 11 | 20 | 23 | 100 | 82 | 125 |
| 774.36.14.50 | 36 | 63 | 14 | 25 | 29 | 50 | 32 | 88 |
| 774.36.14.110 | 36 | 63 | 14 | 25 | 29 | 110 | 92 | 146 |
| 774.36.18.50 | 36 | 63 | 18 | 32 | 38 | 50 | 32 | 98 |
| 774.36.18.120 | 36 | 63 | 18 | 32 | 38 | 120 | 102 | 166 |
| 774.36.22.50 | 36 | 63 | 22 | 40 | 48 | 50 | 32 | 122 |
| 774.36.22.140 | 36 | 63 | 22 | 40 | 48 | 140 | 122 | 195 |
| 774.36.28.50 | 36 | 63 | 28 | 50 | 60 | 50 | 32 | 142 |
| 774.36.28.160 | 36 | 63 | 28 | 50 | 60 | 160 | 142 | 230 |
| 774.36.36.60 | 36 | 80 | 36 | 63 | 75 | 60 | 40 | 180 |

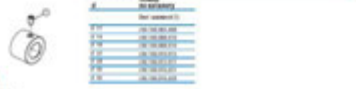


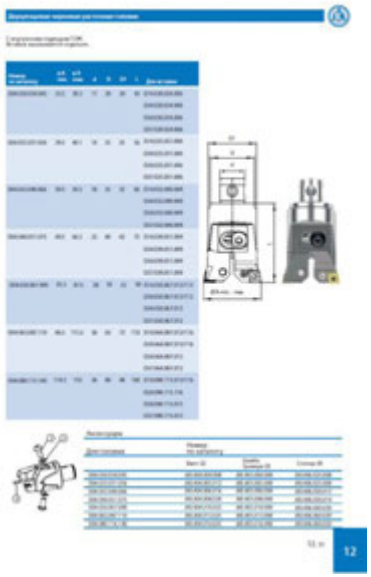



## Удлинители

| Номер по каталогу | d | D | d1 | D1 | L |
|---|---|---|---|---|---|
| 772.11.25 | 11 | 20 | 11 | 20 | 25 |
| 772.11.35 | 11 | 20 | 11 | 20 | 35 |
| 772.14.30 | 14 | 25 | 14 | 25 | 30 |
| 772.14.45 | 14 | 25 | 14 | 25 | 45 |
| 772.18.40 | 18 | 32 | 18 | 32 | 40 |
| 772.18.60 | 18 | 32 | 18 | 32 | 60 |
| 772.22.50 | 22 | 40 | 22 | 40 | 50 |
| 772.22.80 | 22 | 40 | 22 | 40 | 80 |
| 772.28.50 | 28 | 50 | 28 | 50 | 50 |
| 772.28.70 | 28 | 50 | 28 | 50 | 70 |
| 772.28.100 | 28 | 50 | 28 | 50 | 100 |
| 772.36.75 | 36 | 63 | 36 | 63 | 75 |
| 772.36.135 | 36 | 63 | 36 | 63 | 135 |
| 772.36.80.100 | 36 | 80 | 36 | 80 | 100 |
| 772.36.80.180 | 36 | 80 | 36 | 80 | 180 |





Merkmale:

Die Schrupp-Ausdrehköpfe sind für die Schwerzerspanung ausgelegt.

Durchmesserbereich Ø 23.5 – 153.0

Schnittaufteilung möglich

Synchron od. Einzel Verstellung

70° und 90° Wendeplattenhalter

Innenkühlung

Grundkörper und Wendeplattenhalter verfügen über eine Kerbverzahnung

Features:

The rough boring heads are developed for heavy duty cutting.

Diameterrange Ø 23.5 – 153.0

Staggered cutting available

Synchronous or single adjustment

70° and 90° insertholders

Inner collant supply

Main body and insert holders have a teeth profile

ST GROUP

## Merkmale:

Grundkörper und Wendeplattenhalter verfügen über eine Kerbverzahnung.

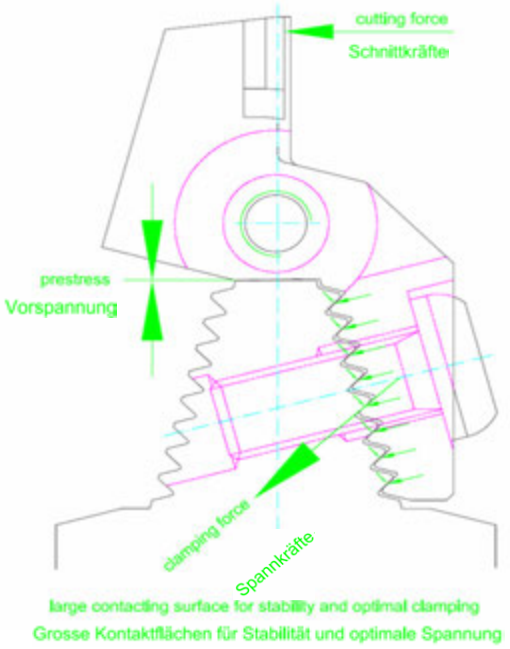
Schnittkräfte werden in den Grundkörper geleitet und wirken nicht gegen die Spannschraube.

## Features:

Main body and insert holders have a teeth profile

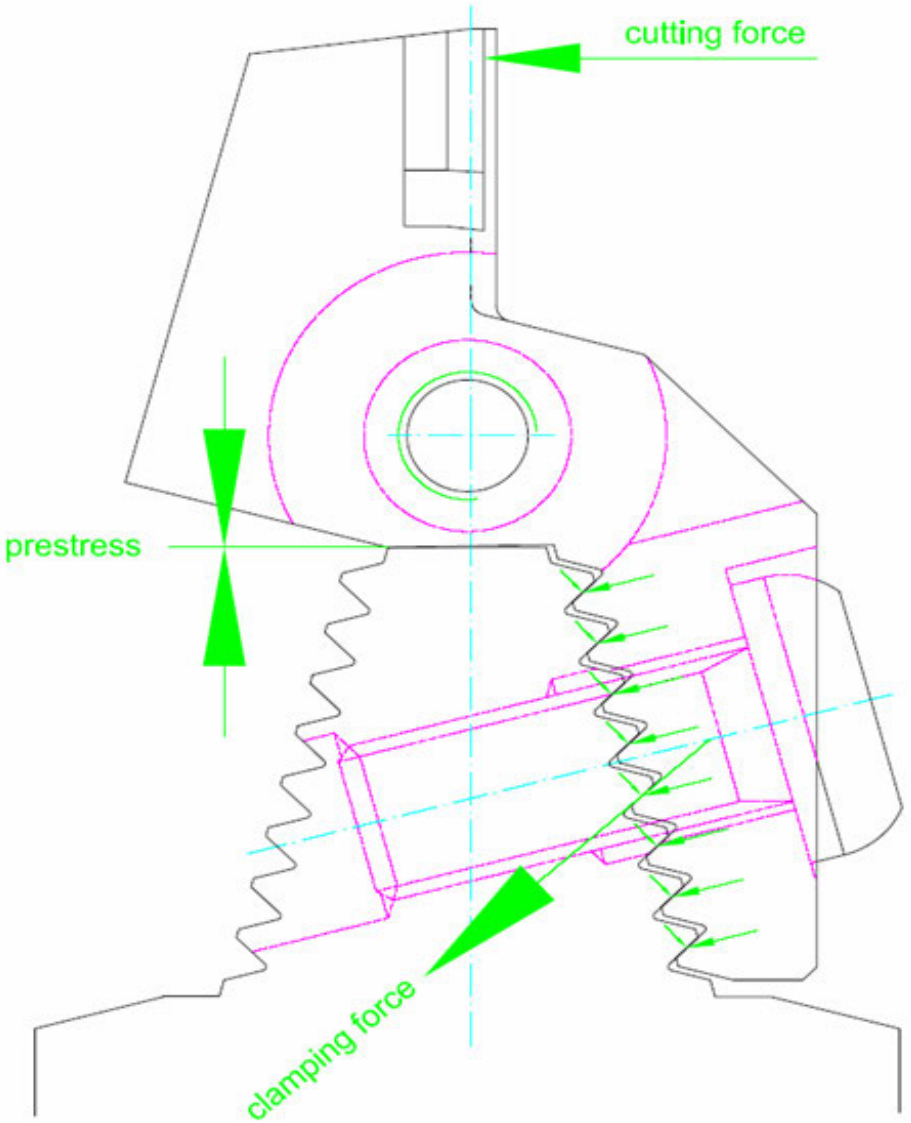
Cutting force effect to the main body not to the clamping screw.

| | SWISSTOOLS | Kaiser | Wohlhaupter | Epb | Komet | Urma | D'Andrea |
|---|---|---|---|---|---|---|---|
| **Stabilität / Stability** | ☺ | ☹ | 😐 | ☹ | ☹ | ☺ | ☹ |




large contacting surface for stability and optimal clamping

Grosse Kontaktflächen für Stabilität und optimale Spannung



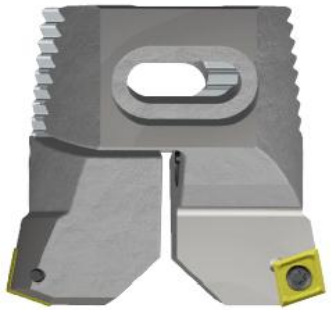

large contacting surface for stability and optimal clamping

Wendeplattenhalter 90°

Insert holders 90°

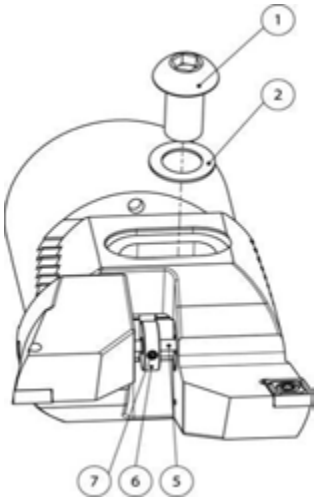
Wendeplattenhalter 70°

Insert holders 70°



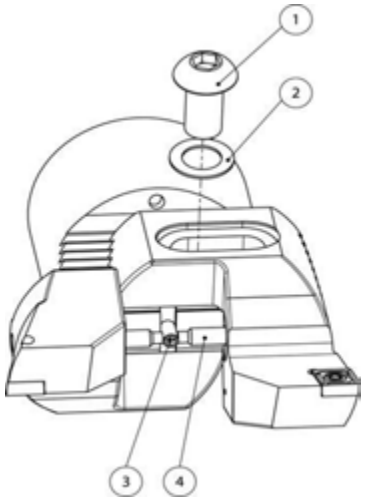
Synchron Verstellung

Synchronous adjustment




Einzelverstellung

Single adjustment

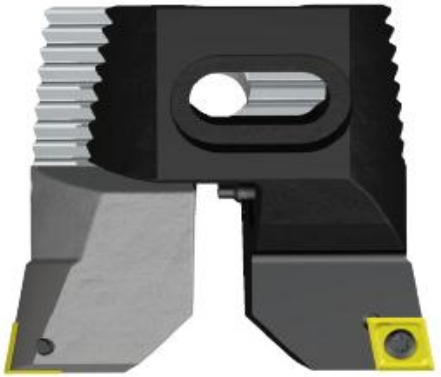


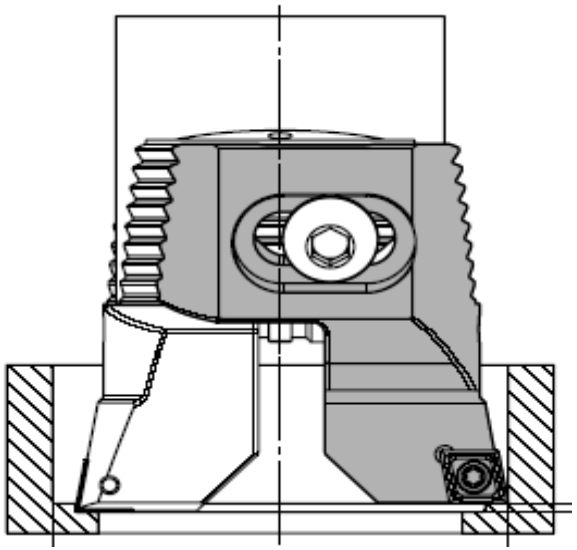
## Schnittaufteilung

Die in Durchmesser und Höhe versetzte Schneidenanordnung erlaubt die Zerspanung der doppelten Materialzugabe bei halbierten Vorschubwerten

## Staggered cutting

Diameter and height offset cutters allow the removal of twice the stock with half the feed rate





# Twin cutter head
# Ø 23.5 - 153.1 mm

- Stable
- Stiff
- Synchronous adjustment
- Staggered cutting
- Maintenance-free

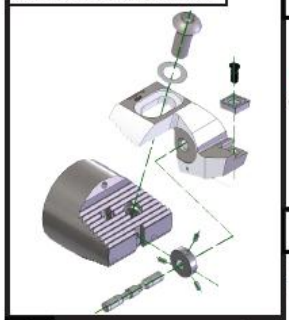
| Feature | Function | Benefit |
|---|---|---|
| Diameter adjustment | The diameter adjustment can be done individually or synchronously. Different insert holders can be used on the same main body. | Short setup time and very easy to use. |
| Inserts | All insert holders use standard ISO insert. Both are positive and negative insert holders available. | No special inserts needed. |
| Balancing | The main body is balanced. The unbalance, which normally occurs when adjusting the tool, is reduced to a minimum. | The advantages of a balanced tool are:<br>- better surface finish<br>- higher tool life<br>- maximum spindle life |
| Staggered cutting | By use of the insert holders for staggered cutting with an axial offset of 0.4mm more material can be removed in one pass. | - low cutting force<br>- higher chip volume |
| layout / tooth profile | The insert holder is clamped on an angle of 75° on the main body. There is a large contact face between the insert holder and the body, because of the tooth profile. The cutting force presses the holder into the main body and is not working against the clamping screw. | - extremely stable layout<br>- for hard roughing |

ST GROUP

**ECO LINE**
**ROUGH BORING HEAD**

## assembling insertholder

*synchronous adjustment*



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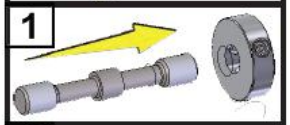

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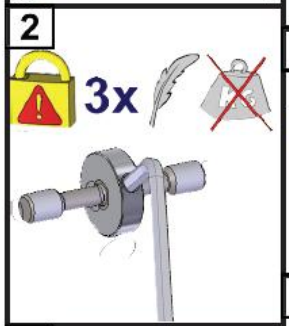


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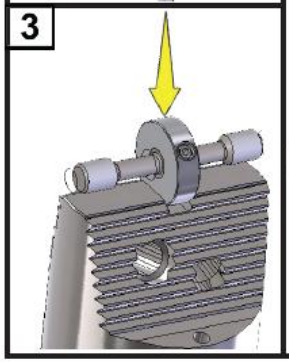

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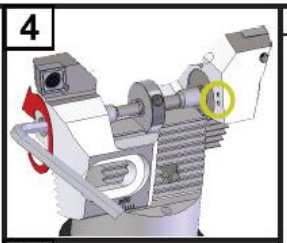

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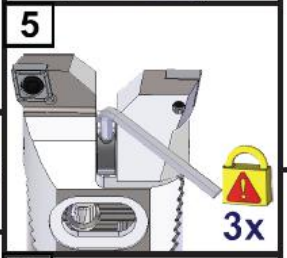


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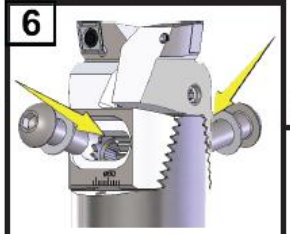

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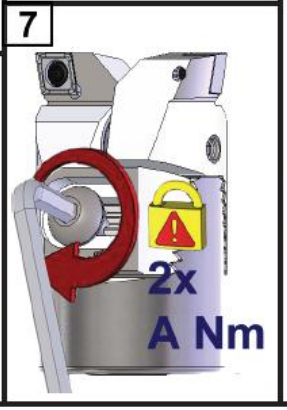
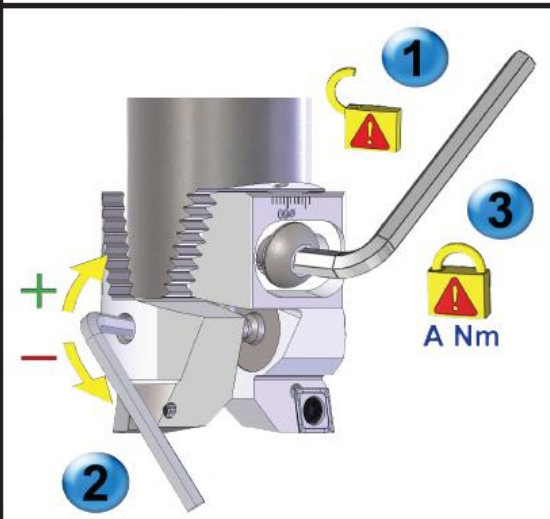



*single adjustment*


*torque / revolution*

| Rough boring head | Nm<br>max. rpm |
|---|---|
| D20 / Ø 23.5 - 51.1 | A = 2.4 Nm |
| max. spindle spin | 12.000 rpm |
| D32 / Ø 30.5 - 40.1 | A = 5.0 Nm |
| max. spindle spin | 10.000 rpm |

## diameter adjustment

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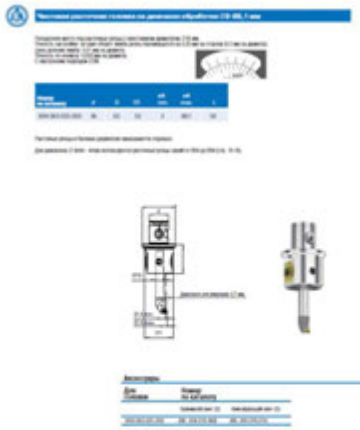


Merkmale:

Der Ausdrehkopf ist zur Bearbeitung von Präzisionsbohrungen von
Ø 3 – 88.1 mm vorgesehen.

