



# Angular Heads



## Tradition in perfection

„Reaching the highest standards – the goal remains the same, no matter whether the demands increase. Even greater precision, even more difficult geometries, even more performance. We are motivated by our customers' concerns.

Once again we are pushing dimensions and limits: with the angular heads of our new CompactLine. The high performance characteristics that have always distinguished our products are now possible in even smaller spaces. Are you ready to take the next big leap with us?"

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# High-performance machining even in confined spaces

ROMAI's angular heads have always stood for maximum precision and highest process reliability.

With our super slim CompactLine angular heads you can now master even narrower fields of operation.

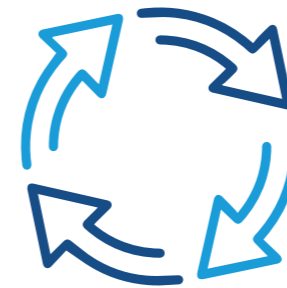
This is made possible by optimised gear geometry and further optimisation of the basic structure. This allows you to achieve machining in even smaller dimensions - at the same price.



**30% more compact** and lighter than the previous standard series with same performance data



High-pressure coolant feed-through with up to **100 bar** for internal and external cooling

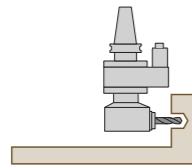


**Friction-optimised seals** for higher speeds



Ideal for demanding machining operations in **confined** spaces and machines with **low tool change data**

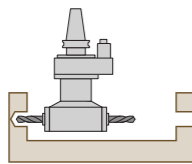
## FORM S



### Angular head 90°

For machining tasks without geometric constraints. Internal coolant optional (page 16).

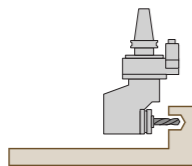
## FORM S-2



### Angular head 90° with bilateral output

For machining tasks in the two different directions or with different machining tools. Internal coolant optional (page 19).

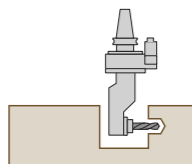
## FORM W



### Angular head 90° with offset output

For machining tasks with geometric constraints. Offset output to maximize the usable tool length. Internal coolant as standard, can be omitted on request (page 24).

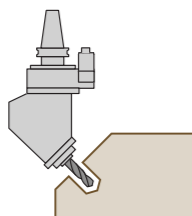
## FORM G



### Angular head 90° with offset output (narrow design for special applications)

For special machining tasks with tough geometric constraints. Offset output to maximize the usable tool length. Internal coolant optional (page 26).

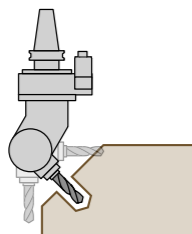
## FORM F



### Angular head with fixed angle (for special applications)

For special machining tasks in a fixed angular position. Internal coolant as standard, can be omitted on request (page 28).

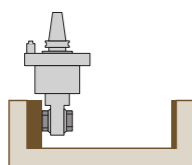
## FORM D



### Angular head 0°-90° with fine adjustment

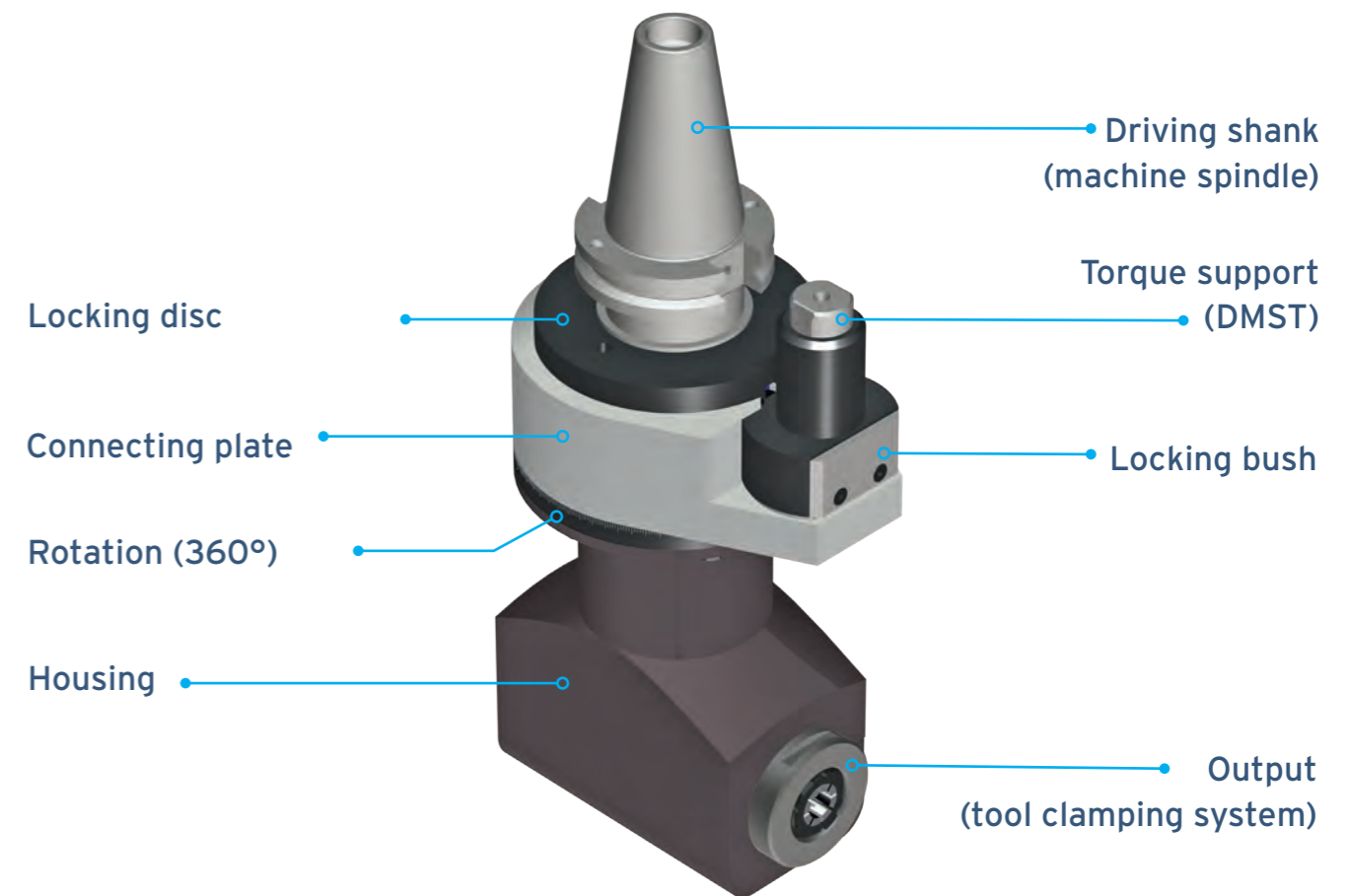
For machining tasks in changing, angular positions. Thanks to the infinitely variable adjustment, any angle between 0°-90° (process-reliable) can be set on the tool. Optionally up to 110°. With internal cooling as standard, can be omitted on request (page 32).

## FORM X



### Angular head for minimum space requirements

For machining tasks such as bearing seats in hydraulic pumps or crankcases. With a minimum width of 30 mm including disc cutters, Form X offers maximum flexibility for machining bearing seats with maximum precision even in the tightest of spaces (page 30).



#### Locking disc/locking bush

Precise locking of the angular head for automatic tool change. This ensures precise mounting in the magazine and thus a reliable process.

#### Connecting plate

Support of the angular head to prevent tilting during machining.

#### Rotation (360°)

All ROMAI standard angular heads can be rotated manually by 360°. They are fixed using clamping screws. Optionally with Hirth serration.

#### Driving shank

Mounting of the angular head in the processing machine. All machine interfaces can be realised, e.g. HSK, SK, PSC, MAS-BT (see page 8).

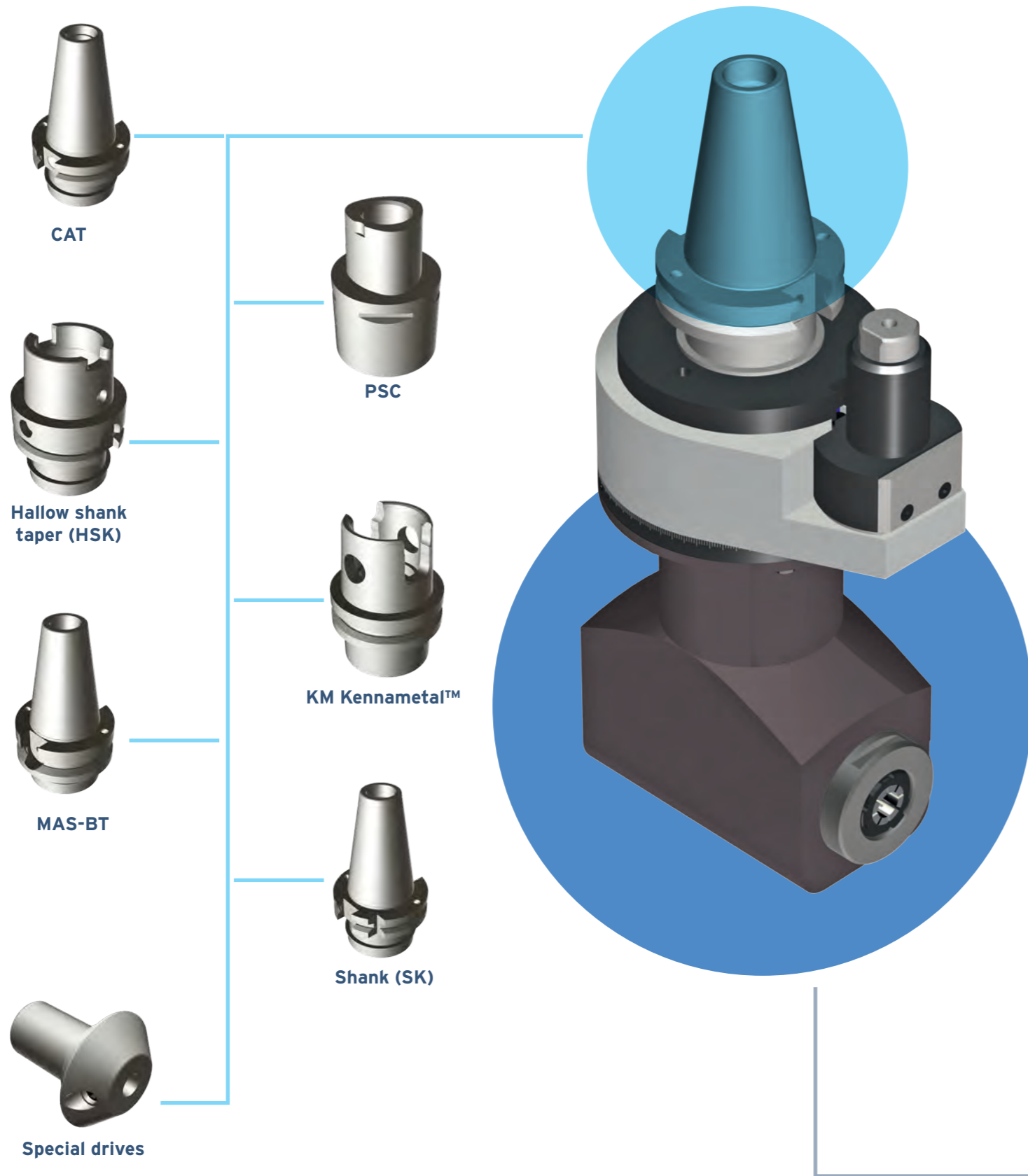
#### Torque support (DMST)

Fixes the angular head to the machine spindle and secures it against twisting as a result of the machining forces that occur. Due to the large number and differences in processing machines, the torque support is usually designed specifically for the machine and is customised by us for the respective machine type.

#### Output

Mounting of the machining tool. All tool clamping systems can be realised, e.g. collets, WFB, HSK, SK (see page 9).

