

## Drill chucks Clamping tools Tapping chucks

|                  |                |
|------------------|----------------|
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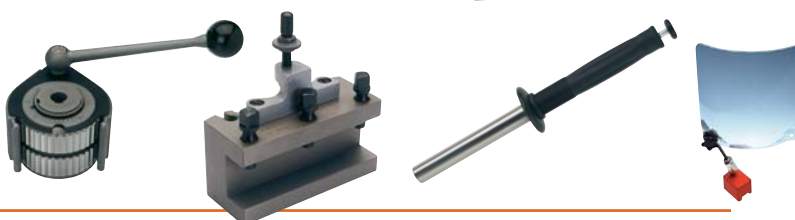
## 2.2 Lathe centres Lathe chucks

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## 2.3 Quick change toolholders / facing and boring heads

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## 2.4 Angle plates Machine vices

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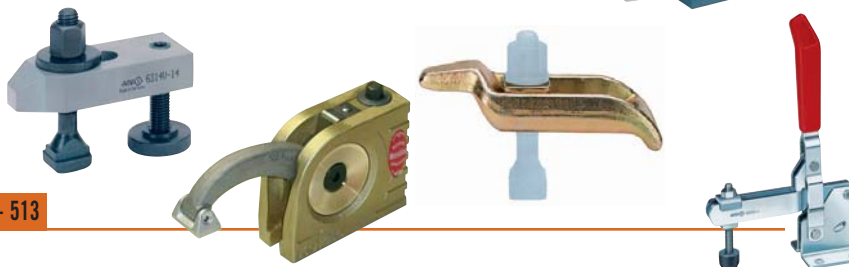
## 2.5 Dividers Rotary attachments

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## 2.6 Clamps

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## 2.7 Magnets Magnetic chucks

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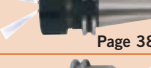
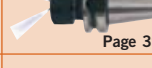
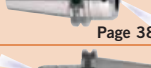
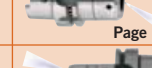
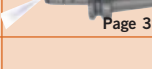
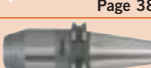
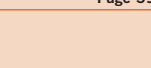
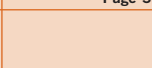
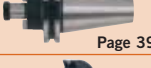
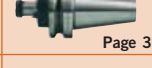
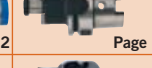
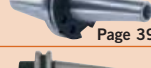
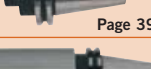
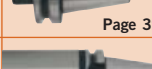
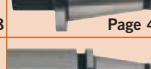
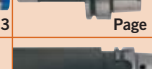
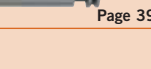
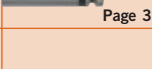
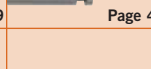
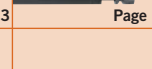
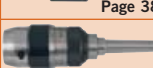
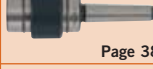
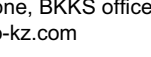


## 2.8 Hydraulic tools Presses Machine shoes

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## Overview of types Drill chucks, Clamping tools, Tapping chucks

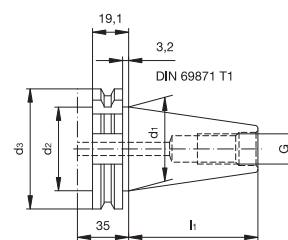
| Description                                 | DIN 228                                                                                      | DIN 69871                                                                                    | JIS B6339                                                                                     | DIN 2080                                                                                       | DIN 69893 Form A                                                                               |
|---------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Milling cutter chucks (Weldon)              |                                                                                              |  Page 384   |  Page 396   |  Page 400   |  Page 404   |
| Milling cutter chucks (Whistle-Notch)       |                                                                                              |  Page 385   |                                                                                               |                                                                                                |  Page 405   |
| ER collet chucks                            |                                                                                              |  Page 385   |  Page 396   |  Page 400   |  Page 405   |
| OZ collet chucks                            |                                                                                              |  Page 386   |  Page 396   |  Page 400   |  Page 405   |
| Centro P collet chucks                      |                                                                                              |  Page 386   |                                                                                               |                                                                                                |  Page 406   |
| HP plus precision collet chucks             |                                                                                              |  Page 387   |  Page 397   |                                                                                                |  Page 406   |
| Hydraulic expansion chucks                  |                                                                                              |  Page 388   |                                                                                               |                                                                                                |  Page 407   |
| Shrink chucks                               |                                                                                              |  Page 389   |                                                                                               |                                                                                                |  Page 407   |
| Precision drill chucks                      |                                                                                              |  Page 390   |  Page 397   |  Page 401   |  Page 408   |
| Drill chuck holders                         |                                                                                              |                                                                                              |                                                                                               |  Page 401 |                                                                                                |
| Quick change tapping chucks                 |                                                                                              |  Page 391 |  Page 397 |  Page 402 |                                                                                                |
| WFLC quick change tapping chucks            |  Page 380 |  Page 391 |                                                                                               |                                                                                                |  Page 409 |
| Combination arbor milling cutter arbors     |                                                                                              |  Page 392 |  Page 498 |  Page 402 |  Page 409 |
| Transverse groove arbors                    |                                                                                              |  Page 392 |  Page 398 |  Page 402 |  Page 410 |
| Milling arbors for screw in milling cutters |                                                                                              |  Page 393 |                                                                                               |                                                                                                |  Page 410 |
| Adapter sleeve for MK                       |                                                                                              |  Page 394 |  Page 398 |  Page 403 |  Page 411 |
| Boring bar blanks                           |                                                                                              |  Page 394 |  Page 399 |  Page 403 |  Page 411 |
| TA quick-change tapping apparatus           |  Page 380 |                                                                                              |                                                                                               |                                                                                                |                                                                                                |
| DSPL tapping chuck                          |  Page 380 |                                                                                              |                                                                                               |                                                                                                |                                                                                                |
| Synchronous chucks                          |  Page 380 |                                                                                              |                                                                                               |                                                                                                |                                                                                                |
| Tapping apparatus                           |  Page 381 |                                                                                              |                                                                                               |                                                                                                |                                                                                                |
| Tapping chucks                              |  Page 381 |                                                                                              |                                                                                               |                                                                                                |                                                                                                |
| SF quick-change chucks                      |  Page 382 |                                                                                              |                                                                                               |                                                                                                |                                                                                                |
| Quick action drill chucks                   |                                                                                              |                                                                                              |                                                                                               |  Page 401 |                                                                                                |



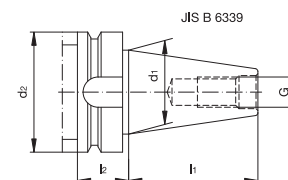
## Shanks

for machining centres and NC machines

| DIN 69871 T1 | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | l <sub>1</sub> | G   |
|--------------|----------------|----------------|----------------|----------------|-----|
| SK 30        | 37.75          | 45.0           | 50.00          | 57.80          | M12 |
| SK 40        | 44.45          | 50.0           | 63.55          | 68.40          | M16 |
| SK 50        | 69.85          | 80.0           | 97.50          | 101.75         | M24 |

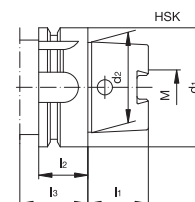


| JIS B 6399 (MAS 403 BT) | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | l <sub>2</sub> | G   |
|-------------------------|----------------|----------------|----------------|----------------|-----|
| SK 30                   | 31.75          | 46.0           | 48.4           | 22.0           | M12 |
| SK 40                   | 44.45          | 63.0           | 65.4           | 27.0           | M16 |
| SK 50                   | 69.85          | 100.0          | 101.8          | 38.0           | M24 |



Shape A: without through hole  
 Shape AD: with through hole for central coolant supply  
 Shape B: via the tool collar for lateral coolant supply

| DIN 69883-1 / HSK-A | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | l <sub>2</sub> | l <sub>3</sub> | M       |
|---------------------|----------------|----------------|----------------|----------------|----------------|---------|
| HSK-A 63            | 63.0           | 48.0           | 32.0           | 18.0           | 42.0           | M18x1   |
| HSK-A 80            | 80.0           | 60.0           | 40.0           | 18.0           | 42.0           | M20x1.5 |
| HSK-A 100           | 100.0          | 75.0           | 50.0           | 20.0           | 45.0           | M24x1.5 |

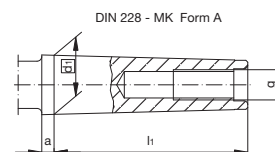


## Shanks

for conventional milling machines and NC machines

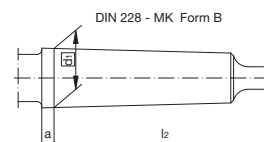
with Morse taper and internal thread

| DIN 228, MK Shape A | d <sub>1</sub> | l <sub>1</sub> | a   | g   |
|---------------------|----------------|----------------|-----|-----|
| MK 1                | 12.065         | 53.5           | 3.5 | M 6 |
| MK 2                | 17.780         | 64.0           | 5.0 | M10 |
| MK 3                | 23.825         | 81.0           | 5.0 | M12 |
| MK 4                | 31.267         | 102.5          | 6.5 | M16 |
| MK 5                | 44.399         | 129.5          | 6.5 | M20 |



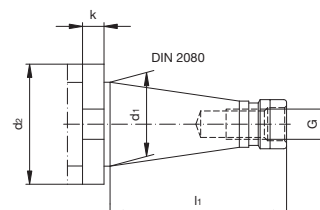
with Morse taper and tangs

| DIN 228 - MK Shape B | d <sub>1</sub> | l <sub>2</sub> | a   |
|----------------------|----------------|----------------|-----|
| MK 1                 | 12.065         | 62.0           | 3.5 |
| MK 2                 | 17.780         | 75.0           | 5.0 |
| MK 3                 | 23.825         | 94.0           | 5.0 |
| MK 4                 | 31.267         | 117.5          | 6.5 |
| MK 5                 | 44.399         | 149.5          | 6.5 |



with internal thread for hand chucking and  
 with annular groove for automatic clamping

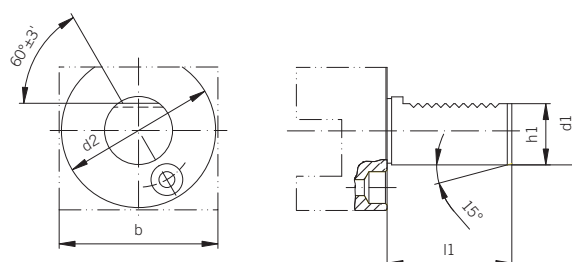
| DIN 2080 | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | G   | k  |
|----------|----------------|----------------|----------------|-----|----|
| SK 30    | 31.75          | 50.0           | 68.4           | M12 | 8  |
| SK 40    | 44.45          | 63.0           | 93.4           | M16 | 10 |
| SK 50    | 69.85          | 97.5           | 126.98         | M24 | 12 |



## Tool holder DIN 69880-1

for CNC lathes

| DIN 69880-1 | d <sub>1</sub> /h <sub>6</sub> | b   | d <sub>2</sub> | h <sub>1</sub> /±0.1 | l <sub>1</sub> max. |
|-------------|--------------------------------|-----|----------------|----------------------|---------------------|
| VDI 20      | 20                             | 52  | 50             | 18.0                 | 40                  |
| VDI 25      | 25                             | 60  | 58             | 23.5                 | 48                  |
| VDI 30      | 30                             | 70  | 68             | 27.0                 | 55                  |
| VDI 40      | 40                             | 85  | 83             | 36.0                 | 63                  |
| VDI 50      | 50                             | 100 | 98             | 45.0                 | 78                  |



**20 001 Ring gear drill chuck**

**Precision type**, with key according to DIN 6349, suitable for stationary drills and machine tools

**Wodex®**

| Capacity<br>mm | Internal taper | Internal thread | 20 001... |  | External Ø<br>mm | Length closed<br>mm |
|----------------|----------------|-----------------|-----------|--|------------------|---------------------|
| 0.3 - 6.5      | B 10           | -               | 031       |  | 30               | 53                  |
| 0.3 - 6.5      | B 12           | -               | 033       |  | 30               | 55                  |
| 0.3 - 10       | B 12           | -               | 053       |  | 36.5             | 60                  |
| 0.5 - 10       | B 16           | -               | 055       |  | 42.7             | 75                  |
| 1.5 - 13       | B 16           | -               | 065       |  | 42.7             | 77                  |
| 0.5 - 13       | B 16           | -               | 066       |  | 51               | 88                  |
| 2.5 - 16       | B 16           | -               | 075       |  | 51               | 91                  |
| 2.5 - 16       | B 18           | -               | 077       |  | 51               | 94                  |
| 5.0 - 20       | B 22           | -               | 089       |  | 60               | 111                 |
| 0.3 - 8        | -              | 3/8" x 24       | 142       |  | 36.5             | 60                  |
| 0.3 - 10       | -              | 3/8" x 24       | 152       |  | 36.5             | 60                  |
| 0.5 - 10**     | -              | 1/2" x 20       | 154       |  | 36.5             | 60                  |
| 1.5 - 13       | -              | 3/8" x 24       | 162       |  | 42.7             | 73                  |
| 1.5 - 13**     | -              | 1/2" x 20       | 164       |  | 42.7             | 73                  |
| 1.5 - 13*      | -              | 1/2" x 20       | 165       |  | 42.7             | 73                  |
| 2.5 - 16*      | -              | 1/2" x 20       | 166       |  | 51               | 91                  |
| 2.5 - 16*      | -              | 5/8" x 16       | 168       |  | 51               | 91                  |
| 2.5 - 16       | -              | M 18 x 2.5      | 170       |  | 51               | 91                  |

\* With safety lock for impact drills and hammer drills

\*\* Through-hole type for right and left-hand rotation



20 001...

**20 004 "Prima" ring gear drill chuck****RÖHM**

**Industrial type**, with key according to DIN 6349, with tapered socket suitable for right and left-hand rotation, sleeve beaded, suitable for impact drills, key holes hardened

| Capacity<br>mm | Internal taper | Internal thread | 20 004... |  | External Ø<br>mm | Length closed<br>mm |
|----------------|----------------|-----------------|-----------|--|------------------|---------------------|
| 0.5 - 6.5      | B 10           | -               | 002       |  | 29.5             | 53                  |
| 0.5 - 8        | B 12           | -               | 003       |  | 29.5             | 57.5                |
| 1 - 10         | B 16           | -               | 004       |  | 42.8             | 77                  |
| 1.5 - 13       | B 12           | -               | 005       |  | 42.8             | 72                  |
| 1.5 - 13       | B 16           | -               | 006       |  | 42.8             | 77                  |
| 1.5 - 13       | B 16           | -               | 007       |  | 45.5             | 77                  |
| 3 - 16         | B 16           | -               | 009       |  | 50.0             | 86.5                |
| 1 - 16         | B 18           | -               | 011       |  | 56.5             | 98                  |
| 5 - 20         | B 22           | -               | 012       |  | 65.0             | 113.5               |
| 0.8 - 10       | -              | 3 / 8" x 24     | 014       |  | 34.5             | 61                  |
| 0.8 - 10       | -              | 1 / 2" x 20     | 015       |  | 34.5             | 61                  |
| 1.5 - 13       | -              | 3 / 8" x 24     | 018       |  | 42.8             | 74                  |
| 1.5 - 13       | -              | 1 / 2" x 20     | 019       |  | 42.8             | 74                  |
| 1 - 13         | -              | M 18 x 2.5      | 022       |  | 52.0             | 93.5                |
| 1 - 16         | -              | 5 / 8" x 16     | 023       |  | 56.5             | 100.5               |
| 0.8 - 10 *     | -              | 1 / 2" x 20     | 032       |  | 34.5             | 61                  |
| 1.5 - 13 *     | -              | 1 / 2" x 20     | 035       |  | 42.8             | 74                  |

\* Through-hole type with screw fixing



20 004...

**20 009 Replacement key for ring gear drill chuck**

DIN 6349, suitable for three-jaw chuck No. 20 001... and 20 004...

| Size  | 20 009... |  | For drill chuck<br>capacity<br>mm | For drill chuck Ø<br>mm | Pilot Ø<br>mm |
|-------|-----------|--|-----------------------------------|-------------------------|---------------|
| S 1   | 001       |  | up to 8                           | up to 30                | 4             |
| S 2   | 002       |  | up to 13                          | up to 51                | 6             |
| S 3   | 004       |  | up to 16                          | up to 50                | 8             |
| S 3 T | 006       |  | only 16                           | only 51                 | 8             |
| S 4   | 008       |  | only 20                           | only 75                 | 9             |



20 009...

## 20 011 Quick-action drill chucks

**heavy duty industrial type**, keyless, self-clamping for hand drills and stationary drills

**Wodex**

| Capacity<br>mm | Internal taper | Internal thread | 20 011... |  | External Ø<br>mm | Length closed<br>mm |
|----------------|----------------|-----------------|-----------|--|------------------|---------------------|
| 0.5 - 10       | B 12           | -               | 032       |  | 36               | 77                  |
| 0.5 - 10       | B 16           | -               | 036       |  | 36               | 82                  |
| 0.5 - 13       | B 16           | -               | 046       |  | 40               | 99                  |
| 1 - 16         | B 16           | -               | 056       |  | 46               | 109                 |
| 1 - 16         | B 18           | -               | 058       |  | 46               | 109                 |
| 0.3 - 8        | -              | 3 / 8" x 24     | 123       |  | 36               | 68                  |
| 0.5 - 10       | -              | 3 / 8" x 24     | 133       |  | 36               | 70                  |
| 0.5 - 10       | -              | 1 / 2" x 20     | 135       |  | 36               | 70                  |
| 0.5 - 13       | -              | 3 / 8" x 24     | 143       |  | 40               | 88                  |
| 0.5 - 13       | -              | 1 / 2" x 20     | 145       |  | 40               | 88                  |
| 1 - 16         | -              | 5 / 8" x 16     | 166       |  | 46               | 100                 |



20 011...

## 20 014 "Supra" quick-action drill chucks

**heavy-duty industrial type**, keyless, for stationary machines, self-clamping, **suitable for right-hand rotation only**, automatic reclamping

**RÖHM**

| Capacity<br>mm | Internal taper | 20 014... |  | External Ø<br>mm | Length closed<br>mm |
|----------------|----------------|-----------|--|------------------|---------------------|
| 0 - 6.5        | B 10           | 002       |  | 32               | 65.6                |
| 0 - 8          | B 12           | 005       |  | 32               | 68.6                |
| 0 - 10         | B 12           | 006       |  | 40.2             | 86.1                |
| 0 - 10         | B 16           | 007       |  | 40.2             | 89.1                |
| 1 - 13         | B 16           | 008       |  | 46               | 101.5               |
| 3 - 16         | B 16           | 009       |  | 51               | 106.8               |
| 3 - 16         | B 18           | 011       |  | 51               | 106.8               |



20 014...

## 20 015 "Supra S" quick-action drill chucks

**lightweight type**, for handheld machines, self-clamping, **suitable for right-hand rotation only**, automatic reclamping

**RÖHM**

| Capacity<br>mm | Internal taper | Internal thread | 20 015... |  | External Ø<br>mm | Length closed<br>mm |
|----------------|----------------|-----------------|-----------|--|------------------|---------------------|
| 0.5 - 10       | B 12           | -               | 003       |  | 35.8             | 75.7                |
| 1 - 13         | B 12           | -               | 005       |  | 40.2             | 86.1                |
| 1 - 13         | B 16           | -               | 006       |  | 40.2             | 89.6                |
| 3 - 16         | B 16           | -               | 007       |  | 46               | 98.5                |
| 3 - 16         | B 18           | -               | 008       |  | 46               | 102                 |
| 0.5 - 10       | -              | 3 / 8" x 24     | 009       |  | 35.8             | 79.5                |
| 0.5 - 10       | -              | 1 / 2" x 20     | 011       |  | 35.8             | 73.7                |
| 1 - 13         | -              | 3 / 8" x 24     | 012       |  | 40.2             | 83.6                |
| 1 - 13         | -              | 1 / 2" x 20     | 013       |  | 40.2             | 83.6                |
| 3 - 16         | -              | 1 / 2" x 20     | 014       |  | 46               | 97.5                |



20 015...

## 20 018 "Supra SK" quick-action drill chucks

**keyless, suitable for impact drills** quick-action drill chuck for all makes of impact drills.  
Impossible to open the chuck even under strong vibrations and high hammer frequency (blows per minute).  
Chuck sealed against drill dust and dirt.  
Fast and easy clamping of the drill by hand. Automatic reclamping during drilling proportional to the cutting force

**RÖHM**

| Capacity<br>mm | Internal thread | 20 018... |  | External Ø<br>mm | Length closed<br>mm |
|----------------|-----------------|-----------|--|------------------|---------------------|
| 0.5 - 10       | 3 / 8" x 24     | 002       |  | 40               | 73.7                |
| 0.5 - 10       | 1 / 2" x 20     | 004       |  | 40               | 73.7                |
| 1 - 13         | 1 / 2" x 20     | 006       |  | 42.8             | 83.3                |



20 018...



**20 020 Drill chucks**

**keyless**, for handheld and impact drills, suitable for right and left-hand rotation

**Wodex®**

| Capacity<br>mm | Internal thread | 20 020...  |  | External Ø<br>mm |
|----------------|-----------------|------------|--|------------------|
| 0.5 - 10       | 3 / 8" x 24     | <b>010</b> |  | 42               |
| 0.5 - 10       | 1 / 2" x 20     | <b>011</b> |  | 42               |
| 1.5 - 13*      | 3 / 8" x 24     | <b>012</b> |  | 42.5             |
| 1.5 - 13*      | 1 / 2" x 20     | <b>013</b> |  | 42.5             |

\* with safety lock



20 020 ...

**20 022 "Extra RV" drill chuck****RÖHM**

**keyless drill chuck made of plastic**, with radial locking device, for mains drills and cordless machines, suitable for impact drills, with hexagon for assembly and dismantling on the machine's spindle.

- Additional locking is no longer necessary for screwing and drilling, especially during impact drilling
- Very ergonomic, user friendly, equipped with impact guard
- With sintered carbide inserts in jaws (Size 13)

| Capacity<br>mm | Internal thread | 20 022...  |  | External Ø<br>mm |
|----------------|-----------------|------------|--|------------------|
| 1 - 10         | 3 / 8" x 24     | <b>010</b> |  | 42.7             |
| 1 - 10         | 1 / 2" x 20     | <b>011</b> |  | 42.7             |
| 1.5 - 13       | 3 / 8" x 24     | <b>012</b> |  | 42.7             |
| 1.5 - 13       | 1 / 2" x 20     | <b>013</b> |  | 42.7             |



20 022 ...

**20 028 Quick-action drill chucks****Wodex®**

**keyless**, with safety lock, plastic sleeve, without retaining ring, for all handheld and impact drill machines with mains and cordless operation, including for machines with spindle stop

| Capacity<br>mm | Internal thread | 20 028...  |  | External Ø<br>mm | Length closed<br>mm |
|----------------|-----------------|------------|--|------------------|---------------------|
| 1.5 - 13       | 3/8" x 24       | <b>010</b> |  | 42.5             | 72                  |
| 1.5 - 13       | 1/2" x 20       | <b>011</b> |  | 42.5             | 72                  |



20 028 ...

**20 031 Precision quick-action drill chucks****Wodex®**

**with high concentricity accuracy (0.04 - 0.06 mm)**, with taper socket according to DIN 238, all wearing parts **are hardened and precision ground**, with automatic clamping force increase, which prevents the tool from slipping

| Capacity<br>mm | Internal taper | 20 031...  |  | External Ø<br>mm | Length closed<br>mm |
|----------------|----------------|------------|--|------------------|---------------------|
| 0.3 - 8        | B 12           | <b>022</b> |  | 37               | 74                  |
| 0.5 - 10       | B 12           | <b>032</b> |  | 41               | 89                  |
| 0.5 - 10       | B 16           | <b>036</b> |  | 41               | 89                  |
| 1 - 13         | B 16           | <b>046</b> |  | 46               | 99                  |
| 3 - 16         | B 16           | <b>056</b> |  | 55               | 107                 |
| 3 - 16         | B 18           | <b>058</b> |  | 55               | 107                 |



20 031 ...

## 20 047 “SH Gema” two-jaw drill chuck

with additional drivers for taps, the two front jaws centre the tap, additional drivers transfer the torque in both directions, including key and protective sleeve, particularly suitable for thread cutting/tapping



| Capacity<br>mm | Internal taper<br>to DIN 238 | 20 047... |  | External Ø<br>mm | Overall length<br>mm | For thread |
|----------------|------------------------------|-----------|--|------------------|----------------------|------------|
| 1 - 13         | B 16                         | 003       |  | 66               | 79.6                 | M 4 - 16   |
| 1 - 16         | B 18                         | 004       |  | 75               | 91                   | M 4 - 20   |



20 047 ...

## 20 048 Replacement key

suitable for two-jaw drill chucks No. 20 047...



| Square<br>mm | For drill chucks size | 20 048... |  |
|--------------|-----------------------|-----------|--|
| 6            | 13 + 16               | 106       |  |



20 048 106

DIN  
228

## 20 103 Taper shank arbors

DIN  
228DIN  
238

20 103 ...

for drill chucks, completely hardened and ground

| Size | Drill chuck taper mm | 20 103... | Overall length mm | Pilot length mm |
|------|----------------------|-----------|-------------------|-----------------|
| MK 1 | B 10                 | 001       | 86                | 14.5            |
| MK 1 | B 12                 | 002       | 89                | 18.5            |
| MK 1 | B 16                 | 003       | 97                | 24              |
| MK 1 | B 18                 | 004       | 106               | 32              |
| MK 2 | B 10                 | 006       | 103.5             | 14.5            |
| MK 2 | B 12                 | 007       | 106.5             | 18.5            |
| MK 2 | B 16                 | 008       | 110.5             | 24              |
| MK 2 | B 18                 | 009       | 117.5             | 32              |
| MK 2 | B 18*                | 011       | 108.5             | 25              |
| MK 3 | B 12                 | 012       | 125               | 18.5            |

\*B 18 shortened, suitable for all quick-action drill chucks with 3-16 mm capacity

| Size | Drill chuck taper mm | 20 103... | Overall length mm | Pilot length mm |
|------|----------------------|-----------|-------------------|-----------------|
| MK 3 | B 16                 | 013       | 134               | 24              |
| MK 3 | B 18                 | 014       | 141               | 32              |
| MK 3 | B 18*                | 015       | 132               | 25              |
| MK 3 | B 22                 | 026       | 147               | 40.5            |
| MK 4 | B 16                 | 016       | 159               | 24              |
| MK 4 | B 18                 | 017       | 168               | 32              |
| MK 4 | B 18*                | 018       | 159               | 25              |
| MK 4 | B 22                 | 028       | 176               | 40.5            |
| MK 5 | B 16                 | 019       | 196               | 24              |
| MK 5 | B 18                 | 021       | 204.5             | 32              |

## 20 113 Adapter sleeves

DIN  
228DIN  
2185

20 113 ...

DIN 2185, high-precision type, **completely hardened**, ground inside and outside

| External taper MK | Internal taper MK | 20 113... | Overall length mm |
|-------------------|-------------------|-----------|-------------------|
| 2                 | 1                 | 001       | 92                |
| 3                 | 2                 | 002       | 112               |
| 3                 | 1                 | 003       | 99                |
| 4                 | 3                 | 004       | 140               |
| 4                 | 2                 | 005       | 124               |
| 4                 | 1                 | 006       | 124               |
| 5                 | 4                 | 007       | 171               |
| 5                 | 3                 | 008       | 156               |
| 5                 | 2                 | 009       | 156               |
| 5                 | 1                 | 011       | 156               |
| 6                 | 5                 | 012       | 218               |
| 6                 | 4                 | 013       | 218               |

## 20 114 Adapter sleeves

DIN  
228DIN  
2185

20 114 ...

with shortened internal taper, for using twist drills with broken off tangs, the broken off shank is equipped with new tangs by means of grinding.

| External taper MK | Internal taper MK | 20 114... | Overall length mm |
|-------------------|-------------------|-----------|-------------------|
| 2                 | 1                 | 001       | 92                |
| 3                 | 2                 | 002       | 112               |
| 4                 | 3                 | 004       | 140               |
| 5                 | 4                 | 007       | 171               |



## 20 115 Extension sleeves

DIN  
228DIN  
2187

20 115 ...

similar to DIN 2187, normal type, ground on the outside

| External taper | Internal taper | 20 115... |  | Overall length | Taper length | Cylinder Ø |
|----------------|----------------|-----------|--|----------------|--------------|------------|
| MK             | MK             |           |  | mm             | mm           | mm         |
| 2              | 1              | 002       |  | 160            | 85           | 19         |
| 3              | 1              | 003       |  | 175            | 81           | 20         |
| 4              | 1              | 004       |  | 200            | 82.5         | 20         |
| 1              | 2              | 006       |  | 160            | 98           | 25         |
| 2              | 2              | 007       |  | 175            | 100          | 25         |
| 3              | 2              | 008       |  | 194            | 100          | 25         |
| 4              | 2              | 009       |  | 215            | 97.5         | 30         |
| 2              | 3              | 012       |  | 196            | 121          | 34         |
| 3              | 3              | 013       |  | 215            | 121          | 34         |
| 4              | 3              | 014       |  | 240            | 122.5        | 34         |
| 5              | 3              | 015       |  | 268            | 118.5        | 36         |
| 3              | 4              | 016       |  | 240            | 146          | 47         |
| 4              | 4              | 017       |  | 265            | 147.5        | 47         |
| 5              | 4              | 018       |  | 300            | 150.5        | 47         |
| 4              | 5              | 021       |  | 300            | 182.5        | 63         |

## 20 118 Drill bit and reamer extensions

DIN  
228

20 118 ...

Normal type, ground on the outside

| External taper | Internal taper | 20 118... |  | Overall length | Taper length | Cylinder Ø |
|----------------|----------------|-----------|--|----------------|--------------|------------|
| MK             | MK             |           |  | mm             | mm           | mm         |
| 2              | 2              | 001       |  | 200            | 125          | 25         |
| 2              | 2              | 002       |  | 300            | 225          | 25         |
| 2              | 2              | 003       |  | 400            | 325          | 25         |
| 2              | 2              | 004       |  | 500            | 425          | 25         |
| 3              | 3              | 005       |  | 300            | 206          | 32         |
| 3              | 3              | 006       |  | 400            | 306          | 32         |
| 3              | 3              | 007       |  | 500            | 406          | 32         |
| 4              | 4              | 008       |  | 300            | 182.5        | 40         |
| 4              | 4              | 009       |  | 400            | 282.5        | 40         |
| 4              | 4              | 011       |  | 500            | 382.5        | 40         |

DIN  
228

## 21 490 WFLC quick change tapping chucks

DIN  
228

with length adjustment to compression and tension, maintenance free.