Für diesen Ausdrehbereich steht ein umfassendes Zubehör- Programm zur Verfügung.

Auswuchten des Werkzeuges möglich

als Monoblock- und Modularwerkzeug erhältlich

für Ausdrehstähle mit Schaftdurchmesser 16mm

Durchmessereinstellung mit geringstem Umkehrspiel

Zustellgenauigkeit 0.01mm resp. über Nonius 0.002mm im Durchmesser

mit Innenkühlung

Ausdrehstähle durchschiebbar

Features:

The fine boring head for boring bars is designed for precision holes from diameter Ø 3 – 88.1mm (0.118 – 3.469”).

For this diameter range Swiss Tools supplies different equipment.

Balancing of the tool is possible

As monobloc- or modular tool available

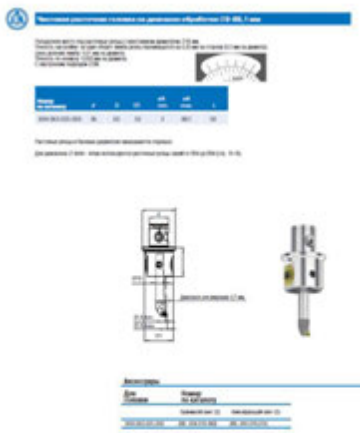
For boring bars with shank diameter 16mm (0.63”)

Diametrical adjustment nearly without reversal backlash

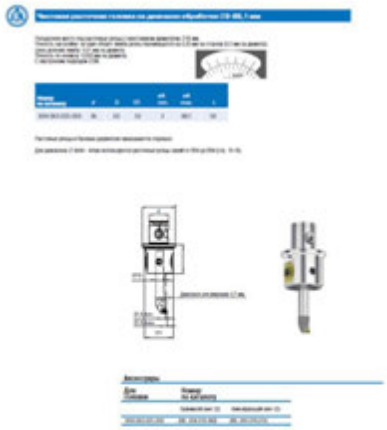
0.01mm (0.0004”) diametrical adjustment resp. 0.002mm (0.00008”) by nonius

With inner coolant supply

Boring bar go through the head

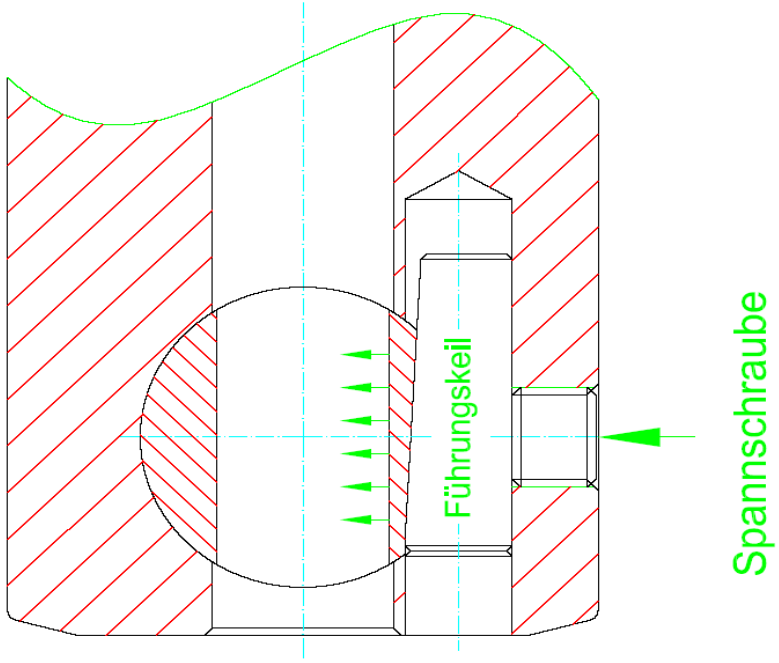


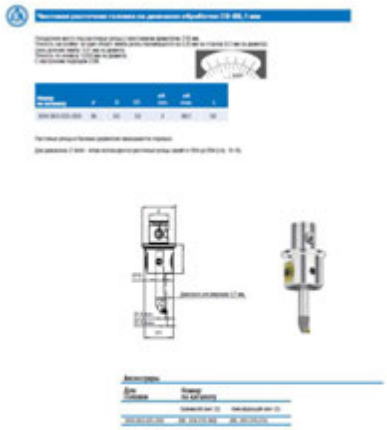
| | SWISSTOOLS | Kaiser | Wohl haupter | Epb | Komet | Urma | D'Andrea |
|---|---|---|---|---|---|---|---|
| **Ø-Bereich / Ø-range** | ☺ 3 - 88 | 😐 2 - 54 | ☺ 3 - 102 | ☹ 3 - 32 | ☹ 8 - 36 | ☹ 10 - 40 | ☹ 3 - 30 |
| **Längenein-stellung / length adjustment** | ☺ | ☺ | ☹ | ☹ | ☹ | ☹ | ☹ |
| **BohrstangenAngebot** | ☺ Stahl / Hartmetall/ verstellbare Bohrstangen | ☺ Stahl / Hartmetall/ verstellbare Bohrstangen | 😐 Stahl / verstellbare Bohrstangen | 😐 Stahl/Hartmetall | 😐 Stahl / verstellbare Bohrstangen | 😐 Stahl / Hartmetall – | ☺ Stahl / Hartmetall/ verstellbare Bohrstangen |



Klemmung der Feinverstellung

Clamping of the micro adjustment





Längeneinstellung der Bohrstange

Length adjustment of the boring bar

## Ausdrehstähle Ø 9.75 – 88.1

mit Innenkühlung

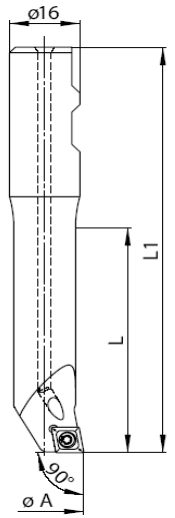
werden die Ausdrehstähle zentrisch gespannt (Weldonfutter) kann mit Ø Amin ausgedreht werden

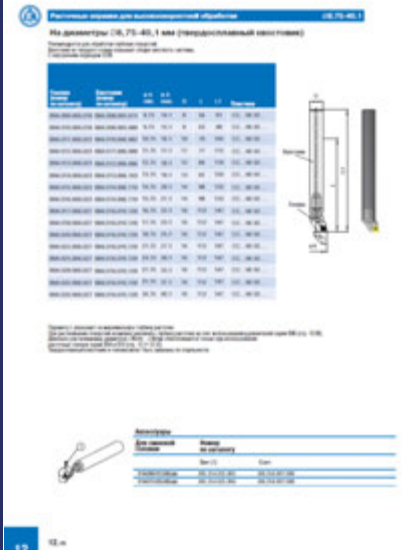
## Boring bars Ø 9.75 – 88.1

with inner coolant supply

If the boring bars are clamped centrically (weldon adapter) the minimum diameter Ø A min is provided

| ø A min. | ø A max. | L | L1 | Wendeplatte / Insert |
|---|---|---|---|---|
| 9.75 | 15.1 | 30 | 75 | CC . . 06 02 . . |
| 11.75 | 17.1 | 35 | 80 | CC . . 06 02 . . |
| 13.75 | 19.1 | 40 | 85 | CC . . 06 02 . . |
| 14.75 | 20.1 | 45 | 90 | CC . . 06 02 . . |
| 15.75 | 21.1 | 50 | 95 | CC . . 06 02 . . |
| 17.75 | 23.1 | 55 | 100 | CC . . 06 02 . . |
| 19.75 | 25.1 | 60 | 105 | CC . . 06 02 . . |
| 19.75 | 25.1 | 60 | 105 | CC . . 09 T3 . . |
| 21.75 | 27.1 | 85 | 110 | CC . . 09 T3 . . |
| 24.75 | 30.1 | 85 | 115 | CC . . 06 02 . . |
| 24.75 | 30.1 | 85 | 115 | CC . . 09 T3 . . |
| 27.75 | 33.1 | 85 | 115 | CC . . 09 T3 . . |
| 29.75 | 35.1 | 85 | 115 | CC . . 06 02 . . |
| 31.75 | 37.1 | 85 | 115 | CC . . 09 T3 . . |
| 34.75 | 40.1 | 85 | 115 | CC . . 06 02 . . |
| 34.75 | 40.1 | 85 | 115 | CC . . 09 T3 . . |
| 38.75 | 44.1 | 85 | 115 | CC . . 09 T3 . . |
| 42.75 | 48.1 | 85 | 115 | CC . . 09 T3 . . |
| 47.75 | 53.1 | 85 | 115 | CC . . 09 T3 . . |
| 52.75 | 58.1 | 85 | 115 | CC . . 09 T3 . . |
| 57.75 | 63.1 | 85 | 115 | CC . . 09 T3 . . |
| 62.75 | 68.1 | 85 | 115 | CC . . 09 T3 . . |
| 67.75 | 73.1 | - | 62 | CC . . 09 T3 . . |
| 72.75 | 78.1 | - | 62 | CC . . 09 T3 . . |
| 77.75 | 83.1 | - | 62 | CC . . 09 T3 . . |
| 82.75 | 88.1 | - | 62 | CC . . 09 T3 . . |





## High Speed Ausdrehstähle
## Ø 8.75 – 40.1 (Hartmetallschaft)

zum Ausdrehen von langen Bohrungen

sehr gute Dämpfungseigenschaften durch Hartmetallschaft

mit Innenkühlung

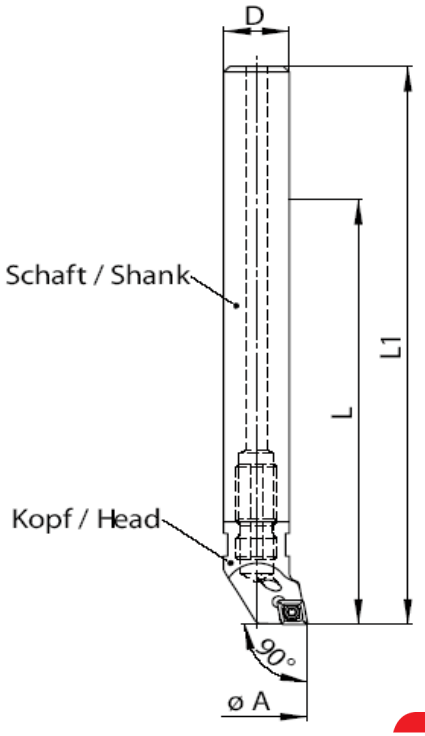
## High-Speed boring bars
## Ø 9.75 – 40.1 (solid carbide shank)

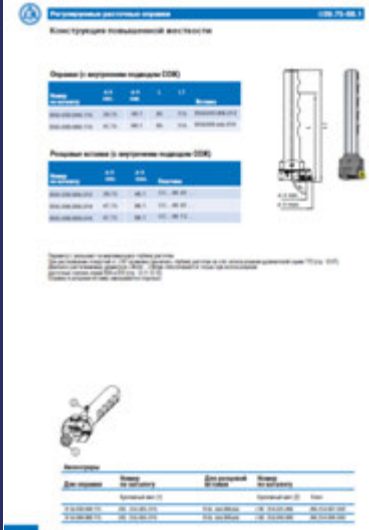
to machine long holes

high end absorbability by solid carbide shank

with inner coolant supply

| ø A min. | ø A max. | D | L | L1 | Wende-platte / Insert |
|---|---|---|---|---|---|
| 8.75 | 14.1 | 8 | 56 | 91 | CC . . 06 02 . . |
| 9.75 | 15.1 | 9 | 63 | 98 | CC . . 06 02 . . |
| 10.75 | 16.1 | 10 | 70 | 105 | CC . . 06 02 . . |
| 11.75 | 17.1 | 11 | 77 | 112 | CC . . 06 02 . . |
| 12.75 | 18.1 | 12 | 84 | 119 | CC . . 06 02 . . |
| 13.75 | 19.1 | 13 | 91 | 126 | CC . . 06 02 . . |
| 14.75 | 20.1 | 14 | 98 | 133 | CC . . 06 02 . . |
| 15.75 | 21.1 | 14 | 98 | 133 | CC . . 06 02 . . |
| 16.75 | 22.1 | 16 | 112 | 147 | CC . . 06 02 . . |
| 17.75 | 23.1 | 16 | 112 | 147 | CC . . 06 02 . . |
| 19.75 | 25.1 | 16 | 112 | 147 | CC . . 06 02 . . |
| 21.75 | 27.1 | 16 | 112 | 147 | CC . . 06 02 . . |
| 24.75 | 30.1 | 16 | 112 | 147 | CC . . 06 02 . . |
| 27.75 | 33.1 | 16 | 112 | 147 | CC . . 06 02 . . |
| 31.75 | 37.1 | 16 | 112 | 147 | CC . . 06 02 . . |
| 34.75 | 40.1 | 16 | 112 | 147 | CC . . 06 02 . . |





Verstellbare
Ausdrehstähle Ø 29.75 – 88.1

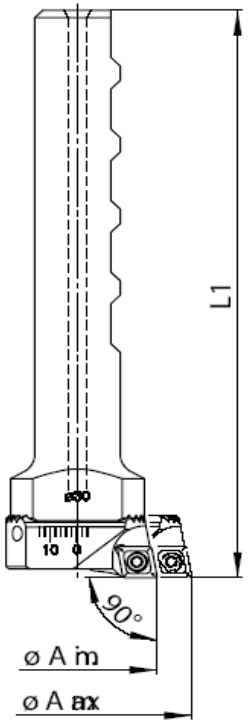
sehr gute Dämpfungseigenschaften

mit Innenkühlung

Adjustable
boring bars Ø 29.75 – 88.1

high end absorbability

with inner coolant supply

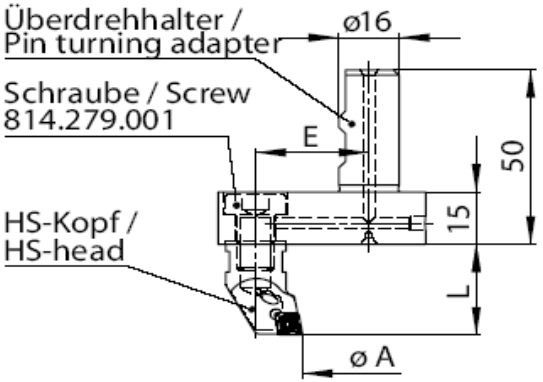


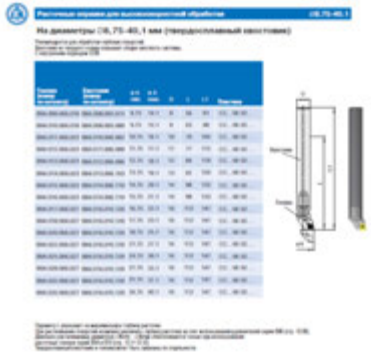

## Überdrehhalter Ø 29.75 – 88.1

mit Innenkühlung

## Pin turning adapter Ø 29.75 – 88.1

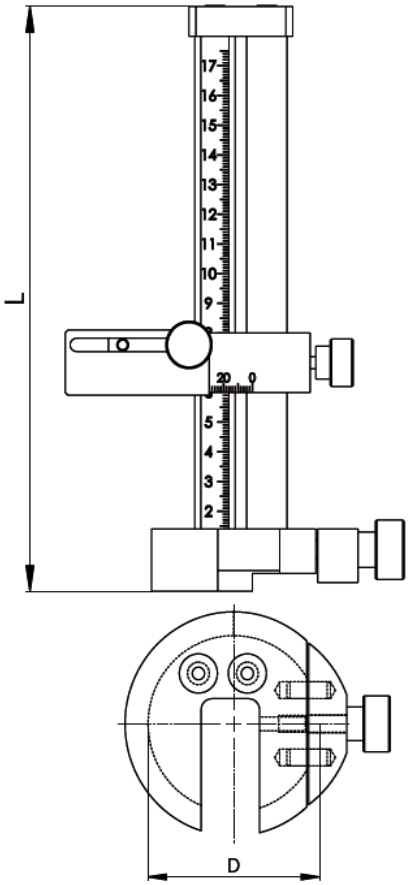
with inner coolant supply





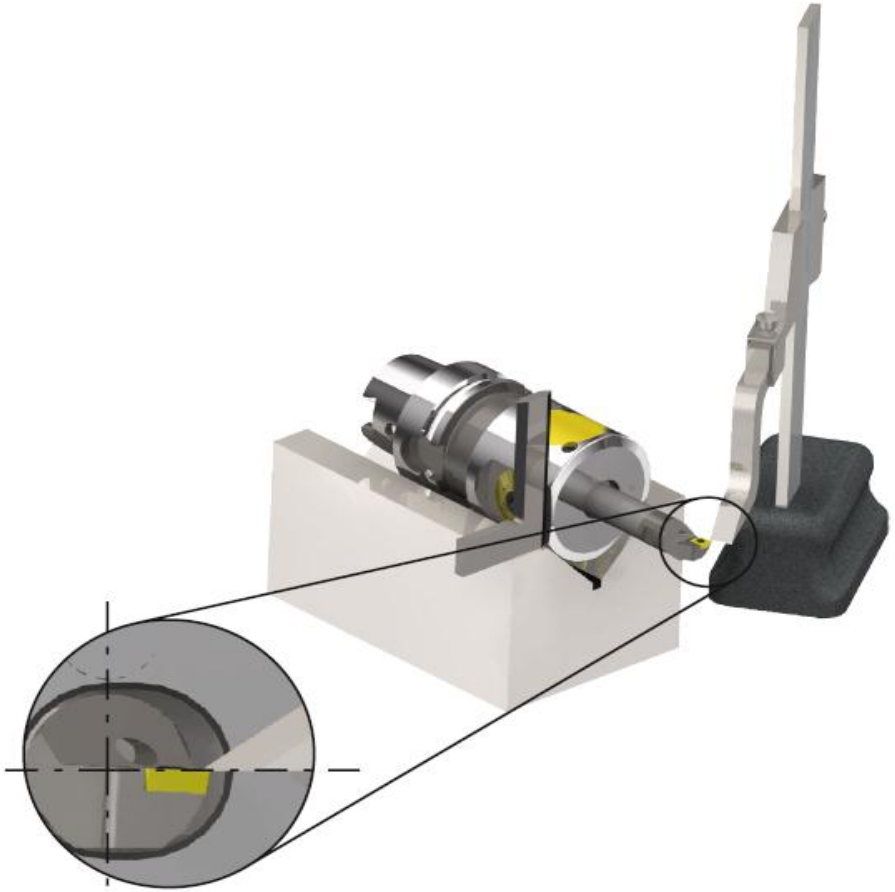
## Setting Jig

- alignment of the cutting edge
- adjustment of the boring bar projection length
- coarse diameter adjustment