# Drives



# Outputs



# Machine interfaces



## Interface

**CAT**  
Form A D/B

## Available sizes

CAT 30  
CAT 40  
CAT 45  
CAT 50  
CAT 60



**PSC**  
ISO 26623

C3            32  
C4            40  
C5            50  
C6            63  
C8            80  
C8X          80X  
C10          100



**Hollow shank  
tapers (HSK)**  
DIN 69893 / ISO 12164  
Form A & C

HSK 25        HSK 80  
HSK 32        HSK 100  
HSK 40        HSK 125  
HSK 50        HSK 160  
HSK 63



**KM Kennametal™**

KM 40  
KM 50  
KM 63  
KM 80  
KM 100



**MAS-BT**  
JIS B 6339  
Form AD/B

BT 30  
BT 35  
BT 40  
BT 45  
BT 50  
BT 55  
BT 60



**Shanks (SK)**  
DIN 69871 / ISO 7388  
Form AD/B

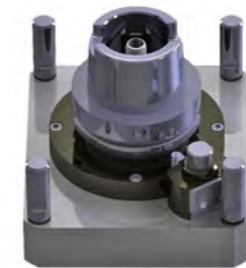
SK 30  
SK 40  
SK 45  
SK 50  
SK 60

# Examples/Stop Block

## Connecting versions



DMST



DMST + 4-point rest



DMST + 3-point rest

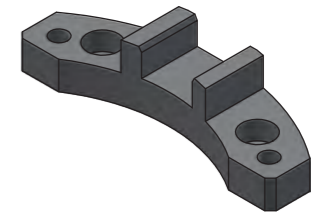
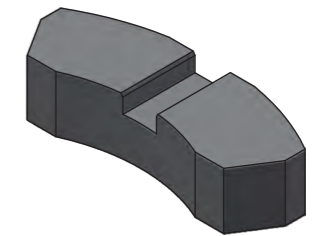


Mechanical/hydraulic  
additional clamping

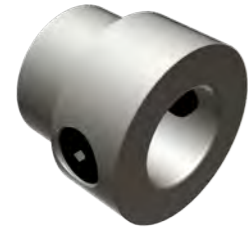
## Stopp-Block

Machine connections from ROMAI are suitable for adaptation to the machining centre by the customer and are standardised in accordance with ISO 9524. When installing the angular heads, the torque support and the stop block must be matched to each other. Please note that - unless otherwise ordered - the stop block is included in the scope of delivery and the drilling pattern is provided by the customer. Optional customisation is possible.

See also the current version of the operating instructions at [www.romai.de](http://www.romai.de)



# Tool clamping systems



| Interface                    | Available sizes |  |
|------------------------------|-----------------|--|
| <b>ABS® KOMET® (licence)</b> | CAT 30          |  |
|                              | CAT 40          |  |
|                              | CAT 45          |  |
|                              | CAT 50          |  |
|                              | CAT 60          |  |



| Interface        | Available sizes |     |
|------------------|-----------------|-----|
| <b>PSC</b>       | C3              | 32  |
| <b>ISO 26623</b> | C4              | 40  |
|                  | C5              | 50  |
|                  | C6              | 63  |
|                  | C8              | 80  |
|                  | C8X             | 80X |
|                  | C10             | 100 |



| Interface              | Available sizes |      |
|------------------------|-----------------|------|
| <b>Cutter spindles</b> | Ø 10            | Ø 32 |
|                        | Ø 13            | Ø 40 |
|                        | Ø 16            | Ø 50 |
|                        | Ø 22            | Ø 60 |
|                        | Ø 25            | Ø 80 |
|                        | Ø 27            |      |



| Interface                        | Available sizes |         |
|----------------------------------|-----------------|---------|
| <b>Hollow shank tapers (HSK)</b> | HSK 25          | HSK 80  |
| DIN 69893 / ISO 12164            | HSK 32          | HSK 100 |
| Form A & C                       | HSK 40          | HSK 125 |
|                                  | HSK 50          | HSK 160 |
|                                  | HSK 63          |         |



| Interface                 | Available sizes |      |
|---------------------------|-----------------|------|
| <b>Hydro clamp chucks</b> | Ø 6             | Ø 20 |
|                           | Ø 8             | Ø 25 |
|                           | Ø 10            | Ø 32 |
|                           | Ø 12            | Ø 40 |
|                           | Ø 14            | Ø 50 |
|                           | Ø 16            |      |

# Tool clamping systems



| Interface         | Available sizes |                  |
|-------------------|-----------------|------------------|
| <b>HYDRO-FIX®</b> | NBC- 10/16-40   | NBC- 42/50-62    |
|                   | NBC- 12/16-40   | NBC- 42/60-62    |
|                   | NBC- 16/ 20-46  | NBC- 50/60-70    |
|                   | NBC- 20/25-46   | NBC- 60/80-100   |
|                   | NBC- 25/32-50   | NBC- 80/100-120  |
|                   | NBC- 32/40-55   | NBC- 100/120-140 |
|                   | NBC- 40/50-60   |                  |



| Interface             | Available sizes |  |
|-----------------------|-----------------|--|
| <b>KM Kennametal™</b> | KM 25           |  |
| (licence)             | KM 32           |  |
|                       | KM 40           |  |
|                       | KM 50           |  |
|                       | KM 63           |  |
|                       | KM 80           |  |
|                       | KM 100          |  |



| Interface            | Available sizes |  |
|----------------------|-----------------|--|
| <b>Collets</b>       | ER 8 : 1-5 mm   |  |
| (Regofix system)     | ER 11 : 1-7 mm  |  |
| DIN 6499 / ISO 15488 | ER 16 : 1-10 mm |  |
|                      | ER 20 : 1-13 mm |  |
|                      | ER 25 : 1-16 mm |  |
|                      | ER 32 : 2-20 mm |  |
|                      | ER 40 : 2-30 mm |  |
|                      | ER 50 : 4-34 mm |  |

ER



ER-A



| Interface                       | Available sizes |  |
|---------------------------------|-----------------|--|
| <b>ERST-Zeta collets</b>        | ER 8 : 1-5 mm   |  |
| (Zeta® System Zollmann)         | ER 11 : 1-7 mm  |  |
| DIN 6388 / DIN 6499 / ISO 15488 | ER 16 : 1-10 mm |  |
|                                 | ER 20 : 1-13 mm |  |
|                                 | ER 25 : 1-16 mm |  |
|                                 | ER 32 : 2-20 mm |  |
|                                 | ER 40 : 2-30 mm |  |
|                                 | ER 50 : 4-34 mm |  |

ER

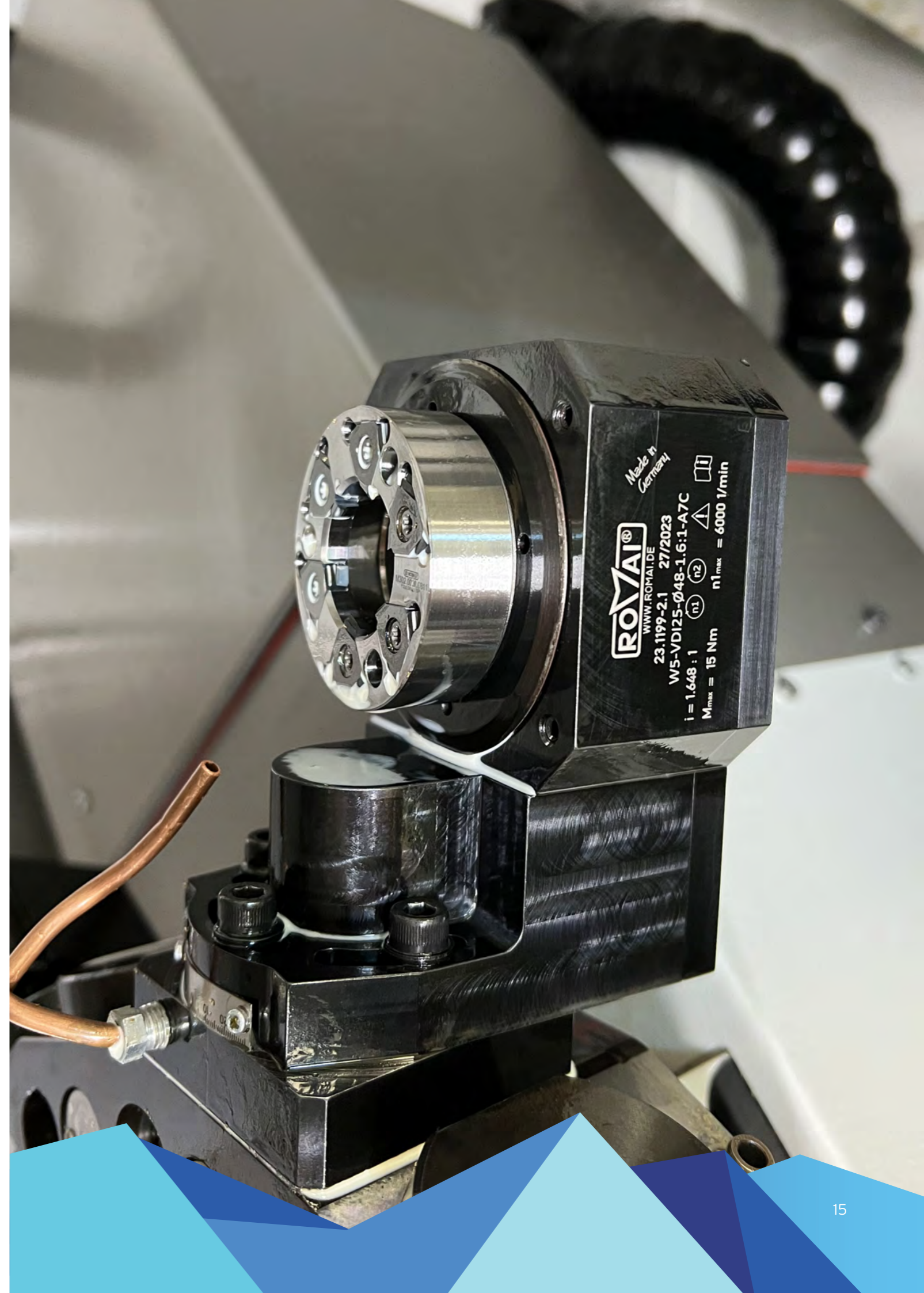


ER-A

# Tool clamping systems



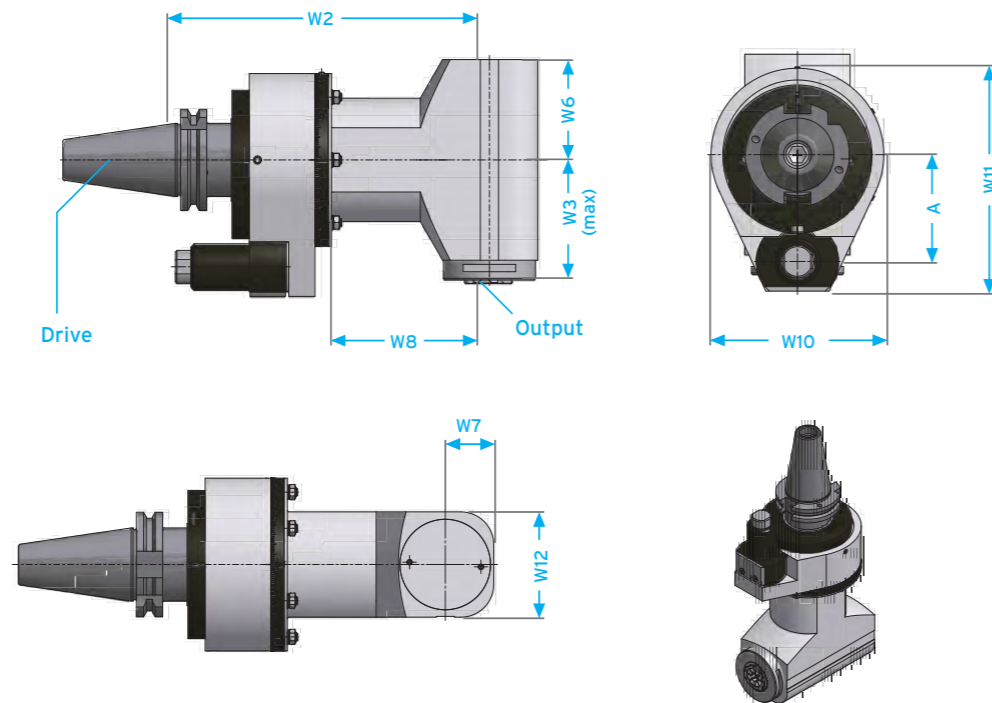
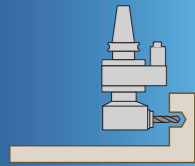
| Interface                         |  | Available sizes |      |
|-----------------------------------|--|-----------------|------|
| <b>Shanks (SK)</b>                |  | SK 30           |      |
|                                   |  | SK 40           |      |
|                                   |  | SK 45           |      |
|                                   |  | SK 50           |      |
|                                   |  | SK 60           |      |
| <b>Weldon &amp; Whistle Notch</b> |  | Ø 6             | Ø 18 |
|                                   |  | Ø 8             | Ø 20 |
|                                   |  | Ø 10            | Ø 25 |
|                                   |  | Ø 12            | Ø 32 |
|                                   |  | Ø 14            | Ø 40 |
|                                   |  | Ø 16            |      |
| <b>WFB</b>                        |  | WFB 20          |      |
|                                   |  | WFB 24          |      |
|                                   |  | WFB 32          |      |
|                                   |  | WFB 40          |      |
|                                   |  | WFB 50          |      |