Spare parts / accessories:

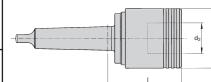
Quick-change inserts Prod. No. 21 430... to 21 432...

BILZ



21 490...

| MK | Thread Ø  | 21 490... |  | Inserts | Length adjustment<br>compression/ tension<br>mm | d2<br>mm | d<br>mm | l<br>mm |
|----|-----------|-----------|--|---------|-------------------------------------------------|----------|---------|---------|
| 2  | M3 - M12  | 203       |  | 1       | 7.5/7.5                                         | 19       | 39      | 52      |
| 3  | M3 - M12  | 303       |  | 1       | 7.5/7.5                                         | 19       | 39      | 52      |
| 3  | M8 - M20  | 308       |  | 2       | 10/10                                           | 31       | 60      | 75      |
| 4  | M8 - M20  | 408       |  | 2       | 10/10                                           | 31       | 60      | 76      |
| 4  | M14 - M33 | 414       |  | 3       | 17.5/17.5                                       | 48       | 86      | 107     |



Further explanations are given on page 391

## 21 499 TA quick change tapping chucks

DIN  
228

with automatic reversing

for drills with manual feed and without spindle reversing, maintenance free, can be used for right and left-hand thread.

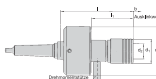
Spare parts / accessories:

Quick-change inserts Prod. No. 21 430... to 21 432...

BILZ



21 499...



| Name        | Thread Ø | 21 499... |  | Inserts | n <sub>max</sub><br>min <sup>-1</sup> | b<br>mm | l<br>mm | l1<br>mm | d<br>mm | d1<br>mm | d2<br>mm | MK |
|-------------|----------|-----------|--|---------|---------------------------------------|---------|---------|----------|---------|----------|----------|----|
| TA12/MK2-WF | M3 - M12 | 102       |  | 1       | 1200                                  | 6       | 140     | 60       | 80      | 32       | 19       | 2  |
| TA20/MK3-WF | M8 - M20 | 203       |  | 2       | 500                                   | 8       | 170     | 86       | 100     | 50       | 31       | 3  |

## 21 501 DSPL tapping chuck

DIN  
228

for machines with reversible direction of rotation

with adjustable safety clutch, self-centring pendulum device and length adjustment to compression and tension

BILZ



21 501...

| MK | Ø<br>mm  | 21 501... | □K       | Cutting capacity |             |             | Oscillation | Length<br>adjustment | d<br>mm | l<br>mm | l1<br>mm |
|----|----------|-----------|----------|------------------|-------------|-------------|-------------|----------------------|---------|---------|----------|
|    |          |           |          | M                | Whitworth   | Whitworth g |             |                      |         |         |          |
| 2  | 2.5 - 10 | 212       | 0 - 8    | 3 - 12           | 1/8"-1/2"   | 1/8"        | 1           | 10/20                | 58      | 135     | 18-20    |
| 3  | 6 - 16*  | 320       | 4.7 - 12 | 8 - 20           | 1/4"-13/16" | 1/8"-1/2"   | 1.5         | 10/20                | 83      | 170     | 23-28    |
| 4  | 11 - 23* | 430       | 0 - 18   | 14 - 30          | 9/16-1/8    | 1/4-7/8     | 2           | 10/30                | 106     | 230     | 25-34    |

\* with cotter key slot to DIN 1806

## 21 502 Synchronous chucks

DIN  
228

DIN 1835 B+E, with minimum length adjustment to compression and tension, with coolant feed, maintenance free.

Use: for thread cutting/tapping on machines with synchronised feed (rigid tapping)

Spare parts / accessories:

014...: Collet chucks Prod. No. 20 750...

Collet nut spanners Prod. No. 50 177 253

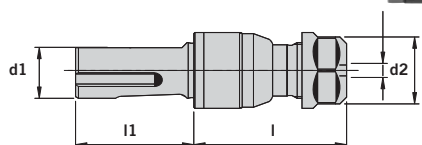
030...: Collet chucks Prod. No. 20 750...

Collet chuck keys Prod. No. 20 255 025

BILZ



21 502...

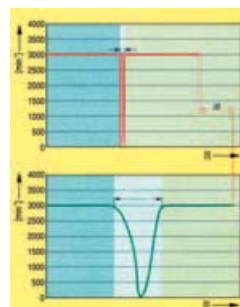


| Name              | Thread Ø   | 21 502... |  | Length<br>adjustment | d2<br>mm | d<br>mm | d1<br>mm | l<br>mm | l1<br>mm |
|-------------------|------------|-----------|--|----------------------|----------|---------|----------|---------|----------|
| SC1/MS 25-ESX20IC | M3.5 - M14 | 014       |  | +/- 0.12             | 4 - 11.2 | 34      | 25       | 68.5    | 53       |
| SC2/MS 25-ESX32IC | M3.5 - M30 | 030       |  | +/- 0.12             | 4 - 20   | 50      | 25       | 84.5    | 53       |

## 21 504 TAPMATIC tapping units

DIN  
228

with **return and adjustable slip clutch**, used for bench and pillar drills in which hand feed is used and the direction of rotation of the drill spindle cannot be reversed, **the length adjustment compensates for the difference between machine feed and thread pitch**, short re-entry cushion as well as quick return (1.75 : 1) of the tap, right-hand rotation, RUBBER-FLEX multi-range collets as well as adjustable square drive, **Supplied without collets, without shank**



21 504...

| Cutting performance in steel                        | 21 504... |  | Allowable speed<br>rpm | Self-feed<br>mm | Shank mount -<br>internal taper |
|-----------------------------------------------------|-----------|--|------------------------|-----------------|---------------------------------|
| M 1.4 - M 7                                         | 030       |  | 2000                   | 3.5             | B16                             |
| M 3 - M 12                                          | 050       |  | 1500                   | 6               | B16                             |
| M 5 - M 18                                          | 070       |  | 1200                   | 9               | B18                             |
| M 10 - M 30                                         | 090       |  | 600                    | 13              | JT4                             |
| suitable shanks No. 20 103..., 20 106..., 21 530... |           |  |                        |                 |                                 |
| suitable collets No. 21 528...                      |           |  |                        |                 |                                 |

## 21 530 Shank

for tapping units No. 21 504...



21 530...

| Morse taper<br>MK | 21 530... |  | Mount<br>JT |
|-------------------|-----------|--|-------------|
| 2                 | 024       |  | 4           |
| 3                 | 034       |  | 4           |
| 4                 | 044       |  | 4           |

## 21 512 TAPMATIC tap chucks

DIN  
228

extremely short type, with Morse taper and tangs, use: **on NC machines, lathes as well as all machine tools with mechanical feed**, the "SM" models are compactly made tap chucks with length adjustment to tension and compression, they are used, wherever critical space conditions require particularly tapping devices. Properties: ball-guided length adjustment to tension and compression, for compensating for the difference between machine feed and tap pitch, lead pressure amplifier for immediate tap starting cut, can be used for right and left-hand thread, vertically and horizontally, RUBBER-FLEX multi-range collets as well as an adjustable square drive, **without collets**

### Accessories:

Collet chucks Prod. No. 21 528...



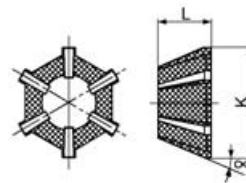
21 512...

| Cutting performance in steel | 21 512... |  | MK | Length adjustment compression/tension mm |
|------------------------------|-----------|--|----|------------------------------------------|
| M 3 - M 12                   | 030       |  | 2  | 7 / 7                                    |
| M 5 - M 18                   | 040       |  | 3  | 11 / 11                                  |
| M 12 - M 30                  | 050       |  | 4  | 17 / 17                                  |

On request also available with cylindrical shank with flat surface grinding according to DIN 1835 B

## 21 528 Multi-range Rubber-Flex collets

for mountings according to DIN 6345, with large diameter capacity for clamping tools with cylinder shank for tap chucks **No. 21 504... - 21 512...**

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21 528...

| Clamping capacity<br>mm | 21 528... |  | K approx.<br>mm | L approx.<br>mm | suitable for tap chucks |
|-------------------------|-----------|--|-----------------|-----------------|-------------------------|
| 1 - 2.5                 | 001       |  | 15.0            | 12.0            | 21 504 030              |
| 2.5 - 4.5               | 002       |  | 15.0            | 12.0            | 21 504 030              |
| 4.5 - 6.5               | 003       |  | 15.0            | 12.0            | 21 504 030              |
| 4.5 - 8                 | 004       |  | 23.0            | 12.7            | 21 504 050. 21 512 030  |
| 3.5 - 6.5               | 005       |  | 23.0            | 12.7            | 21 504 050. 21 512 030  |
| 6.5 - 10                | 006       |  | 23.0            | 12.7            | 21 504 050. 21 512 030  |
| 2 - 4.5                 | 007       |  | 23.0            | 12.7            | 21 504 050. 21 512 030  |
| 7 - 13                  | 008       |  | 32.0            | 16.0            | 21 504 070. 21 512 040  |
| 4.5 - 10                | 009       |  | 31.5            | 16.0            | 21 504 070. 21 512 040  |
| 2.8 - 7                 | 010       |  | 30.5            | 16.0            | 21 504 070. 21 512 040  |
| 9 - 15                  | 011       |  | 32.0            | 16.0            | 21 504 070. 21 512 040  |
| 10 - 16                 | 012       |  | 44.0            | 19.0            | 21 504 090. 21 512 050  |
| 16 - 23                 | 013       |  | 44.0            | 19.0            | 21 504 090. 21 512 050  |

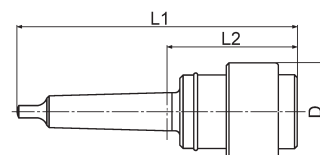
## 21 640 SF quick-change chucks

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for use in vertical drills and boring mills for right and left-hand rotation in conjunction with the following quick tool change inserts of the relevant size, the machine can be quickly and easily reset from one bore to another or from drilling to tapping



21 640...



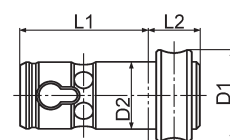
| Size<br>Type | MK | 21 640... |  | Drilling performance in<br>steel mm | L1<br>mm | L2<br>mm | D<br>mm |
|--------------|----|-----------|--|-------------------------------------|----------|----------|---------|
| 26           | 2  | 002       |  | 24                                  | 150      | 75.5     | 48      |
| 34           | 3  | 003       |  | 32                                  | 176      | 82.0     | 61      |
| 46           | 4  | 004       |  | 50                                  | 222      | 104.0    | 86      |

## 21 642 Tool inserts E

with internal taper and drift slot for split sleeves according to DIN 6329 or tools with Morse taper

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21 642...



| Size<br>Type/MK | 21 642... |  | L1<br>mm | L2<br>mm | D1<br>mm | D2<br>mm |
|-----------------|-----------|--|----------|----------|----------|----------|
| 26/1            | 003       |  | 60       | 18       | 37       | 26       |
| 26/2            | 004       |  | 60       | 30       | 37       | 26       |
| 34/1            | 005       |  | 65       | 22       | 46       | 34       |
| 34/2            | 006       |  | 65       | 26       | 46       | 34       |
| 34/3            | 007       |  | 65       | 43       | 46       | 34       |
| 46/1            | 008       |  | 82       | 23       | 58       | 46       |
| 46/2            | 009       |  | 82       | 23       | 58       | 46       |
| 46/3            | 011       |  | 82       | 27       | 58       | 46       |
| 46/4            | 012       |  | 82       | 53       | 58       | 46       |

## 21 643 Split sleeves

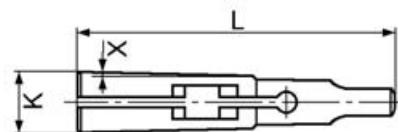
DIN 6328

**Use:** for clamping cylindrical taps with square driver in tap inserts  
GE-MK, automotive shanks and other Morse taper mountings  
Collapse range: h7, i.e. only the nominal size can be clamped

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21 643...



| MK/Ø  | 21 643... |  | K<br>mm | L<br>mm | Ø<br>mm |
|-------|-----------|--|---------|---------|---------|
| 2/4.5 | 204       |  | 18.0    | 80      | 4.5     |
| 2/6   | 206       |  | 18.0    | 80      | 6.0     |
| 2/7   | 207       |  | 18.0    | 80      | 7.0     |
| 2/8   | 208       |  | 18.0    | 80      | 8.0     |
| 2/9   | 209       |  | 18.0    | 80      | 8.0     |
| 2/10  | 210       |  | 18.0    | 80      | 10.0    |
| 2/11  | 211       |  | 18.0    | 80      | 11.0    |
| 2/12  | 212       |  | 18.0    | 80      | 12.0    |
| 3/8   | 308       |  | 24.1    | 99      | 8.0     |
| 3/9   | 309       |  | 24.1    | 99      | 8.0     |
| 3/10  | 310       |  | 24.1    | 99      | 10.0    |
| 3/11  | 311       |  | 24.1    | 99      | 11.0    |
| 3/12  | 312       |  | 24.1    | 99      | 12.0    |
| 3/14  | 314       |  | 24.1    | 99      | 14.0    |
| 3/16  | 316       |  | 24.1    | 99      | 16.0    |
| 4/12  | 412       |  | 31.6    | 124     | 12.0    |
| 4/14  | 414       |  | 31.6    | 124     | 14.0    |
| 4/16  | 416       |  | 31.6    | 124     | 16.0    |
| 4/18  | 418       |  | 31.6    | 124     | 18.0    |

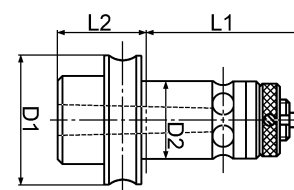
## 21 644 Tap inserts with internal Morse taper

FAHRION®  
PRÄZISION

**Use:** for mounting clamping sleeves to DIN 6328 for clamping taps  
with square drive, adjustable safety slip clutch, guide value scale,  
ejector pin



21 644...



| Size<br>Type/MK | 21 644... |  | Cutting range | L1<br>mm | L2<br>mm | D1<br>mm | D2<br>mm | Clamping<br>sleeves |
|-----------------|-----------|--|---------------|----------|----------|----------|----------|---------------------|
| 26/2            | 002       |  | M4 - M16      | 60       | 39       | 43       | 26       | 504E                |
| 34/2            | 002       |  | M4 - M16      | 65       | 37       | 56       | 34       | 504E                |
| 34/3            | 013       |  | M8 - M20      | 65       | 53       | 56       | 34       | 535E                |
| 46/2            | 002       |  | M4 - M16      | 82       | 28       | 70       | 46       | 504E                |
| 46/3            | 023       |  | M8 - M20      | 82       | 42       | 70       | 46       | 535E                |
| 46/4            | 024       |  | M16 - M33     | 82       | 67       | 70       | 46       | 538E                |

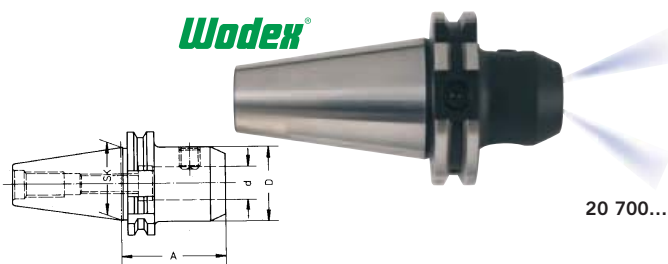
## 20 700 Milling cutter chucks (Weldon)



for clamping tools with flatted cylindrical shank according to DIN 1835 B and DIN 6535 HB

**Spare parts:** Tightening bolts Prod. No. 20 352... to 20 357..., Clamping screw Prod. No. 20 385...

| SK  | d<br>mm | 20 700... |  | A<br>mm | D<br>mm |
|-----|---------|-----------|--|---------|---------|
| 40  | 6       | 051       |  | 50      | 25      |
| 40  | 6       | 052       |  | 100     | 25      |
| 40  | 6       | 053       |  | 160     | 25      |
| 40  | 8       | 055       |  | 50      | 28      |
| 40  | 8       | 056       |  | 100     | 28      |
| 40  | 8       | 057       |  | 160     | 28      |
| 40  | 10      | 059       |  | 50      | 35      |
| 40  | 10      | 060       |  | 100     | 35      |
| 40  | 10      | 061       |  | 160     | 35      |
| 40  | 12      | 064       |  | 50      | 42      |
| 40  | 12      | 065       |  | 100     | 42      |
| 40  | 12      | 066       |  | 160     | 42      |
| 40  | 14      | 069       |  | 50      | 44      |
| 40  | 14      | 070       |  | 100     | 44      |
| 40  | 14      | 071       |  | 160     | 44      |
| 40  | 16      | 074       |  | 63      | 48      |
| 40  | 16      | 075       |  | 100     | 48      |
| 40  | 16      | 076       |  | 160     | 48      |
| 40  | 18      | 079       |  | 63      | 50      |
| 40  | 18      | 080       |  | 100     | 50      |
| 40  | 18      | 081       |  | 160     | 50      |
| 40* | 20      | 083       |  | 35      | 45      |
| 40  | 20      | 084       |  | 63      | 52      |
| 40  | 20      | 085       |  | 100     | 52      |
| 40  | 20      | 086       |  | 160     | 52      |
| 40* | 25      | 088       |  | 35      | 50      |
| 40  | 25      | 089       |  | 100     | 65      |
| 40  | 25      | 090       |  | 160     | 65      |
| 40* | 32      | 091       |  | 65      | 50      |
| 40  | 32      | 093       |  | 100     | 72      |
| 40  | 32      | 095       |  | 160     | 72      |
| 40  | 40      | 110       |  | 120     | 80      |



20 700...

| SK | d<br>mm | 20 700...<br>mm |  | A<br>mm | D<br>mm |
|----|---------|-----------------|--|---------|---------|
| 50 | 6       | 201             |  | 63      | 25      |
| 50 | 6       | 203             |  | 100     | 25      |
| 50 | 6       | 205             |  | 160     | 25      |
| 50 | 8       | 210             |  | 63      | 28      |
| 50 | 8       | 212             |  | 100     | 28      |
| 50 | 8       | 214             |  | 160     | 28      |
| 50 | 10      | 220             |  | 63      | 35      |
| 50 | 10      | 222             |  | 100     | 35      |
| 50 | 10      | 224             |  | 160     | 35      |
| 50 | 12      | 230             |  | 63      | 42      |
| 50 | 12      | 232             |  | 100     | 42      |
| 50 | 12      | 234             |  | 160     | 42      |
| 50 | 14      | 240             |  | 63      | 44      |
| 50 | 14      | 242             |  | 100     | 44      |
| 50 | 14      | 244             |  | 160     | 44      |
| 50 | 16      | 250             |  | 63      | 48      |
| 50 | 16      | 252             |  | 100     | 48      |
| 50 | 16      | 254             |  | 160     | 48      |
| 50 | 18      | 260             |  | 63      | 50      |
| 50 | 18      | 262             |  | 100     | 50      |
| 50 | 18      | 264             |  | 160     | 50      |
| 50 | 20      | 270             |  | 63      | 52      |
| 50 | 20      | 272             |  | 100     | 52      |
| 50 | 20      | 274             |  | 160     | 52      |
| 50 | 25      | 280             |  | 80      | 65      |
| 50 | 25      | 284             |  | 160     | 65      |
| 50 | 32      | 292             |  | 100     | 72      |
| 50 | 32      | 294             |  | 160     | 72      |
| 50 | 40      | 302             |  | 100     | 80      |
| 50 | 40      | 304             |  | 160     | 80      |

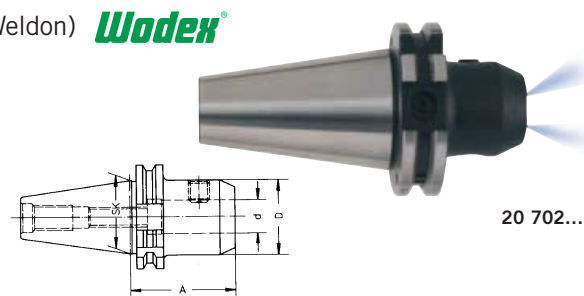
\* Type Shape AD

## 20 702 Milling cutter chucks with cooling channels (Weldon)



with front face coolant outlet, for clamping tools with flatted cylindrical shank according to DIN 1835 B and DIN 6535 HB

**Spare parts / accessories:** Tightening bolts Prod. No. 20 352... to 20 357..., Clamping screw Prod. No. 20 385...



20 702...

| SK | d<br>mm | 20 702... |  | A<br>mm | D<br>mm |
|----|---------|-----------|--|---------|---------|
| 40 | 6       | 051       |  | 50      | 25      |
| 40 | 6       | 053       |  | 100     | 25      |
| 40 | 8       | 061       |  | 50      | 28      |
| 40 | 8       | 063       |  | 100     | 28      |
| 40 | 10      | 071       |  | 50      | 35      |
| 40 | 10      | 073       |  | 100     | 35      |
| 40 | 12      | 081       |  | 50      | 42      |
| 40 | 12      | 083       |  | 100     | 42      |
| 40 | 14      | 091       |  | 50      | 44      |
| 40 | 14      | 093       |  | 100     | 44      |
| 40 | 16      | 102       |  | 63      | 48      |
| 40 | 16      | 103       |  | 100     | 48      |
| 40 | 18      | 112       |  | 63      | 50      |
| 40 | 18      | 113       |  | 100     | 50      |
| 40 | 20      | 122       |  | 63      | 52      |

| SK | d<br>mm | 20 702... |  | A<br>mm | D<br>mm |
|----|---------|-----------|--|---------|---------|
| 40 | 20      | 123       |  | 100     | 52      |
| 40 | 25      | 133       |  | 100     | 65      |
| 40 | 32      | 143       |  | 100     | 72      |
| 40 | 40      | 154       |  | 120     | 80      |
| 50 | 6       | 201       |  | 63      | 25      |
| 50 | 8       | 205       |  | 63      | 28      |
| 50 | 10      | 208       |  | 63      | 35      |
| 50 | 12      | 210       |  | 63      | 42      |
| 50 | 14      | 214       |  | 63      | 44      |
| 50 | 16      | 218       |  | 63      | 48      |
| 50 | 18      | 221       |  | 63      | 50      |
| 50 | 20      | 224       |  | 63      | 52      |
| 50 | 25      | 228       |  | 80      | 65      |
| 50 | 32      | 230       |  | 100     | 72      |
| 50 | 40      | 232       |  | 100     | 80      |



## 20 287 Milling cutter chucks (Whistle notch)



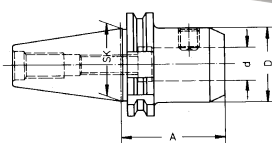
for clamping tools with cylinder shank and inclined clamping face according to DIN 1835E and 6535HE

## Spare parts / accessories:

Tightening bolts **Prod. No. 20 352...** to **20 357...**,

Clamping screw **Prod. No. 20 385...**

Wodex®



20 287...

| SK | d<br>mm | 20 287... |  | A<br>mm | D<br>mm |
|----|---------|-----------|--|---------|---------|
| 40 | 6       | 051       |  | 50      | 25      |
| 40 | 8       | 054       |  | 50      | 28      |
| 40 | 10      | 057       |  | 50      | 35      |
| 40 | 12      | 060       |  | 50      | 42      |
| 40 | 14      | 063       |  | 50      | 44      |
| 40 | 16      | 066       |  | 63      | 48      |
| 40 | 18      | 070       |  | 63      | 50      |
| 40 | 20      | 073       |  | 63      | 52      |
| 40 | 25      | 075       |  | 100     | 65      |
| 40 | 32      | 076       |  | 100     | 72      |
| 40 | 40      | 078       |  | 120     | 80      |

| SK | d<br>mm | 20 287... |  | A<br>mm | D<br>mm |
|----|---------|-----------|--|---------|---------|
| 50 | 6       | 201       |  | 63      | 25      |
| 50 | 8       | 205       |  | 63      | 28      |
| 50 | 10      | 208       |  | 63      | 35      |
| 50 | 12      | 210       |  | 63      | 42      |
| 50 | 14      | 214       |  | 63      | 44      |
| 50 | 16      | 218       |  | 63      | 48      |
| 50 | 18      | 221       |  | 63      | 50      |
| 50 | 20      | 224       |  | 63      | 52      |
| 50 | 25      | 228       |  | 80      | 65      |
| 50 | 32      | 230       |  | 100     | 72      |
| 50 | 40      | 232       |  | 100     | 80      |

## 20 288 ER collet chucks



for clamping tools with cylinder shank in collets according to DIN 6499, Shape A and B

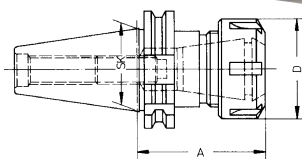
## Spare parts / accessories:

Tightening bolts **Prod. No. 20 352...** to **20 357...**,

Collets to DIN 6499B **Prod. No. 20 251...** and **20 253...**,

Nuts **Prod. No. 20 257...**, Key **Prod. No. 20 255...**

Wodex®



20 288...

| SK | Type  | 20 288 |  | A<br>mm | D<br>mm | Clamping<br>capacity mm |
|----|-------|--------|--|---------|---------|-------------------------|
| 40 | ER 16 | 150    |  | 63      | 32      | 1 - 10                  |
| 40 | ER 16 | 153    |  | 100     | 32      | 1 - 10                  |
| 40 | ER 16 | 156    |  | 160     | 32      | 1 - 10                  |
| 40 | ER 25 | 160    |  | 60      | 42      | 2 - 16                  |
| 40 | ER 25 | 163    |  | 100     | 42      | 2 - 16                  |
| 40 | ER 25 | 166    |  | 160     | 42      | 2 - 16                  |
| 40 | ER 32 | 170    |  | 70      | 50      | 2 - 20                  |
| 40 | ER 32 | 173    |  | 100     | 50      | 2 - 20                  |
| 40 | ER 32 | 176    |  | 160     | 50      | 2 - 20                  |
| 40 | ER 40 | 180    |  | 80      | 63      | 3 - 26                  |
| 40 | ER 40 | 183    |  | 100     | 63      | 3 - 26                  |
| 40 | ER 40 | 186    |  | 160     | 63      | 3 - 26                  |
| 50 | ER 16 | 187    |  | 63      | 32      | 1 - 10                  |
| 50 | ER 16 | 190    |  | 100     | 32      | 1 - 10                  |
| 50 | ER 16 | 193    |  | 160     | 32      | 1 - 10                  |
| 50 | ER 25 | 200    |  | 60      | 42      | 2 - 16                  |
| 50 | ER 25 | 202    |  | 100     | 42      | 2 - 16                  |
| 50 | ER 25 | 203    |  | 160     | 42      | 2 - 16                  |
| 50 | ER 32 | 205    |  | 70      | 50      | 2 - 20                  |
| 50 | ER 32 | 206    |  | 100     | 50      | 2 - 20                  |
| 50 | ER 32 | 207    |  | 160     | 50      | 2 - 20                  |
| 50 | ER 40 | 210    |  | 80      | 63      | 3 - 26                  |
| 50 | ER 40 | 212    |  | 100     | 63      | 3 - 26                  |
| 50 | ER 40 | 214    |  | 160     | 63      | 3 - 26                  |

## OZ collet chucks

Type OZ Ortlieb system, ball bearing chuck, for clamping tools with cylinder shank in collets according to DIN 6388 No. 20 239...

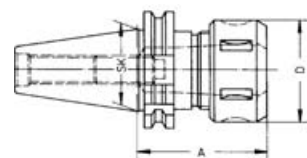
### 20 234 OZ collet chucks



**Wodex®**



20 234...