Einstellen der Schneidenhöhe auf Werkzeugzentrum für alle Ausdrehstähle ohne Spannfläche

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



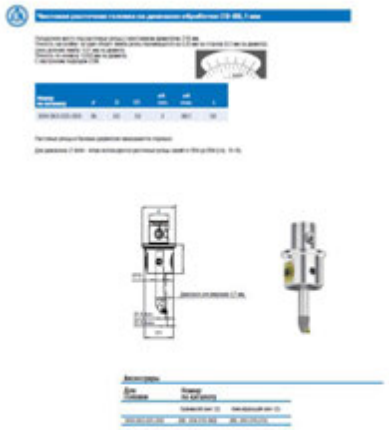
## Universal Auswuchtringe

Einstelltabellen verfügbar womit die Unwucht über 90% reduziert wird

## Universal balancing rings

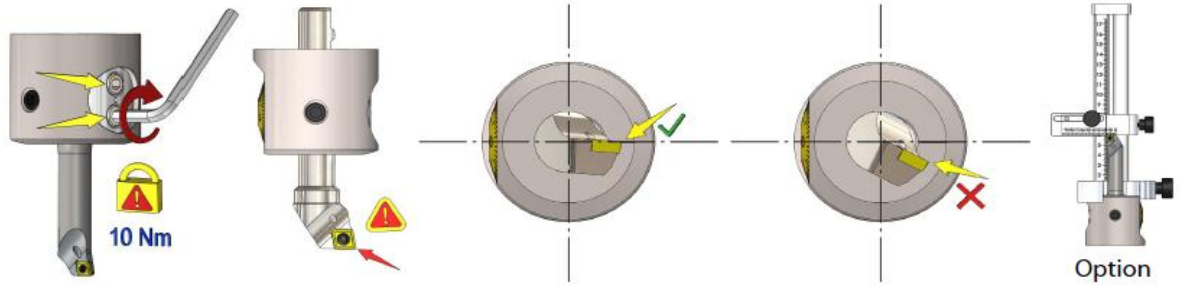
balancing charts are available in order to reduce unbalance by 90%

## Manual
## FBHO Ø 3.0 - 88.1 mm

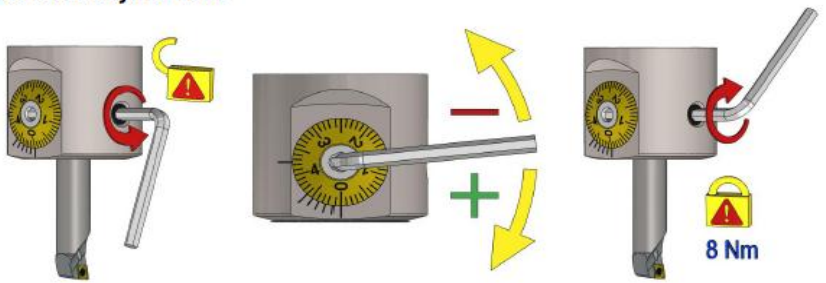




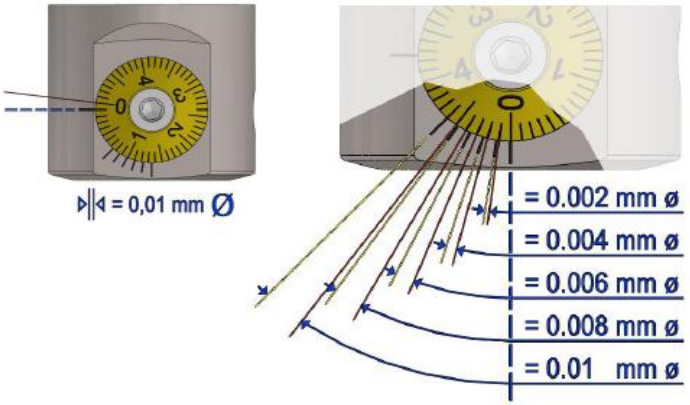
**boring bar assembly**



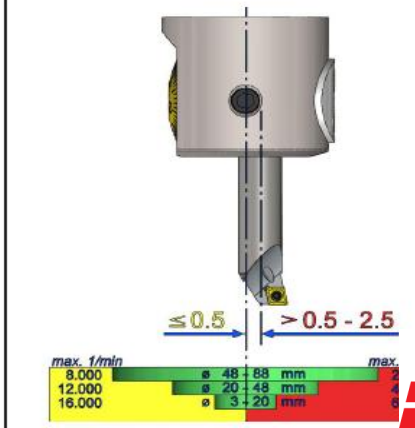

**diameter adjustment**




**scale / nonius**




**max. revolution**



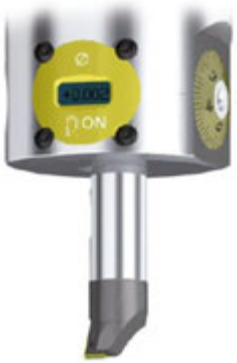
# Fine boring head
# Ø 3 - 88.1 mm

- Precise
- Universal
- Stiff
- Maintenance-free

| Feature | Function | Benefit |
|---|---|---|
| Precise adjustment | Accuracy (2 µm)<br>Large, easy to read dial<br>Diameter adjustment with minimum backlash. | Short setup time an very easy to handle. |
| Length adjustment of the boring bar | As a result of the *Push Thru* technology of the fine boring head the boring bar could be adjusted in the length. | Higher productivity - there is minimal difference between the boring depth and the tool length. |
| Inserts | There is only one standard ISO insert size needed for the whole diameter range (CC.. 06 02..). | No special inserts needed. |
| Balancing of the fine boring head | The main body is balanced. The unbalance, which normally occurs when adjusting the boring bar, is reduced to a minimum. There are balancing rings available which reduce the unbalance 90-95%. | The advantages of a balanced tool are:<br>- better surface finish<br>- higher tool life<br>- maximum spindle life |
| Diameter range | The diameter range of the fine boring head is from Ø3 up to 88.1mm (.118 - 3.46"). There a lot off different boring bars available (carbide, steel, adjustable ....) . | The fine boring head is a high precision tool which is very stiff. The diamater from 10-88 can be achieved with 6 boring bars. High productivity with low investment. |

ST GROUP

# Digital Ausdrehkopf / Digital Fine Boring Head



Merkmale:

Der digitale Ausdrehkopf ist zur Bearbeitung von Präzisionsbohrungen von Ø 3 – 88.1 mm vorgesehen.

als Monoblock- und Modularwerkzeug erhältlich

für Ausdrehstähle mit Schaftdurchmesser 16mm

Auflösung der Digitalanzeige 0.001mm, d.h. 0.002mm im Durchmesser

direktes Wegmesssystem umkehrspielfrei µ-genaue Masskorrekturen +/- möglich

das Einschalten erfolgt über einen Magnetschalter (kühlmitteldicht u. verschleissfest)

autom. Abschaltung (Batteriesparmodus)

mit Innenkühlung

Ausdrehstähle durchschiebbar

Features:

The fine boring head for boring bars is designed for precision holes from diameter Ø 3 – 88.1mm (0.118 – 3.469”).

For this diameter range Swiss Tools supplies different equipment.

As monobloc- or modular tool available

For boring bars with shank diameter 16mm (0.63”)

Direct measuring system – without reversal backlash

Switch on with a magnetic key (waterproof and wear resistant)

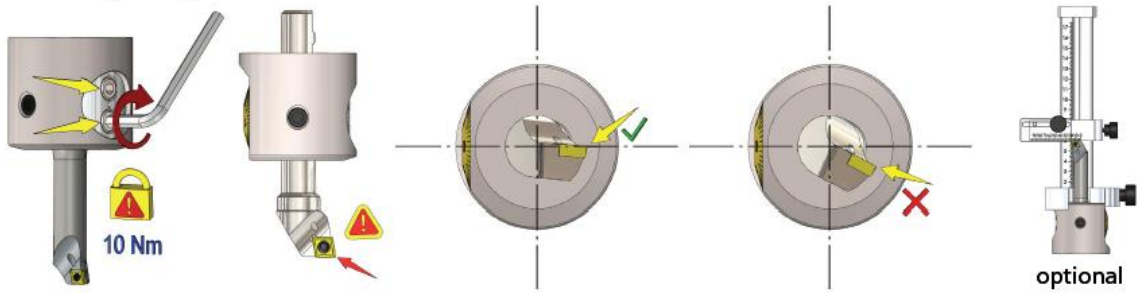
Switch off automatically – saving battery

With inner coolant supply

Boring bar go through the head

**INSTRUCTION MANUAL**
**DIGI HEAD**
**Ø 3.0 - 88.1 mm**


**assembling boring bar**




**diameter adjustment**


**battery change**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ST GROUP

# DIGI-HEAD
# Ø 3 - 88.1 mm

- Digital
- Innovative
- Precise
- Maintenance-free


| Feature | Function | Benefit |
|---|---|---|
| LCD display<br>Precise fine adjustment | Accuracy (2 µm)<br>Large, easy to read dial<br>Direct measurement system without backlash. | Easy handling and very accurate adjustment.<br>Short setup time. |
| Length adjustment of the boring bar | As a result of the *Push Thru* technology of the DIGI-HEAD the boring bar can be adjusted in length. | Higher productivity - there is not a big difference between the boring depth and the tool length. |
| Inserts | There is only one standard ISO insert size needed for the whole diameter range (CC.. 06 02..). | No special inserts needed. |
| Balancing of the DIGI-HEAD | The main body is balanced. The unbalance, which normally occurs when adjusting the boring bar, is reduced to a minimum. There are balancing rings available which reduce the unbalance 90-95%. | The advantages of a balanced tool are:<br>- better surface finish<br>- higher tool life<br>- maximum spindle life |
| Diameter range | The diameter range of the DIGI-HEAD is from Ø3 up to 88.1mm (.118 - 3.46"). There are lot different boring bars available (carbide, steel, adjustable ....) . | The DIGI-HEAD is a very precise tool. The handling of this tool is very easy. Every adjustment is shown on the digital display: short setup time and high productivity |
| Magnetic switch | Contactless powering of the diplay by a magnetic switch. Automatically powers off to save battery life. | Low-wear and water resistant. Long battery life: minimum maintenance required. |

ST GROUP

# MULTI Ausdrehkopf / MULTI Fine Boring Head

Merkmale:

Der Multi Ausdrehkopf ist zur Bearbeitung von Präzisionsbohrungen von Ø 3 – 320 mm vorgesehen.

als Monoblock- und Modularwerkzeug erhältlich

für Ausdrehstähle mit Schaftdurchmesser 16mm

Durchmessereinstellung mit geringstem Umkehrspiel

Zustellgenauigkeit 0.01mm resp. über Nonius 0.002mm im Durchmesser

mit Innenkühlung

Ausdrehstähle durchschiebbar

Features:

The Multi fine boring head is designed for precision holes from diameter Ø 3 – 320 mm (0.118 – 12.598”).

As monobloc- or modular tool available

For this diameter range Swiss Tools supplies different equipment.

For boring bars with shank diameter 16mm (0.63”)

Diametrical adjustment nearly without reversal backlash

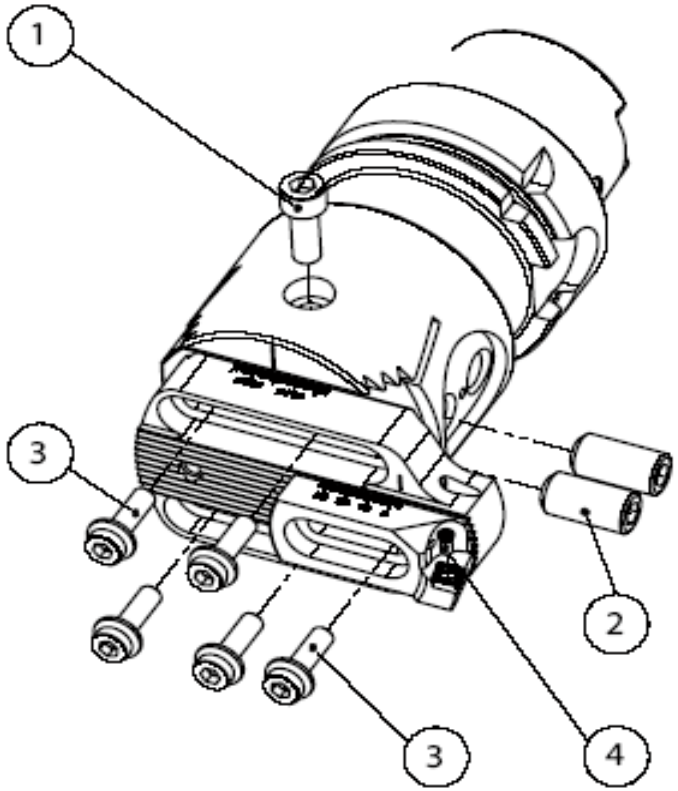
0.01mm (0.0004”) diametrical adjustment resp. 0.002mm (0.00008”) by nonius

With inner coolant supply

Boring bar go through the head

Bedienung:

Operation:



Zubehör:

Accessories:

## Feinbohrbrücken ø86-320

## Fine boring bridges ø86-320

### Aluminium-Brücken
- mit Innenkühlung

### Aluminium bridges
- with inner coolant supply

| Bestell-Nr. / Order number | D | ø A min. | ø A max. |
|---|---|---|---|
| 212.086.164.080 | 80 | 86 | 164 |
| 212.162.320.158 | 158 | 162 | 320 |

### Wendeplattenhalter
- mit Innenkühlung

### Insert holders
- with inner coolant supply

| Bestell-Nr. / Order number | Wendeplatte / Insert | ø A min. | ø A max. |
|---|---|---|---|
| 256.048.006.014 | CC . . 06 02 . . | 86 | 320 |
| 256.048.009.014 | CC . . 09 T3 . . | 86 | 320 |

### Gegengewicht
- für hohe Drehzahlen

### Counter weight
- for high revolution speed

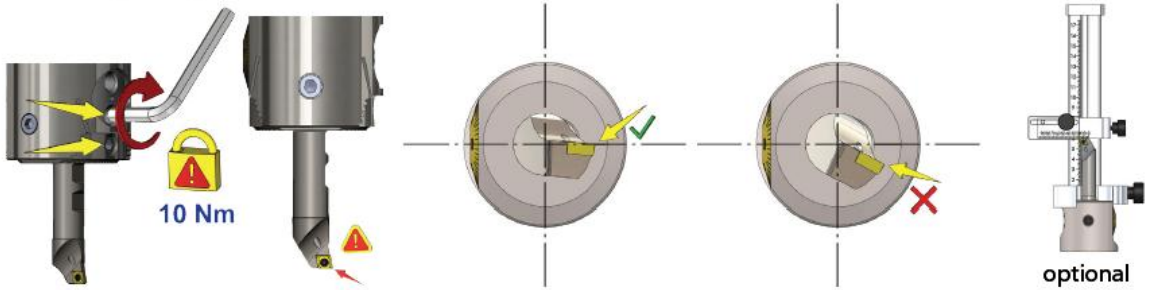
| Bestell-Nr. / Order number |
|---|
| 212.038.045.012 |



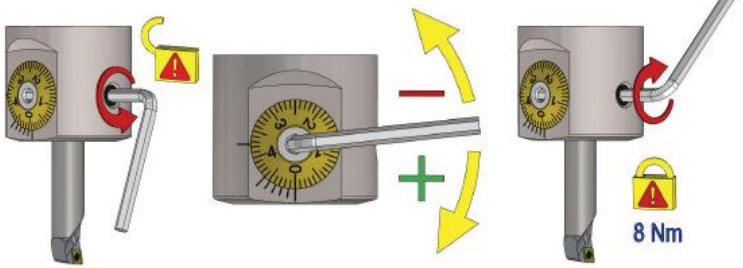

ST GROUP

**INSTRUCTION MANUAL**
**Multi-Head**
**Ø 3-320 mm**

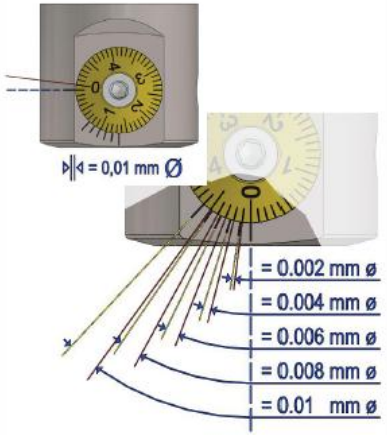
## assembling boring bar



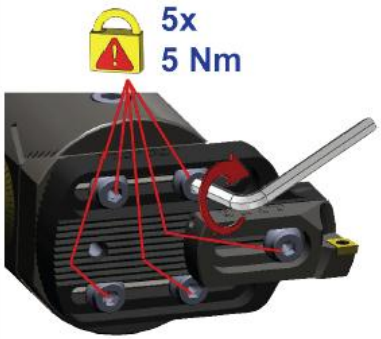

## diameter adjustment




## scale / vernier




## assembling Ø86-320mm




## presetting scale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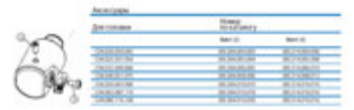
ST GROUP

# MULTI-HEAD
# Ø 3 - 320 mm

- Flexible
- Universal
- Compact
- Precise
- Cost-efficient

| Feature | Function | Benefit |
|---|---|---|
| Precise adjustment | Accuracy (2 µm)<br>Large, easy to read dial<br>Diameter adjustment with minimum backlash. | Short setup time and very easy to use. |
| Length adjustment of the boring bar | As a result of the *Push Thru* technology of the MULTI-HEAD, the boring bar can be adjusted in length. | Higher productivity - there is minimal difference between the boring depth and the tool length. |
| Inserts | There is only one standard ISO insert size needed for the whole diameter range (CC.. 06 02..). | No special inserts needed |
| Balancing of the MULTI-HEAD | The main body is balanced. The unbalance, which normally occurs when adjusting the boring bar, is reduced to a minimum. The bridges are made of aluminium. | The advantages of a balanced tool are:<br>- better surface finish<br>- higher tool life<br>- maximum spindle life |
| Diameter range | The diameter range of the MULTI-HEAD is from Ø3 up to 320 mm (.118 - 12.60“). | The MULTI-HEAD is a very universal and flexible tool, which is very cost-efficient. |

ST GROUP



Merkmale:

Der Feinbohrkopf ist zur Bearbeitung von Präzisionsbohrungen von
Ø 23.9 – 171.1 mm vorgesehen.