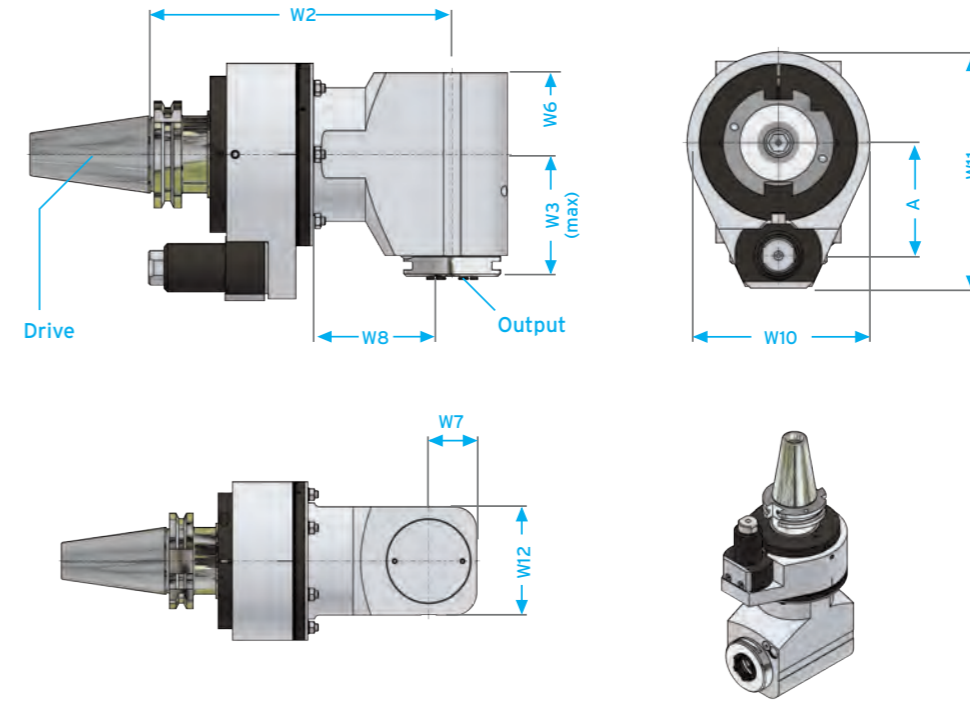
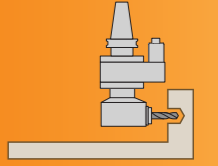


# Specifications

## Form S







## Form S CompactLine



| Type | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |     |                             |     |
|------|--------------------|-------------|--------------------------|---|-----|-----------------------------|-----|
|      | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | SK / CAT / BT <sup>3</sup>                      | W2  | HSK Form A & C <sup>4</sup> | W2  |
| S 4  | 10.000 rpm         | 10 Nm       | 2,5                      | SK 30   | 128 | HSK 50                      | 135 |
| S 5  | 10.000 rpm         | 15 Nm       | 4                        | SK 40   | 150 | HSK 63                      | 160 |
| S 6  | 8.000 rpm          | 43 Nm       | 7                        | SK 40   | 200 | HSK 63                      | 210 |
| S 7  | 8.000 rpm          | 70 Nm       | 8                        | SK 40   | 200 | HSK 63                      | 210 |
| S 10 | 6.000 rpm          | 120 Nm      | 13                       | SK 50   | 200 | HSK 100                     | 234 |
| S 20 | 3.000 rpm          | 250 Nm      | 18                       | SK 50   | 200 | HSK 100                     | 234 |
| S 30 | 2.000 rpm          | 500 Nm      | 32                       | SK 50   | 250 | HSK 100                     | 260 |

| Type | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |       |   |       |
|------|--------------------|-------------|--------------------------|---|-------|---|-------|
|      | Max. speed [1/min] | Max. Torque | Weight <sup>1</sup> [kg] | DIN 69871 / ISO 7388 SK / CAT / BT <sup>3</sup> | W2    | DIN 69893 / ISO 12164 HSK Form A & C <sup>4</sup> | W2    |
| S 5  | 8000 rpm           | 15 Nm       | 3,7                      | SK 40   | 127,5 | HSK 63  | 137,5 |
| S 6  | 8000 rpm           | 43 Nm       | 5,1                      | SK 40   | 132,5 | HSK 63  | 142,5 |
| S 7  | 8000 rpm           | 70 Nm       | 6,3                      | SK 40   | 148,5 | HSK 63  | 158,5 |
| S 10 | 6000 rpm           | 120 Nm      | 11,1                     | SK 50   | 166,5 | HSK 100   | 176,5 |

| Type | Angular head dimensions |    |     |     |     |     |     | Output dimensions/tool clamping system   |     |  |     |   |     |   |     |
|------|-------------------------|----|-----|-----|-----|-----|-----|--|-----|--|-----|---|-----|---|-----|
|      | W6                      | W7 | W8  | W10 | W11 | W12 | A*  |  <sup>5</sup> | W3  |  <sup>5</sup> | W3  |  | W3  |  | W3  |
| S 4  | 30                      | 17 | 40  | 77  | 122 | 36  | 65  | ER-11 A  | 42  | ER-16  | 63  | 20-12   | 54  | -   | -   |
| S 5  | 40                      | 21 | 48  | 85  | 126 | 42  | 65  | ER-16 A  | 57  | ER-20  | 83  | 24-16   | 62  | -   | -   |
| S 6  | 53                      | 32 | 98  | 105 | 136 | 64  | 65  | ER-20 A  | 67  | ER-25  | 89  | 32-20   | 77  | Ø 16  | 91  |
| S 7  | 58                      | 32 | 98  | 105 | 136 | 64  | 65  | ER-25 A  | 75  | ER-32  | 98  | 40-25   | 88  | Ø 20  | 97  |
| S 10 | 63                      | 34 | 97  | 125 | 191 | 80  | 110 | ER-32 A  | 87  | ER-40  | 119 | 40-25   | 99  | Ø 20  | 100 |
| S 20 | 84                      | 45 | 90  | 160 | 208 | 99  | 110 | ER-40 A  | 107 | ER-50  | 150 | 50-32   | 115 | Ø 32  | 120 |
| S 30 | 105                     | 60 | 135 | 180 | 238 | 120 | 130 | ER-50 A  | 130 | ER-50  | 145 | 50-32   | 139 | Ø 42  | 121 |

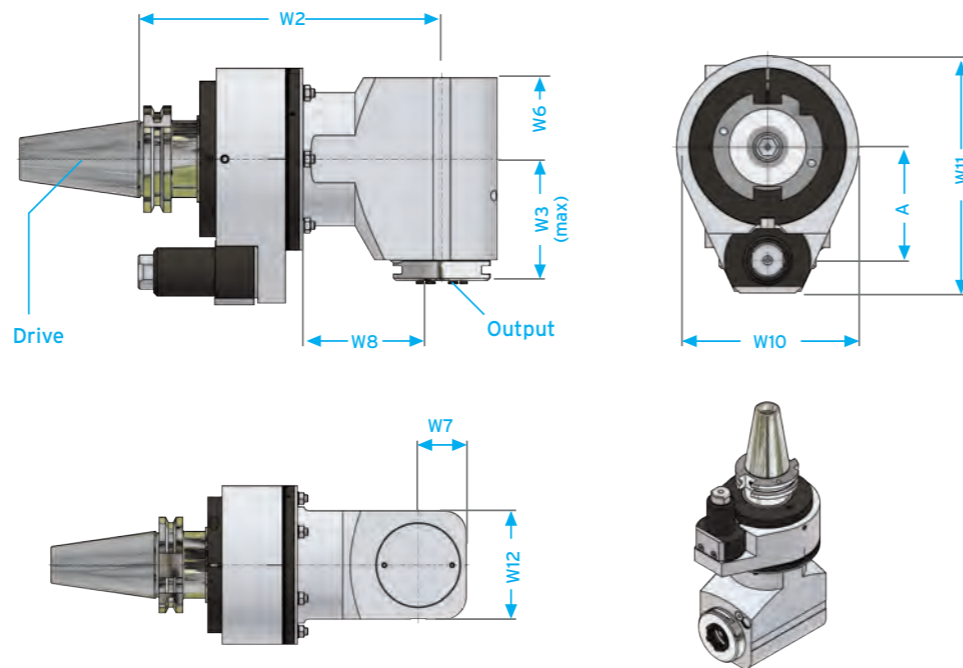
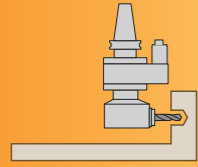
| Type | Angular head dimensions |    |      |     |       |     |     | Output dimensions/tool clamping system          |    |                       |    |  |  |
|------|-------------------------|----|------|-----|-------|-----|-----|---|----|-----------------------|----|--|--|
|      | W6                      | W7 | W8   | W10 | W11   | W12 | A*  | Collets (REGO-FIX® system) - DIN 6499/ISO 15488 |    |                       |    |  |  |
|      |                         |    |      |     |       |     |     | Internal clamping nut                           | W3 | Internal clamping nut | W3 |  |  |
| S 5  | 34                      | 21 | 25,5 | 85  | 125,5 | 42  | 65  | ER-16 A   | 53 | -                     |    |  |  |
| S 6  | 41,5                    | 27 | 30,5 | 105 | 135,5 | 54  | 65  | ER-20 A   | 63 | ER-25 A               | 74 |  |  |
| S 7  | 47                      | 32 | 46,5 | 105 | 135,5 | 64  | 65  | ER-25 A   | 70 | ER-32 A               | 85 |  |  |
| S 10 | 54                      | 37 | 62   | 125 | 190,5 | 80  | 110 | ER-32 A   | 81 | ER-40 A               | 96 |  |  |

All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

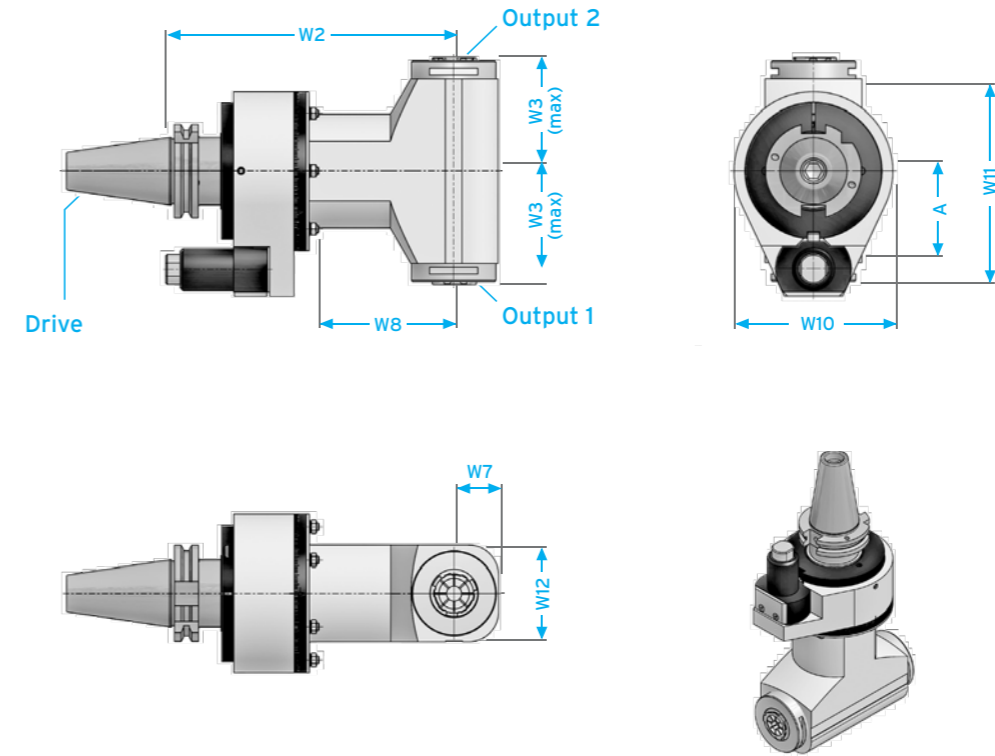
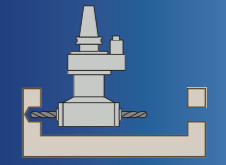
All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