#### Spare parts / accessories:

Tightening bolts **Prod. No. 20 352...** to **20 357...**, Collets to DIN 6388

**Prod. No. 20 239...**, suitable hook spanner **Prod. No. 20 242...**,

Nut **Prod. No. 20 241...**

| SK | Clamping capacity mm | 20 234... |  | A mm | D mm |
|----|----------------------|-----------|--|------|------|
| 40 | 2 - 16               | 042       |  | 70   | 43   |
| 40 | 2 - 16               | 041       |  | 100  | 43   |
| 40 | 2 - 25               | 043       |  | 70   | 60   |
| 40 | 2 - 25               | 045       |  | 100  | 60   |
| 50 | 2 - 25               | 052       |  | 70   | 60   |
| 50 | 3 - 32               | 054       |  | 80   | 72   |

## ER Centro P precision collet chucks

- mechanical, high-precision collet chuck for universal use, from roughing through to finishing
- ideal for drilling, milling, reaming and tapping (Important: Tap collet 20 752... cannot be used!)
- up to 100% higher holding forces than conventional collet chucks
- constant system accuracy of 3 µm and 6 µm depending on the FAHRION GER-HP or GER collet used
- the large opening enables tools to be clamped to the optimum unsupported length
- collapse range according to ISO tolerance range h10, therefore optimum concentricity and longer tool lives
- cost-effective precision clamping system alternative to Hydrodehn hydraulic shrink chucks

### 20 235 ER Centro P precision collet chucks

**FAHRION®**  
PRÄZISION



for standard and clamping nuts with sealing discs

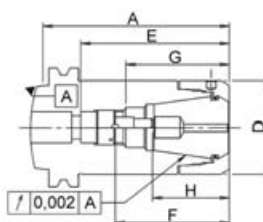
**Scope of supply:** Basic body **without clamping nut, without stop**

#### Spare parts / accessories:

Collets **Prod. No. 20 281...**, Clamping nuts **Prod. No. 20 235...**, adjustable stop screws **Prod. No. 20 237...**



20 235...



| SK | Clamping capacity mm | 20 235... |  | A mm | D mm | max. insertion depth without stop |        | Tool insertion depth    |                         | For Collet chucks / clamping nuts size mm |
|----|----------------------|-----------|--|------|------|-----------------------------------|--------|-------------------------|-------------------------|-------------------------------------------|
|    |                      |           |  |      |      | E** mm                            | F** mm | Shape U<br>G min-max mm | Shape W<br>H min-max mm |                                           |
| 40 | 1 - 10               | 001       |  | 70   | 30   | 110                               | -      | 28 - 45                 | 16 - 31                 | HPC 16 · HPC 16-DI                        |
| 40 | 1 - 10               | 003       |  | 100  | 30   | 140                               | -      | 28 - 45                 | 16 - 31                 | HPC 16 · HPC 16-DI                        |
| 40 | 1 - 10               | 005       |  | 160  | 30   | 200                               | -      | 28 - 45                 | 16 - 31                 | HPC 16 · HPC 16-DI                        |
| 40 | 1 - 10               | 007       |  | 200  | 30   | 240                               | -      | 28 - 45                 | 16 - 31                 | HPC 16 · HPC 16-DI                        |
| 40 | 2 - 16               | 009       |  | 45   | 40   | 85                                | -      | 35 - 60                 | 20 - 42                 | HPC 25 · HPC 25-DI                        |
| 40 | 2 - 16               | 011       |  | 70   | 40   | 110                               | -      | 35 - 60                 | 20 - 42                 | HPC 25 · HPC 25-DI                        |
| 40 | 2 - 16               | 013       |  | 100  | 40   | 113                               | -      | 35 - 60                 | 20 - 42                 | HPC 25 · HPC 25-DI                        |
| 40 | 2 - 16               | 015       |  | 160  | 40   | 118                               | -      | 35 - 60                 | 20 - 42                 | HPC 25 · HPC 25-DI                        |
| 40 | 2 - 16               | 017       |  | 200  | 40   | 148                               | -      | 35 - 60                 | 20 - 42                 | HPC 25 · HPC 25-DI                        |
| 40 | 2 - 20               | 019       |  | 50   | 50   | 92                                | 55     | 52 - 70                 | 26 - 52                 | HPC 25 · HPC 25-DI                        |
| 40 | 2 - 20               | 021       |  | 70   | 50   | 111                               | 55     | 52 - 70                 | 26 - 52                 | HPC 25 · HPC 25-DI                        |
| 40 | 2 - 20               | 023       |  | 100  | 50   | 114                               | 55     | 52 - 70                 | 26 - 52                 | HPC 25 · HPC 25-DI                        |
| 40 | 2 - 20               | 025       |  | 160  | 50   | 119                               | 55     | 52 - 70                 | 26 - 52                 | HPC 25 · HPC 25-DI                        |
| 50 | 2 - 20               | 027       |  | 70   | 50   | 120                               | 62     | 59 - 85                 | 40 - 70                 | HPC 25 · HPC 25-DI                        |
| 50 | 2 - 20               | 029       |  | 100  | 50   | 150                               | 58     | 53 - 81                 | 35 - 63                 | HPC 25 · HPC 25-DI                        |
| 50 | 2 - 20               | 031       |  | 160  | 50   | 200                               | 58     | 53 - 83                 | 35 - 65                 | HPC 25 · HPC 25-DI                        |

\*\* Insertion depth dimension E for tool shanks ≤ 16 mm and dimension F > 16 mm

## 20 280 HP plus precision collet chucks

**Use:** for high-precision clamping of tools with cylinder shank as well as cylinder shanks with flatted cylindrical shank according to DIN 1835B and DIN 1835E without concentricity and clamping force loss, collapse range h10



**FAHRION®**  
PRÄZISION

### Set 20 280 800

as 20 280 110 in practical case, incl. 4 collet chucks 6, 8, 10 and 12 mm, and hexagon (Allen) key

- Clamped by means of hexagon key with T-handle - chuck released by patented ejection mechanism (without tappet)
- Up to twice the holding forces of Hydrodehn hydraulic chucks - no tiresome checking of the clamping force before each use  
No failures due to hydraulic components or leakage
- Internal coolant supply up to 80 bar. Inside tight against dirt
- Patented wedge-actuated clamping mechanism
- Constant concentricity and repeatability 3 µm

### Spare parts / accessories:

Tightening bolts Prod. No. 20 352... to 20 357..., HP collet chucks Prod. No. 20 281..., HP sealing discs Prod. No. 20 283...

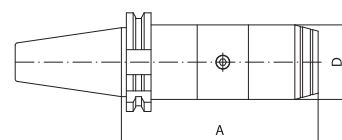


20 280 800



20 280 100 - ...113

| SK         | Clamping capacity mm | 20 280... |  | D mm | A mm | Collet chuck    |
|------------|----------------------|-----------|--|------|------|-----------------|
| 40         | 1-10                 | 100       |  | 28   | 70   | 426E GER-16-HP+ |
| 40         | 1-10                 | 102       |  | 28   | 160  | 426E GER-16-HP+ |
| 40         | 2-20                 | 110       |  | 48   | 100  | 470E GER-32-HP+ |
| 50         | 2-20                 | 113       |  | 48   | 100  | 470E GER-32-HP+ |
| <b>Set</b> |                      |           |  |      |      |                 |
| 40         | 6/8/10/12            | 800       |  | 48   | 100  | 470E GER-32-HP+ |

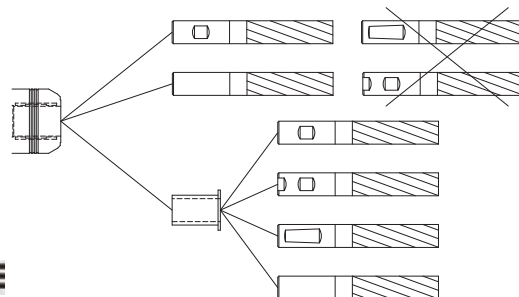


Other types available on request, including clamping capacity 2-16 and 4-26 mm  
SK 50: G 6.3 (12000 min<sup>-1</sup>)

## Hydraulic expansion chucks

Absolute precision for fine machining and high clamping force for coarse cutting. The advantages of this clamping technique: Finely balanced, standard type for use on HSC machines with maximum concentricity accuracy <-0.003 mm  
4 times longer tool lives, optimum temperature range between 20-50°C, high torque transfer.

- Clampable shanks (tolerance h6) with and without adapter sleeves  
DIN 1835 A, DIN 6535 HA, DIN 6535 HAK from Ø 3 - 32 mm  
DIN 1835 B, DIN 6535 HB, DIN HBK up to Ø 20 mm
- Clampable shanks (tolerance h6) with adapter sleeves only  
DIN 1835 B, DIN 6535 HB, DIN 6535 HBK over Ø 20 mm  
DIN 1835 D/E, DIN 6535 HE, DIN 6535 HEK



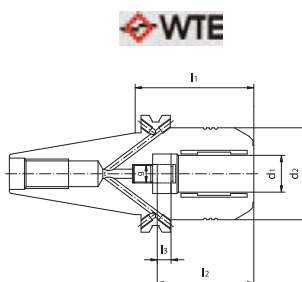
### 20 268 Hydraulic expansion chucks



short, heavy-duty type, with axial length adjustment

Spare parts / accessories:

Tightening bolts **Prod. No. 20 352... to 20 357...**,  
Adapter / reducer bushings slotted **Prod. No. 20 279...**,  
Cleaning brush **Prod. No. 20 278...**



20 268...

| SK | d1<br>mm | 20 268... |  | d2<br>mm | l1<br>mm | l2<br>mm | l3<br>mm | g<br>mm |
|----|----------|-----------|--|----------|----------|----------|----------|---------|
| 40 | 20       | 620       |  | 49.5     | 64.5     | 51       | 10       | M10     |
| 50 | 32       | 632       |  | 72.0     | 81.0     | 61       | 10       | M16     |

\* Bores for Shape B closed with setscrews on delivery

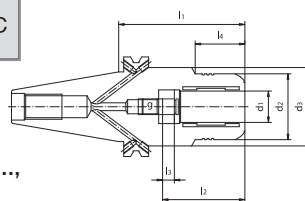
### 20 271 Hydraulic expansion chucks



short, slender type

Spare parts / accessories:

Tightening bolts **Prod. No. 20 352... to 20 357...**,  
Adapter / reducer bushings slotted **Prod. No. 20 279...**,  
Cleaning brush **Prod. No. 20 278...**



20 271 ...

| SK | d1<br>mm | 20 271... |  | d2<br>mm | d3<br>mm | l1<br>mm | l2<br>mm | l3<br>mm | l4<br>mm | g<br>mm |
|----|----------|-----------|--|----------|----------|----------|----------|----------|----------|---------|
| 40 | 6        | 606       |  | 26       | 49.5     | 80       | 37       | 10       | 29       | M5      |
| 40 | 8        | 608       |  | 28       | 49.5     | 80       | 37       | 10       | 30       | M6      |
| 40 | 10       | 610       |  | 30       | 49.5     | 80       | 41       | 10       | 35       | M6      |
| 40 | 12       | 612       |  | 32       | 49.5     | 80       | 46       | 10       | 40       | M10     |
| 40 | 16       | 616       |  | 38       | 49.5     | 80       | 49       | 10       | 45       | M10     |
| 40 | 20       | 620       |  | 42       | 49.5     | 80       | 51       | 10       | 47       | M10     |
| 40 | 25       | 625       |  | 55       | 49.5     | 95       | 57       | 10       | 54       | M10     |
| 40 | 32       | 632       |  | 63       | 49.5     | 95       | 61       | 10       | 48       | M10     |

\* Bores for Shape B closed with setscrews on delivery

Further dimensions available on request

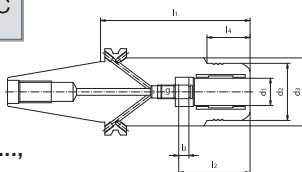
### 20 273 Hydraulic expansion chucks



long, slender type

Spare parts / accessories:

Tightening bolts **Prod. No. 20 352... to 20 357...**,  
Adapter / reducer bushings slotted **Prod. No. 20 279...**,  
Cleaning brush **Prod. No. 20 278...**



20 273 ...

| SK | d1<br>mm | 20 273... |  | d2<br>mm | d3<br>mm | l1<br>mm | l2<br>mm | l3<br>mm | l4<br>mm | g<br>mm |
|----|----------|-----------|--|----------|----------|----------|----------|----------|----------|---------|
| 40 | 12       | 612       |  | 32       | 49.5     | 110      | 46       | 10       | 40       | M10     |
| 40 | 16       | 616       |  | 38       | 49.5     | 110      | 49       | 10       | 45       | M10     |

\* Bores for Shape B closed with setscrews on delivery

Further dimensions available on request

## Shrink chucks

The mounting hole expands in a few seconds through heating of the toolholders with suitable shrink devices. The tool shank made of HSS-E or HM can therefore be shrunk in and out with an inductive shrink technique.

### Advantages:

- Optimised clamping force
- Friction-locking force transfer
- Maximised rotational symmetry
- Slender shrink chuck dimensions, therefore few disturbing contours
- Higher tool lives
- Short shrinking in and out times
- Ideally suited for use in HSC technology

### 20 262 SK 40 / SK 50 shrink chuck



### Spare parts / accessories:

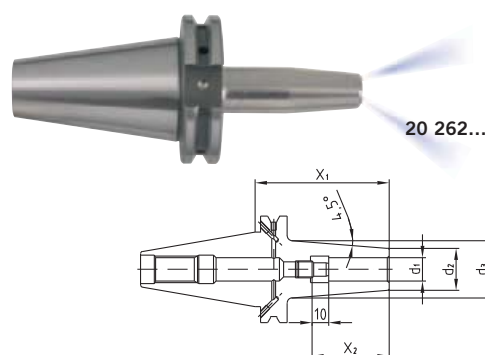
Tightening bolts **Prod. No. 20 352...** to **20 357...**, roughing extensions **Prod. No. 20 760...**, Cleaning brush **Prod. No. 20 278...**

**Wodex®**

Highly precise clamping of tools with cylinder shank, tool shanks according to DIN 6335 Shape HA, HB, HE, tool shanks according to DIN 1835 Shape A and B with shank tolerance  $h_6$ .

### Areas of use

- HSC technology
- Woodworking
- Milling in toolmaking and mould making
- Difficult cutting
- Drilling / reaming

**Wodex®**


| SK | d1<br>mm | 20 262... |  | d2<br>mm | d3<br>mm | x1<br>mm | x2<br>mm |
|----|----------|-----------|--|----------|----------|----------|----------|
| 40 | 3        | 030       |  | 15       | 20       | 80       | 20       |
| 40 | 4        | 033       |  | 15       | 20       | 80       | 20       |
| 40 | 5        | 036       |  | 15       | 20       | 80       | 25       |
| 40 | 6        | 039       |  | 21       | 27       | 80       | 36       |
| 40 | 6        | 042       |  | 21       | 27       | 120      | 36       |
| 40 | 6        | 045       |  | 21       | 27       | 160      | 36       |
| 40 | 8        | 048       |  | 21       | 27       | 80       | 36       |
| 40 | 8        | 051       |  | 21       | 27       | 120      | 36       |
| 40 | 8        | 054       |  | 21       | 27       | 160      | 36       |
| 40 | 10       | 057       |  | 24       | 32       | 80       | 42       |
| 40 | 10       | 060       |  | 24       | 32       | 120      | 42       |
| 40 | 10       | 063       |  | 24       | 32       | 160      | 42       |
| 40 | 12       | 066       |  | 24       | 32       | 80       | 47       |
| 40 | 12       | 069       |  | 24       | 32       | 120      | 47       |
| 40 | 12       | 072       |  | 24       | 32       | 160      | 47       |
| 40 | 14       | 075       |  | 27       | 34       | 80       | 47       |
| 40 | 14       | 078       |  | 27       | 34       | 120      | 47       |
| 40 | 14       | 081       |  | 27       | 34       | 160      | 47       |
| 40 | 16       | 084       |  | 27       | 34       | 80       | 50       |
| 40 | 16       | 087       |  | 27       | 34       | 120      | 50       |
| 40 | 16       | 090       |  | 27       | 34       | 160      | 50       |
| 40 | 18       | 093       |  | 33       | 42       | 80       | 50       |
| 40 | 18       | 096       |  | 33       | 42       | 120      | 50       |
| 40 | 18       | 099       |  | 33       | 42       | 160      | 50       |
| 40 | 20       | 102       |  | 33       | 42       | 80       | 52       |
| 40 | 20       | 105       |  | 33       | 42       | 120      | 52       |
| 40 | 20       | 108       |  | 33       | 42       | 160      | 52       |
| 40 | 25       | 111       |  | 44       | 53       | 100      | 58       |
| 40 | 25       | 114       |  | 44       | 53       | 160      | 58       |

| SK | d1<br>mm | 20 262... |  | d2<br>mm | d3<br>mm | x1<br>mm | x2<br>mm |
|----|----------|-----------|--|----------|----------|----------|----------|
| 50 | 6        | 217       |  | 21       | 27       | 80       | 36       |
| 50 | 6        | 220       |  | 21       | 27       | 120      | 36       |
| 50 | 6        | 223       |  | 21       | 27       | 160      | 36       |
| 50 | 8        | 226       |  | 21       | 27       | 80       | 36       |
| 50 | 8        | 229       |  | 21       | 27       | 120      | 36       |
| 50 | 8        | 232       |  | 21       | 27       | 160      | 36       |
| 50 | 10       | 235       |  | 24       | 32       | 80       | 42       |
| 50 | 10       | 238       |  | 24       | 32       | 120      | 42       |
| 50 | 10       | 241       |  | 24       | 32       | 160      | 42       |
| 50 | 12       | 244       |  | 24       | 32       | 80       | 47       |
| 50 | 12       | 247       |  | 24       | 32       | 120      | 47       |
| 50 | 12       | 250       |  | 24       | 32       | 160      | 47       |
| 50 | 14       | 253       |  | 27       | 34       | 80       | 47       |
| 50 | 14       | 256       |  | 27       | 34       | 120      | 47       |
| 50 | 14       | 259       |  | 27       | 34       | 160      | 47       |
| 50 | 16       | 262       |  | 27       | 34       | 80       | 50       |
| 50 | 16       | 265       |  | 27       | 34       | 120      | 50       |
| 50 | 16       | 268       |  | 27       | 34       | 160      | 50       |
| 50 | 18       | 271       |  | 33       | 42       | 80       | 50       |
| 50 | 18       | 274       |  | 33       | 42       | 120      | 50       |
| 50 | 18       | 277       |  | 33       | 42       | 160      | 50       |
| 50 | 20       | 280       |  | 33       | 42       | 80       | 52       |
| 50 | 20       | 283       |  | 33       | 42       | 120      | 52       |
| 50 | 20       | 286       |  | 33       | 42       | 160      | 52       |
| 50 | 25       | 289       |  | 44       | 53       | 100      | 58       |
| 50 | 25       | 292       |  | 44       | 53       | 160      | 58       |
| 50 | 32       | 295       |  | 44       | 53       | 100      | 58       |
| 50 | 32       | 298       |  | 44       | 53       | 160      | 58       |

## Precision CNC universal drill chuck

Made in Germany, maximum precision and accuracy. For right and left-hand rotation, very short design, high clamping force and concentricity accuracy max. 0.03 mm, short clamping and resetting/retooling times. Unbalanced can be used up to 7000 rpm. If used > 7000 rpm. - 35000 rpm the drill chucks must be additionally balanced in accordance with the balance classes. Max. all. speed up to 35.000 rpm.

### 20 067 Precision drill chucks



short, stable design, high clamping force through key actuation, high concentricity

**Spare parts / accessories:**

Tightening bolts Prod. No. 20 352... to 20 357...

**Wodex**



20 067...



20 068...

### 20 068 Precision drill chucks

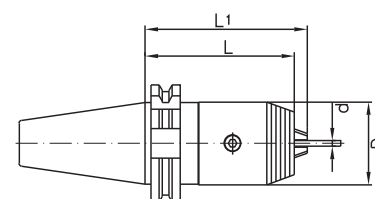


short, stable design, high clamping force through key actuation, high concentricity

**Spare parts / accessories:**

Tightening bolts Prod. No. 20 352... to 20 357...

**WTE**



| SK | Capacity<br>d<br>mm | 20 067...<br><b>Wodex</b> | 20 068...<br><b>WTE</b> | D<br>mm | L<br>mm | L1<br>max<br>mm | Internal tight-<br>ening thread<br>M |
|----|---------------------|---------------------------|-------------------------|---------|---------|-----------------|--------------------------------------|
| 40 | 0.5 - 13            | 413                       | 413                     | 50      | 90      | 96              | 16                                   |
| 40 | 2.5 - 16            | 416                       | 416                     | 57      | 90      | 101             | 16                                   |
| 50 | 0.5 - 13            | 513                       | 513                     | 50      | 106     | 112             | 24                                   |
| 50 | 2.5 - 16            | 516                       | 516                     | 57      | 106     | 117             | 24                                   |

### 20 072 Precision drill chucks



short, stable design, high clamping force through key actuation, high concentricity

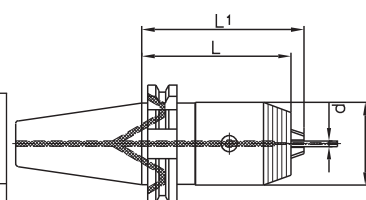
**Spare parts / accessories:**

Tightening bolts Prod. No. 20 352... to 20 357...

**WTE**



20 072 ...



| SK | Capacity<br>d<br>mm | 20 072... | D<br>mm | L<br>mm | L1<br>mm | Internal<br>draw-in thread<br>M |
|----|---------------------|-----------|---------|---------|----------|---------------------------------|
| 40 | 0.3 - 8             | 408       | 36      | 73      | 76       | 16                              |
| 40 | 0.5 - 13            | 413       | 50      | 90      | 96       | 16                              |
| 40 | 2.5 - 16            | 416       | 57      | 90      | 101      | 16                              |
| 50 | 0.5 - 13            | 513       | 50      | 106     | 112      | 24                              |
| 50 | 2.5 - 16            | 516       | 57      | 106     | 117      | 24                              |

### 20 108 Drill chuck holders



for mounting tools with drill taper mounting

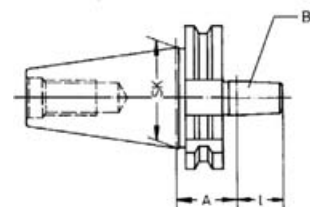
**Spare parts / accessories:**

Tightening bolts Prod. No. 20 352... to 20 357...

**Wodex**



20 108...



| SK | B  | 20 108... | A  | I  |
|----|----|-----------|----|----|
| 40 | 16 | 005       | 25 | 24 |
| 40 | 18 | 008       | 25 | 32 |
| 50 | 16 | 010       | 25 | 24 |
| 50 | 18 | 015       | 25 | 32 |



## Quick-change tapping chucks with length adjustment

for mounting quick-change inserts with or without safety coupling, short overall dimensions, length adjustment to compression and tension for compensating for the differences between feed and thread pitch, all moving parts are supported by ball bearings, adjustable lead pressure amplifier for immediate tap starting cut, fast assembly of the quick-change inserts and taps, **taper angle tolerance AT 3** (3 µm max.)

### 21 412 Quick change tapping chucks

DIN  
69871Form  
A

#### Spare parts / accessories:

Tightening bolts **Prod. No. 20 352... to 20 357...**, quick-change inserts  
**Prod. No. 21 430... to 21 432...**

Wodex®



21 412...

### 21 413 WFLC quick change tapping chucks

DIN  
69871Form  
A

without internal coolant flow, smooth-running length adjustment, maintenance free

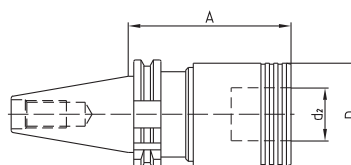
#### Spare parts / accessories:

Tightening bolts **Prod. No. 20 352... to 20 357...**, quick-change inserts  
**Prod. No. 21 430... to 21 432...**

BILZ



21 413...



| SK x thread Ø    | Inserts Size | 21 412...<br>Wodex® |  | Length adjustment<br>compression/<br>tension<br>mm | d2<br>mm | D<br>mm | A<br>mm |
|------------------|--------------|---------------------|--|----------------------------------------------------|----------|---------|---------|
| 40 x M 3 - M 14  | 1            | 003                 |  | 7/7                                                | 19       | 38      | 64      |
| 40 x M 5 - M 22  | 2            | 006                 |  | 12/12                                              | 31       | 54      | 97      |
| 40 x M 14 - M 36 | 3            | 009                 |  | 17.5/17.5                                          | 48       | 78      | 136     |
| 50 x M 3 - M 12  | 1            | 010                 |  | 7/7                                                | 19       | 38      | 62      |
| 50 x M 5 - M 22  | 2            | 013                 |  | 12/12                                              | 31       | 54      | 85      |
| 50 x M 14 - M 36 | 3            | 016                 |  | 17.5/17.5                                          | 48       | 78      | 138     |

| SK x thread Ø    | Inserts Size | 21 413...<br>BILZ |  | Length adjustment<br>compression/<br>tension mm | d2<br>mm | D<br>mm | A<br>mm |
|------------------|--------------|-------------------|--|-------------------------------------------------|----------|---------|---------|
| 40 x M 3 - M 12  | 1            | 403               |  | 7.5/7.5                                         | 19       | 39      | 65      |
| 40 x M 8 - M 20  | 2            | 408               |  | 10.0/10.0                                       | 31       | 60      | 103     |
| 50 x M 8 - M 20  | 2            | 508               |  | 10.0/10.0                                       | 31       | 60      | 88      |
| 50 x M 14 - M 33 | 3            | 514               |  | 17.5/17.5                                       | 48       | 86      | 134     |

### 21 415 WFLC quick change tapping chucks

DIN  
69871Form  
AD

with internal coolant flow, smooth-running length adjustment, maintenance free

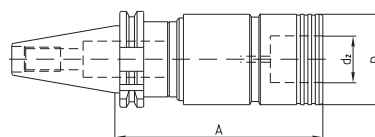
#### Spare parts / Accessories:

Tightening bolts **Prod. No. 20 352... to 20 357...**, quick-change inserts  
**Prod. No. 21 430... to 21 432...**

BILZ



21 415...



| SK x thread Ø  | Inserts Size | 21 415... |  | Length adjustment<br>Compression / tension<br>mm | d2<br>mm | D<br>mm | A<br>mm |
|----------------|--------------|-----------|--|--------------------------------------------------|----------|---------|---------|
| 40 x M 3 - M12 | 1            | 403       |  | 7.5 / 7.5                                        | 19       | 39      | 97      |
| 40 x M 8 - M20 | 2            | 408       |  | 10.0 / 10.0                                      | 31       | 60      | 133     |
| 50 x M 8 - M20 | 2            | 508       |  | 10.0 / 10.0                                      | 31       | 60      | 133     |

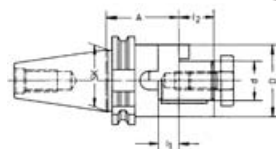
## 20 298 Combination milling cutter arbors



Wodex®



20 298 ...



for mounting plain milling cutters and shell end mills or inserted tooth cutters for mounting holes with longitudinal and transverse slot. With milling cutter tightening screw, driver ring and featherkey.

**Spare parts / accessories:** Tightening bolts **Prod. No. 20 352...** to **20 357...**, Driver ring **Prod. No. 20 372...**; milling arbor screw **Prod. No. 20 370...**; Key **Prod. No. 20 367...** and **Prod. No. 20 368...**

| SK | d  | 20 298... | A   | D  | I1 | I2 |
|----|----|-----------|-----|----|----|----|
|    | mm |           | mm  | mm | mm | mm |
| 40 | 16 | 616       | 55  | 32 | 10 | 17 |
| 40 | 16 | 617       | 100 | 32 | 10 | 17 |
| 40 | 22 | 622       | 55  | 40 | 12 | 19 |
| 40 | 22 | 623       | 100 | 40 | 12 | 19 |
| 40 | 27 | 627       | 55  | 48 | 12 | 21 |
| 40 | 27 | 628       | 100 | 48 | 12 | 21 |
| 40 | 32 | 632       | 60  | 58 | 14 | 24 |
| 40 | 32 | 633       | 100 | 58 | 14 | 24 |
| 40 | 40 | 640       | 60  | 70 | 14 | 27 |
| 40 | 40 | 641       | 100 | 70 | 14 | 27 |

| SK | d  | 20 298... | A   | D  | I1 | I2 |
|----|----|-----------|-----|----|----|----|
| mm | mm |           | mm  | mm | mm | mm |
| 50 | 16 | 716       | 55  | 32 | 10 | 17 |
| 50 | 16 | 717       | 100 | 32 | 10 | 17 |
| 50 | 22 | 722       | 55  | 40 | 12 | 19 |
| 50 | 22 | 723       | 100 | 40 | 12 | 19 |
| 50 | 27 | 727       | 55  | 48 | 12 | 21 |
| 50 | 27 | 728       | 100 | 48 | 12 | 21 |
| 50 | 32 | 732       | 55  | 58 | 14 | 24 |
| 50 | 32 | 733       | 100 | 58 | 14 | 24 |
| 50 | 40 | 740       | 55  | 70 | 14 | 27 |
| 50 | 40 | 741       | 100 | 70 | 14 | 27 |

## Transverse slot milling cutter arbors

with enlarged contact surface diameter, taper angle tolerance AT 3 (3 μm max.), with screwed on torque bushes and milling cutter tightening screw for mounting inserted tooth cutters with transverse slot and milling cutters with transverse slot, from 40 mm diameter with additional 4 clamping screws for mounting inserted tooth cutters with tool fixing according to DIN 1830, balanced type can also be supplied.

## 20 312 Transverse slot milling cutter arbors



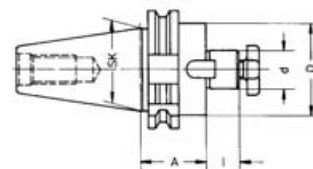
Wodex®



20 312 ...

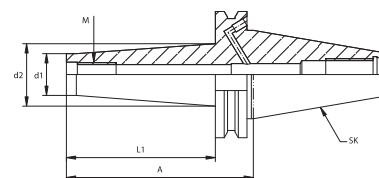
**Spare parts / accessories:** Tightening bolts **Prod. No. 20 352...** to **20 357...**, milling arbor screw **Prod. No. 20 370...**; Key **Prod. No. 20 367...** and **Prod. No. 20 368...**

| SK | d  | 20 312... | A   | D   | I  |
|----|----|-----------|-----|-----|----|
|    | mm |           | mm  | mm  | mm |
| 40 | 16 | 416       | 35  | 38  | 17 |
| 40 | 22 | 422       | 35  | 48  | 19 |
| 40 | 22 | 424       | 100 | 48  | 19 |
| 40 | 27 | 427       | 40  | 58  | 21 |
| 40 | 27 | 430       | 100 | 58  | 21 |
| 40 | 32 | 432       | 50  | 78  | 24 |
| 40 | 32 | 437       | 100 | 78  | 24 |
| 40 | 40 | 440       | 50  | 88  | 27 |
| 40 | 40 | 516       | 100 | 88  | 27 |
| 50 | 22 | 522       | 35  | 48  | 19 |
| 50 | 22 | 525       | 100 | 48  | 19 |
| 50 | 27 | 527       | 40  | 58  | 21 |
| 50 | 27 | 530       | 100 | 58  | 21 |
| 50 | 32 | 532       | 50  | 78  | 24 |
| 50 | 32 | 535       | 100 | 78  | 24 |
| 50 | 40 | 540       | 50  | 88  | 27 |
| 50 | 40 | 545       | 100 | 88  | 27 |
| 50 | 50 | 550       | 70  | 129 | 40 |
| 50 | 60 | 555       | 70  | 129 | 40 |





20 320...



| SK | M  | 20 320... | d1 | d2   | L1  | A   |
|----|----|-----------|----|------|-----|-----|
|    | mm |           | mm | mm   | mm  | mm  |
| 40 | 8  | 008       | 13 | 15   | 25  | 44  |
| 40 | 8  | 010       | 13 | 23   | 50  | 69  |
| 40 | 8  | 012       | 13 | 23   | 75  | 94  |
| 40 | 8  | 014       | 13 | 25   | 100 | 119 |
| 40 | 10 | 016       | 18 | 18   | 5   | 25  |
| 40 | 10 | 018       | 18 | 20   | 25  | 44  |
| 40 | 10 | 020       | 18 | 23   | 50  | 69  |
| 40 | 10 | 022       | 18 | 32   | 100 | 119 |
| 40 | 10 | 024       | 18 | 36.5 | 150 | 169 |
| 40 | 12 | 026       | 21 | 21   | 5   | 25  |
| 40 | 12 | 028       | 21 | 24   | 25  | 44  |
| 40 | 12 | 030       | 21 | 24   | 50  | 69  |
| 40 | 12 | 032       | 21 | 31   | 75  | 94  |
| 40 | 12 | 034       | 21 | 33   | 100 | 119 |
| 40 | 12 | 036       | 21 | 40   | 150 | 169 |
| 40 | 16 | 038       | 29 | 29   | 5   | 25  |
| 40 | 16 | 040       | 29 | 29   | 25  | 44  |
| 40 | 16 | 042       | 29 | 34   | 50  | 69  |
| 40 | 16 | 044       | 29 | 34   | 75  | 94  |
| 40 | 16 | 046       | 29 | 36   | 100 | 119 |
| 40 | 16 | 048       | 29 | 42.5 | 150 | 169 |

| SK | M  | 20 320... | d1 | d2 | L1  | A   |
|----|----|-----------|----|----|-----|-----|
|    | mm |           | mm | mm | mm  | mm  |
| 50 | 8  | 050       | 13 | 23 | 50  | 69  |
| 50 | 8  | 052       | 13 | 25 | 100 | 119 |
| 50 | 8  | 054       | 13 | 30 | 150 | 169 |
| 50 | 10 | 056       | 18 | 23 | 50  | 69  |
| 50 | 10 | 058       | 18 | 32 | 100 | 119 |
| 50 | 10 | 060       | 18 | 38 | 150 | 169 |
| 50 | 12 | 062       | 21 | 24 | 50  | 69  |
| 50 | 12 | 064       | 21 | 31 | 100 | 119 |
| 50 | 12 | 066       | 21 | 41 | 150 | 169 |
| 50 | 16 | 068       | 29 | 34 | 50  | 69  |
| 50 | 16 | 070       | 29 | 41 | 100 | 119 |
| 50 | 16 | 072       | 29 | 50 | 150 | 169 |

DIN  
69871

## 20 204 Adapter sleeve for MK with tangs

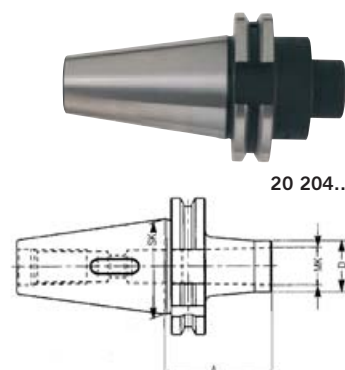
Wodex®

DIN  
69871DIN-ISO  
228

 $\geq 6 \mu\text{m}$ 
G 6,3  
12000  
min<sup>-1</sup>Form  
AD/Bfor tools with **Morse taper and tangs** according to DIN 228-B

Spare parts / accessories: Tightening bolts Prod. No. 20 352... to 20 357...

| SK | MK | 20 204... |  | A<br>mm | D<br>mm |
|----|----|-----------|--|---------|---------|
| 40 | 1  | 041       |  | 50      | 25      |
| 40 | 2  | 042       |  | 50      | 32      |
| 40 | 3  | 043       |  | 70      | 40      |
| 40 | 4  | 044       |  | 95      | 48      |
| 50 | 1  | 051       |  | 45      | 25      |
| 50 | 2  | 052       |  | 60      | 32      |
| 50 | 3  | 053       |  | 65      | 40      |
| 50 | 4  | 054       |  | 95      | 48      |
| 50 | 5  | 056       |  | 105     | 63      |



20 204...