Durchmessereinstellung mit geringstem Umkehrspiel

Zustellgenauigkeit 0.01mm resp. über Nonius 0.002mm im Durchmesser

mit Innenkühlung

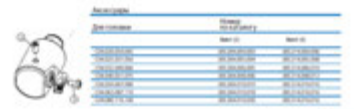
Features:

The fine boring head is designed for precision holes from Ø 23.9 – 171.1 mm (0.941 – 6.736”).

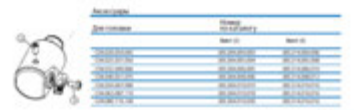
Diametrical adjustment nearly without reversal backlash

0.01mm (0.0004”) diametrical adjustment resp. 0.002mm (0.00008”) by nonius

With inner coolant supply

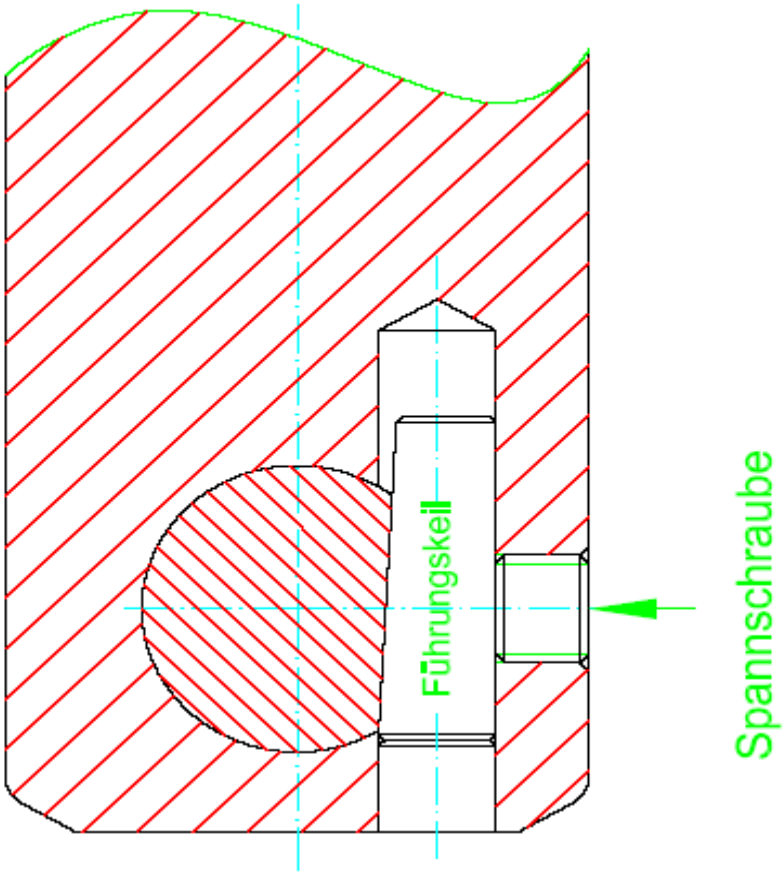


| | SWISSTOOLS | Kaiser | Wohl haupter | Epb | Komet | Urma | D'Andrea |
|---|---|---|---|---|---|---|---|
| Ø-Bereich / Ø-range | 24 – 171 | 20 - 203 | 29 - 205 | 15 - 205 | 29 – 199 | 20 – 153 | 18 – 160 |
| Anzahl / quantity | 7 | 7 | 9 | 9 | 15 | 8 | 8 |

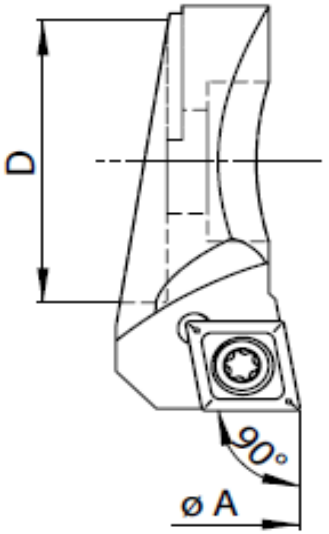


Klemmung der Feinverstellung

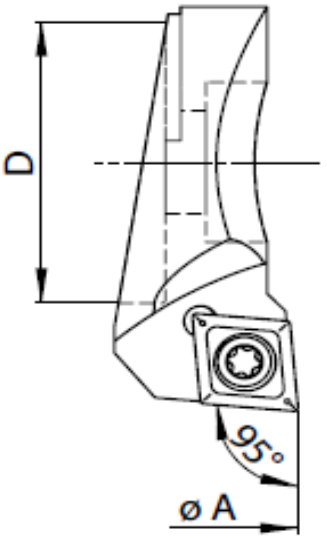
Clamping of the micro adjustment

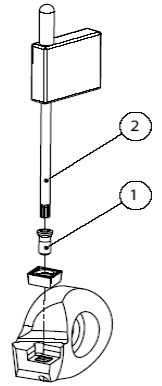


Wendeplattenhalter 90° / 95°



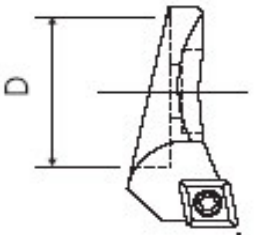

Insert holder 90° / 95°

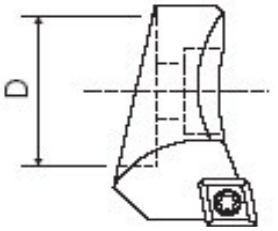


Erweiterter Durchmesserbereich

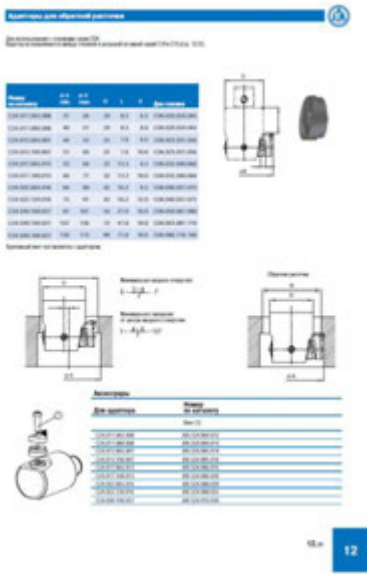
Extended boring range



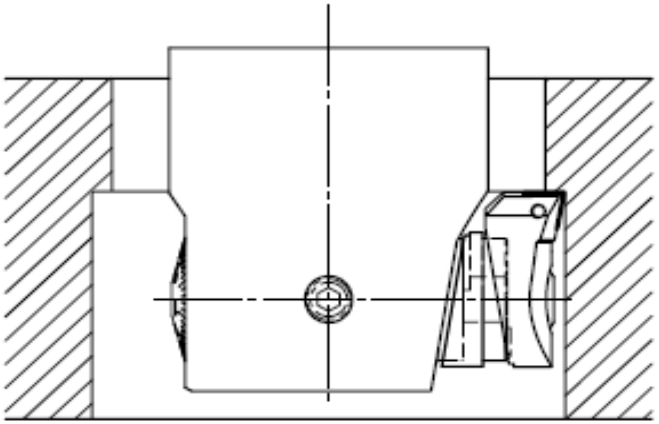


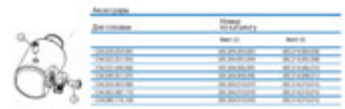

ST GROUP



Umkehradapter für Rückwartsbearbeitung

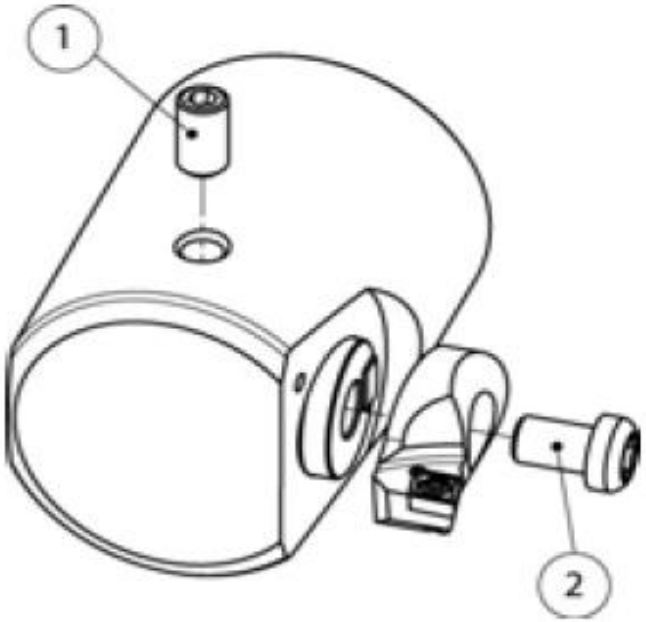
Reversal adapter for reverse machining



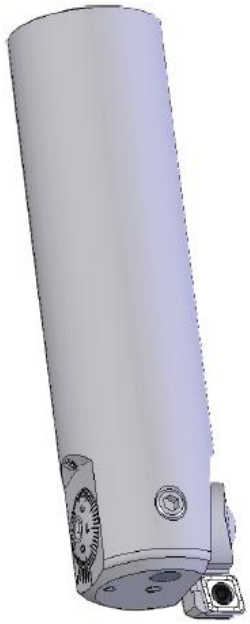


Bedienung:

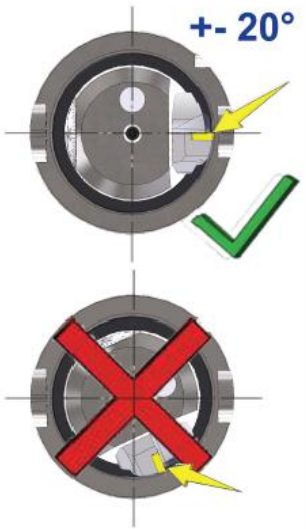
Operation:



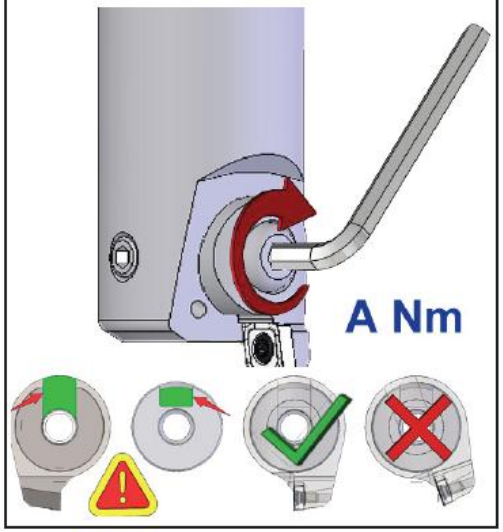
**ECO LINE**
**FINE BORING HEAD**



## assembling boring head



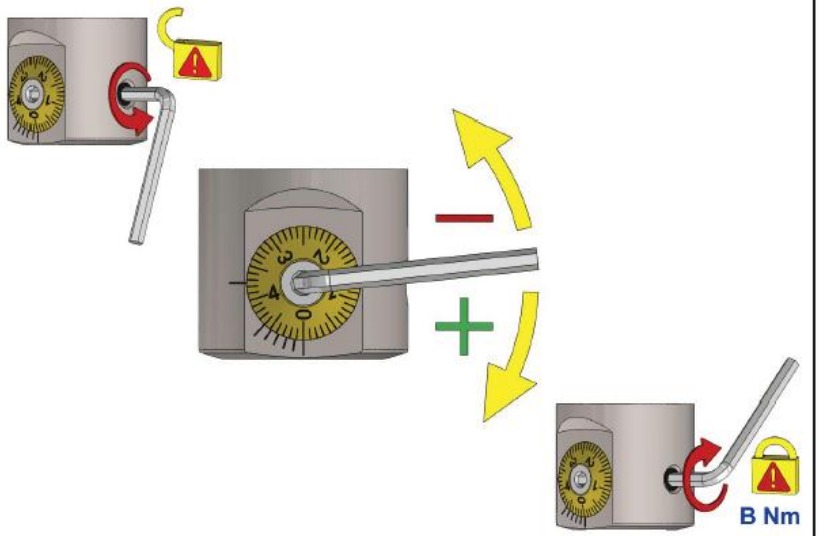

## assembling insertholder



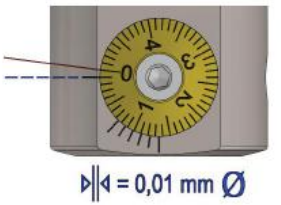

## back boring (requires a reversal adapter)

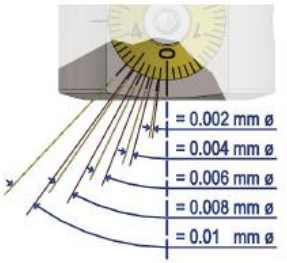

| Fine boring head | Nm<br>max. rpm |
|---|---|
| D20 / Ø 23.5 - 31.1 | A = 2.4 Nm |
| | B = 1.4 Nm |
| max. spindle spin | 12.000 rpm |
| D25 / Ø 30.5 - 40.1 | A = 5.0 Nm |
| | B = 2.4 Nm |
| max. spindle spin | 9.000 rpm |

## diameter adjustment




## scale / vernier

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ST GROUP

# Fine boring head
# Ø 23.9 - 153.1 mm

- Precise
- Stiff
- Stable
- Maintenance-free
- User to operate

| Feature | Function | Benefit |
|---|---|---|
| Precise adjustment | Accuracy (2 µm)<br>Large, easy to read dial<br>Diameter adjustment with minimum backlash. | Short setup time and very easy to use. |
| Inserts | Utilizes standard ISO inserts. | No special inserts needed. |
| Balancing of the fine boring head | The main body is balanced. The unbalance, which normally occurs when adjusting the tool, is reduced to a minimum. | The advantages of a balanced tool are:<br>- better surface finish<br>- higher tool life<br>- maximum spindle life |
| Diameter range | The diameter range of each head can be extended by using an insert holders with a bigger f measurement. | - higher flexibility<br>- minimum investment |
| Back boring | tool is designed for back boring by use of a reversal adapter. | - higher flexibility<br>- modular design is saves costs |

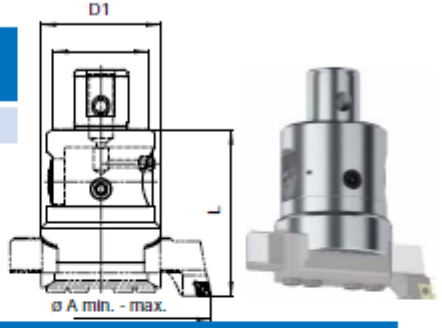
ST GROUP

## Чистовая расточная головка с резцовым блоком ⌀86 - 402

Точность настройки: за один оборот лимба резец перемещается на 0,25 мм на сторону, (0,5 мм на диаметр).
Цена деления лимба: 0,01 мм на диаметр.
Точность по нониусу: 0,002 мм на диаметр.
С внутренним подводом СОЖ.

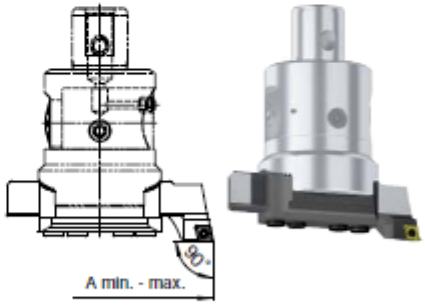
| Номер по каталогу | ø A min. | ø A max. | D | D1 | L |
|---|---|---|---|---|---|
| C44.080086.112 | 86 | 402 | 63/80 | 80 | 112 |

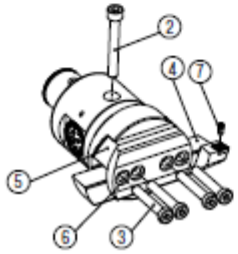
Резцовый блок из серии C54 заказывается отдельно.