# Specifications

## Form S with IK/AK<sup>a</sup> CompactLine





## Form S2



| Type      | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |     |   |     |
|-----------|--------------------|-------------|--------------------------|---|-----|---|-----|
|           | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | DIN 69871 / ISO 7388 SK / CAT / BT <sup>3</sup> | W2  | DIN 69893 / ISO 12164 HSK Form A & C <sup>4</sup> | W2  |
| S 5 (IK)  | 8000 rpm           | 15 Nm       | 4                        | SK 40   | 153 | HSK 63  | 163 |
| S 6 (IK)  | 8000 rpm           | 43 Nm       | 6,1                      | SK 40   | 174 | HSK 63  | 184 |
| S 7 (IK)  | 8000 rpm           | 70 Nm       | 7                        | SK 40   | 175 | HSK 63  | 185 |
| S 10 (IK) | 6000 rpm           | 120 Nm      | 12,3                     | SK 50   | 210 | HSK 100   | 220 |

| Type  | Specification      |             |                          | Drive dimensions/Machine interface <sup>2</sup> |     |                             |     |
|-------|--------------------|-------------|--------------------------|---|-----|-----------------------------|-----|
|       | Max. speed [1/min] | Max. Torque | Weight <sup>1</sup> [kg] | SK / CAT / BT <sup>3</sup>                      | W2  | HSK Form A & C <sup>4</sup> | W2  |
| S5-2  | 10.000 rpm         | 15 Nm       | 4                        | SK 40   | 150 | HSK 63                      | 160 |
| S6-2  | 8.000 rpm          | 43 Nm       | 7                        | SK 40   | 200 | HSK 63                      | 210 |
| S7-2  | 8.000 rpm          | 70 Nm       | 8                        | SK 40   | 200 | HSK 63                      | 210 |
| S10-2 | 6.000 rpm          | 120 Nm      | 13                       | SK 50   | 200 | HSK 100                     | 234 |
| S20-2 | 3.000 rpm          | 250 Nm      | 19                       | SK 50   | 200 | HSK 100                     | 234 |
| S30-2 | 2.000 rpm          | 500 Nm      | 32                       | SK 50   | 250 | HSK 100                     | 260 |

| Type      | Angular head dimensions |         |    |       |     |       |     |     | Output dimensions/<br>tool clamping system      |    |                       |    |   |
|-----------|-------------------------|---------|----|-------|-----|-------|-----|-----|---|----|-----------------------|----|---|
|           | W6 (AK)                 | W6 (IK) | W7 | W8    | W10 | W11   | W12 | A*  | Collets (REGO-FIX® system) - DIN 6499/ISO 15488 |    |                       |    |   |
|           |                         |         |    |       |     |       |     |     | Internal clamping nut                           | W3 | Internal clamping nut | W3 |   |
| S 5 (IK)  | 34                      | 52,5    | 21 | 51    | 85  | 125,5 | 48  | 65  | ER-16 A   | 53 | -                     | -  | - |
| S 6 (IK)  | 41,5                    | 59,5    | 27 | 72    | 105 | 135,5 | 64  | 65  | ER-20 A   | 63 | ER-25 A               | 74 | - |
| S 7 (IK)  | 47                      | 64,5    | 32 | 73    | 105 | 135,5 | 72  | 65  | ER-25 A   | 70 | ER-32 A               | 85 | - |
| S 10 (IK) | 54                      | 72      | 37 | 105,5 | 125 | 190,5 | 80  | 110 | ER-32 A   | 81 | ER-40 A               | 96 | - |

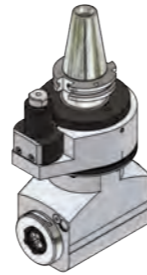
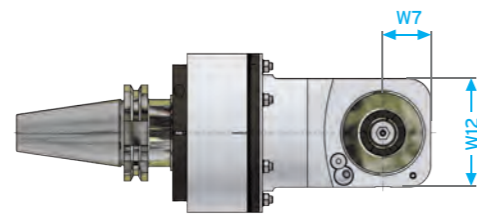
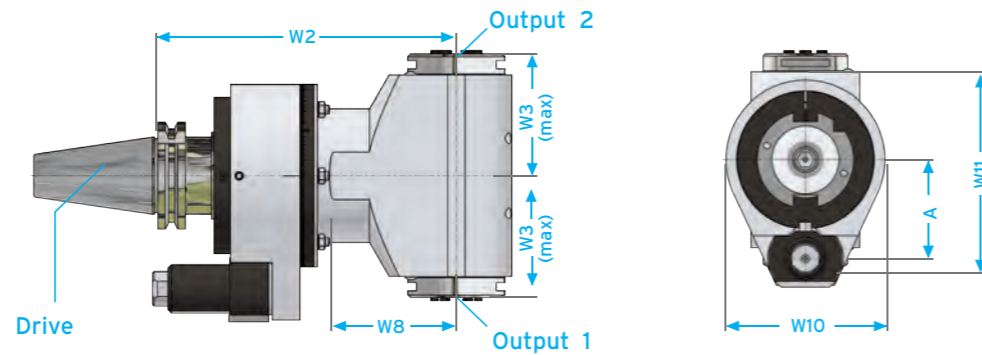
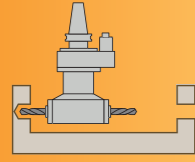
| Type  | Angular head dimensions |     |     |     |     |     | Output dimensions/tool clamping system  |     |   |     |       |     |           |     |
|-------|-------------------------|-----|-----|-----|-----|-----|---|-----|---|-----|-------|-----|-----------|-----|
|       | W7                      | W8  | W10 | W11 | W12 | A*  |  | W3  |  | W3  | WFB   | W3  | Hydraulic | W3  |
| S5-2  | 21                      | 48  | 85  | 126 | 42  | 65  | ER-16 A   | 57  | ER-20   | 83  | 24-16 | 62  | -         | -   |
| S6-2  | 32                      | 98  | 105 | 136 | 64  | 65  | ER-20 A   | 67  | ER-25   | 89  | 32-20 | 77  | Ø 16      | 91  |
| S7-2  | 32                      | 98  | 105 | 136 | 64  | 65  | ER-25 A   | 75  | ER-32   | 98  | 40-25 | 88  | Ø 20      | 97  |
| S10-2 | 34                      | 97  | 125 | 191 | 80  | 110 | ER-32 A   | 87  | ER-40   | 119 | 40-25 | 99  | Ø 20      | 100 |
| S20-2 | 45                      | 90  | 160 | 208 | 99  | 110 | ER-40 A   | 107 | ER-50   | 150 | 50-32 | 115 | Ø 32      | 120 |
| S30-2 | 60                      | 135 | 180 | 238 | 120 | 130 | ER-50 A   | 130 | ER-50   | 145 | 50-32 | 139 | Ø 42      | 121 |

<sup>a</sup> with internal cooling/external cooling | All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10  
<sup>3</sup> DIN 69871/ISO 7388 | <sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

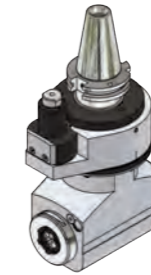
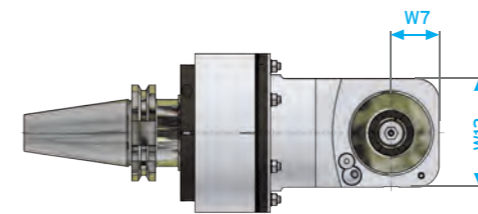
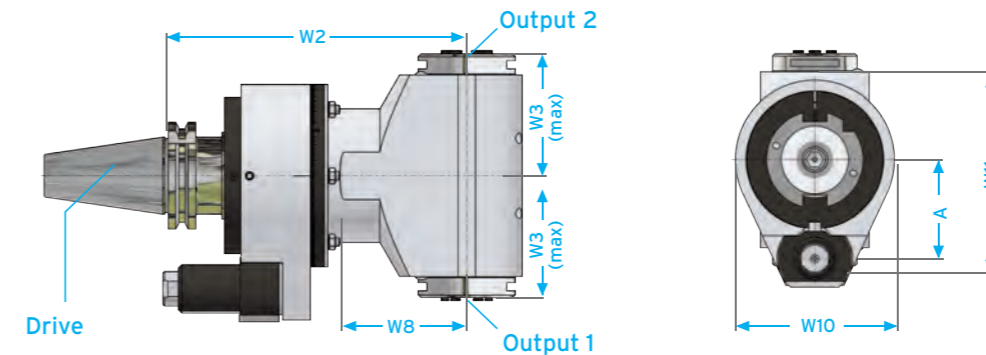
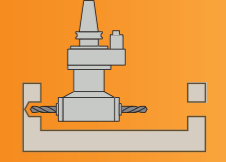
All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

# Specifications

## Form S2 CompactLine



## Form S2 with AK<sup>a</sup> CompactLine



| Type  | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |       |   |       |
|-------|--------------------|-------------|--------------------------|---|-------|---|-------|
|       | Max. speed [1/min] | Max. Torque | Weight <sup>1</sup> [kg] | DIN 69871 / ISO 7388 SK / CAT / BT <sup>3</sup> | W2    | DIN 69893 / ISO 12164 HSK Form A & C <sup>4</sup> | W2    |
| S2 5  | 8000 rpm           | 15 Nm       | 3,7                      | SK 40   | 127,5 | HSK 63  | 137,5 |
| S2 6  | 8000 rpm           | 43 Nm       | 5,1                      | SK 40   | 132,5 | HSK 63  | 142,5 |
| S2 7  | 8000 rpm           | 70 Nm       | 6,3                      | SK 40   | 148,5 | HSK 63  | 158,5 |
| S2 10 | 6000 rpm           | 120 Nm      | 11,1                     | SK 50   | 166,5 | HSK 100   | 176,5 |

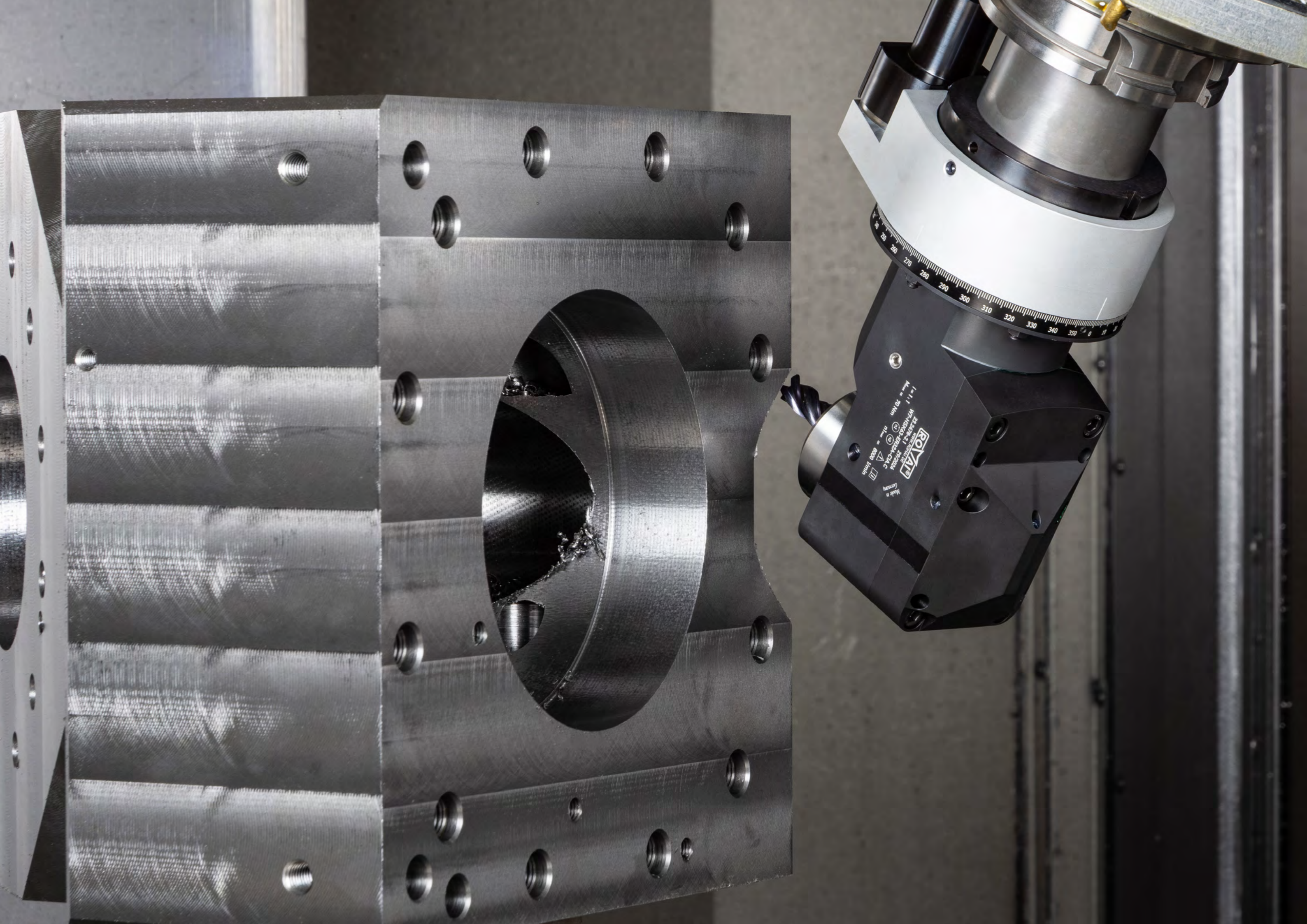
| Type       | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |     |   |     |
|------------|--------------------|-------------|--------------------------|---|-----|---|-----|
|            | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | DIN 69871 / ISO 7388 SK / CAT / BT <sup>3</sup> | W2  | DIN 69893 / ISO 12164 HSK Form A & C <sup>4</sup> | W2  |
| S2 5 (AK)  | 8000 rpm           | 15 Nm       | 4                        | SK 40   | 153 | HSK 63  | 163 |
| S2 6 (AK)  | 8000 rpm           | 43 Nm       | 6,1                      | SK 40   | 174 | HSK 63  | 184 |
| S2 7 (AK)  | 8000 rpm           | 70 Nm       | 7                        | SK 40   | 175 | HSK 63  | 185 |
| S2 10 (AK) | 6000 rpm           | 120 Nm      | 12,3                     | SK 50   | 210 | HSK 100   | 220 |