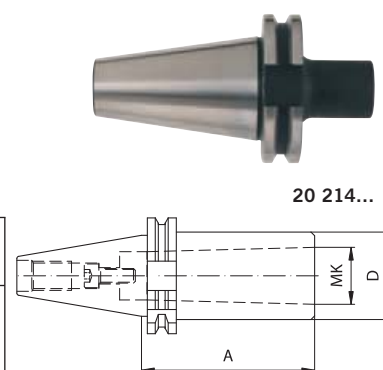
## 20 214 Adapter sleeve for MK with tightening thread Wodex®

DIN  
69871DIN  
6364

 $\geq 6 \mu\text{m}$ 
G 6,3  
12000  
min<sup>-1</sup>Form  
Afor tools with **Morse taper and tightening thread** according to DIN 6364,  
with integrated hexagon socket head screw

Spare parts / accessories: Tightening bolts Prod. No. 20 352... to 20 357...

| SK | MK | 20 214... |  | A<br>mm | D<br>mm |
|----|----|-----------|--|---------|---------|
| 40 | 1  | 041       |  | 50      | 25      |
| 40 | 2  | 042       |  | 50      | 32      |
| 40 | 3  | 043       |  | 70      | 40      |
| 40 | 4  | 044       |  | 95      | 48      |
| 50 | 1  | 051       |  | 45      | 25      |
| 50 | 2  | 052       |  | 60      | 32      |
| 50 | 3  | 053       |  | 65      | 40      |
| 50 | 4  | 054       |  | 70      | 48      |
| 50 | 5  | 056       |  | 100     | 63      |



20 214...

## 20 216 Boring bar blanks

Wodex®

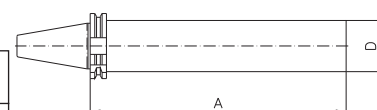
DIN  
69871Form  
AFor producing special tools, shank not hardened, for further machining  
steep-angle taper and collar hardened and ground

Spare parts / accessories: Tightening bolts Prod. No. 20 352... to 20 357...

| SK | D<br>mm | 20 216... |  | A<br>mm |
|----|---------|-----------|--|---------|
| 40 | 63      | 401       |  | 250     |
| 50 | 97      | 501       |  | 315     |



20 216...



## **“Welding and Cutting” catalogue**

-  **Autogenous engineering**
-  **Filler metals**
-  **Arch welding**
-  **Welding equipment**
-  **Welding accessories:**
-  **Extractor Technology**

JIS  
B6339

## 20 286 Milling cutter chucks (Weldon)

JIS  
B6339

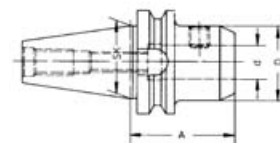
MAS-BT

DIN  
6359G 6,3  
12000  
min<sup>-1</sup>Form  
AD/B

Wodex®



20 286 ...



for clamping tools with flatted cylindrical shank according to  
DIN 1835 B and DIN 6535 HB

**Spare parts / accessories:**

Tightening bolts **Prod. No. 20 360...** to **20 361...**, Clamping screw  
**Prod. No. 20 385...**

| SK | d<br>mm | 20 286... |  | A<br>mm | D<br>mm |
|----|---------|-----------|--|---------|---------|
| 40 | 6       | 001       |  | 50      | 25      |
| 40 | 8       | 002       |  | 50      | 28      |
| 40 | 10      | 003       |  | 63      | 35      |
| 40 | 12      | 004       |  | 63      | 42      |
| 40 | 14      | 005       |  | 63      | 44      |
| 40 | 16      | 006       |  | 63      | 48      |
| 40 | 18      | 007       |  | 63      | 50      |
| 40 | 20      | 008       |  | 63      | 52      |
| 40 | 25      | 010       |  | 90      | 65      |
| 40 | 32      | 011       |  | 100     | 72      |
| 40 | 40      | 012       |  | 120     | 80      |

| SK<br>mm | d<br>mm | 20 286... |  | A<br>mm | D<br>mm |
|----------|---------|-----------|--|---------|---------|
| 50       | 6       | 021       |  | 63      | 25      |
| 50       | 8       | 022       |  | 63      | 28      |
| 50       | 10      | 023       |  | 63      | 35      |
| 50       | 12      | 024       |  | 80      | 42      |
| 50       | 14      | 025       |  | 80      | 44      |
| 50       | 16      | 026       |  | 80      | 48      |
| 50       | 18      | 027       |  | 80      | 50      |
| 50       | 20      | 028       |  | 80      | 52      |
| 50       | 25      | 030       |  | 100     | 65      |
| 50       | 32      | 031       |  | 105     | 72      |
| 50       | 40      | 032       |  | 110     | 80      |

## 20 249 ER collet chucks

JIS  
B6339

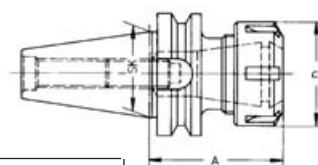
MAS-BT

G 6,3  
12000  
min<sup>-1</sup>Form  
AD/B

Wodex®



20 249 ...



for clamping tools with cylinder shank in collets according to  
DIN 6499, Shape A and B

**Spare parts / accessories:**

Tightening bolt **No. 20 360...** or **20 361...**, Collet to DIN 6499B  
**No. 20 251...** and **Prod. No. 20 253...**, Nut **Prod. No. 20 257...**,  
Key **Prod. No. 20 255...**

| SK | Type  | 20 249... |  | A<br>mm | D<br>mm | Clamping<br>capacity |
|----|-------|-----------|--|---------|---------|----------------------|
| 40 | ER 16 | 041       |  | 63      | 32      | 1 - 10               |
| 40 | ER 25 | 042       |  | 60      | 42      | 2 - 16               |
| 40 | ER 32 | 045       |  | 70      | 50      | 2 - 20               |
| 40 | ER 40 | 043       |  | 80      | 63      | 3 - 26               |
| 50 | ER 32 | 057       |  | 70      | 50      | 2 - 20               |
| 50 | ER 40 | 059       |  | 80      | 63      | 3 - 26               |

## 20 236 OZ collet chucks

JIS  
B6339

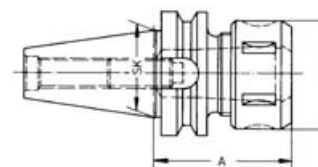
MAS-BT

DIN  
6391G 6,3  
12000  
min<sup>-1</sup>Form  
AD/BForm  
AD

Wodex®



20 236 ...



**Type OZ Ortlieb system**, ball bearing chuck, for clamping tools with cylinder  
shank in collets according to DIN 6388

**Spare parts / accessories:**

Tightening bolts **Prod. No. 20 360...** to **20 361...**, Collets to DIN 6388  
**Prod. No. 20 239...**, Chuck key **Prod. No. 20 242...**, Nut **Prod. No. 20 241...**

| SK  | Clamping<br>capacity | 20 236... |  | A<br>mm | D<br>mm |
|-----|----------------------|-----------|--|---------|---------|
| 40  | 2 - 16               | 042       |  | 70      | 43      |
| 40  | 2 - 25               | 043       |  | 70      | 60      |
| 40  | 3 - 32               | 041       |  | 90      | 72      |
| 50* | 2 - 25               | 053       |  | 85      | 60      |
| 50* | 3 - 32               | 055       |  | 90      | 72      |

\* Type Shape AD



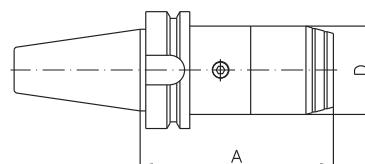
## 20 280 HP plus precision collet chucks

FAHRION<sup>®</sup>  
PRÄZISION

**Use:** for high-precision clamping of tools with cylinder shank as well as cylinder shanks with flatted cylindrical shank according to DIN 1835B and DIN 1835E without concentricity and clamping force loss, collapse range h10



20 280 140 - ...143



- Clamped by means of hexagon key with T-handle - opened by patented ejection mechanism (without tappet)
- Up to twice the holding forces of Hydrodehn hydraulic chucks - no tiresome checking of the clamping force before each use  
No failures due to hydraulic components or leakage
- Internal coolant supply up to 80 bar. Inside tight against dirt
- Patented wedge-actuated clamping mechanism
- Constant concentricity and repeatability 3 µm

**Spare parts / accessories:** Tightening bolts **Prod. No. 20 360...** to **20 361...**, HP collet chucks **Prod. No. 20 281...**, HP sealing discs **Prod. No. 20 283...**

| SK | Clamping capacity mm | 20 280... |  | D mm | A mm | Collet chuck |
|----|----------------------|-----------|--|------|------|--------------|
| 40 | 1-10                 | 140       |  | 28   | 75   | 426E-HP+     |
| 40 | 2-20                 | 143       |  | 48   | 105  | 470E-HP+     |

Other types available on request, including clamping capacity 2-16 and 4-26 mm  
SK 50: G 6.3 (12000 min<sup>-1</sup>)

## 20 069 Precision drill chucks

WTE



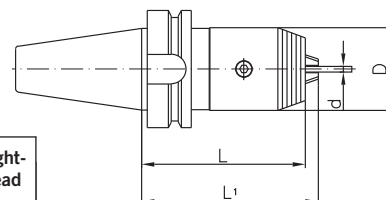
Made in Germany, maximum precision & accuracy. For right and left-hand rotation, very short design, high clamping force and concentricity accuracy max. 0.03 mm, short clamping and resetting/retooling times. Unbalanced can be used up to 7000 rpm.

If used > 7000 rpm - 35000 rpm the drill chucks must be additionally balanced in accordance with the balance classes. Max. all. speed up to 35.000 rpm.

**Spare parts / accessories:** Tightening bolts **Prod. No. 20 360...** to **20 361...**



20 069...



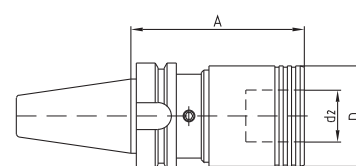
| SK | Capacity d mm | 20 069... |  | D mm | L mm | L1 mm | Internal tightening thread M |
|----|---------------|-----------|--|------|------|-------|------------------------------|
| 40 | 0.3 - 8       | 408       |  | 36   | 78   | 81    | 16                           |
| 40 | 0.5 - 13      | 413       |  | 50   | 98   | 104   | 16                           |
| 40 | 2.5 - 16      | 416       |  | 57   | 98   | 109   | 16                           |
| 50 | 0.5 - 13      | 513       |  | 50   | 110  | 116   | 24                           |
| 50 | 2.5 - 16      | 516       |  | 57   | 110  | 121   | 24                           |

Further explanations are given on page 408

## 21 420 Quick change tapping chucks

Wodex<sup>®</sup>

21 420...



**Spare parts / accessories:** Tightening bolts **Prod. No. 20 360...** to **20 361...**, quick-change inserts **Prod. No. 21 430...** to **21 432...**

| SK x Thread Ø | Inserts Size | 21 420... |  | Length adjustment compression/ tension mm | d2 mm | D mm | Length A mm |
|---------------|--------------|-----------|--|-------------------------------------------|-------|------|-------------|
| 40 x M 3-M14  | 1            | 003       |  | 7/7                                       | 19    | 38   | 67          |
| 40 x M 5-M22  | 2            | 006       |  | 12/12                                     | 31    | 54   | 93          |
| 40 x M14-M36  | 3            | 009       |  | 20.0/20.0                                 | 48    | 78   | 136         |
| 50 x M 3-M14  | 1            | 011       |  | 7/7                                       | 19    | 38   | 82          |
| 50 x M 5-M22  | 2            | 013       |  | 12/12                                     | 31    | 54   | 100         |
| 50 x M14-M36  | 3            | 016       |  | 17.5/17.5                                 | 48    | 78   | 142         |

Further explanations are given on page 391

JIS  
B6339

## 20 300 Combination milling cutter arbors

Wodex®

JIS  
B6339

MAS-BT

DIN  
6358

≥ 6 μm

G 6,3  
12000  
min<sup>-1</sup>Form  
AD

for mounting plain milling cutters and shell end mills or inserted tooth cutters for mounting holes with longitudinal and transverse slot. With milling cutter tightening screw, driver ring and featherkey.

## Spare parts / accessories:

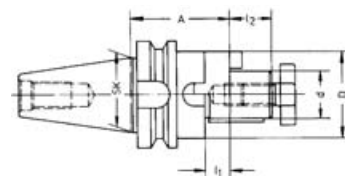
Tightening bolts Prod. No. 20 360... to 20 360...

Driver ring Prod. No. 20 372...; milling arbor screw Prod. No. 20 370...;

Key Prod. No. 20 367... and 20 368...



20 300 ...



| SK | d<br>mm | 20 300... | A<br>mm | D<br>mm | I1<br>mm | I2<br>mm |
|----|---------|-----------|---------|---------|----------|----------|
| 40 | 16      | 416       | 55      | 32      | 10       | 17       |
| 40 | 22      | 422       | 55      | 40      | 12       | 19       |
| 40 | 27      | 427       | 55      | 48      | 12       | 21       |
| 40 | 32      | 432       | 60      | 58      | 14       | 24       |
| 40 | 40      | 440       | 60      | 70      | 14       | 27       |
| 50 | 16      | 516       | 70      | 32      | 10       | 17       |
| 50 | 22      | 522       | 70      | 40      | 12       | 19       |
| 50 | 27      | 527       | 70      | 48      | 12       | 21       |
| 50 | 32      | 532       | 70      | 58      | 14       | 24       |
| 50 | 40      | 540       | 70      | 70      | 14       | 27       |

## 20 314 Transverse slot milling cutter arbors

Wodex®

JIS  
B6339

MAS-BT

DIN  
6357

≥ 6 μm

G 6,3  
12000  
min<sup>-1</sup>Form  
AD/B

## Spare parts / accessories:

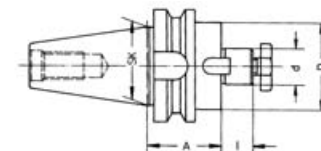
Tightening bolts Prod. No. 20 360... to 20 361...

Driver ring Prod. No. 20 372...; milling arbor screw Prod. No. 20 370...;

Key Prod. No. 20 367...; and Prod. No. 20 368...



20 314 ...



| SK | d<br>mm | 20 314... | A<br>mm | D<br>mm | I<br>mm |
|----|---------|-----------|---------|---------|---------|
| 40 | 16      | 416       | 40      | 38      | 17      |
| 40 | 22      | 422       | 40      | 48      | 19      |
| 40 | 27      | 427       | 40      | 58      | 21      |
| 40 | 32      | 432       | 50      | 78      | 24      |
| 40 | 40      | 440       | 50      | 88      | 27      |
| 50 | 22      | 522       | 55      | 48      | 19      |
| 50 | 27      | 527       | 55      | 58      | 21      |
| 50 | 32      | 532       | 55      | 78      | 24      |
| 50 | 40      | 540       | 55      | 88      | 27      |

Further explanations are given on page 392

## 20 208 Adapter sleeve for MK with tangs

Wodex®

JIS  
B6339

MAS-BT

≥ 6 μm

Form  
ADForm  
AD/B

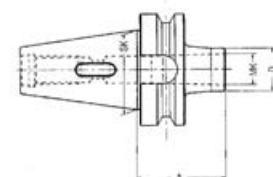
for tools with Morse taper and tangs according to DIN 228-B

## Spare parts / accessories:

Tightening bolts Prod. No. 20 360... to 20 361...



20 208 ...



| SK  | MK | 20 208... | A<br>mm | D<br>mm |
|-----|----|-----------|---------|---------|
| 40  | 1  | 041       | 50      | 25      |
| 40  | 2  | 042       | 50      | 32      |
| 40  | 3  | 043       | 70      | 40      |
| 40  | 4  | 044       | 95      | 48      |
| 50* | 1  | 051       | 45      | 25      |
| 50* | 2  | 052       | 60      | 32      |
| 50* | 3  | 053       | 65      | 40      |
| 50* | 4  | 054       | 95      | 48      |

\* Type Shape AD



## 20 218 Adapter sleeve for MK with tightening thread *Wodex*

JIS  
B6339

MAS-BT

DIN  
6364

G 6,3  
12000  
min<sup>-1</sup>Form  
A

for tools with **Morse taper and tightening thread** according to  
DIN 6364, with integrated hexagon socket head screw

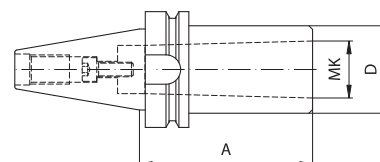
**Spare parts / accessories:**

Tightening bolts **Prod. No. 20 360...** to **20 361...**

| SK | MK | 20 218... |  | A<br>mm | D<br>mm |
|----|----|-----------|--|---------|---------|
| 40 | 1  | 041       |  | 50      | 25      |
| 40 | 2  | 042       |  | 50      | 32      |
| 40 | 3  | 043       |  | 70      | 40      |
| 40 | 4  | 044       |  | 95      | 48      |
| 50 | 1  | 051       |  | 45      | 25      |
| 50 | 2  | 052       |  | 60      | 32      |
| 50 | 3  | 053       |  | 65      | 40      |
| 50 | 4  | 054       |  | 70      | 48      |



20 218...



## 20 216 Boring bar blanks

JIS  
B6339

MAS-BT

Form  
A

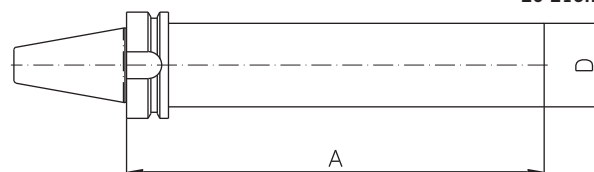
For producing special tools, shank not hardened, for further  
machining steep-angle taper and collar hardened and ground

**Spare parts / accessories:**

Tightening bolts **Prod. No. 20 360...** to **20 361...**

*Wodex*

20 216...



| SK    | D<br>mm | 20 216... |  | A<br>mm |
|-------|---------|-----------|--|---------|
| BT 40 | 63      | 040       |  | 250     |
| BT 50 | 97      | 050       |  | 315     |

DIN  
2080**20 284 Milling cutter chucks (Weldon)**DIN  
2080DIN  
6359**Wodex®**

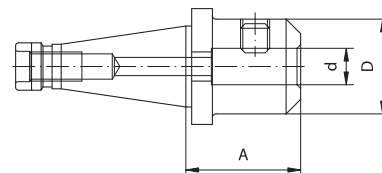
for clamping tools with flatted cylindrical shank according to  
DIN 1835 B and DIN 6535 HB

Spare parts / accessories:

Clamping screw **Prod. No. 20 385...**



20 284 ...



| SK | d<br>mm | 20 284... |  | A<br>mm | D<br>mm |
|----|---------|-----------|--|---------|---------|
| 40 | 6       | 101       |  | 50      | 25      |
| 40 | 8       | 102       |  | 50      | 28      |
| 40 | 10      | 103       |  | 50      | 35      |
| 40 | 12      | 104       |  | 50      | 42      |
| 40 | 14      | 105       |  | 50      | 44      |
| 40 | 16      | 106       |  | 63      | 48      |
| 40 | 18      | 107       |  | 63      | 50      |
| 40 | 20      | 108       |  | 63      | 52      |
| 40 | 25      | 110       |  | 80      | 65      |
| 40 | 32      | 111       |  | 80      | 72      |

| SK<br>mm | d<br>mm | 20 284... |  | A<br>mm | D<br>mm |
|----------|---------|-----------|--|---------|---------|
| 50       | 6       | 121       |  | 63      | 25      |
| 50       | 8       | 122       |  | 63      | 28      |
| 50       | 10      | 123       |  | 63      | 35      |
| 50       | 12      | 124       |  | 63      | 42      |
| 50       | 14      | 125       |  | 63      | 44      |
| 50       | 16      | 126       |  | 63      | 48      |
| 50       | 18      | 127       |  | 63      | 50      |
| 50       | 20      | 128       |  | 63      | 52      |
| 50       | 25      | 130       |  | 80      | 65      |
| 50       | 32      | 131       |  | 80      | 72      |

**20 245 ER collet chucks**DIN  
2080**Wodex®**

for clamping tools with cylindrical shank in collets according to  
DIN 6499, Shape A and B

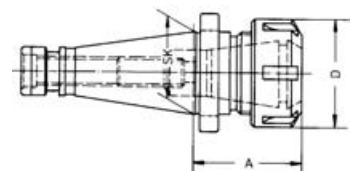
Spare parts / accessories:

Collet chucks DIN 6499B **Prod. No. 20 251...** to **20 253...**;

Chuck key **Prod. No. 20 255...**, Nut **Prod. No. 20 257...**



20 245 ...



| SK | Type  | 20 245... |  | A<br>mm | D<br>mm | Clamping<br>capacity |
|----|-------|-----------|--|---------|---------|----------------------|
| 40 | ER 32 | 042       |  | 50      | 50      | 2 - 20               |
| 40 | ER 40 | 043       |  | 80      | 63      | 3 - 26               |

**20 232 OZ collet chucks**DIN  
2080DIN  
6391**Wodex®**

**Type OZ Ortlieb system**, ball bearing: chuck, for clamping tools with  
cylinder shank in collets according to DIN 6388 Shape A and B

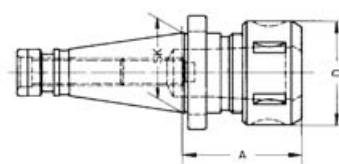
Spare parts / accessories:

Collet chucks DIN 6388B **Prod. No. 20 239...**;

Chuck key **Prod. No. 20 242...**, Nut **Prod. No. 20 241...**



20 232 ...



| SK | Clamping<br>capacity mm | 20 232... |  | A<br>mm | D<br>mm |
|----|-------------------------|-----------|--|---------|---------|
| 40 | 2 - 25                  | 042       |  | 66      | 60      |
| 50 | 2 - 25                  | 052       |  | 71      | 60      |



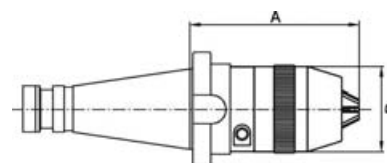
## 20 055 Quick-action drill chucks

DIN  
2080Form  
A

Wodex®



20 055 ...



## Shank type to DIN 2080

made from hardened individual components,  
high precision and concentricity accuracy (0.05 mm),  
clamping safety independent of direction of rotation,  
high holding torque,  
max. speed 8000 min<sup>-2</sup>,  
without coolant supply.

The clamping is lateral, by means of a hexagon socket  
T-handle key

| SK | Capacity<br>mm | 20 055... |  | D<br>mm | L<br>mm | L1<br>mm |
|----|----------------|-----------|--|---------|---------|----------|
| 40 | 0.5 - 13       | 413       |  | 50      | 83      | 89       |
| 40 | 2.5 - 16       | 416       |  | 57      | 83      | 94       |

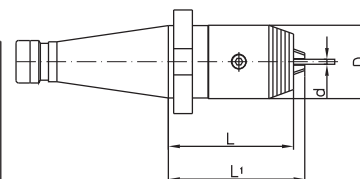
## 20 066 Precision drill chucks

DIN  
2080Form  
A

WTE



20 066 ...



## with annular slot

short, stable design, high clamping force through key actuation, high  
concentricity

| SK | Capacity<br>d<br>mm | 20 066... |  | D<br>mm | L<br>mm | L1<br>mm |
|----|---------------------|-----------|--|---------|---------|----------|
| 40 | 0.3 - 8             | 408       |  | 36      | 62      | 65       |
| 40 | 0.5 - 13            | 413       |  | 50      | 83      | 89       |
| 40 | 2.5 - 16            | 416       |  | 57      | 83      | 94       |
| 50 | 0.5 - 13            | 513       |  | 50      | 100     | 106      |
| 50 | 2.5 - 16            | 516       |  | 57      | 100     | 111      |

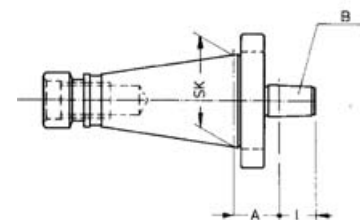
## 20 106 Drill chuck holder

DIN  
2080DIN  
238Form  
A

Wodex®



20 106 ...



for mounting tools with drill taper mounting

| SK | B  | 20 106... |  | A<br>mm | I<br>mm |
|----|----|-----------|--|---------|---------|
| 40 | 16 | 005       |  | 17      | 24      |
| 40 | 18 | 008       |  | 17      | 32      |
| 50 | 16 | 010       |  | 20      | 24      |
| 50 | 18 | 018       |  | 20      | 32      |

DIN  
2080

## 21 408 Quick change tapping chucks

Wodex®

DIN  
2080Form  
A

with annular slot

Spare parts / accessories:

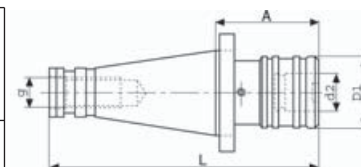
Quick-change inserts Prod. No. 21 430... to 21 432...



21 408 006

| SK x thread Ø   | 21 408... |  | Inserts<br>Size | Length adjustment<br>compression/<br>tension<br>mm | d2<br>mm | D1<br>mm | A<br>mm |
|-----------------|-----------|--|-----------------|----------------------------------------------------|----------|----------|---------|
| 40 x M 3 - M 14 | 003       |  | 1               | 7/7                                                | 19       | 38       | 61      |
| 40 x M 5 - M 22 | 006       |  | 2               | 12/12                                              | 31       | 54       | 99      |
| 40 x M14 - M 36 | 009       |  | 3               | 17.5/17.5                                          | 48       | 78       | 130     |
| 50 x M 3 - M 14 | 011       |  | 1               | 7/7                                                | 19       | 38       | 61      |
| 50 x M 5 - M 22 | 013       |  | 2               | 12/12                                              | 31       | 54       | 82      |
| 50 x M14 - M 36 | 016       |  | 3               | 17.5/17.5                                          | 48       | 78       | 131     |

Further explanations are given on page 391



## 20 297 Combination milling cutter arbors

Wodex®

DIN  
2080DIN  
6358Form  
A

for mounting plain milling cutters and shell end mills or inserted tooth cutters for mounting holes with longitudinal and transverse slot.

With milling cutter tightening screw, driver ring and featherkey.

Spare parts / accessories:

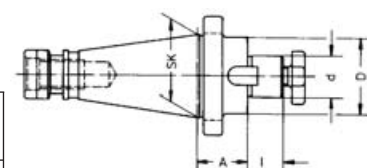
Driver ring Prod. No. 20 372...; Milling arbor screw Prod. No. 20 370...;

Key Prod. No. 20 367... and Prod. No. 20 368...



20 297...

| SK | d<br>mm | 20 297... |  | A<br>mm | D<br>mm | I<br>mm |
|----|---------|-----------|--|---------|---------|---------|
| 40 | 16      | 416       |  | 52      | 32      | 17      |
| 40 | 22      | 422       |  | 52      | 40      | 19      |
| 40 | 27      | 427       |  | 52      | 48      | 21      |
| 40 | 32      | 432       |  | 52      | 58      | 24      |
| 40 | 40      | 440       |  | 52      | 70      | 27      |
| 50 | 16      | 516       |  | 55      | 32      | 17      |
| 50 | 22      | 522       |  | 55      | 40      | 19      |
| 50 | 27      | 527       |  | 55      | 48      | 21      |
| 50 | 32      | 532       |  | 55      | 58      | 24      |
| 50 | 40      | 540       |  | 55      | 70      | 27      |



## 20 310 Transverse slot milling cutter arbors

Wodex®

DIN  
2080DIN  
6357Form  
A

for mounting inserted tooth cutters and milling cutters with transverse slot. With screwed on torque bushes and tightening screw. With additional 4 clamping screws from D=40mm for mounting inserted tooth cutters with tool fixing according to DIN 1830

Spare parts / accessories:

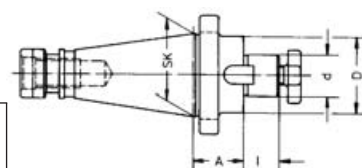
Driver ring Prod. No. 20 372...; Milling arbor screw Prod. No. 20 370...;

Key Prod. No. 20 367... and 20 368...