## Резцовый блок

| Номер по каталогу | ø A min. | ø A max. | Пластина |
|---|---|---|---|
| C54.086138.009 | 86 | 138 | CC .. 09 T3 .. |
| C54.086138.012 | 86 | 138 | CC .. 12 04 .. |
| C54.136220.009 | 136 | 220 | CC .. 09 T3 .. |
| C54.136220.012 | 136 | 220 | CC .. 12 04 .. |
| C54.188302.009 | 188 | 302 | CC .. 09 T3 .. |
| C54.242402.009 | 242 | 402 | CC .. 09 T3 .. |



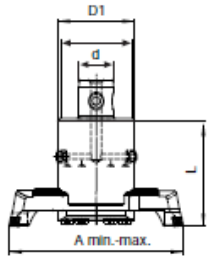



## Двухрезцовая черновая расточная головка с резцовыми блоками ⌀86 - 402

### С внутренним подводом СОЖ.

| Номер по каталогу | ø A min. | ø A max. | d | D | D1 | L |
|---|---|---|---|---|---|---|
| D44.080.086.112 | 68 | 402 | 36 | 63 / 80 | 80 | 112 |

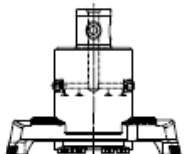
Резцовые блоки серии D54 под эти головки заказываются отдельно.

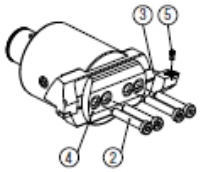



### Резцовые блоки

| Номер по каталогу | ø A min. | ø A max. | Пластина |
|---|---|---|---|
| D54.086.138.009 | 86 | 138 | CC .. 09 T3 .. |
| D54.086.138.012 | 86 | 138 | CC .. 12 04 .. |
| D54.136.220.009 | 136 | 220 | CC .. 09 T3 .. |
| D54.136.220.012 | 136 | 220 | CC .. 12 04 .. |
| D54.188.302.009 | 188 | 302 | CC .. 09 T3 .. |
| D54.242.402.009 | 242 | 402 | CC .. 09 T3 .. |

Поставляются в паре и с прижимной планкой.



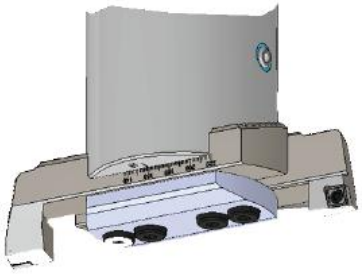



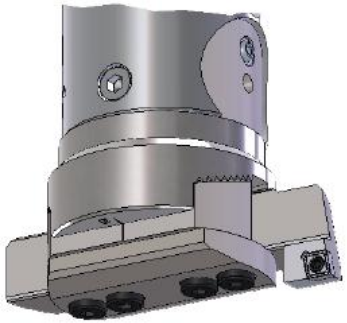

### Аксессуары

| Для головки | Номер по каталогу | | | |
|---|---|---|---|---|
| | Винт (2) | | | |
| D44.080.086.112 | J00.344.008.044 | | | |
| **Для резцовых блоков** | **Номер по каталогу** | | | |
| | Державка (3) | Планка (4) | Винт (5) | Ключ |

ST GROUP

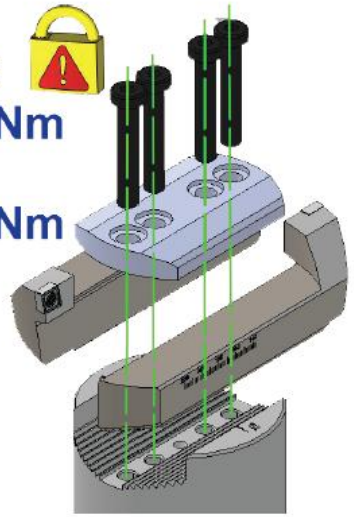
**INSTRUCTION MANUAL**
**Fine + Rough boring head**
**Ø 86 - 402 mm**



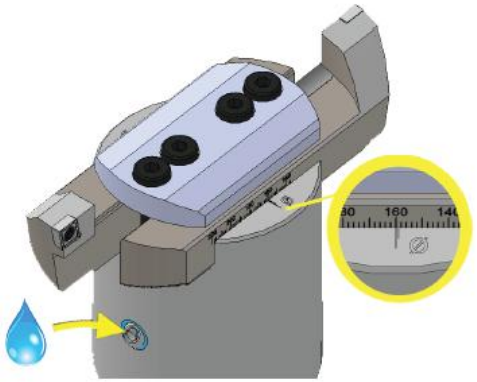


## assembling

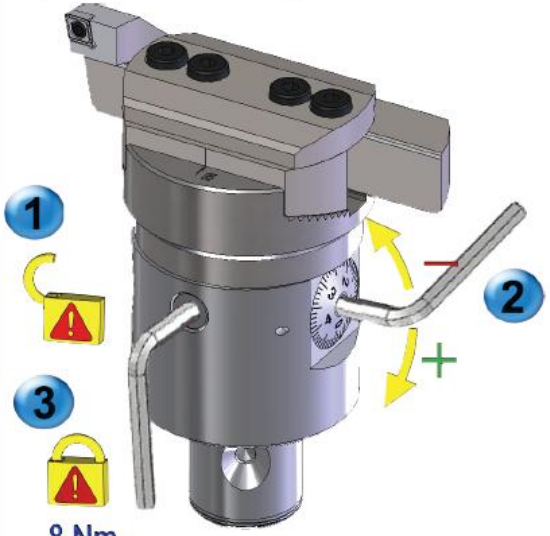
Ø86 - 138
2x 25Nm
< Ø136
4x 25Nm



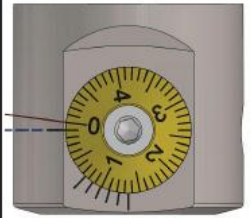
## pre adjustment / coolant

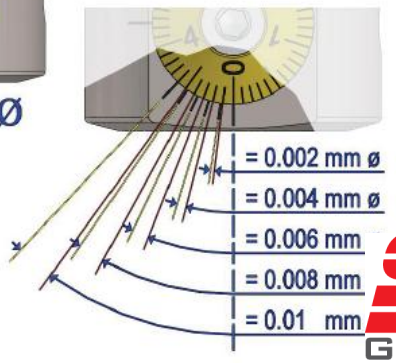


## adjustment fine boring




## scale / vernier

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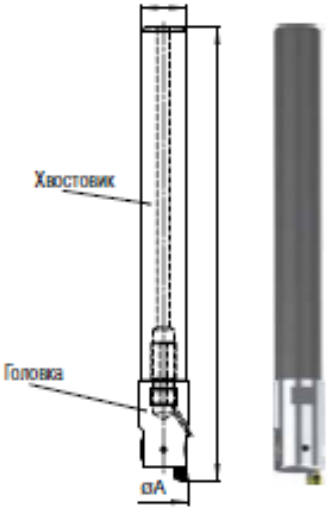
ST GROUP

## Оправки со сменной микрометрической головкой для высокоскоростной обработки

Точность настройки: за один оборот лимба резец перемещается на 0,25 мм на сторону, (0,5 мм на диаметр).
Цена деления лимба: 0,01 мм на диаметр.
Точность по нониусу: 0,002 мм на диаметр.
С внутренним подводом СОЖ.

| Головка (номер по каталогу) | Хвостовик (номер по каталогу) | ø A min. | ø A max. | | L | Вставка |
|---|---|---|---|---|---|---|
| C00.014.015.040 | B84.014.006.110 | 14.7 | 17.1 | 14 | 150 | C02.005.017.002 |
| C00.016.017.040 | B84.016.010.120 | 16.7 | 20.1 | 16 | 160 | C02.005.017.002 |
| C00.019.020.040 | B84.018.010.140 | 19.7 | 24.1 | 18 | 180 | C02.005.017.002 |
| C00.020.024.080 | B84.020.010.170 | 23.9 | 31.1 | 20 | 250 | C14.011.024.006 |
| C00.025.031.100 | B84.025.012.206 | 30.9 | 40.1 | 25 | 306 | C14.013.031.006 |
| C00.032.040.128 | B84.032.016.252 | 39.9 | 51.1 | 32 | 380 | C14.017.040.006 |



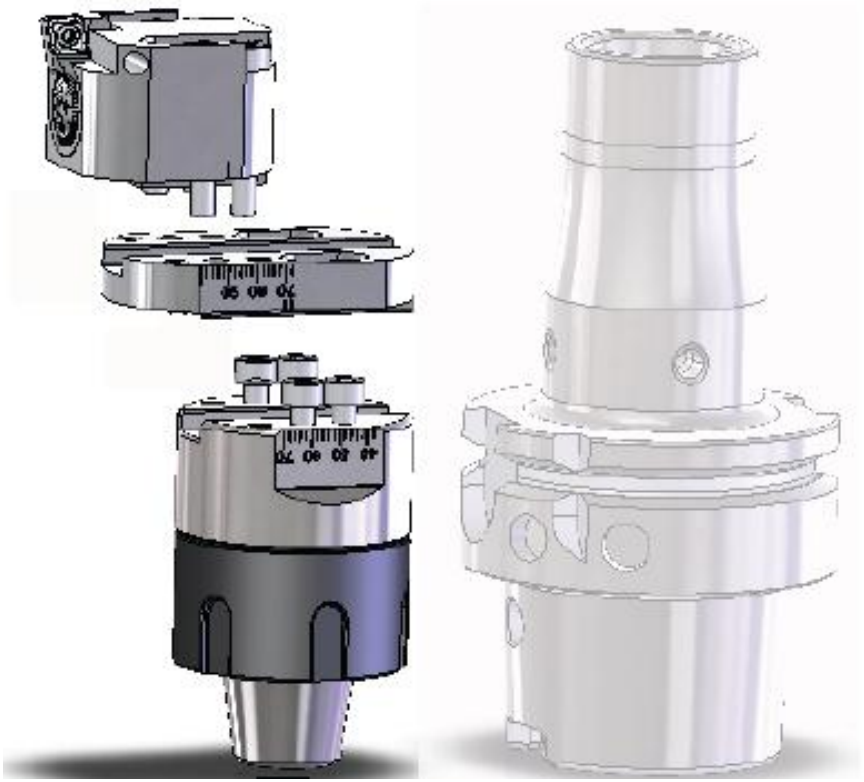

Хвостовик, головка и резцовая вставка заказываются по отдельности.
Резцовые вставки C14 на стр. 12.21.

## Резцовая вставка

| Номер по каталогу | Пластина | головку |
|---|---|---|
| | | C00.014.015.040 |
| C02.005.017.002 | WC..02 01.. | C00.016.017.040 |
| | | C00.019.020.040 |

# ECO HEAD SET

# Ø 39.9 - 100.1 mm

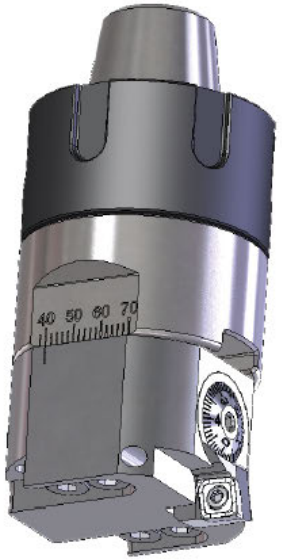



ER-connection is compatible to standard collet chucks

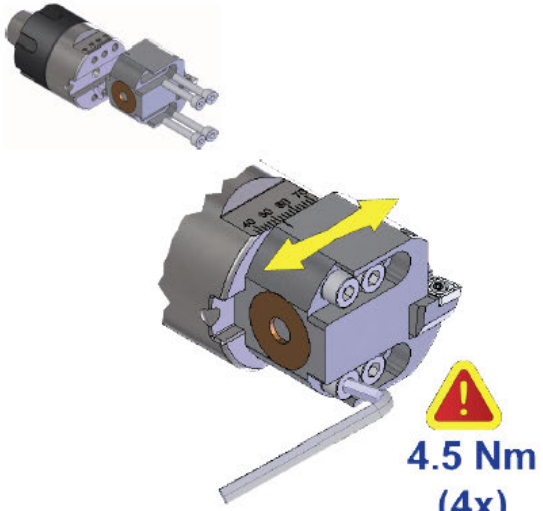
# SWISS TOOLS

NEW Ø39.9 – 100.1 mm

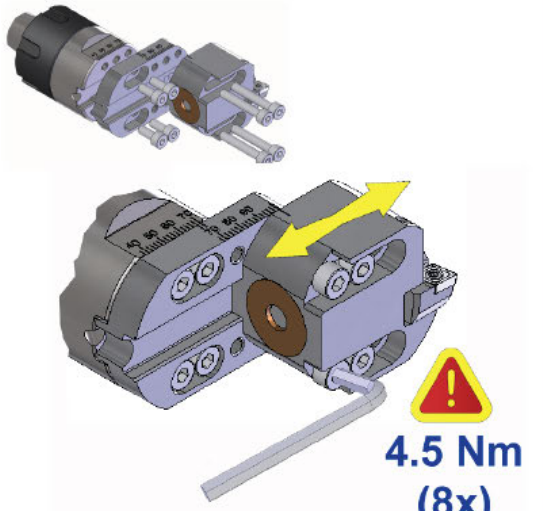
**INSTRUCTION MANUAL**
**ECO HEAD**
**Ø 39.9 - 100.1 mm**



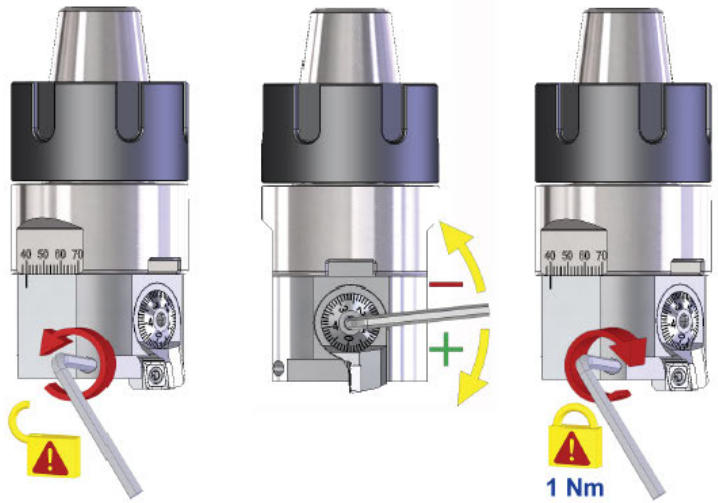

**assembling rough adjustment Ø 39.9 - 70.1mm**



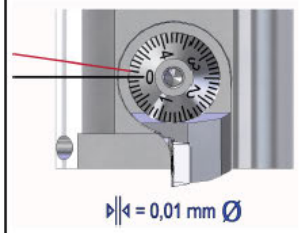

**assembling rough adjustment Ø 69.9 - 100.1mm**




**diameter fine adjustment**




**scale / vernier**




**maximum spindle speed**

**Vmax = 450 m/min (Ø40-70)**
**Vmax = 250 m/min (Ø70-100)**

SWISS TOOLS

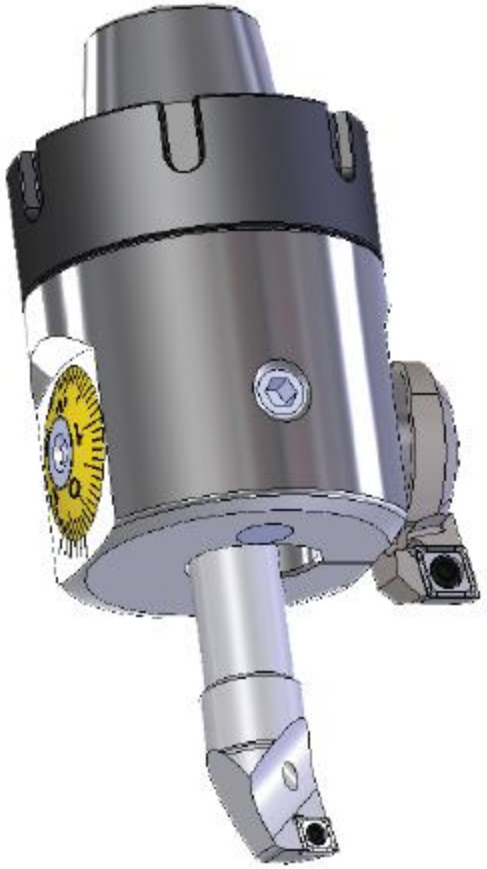
SWISS TOOL SYSTEMS AG
Wydenstrasse 28
CH-8575 Bürglen

Phone: +41 (0) 71 634 85 00
Fax: +41 (0) 71 634 85 29
www.swisstools.org

ST GROUP

# VARIO HEAD SET

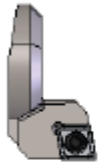
## Ø 9.75 - 101.1 mm



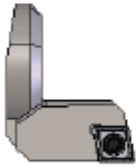
GROUP

**optional available accessories for upgrade diameter range to Ø 152.1 mm**

| | |
|---|---|
| Insert holder | ø 105.75 - 119.0<br>*(Ø132.0)* |



| | |
|---|---|
| Insert holder | ø 125.75 - 139.0<br>*(Ø152.0)* |



| | |
|---|---|
| Adapter F = 6.5 mm | *(Ø114.0)*<br>*(Ø132.0)*<br>*(Ø152.0)* |

ER-connection is compatible to standard collet chucks

ST GROUP

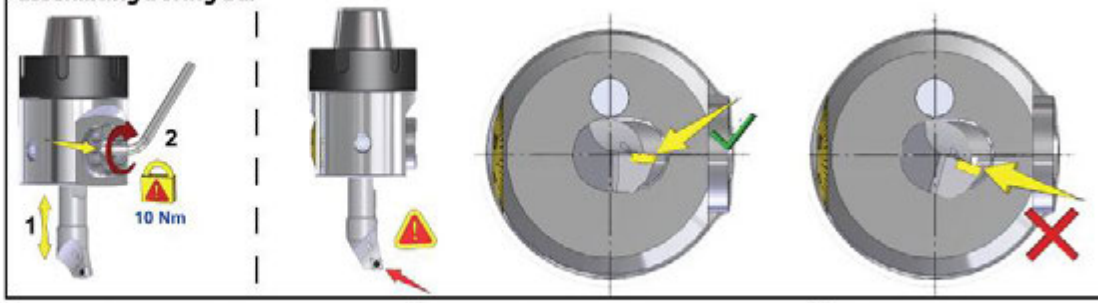
**INSTRUCTION MANUAL**
**VARIO HEAD**
**Ø 3 - 152 mm**

SWISS TOOLS

SWISS TOOL SYSTEMS AG
Wydenstrasse 28
CH-8575 Bürglen

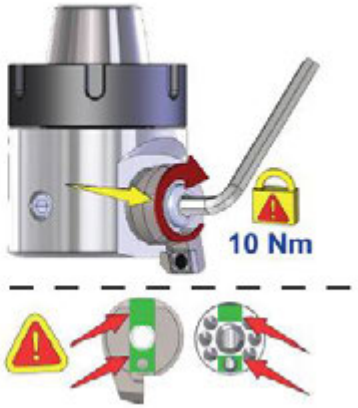
Phone: +41 (0) 71 634 85 00
Fax: +41 (0) 71 634 85 29
www.swisstools.org

**assembling boring bar**

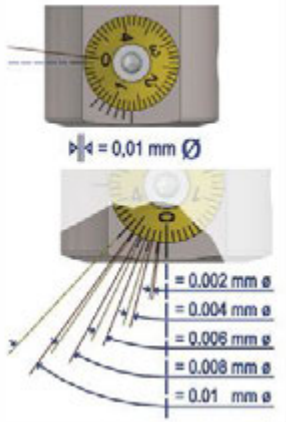



**assembling coolant plug**

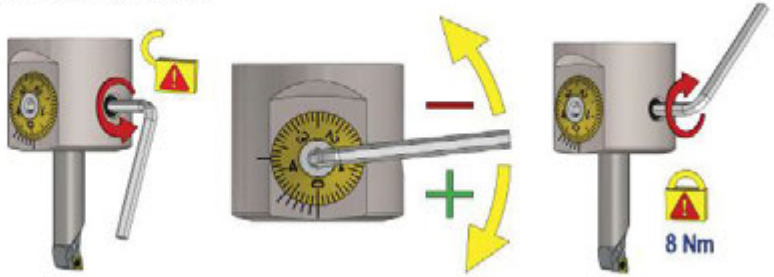

**assembling insertholder**




**scale / vernier**

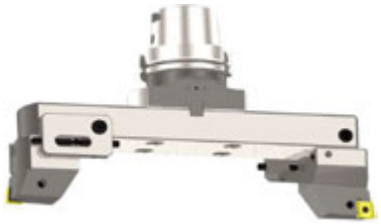



**diameter adjustment**




**back boring**


ST GROUP



Merkmale:

Das Ausdrehwerkzeug ist zur Vor- und Fertigbearbeitung von Präzisions-bohrungen in einem Arbeitsgang von
Ø 150 – 2205mm vorgesehen.