| Type  | Angular head dimensions |      |     |       |     |     | Drive dimensions/tool clamping system               |    |                       |    |
|-------|-------------------------|------|-----|-------|-----|-----|---|----|-----------------------|----|
|       | W7                      | W8   | W10 | W11   | W12 | A*  | Spannzangen (REGO-FIX® system) - DIN 6499/ISO 15488 |    |                       |    |
|       |                         |      |     |       |     |     | Internal clamping nut                               | W3 | Internal clamping nut | W3 |
| S2 5  | 21                      | 25,5 | 85  | 125,5 | 42  | 65  | ER-16 A   | 53 | -                     |    |
| S2 6  | 27                      | 30,5 | 105 | 135,5 | 54  | 65  | ER-20 A   | 63 | ER-25 A               | 74 |
| S2 7  | 32                      | 46,5 | 105 | 135,5 | 64  | 65  | ER-25 A   | 70 | ER-32 A               | 85 |
| S2 10 | 37                      | 62   | 125 | 190,5 | 80  | 110 | ER-32 A   | 81 | ER-40 A               | 96 |

| Type       | Angular head dimensions |       |     |       |     |     | Output dimensions/tool clamping system          |    |                       |    |
|------------|-------------------------|-------|-----|-------|-----|-----|---|----|-----------------------|----|
|            | W7                      | W8    | W10 | W11   | W12 | A*  | Collets (REGO-FIX® system) - DIN 6499/ISO 15488 |    |                       |    |
|            |                         |       |     |       |     |     | Internal clamping nut                           | W3 | Internal clamping nut | W3 |
| S2 5 (AK)  | 21                      | 51    | 85  | 125,5 | 48  | 65  | ER-16 A   | 53 | -                     |    |
| S2 6 (AK)  | 27                      | 72    | 105 | 135,5 | 64  | 65  | ER-20 A   | 63 | ER-25 A               | 74 |
| S2 7 (AK)  | 32                      | 73    | 105 | 135,5 | 72  | 65  | ER-25 A   | 70 | ER-32 A               | 85 |
| S2 10 (AK) | 37                      | 105,5 | 125 | 190,5 | 80  | 110 | ER-32 A   | 81 | ER-40 A               | 96 |

All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

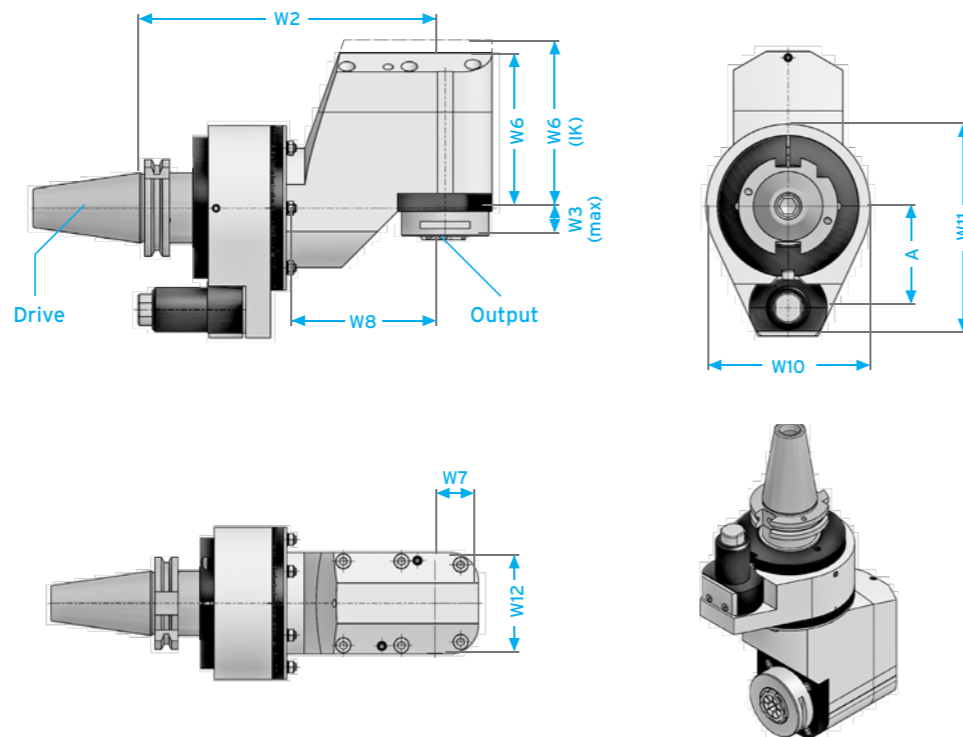
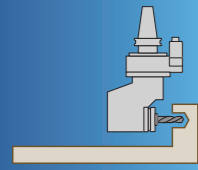
<sup>a</sup> with external cooling | All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10  
<sup>3</sup> DIN 69871/ISO 7388 | <sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.



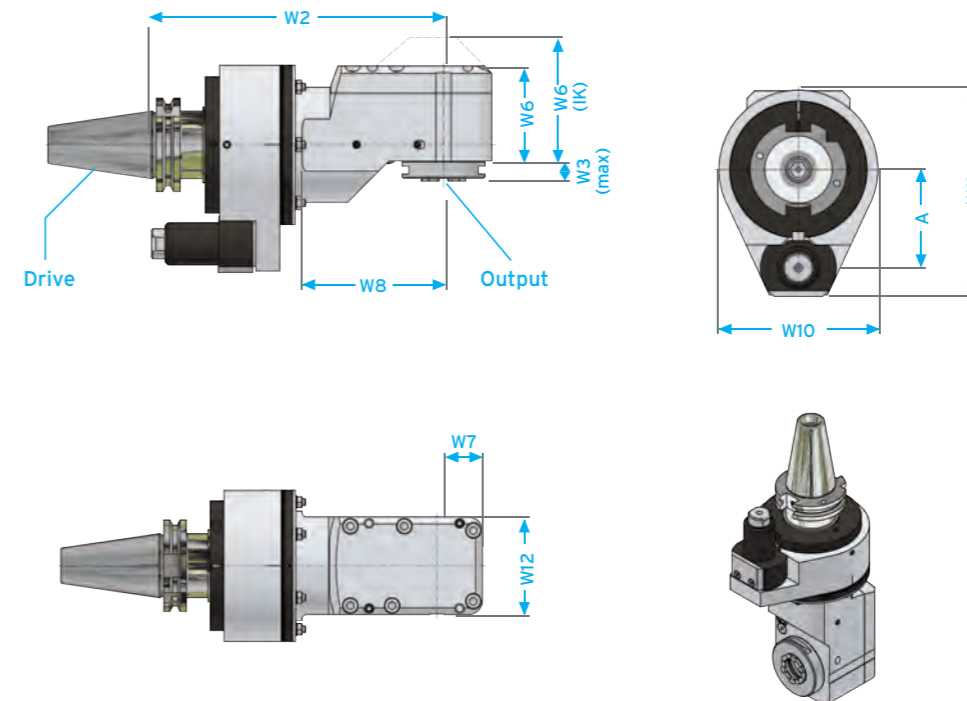
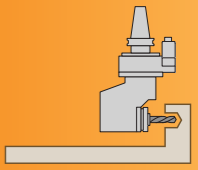
ROYAL  
L=111  
W=20mm  
M=20mm  
R=11mm  
Mach n  
Germany

# Specifications

## Form W



## Form W CompactLine



| Type | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |     |                             |     |
|------|--------------------|-------------|--------------------------|---|-----|-----------------------------|-----|
|      | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | SK / CAT / BT <sup>3</sup>                      | W2  | HSK Form A & C <sup>4</sup> | W2  |
| W 5  | 10.000 rpm         | 15 Nm       | 5                        | SK 40   | 180 | HSK 63                      | 190 |
| W 6  | 8.000 rpm          | 43 Nm       | 8                        | SK 40   | 220 | HSK 63                      | 230 |
| W 7  | 8.000 rpm          | 70 Nm       | 10                       | SK 40   | 235 | HSK 63                      | 245 |
| W 10 | 6.000 rpm          | 120 Nm      | 17                       | SK 50   | 245 | HSK 100                     | 279 |
| W 20 | 3.000 rpm          | 250 Nm      | 25                       | SK 50   | 285 | HSK 100                     | 319 |
| W 30 | 2.000 rpm          | 500 Nm      | 40                       | SK 50   | 319 | HSK 100                     | 329 |

| Type | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |     |   |     |
|------|--------------------|-------------|--------------------------|---|-----|---|-----|
|      | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | DIN 69871 / ISO 7388 SK / CAT / BT <sup>3</sup> | W2  | DIN 69893 / ISO 12164 HSK Form A & C <sup>4</sup> | W2  |
| W 5  | 8000 rpm           | 15 Nm       | 3,8                      | SK 40   | 156 | HSK 63  | 166 |
| W 6  | 8000 rpm           | 43 Nm       | 5,1                      | SK 40   | 170 | HSK 63  | 180 |
| W 7  | 8000 rpm           | 70 Nm       | 6,4                      | SK 40   | 193 | HSK 63  | 203 |
| W 10 | 6000 rpm           | 120 Nm      | 11,3                     | SK 50   | 221 | HSK 100   | 231 |

| Type | Angular head dimensions |         |    |     |     |     |     |     | Output dimensions/tool clamping system |    |              |    |       |    |      |    |
|------|-------------------------|---------|----|-----|-----|-----|-----|-----|--|----|--------------|----|-------|----|------|----|
|      | W6                      | W6 (IK) | W7 | W8  | W10 | W11 | W12 | A*  | <sup>5</sup>                           | W3 | <sup>5</sup> | W3 |       | W3 |      | W3 |
| W 5  | 63                      | 80      | 26 | 79  | 85  | 126 | 55  | 65  | ER-16 A                                | 17 | ER-20        | 39 | 24-16 | 22 | -    | -  |
| W 6  | 78                      | 98      | 30 | 119 | 105 | 136 | 70  | 65  | ER-20 A                                | 20 | ER-25        | 42 | 32-20 | 29 | ∅ 16 | 44 |
| W 7  | 77                      | 98      | 34 | 133 | 105 | 136 | 76  | 65  | ER-25 A                                | 22 | ER-32        | 46 | 40-25 | 30 | ∅ 20 | 47 |
| W 10 | 95                      | 116     | 45 | 142 | 125 | 191 | 90  | 110 | ER-32 A                                | 28 | ER-40        | 58 | 40-25 | 36 | ∅ 20 | 41 |
| W 20 | 125                     | 140     | 50 | 175 | 160 | 208 | 110 | 110 | ER-40 A                                | 25 | ER-50        | 70 | 50-32 | 33 | ∅ 32 | 43 |
| W 30 | 150                     | 169     | 65 | 204 | 180 | 238 | 130 | 130 | ER-50 A                                | 40 | ER-50        | 60 | 50-32 | 35 | ∅ 42 | 36 |