20 310...

| SK | d<br>mm | 20 310... |  | A<br>mm | D<br>mm | I<br>mm |
|----|---------|-----------|--|---------|---------|---------|
| 40 | 16      | 416       |  | 30      | 38      | 17      |
| 40 | 22      | 422       |  | 30      | 48      | 19      |
| 40 | 27      | 427       |  | 30      | 58      | 21      |
| 40 | 32      | 432       |  | 30      | 78      | 24      |
| 40 | 40      | 440       |  | 30      | 88      | 27      |
| 50 | 22      | 522       |  | 35      | 48      | 19      |
| 50 | 27      | 527       |  | 35      | 58      | 21      |
| 50 | 32      | 532       |  | 40      | 78      | 24      |
| 50 | 40      | 540       |  | 33      | 88      | 27      |





## 20 202 Adapter sleeve for MK with tangs

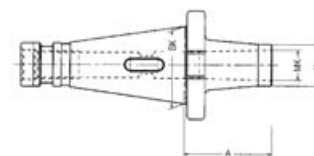
Wodex®

DIN  
2080DIN  
6535Form  
Afor tools with **Morse taper and tangs** according to DIN 228-B

| SK | MK | 20 202... |  | A<br>mm | D<br>mm |
|----|----|-----------|--|---------|---------|
| 40 | 1  | 041       |  | 50      | 25      |
| 40 | 2  | 042       |  | 50      | 32      |
| 40 | 3  | 043       |  | 65      | 40      |
| 40 | 4  | 044       |  | 95      | 48      |
| 50 | 1  | 051       |  | 45      | 25      |
| 50 | 2  | 052       |  | 60      | 32      |
| 50 | 3  | 053       |  | 65      | 40      |
| 50 | 4  | 054       |  | 70      | 48      |
| 50 | 5  | 055       |  | 105     | 63      |



20 202...



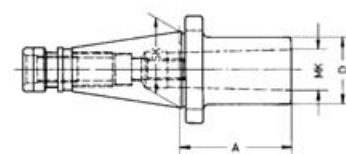
## 20 212 Adapter sleeve for MK with tightening thread Wodex®

DIN  
2080DIN  
6364Form  
Afor tools **with Morse taper and tightening thread** according to DIN 6364,  
with integrated hexagon socket head screw

| SK | MK | 20 212... |  | A<br>mm | D<br>mm |
|----|----|-----------|--|---------|---------|
| 40 | 1  | 041       |  | 50      | 25      |
| 40 | 2  | 042       |  | 50      | 32      |
| 40 | 3  | 043       |  | 65      | 40      |
| 40 | 4  | 044       |  | 95      | 48      |
| 50 | 1  | 051       |  | 60      | 25      |
| 50 | 2  | 052       |  | 60      | 32      |
| 50 | 3  | 053       |  | 65      | 40      |
| 50 | 4  | 054       |  | 80      | 63      |
| 50 | 5  | 055       |  | 120     | 63      |



20 212...



## 20 216 Boring bar blanks

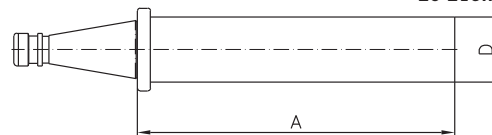
Wodex®

DIN  
2080Form  
AFor producing special tools, shank not hardened, for further  
machining steep-angle taper and collar hardened and ground

| SK | D<br>mm | 20 216... |  | A<br>mm |
|----|---------|-----------|--|---------|
| 40 | 63      | 240       |  | 250     |
| 50 | 97      | 250       |  | 315     |



20 216...



## 20 230 OZ collet chuck set

Wodex®

DIN  
2080in plastic case, for mounting tools with cylinder shank, made of  
special steel, double taper, ground, both sides slotted, collet chucks  
according to DIN 6388, Type 444 E

| Shank | Number of collet<br>chucks | 20 230... |  | Clamping capacity<br>mm |
|-------|----------------------------|-----------|--|-------------------------|
| MK 3  | 15                         | 315       |  | 3 - 25                  |
| SK 40 | 15                         | 415       |  | 3 - 25                  |



20 230 ...

DIN  
69893  
Form A

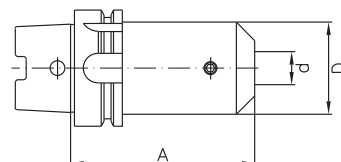
## 20 705 Milling cutter chucks (Weldon)

DIN  
69893  
Form ADIN  
6359G 6,3  
12000  
min<sup>-1</sup>

Wodex®



20 705...



| HSK-A | d<br>mm | 20 705... |  | A<br>mm | D<br>mm |
|-------|---------|-----------|--|---------|---------|
| 63    | 6       | 050       |  | 65      | 25      |
| 63    | 6       | 053       |  | 100     | 25      |
| 63    | 6       | 054       |  | 160     | 25      |
| 63    | 8       | 056       |  | 65      | 28      |
| 63    | 8       | 059       |  | 100     | 28      |
| 63    | 8       | 060       |  | 160     | 28      |
| 63    | 10      | 062       |  | 65      | 35      |
| 63    | 10      | 065       |  | 100     | 35      |
| 63    | 10      | 067       |  | 160     | 35      |
| 63    | 12      | 068       |  | 80      | 42      |
| 63    | 12      | 069       |  | 160     | 42      |
| 63    | 14      | 074       |  | 80      | 44      |
| 63    | 14      | 076       |  | 160     | 44      |
| 63    | 16      | 080       |  | 80      | 48      |
| 63    | 16      | 081       |  | 160     | 48      |
| 63    | 18      | 086       |  | 80      | 50      |
| 63    | 18      | 088       |  | 160     | 50      |

| HSK-A | d<br>mm | 20 705... |  | A<br>mm | D<br>mm |
|-------|---------|-----------|--|---------|---------|
| 63    | 20      | 092       |  | 80      | 52      |
| 63    | 20      | 093       |  | 160     | 52      |
| 63    | 25      | 094       |  | 110     | 65      |
| 63    | 32      | 097       |  | 110     | 72      |
| 63    | 40      | 100       |  | 125     | 80      |
| 100   | 6       | 206       |  | 80      | 25      |
| 100   | 8       | 208       |  | 80      | 28      |
| 100   | 10      | 210       |  | 80      | 35      |
| 100   | 12      | 212       |  | 80      | 42      |
| 100   | 14      | 214       |  | 80      | 44      |
| 100   | 16      | 216       |  | 100     | 48      |
| 100   | 18      | 218       |  | 100     | 50      |
| 100   | 20      | 220       |  | 100     | 52      |
| 100   | 25      | 225       |  | 100     | 65      |
| 100   | 32      | 232       |  | 100     | 72      |
| 100   | 40      | 240       |  | 105     | 80      |

## 20 706 Milling cutter chucks with cooling channels (Weldon)

DIN  
69893  
Form ADIN  
6359G 6,3  
12000  
min<sup>-1</sup>

Wodex®

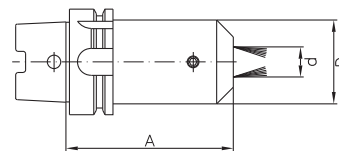


20 706...

with front face coolant outlet, for clamping tools with flatted cylindrical shank according to DIN 1835 B and DIN 6535 HB

Spare parts / accessories: Clamping screw Prod. No. 20 385...

| HSK-A | d<br>mm | 20 706... |  | A<br>mm | D<br>mm |
|-------|---------|-----------|--|---------|---------|
| 63    | 6       | 050       |  | 65      | 25      |
| 63    | 8       | 056       |  | 65      | 28      |
| 63    | 10      | 062       |  | 65      | 35      |
| 63    | 12      | 068       |  | 80      | 42      |
| 63    | 14      | 074       |  | 80      | 44      |
| 63    | 16      | 080       |  | 80      | 48      |
| 63    | 18      | 086       |  | 80      | 50      |
| 63    | 20      | 092       |  | 80      | 52      |
| 63    | 25      | 094       |  | 110     | 65      |
| 63    | 32      | 097       |  | 110     | 72      |
| 63    | 40      | 100       |  | 125     | 80      |
| 100   | 6       | 206       |  | 80      | 25      |
| 100   | 8       | 208       |  | 80      | 28      |
| 100   | 10      | 210       |  | 80      | 35      |
| 100   | 12      | 212       |  | 80      | 42      |
| 100   | 14      | 214       |  | 80      | 44      |
| 100   | 16      | 216       |  | 100     | 48      |
| 100   | 18      | 218       |  | 100     | 50      |
| 100   | 20      | 220       |  | 100     | 52      |
| 100   | 25      | 225       |  | 100     | 65      |
| 100   | 32      | 232       |  | 100     | 72      |
| 100   | 40      | 240       |  | 105     | 80      |



## 20 708 Milling cutter chucks (Whistle notch)

Wodex®



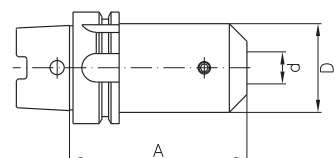
for clamping tools with flatted cylindrical shank according to DIN 1835 E and DIN 6535 HE

Spare parts / Accessories: Clamping screw Prod. No. 20 385...

| HSK-A | d<br>mm | 20 708... |  | A<br>mm | D<br>mm |
|-------|---------|-----------|--|---------|---------|
| 63    | 6       | 050       |  | 80      | 25      |
| 63    | 8       | 056       |  | 80      | 28      |
| 63    | 10      | 062       |  | 80      | 35      |
| 63    | 12      | 068       |  | 90      | 42      |
| 63    | 14      | 074       |  | 90      | 44      |
| 63    | 16      | 080       |  | 100     | 48      |
| 63    | 18      | 086       |  | 100     | 50      |
| 63    | 20      | 092       |  | 100     | 52      |
| 63    | 25      | 094       |  | 110     | 65      |
| 63    | 32      | 097       |  | 110     | 72      |
| 100   | 6       | 206       |  | 90      | 25      |
| 100   | 8       | 208       |  | 90      | 28      |
| 100   | 10      | 210       |  | 90      | 35      |
| 100   | 12      | 212       |  | 100     | 42      |
| 100   | 14      | 214       |  | 100     | 44      |
| 100   | 16      | 216       |  | 100     | 48      |
| 100   | 18      | 218       |  | 100     | 50      |
| 100   | 20      | 220       |  | 110     | 52      |
| 100   | 25      | 225       |  | 120     | 65      |
| 100   | 32      | 232       |  | 120     | 72      |
| 100   | 40      | 240       |  | 120     | 80      |



20 708...



## 20 712 ER chucks

Wodex®



for clamping cylinder shanks in collets according to DIN 6499, Shape A and B.

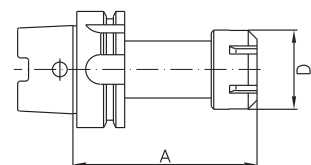
Spare parts / Accessories: Collet chucks DIN 6499B Prod. No. 20 251... to 20 253...;

Chuck key Prod. No. 20 255..., Nut Prod. No. 20 257...

| HSK-A | Type | 20 712... |  | A<br>mm | D<br>mm | Clamping capacity<br>mm |
|-------|------|-----------|--|---------|---------|-------------------------|
| 63    | ER16 | 030       |  | 100     | 32      | 1 - 10                  |
| 63    | ER16 | 032       |  | 160     | 32      | 1 - 10                  |
| 63    | ER25 | 034       |  | 100     | 42      | 2 - 16                  |
| 63    | ER25 | 038       |  | 160     | 42      | 2 - 16                  |
| 63    | ER32 | 042       |  | 100     | 50      | 2 - 20                  |
| 63    | ER32 | 046       |  | 160     | 50      | 2 - 20                  |
| 63    | ER40 | 050       |  | 120     | 63      | 3 - 26                  |
| 63    | ER40 | 054       |  | 160     | 63      | 3 - 26                  |
| 100   | ER25 | 116       |  | 100     | 42      | 2 - 16                  |
| 100   | ER32 | 120       |  | 100     | 50      | 2 - 20                  |
| 100   | ER40 | 126       |  | 120     | 63      | 3 - 26                  |



20 712...



## 20 715 OZ chucks

Wodex®



Type OZ Ortlieb system, ball bearing chuck, for clamping tools with cylinder shank in collets according to DIN 6388 Shape A and B

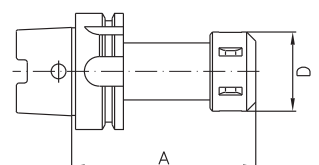
Spare parts / accessories: Collet chucks DIN 6388B Prod. No. 20 239...;

Chuck key Prod. No. 20 242..., Nut Prod. No. 20 241...

| HSK-A | Clamping capacity mm | 20 715... |  | A<br>mm | D<br>mm |
|-------|----------------------|-----------|--|---------|---------|
| 63    | 2 - 16               | 034       |  | 100     | 43      |
| 63    | 2 - 25               | 036       |  | 100     | 60      |
| 63    | 3 - 32               | 052       |  | 120     | 72      |
| 100   | 2 - 16               | 116       |  | 110     | 43      |
| 100   | 2 - 25               | 125       |  | 120     | 60      |
| 100   | 3 - 32               | 132       |  | 130     | 72      |



20 715...



## ER Centro P precision collet chucks

- mechanical, high-precision collet chuck for universal use, from roughing through to finishing
- ideal for drilling, milling, reaming and tapping (Important: Tap collet 20 752... cannot be used!)
- up to 100% higher holding forces than conventional collet chucks
- constant system accuracy of 3 µm and 6 µm depending on the FAHRION GER-HP or GER collet used
- the large opening enables tools to be clamped to the optimum unsupported length
- collapse range according to ISO tolerance range h10, therefore optimum concentricity and longer tool lives
- cost-effective precision clamping system alternative to Hydrodehn hydraulic shrink chucks

### 20 272 ER Centro P precision collet chucks

FAHRION®  
PRAZISION

for standard and clamping nuts with sealing discs

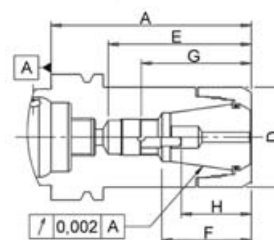
**Scope of supply:** Basic body **without clamping nut, without stop**

**Spare parts / accessories:**

Collets **Prod. No. 20 281...**, Clamping nuts **Prod. No. 20 235...**, adjustable stop screws **Prod. No. 20 237...**



20 272...



| HSK | Clamping capacity<br>mm | 20 272... |  | A<br>mm | D<br>mm | max. insertion depth<br>without stop |           | Tool insertion depth       |                            | For Collet chucks /<br>Clamping nut size<br>mm |
|-----|-------------------------|-----------|--|---------|---------|--------------------------------------|-----------|----------------------------|----------------------------|------------------------------------------------|
|     |                         |           |  |         |         | E**<br>mm                            | F**<br>mm | Shape U<br>G min-max<br>mm | Shape W<br>H min-max<br>mm |                                                |
| A63 | 1 - 10                  | 001       |  | 100     | 30      | 76                                   | -         | 28 - 45                    | 16 - 31                    | HPC 16 · HPC 16-DI                             |
| A63 | 1 - 10                  | 003       |  | 160     | 30      | 106                                  | -         | 28 - 45                    | 16 - 31                    | HPC 16 · HPC 16-DI                             |
| A63 | 1 - 10                  | 005       |  | 200     | 30      | 136                                  | -         | 28 - 45                    | 16 - 31                    | HPC 16 · HPC 16-DI                             |
| A63 | 2 - 16                  | 007       |  | 100     | 40      | 60                                   | -         | 35 - 55                    | 20 - 37                    | HPC 25 · HPC 25-DI                             |
| A63 | 2 - 16                  | 009       |  | 160     | 40      | 128                                  | -         | 35 - 60                    | 20 - 42                    | HPC 25 · HPC 25-DI                             |
| A63 | 2 - 16                  | 011       |  | 200     | 40      | 148                                  | -         | 35 - 60                    | 20 - 42                    | HPC 25 · HPC 25-DI                             |
| A63 | 2 - 20                  | 013       |  | 70      | 50      | -                                    | 46        | -                          | -                          | HPC 32 · HPC 32-DI                             |
| A63 | 2 - 20                  | 015       |  | 100     | 50      | 71                                   | 45        | 41 - 66                    | 26 - 48                    | HPC 32 · HPC 32-DI                             |
| A63 | 2 - 20                  | 017       |  | 160     | 50      | 129                                  | 55        | 52 - 70                    | 26 - 52                    | HPC 32 · HPC 32-DI                             |

\*\* Insertion depth dimension E for tool shanks ≤ 16 mm and dimension F > 16 mm

### 20 280 HP plus precision collet chucks

FAHRION®  
PRAZISION

**Use:** for high-precision clamping of tools with cylinder shank as well as cylinder shanks with flatted cylindrical shank according to DIN 1835B and DIN 1835E without concentricity and clamping force loss, collapse range h10



- Clamped by means of hexagon key with T-handle - chuck released by patented ejection mechanism (without tappet)
- Up to twice the holding forces of Hydrodehn hydraulic chucks - no tiresome checking of the clamping force before each use  
No failures due to hydraulic components or leakage
- Internal coolant supply up to 80 bar. Inside tight against dirt
- Patented wedge-actuated clamping mechanism
- Constant concentricity and repeatability 3 µm

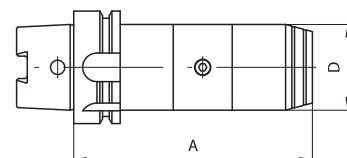
**Spare parts / accessories:**

HP collet chucks **Prod. No. 20 281...**,

HP sealing discs **Prod. No. 20 283...**



20 280...



| HSK-A | Clamping capacity mm | 20 280... |  | D<br>mm | A<br>mm | Collet chuck   |
|-------|----------------------|-----------|--|---------|---------|----------------|
| 63    | 1-10                 | 120       |  | 28      | 80      | 426E GER16-HP+ |
| 63    | 1-10                 | 121       |  | 28      | 160     | 426E GER16-HP+ |
| 63    | 2-20                 | 126       |  | 48      | 105     | 470E GER32-HP+ |

Other types available on request, including clamping capacity 2-16 and 4-26 mm

## 20 277 Hydraulic expansion chucks

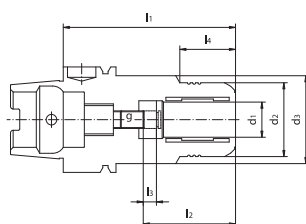


Mounting shank HSK-A for automatic change, short, slender type

Spare parts / accessories:

Adapter / reducer bushings slotted Prod. No. 20 279...,

Cleaning brush Prod. No. 20 278...



20 277 ...

| HSK-A | d1<br>mm | 20 277... |  | d2<br>mm | d3<br>mm | l1<br>mm | l2<br>mm | l3<br>mm | l4<br>mm | g<br>mm |
|-------|----------|-----------|--|----------|----------|----------|----------|----------|----------|---------|
| 63    | 6        | 806       |  | 26       | 50       | 70       | 37       | 10       | 24       | M5      |
| 63    | 8        | 808       |  | 28       | 50       | 70       | 37       | 10       | 24       | M6      |
| 63    | 10       | 810       |  | 30       | 50       | 80       | 41       | 10       | 32       | M6      |
| 63    | 12       | 812       |  | 32       | 50       | 85       | 46       | 10       | 40       | M10     |
| 63    | 16       | 816       |  | 38       | 50       | 90       | 49       | 10       | 45       | M10     |
| 63    | 20       | 820       |  | 42       | 50       | 90       | 51       | 10       | 48       | M10     |

Other dimensions available on request

Further explanations are given on page 388

## 20 263 Shrink chucks



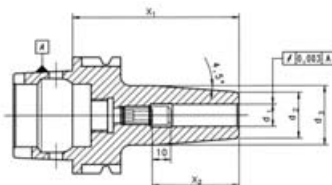
Mounting shank HSK-A for automatic change

Spare parts / accessories:

Shrink fit extensions Prod. No. 20 760...,

Cleaning brush

Prod. No. 20 278...



20 263...

| HSK-A | d1<br>mm | 20 263... |  | d2<br>mm | d3<br>mm | x1<br>mm | x2<br>mm |
|-------|----------|-----------|--|----------|----------|----------|----------|
| 63    | 3        | 030       |  | 15       | 20       | 80       | 20       |
| 63    | 4        | 033       |  | 15       | 20       | 80       | 20       |
| 63    | 5        | 036       |  | 15       | 20       | 80       | 25       |
| 63    | 6        | 039       |  | 21       | 27       | 80       | 36       |
| 63    | 6        | 042       |  | 21       | 27       | 120      | 36       |
| 63    | 6        | 045       |  | 21       | 27       | 160      | 36       |
| 63    | 8        | 048       |  | 21       | 27       | 80       | 36       |
| 63    | 8        | 051       |  | 21       | 27       | 120      | 36       |
| 63    | 8        | 054       |  | 21       | 27       | 160      | 36       |
| 63    | 10       | 057       |  | 24       | 32       | 85       | 42       |
| 63    | 10       | 060       |  | 24       | 32       | 120      | 42       |
| 63    | 10       | 063       |  | 24       | 32       | 160      | 42       |
| 63    | 12       | 066       |  | 24       | 32       | 90       | 47       |
| 63    | 12       | 069       |  | 24       | 32       | 120      | 47       |
| 63    | 12       | 072       |  | 24       | 32       | 160      | 47       |
| 63    | 14       | 075       |  | 27       | 34       | 90       | 47       |
| 63    | 14       | 078       |  | 27       | 34       | 120      | 47       |
| 63    | 14       | 081       |  | 27       | 34       | 160      | 47       |
| 63    | 16       | 084       |  | 27       | 34       | 95       | 50       |
| 63    | 16       | 087       |  | 27       | 34       | 120      | 50       |
| 63    | 16       | 090       |  | 27       | 34       | 160      | 50       |
| 63    | 18       | 093       |  | 33       | 42       | 95       | 50       |
| 63    | 18       | 096       |  | 33       | 42       | 120      | 50       |
| 63    | 18       | 099       |  | 33       | 42       | 160      | 50       |
| 63    | 20       | 102       |  | 33       | 42       | 100      | 52       |
| 63    | 20       | 105       |  | 33       | 42       | 160      | 52       |
| 63    | 25       | 108       |  | 44       | 53       | 115      | 58       |
| 63    | 25       | 111       |  | 44       | 53       | 160      | 58       |
| 63    | 32       | 114       |  | 44       | 53       | 120      | 58       |

| HSK-A | d1<br>mm | 20 263... |  | d2<br>mm | d3<br>mm | x1<br>mm | x2<br>mm |
|-------|----------|-----------|--|----------|----------|----------|----------|
| 100   | 6        | 200       |  | 21       | 27       | 85       | 36       |
| 100   | 6        | 206       |  | 21       | 27       | 130      | 36       |
| 100   | 6        | 212       |  | 21       | 27       | 160      | 36       |
| 100   | 8        | 218       |  | 21       | 27       | 85       | 36       |
| 100   | 8        | 224       |  | 21       | 27       | 130      | 36       |
| 100   | 8        | 230       |  | 21       | 27       | 160      | 36       |
| 100   | 10       | 236       |  | 24       | 32       | 90       | 42       |
| 100   | 10       | 242       |  | 24       | 32       | 130      | 42       |
| 100   | 10       | 248       |  | 24       | 32       | 160      | 42       |
| 100   | 12       | 254       |  | 24       | 32       | 95       | 47       |
| 100   | 12       | 260       |  | 24       | 32       | 130      | 47       |
| 100   | 12       | 266       |  | 24       | 32       | 160      | 47       |
| 100   | 14       | 272       |  | 27       | 34       | 95       | 47       |
| 100   | 14       | 278       |  | 27       | 34       | 130      | 47       |
| 100   | 14       | 284       |  | 27       | 34       | 160      | 47       |
| 100   | 16       | 290       |  | 27       | 34       | 100      | 50       |
| 100   | 16       | 296       |  | 27       | 34       | 130      | 50       |
| 100   | 16       | 302       |  | 27       | 34       | 160      | 50       |
| 100   | 18       | 308       |  | 33       | 42       | 100      | 50       |
| 100   | 18       | 314       |  | 33       | 42       | 130      | 50       |
| 100   | 18       | 320       |  | 33       | 42       | 160      | 50       |
| 100   | 20       | 326       |  | 33       | 42       | 105      | 52       |
| 100   | 20       | 332       |  | 33       | 42       | 130      | 52       |
| 100   | 20       | 338       |  | 33       | 42       | 160      | 52       |
| 100   | 25       | 344       |  | 44       | 53       | 115      | 58       |
| 100   | 25       | 350       |  | 44       | 53       | 160      | 58       |
| 100   | 32       | 356       |  | 44       | 53       | 120      | 58       |
| 100   | 32       | 362       |  | 44       | 53       | 160      | 58       |

Further explanations are given on page 389

## Precision CNC universal drill chuck

Made in Germany, maximum precision & accuracy. For right and left-hand rotation, very short design, high clamping force and concentricity accuracy max. 0.03 mm, short clamping and resetting/retooling times. Unbalanced can be used up to 7000 rpm. If used > 7000 U/min. - 35000 rpm the drill chucks must be additionally balanced in accordance with the balance classes. Max. all. speed up to 35 000 rpm.

### 20 074 Precision drill chucks

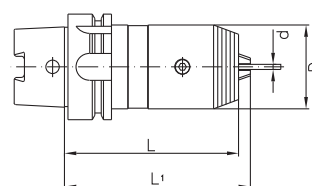


20 074 ...

**Shank type to DIN 69893 HSK-A**

**Use:** For drilling, reaming, countersinking tapping and for simple finish milling work

| HSK-A | Capacity<br>mm | 20 074... |  | D<br>mm | L<br>mm | L1<br>mm |
|-------|----------------|-----------|--|---------|---------|----------|
| 63    | 0.5 - 13       | 613       |  | 50      | 104     | 110      |
| 63    | 2.5 - 16       | 616       |  | 57      | 109     | 115      |
| 100   | 0.5 - 13       | 713       |  | 50      | 111     | 117      |
| 100   | 2.5 - 16       | 716       |  | 57      | 111     | 122      |



### 20 075 Precision drill chucks with internal cooling



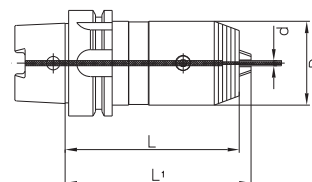
20 075 ...

**Shank type to DIN 69893 HSK-A with central coolant supply**

**Use:** For drilling, reaming, countersinking tapping and for simple finish milling work

| HSK-A | Capacity<br>mm | 20 075... |  | D<br>mm | L<br>mm | L1<br>mm |
|-------|----------------|-----------|--|---------|---------|----------|
| 63    | 0.5 - 13       | 613       |  | 50      | 104     | 110      |
| 63    | 2.5 - 16       | 616       |  | 57      | 104     | 115      |
| 100   | 0.5 - 13       | 713       |  | 50      | 111     | 117      |
| 100   | 2.5 - 16       | 716       |  | 57      | 111     | 122      |

Further shank sizes available on request





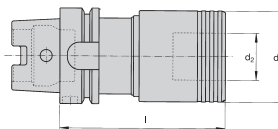
## 21 417 WFLC quick change tapping chucks



Spare parts / accessories:

Quick-change inserts Prod. No. 21 430... to 21 432...

BILZ



21 417...

| HSK-A | Thread Ø  | 21 417... |  | Inserts<br>Size | Length adjustment<br>Compression/ Tension mm | d2<br>mm | D<br>mm | Length A<br>mm |
|-------|-----------|-----------|--|-----------------|----------------------------------------------|----------|---------|----------------|
| 63    | M3 - M12  | 603       |  | 1               | 7.5 / 7.5                                    | 19       | 39      | 72             |
| 63    | M8 - M20  | 608       |  | 2               | 10 / 10                                      | 31       | 60      | 110            |
| 100   | M14 - M33 | 714       |  | 3               | 17.5 / 17.5                                  | 48       | 86      | 210            |

Further explanations are given on page 391

## 21 422 WFLC quick change tapping chucks



optimum force distribution in the length adjustment, fixed lead pressure amplifier, maintenance free due to improved sealing, hydrostatically neutral coolant flow

Spare parts / accessories: Quick-change inserts Prod. No. 21 430... to 21 432...

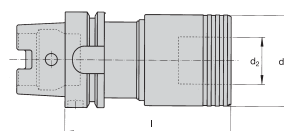
BILZ



21 422...

| HSK-A | Thread Ø  | 21 422... |  | Inserts<br>Size | Length adjustment<br>Compr./ Tension mm | d2<br>mm | D<br>mm | Length A<br>mm |
|-------|-----------|-----------|--|-----------------|-----------------------------------------|----------|---------|----------------|
| 63    | M3 - M12  | 603       |  | 1               | 7.5 / 7.5                               | 19       | 39      | 105            |
| 63    | M8 - M20  | 608       |  | 2               | 10 / 10                                 | 31       | 60      | 140            |
| 100   | M8 - M20  | 708       |  | 2               | 10 / 10                                 | 31       | 60      | 144            |
| 100   | M14 - M33 | 714       |  | 3               | 17.5 / 17.5                             | 48       | 86      | 210            |

Further explanations are given on page 391



## 20 720 Combination milling cutter arbors

Wodex®



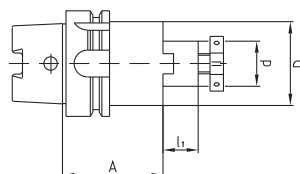
for mounting plain milling cutters and shell end mills or inserted tooth cutters for mounting holes with longitudinal and transverse slot. With milling cutter tightening screw, driver ring and featherkey.

Spare parts / accessories: Driver ring Prod. No. 20 372...; Milling arbor screw Prod. No. 20 370...; Key Prod. No. 20 367... and Prod. No. 20 367... and 20 368...