Die Baureihe besteht aus 10 Verlängerungskonsolen, die mit dem Feinbohrkopf, Gegengewicht oder mit Schruppwendeplattenhaltern bestückt werden können.

•Werkzeugseitig mit Kerbverzahnung zur form- und kraftschlüssigen Aufnahme von Feinbohrkopf, Gegengewicht oder Schruppwendeplattenhaltern

mit Innenkühlung

Zapfenbearbeitung möglich

Features:

The bridge tools are designed for roughing and finishing precision holes from diameter
Ø 150 – 2205 mm
(5.91 – 86.81”).

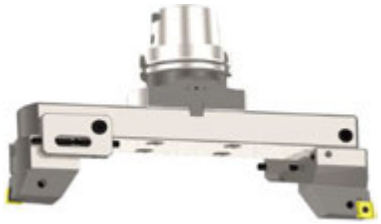
The diameter range can be reached with 10 extension bridges. The insert holders for roughing and finishing are assembled on the extension bridge.

The tools have a special teeth profile which is positive locking and actuated by adherence.

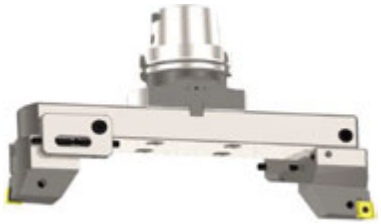
With inner coolant supply

Tools are able for pin turning

ST GROUP



| | SWISSTOOLS | Kaiser | Wohl haupter | Epb | Komet | Urma | D'Andrea |
|---|---|---|---|---|---|---|---|
| **Ø-Bereich / Ø-range** | ☺ 150 - 2205 | 😐 150 -1080 | ☺ 204-3255 | ☺ 204-2205 | ☺ 364–1438 | 😐 150 - 805 | 😐 200 - 800 |



## Monoblock / Modular

### Aufnahmen mit Konsole

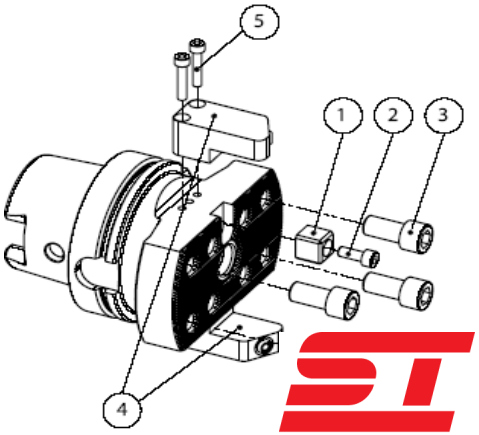
- DIN 69871 A/D
- MAS BT 403
- DIN 69893 HSK A

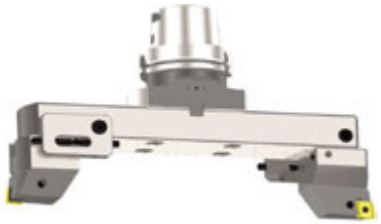
### Master shanks with bridge adapter

- DIN 69871 A/D
- MAS BT 403
- DIN 69893 HSK A

### Zwischenkonsolen

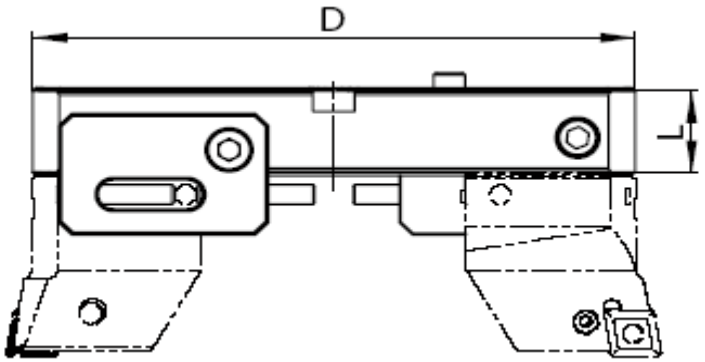
### Bridge adapters

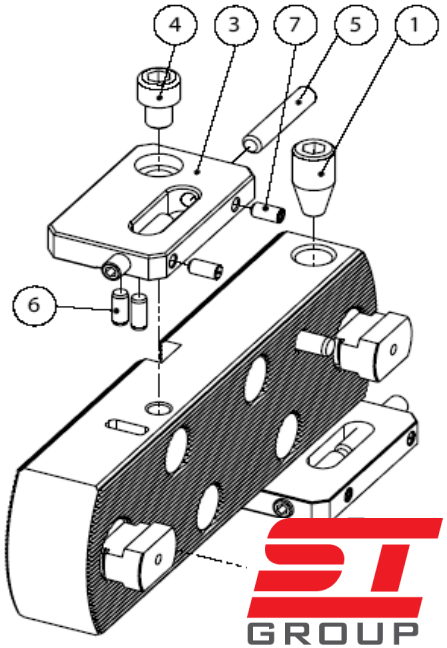


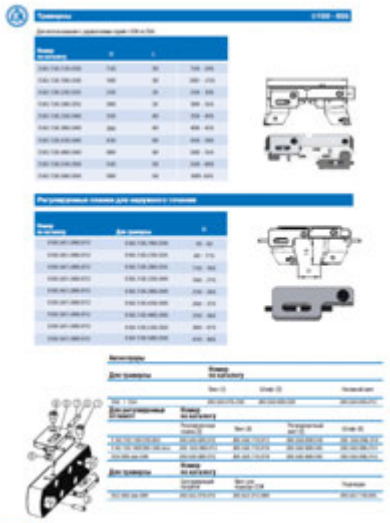


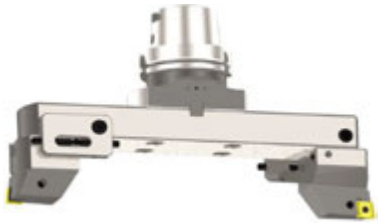
Verlängerungskonsolen Ø150 – 655

Extension bridges Ø150 - 655



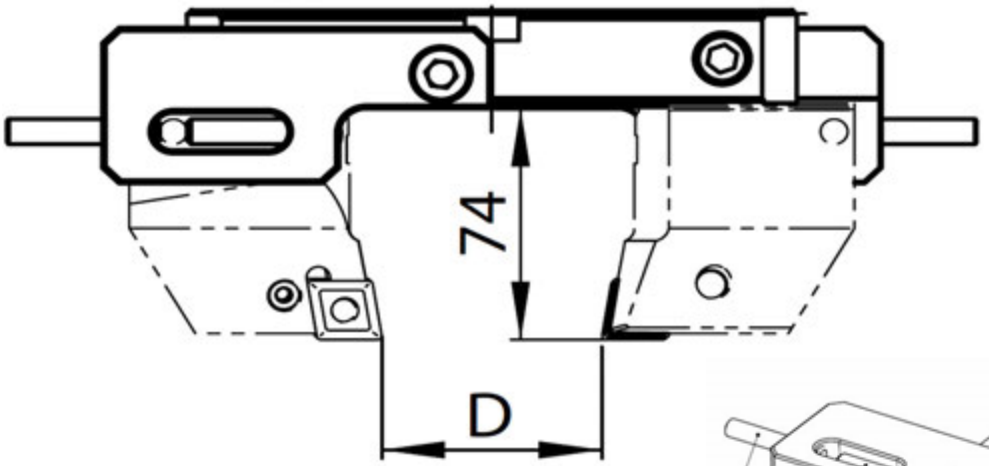



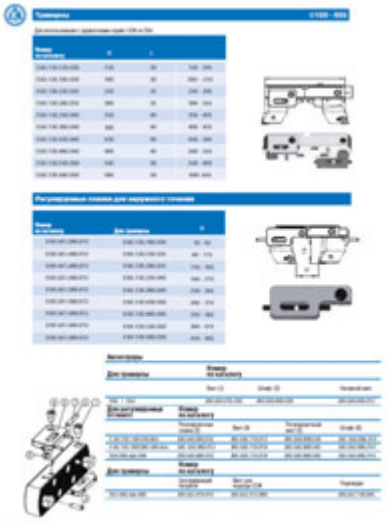



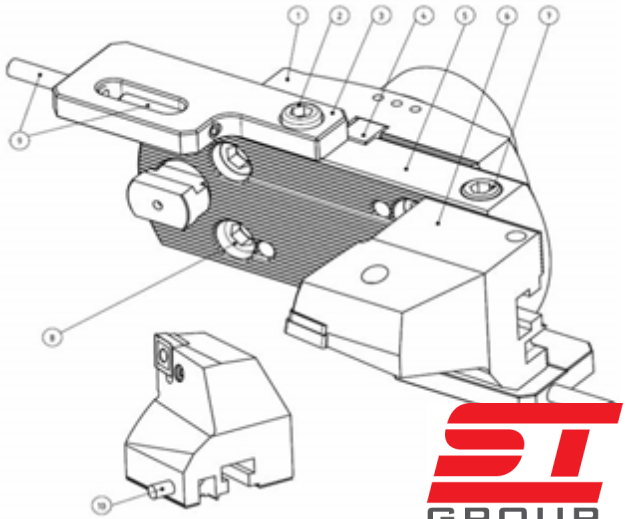


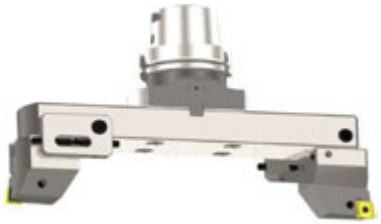
Zapfenbearbeitung Ø10 – 465

Pin turning Ø10 - 465

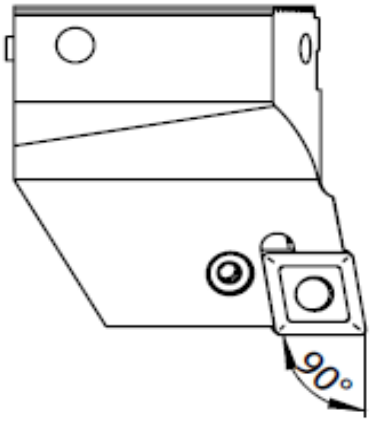


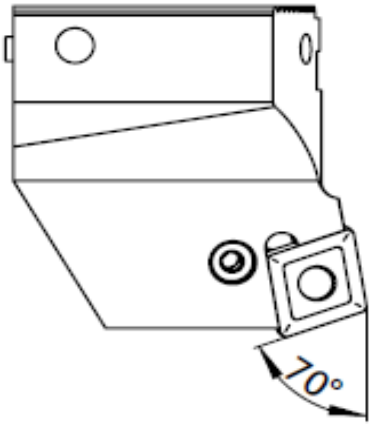


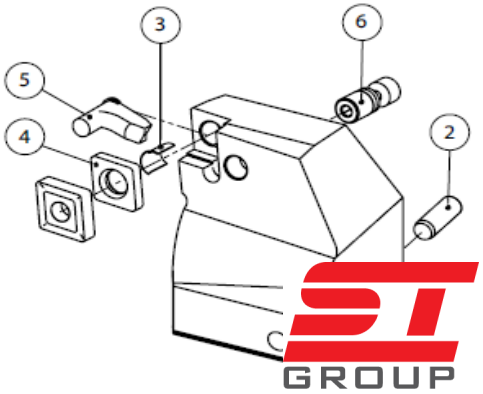


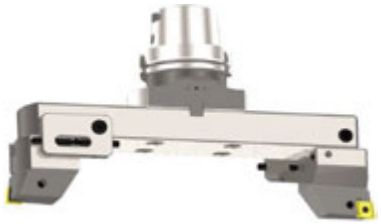
Wendeplattenhalter 70° / 90°




Insert holder 70° / 90°

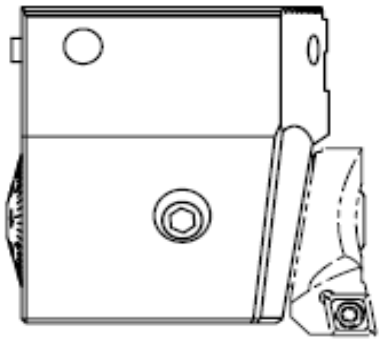


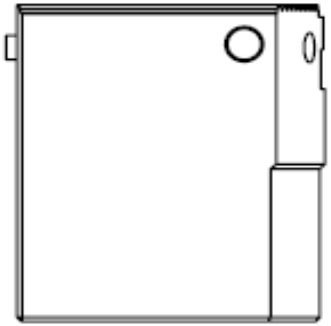


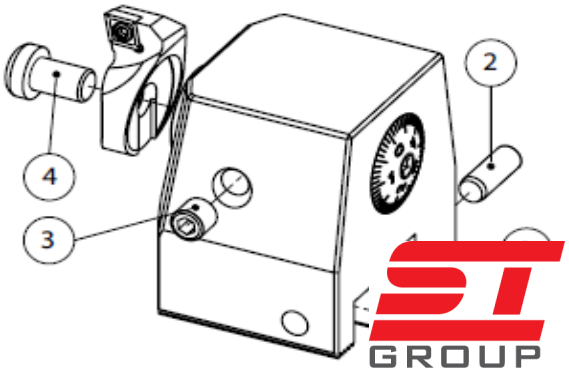


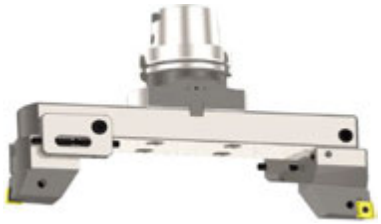
Feinbohrkopf / Gegengewicht

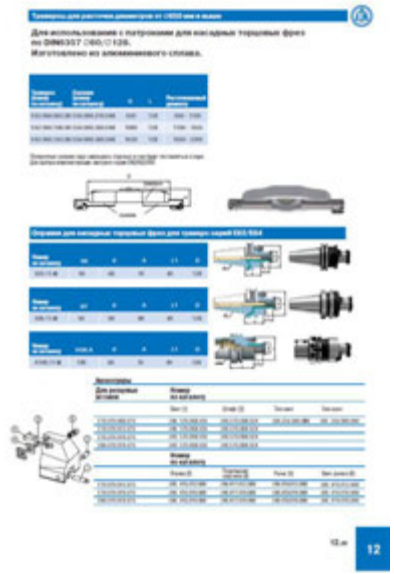


Fine boring head / counterweight



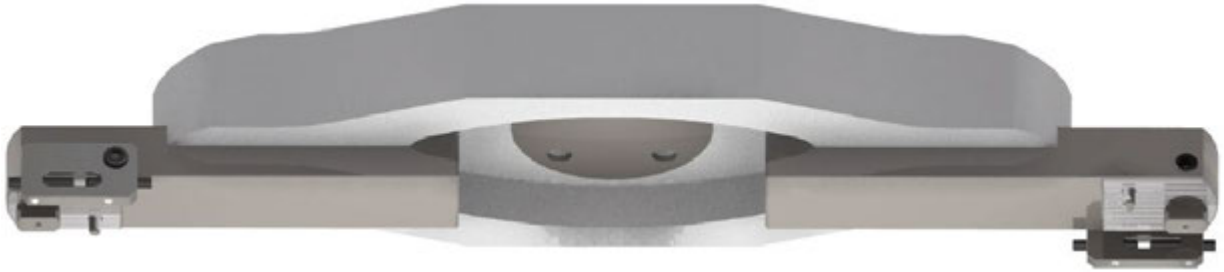






## Brückenwerkzeuge Ø 655 – 2205

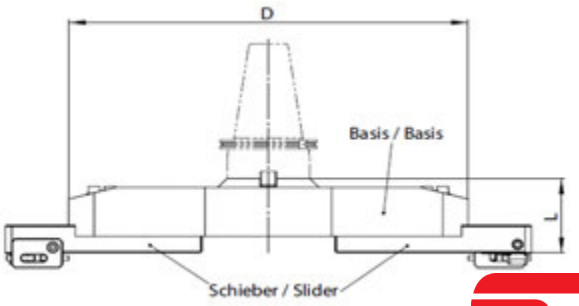
## Bridge tools Ø 655 – 2205

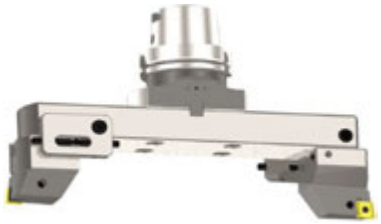


- für die Verwendung auf Aufnahmedorn ø60 / ø129 DIN 6357
- Basis aus Aluminium
- fragen Sie uns an für optimierte Komplettlösungen