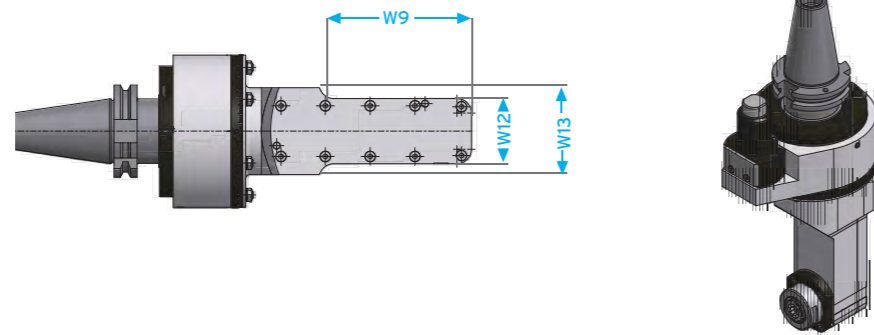
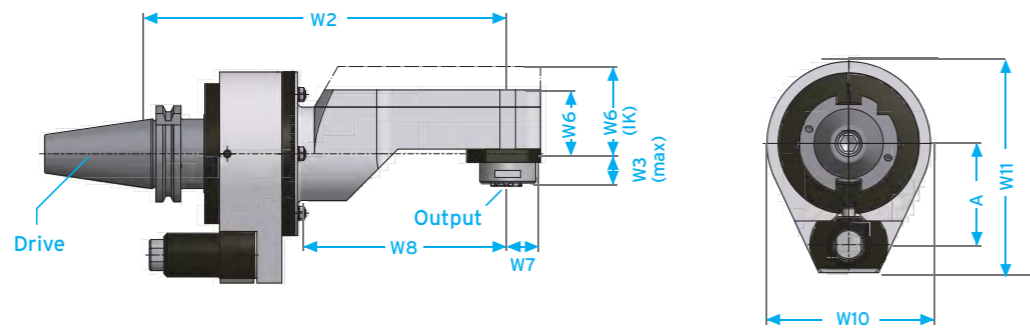
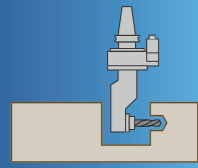
| Type | Angular head dimensions |         |    |       |     |       |     |     | Output dimensions/tool clamping system          |      |                       |    |  |
|------|-------------------------|---------|----|-------|-----|-------|-----|-----|---|------|-----------------------|----|--|
|      | W6                      | W6 (IK) | W7 | W8    | W10 | W11   | W12 | A*  | Collets (REGO-FIX® system) - DIN 6499/ISO 15488 |      |                       |    |  |
|      |                         |         |    |       |     |       |     |     | Internal clamping nut                           | W3   | Internal clamping nut | W3 |  |
| W 5  | 35                      | 55      | 21 | 54    | 85  | 125,5 | 50  | 65  | ER-16 A   | 26,5 | -                     |    |  |
| W 6  | 43,5                    | 62,5    | 26 | 68    | 105 | 135,5 | 58  | 65  | ER-20 A   | 22   | ER-25 A               | 25 |  |
| W 7  | 52                      | 70,5    | 32 | 91    | 105 | 135,5 | 68  | 65  | ER-25 A   | 22   | ER-32 A               | 33 |  |
| W 10 | 57                      | 75,5    | 40 | 116,5 | 125 | 190,5 | 80  | 110 | ER-32 A   | 26   | ER-40 A               | 37 |  |

All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

# Specifications

## Form G

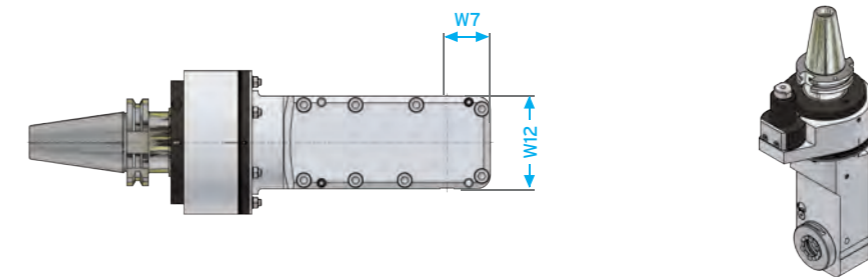
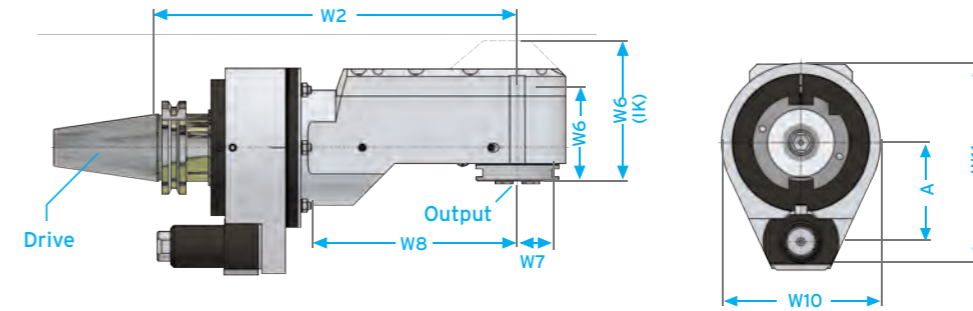
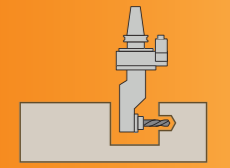


| Type | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |     |                             |     |
|------|--------------------|-------------|--------------------------|---|-----|-----------------------------|-----|
|      | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | SK / CAT / BT <sup>3</sup>                      | W2  | HSK Form A & C <sup>4</sup> | W2  |
| G 5  | 10.000 rpm         | 15 Nm       | 5                        | SK 40   | 230 | HSK 63                      | 240 |
| G 6  | 8.000 rpm          | 43 Nm       | 7                        | SK 40   | 240 | HSK 63                      | 250 |
| G 7  | 8.000 rpm          | 70 Nm       | 9                        | SK 40   | 250 | HSK 63                      | 260 |
| G 10 | 6.000 rpm          | 120 Nm      | 16                       | SK 50   | 290 | HSK 100                     | 324 |
| G 20 | 3.000 rpm          | 250 Nm      | 22                       | SK 50   | 330 | HSK 100                     | 364 |
| G 30 | 2.000 rpm          | 500 Nm      | 34                       | SK 50   | 380 | HSK 100                     | 414 |

| Type | Angular head dimensions |                      |    |     |     |     |     |     |     |     | Output dimensions/tool clamping system |        |       |    |       |    |           |    |
|------|-------------------------|----------------------|----|-----|-----|-----|-----|-----|-----|-----|--|--------|-------|----|-------|----|-----------|----|
|      | W6                      | W6 (IK) <sup>5</sup> | W7 | W8  | W9  | W10 | W11 | W12 | W13 | A*  | 5                                      | W3     | 5     | W3 | WFB   | W3 | Hydraulic | W3 |
| G 5  | 42                      | 67                   | 21 | 128 | 95  | 85  | 126 | 45  | 50  | 65  | ER-16 A                                | 19     | ER-20 | 41 | 24-16 | 24 | -         | -  |
| G 6  | 56                      | 84                   | 25 | 138 | 95  | 105 | 136 | 55  | 70  | 65  | ER-20 A                                | 12 (0) | ER-25 | 33 | 32-20 | 21 | Ø 16      | 36 |
| G 7  | 66                      | 98                   | 32 | 148 | 120 | 105 | 136 | 65  | 76  | 65  | ER-25 A                                | 12 (0) | ER-32 | 25 | 40-25 | 27 | Ø 20      | 34 |
| G 10 | 98                      | 123                  | 40 | 186 | 140 | 125 | 191 | 80  | 90  | 110 | ER-32 A                                | 4      | ER-40 | 26 | 40-25 | 4  | Ø 20      | 9  |
| G 20 | 113                     | 138                  | 45 | 220 | 140 | 160 | 208 | 99  | 110 | 110 | ER-40 A                                | 4      | ER-50 | 36 | 50-32 | 4  | Ø 32      | 9  |
| G 30 | 130                     | 155                  | 55 | 265 | 150 | 180 | 238 | 119 | 130 | 130 | ER-50 A                                | 5      | ER-50 | 30 | 50-32 | 5  | Ø 42      | 6  |

All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

## Form G CompactLine



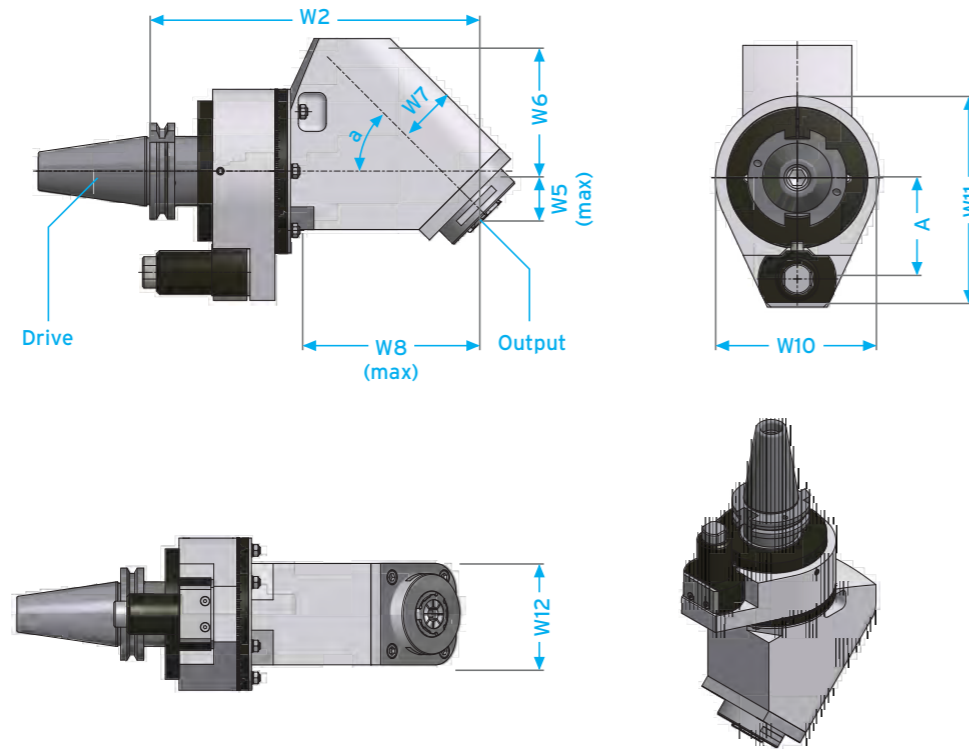
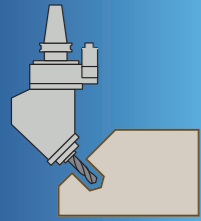
| Type | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |       |   |       |
|------|--------------------|-------------|--------------------------|---|-------|---|-------|
|      | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | DIN 69871 / ISO 7388 SK / CAT / BT <sup>3</sup> | W2    | DIN 69893 / ISO 12164 HSK Form A & C <sup>4</sup> | W2    |
| G 5  | 8000 rpm           | 15 Nm       | 4                        | SK 40   | 184   | HSK 63  | 194   |
| G 6  | 8000 rpm           | 43 Nm       | 5,5                      | SK 40   | 207,5 | HSK 63  | 217,5 |
| G 7  | 8000 rpm           | 70 Nm       | 7,2                      | SK 40   | 238   | HSK 63  | 248   |
| G 10 | 6000 rpm           | 120 Nm      | 12,6                     | SK 50   | 276   | HSK 100   | 286   |

| Type | Angular head dimensions |         |    |       |    |     |       |     |     |     | Output dimensions/tool clamping system          |      |                       |    |
|------|-------------------------|---------|----|-------|----|-----|-------|-----|-----|-----|---|------|-----------------------|----|
|      | W6                      | W6 (IK) | W7 | W8    | W9 | W10 | W11   | W12 | W13 | A*  | Collets (REGO-FIX® system) - DIN 6499/ISO 15488 |      |                       |    |
|      |                         |         |    |       |    |     |       |     |     |     | Internal clamping nut                           | W3   | Internal clamping nut | W3 |
| G 5  | 35                      | 55      | 21 | 82    | -  | 85  | 125,5 | -   | 50  | 65  | ER-16 A   | 26,5 | -                     | -  |
| G 6  | 43,5                    | 62,5    | 26 | 105,5 | -  | 105 | 135,5 | -   | 58  | 65  | ER-20 A   | 22   | ER-25 A               | 25 |
| G 7  | 52                      | 70,5    | 32 | 136   | -  | 105 | 135,5 | -   | 68  | 65  | ER-25 A   | 22   | ER-32 A               | 33 |
| G 10 | 57                      | 75,5    | 40 | 171,5 | -  | 125 | 190,5 | -   | 80  | 110 | ER-32 A   | 26   | ER-40 A               | 37 |