20 720...

| HSK-A | d<br>mm | 20 720... |  | A<br>mm | l1<br>mm | D<br>mm |
|-------|---------|-----------|--|---------|----------|---------|
| 63    | 16      | 050       |  | 60      | 17       | 32      |
| 63    | 16      | 054       |  | 100     | 17       | 32      |
| 63    | 16      | 056       |  | 160     | 17       | 32      |
| 63    | 22      | 058       |  | 60      | 19       | 40      |
| 63    | 22      | 062       |  | 100     | 19       | 40      |
| 63    | 22      | 064       |  | 160     | 19       | 40      |
| 63    | 27      | 066       |  | 60      | 21       | 48      |
| 63    | 27      | 070       |  | 100     | 21       | 48      |
| 63    | 27      | 072       |  | 160     | 21       | 48      |
| 63    | 32      | 074       |  | 60      | 24       | 58      |
| 63    | 32      | 078       |  | 100     | 24       | 58      |
| 63    | 32      | 080       |  | 160     | 24       | 58      |
| 63    | 40      | 082       |  | 70      | 27       | 70      |
| 63    | 40      | 084       |  | 100     | 27       | 70      |
| 63    | 40      | 086       |  | 160     | 27       | 70      |
| 100   | 16      | 116       |  | 60      | 17       | 32      |
| 100   | 22      | 122       |  | 60      | 19       | 40      |
| 100   | 27      | 127       |  | 60      | 21       | 48      |
| 100   | 32      | 132       |  | 60      | 24       | 58      |
| 100   | 40      | 140       |  | 70      | 27       | 70      |



DIN  
69893  
Form A

## 20 722 Transverse slot arbors

DIN  
69893  
Form ADIN  
6357

 $\geq 6 \mu\text{m}$ 
G 6,3  
12000  
min<sup>-1</sup>

Wodex®

for mounting inserted tooth cutters and milling cutters with transverse slot. With screwed on torque bushes and tightening screw. With additional 4 clamping screws from D=40mm for mounting inserted tooth cutters with tool fixing according to DIN 1830

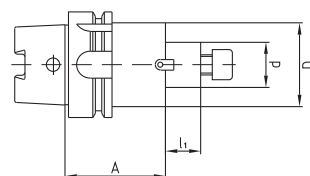
Spare parts / accessories: Driver ring Prod. No. 20 372...;

Milling arbor screw Prod. No. 20 370...; Key Prod No. 20 367... and 20 368...

| HSK-A | d<br>mm | 20 722... |  | A<br>mm | l<br>mm | D<br>mm |
|-------|---------|-----------|--|---------|---------|---------|
| 63    | 16      | 050       |  | 50      | 17      | 38      |
| 63    | 16      | 054       |  | 100     | 17      | 38      |
| 63    | 22      | 058       |  | 50      | 19      | 48      |
| 63    | 22      | 062       |  | 100     | 19      | 48      |
| 63    | 27      | 066       |  | 60      | 21      | 58      |
| 63    | 27      | 070       |  | 100     | 21      | 58      |
| 63    | 32      | 074       |  | 60      | 24      | 78      |
| 63    | 32      | 078       |  | 100     | 24      | 78      |
| 63    | 40      | 082       |  | 60      | 27      | 88      |
| 100   | 22      | 122       |  | 50      | 19      | 48      |
| 100   | 27      | 127       |  | 50      | 21      | 58      |
| 100   | 32      | 132       |  | 50      | 24      | 78      |
| 100   | 40      | 140       |  | 60      | 27      | 88      |



20 722...



## 20 725 Milling arbors for screw-in milling cutter

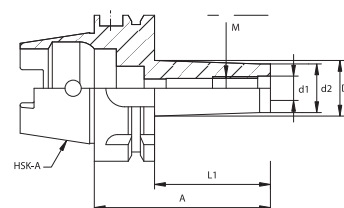
DIN  
69893  
Form A

 $\geq 5 \mu\text{m}$ 
G 6,3  
12000  
min<sup>-1</sup>Form  
AD/B

| HSK-A | Size      | 20 725... |  | d1<br>mm | d2<br>mm | L1<br>mm | A<br>mm | L<br>mm |
|-------|-----------|-----------|--|----------|----------|----------|---------|---------|
| 63    | M 8 x 25  | 001       |  | 13       | 15       | 25       | 51      | 83      |
| 63    | M 8 x 50  | 003       |  | 13       | 23       | 50       | 76      | 108     |
| 63    | M 8 x 75  | 005       |  | 13       | 23       | 75       | 101     | 133     |
| 63    | M10 x 25  | 007       |  | 18       | 20       | 25       | 51      | 83      |
| 63    | M10 x 50  | 009       |  | 18       | 23       | 50       | 76      | 108     |
| 63    | M10 x 100 | 011       |  | 18       | 32       | 100      | 126     | 158     |
| 63    | M10 x 150 | 013       |  | 18       | 36.5     | 150      | 176     | 208     |
| 63    | M12 x 25  | 015       |  | 21       | 24       | 25       | 51      | 83      |
| 63    | M12 x 50  | 017       |  | 21       | 24       | 50       | 76      | 108     |
| 63    | M12 x 75  | 019       |  | 21       | 31       | 75       | 101     | 133     |
| 63    | M12 x 100 | 021       |  | 21       | 33       | 100      | 126     | 158     |
| 63    | M12 x 150 | 023       |  | 21       | 40       | 150      | 176     | 208     |
| 63    | M16 x 25  | 025       |  | 29       | 29       | 25       | 51      | 83      |
| 63    | M16 x 50  | 027       |  | 29       | 34       | 50       | 76      | 108     |
| 63    | M16 x 75  | 029       |  | 29       | 34       | 75       | 101     | 133     |
| 63    | M16 x 100 | 031       |  | 29       | 36       | 100      | 126     | 158     |
| 63    | M16 x 150 | 033       |  | 29       | 42.5     | 150      | 176     | 208     |



20 725...



## 20 730 Adapter sleeves for MK with tangs

Wodex®

DIN  
69893  
Form ADIN-ISO  
228

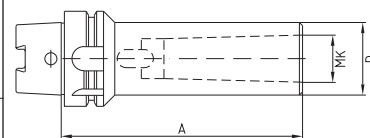
≥ 6 µm

G 6,3  
12000  
min<sup>-1</sup>

| HSK-A | MK | 20 730... |  | A<br>mm | D<br>mm |
|-------|----|-----------|--|---------|---------|
| 63    | 1  | 061       |  | 100     | 25      |
| 63    | 2  | 062       |  | 120     | 32      |
| 63    | 3  | 063       |  | 140     | 40      |
| 63    | 4  | 064       |  | 160     | 48      |
| 100   | 1  | 101       |  | 110     | 25      |
| 100   | 2  | 102       |  | 120     | 32      |
| 100   | 3  | 103       |  | 150     | 40      |
| 100   | 4  | 104       |  | 170     | 48      |
| 100   | 5  | 105       |  | 200     | 63      |



20 730...



## 20 732 Adapter sleeves for MK with tightening thread Wodex®

DIN  
69893  
Form ADIN-ISO  
228

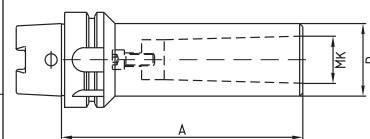
≥ 6 µm

G 6,3  
12000  
min<sup>-1</sup>

| HSK-A | MK | 20 732... |  | A<br>mm | D<br>mm |
|-------|----|-----------|--|---------|---------|
| 63    | 1  | 061       |  | 100     | 25      |
| 63    | 2  | 062       |  | 120     | 32      |
| 63    | 3  | 063       |  | 140     | 40      |
| 63    | 4  | 064       |  | 160     | 48      |
| 100   | 1  | 101       |  | 110     | 25      |
| 100   | 2  | 102       |  | 120     | 32      |
| 100   | 3  | 103       |  | 150     | 40      |
| 100   | 4  | 104       |  | 170     | 48      |
| 100   | 5  | 105       |  | 200     | 63      |



20 732...



## 20 216 Boring bar blanks

Wodex®

DIN  
69893  
Form A

| HSK-A | D<br>mm | 20 216... |  | A<br>mm |
|-------|---------|-----------|--|---------|
| 63    | 63      | 006       |  | 160     |
| 100   | 97      | 010       |  | 250     |



20 216...



## 25 100 Induction shrinking units, air-cooled

For shrink-fitting:

HM shanks Ø 3-20 mm HM and 6-20 mm HSS (ISG2200)

HM shanks Ø 3-32 mm HM and 6-32 mm HSS (ISG3200)

- No overheating of the shrink chucks if used properly as shrinkage takes place with permanently stored parameters
- Reliable shielding of the magnetic field and optimum efficiency due to patented ferrite disc
- Shrinking time < 5 seconds
- Cooling time < 2 minutes
- Interchangeable discs, therefore coil change not necessary
- Easy change from parameter shrinking to manual shrinking
- For all commonly used tool spindles by simply exchanging the basic tool mounting
- Universal tabletop unit

### Extended features of the ISG 3200:

- Fully automatic shrinking process
- Shrink range optionally extendable to Ø 50 mm with further coil
- Shrink length can be optionally extended
- Automatic fan start via LED
- 6 preselectable languages
- Tool memory for 50 special tools

### ISG 2200 scope of supply:

Unit incl. coil, 3 interchangeable discs for Ø 3-20 mm and integrated cooling station

### ISG 3200 scope of supply:

Unit with 4 integrated cooling stations, incl. coil and 4 interchangeable discs for Ø 3-32 mm

**BILZ**


25 100 001



25 100 020

| Name     | 25 100... |  | Size<br>D x B x H<br>mm | Output<br>kW | Power supply     | Weight<br>kg |
|----------|-----------|--|-------------------------|--------------|------------------|--------------|
| ISG 2200 | 001       |  | 390 x 310 x 640         | 7.5          | 400 V / 16 A     | 25           |
| ISG 3200 | 001       |  | 584 x 592 x 1030        | 10           | 3 x 400 V / 16 A | 43           |

## 25 101 Toolholders

for ISG 2200 / ISG 3200

| Toolholder | 25 101... |  |
|------------|-----------|--|
| SK 40      | 040       |  |
| SK 50      | 050       |  |
| HSK-A 63   | 063       |  |
| HSK-A 100  | 100       |  |



25 101 040 - ...100

## 25 101 Cooling adapter

for ISG 2200 / ISG 3200

| Cooling adapter    | 25 101... |  |
|--------------------|-----------|--|
| Ø 2-2.9 mm slender | 002       |  |
| Ø 3-5.9 mm         | 003       |  |
| Ø 6-9 mm           | 006       |  |
| Ø 9.1-12 mm        | 009       |  |
| Ø 12.1-16 mm       | 012       |  |
| Ø 16.1-22 mm       | 016       |  |
| Ø 22.1-32 mm       | 022       |  |



25 101 002 - ...022

## 25 100 Induction shrinking units, water-cooled

**BILZ**

For shrink-fitting:

HM shanks Ø 3-20 mm HM and 6-20 mm HSS (ISG2200WK)

HM shanks Ø 3-32 mm HM and 6-32 mm HSS (ISG3200WK)

The completely new design of the all-in-one solution enables both the shrinking and the cooling process to take place in one position. Thanks to this combination of state of the art induction shrinking technology and water cooling, tool changes are achieved in record time.

- No overheating of the shrink chucks if used properly as shrinkage takes place with permanently stored parameters
- No burning on overheated shrink chucks as after the shrinking process they are automatically moved into the cooling position.
- Cooling independent of contours
- Fully automatic shrinking and cooling within 30 seconds. Therefore, tool change in record time
- Reliable shielding of the magnetic field and optimum efficiency due to patented ferrite disc
- Interchangeable discs, therefore coil change not necessary
- Easy change from parameter shrinking to manual shrinking
- For all commonly used tool spindles by simply exchanging the basic tool mounting
- Anti-corrosion protection due to use of emulsion

### Extended features of the ISG 3200WK:

- Shrink range optionally extendable to Ø 50 mm with further coil
- Shrink length can be optionally extended
- 6 preselectable languages
- Tool memory for 50 special tools

### ISG 3200WK scope of supply:

Unit incl. coil, 3 interchangeable discs for Ø 3-20 mm and 1 litre emulsion for the first fill

### ISG 3200WK scope of supply:

Unit incl. coil, 4 interchangeable discs for Ø 3-32 mm and 1 litre emulsion for the first fill



25 100 010



25 100 015

| Name       | 25 100... |  | Size<br>D x B x H<br>mm | Output<br>kW | Power supply     | Weight<br>kg | Clamping<br>capacity<br>HM HSS | Compressed air<br>connection<br>bar |
|------------|-----------|--|-------------------------|--------------|------------------|--------------|--------------------------------|-------------------------------------|
| ISG 2200WK | 010       |  | 550 x 700 x 1540        | 8            | 3 x 400 V / 16 A | 100          | 3 - 20 6 - 20                  | 6                                   |
| ISG 3200WK | 015       |  | 620 x 700 x 1700        | 10           | 3 x 400 V / 16 A | 120          | 3 - 32 6 - 32                  | 6                                   |

## 25 102 Toolholders

...040 - ...100: for ISG 2200WK

...240 - ...300: for ISG 3200WK

| Toolholder | 25 102...<br>ISG 2200WK |  | 25 102...<br>ISG 3200WK |  |
|------------|-------------------------|--|-------------------------|--|
| SK40       | 040                     |  | 240                     |  |
| SK 50      | 050                     |  | 250                     |  |
| HSK-A 63   | 063                     |  | 263                     |  |
| HSK-A 100  | 100                     |  | 300                     |  |



25 102 040 - ...100

## 20 281 HP+ precision collets for precision chucks No. 20 280..., No. 20 235..., No. 20 272...

Standard: DIN 6499/ISO 15488-B with sealing discs, use:

The HP+ collets ensure an averaged concentricity accuracy and repeatability of 3µm, measured in the HP plus and in the Centro P chuck. They are tested at a distance of 3xD (max. 50 mm).

**Important: collapse:**

The HP chuck No. 20 280... and Centro P No. 20 235... and No. 20 272... have a reduced collapse of H10!

The collets are always supplied with suitable **sealing discs**. The sealing discs (\*collapse range +0.4/-0.1) are available as spare parts under No. 20 283...



20 281...

| Bore Ø<br>mm                                  | 20 281... |  |
|-----------------------------------------------|-----------|--|
| <b>426E GER16-HP+</b>                         |           |  |
| Clamping capacity 1 - 10 mm, D = 17, L = 27.5 |           |  |
| 1                                             | 010       |  |
| 1.1                                           | 011       |  |
| 1.4                                           | 014       |  |
| 1.5                                           | 015       |  |
| 1.6                                           | 016       |  |
| 1.9                                           | 019       |  |
| 2                                             | 020       |  |
| 2.1                                           | 021       |  |
| 2.4                                           | 024       |  |
| 2.5                                           | 025       |  |
| 2.6                                           | 026       |  |
| 2.9                                           | 029       |  |
| 3                                             | 030       |  |
| 3.1                                           | 031       |  |
| 3.4                                           | 034       |  |
| 3.5                                           | 035       |  |
| 3.6                                           | 036       |  |
| 3.8                                           | 038       |  |
| 4                                             | 040       |  |
| 4.5                                           | 045       |  |
| 5                                             | 050       |  |
| 5.5                                           | 055       |  |
| 5.6                                           | 056       |  |
| 6                                             | 060       |  |
| 6.3                                           | 063       |  |
| 6.5                                           | 065       |  |
| 7                                             | 070       |  |
| 7.1                                           | 071       |  |
| 7.5                                           | 075       |  |
| 8                                             | 080       |  |
| 8.5                                           | 085       |  |
| 9                                             | 090       |  |
| 9.5                                           | 095       |  |
| 10                                            | 100       |  |

| Bore Ø<br>mm                                 | 20 281... |  |
|----------------------------------------------|-----------|--|
| <b>430E GER25-HP+</b>                        |           |  |
| Clamping capacity 2 - 16 mm, D = 26, L = 34  |           |  |
| 2                                            | 201       |  |
| 2.5                                          | 202       |  |
| 3                                            | 203       |  |
| 4                                            | 204       |  |
| 5                                            | 205       |  |
| 6                                            | 206       |  |
| 7                                            | 207       |  |
| 8                                            | 208       |  |
| 9                                            | 209       |  |
| 10                                           | 210       |  |
| 11                                           | 211       |  |
| 12                                           | 212       |  |
| 13                                           | 213       |  |
| 14                                           | 214       |  |
| 15                                           | 215       |  |
| 16                                           | 216       |  |
| <b>470E GER32-HP+</b>                        |           |  |
| Clamping capacity 2 - 20 mm, D = 33, L = 40  |           |  |
| 2                                            | 301       |  |
| 2.5                                          | 302       |  |
| 3                                            | 303       |  |
| 4                                            | 304       |  |
| 5                                            | 305       |  |
| 6                                            | 306       |  |
| 7                                            | 307       |  |
| 8                                            | 308       |  |
| 9                                            | 309       |  |
| 10                                           | 310       |  |
| 11                                           | 311       |  |
| 12                                           | 312       |  |
| 13                                           | 313       |  |
| 14                                           | 314       |  |
| 15                                           | 315       |  |
| 16                                           | 316       |  |
| 17                                           | 317       |  |
| 18                                           | 318       |  |
| 19                                           | 319       |  |
| 20                                           | 320       |  |
| Intermediate dimensions available on request |           |  |

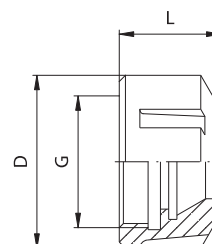
## 20 282 Clamping nuts to DIN 6499

with six slots (shape E), for holding FAHRION HP sealing discs, see 20 283..., can be replaced with standard nuts according to DIN 6499-D

**Advantage:**

- higher operating pressure, up to 80 bar
- pre-balanced for increased speeds

FAHRION®  
PRAZISION



20 282...

| Size | Thread     | 20 282... |  | D x L<br>mm | Type |
|------|------------|-----------|--|-------------|------|
| ER16 | M 22 x 1.5 | 022       |  | 28 x 22.0   | 426E |
| ER25 | M 32 x 1.5 | 032       |  | 42 x 24.7   | 430E |
| ER32 | M 40 x 1.5 | 040       |  | 50 x 27.0   | 470E |
| ER40 | M 50 x 1.5 | 050       |  | 63 x 30.7   | 472E |



## 20 283 HP sealing discs for clamping nuts No. 20 282...

**FAHRION®**  
PRÄZISION

Thickness 2 mm, seals up to max. 80 bar and a collapse of 0.5 mm.  
The clamping nuts No. 20 282... can be sealed very cost effectively  
with the HP sealing disc.  
L=2.0 mm



20 283...

CLAMPING TOOLS

2

| Clamping Ø<br>mm                  | 20 283... |  | Clamping Ø<br>mm                  | 20 283... |  | Clamping Ø<br>mm                  | 20 283... |  |
|-----------------------------------|-----------|--|-----------------------------------|-----------|--|-----------------------------------|-----------|--|
| for clamping nut 20 282 022 ER 16 |           |  | for clamping nut 20 282 040 ER 32 |           |  | for clamping nut 20 282 050 ER 40 |           |  |
| Diameter D = 12.6 mm              |           |  | Diameter D = 26.2 mm              |           |  | Diameter D = 34.2 mm              |           |  |
| 2.0                               | 020       |  | 2.0                               | 420       |  | 3.0                               | 730       |  |
| 2.5                               | 025       |  | 2.5                               | 425       |  | 3.5                               | 735       |  |
| 3.0                               | 030       |  | 3.0                               | 430       |  | 4.0                               | 740       |  |
| 3.5                               | 035       |  | 3.5                               | 435       |  | 4.5                               | 745       |  |
| 4.0                               | 040       |  | 4.0                               | 440       |  | 5.0                               | 750       |  |
| 4.5                               | 045       |  | 4.5                               | 445       |  | 5.5                               | 755       |  |
| 5.0                               | 050       |  | 5.0                               | 450       |  | 6.0                               | 760       |  |
| 5.5                               | 055       |  | 5.5                               | 455       |  | 6.5                               | 765       |  |
| 6.0                               | 060       |  | 6.0                               | 460       |  | 7.0                               | 770       |  |
| 6.5                               | 065       |  | 6.5                               | 465       |  | 7.5                               | 775       |  |
| 7.0                               | 070       |  | 7.0                               | 470       |  | 8.0                               | 780       |  |
| 7.5                               | 075       |  | 7.5                               | 475       |  | 8.5                               | 785       |  |
| 8.0                               | 080       |  | 8.0                               | 480       |  | 9.0                               | 790       |  |
| 8.5                               | 085       |  | 8.5                               | 485       |  | 9.5                               | 795       |  |
| 9.0                               | 090       |  | 9.0                               | 490       |  | 10.0                              | 800       |  |
| 9.5                               | 095       |  | 9.5                               | 495       |  | 10.5                              | 805       |  |
| 10.0                              | 100       |  | 10.0                              | 500       |  | 11.0                              | 810       |  |
| for clamping nut 20 282 032 ER 25 |           |  | 10.5                              | 505       |  | 11.5                              | 815       |  |
| Diameter D = 20.2 mm              |           |  | 11.0                              | 510       |  | 12.0                              | 820       |  |
| 2.0                               | 220       |  | 11.5                              | 515       |  | 12.5                              | 825       |  |
| 2.5                               | 225       |  | 12.0                              | 520       |  | 13.0                              | 830       |  |
| 3.0                               | 230       |  | 12.5                              | 525       |  | 13.5                              | 835       |  |
| 3.5                               | 235       |  | 13.0                              | 530       |  | 14.0                              | 840       |  |
| 4.0                               | 240       |  | 13.5                              | 535       |  | 14.5                              | 845       |  |
| 4.5                               | 245       |  | 14.0                              | 540       |  | 15.0                              | 850       |  |
| 5.0                               | 250       |  | 14.5                              | 545       |  | 15.5                              | 855       |  |
| 5.5                               | 255       |  | 15.0                              | 550       |  | 16.0                              | 860       |  |
| 6.0                               | 260       |  | 15.5                              | 555       |  | 16.5                              | 865       |  |
| 6.5                               | 265       |  | 16.0                              | 560       |  | 17.0                              | 870       |  |
| 7.0                               | 270       |  | 16.5                              | 565       |  | 17.5                              | 875       |  |
| 7.5                               | 275       |  | 17.0                              | 570       |  | 18.0                              | 880       |  |
| 8.0                               | 280       |  | 17.5                              | 575       |  | 18.5                              | 885       |  |
| 8.5                               | 285       |  | 18.0                              | 580       |  | 19.0                              | 890       |  |
| 9.0                               | 290       |  | 18.5                              | 585       |  | 19.5                              | 895       |  |
| 9.5                               | 295       |  | 19.0                              | 590       |  | 20.0                              | 900       |  |
| 10.0                              | 300       |  | 19.5                              | 595       |  | 20.5                              | 905       |  |
| 10.5                              | 305       |  | 20.0                              | 600       |  | 21.0                              | 910       |  |
| 11.0                              | 310       |  |                                   |           |  | 21.5                              | 915       |  |
| 11.5                              | 315       |  |                                   |           |  | 22.0                              | 920       |  |
| 12.0                              | 320       |  |                                   |           |  | 22.5                              | 925       |  |
| 12.5                              | 325       |  |                                   |           |  | 23.0                              | 930       |  |
| 13.0                              | 330       |  |                                   |           |  | 23.5                              | 935       |  |
| 13.5                              | 335       |  |                                   |           |  | 24.0                              | 940       |  |
| 14.0                              | 340       |  |                                   |           |  | 24.5                              | 945       |  |
| 14.5                              | 345       |  |                                   |           |  | 25.0                              | 950       |  |
| 15.0                              | 350       |  |                                   |           |  | 25.5                              | 955       |  |
| 15.5                              | 355       |  |                                   |           |  | 26.0                              | 960       |  |
| 16.0                              | 360       |  |                                   |           |  |                                   |           |  |

Chucks / Clamping tools / Thread cutting & tapping chucks



"TOOLS"

**20 239 OZ collets**

Ortlieb system, DIN 6388 / ISO 10897-B (OZ), double slotted

**WODEX Prod. No. 20 239 002 - 20 239 232**

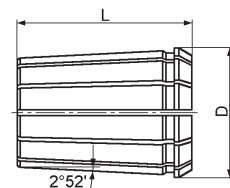
Concentricity according to DIN Class 2 = 15 µm to 20 µm

**Wodex**

20 239...

**FAHRION Prod. No. 20 239 300 - 20 239 456**

with concentricity 6 µm with 415E and 462E, as well as 10 µm with 467E/repeatability 6 µm

**FAHRION**  
FRAZION

| Bore<br>Ø mm | 20 239...<br>Fahrion<br>6 µm |                                     | 20 239...<br>Wodex<br>15 µm - 20 µm |   |
|--------------|------------------------------|-------------------------------------|-------------------------------------|---|
| Type 415 E   | FM 16 DG                     | Dimensions D x L = 25.5 mm x 40 mm  |                                     |   |
| 2.0          | 300                          |                                     | 002                                 |   |
| 2.5          | 301                          |                                     | -                                   | - |
| 3.0          | 302                          |                                     | 003                                 |   |
| 3.5          | 303                          |                                     | -                                   | - |
| 4.0          | 304                          |                                     | 004                                 |   |
| 4.5          | 305                          |                                     | -                                   | - |
| 5.0          | 306                          |                                     | 005                                 |   |
| 5.5          | 307                          |                                     | -                                   | - |
| 6.0          | 308                          |                                     | 006                                 |   |
| 6.5          | 309                          |                                     | -                                   | - |
| 7.0          | 310                          |                                     | 007                                 |   |
| 7.5          | 311                          |                                     | -                                   | - |
| 8.0          | 312                          |                                     | 008                                 |   |
| 8.5          | 313                          |                                     | -                                   | - |
| 9.0          | 314                          |                                     | 009                                 |   |
| 9.5          | 315                          |                                     | -                                   | - |
| 10.0         | 316                          |                                     | 010                                 |   |
| 10.5         | 317                          |                                     | -                                   | - |
| 11.0         | 318                          |                                     | 011                                 |   |
| 11.5         | 319                          |                                     | -                                   | - |
| 12.0         | 320                          |                                     | 012                                 |   |
| 12.5         | 321                          |                                     | -                                   | - |
| 13.0         | 322                          |                                     | 013                                 |   |
| 13.5         | 323                          |                                     | -                                   | - |
| 14.0         | 324                          |                                     | 014                                 |   |
| 14.5         | 325                          |                                     | -                                   | - |
| 15.0         | 326                          |                                     | 015                                 |   |
| 15.5         | 327                          |                                     | -                                   | - |
| 16.0         | 328                          |                                     | 016                                 |   |
| TYPE 462E    | FM 25 DG                     | Dimensions D x L = 35.05 mm x 52 mm |                                     |   |
| 2.0          | 350                          |                                     | 102                                 |   |
| 2.5          | 351                          |                                     | -                                   | - |
| 3.0          | 352                          |                                     | 103                                 |   |
| 3.5          | 353                          |                                     | -                                   | - |
| 4.0          | 354                          |                                     | 104                                 |   |
| 4.5          | 355                          |                                     | -                                   | - |
| 5.0          | 356                          |                                     | 105                                 |   |
| 5.5          | 357                          |                                     | -                                   | - |
| 6.0          | 358                          |                                     | 106                                 |   |
| 6.5          | 359                          |                                     | -                                   | - |
| 7.0          | 360                          |                                     | 107                                 |   |
| 7.5          | 361                          |                                     | -                                   | - |
| 8.0          | 362                          |                                     | 108                                 |   |
| 8.5          | 363                          |                                     | -                                   | - |
| 9.0          | 364                          |                                     | 109                                 |   |
| 9.5          | 365                          |                                     | -                                   | - |
| 10.0         | 366                          |                                     | 110                                 |   |
| 10.5         | 367                          |                                     | -                                   | - |
| 11.0         | 368                          |                                     | 111                                 |   |
| 11.5         | 369                          |                                     | -                                   | - |
| 12.0         | 370                          |                                     | 112                                 |   |
| 12.5         | 371                          |                                     | -                                   | - |
| 13.0         | 372                          |                                     | 113                                 |   |
| 13.5         | 373                          |                                     | -                                   | - |

| Bore<br>Ø mm | 20 239...<br>Fahrion<br>6 µm  |                                    | 20 239...<br>Wodex<br>15 µm - 20 µm |   |
|--------------|-------------------------------|------------------------------------|-------------------------------------|---|
| 14.0         | 374                           |                                    | 114                                 |   |
| 14.5         | 375                           |                                    | -                                   | - |
| 15.0         | 376                           |                                    | 115                                 |   |
| 15.5         | 377                           |                                    | -                                   | - |
| 16.0         | 378                           |                                    | 116                                 |   |
| 16.5         | 379                           |                                    | -                                   | - |
| 17.0         | 380                           |                                    | 117                                 |   |
| 17.5         | 381                           |                                    | -                                   | - |
| 18.0         | 382                           |                                    | 118                                 |   |
| 18.5         | 383                           |                                    | -                                   | - |
| 19.0         | 384                           |                                    | 119                                 |   |
| 19.5         | 385                           |                                    | -                                   | - |
| 20.0         | 386                           |                                    | 120                                 |   |
| 20.5         | 387                           |                                    | -                                   | - |
| 21.0         | 388                           |                                    | 121                                 |   |
| 21.5         | 389                           |                                    | -                                   | - |
| 22.0         | 390                           |                                    | 122                                 |   |
| 22.5         | 391                           |                                    | -                                   | - |
| 23.0         | 392                           |                                    | 123                                 |   |
| 23.5         | 393                           |                                    | -                                   | - |
| 24.0         | 394                           |                                    | 124                                 |   |
| 24.5         | 395                           |                                    | -                                   | - |
| 25.0         | 396                           |                                    | 125                                 |   |
| Bore<br>Ø mm | 20 239...<br>Fahrion<br>10 µm |                                    | 20 239...<br>Wodex<br>15 µm - 20 µm |   |
| TYPE 462E    | FM 32 DG                      | Dimensions D x L = 43.7 mm x 60 mm |                                     |   |
| 4.0          | 400                           |                                    | 204                                 |   |
| 4.5          | 401                           |                                    | -                                   | - |
| 5.0          | 402                           |                                    | 205                                 |   |
| 5.5          | 403                           |                                    | -                                   | - |
| 6.0          | 404                           |                                    | 206                                 |   |
| 6.5          | 405                           |                                    | -                                   | - |
| 7.0          | 406                           |                                    | 207                                 |   |
| 7.5          | 407                           |                                    | -                                   | - |
| 8.0          | 408                           |                                    | 208                                 |   |
| 8.5          | 409                           |                                    | -                                   | - |
| 9.0          | 410                           |                                    | 209                                 |   |
| 9.5          | 411                           |                                    | -                                   | - |
| 10.0         | 412                           |                                    | 210                                 |   |
| 10.5         | 413                           |                                    | -                                   | - |
| 11.0         | 414                           |                                    | 211                                 |   |
| 11.5         | 415                           |                                    | -                                   | - |
| 12.0         | 416                           |                                    | 212                                 |   |
| 12.5         | 417                           |                                    | -                                   | - |
| 13.0         | 418                           |                                    | 213                                 |   |
| 13.5         | 419                           |                                    | -                                   | - |
| 14.0         | 420                           |                                    | 214                                 |   |
| 14.5         | 421                           |                                    | -                                   | - |
| 15.0         | 422                           |                                    | 215                                 |   |
| 15.5         | 423                           |                                    | -                                   | - |
| 16.0         | 424                           |                                    | 216                                 |   |
| 16.5         | 425                           |                                    | -                                   | - |
| 17.0         | 426                           |                                    | 217                                 |   |

for further dimensions, see next page

| Bore<br>Ø mm | 20 239...<br>Fahrion<br>10 µm |  | 20 239...<br>Wodex<br>15 µm-20 µm |   |
|--------------|-------------------------------|--|-----------------------------------|---|
| 17.5         | 427                           |  | -                                 | - |
| 18.0         | 428                           |  | 218                               | - |
| 18.5         | 429                           |  | -                                 | - |
| 19.0         | 430                           |  | 219                               | - |
| 19.5         | 431                           |  | -                                 | - |
| 20.0         | 432                           |  | 220                               | - |
| 20.5         | 433                           |  | -                                 | - |
| 21.0         | 434                           |  | 221                               | - |
| 21.5         | 435                           |  | -                                 | - |
| 22.0         | 436                           |  | 222                               | - |
| 22.5         | 437                           |  | -                                 | - |
| 23.0         | 438                           |  | 223                               | - |
| 23.5         | 439                           |  | -                                 | - |
| 24.0         | 440                           |  | 224                               | - |
| 24.5         | 441                           |  | -                                 | - |

| Bore<br>Ø mm | 20 239...<br>Fahrion<br>10 µm |  | 20 239...<br>Wodex<br>15 µm-20 µm |   |
|--------------|-------------------------------|--|-----------------------------------|---|
| 25.0         | 442                           |  | 225                               | - |
| 25.5         | 443                           |  | -                                 | - |
| 26.0         | 444                           |  | 226                               | - |
| 26.5         | 445                           |  | -                                 | - |
| 27.0         | 446                           |  | 227                               | - |
| 27.5         | 447                           |  | -                                 | - |
| 28.0         | 448                           |  | 228                               | - |
| 28.5         | 449                           |  | -                                 | - |
| 29.0         | 450                           |  | 229                               | - |
| 29.5         | 451                           |  | -                                 | - |
| 30.0         | 452                           |  | 230                               | - |
| 30.5         | 453                           |  | -                                 | - |
| 31.0         | 454                           |  | 231                               | - |
| 31.5         | 455                           |  | -                                 | - |
| 32.0         | 456                           |  | 232                               | - |