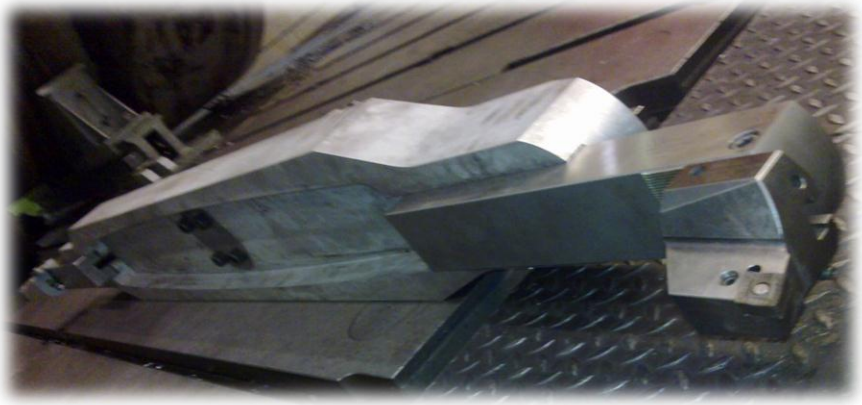
- for use on holding arbor ø60 / ø129
- basis made of aluminium
- please get in touch with us for customized solutions

| D | L | Ausdrehdurchmesser / Boring diameter |
|---|---|---|
| 630 | 128 | 650 – 1105 |
| 1080 | 128 | 1100 - 1655 |
| 1630 | 128 | 1650 – 2205 |

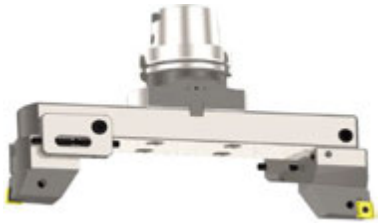


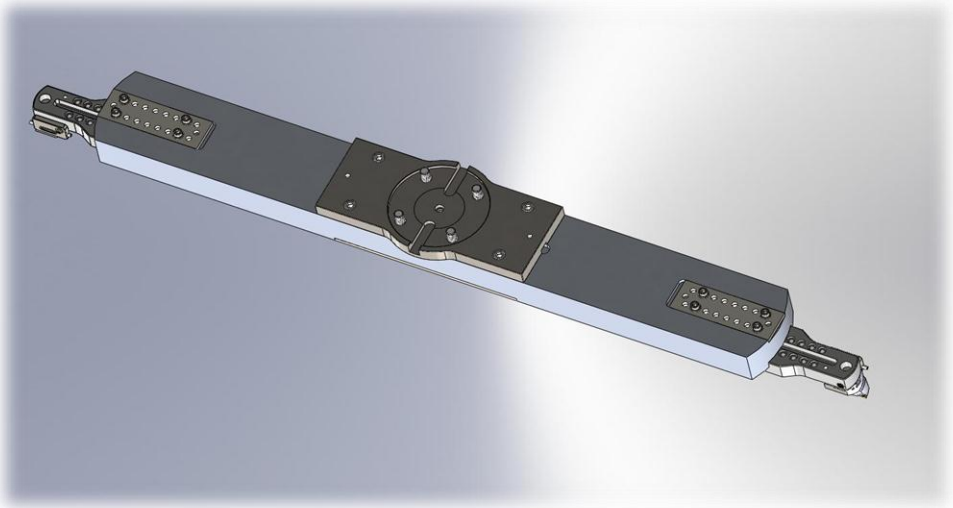


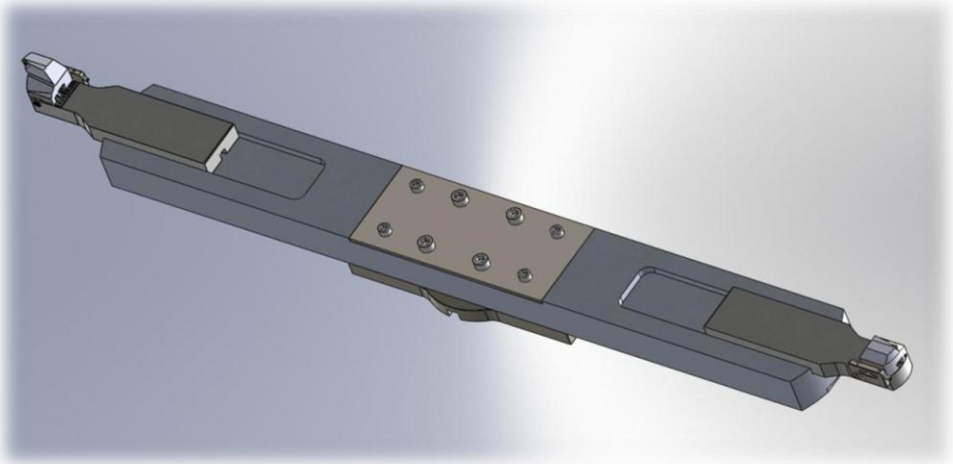


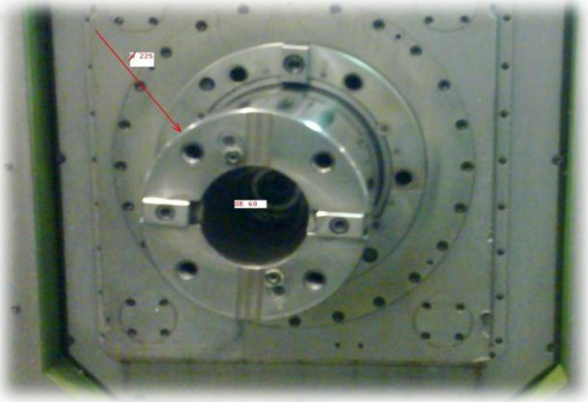


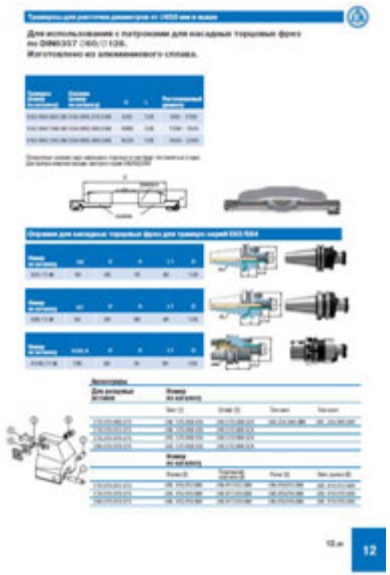
GROUP







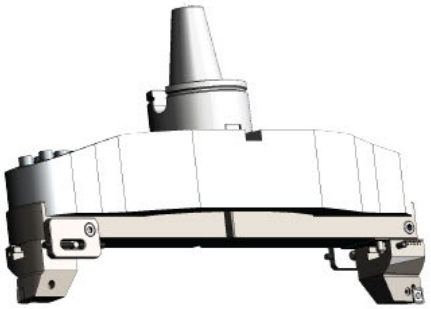




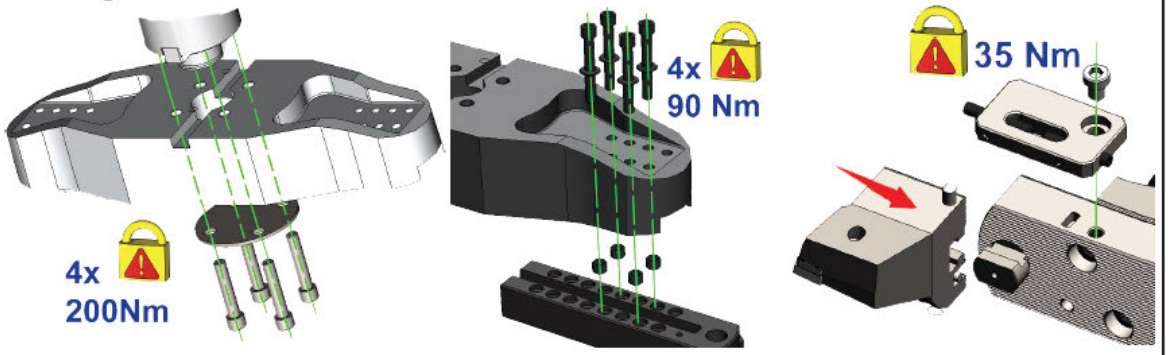


ST GROUP

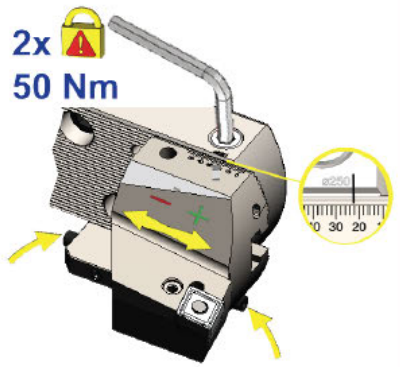
**INSTRUCTION MANUAL**
**BRIDGE TOOLS**
**Ø 650 - 2205 mm**



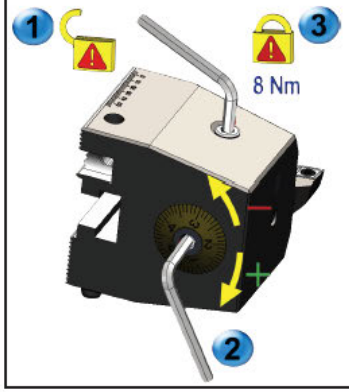
**assembling**



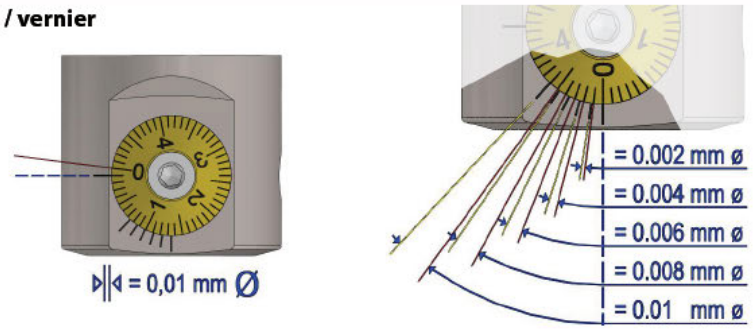

**pre adjustment**




**adjustment fine boring**




**scale / vernier**




SWISS TOOLS

SWISS TOOL SYSTEMS AG
Wydenstrasse 28
CH-8575 Bürglen

Phone: +41 (0) 71 634 85 20
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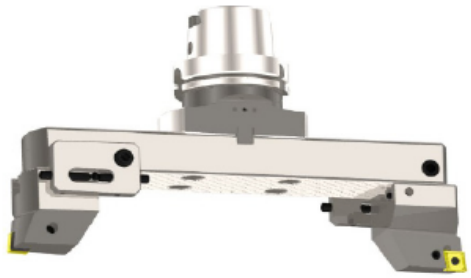
www.swisstools.org

ST GROUP

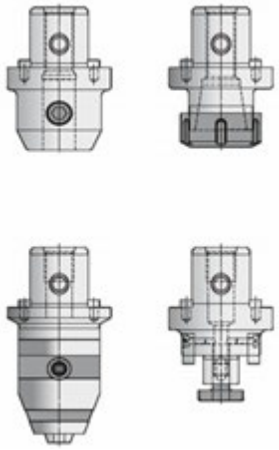
# Bridge tools
# Ø 150 - 2205mm

- Stable
- Stiff
- Roughing
- Finishing



| Feature | Function | Benefit |
|---|---|---|
| Inserts | All insert holders use standard ISO insert. Both are positive and negative insert holders available. | No special inserts needed. |
| layout / tooth profile | There is a positive connection between the parts. Also a large contact face between the insert holder, bridges and the body, because of the tooth profile. | - extremely stable layout<br>- for hard roughing |
| Diameter adjustment | To preadjust the tool move a plate to which the tool mounted. That plate also limits the min and max diameter range. The millimeter scale also helps with the adjustment. | - easy to handle and very efficient<br>- short setup time |
| Balancing | By using a counter weight the unbalance is reduced to the a minimum. | The advantages of a balanced tool are:<br>- better surface finish<br>- higher tool life<br>- maximum spindle life |
| Pin turning | For OD operations the insert holders can be turned 180° on the extension bridge. | easy to handle<br>there is no need of additional parts and investment |

ST GROUP

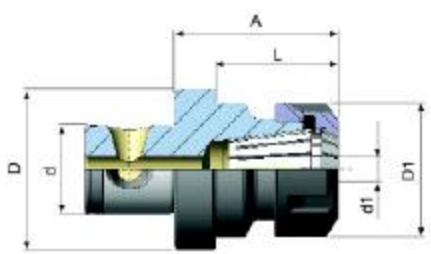


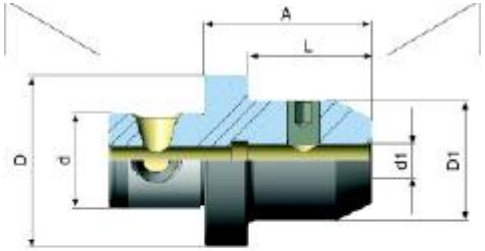
Werkzeugaufnahmen:

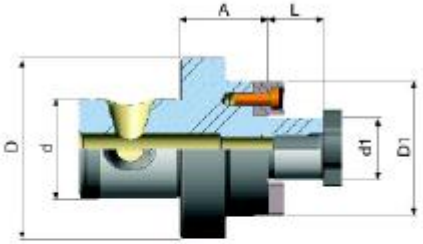
Spannfutter Weldon
Spannzangenfutter
Aufsteckfräsdorne
NC-Bohrfutter

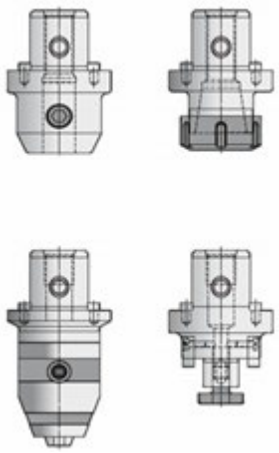
Toolholders:

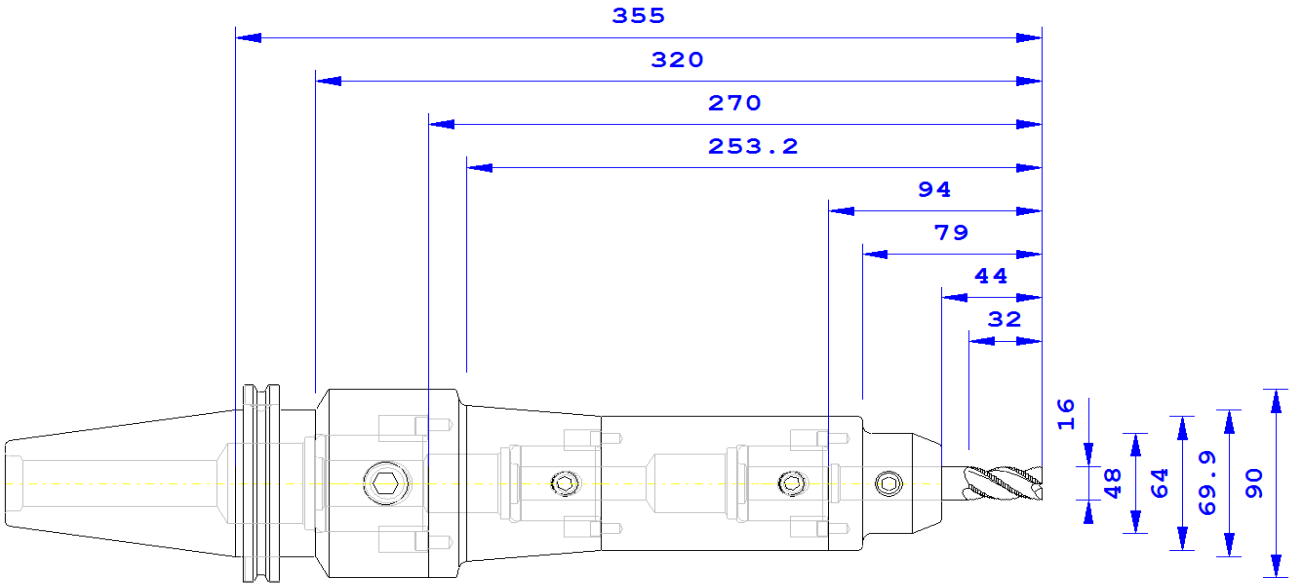
Weldon
Collet chuck
Milling arbors
NC-Drillchucks






2 Schaftfräser 16mm HSS TiCN
Schrupp-Profil NR
HSS Co8 TiCN
Maschinentyp Aufnahme CAT 50

| | |
|---|---|
| Durchmesser | 16 |
| Schneidlänge | 32 |
| Radius | 0 |
| Spitzenwinkel | 180 |
| Länge | 355 |
| Breite | 0 |
| Kollisionslänge (Lc) | 0 |
| Kollisionsdm. | 0 |
| Schneidendbreite | 0 |
| Seitenwinkel | 0 |
| Gewicht | 10.296 |
| Preis | 0 |

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| | Beschreibung / Sorte | Ausführung / Artikel-Nr / Bestellnummer / Lagerort | |
|---|---|---|---|
| 1 | Aufnahme CAT50/ST7x085 | 104.050.090.085 | |
| 1 | Reduktion ST7/ST6 | 104.090.064.076 | |
| 1 | Verlängerung ST6x100 | 104.064.064.100 | |
| 1 | Spannfutter Weldon ø16<br>ST6 / ø16 | 704.064.016.050 | |

## Расточной набор на ⌀9,75 - 88,1 мм

⌀9,75 - 88,1

d 36

| Номер по каталогу | d | D | D1 | ø A min. | ø A max. | С головкой серии |
|---|---|---|---|---|---|---|
| G86.063.010.088 | 36 | 63 | 55 | 9.75 | 88.1 | B04.063.025.050 |

DIN 69871 AD SK 40

| Номер по каталогу | SK | L | A | ø A min. | ø A max. | С головкой серии |
|---|---|---|---|---|---|---|
| G86.415.010.088 | 40 | 70 | 90 | 9.75 | 88.1 | B08.440.055.090 |

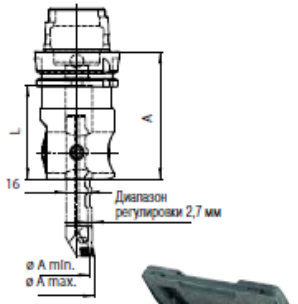
MAS 403 BT 40

| Номер по каталогу | BT | L | A | ø A min. | ø A max. | С головкой серии |
|---|---|---|---|---|---|---|
| G86.412.010.088 | 40 | 63 | 90 | 9.75 | 88.1 | B08.540.055.090 |

DIN 69893 HSK - A 63

| Номер по каталогу | HSK - A | L | A | ø A min. | ø A max. | С головкой серии |
|---|---|---|---|---|---|---|
| G86.163.010.088 | 63 | 69 | 95 | 9.75 | 88.1 | B08.806.055.095 |

Примечание: Набор может быть дооснащен комплектом резцов для обработки диапазона начиная с ⌀3 мм.