All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

# Specifications

## Form F



| Type | Output dimensions/tool clamping system |         |    |     |     |       |     |     |     |       |    |     |     |           |    |     |     |
|------|--|---------|----|-----|-----|-------|-----|-----|-----|-------|----|-----|-----|-----------|----|-----|-----|
|      | Angle<br>a*                            |         | W5 | W6  | W8  |       | W5  | W6  | W8  | WFB   | W5 | W6  | W8  | Hydraulic | W5 | W6  | W8  |
| F5   | 30°                                    | ER-16 A | 8  | 66  | 107 | ER-20 | 19  | 66  | 126 | 24-16 | 11 | 66  | 111 | -         | -  | -   | -   |
|      | 45°                                    |         | 58 | 90  | 99  |       | 41  | 90  | 115 |       | 29 | 90  | 103 |           |    |     |     |
|      | 60°                                    |         | 39 | 88  | 87  |       | 58  | 88  | 98  |       | 43 | 88  | 90  |           |    |     |     |
| F6   | 30°                                    | ER-20 A | 7  | 75  | 119 | ER-25 | 18  | 75  | 138 | 32-20 | 12 | 75  | 127 | Ø 16      | 19 | 75  | 140 |
|      | 45°                                    |         | 27 | 90  | 109 |       | 43  | 90  | 125 |       | 33 | 90  | 115 |           | 44 | 90  | 126 |
|      | 60°                                    |         | 45 | 98  | 95  |       | 64  | 98  | 106 |       | 53 | 98  | 100 |           | 66 | 98  | 107 |
| F7   | 30°                                    | ER-25 A | 7  | 81  | 125 | ER-32 | 19  | 81  | 145 | 40-25 | 14 | 81  | 136 | Ø 20      | 18 | 81  | 144 |
|      | 45°                                    |         | 30 | 95  | 114 |       | 46  | 95  | 130 |       | 39 | 95  | 123 |           | 46 | 95  | 130 |
|      | 60°                                    |         | 50 | 101 | 99  |       | 70  | 101 | 111 |       | 61 | 101 | 106 |           | 69 | 101 | 110 |
| F10  | 30°                                    | ER-32 A | 7  | 90  | 149 | ER-40 | 22  | 90  | 175 | 40-25 | 11 | 90  | 156 | Ø 20      | 14 | 90  | 160 |
|      | 45°                                    |         | 34 | 105 | 137 |       | 55  | 105 | 158 |       | 40 | 105 | 143 |           | 43 | 105 | 146 |
|      | 60°                                    |         | 56 | 113 | 118 |       | 82  | 113 | 133 |       | 63 | 113 | 122 |           | 67 | 113 | 125 |
| F20  | 30°                                    | ER-40 A | 7  | 107 | 205 | ER-50 | 27  | 107 | 240 | 50-32 | 11 | 107 | 212 | Ø 32      | 14 | 107 | 216 |
|      | 45°                                    |         | 45 | 120 | 190 |       | 73  | 120 | 218 |       | 51 | 120 | 196 |           | 54 | 120 | 199 |
|      | 60°                                    |         | 75 | 125 | 165 |       | 110 | 125 | 185 |       | 82 | 125 | 169 |           | 86 | 125 | 172 |
| F30  | 30°                                    | ER-50 A | 8  | 130 | 256 | ER-50 | 21  | 130 | 278 | 50-32 | 8  | 130 | 256 | Ø 40      | 9  | 130 | 257 |
|      | 45°                                    |         | 55 | 140 | 236 |       | 73  | 140 | 254 |       | 55 | 140 | 236 |           | 56 | 140 | 237 |
|      | 60°                                    |         | 95 | 145 | 206 |       | 117 | 145 | 219 |       | 95 | 145 | 206 |           | 96 | 145 | 207 |

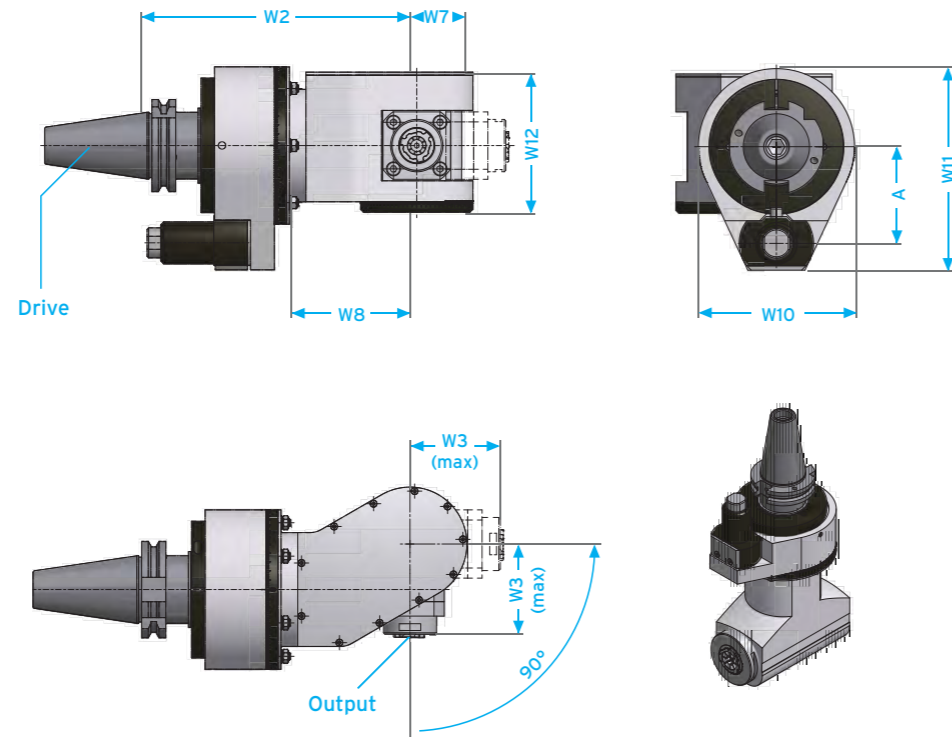
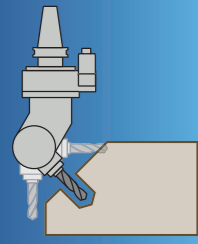
All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \* Optional angle according to customer requirements

| Type | Specification            |                 |                |            | Drive dimensions/<br>machine interface <sup>2</sup> |      |     |     | Angular head<br>dimensions |    |     |     |     |     |
|------|--------------------------|-----------------|----------------|------------|---|------|-----|-----|----------------------------|----|-----|-----|-----|-----|
|      | Max.<br>speed<br>[l/min] | Max.<br>torque. | Weight<br>[kg] | Angle<br>a | SK /<br>HSK 3                                       | W2   |     |     |                            | W7 | W10 | W11 | W12 | A*  |
|      |                          |                 |                |            |   | ER-A | ER  | WFB | HF                         |    |     |     |     |     |
| F5   | 10.000 rpm               | 15 Nm           | 4              | 30°        | SK 40   | 208  | 227 | 212 | -                          | 21 | 85  | 126 | 45  | 65  |
|      |                          |                 |                |            | HSK 63  | 218  | 237 | 222 | -                          |    |     |     |     |     |
|      |                          |                 |                | 45°        | SK 40   | 200  | 216 | 204 | -                          |    |     |     |     |     |
|      |                          |                 |                |            | HSK 63  | 210  | 226 | 214 | -                          |    |     |     |     |     |
|      |                          |                 |                | 60°        | SK 40   | 188  | 199 | 191 | -                          |    |     |     |     |     |
|      |                          |                 |                |            | HSK 63  | 198  | 209 | 201 | -                          |    |     |     |     |     |
| F6   | 8.000 rpm                | 43 Nm           | 7              | 30°        | SK 40   | 220  | 239 | 228 | 241                        | 32 | 105 | 136 | 64  | 65  |
|      |                          |                 |                |            | HSK 63  | 230  | 249 | 238 | 251                        |    |     |     |     |     |
|      |                          |                 |                | 45°        | SK 40   | 210  | 226 | 216 | 227                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 63  | 220  | 236 | 226 | 237                        |    |     |     |     |     |
|      |                          |                 |                | 60°        | SK 40   | 196  | 207 | 201 | 208                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 63  | 206  | 217 | 211 | 218                        |    |     |     |     |     |
| F7   | 8.000 rpm                | 70 Nm           | 9              | 30°        | SK 40   | 226  | 246 | 237 | 245                        | 32 | 105 | 136 | 64  | 65  |
|      |                          |                 |                |            | HSK 63  | 236  | 256 | 247 | 255                        |    |     |     |     |     |
|      |                          |                 |                | 45°        | SK 40   | 215  | 231 | 224 | 231                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 63  | 225  | 241 | 234 | 241                        |    |     |     |     |     |
|      |                          |                 |                | 60°        | SK 40   | 200  | 212 | 207 | 211                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 63  | 210  | 222 | 217 | 221                        |    |     |     |     |     |
| F10  | 6.000 rpm                | 120 Nm          | 14             | 30°        | SK 50   | 262  | 288 | 269 | 273                        | 34 | 125 | 191 | 80  | 110 |
|      |                          |                 |                |            | HSK 100   | 296  | 322 | 303 | 307                        |    |     |     |     |     |
|      |                          |                 |                | 45°        | SK 50   | 250  | 271 | 256 | 259                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 100   | 284  | 305 | 290 | 293                        |    |     |     |     |     |
|      |                          |                 |                | 60°        | SK 50   | 231  | 246 | 235 | 238                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 100   | 265  | 280 | 269 | 272                        |    |     |     |     |     |
| F20  | 3.000 rpm                | 250 Nm          | 20             | 30°        | SK 50   | 315  | 350 | 322 | 326                        | 45 | 160 | 208 | 99  | 110 |
|      |                          |                 |                |            | HSK 100   | 349  | 384 | 356 | 360                        |    |     |     |     |     |
|      |                          |                 |                | 45°        | SK 50   | 300  | 328 | 306 | 309                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 100   | 334  | 362 | 340 | 343                        |    |     |     |     |     |
|      |                          |                 |                | 60°        | SK 50   | 275  | 295 | 279 | 282                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 100   | 309  | 329 | 313 | 316                        |    |     |     |     |     |
| F30  | 2.000 rpm                | 500 Nm          | 32             | 30°        | SK 50   | 370  | 392 | 370 | 371                        | 55 | 180 | 238 | 110 | 130 |
|      |                          |                 |                |            | HSK 100   | 404  | 426 | 404 | 405                        |    |     |     |     |     |
|      |                          |                 |                | 45°        | SK 50   | 350  | 368 | 350 | 351                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 100   | 384  | 402 | 384 | 385                        |    |     |     |     |     |
|      |                          |                 |                | 60°        | SK 50   | 320  | 333 | 320 | 321                        |    |     |     |     |     |
|      |                          |                 |                |            | HSK 100   | 354  | 367 | 354 | 355                        |    |     |     |     |     |




All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \* Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.