## 20 750 Tapping collets

for milling cutter chucks

Type: According to DIN 6499, with internal square

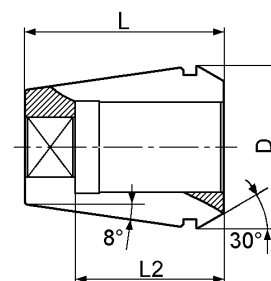
Use: For clamping taps

**Wodex**



20 750...

| d <sub>1</sub> x d <sub>2</sub>                              |  | 20 750... | Suitable for taps<br>in accordance with |               |
|--------------------------------------------------------------|--|-----------|-----------------------------------------|---------------|
| mm                                                           |  |           | DIN 371                                 | DIN 374 + 376 |
| <b>Type 4031E ER 16</b> (L <sub>3</sub> x D: 27.5 x 16.7 mm) |  |           |                                         |               |
| 4.5 x 3.55                                                   |  | 300       | M 4                                     | M 6           |
| 6.0 x 5.00                                                   |  | 303       | M 4.5 + 5 + 6                           | M 8           |
| 7.0 x 5.60                                                   |  | 305       | M 7                                     | M 9 + 10      |
| <b>Type 4276E ER 20</b> (L <sub>3</sub> x D: 31.5 x 20.7 mm) |  |           |                                         |               |
| 4.5 x 3.55                                                   |  | 310       | M 4                                     | M 6           |
| 6.0 x 5.00                                                   |  | 313       | M 4.5 + 5 + 6                           | M 8           |
| 7.0 x 5.60                                                   |  | 315       | M 7                                     | M 9 + 10      |
| 8.0 x 6.30                                                   |  | 317       | M 8                                     | -             |
| 9.0 x 7.10                                                   |  | 318       | M 9                                     | M 12          |
| <b>Type 4282E ER 25</b> (L <sub>3</sub> x D: 34.0 x 25.7 mm) |  |           |                                         |               |
| 4.5 x 3.55                                                   |  | 320       | M 4                                     | M 6           |
| 6.0 x 5.00                                                   |  | 323       | M 4.5 + 5 + 6                           | M 8           |
| 7.0 x 5.60                                                   |  | 325       | M 7                                     | M 9 + 10      |
| 8.0 x 6.30                                                   |  | 327       | M 8                                     | -             |
| 9.0 x 7.10                                                   |  | 328       | M 9                                     | M 12          |
| 10.0 x 8.00                                                  |  | 329       | M 10                                    | -             |
| 11.0 x 9.00                                                  |  | 330       | -                                       | M 14          |
| 12.0 x 9.00                                                  |  | 332       | -                                       | M 16          |
| <b>Type 4537E ER 32</b> (L <sub>3</sub> x D: 40.0 x 32.9 mm) |  |           |                                         |               |
| 4.5 x 3.55                                                   |  | 340       | M 4                                     | M 6           |
| 6.0 x 5.00                                                   |  | 343       | M 4.5 + 5 + 6                           | M 8           |
| 7.0 x 5.60                                                   |  | 345       | M 7                                     | M 9 + 10      |
| 8.0 x 6.30                                                   |  | 347       | M 8                                     | -             |
| 9.0 x 7.10                                                   |  | 348       | M 9                                     | M 12          |
| 10.0 x 8.00                                                  |  | 349       | M 10                                    | -             |
| 11.0 x 9.00                                                  |  | 350       | -                                       | M 14          |
| 12.0 x 9.00                                                  |  | 352       | -                                       | M 16          |
| 14.0 x 11.20                                                 |  | 354       | -                                       | M 18          |
| 16.0 x 12.50                                                 |  | 355       | -                                       | M 20          |
| 18.0 x 14.50                                                 |  | 356       | -                                       | M 22 + 24     |
| <b>Type 4716E ER 40</b> (L <sub>3</sub> x D: 46.0 x 40.7 mm) |  |           |                                         |               |
| 7.0 x 5.60                                                   |  | 365       | M 7                                     | M 9 + 10      |
| 8.0 x 6.30                                                   |  | 367       | M 8                                     | -             |
| 10.0 x 8.00                                                  |  | 369       | M 10                                    | -             |
| 11.0 x 9.00                                                  |  | 370       | -                                       | M 14          |
| 12.0 x 9.00                                                  |  | 372       | -                                       | M 16          |
| 14.0 x 11.20                                                 |  | 374       | -                                       | M 18          |
| 16.0 x 12.50                                                 |  | 375       | -                                       | M 20          |
| 18.0 x 14.50                                                 |  | 376       | -                                       | M 22 + 24     |
| 20.0 x 16.00                                                 |  | 377       | -                                       | M 27          |



**20 251 ER collets**

DIN 6499 / ISO 15488-B (ER/ESX - type in FAHRION quality, with concentricity accuracy and repeatability 5 µm with GER 11 to GER 40, super finished surface  $R_z \leq 1.0 \mu\text{m}$ , means

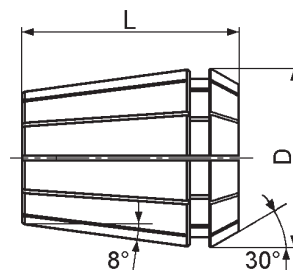
- higher percentage bearing areas
- higher stiffness and holding forces
- higher system concentricity accuracy
- higher corrosion resistance

**20 253 Collet chucks**

DIN 6499 / ISO 15488-B (ER/ESX) - Wodex type, concentricity according to DIN Class 2, i.e. 15 µm to 20 µm

FAHRION®  
PRÄZISION

Wodex®



| Bore<br>Ø mm                                       | 20 251...<br>Fahrion 6<br>µm | 20 253...<br>Wodex<br>15 - 20 µm |
|----------------------------------------------------|------------------------------|----------------------------------|
| Type 4008E GER 11/CER 11 Dim. D x L = 11.5 x 18 mm |                              |                                  |
| 1.0                                                | 300                          | 300                              |
| 2.0                                                | 302                          | 302                              |
| 3.0                                                | 304                          | 304                              |
| 4.0                                                | 306                          | 306                              |
| 5.0                                                | 308                          | 308                              |
| 6.0                                                | 310                          | 310                              |
| 7.0                                                | 312                          | 312                              |
| Type 426E GER 16/CER 16 Dim. D x L = 17 x 27.5 mm  |                              |                                  |
| 1.0                                                | 400                          | 400                              |
| 1.5                                                | 401                          | -                                |
| 2.0                                                | 402                          | 402                              |
| 2.5                                                | 403                          | -                                |
| 3.0                                                | 404                          | 404                              |
| 4.0                                                | 405                          | 405                              |
| 5.0                                                | 406                          | 406                              |
| 6.0                                                | 407                          | 407                              |
| 7.0                                                | 408                          | 408                              |
| 8.0                                                | 409                          | 409                              |
| 9.0                                                | 410                          | 410                              |
| 10.0                                               | 411                          | 411                              |
| Type 428E GER 20/CER 20 Dim. D x L = 21 x 31.5 mm  |                              |                                  |
| 1.0                                                | 350                          | 350                              |
| 2.0                                                | 352                          | 352                              |
| 3.0                                                | 354                          | 354                              |
| 4.0                                                | 356                          | 356                              |
| 5.0                                                | 358                          | 358                              |
| 6.0                                                | 360                          | 360                              |
| 7.0                                                | 362                          | 362                              |
| 8.0                                                | 364                          | 364                              |
| 9.0                                                | 366                          | 366                              |
| 10.0                                               | 368                          | 368                              |
| 11.0                                               | 370                          | 370                              |
| 12.0                                               | 372                          | 372                              |
| 13.0                                               | 374                          | 374                              |
| Type 430E GER 25/CER 25 Dim. D x L = 26 x 34 mm    |                              |                                  |
| 1.5                                                | 420                          | -                                |
| 2.0                                                | 421                          | 421                              |
| 2.5                                                | 422                          | -                                |
| 3.0                                                | 423                          | 423                              |
| 4.0                                                | 424                          | 424                              |
| 5.0                                                | 425                          | 425                              |
| 6.0                                                | 426                          | 426                              |
| 7.0                                                | 427                          | 427                              |
| 8.0                                                | 428                          | 428                              |
| 9.0                                                | 429                          | 429                              |
| 10.0                                               | 430                          | 430                              |
| 11.0                                               | 431                          | 431                              |
| 12.0                                               | 432                          | 432                              |
| 13.0                                               | 433                          | 433                              |

| Bore<br>Ø mm                                     | 20 251...<br>Fahrion 6<br>µm | 20 253...<br>Wodex<br>15 - 20 µm |
|--------------------------------------------------|------------------------------|----------------------------------|
| 14.0                                             | 434                          | 434                              |
| 15.0                                             | 435                          | 435                              |
| 16.0                                             | 436                          | 436                              |
| Type 470ER GER 32/CER 32 Dim. D x L = 33 x 40 mm |                              |                                  |
| 2.0                                              | 450                          | -                                |
| 3.0                                              | 452                          | 452                              |
| 4.0                                              | 453                          | 453                              |
| 5.0                                              | 454                          | 454                              |
| 6.0                                              | 455                          | 455                              |
| 7.0                                              | 456                          | 456                              |
| 8.0                                              | 457                          | 457                              |
| 9.0                                              | 458                          | 458                              |
| 10.0                                             | 459                          | 459                              |
| 11.0                                             | 460                          | 460                              |
| 12.0                                             | 461                          | 461                              |
| 13.0                                             | 462                          | 462                              |
| 14.0                                             | 463                          | 463                              |
| 15.0                                             | 464                          | 464                              |
| 16.0                                             | 465                          | 465                              |
| 17.0                                             | 466                          | 466                              |
| 18.0                                             | 467                          | 467                              |
| 19.0                                             | 468                          | 468                              |
| 20.0                                             | 469                          | 469                              |
| Type 472E GER 40/CER 40 Dim. D x L = 41 x 46 mm  |                              |                                  |
| 3.0                                              | 480                          | -                                |
| 4.0                                              | 481                          | 481                              |
| 5.0                                              | 482                          | 482                              |
| 6.0                                              | 483                          | 483                              |
| 7.0                                              | 484                          | 484                              |
| 8.0                                              | 485                          | 485                              |
| 9.0                                              | 486                          | 486                              |
| 10.0                                             | 487                          | 487                              |
| 11.0                                             | 488                          | 488                              |
| 12.0                                             | 489                          | 489                              |
| 13.0                                             | 490                          | 490                              |
| 14.0                                             | 491                          | 491                              |
| 15.0                                             | 492                          | 492                              |
| 16.0                                             | 493                          | 493                              |
| 17.0                                             | 494                          | 494                              |
| 18.0                                             | 495                          | 495                              |
| 19.0                                             | 496                          | 496                              |
| 20.0                                             | 497                          | 497                              |
| 21.0                                             | 498                          | 498                              |
| 22.0                                             | 499                          | 499                              |
| 23.0                                             | 500                          | 500                              |
| 24.0                                             | 501                          | 501                              |
| 25.0                                             | 502                          | 502                              |
| 26.0                                             | 503                          | 503                              |



20 251 300 - ...503



20 253 300 - ...503



20 251 607 - ...626



20 253 607 - ...626

**Collet sets**

| Type                                                  | Bore<br>Ø/mm | 20 251...<br>Fahrion 6 µm | 20 253...<br>Wodex 15 µm - 20 µm                      | Quantity | Increments of<br>mm |
|-------------------------------------------------------|--------------|---------------------------|-------------------------------------------------------|----------|---------------------|
| Collet sets in wooden box                             |              |                           | Collet sets on wooden strips                          |          |                     |
| Type as 20 251..., increasing in increments of 1.0 mm |              |                           | Type as 20 253..., increasing in increments of 1.0 mm |          |                     |
| Type GER 11/CER 11                                    | 1.0 - 7.0    | 607                       | 607                                                   | 13 pce.  | 0.5                 |
| Type GER 16/CER 16                                    | 1.0 - 10.0   | 610                       | 610                                                   | 10 pce.  | 1.0                 |
| Type GER 20/CER 20                                    | 2.0 - 13.0   | 613                       | 613                                                   | 12 pce.  | 1.0                 |
| Type GER 25/CER 25                                    | 2.0 - 16.0   | 616                       | 616                                                   | 15 pce.  | 1.0                 |
| Type GER 32/CER 32                                    | 3.0 - 20.0   | 620                       | 620                                                   | 18 pce.  | 1.0                 |
| Type GER 40/CER 40                                    | 4.0 - 26.0   | 626                       | 626                                                   | 23 pce.  | 1.0                 |

## Accessories for Centro P

### 20 235 ER clamping nuts

Standard or for sealing disc

- with trapezoidal thread and new type of surface technique to reduce friction and high clamping forces
- Double guide for exact centring of the clamping nuts

**FAHRION®**  
PRÄZISION



| for clamping nuts<br>Size | D<br>mm | Ma <sub>max</sub><br>Nm | 20 235...<br>Standard HPC |  | 20 235...<br>for sealing disc HPC-DI |  |
|---------------------------|---------|-------------------------|---------------------------|--|--------------------------------------|--|
| HPC 16 · HPC 16-DI        | 30      | 50                      | 201                       |  | 101                                  |  |
| HPC 25 · HPC 25-DI        | 40      | 85                      | 203                       |  | 103                                  |  |
| HPC 32 · HPC 32-DI        | 50      | 105                     | 205                       |  | 105                                  |  |

### 51 656 Key for standard clamping nuts

DIN 1810 B, with nose, special steel, hardened and tempered with black finish

### 20 229 Ring wrench for standard clamping nuts



51 656...



20 229...

| for clamping nuts<br>Size | range<br>mm | D<br>mm | 51 656... |  |
|---------------------------|-------------|---------|-----------|--|
| HPC 16 · HPC 16-DI        | 30 - 32     | 30      | 253       |  |
| HPC 25 · HPC 25-DI        | 40 - 42     | 40      | 276       |  |
| HPC 32 · HPC 32-DI        | 45 - 50     | 50      | 279       |  |

| for clamping nuts<br>Size | D<br>mm | 20 229... |  |
|---------------------------|---------|-----------|--|
| HPC 16 · HPC 16-DI        | 30      | 001       |  |
| HPC 25 · HPC 25-DI        | 40      | 003       |  |
| HPC 32 · HPC 32-DI        | 50      | 005       |  |

### 55 040 Torque wrenches

suitable for chuck key attachment 20 233...

**DREMOTEC**



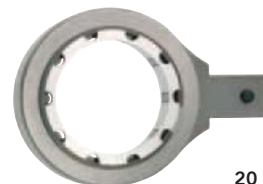
55 040...

| for clamping nuts<br>Size             | Torque range<br>Nm | 55 040... |  | Length<br>mm | Push-in square<br>mm |
|---------------------------------------|--------------------|-----------|--|--------------|----------------------|
| HPC 16 · HPC 16-DI/HPC 25 · HPC 25-DI | 10 - 100           | 005       |  | 375          | 9 x 12               |
| HPC 32 · HPC 32-DI                    | 20 - 200           | 009       |  | 475          | 14 x 18              |

### 20 233 Chuck key attachment for standard clamping nuts 20 235...

can only be used in conjunction with torque wrench 55 040...  
(see above)

| for size           | D<br>mm | Torque range<br>Nm | 20 233... |  | Square drive<br>Nm |
|--------------------|---------|--------------------|-----------|--|--------------------|
| HPC 16 · HPC 16-DI | 30      | 10 - 100           | 001       |  | 9 x 12             |
| HPC 25 · HPC 25-DI | 40      | 20 - 200           | 003       |  | 14 x 18            |
| HPC 32 · HPC 32-DI | 50      | 20 - 200           | 005       |  | 14 x 18            |



20 233...

### 20 237 Adjustable stop screws



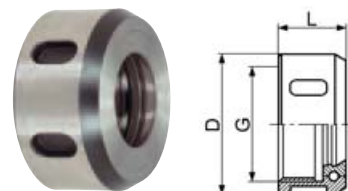
| For       | Size     | SW1<br>mm | L1<br>mm | 20 237...<br>Shape U |  | SB<br>mm | 20 237...<br>Shape W |  | SB<br>mm | L1<br>mm | L2<br>mm | D<br>mm |
|-----------|----------|-----------|----------|----------------------|--|----------|----------------------|--|----------|----------|----------|---------|
| CP 16     | M 11 x 1 | 6         | 8        | 001                  |  | 1.6      | 101                  |  | 1.2      | 8        | 22       | 7       |
| CP25-CP32 | M 18     | 8         | 10       | 003                  |  | 2.5      | 103                  |  | 1.6      | 10       | 28       | 10.5    |



**20 241 OZ clamping nuts**

with ball bearing supported clamping ring for collet chucks  
No. 20 232..., 20 234..., 20 236..., for replacement requirements

| G<br>mm | D<br>mm | 20 241... |  | Length L<br>mm |
|---------|---------|-----------|--|----------------|
| 16      | 43      | 016       |  | 24             |
| 25      | 60      | 025       |  | 30             |
| 32      | 72      | 032       |  | 33.5           |



20 241...

**20 242 OZ hook spanner**

made of quenched and tempered steel, for collet chucks  
No. 20 232..., 20 234..., 20 236...



20 242...

| Size<br>mm | for clamping<br>capacity | 20 242... |  | Length L<br>mm |
|------------|--------------------------|-----------|--|----------------|
| 16         | 2 - 16                   | 001       |  | 170            |
| 25         | 2 - 25                   | 002       |  | 240            |
| 32         | 3 - 32                   | 003       |  | 240            |

**20 752 Tapping collets**FAHRION®  
PRÄZISION

with integrated axial compensation for milling cutter chuck

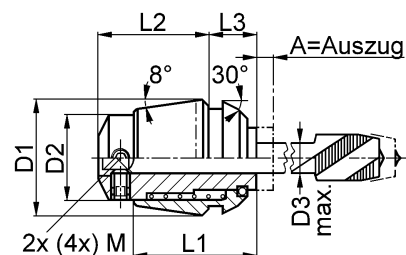
**Type:** Compact and very robust design, overall dimensions conform to DIN 6499.  
Spring force adjusted to the size of the tap. The tapping collet is an insert with extension stroke but no compression stroke

**Use:** For clamping taps. In CNC machines, fixed cycles with 95 (small) to 99° (large thread) feed or pitch value application to achieve lengthwise compensation in both directions on reversing the direction of rotation of the spindle



20 752...

| Bore Ø<br>mm                                                    | 20 752... |  | Suitable for taps<br>in accordance with |               |
|-----------------------------------------------------------------|-----------|--|-----------------------------------------|---------------|
|                                                                 |           |  | DIN 371                                 | DIN 374 + 376 |
| Type 4033 E 16 (L x D1: 22.0 x 17.0 mm; A x D2: 7.0 x 11.0 mm)  |           |  |                                         |               |
| 4.5                                                             | 050       |  | M 4                                     | M 6           |
| 6.0                                                             | 055       |  | M 4.5 + 5 + 6                           | M 8           |
| Type 4284 E 20 (L x D1: 24.0 x 21.0 mm; A x D2: 7.0 x 14.0 mm)  |           |  |                                         |               |
| 4.5                                                             | 070       |  | M 4                                     | M 6           |
| 6.0                                                             | 074       |  | M 4.5 + 5 + 6                           | M 8           |
| Type 4285 E 25 (L x D1: 26.0 x 26.0 mm; A x D2: 8.0 x 19.0 mm)  |           |  |                                         |               |
| 4.5                                                             | 088       |  | M 4                                     | M 6           |
| 6.0                                                             | 092       |  | M 4.5 + 5 + 6                           | M 8           |
| 8.0                                                             | 097       |  | M 8                                     | M 11          |
| 9.0                                                             | 099       |  | M 9                                     | M 12          |
| 10.0                                                            | 100       |  | M 10                                    | -             |
| Type 4538 E 32 (L x D1: 33.0 x 33.0 mm; A x D2: 10.0 x 23.0 mm) |           |  |                                         |               |
| 4.5                                                             | 120       |  | M 4                                     | M 6           |
| 6.0                                                             | 124       |  | M 4.5 + 5 + 6                           | M 8           |
| 8.0                                                             | 129       |  | M 8                                     | M 11          |
| 9.0                                                             | 131       |  | M 9                                     | M 12          |
| 10.0                                                            | 132       |  | M 10                                    | -             |
| 11.0                                                            | 134       |  | -                                       | M 14          |
| 12.0                                                            | 136       |  | -                                       | M 16          |
| Type 4717 E 40 (L x D1: 42.0 x 41.0 mm; A x D2: 13.0 x 28.0 mm) |           |  |                                         |               |
| 9.0                                                             | 157       |  | M 9                                     | M 12          |
| 10.0                                                            | 158       |  | M 10                                    | -             |
| 11.0                                                            | 160       |  | -                                       | M 14          |
| 12.0                                                            | 162       |  | -                                       | M 16          |
| 14.0                                                            | 164       |  | -                                       | M 18          |
| 16.0                                                            | 166       |  | -                                       | M 20          |

**20 255 Collet chuck keys**

AMF®

for clamping nuts (ER) according to DIN 6499 special steel, hardened, zinc plated

| Size  | 20 255... |  | Ø<br>mm | Length<br>mm |
|-------|-----------|--|---------|--------------|
| ER 16 | 016       |  | 32      | 163          |
| ER 20 | 020       |  | 35      | 183          |
| ER 25 | 025       |  | 42      | 203          |
| ER 32 | 032       |  | 50      | 253          |
| ER 40 | 040       |  | 63      | 285          |
| - 50  | 050       |  | 78      | 350          |



20 255...



## 20 257 Clamping nuts to DIN 6499

with six slots (shape E), pre-balanced for increased speeds (max. speed 15 000/min.)

20 257 160 with hexagon head (shape D), max. speed 7 000/min.

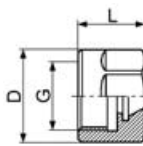
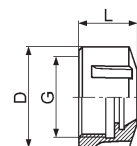
| Size  | 20 257... |  | Thread      | D x L<br>mm | Type   |
|-------|-----------|--|-------------|-------------|--------|
| ER 11 | 011       |  | M 22 x 0.75 | 19 x 12     | 4008 E |
| ER 16 | 016       |  | M 22 x 1.5  | 32 x 18     | 426 E  |
| ER 20 | 020       |  | M 25 x 1.5  | 35 x 19     | 428 E  |
| ER 25 | 025       |  | M 32 x 1.5  | 42 x 20     | 430 E  |
| ER 32 | 032       |  | M 40 x 1.5  | 50 x 23     | 470 E  |
| ER 40 | 040       |  | M 50 x 1.5  | 63 x 26     | 472 E  |
| ER 16 | 160       |  | M 22 x 1.5  | 28 x 18     | 426 E  |



20 257 016 - 040



20 257 160



## 20 258 Collet holder

for collets according to DIN 6499 (ER/ESX), with cyl. Weldon shank, supplied with standard clamping nut (mini-nut) and internal stop



20 258 ...

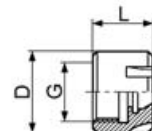
| Size | L1<br>mm | 20 258... |  | L2<br>mm | D1<br>mm | D2<br>mm | Type  |
|------|----------|-----------|--|----------|----------|----------|-------|
| ER11 | 150      | 011       |  | 19       | 16       | 16       | 4008E |
| ER16 | 140      | 016       |  | 23       | 20       | 22       | 426E  |
| ER20 | 140      | 020       |  | 24       | 25       | 28       | 428E  |



## 20 259 Mini nut

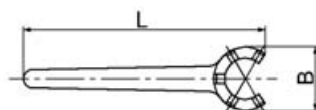
DIN 6499 due to small dimensions, for ER16 426E, ideal for multi-spindle drill heads and cyl. collet holder

| Size  | D x L<br>mm | 20 259... |  | Thread      | Type   |
|-------|-------------|-----------|--|-------------|--------|
| ER 11 | 16 x 12.0   | 011       |  | M 13 x 0.75 | 4008 E |
| ER 16 | 22 x 18.0   | 016       |  | M 19 x 1.0  | 426 E  |
| ER 20 | 22 x 19.5   | 020       |  | M 24 x 1.0  | 428 E  |



20 259 ...

## 20 260 Chuck keys for mini nuts to DIN 6499



20 260 ...

| Size | 20 260... |  | L x B<br>mm | For mini nuts |
|------|-----------|--|-------------|---------------|
| ER11 | 011       |  | 95.5 x 17   | 20 259 011    |
| ER16 | 016       |  | 110 x 22.5  | 20 259 016    |
| ER20 | 020       |  | 128 x 28    | 20 259 020    |

## 20 760 Extensions for shrink chucks

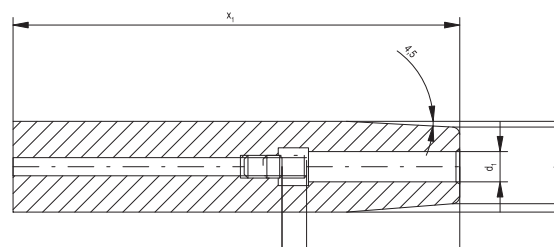
For extending and reducing to smaller diameters.

For  $\varnothing$  d1 from 3 to 5 mm without adjusting screw and for  $\varnothing$  d1 from 6 mm with adjusting screw



20 760...

| d1<br>mm | x1<br>mm | 20 760... |  | d2<br>mm | d3<br>mm | x2<br>mm |
|----------|----------|-----------|--|----------|----------|----------|
| 3        | 160      | 038       |  | 8        | 12       | 9        |
| 4        | 160      | 048       |  | 8        | 12       | 12       |
| 3        | 160      | 103       |  | 10       | 16       | 9        |
| 4        | 160      | 104       |  | 10       | 16       | 12       |
| 5        | 160      | 105       |  | 10       | 16       | 15       |
| 6        | 160      | 106       |  | 10       | 16       | 28       |
| 5        | 160      | 145       |  | 14       | 20       | 15       |
| 6        | 160      | 146       |  | 14       | 20       | 28       |
| 8        | 160      | 148       |  | 14       | 20       | 34       |
| 8        | 160      | 198       |  | 19       | 25       | 34       |
| 10       | 160      | 210       |  | 20       | 25       | 42       |
| 12       | 160      | 212       |  | 20       | 25       | 47       |
| 14       | 160      | 214       |  | 20       | 25       | 47       |
| 16       | 160      | 226       |  | 22       | 25       | 50       |
| 10       | 160      | 271       |  | 27       | 32       | 42       |
| 12       | 160      | 272       |  | 27       | 32       | 47       |
| 14       | 160      | 274       |  | 27       | 32       | 47       |
| 16       | 160      | 276       |  | 27       | 32       | 50       |
| 18       | 160      | 278       |  | 27       | 32       | 50       |
| 20       | 160      | 280       |  | 27       | 32       | 52       |

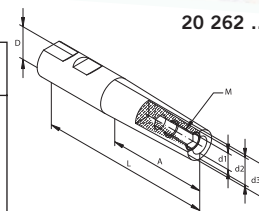


## 20 762 Milling arbors for screw-on milling cutters

Cylinder shanks DIN 1835 B

**Wodex®**


20 262 ...



| D<br>mm | 20 762... |  | M<br>mm | d1<br>mm | d2<br>mm | d3<br>mm | A<br>mm | L<br>mm |
|---------|-----------|--|---------|----------|----------|----------|---------|---------|
| 20      | 002       |  | 6       | 6.5      | 10       | 18       | 25      | 75      |
| 20      | 004       |  | 6       | 6.5      | 10       | 18       | 50      | 100     |
| 20      | 006       |  | 6       | 6.5      | 10       | 18       | 75      | 125     |
| 20      | 008       |  | 8       | 8.5      | 13       | 18       | 25      | 75      |
| 20      | 010       |  | 8       | 8.5      | 13       | 18       | 50      | 100     |
| 20      | 012       |  | 8       | 8.5      | 13       | 18       | 75      | 125     |
| 20      | 014       |  | 10      | 10.5     | 18       | 18       | 25      | 75      |
| 20      | 016       |  | 10      | 10.5     | 18       | 18       | 50      | 100     |
| 20      | 018       |  | 10      | 10.5     | 18       | 18       | 75      | 125     |
| 25      | 020       |  | 12      | 12.5     | 21       | 25       | 25      | 81      |
| 25      | 022       |  | 12      | 11.5     | 21       | 25       | 75      | 131     |
| 25      | 024       |  | 12      | 12.5     | 21       | 25       | 125     | 181     |
| 32      | 026       |  | 16      | 17       | 29       | 32       | 25      | 85      |
| 32      | 028       |  | 16      | 17       | 29       | 32       | 75      | 135     |
| 32      | 030       |  | 16      | 17       | 29       | 32       | 125     | 185     |

## 20 278 Cleaning brush

for hydraulic expansion chucks, cylindrical, made of nylon



20 278 ...

| Size Ø<br>mm | 20 278... |  |
|--------------|-----------|--|
| 6            | 006       |  |
| 8            | 008       |  |
| 10           | 010       |  |
| 12           | 012       |  |
| 16           | 016       |  |
| 20           | 020       |  |
| 25           | 025       |  |

## 20 279 Adapter/reducer bushings, slotted

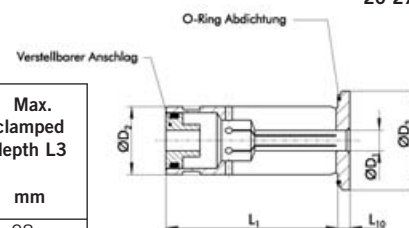
Suitable for HD chucks 20 268..., 20 271..., 20 273... and 20 277...