Содержание набора смотрите на следующей странице



## Расточной набор на ⌀9,75 – 164 мм

⌀9,75 – 164

Примечание: Набор может быть дооснащен комплектом резцов для обработки диапазона начиная с 3 мм.

d 36

| Номер по каталогу | d | D | D1 | ø A min. | ø A max. | С головкой серии |
|---|---|---|---|---|---|---|
| G88.063.010.164 | 36 | 63 | 63 | 9.75 | 164 | B10.063.025.060 |

DIN 69871 AD SK 40

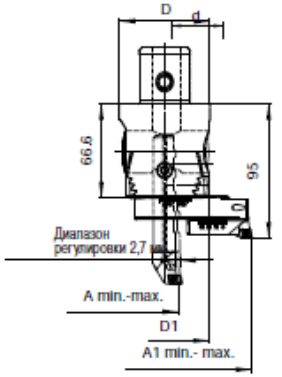
| Номер по каталогу | SK | L | A | ø A min. | ø A max. | С головкой серии |
|---|---|---|---|---|---|---|
| G88.415.010.164 | 40 | 90 | 120 | 9.75 | 164 | B10.440.063.090 |

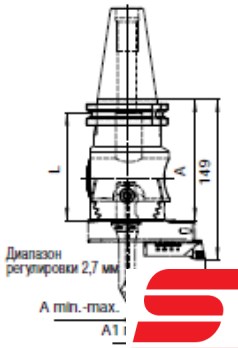
MAS 403 BT 40

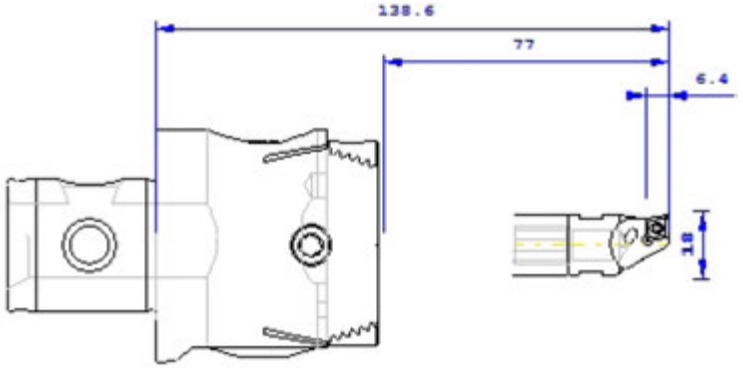
| Номер по каталогу | BT | L | A | ø A min. | ø A max. | С головкой серии |
|---|---|---|---|---|---|---|
| G88.412.010.164 | 40 | 90 | 120 | 9.75 | 164 | B10.540.063.090 |

DIN 69893 HSK - A 63

| Номер по каталогу | HSK - A | L | A | ø A min. | ø A max. | С головкой серии |
|---|---|---|---|---|---|---|
| G88.163.010.164 | 63 | 95 | 125 | 9.75 | 164 | B10.806.063.095 |

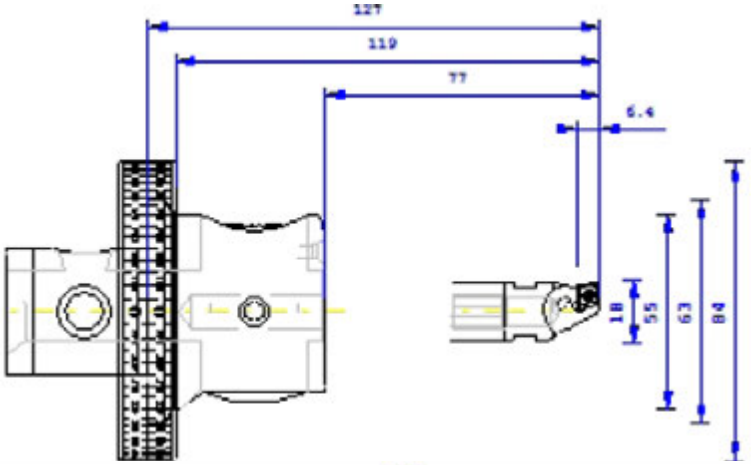




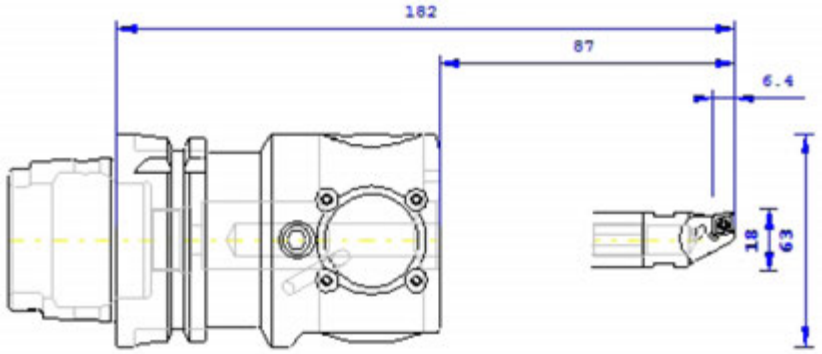

MULTI HEAD

- Ø 3 – 320




Fine boring head

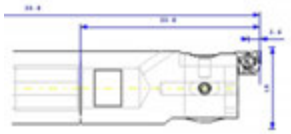
- Ø 3 – 88

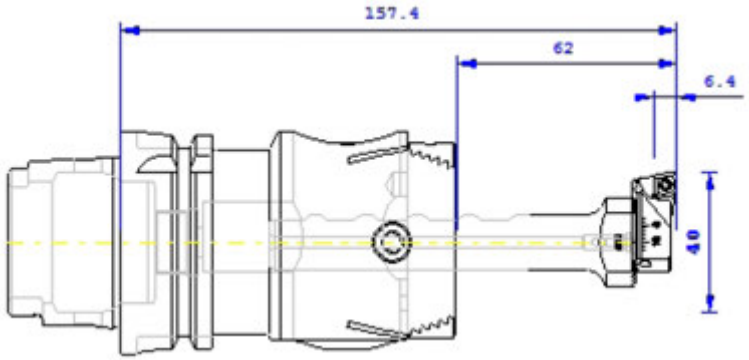



DIGITAL fine boring head

- Ø 3 – 88

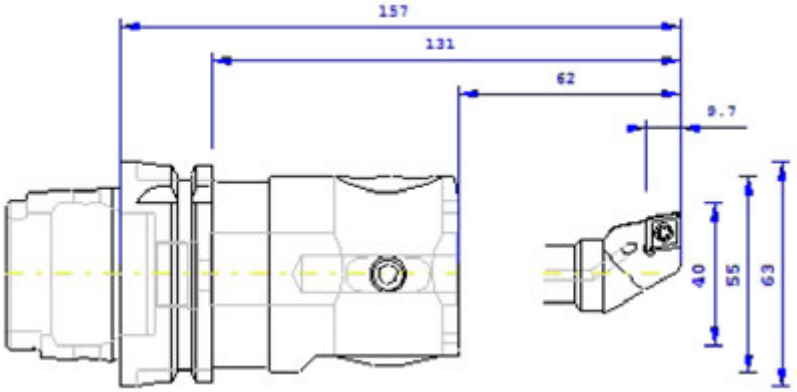
Fine boring head 14.7 -





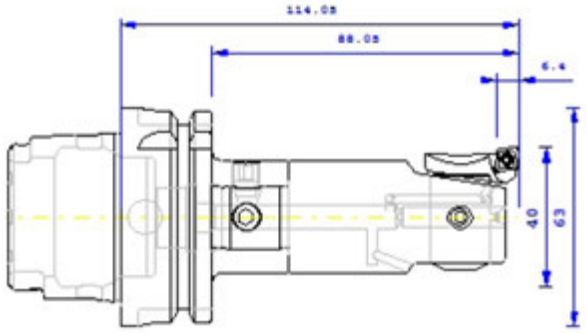

MULTI HEAD

- Ø 3 – 320



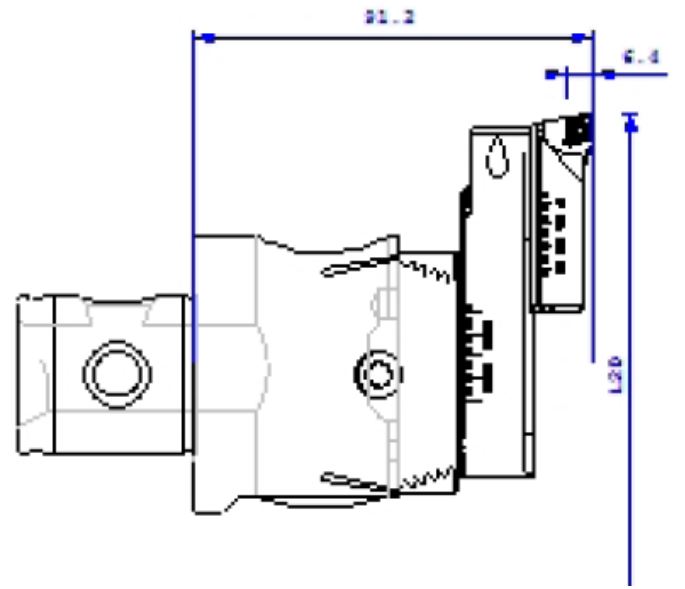

Fine boring head

- Ø 3 – 88



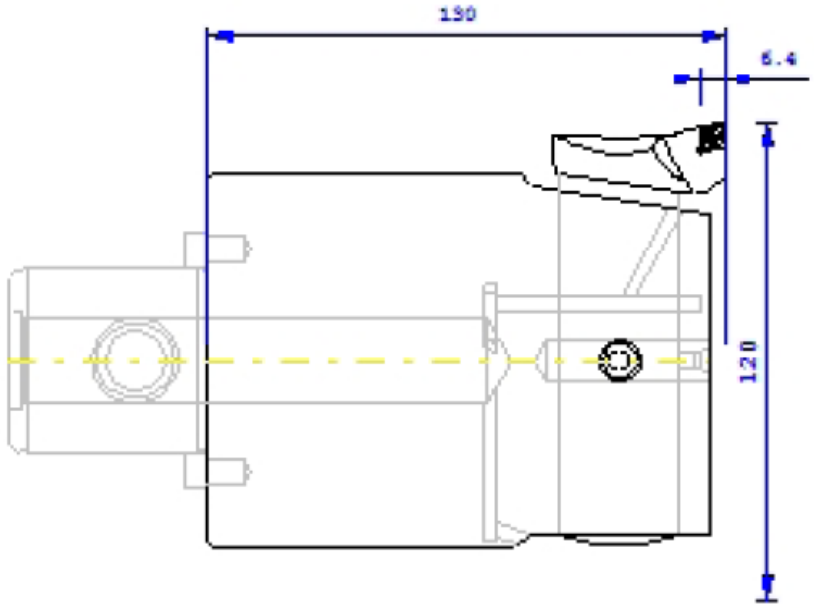

Fine boring head

- Ø 40 – 59.1



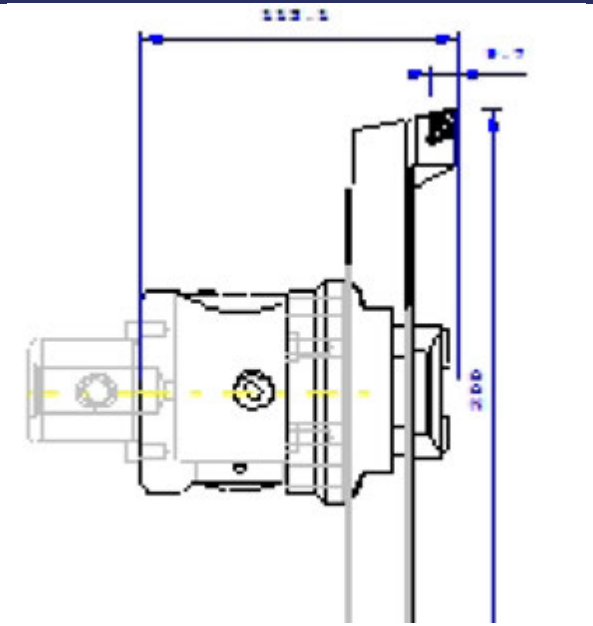

MULTI HEAD

- Ø 3 – 320



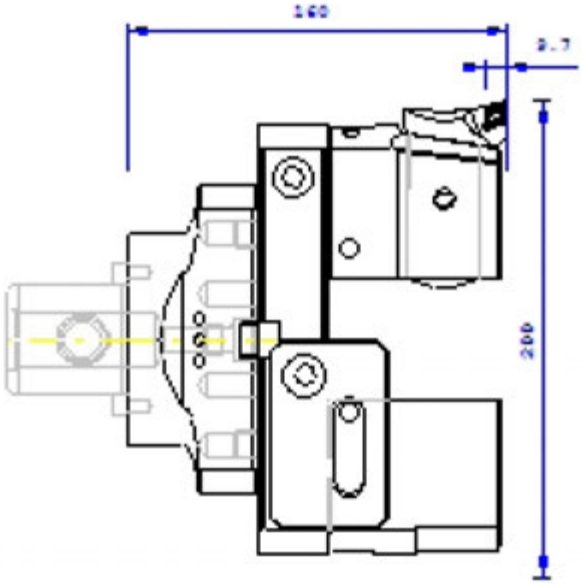

Fine boring head

- Ø 115.1 – 171.1



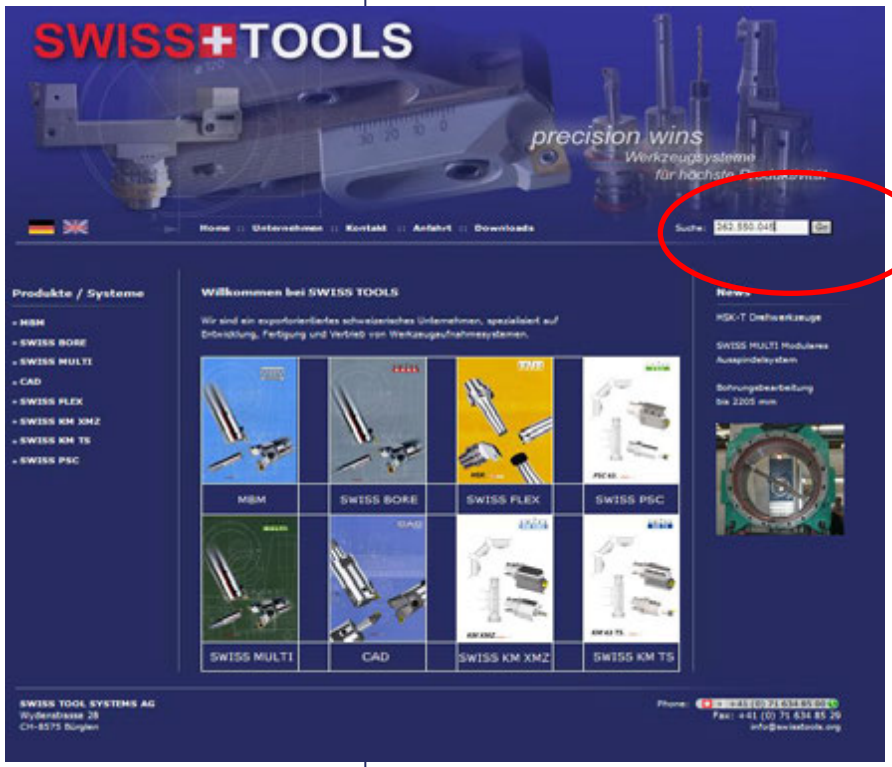

Fine boring head

- Ø 86 – 402




Bridge tool with fine boring head

- Ø 150 - …

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