# Specifications

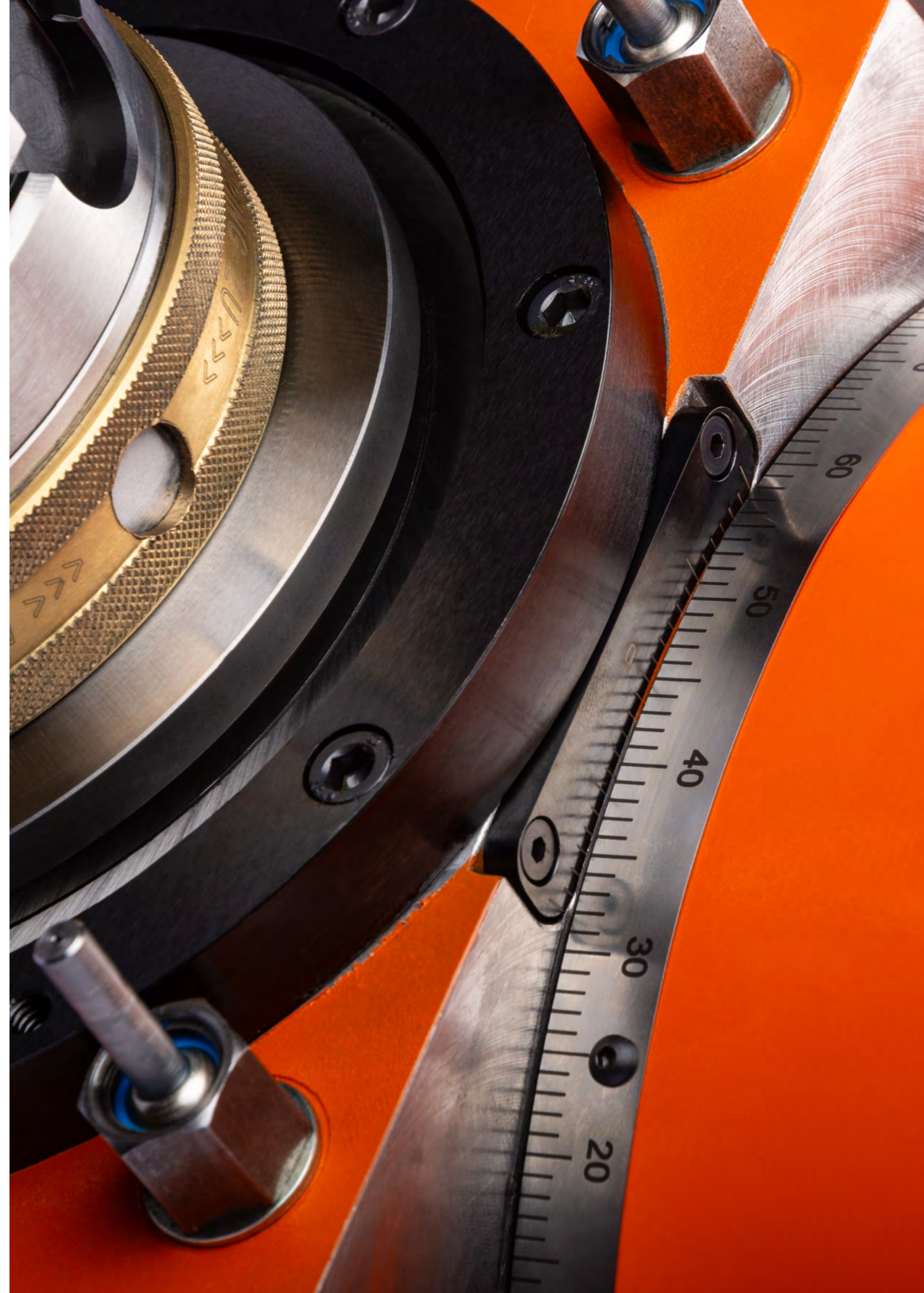
## Form D



| Type | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |     |                             |     |
|------|--------------------|-------------|--------------------------|---|-----|-----------------------------|-----|
|      | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | SK / CAT / BT <sup>3</sup>                      | W2  | HSK Form A & C <sup>4</sup> | W2  |
| D 5  | 10.000 rpm         | 15 Nm       | 6                        | SK 40   | 185 | HSK 63                      | 195 |
| D 6  | 8.000 rpm          | 43 Nm       | 9                        | SK 40   | 200 | HSK 63                      | 210 |
| D 7  | 8.000 rpm          | 70 Nm       | 12                       | SK 40   | 215 | HSK 63                      | 225 |
| D 10 | 6.000 rpm          | 120 Nm      | 18                       | SK 50   | 225 | HSK 100                     | 259 |
| D 20 | 3.000 rpm          | 250 Nm      | 37                       | SK 50   | 290 | HSK 100                     | 324 |
| D 30 | 2.000 rpm          | 500 Nm      | 50                       | SK 50   | 280 | HSK 100                     | 314 |

| Type | Angular head dimensions |     |     |     |     |     | Output dimensions/tool clamping system   |     |  |     |  |     |           |     |
|------|-------------------------|-----|-----|-----|-----|-----|--|-----|--|-----|--|-----|-----------|-----|
|      | W7                      | W8  | W10 | W11 | W12 | A*  |  <sup>5</sup> | W3  |  <sup>5</sup> | W3  |  | W3  | Hydraulic | W3  |
| D 5  | 38                      | 83  | 85  | 126 | 101 | 65  | ER-16A   | 60  | ER-20  | 83  | 24-16  | 65  | -         | -   |
| D 6  | 41                      | 98  | 105 | 136 | 115 | 65  | ER-20 A  | 75  | ER-25  | 98  | 32-20  | 84  | ∅ 16      | 91  |
| D 7  | 50                      | 113 | 105 | 136 | 132 | 65  | ER-25 A  | 84  | ER-32  | 107 | 40-25  | 92  | ∅ 20      | 97  |
| D 10 | 55                      | 120 | 125 | 191 | 142 | 110 | ER-32 A  | 90  | ER-40  | 120 | 40-25  | 98  | ∅ 20      | 100 |
| D 20 | 75                      | 181 | 160 | 208 | 192 | 110 | ER-40 A  | 122 | ER-50  | 140 | 50-32  | 135 | ∅ 32      | 120 |
| D 30 | 110                     | 180 | 180 | 238 | 190 | 130 | ER-50 A  | 130 | ER-50  | 145 | 50-32  | 139 | ∅ 42      | 121 |

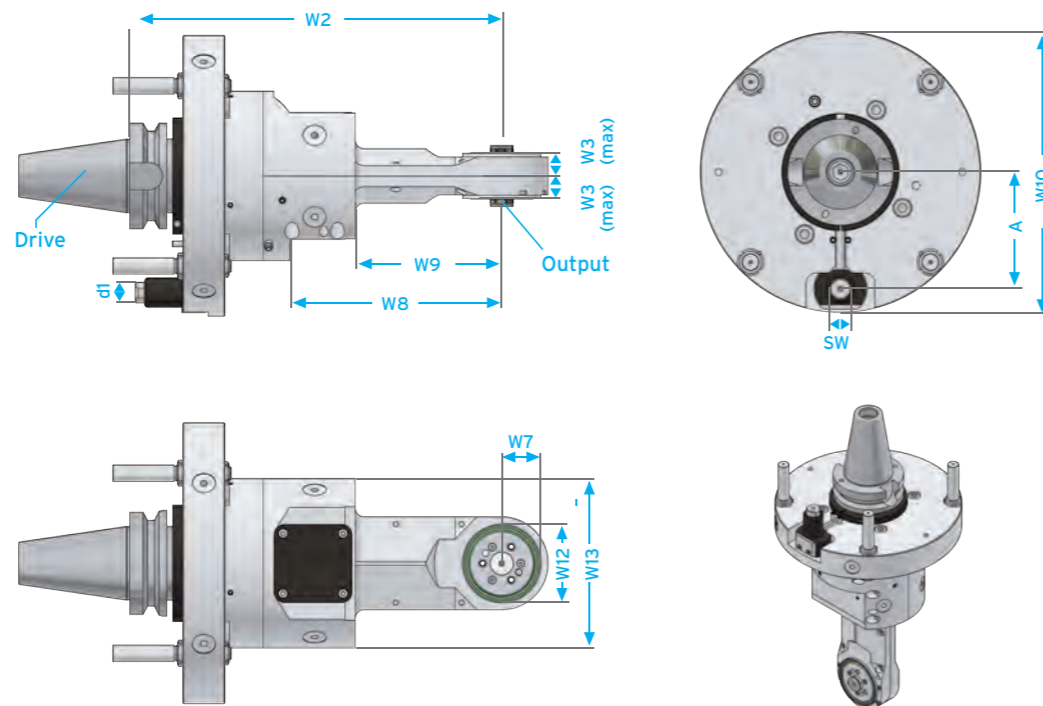
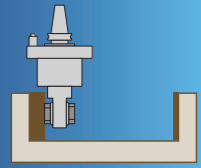
All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.





# Spezifikationen

## Form X

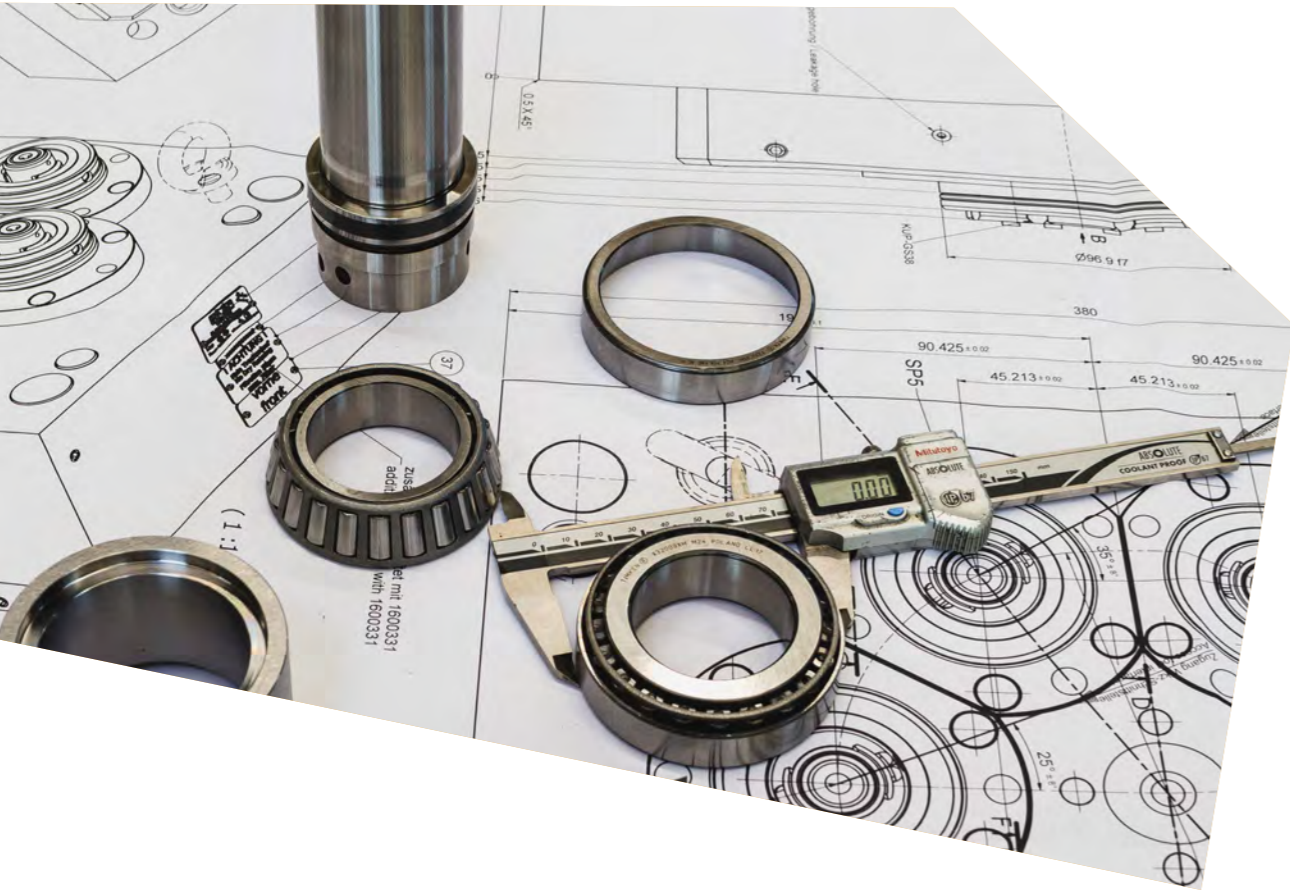


| Type | Specification      |             |                          | Drive dimensions/machine interface <sup>2</sup> |     |   |     |
|------|--------------------|-------------|--------------------------|---|-----|---|-----|
|      | Max. speed [1/min] | Max. torque | Weight <sup>1</sup> [kg] | DIN 69871 / ISO 7388 SK / CAT / BT <sup>3</sup> | W2  | DIN 69893 / ISO 12164 HSK Form A & C <sup>4</sup> | W2  |
| X 7  | 4000 rpm           | 30 Nm       | 28                       | SK 50   | 334 | HSK 100   | 335 |
| X 10 | 4000 rpm           | 80 Nm       | 34                       | SK 50   | 354 | HSK 100   | 355 |
| X 20 | 3000 rpm           | 160 Nm      | 38                       | SK 50   | 419 | HSK 100   | 420 |

| Type | Angular head dimensions |     |     |     |     |     |     | Output dimensions/<br>tool clamping system |       |
|------|-------------------------|-----|-----|-----|-----|-----|-----|--|-------|
|      | W7                      | W8  | W9  | W10 | W12 | W13 | A*  | Cutter spindle                             | W3    |
| X 7  | 31,5                    | 123 | 118 | 265 | 63  | 160 | 110 | FD 10                                      | 26    |
| X 10 | 44                      | 123 | 138 | 265 | 88  | 160 | 110 | FD 22                                      | 32    |
| X 20 | 58                      | 136 | 190 | 265 | 116 | 160 | 110 | FD 32                                      | 38,50 |

All dimensions in [mm]. <sup>1</sup> Weight based on specified machine interface. | <sup>2</sup> For other machine interfaces see page 10 | <sup>3</sup> DIN 69871/ISO 7388  
<sup>4</sup> DIN 69893/ISO 12164 | <sup>5</sup> Collets- DIN 6499/ISO 15488 | \*Standard A dimensions: 65, 80, 110, 130. Optional according to customer requirements.  
<sup>a</sup> Special sizes/dimensions according to customer requirements





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