Coolant tight up to max. 80 bar. Coolant tightness and max. torque is only achieved at max. clamped depth

**WTE**

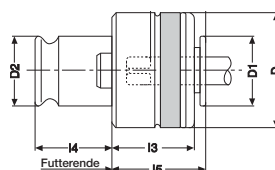

20 279 ...

| D suitable<br>in chuck<br>Ø<br>mm | 20 279... |  | Reduction to<br>shank Ø<br>mm | D1<br>mm | L1<br>mm | L2<br>mm | Max.<br>clamped<br>depth L3<br>mm |
|-----------------------------------|-----------|--|-------------------------------|----------|----------|----------|-----------------------------------|
| 12                                | 503       |  | 3                             | 19       | 44.5     | 2        | 28                                |
| 12                                | 504       |  | 4                             | 19       | 44.5     | 2        | 28                                |
| 12                                | 505       |  | 5                             | 19       | 44.5     | 2        | 28                                |
| 12                                | 506       |  | 6                             | 19       | 44.5     | 2        | 36                                |
| 12                                | 508       |  | 8                             | 19       | 44.5     | 2        | 36                                |
| 20                                | 603       |  | 3                             | 29       | 51       | 2        | 29.5                              |
| 20                                | 604       |  | 4                             | 29       | 51       | 2        | 29.5                              |
| 20                                | 605       |  | 5                             | 29       | 51       | 2        | 29.5                              |
| 20                                | 606       |  | 6                             | 29       | 51       | 2        | 39.5                              |
| 20                                | 608       |  | 8                             | 29       | 51       | 2        | 39.5                              |
| 20                                | 610       |  | 10                            | 29       | 51       | 2        | 44.5                              |
| 20                                | 612       |  | 12                            | 29       | 51       | 2        | 49.5                              |
| 20                                | 614       |  | 14                            | 29       | 51       | 2        | 49.5                              |
| 20                                | 616       |  | 16                            | 29       | 51       | 2        | 49.5                              |
| 32                                | 706       |  | 6                             | 40       | 64       | 3        | 40.0                              |
| 32                                | 708       |  | 8                             | 40       | 64       | 3        | 40.0                              |
| 32                                | 710       |  | 10                            | 40       | 64       | 3        | 45                                |
| 32                                | 712       |  | 12                            | 40       | 64       | 3        | 50                                |
| 32                                | 714       |  | 14                            | 40       | 64       | 3        | 50                                |
| 32                                | 716       |  | 16                            | 40       | 64       | 3        | 55                                |
| 32                                | 718       |  | 18                            | 40       | 64       | 3        | 55                                |
| 32                                | 720       |  | 20                            | 40       | 64       | 3        | 55                                |
| 32                                | 725       |  | 25                            | 40       | 64       | 3        | 63                                |



## 21 430 Quick-change inserts with integrated safety clutch

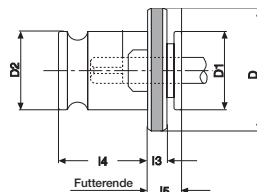
**Wodex**



21 430...

## 21 432 Quick-change inserts without safety clutch

**Wodex**



21 432...

Type DIN 371 (for taps with reinforced shank). Type DIN 376 (for taps with reduced diameter shank).

| Size               | For thread  | For tap shank Ø | For tap square | DIN | 21 430...<br>With<br>safety clutch |  | 21 432...<br>Without<br>safety clutch |  |
|--------------------|-------------|-----------------|----------------|-----|------------------------------------|--|---------------------------------------|--|
|                    |             | mm              | mm             |     |                                    |  |                                       |  |
| <b>M 2 - M 12</b>  |             |                 |                |     |                                    |  |                                       |  |
| 1                  | M 2         | 2.8             | 2.1            | 371 | 001                                |  | 001                                   |  |
| 1                  | M 3         | 3.5             | 2.7            | 371 | 003                                |  | 003                                   |  |
| 1                  | M 4         | 4.5             | 3.4            | 371 | 005                                |  | 005                                   |  |
| 1                  | M 5 + M 6   | 6.0             | 4.9            | 371 | 007                                |  | 007                                   |  |
| 1                  | M 7         | 7.0             | 5.5            | 371 | 009                                |  | 009                                   |  |
| 1                  | M 8         | 8.0             | 6.2            | 371 | 010                                |  | 010                                   |  |
| 1                  | M 9         | 9.0             | 7.0            | 371 | 011                                |  | 011                                   |  |
| 1                  | M 10        | 10.0            | 8.0            | 371 | 012                                |  | 012                                   |  |
| 1                  | M 12        | 9.0             | 7.0            | 376 | 060                                |  | 060                                   |  |
| <b>M 6 - M 20</b>  |             |                 |                |     |                                    |  |                                       |  |
| 2                  | M 6         | 6.0             | 4.9            | 371 | 013                                |  | 013                                   |  |
| 2                  | M 7         | 7.0             | 5.5            | 371 | 015                                |  | 015                                   |  |
| 2                  | M 8         | 8.0             | 6.3            | 371 | 016                                |  | 016                                   |  |
| 2                  | M 10        | 10.0            | 8.0            | 371 | 018                                |  | 018                                   |  |
| 2                  | M 12        | 9.0             | 7.0            | 376 | 017                                |  | 017                                   |  |
| 2                  | M 14        | 11.0            | 9.0            | 376 | 019                                |  | 019                                   |  |
| 2                  | M 16        | 12.0            | 9.0            | 376 | 021                                |  | 021                                   |  |
| 2                  | M 18        | 14.0            | 11.0           | 376 | 023                                |  | 023                                   |  |
| 2                  | M 20        | 16.0            | 12.0           | 376 | 025                                |  | 025                                   |  |
| <b>M 14 - M 33</b> |             |                 |                |     |                                    |  |                                       |  |
| 3                  | M 14        | 11.0            | 9.0            | 376 | 027                                |  | 027                                   |  |
| 3                  | M 16        | 12.0            | 9.0            | 376 | 029                                |  | 029                                   |  |
| 3                  | M 18        | 14.0            | 11.0           | 376 | 031                                |  | 031                                   |  |
| 3                  | M 20        | 16.0            | 12.0           | 376 | 033                                |  | 033                                   |  |
| 3                  | M 22 / M 24 | 18.0            | 14.5           | 376 | 036                                |  | 036                                   |  |
| 3                  | M 27        | 20.0            | 16.0           | 376 | 037                                |  | 037                                   |  |
| 3                  | M 30        | 22.0            | 18.0           | 376 | 038                                |  | 038                                   |  |
| 3                  | M 33        | 25.0            | 20.0           | 376 | 040                                |  | 040                                   |  |

suitable for original BILZ quick-change chucks

| Size                                              | Thread Ø    | Shank Ø  | D  | D1 | D2 | I3 | I4   | I5 |
|---------------------------------------------------|-------------|----------|----|----|----|----|------|----|
|                                                   |             | mm       | mm | mm | mm | mm | mm   | mm |
| <b>Quick-change inserts with safety clutch</b>    |             |          |    |    |    |    |      |    |
| 1                                                 | M 3 - M 12  | 2.5 - 10 | 32 | 19 | 19 | 25 | 21.5 | 25 |
| 2                                                 | M 6 - M 20  | 6 - 16   | 50 | 30 | 31 | 31 | 35   | 34 |
| 3                                                 | M 14 - M 33 | 11 - 25  | 72 | 48 | 48 | 44 | 55.5 | 45 |
| <b>Quick-change inserts without safety clutch</b> |             |          |    |    |    |    |      |    |
| 1                                                 | M 3 - M 12  | 2.5 - 10 | 30 | 19 | 19 | 4  | 21.5 | 7  |
| 2                                                 | M 6 - M 20  | 6 - 16   | 46 | 30 | 31 | 5  | 35   | 11 |
| 3                                                 | M 14 - M 33 | 11 - 25  | 68 | 48 | 48 | 6  | 55.5 | 14 |



**20 352 Tightening bolts shape A**DIN  
69872

with coolant hole, for tools with shank design according to DIN 69872



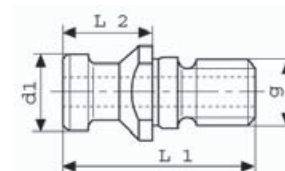
20 352...

**20 353 Tightening bolts shape B**DIN  
69872

without coolant hole, for tools with shank design according to DIN 69872



20 353...



| For SK | with coolant hole |  | without coolant hole |  | d1 | L1 | L2 | g    |
|--------|-------------------|--|----------------------|--|----|----|----|------|
|        | 20 352...         |  | 20 353...            |  | mm | mm | mm |      |
| 40     | 005               |  | 005                  |  | 19 | 54 | 26 | M 16 |
| 50     | 010               |  | 010                  |  | 28 | 74 | 34 | M 24 |

**20 356 Tightening bolts Type A**DIN  
7388/II

with coolant hole, for tools with shank design according to DIN 69871



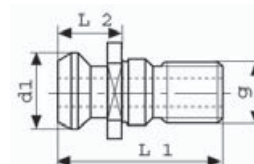
20 356...

**20 357 Tightening bolts Type B**DIN  
7388/II

without coolant hole, for tools with shank design according to DIN 69871



20 357...



| For SK | with coolant hole |  | without coolant hole |  | d1 | L1   | L2   | g    |
|--------|-------------------|--|----------------------|--|----|------|------|------|
|        | 20 356...         |  | 20 357...            |  | mm | mm   | mm   |      |
| 40     | 005               |  | 005                  |  | 19 | 44.5 | 16.4 | M 16 |
| 50     | 010               |  | 010                  |  | 29 | 65.5 | 25.5 | M 24 |

**20 360 Tightening bolts 45°**JIS  
B6339

MAS-BT

for tools with shank design according to JIS B 6339 (formerly MAS-BT)



20 360...

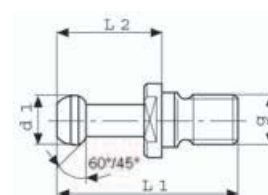
**20 361 Tightening bolts 60°**JIS  
B6339

MAS-BT

for tools with shank design according to JIS B 6339 (formerly MAS-BT)



20 361...

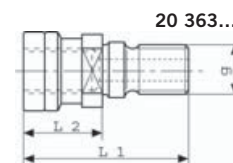


| For SK | $\alpha = 45^\circ$<br>20 360... |  | $\alpha = 60^\circ$<br>20 361... |  | d1 | l1 | l2 | g    |
|--------|----------------------------------|--|----------------------------------|--|----|----|----|------|
|        |                                  |  |                                  |  | mm | mm | mm |      |
| 40     | 005                              |  | 005                              |  | 15 | 60 | 35 | M 16 |
| 50     | 010                              |  | 010                              |  | 23 | 85 | 45 | M 24 |

## 20 363 Annular groove bolts

for use on machines with automatic annular groove clamping or draw bar M 16, for tools with shanks designed according to DIN 69871

| For SK | 20 363... |  | L1<br>mm | L2<br>mm | g    |
|--------|-----------|--|----------|----------|------|
| 40     | 001       |  | 53       | 25       | M 16 |
| 50     | 002       |  | 65       | 25       | M 24 |

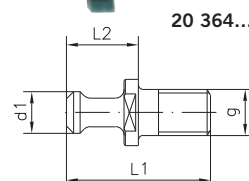


## 20 364 Special tightening bolts

suitable for Avia machines

...011 however, with hole

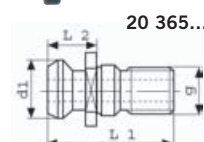
| For SK | 20 364... |  | L1<br>mm | L2<br>mm | d1<br>mm | g    |
|--------|-----------|--|----------|----------|----------|------|
| 40     | 001       |  | 50       | 25       | 14.4     | M 16 |
| 40     | 011       |  | 50       | 25       | 14.4     | M 16 |



## 20 365 Special tightening bolts

suitable for Mazak machines

| For SK | 20 365... |  | L1<br>mm | L2<br>mm | d1<br>mm | g    |
|--------|-----------|--|----------|----------|----------|------|
| 40     | 001       |  | 41.25    | 16.25    | 18.80    | M 16 |
| 50     | 002       |  | 65.20    | 25.20    | 29.00    | M 24 |



## 20 765 Coolant transfer unit /key

Scope of supply: 1 x coolant tube, 1 x union nut, 2 x O-rings

| Size    | 20 765...<br>Transfer unit |  | 20 765...<br>Key |  |
|---------|----------------------------|--|------------------|--|
| HSK 63  | 063                        |  | 363              |  |
| HSK 100 | 100                        |  | 400              |  |



20 765 363 - ...400

## 20 366 Safety grip

for retrofitting on your existing keys. Also suitable for key 20 368....

With spacer sleeve and notched screw



| Ø<br>mm | 20 366... |  | Height<br>mm |
|---------|-----------|--|--------------|
| 80      | 001       |  | 52           |



20 366 001

## 20 367 Safety spanner

for safe and secure tightening of the milling cutter tightening screw according to DIN 6367

Special steel hardened with rotatable safety grip made of plastic



| Size | 20 367... |  | For screw | Overall length<br>mm |
|------|-----------|--|-----------|----------------------|
| 16   | 016       |  | M 8       | 180                  |
| 22   | 022       |  | M 10      | 200                  |
| 27   | 027       |  | M 12      | 225                  |
| 32   | 032       |  | M 16      | 250                  |
| 40   | 040       |  | M 20      | 280                  |



20 367 ...

## 20 368 Spanner

**DIN 6368**, for tightening and loosening milling cutter tightening screws according to **DIN 6367** on milling cutter arbors

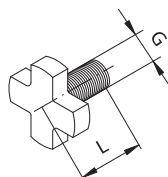


20 368 ...

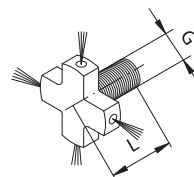
| Size | 20 368... |  | For screw | Overall length<br>mm |
|------|-----------|--|-----------|----------------------|
| 13   | 013       |  | M 6       | 160                  |
| 16   | 016       |  | M 8       | 180                  |
| 22   | 022       |  | M 10      | 200                  |
| 27   | 027       |  | M 12      | 225                  |
| 32   | 032       |  | M 16      | 250                  |
| 40   | 040       |  | M 20      | 280                  |
| 50   | 050       |  | M 24      | 315                  |

## 20 370 Milling cutter tightening screws

**DIN 6367**, for fastening shell end mill cutters and shell end mill cutters on milling cutter arbors  
...116 - ...150: hole drilled through for coolant flow



20 370 016 - ...050



20 370 116 - ...150



20 370 ...

| For arbor Ø<br>mm | 20 370... |  | Thread<br>G | Length<br>L<br>mm | 20 370...<br>drilled through |  |
|-------------------|-----------|--|-------------|-------------------|------------------------------|--|
| 16                | 016       |  | M 8         | 22                | 116                          |  |
| 22                | 022       |  | M 10        | 25                | 122                          |  |
| 27                | 027       |  | M 12        | 30                | 127                          |  |
| 32                | 032       |  | M 16        | 35                | 132                          |  |
| 40                | 040       |  | M 20        | 40                | 140                          |  |
| 50                | 050       |  | M 24        | 48                | 150                          |  |

## 20 371 Milling cutter tightening screw with hexagon socket

**Type:** Consisting of a threaded bolt onto which a threaded ring is screwed. The threaded bolt has a hexagon (Allen) key, so that this can be tightened with any hexagon (Allen) key.

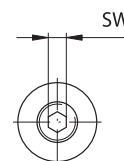
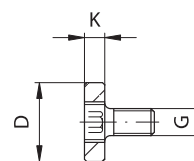
**More safety:** Due to the different pitches of the two threads an increased locking effect is achieved. The screw can no longer loosen itself. The milling cutter is securely mounted without major effort - without tube extensions and hammer blows.

**Advantages:** No negative stresses on the spindle and spindle bearings. No risk of injury as tube extensions are no longer needed. No damage to the milling cutter blades by slipping off spanners



20 371 ...

| Thread Ø<br>G | 20 371... |  | Head Ø<br>mm | Head height<br>mm | For Allen key | For pin Ø |
|---------------|-----------|--|--------------|-------------------|---------------|-----------|
| M 6           | 013       |  | 17           | 6                 | 4             | 13        |
| M 8           | 016       |  | 20           | 7                 | 5             | 16        |
| M 10          | 022       |  | 28           | 8                 | 6             | 22        |
| M 12          | 027       |  | 35           | 9                 | 8             | 27        |
| M 16          | 032       |  | 42           | 10                | 10            | 32        |
| M 20          | 040       |  | 52           | 11                | 12            | 40        |



## 20 374 Sawblade holders

for holding saw blades. With cylinder shank Ø 20 or Ø 25 for mounting in surface chucks, high concentricity accuracy.  
Scope of supply: Holder, adapter plate and clamping screw



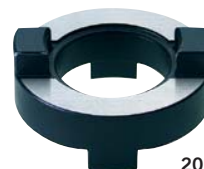
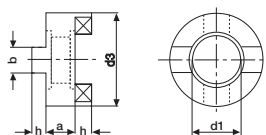
20 374 ...

| Sawblade Ø<br>mm | 20 374... |  | Overall length<br>mm | Shank Ø<br>mm | Mounting Ø<br>mm |
|------------------|-----------|--|----------------------|---------------|------------------|
| 20               | 020       |  | 94                   | 20            | 5                |
| 25               | 025       |  | 104                  | 20            | 8                |
| 32               | 032       |  | 110                  | 20            | 8                |
| 40               | 040       |  | 114                  | 20            | 10               |
| 50               | 050       |  | 141                  | 25            | 13               |
| 63               | 063       |  | 141                  | 25            | 16               |



## 20 372 Driver rings

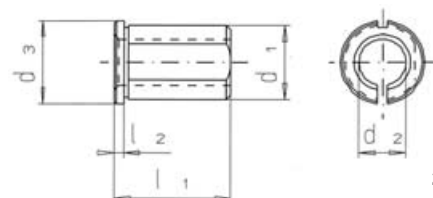
DIN 6366, for milling cutter drive on combination milling cutter arbors, end faces ground parallel



20 372 ...

| d 1<br>mm | 20 372... |  | h<br>mm | b<br>mm | d 3<br>mm | a<br>mm | Parallelism<br>of the sur-<br>faces from a<br>mm |
|-----------|-----------|--|---------|---------|-----------|---------|--------------------------------------------------|
| 16        | 016       |  | 5       | 8       | 32        | 10      | 0.004                                            |
| 22        | 022       |  | 5.6     | 10      | 40        | 12      | 0.004                                            |
| 27        | 027       |  | 6.3     | 12      | 48        | 12      | 0.004                                            |
| 32        | 032       |  | 7       | 14      | 58        | 14      | 0.005                                            |
| 40        | 040       |  | 8       | 16      | 70        | 14      | 0.005                                            |

## 20 373 RZ adapter/reducer bushing, slotted



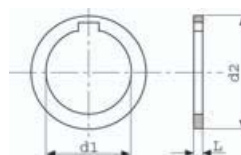
20 373...

| d1<br>mm | 20 373... |  | d2<br>mm | d3<br>mm | l1<br>mm | l2<br>mm |
|----------|-----------|--|----------|----------|----------|----------|
| 20       | 002       |  | 8        | 24       | 30       | 4        |
| 20       | 004       |  | 10       | 24       | 30       | 4        |
| 20       | 006       |  | 12       | 24       | 30       | 4        |
| 20       | 008       |  | 14       | 24       | 30       | 4        |
| 20       | 010       |  | 15       | 24       | 30       | 4        |
| 20       | 012       |  | 16       | 24       | 30       | 4        |
| 25       | 014       |  | 8        | 29       | 40       | 4        |
| 25       | 016       |  | 10       | 29       | 40       | 4        |
| 25       | 018       |  | 12       | 29       | 40       | 4        |
| 25       | 020       |  | 14       | 29       | 40       | 4        |
| 25       | 022       |  | 15       | 29       | 40       | 4        |
| 25       | 024       |  | 16       | 29       | 40       | 4        |
| 25       | 026       |  | 18       | 29       | 40       | 4        |
| 25       | 028       |  | 20       | 29       | 40       | 4        |
| 32       | 030       |  | 8        | 36       | 50       | 4        |
| 32       | 032       |  | 10       | 36       | 50       | 4        |

| d1<br>mm | 20 373... |  | d2<br>mm | d3<br>mm | l1<br>mm | l2<br>mm |
|----------|-----------|--|----------|----------|----------|----------|
| 32       | 034       |  | 12       | 36       | 50       | 4        |
| 32       | 036       |  | 14       | 36       | 50       | 4        |
| 32       | 038       |  | 15       | 36       | 50       | 4        |
| 32       | 040       |  | 16       | 36       | 50       | 4        |
| 32       | 042       |  | 18       | 36       | 50       | 4        |
| 32       | 044       |  | 20       | 36       | 50       | 4        |
| 32       | 046       |  | 25       | 36       | 50       | 4        |
| 40       | 048       |  | 10       | 44       | 78       | 4        |
| 40       | 050       |  | 12       | 44       | 78       | 4        |
| 40       | 052       |  | 14       | 44       | 78       | 4        |
| 40       | 054       |  | 15       | 44       | 78       | 4        |
| 40       | 056       |  | 16       | 44       | 78       | 4        |
| 40       | 058       |  | 18       | 44       | 78       | 4        |
| 40       | 060       |  | 20       | 44       | 78       | 4        |
| 40       | 062       |  | 25       | 44       | 78       | 4        |
| 40       | 064       |  | 32       | 44       | 78       | 4        |

## 20 380 Ring for milling cutter arbors

DIN 2084, shape A, made of hardened steel, cut, available in packs of 10 only



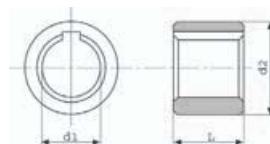
20 380 ...

| d1<br>mm | L<br>mm | 20 380... |  | d2<br>mm |
|----------|---------|-----------|--|----------|
| 16       | 0.03    | 001       |  | 25       |
| 16       | 0.05    | 002       |  | 25       |
| 16       | 0.1     | 003       |  | 25       |
| 16       | 0.2     | 004       |  | 25       |
| 16       | 0.3     | 005       |  | 25       |
| 16       | 0.5     | 006       |  | 25       |
| 16       | 0.6     | 007       |  | 25       |
| 16       | 1       | 008       |  | 25       |
| 22       | 0.03    | 009       |  | 33       |
| 22       | 0.05    | 010       |  | 33       |
| 22       | 0.1     | 011       |  | 33       |
| 22       | 0.2     | 012       |  | 33       |
| 22       | 0.3     | 013       |  | 33       |
| 22       | 0.5     | 014       |  | 33       |
| 22       | 0.6     | 015       |  | 33       |
| 22       | 1       | 016       |  | 33       |
| 27       | 0.03    | 021       |  | 39       |
| 27       | 0.05    | 022       |  | 39       |
| 27       | 0.1     | 023       |  | 39       |
| 27       | 0.2     | 024       |  | 39       |

| d1<br>mm | L<br>mm | 20 380... |  | d2<br>mm |
|----------|---------|-----------|--|----------|
| 27       | 0.3     | 025       |  | 39       |
| 27       | 0.5     | 026       |  | 39       |
| 27       | 0.6     | 027       |  | 39       |
| 27       | 1       | 028       |  | 39       |
| 32       | 0.03    | 031       |  | 45       |
| 32       | 0.05    | 032       |  | 45       |
| 32       | 0.1     | 033       |  | 45       |
| 32       | 0.2     | 034       |  | 45       |
| 32       | 0.3     | 035       |  | 45       |
| 32       | 0.5     | 036       |  | 45       |
| 32       | 0.6     | 037       |  | 45       |
| 32       | 1       | 038       |  | 45       |
| 40       | 0.03    | 041       |  | 54       |
| 40       | 0.05    | 042       |  | 54       |
| 40       | 0.1     | 043       |  | 54       |
| 40       | 0.2     | 044       |  | 54       |
| 40       | 0.3     | 045       |  | 54       |
| 40       | 0.5     | 046       |  | 54       |
| 40       | 0.6     | 047       |  | 54       |
| 40       | 1       | 048       |  | 54       |

**20 381 Ring for milling cutter arbors**

DIN 2084, shape B, turned and ground, made of case-hardening steel, minimum hardness 54 +/- 2 HRC



20 381 ...

| d1<br>mm | L<br>mm | 20 381... |  | d2<br>mm |
|----------|---------|-----------|--|----------|
| 16       | 2       | 001       |  | 27       |
| 16       | 3       | 002       |  | 27       |
| 16       | 5       | 003       |  | 27       |
| 16       | 6       | 004       |  | 27       |
| 16       | 10      | 005       |  | 27       |
| 16       | 20      | 006       |  | 27       |
| 16       | 30      | 007       |  | 27       |
| 16       | 60      | 008       |  | 27       |
| 22       | 2       | 011       |  | 34       |
| 22       | 3       | 012       |  | 34       |
| 22       | 5       | 013       |  | 34       |
| 22       | 6       | 014       |  | 34       |
| 22       | 10      | 015       |  | 34       |
| 22       | 20      | 016       |  | 34       |
| 22       | 30      | 017       |  | 34       |
| 22       | 60      | 018       |  | 34       |
| 22       | 100     | 019       |  | 34       |
| 27       | 2       | 021       |  | 41       |
| 27       | 3       | 022       |  | 41       |
| 27       | 5       | 023       |  | 41       |
| 27       | 6       | 024       |  | 41       |
| 27       | 10      | 025       |  | 41       |

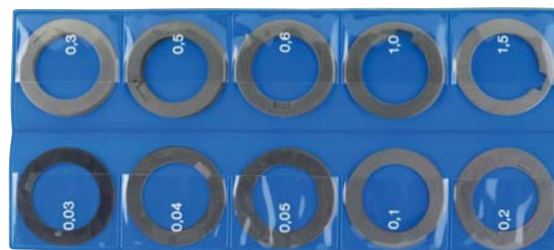
| d1<br>mm | L<br>mm | 20 381... |  | d2<br>mm |
|----------|---------|-----------|--|----------|
| 27       | 20      | 026       |  | 41       |
| 27       | 30      | 027       |  | 41       |
| 27       | 60      | 028       |  | 41       |
| 27       | 100     | 029       |  | 41       |
| 32       | 2       | 031       |  | 47       |
| 32       | 3       | 032       |  | 47       |
| 32       | 5       | 033       |  | 47       |
| 32       | 6       | 034       |  | 47       |
| 32       | 10      | 035       |  | 47       |
| 32       | 20      | 036       |  | 47       |
| 32       | 30      | 037       |  | 47       |
| 32       | 60      | 038       |  | 47       |
| 32       | 100     | 039       |  | 47       |
| 40       | 2       | 041       |  | 55       |
| 40       | 3       | 042       |  | 55       |
| 40       | 5       | 043       |  | 55       |
| 40       | 6       | 044       |  | 55       |
| 40       | 10      | 045       |  | 55       |
| 40       | 20      | 046       |  | 55       |
| 40       | 30      | 047       |  | 55       |
| 40       | 60      | 048       |  | 55       |
| 40       | 100     | 049       |  | 55       |

**20 382 Milling arbor collar set**

in plastic bag.

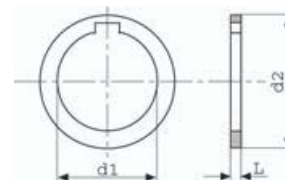
Range I consists of 10x0.03, 10x0.04, 10x0.05, 10x0.1, 5x0.2, 5x0.3, 4x0.5, 3x0.6, 2x1, 1x1.5.

Range II consists of 5x0.03, 5x0.04, 5x0.05, 6x0.1, 3x0.2, 3x0.3, 3x0.5, 2x0.6, 2x1, 0.1x1.5.



20 382 ...

| d1<br>mm | 20 382... |  | d1<br>mm | 20 382... |  |
|----------|-----------|--|----------|-----------|--|
| Range I  |           |  | Range II |           |  |
| 16       | 001       |  | 16       | 011       |  |
| 22       | 002       |  | 22       | 012       |  |
| 27       | 003       |  | 27       | 013       |  |
| 32       | 004       |  | 32       | 014       |  |
| 40       | 005       |  | 40       | 015       |  |

**20 385 Replacement clamping screws**

DIN 1835 B / E, for cylinder shank holders

| For chuck bore<br>mm | 20 385... |  | Size     |
|----------------------|-----------|--|----------|
| 6                    | 006       |  | M 6      |
| 8                    | 008       |  | M 8      |
| 10                   | 010       |  | M 10     |
| 12                   | 012       |  | M 12     |
| 16                   | 016       |  | M 14     |
| 20                   | 020       |  | M 16     |
| 25                   | 025       |  | M 18 x 2 |
| 32                   | 032       |  | M 20 x 2 |



20 385 ...

## 20 387 Taper wipers

For cleaning dust and swarf from the machine tapers and taper adapters. Type HSK for DIN A, C or E

| Taper   | 20 387... |  | Overall length<br>mm |
|---------|-----------|--|----------------------|
| SK 30   | 002       |  | 155                  |
| SK 40   | 003       |  | 180                  |
| SK 50   | 006       |  | 220                  |
| MK 1    | 011       |  | 160                  |
| MK 2    | 012       |  | 175                  |
| MK 3    | 013       |  | 185                  |
| MK 4    | 014       |  | 220                  |
| MK 5    | 015       |  | 250                  |
| HSK 63  | 030       |  | 152                  |
| HSK 100 | 040       |  | 210                  |



20 387 002 - ...006

20 387 011 - ...015

20 387 030 - ...040

## 20 389 Morse taper ejecting drifts

made of special steel, hardened, for tool taper DIN 228, tempered with black surface finish



20 389 ...

| For Morse taper<br>MK | 20 389... |  | Overall length<br>mm | Height x width<br>mm |
|-----------------------|-----------|--|----------------------|----------------------|
| 1 - 2                 | 010       |  | 140                  | 20 x 5               |
| 3                     | 030       |  | 190                  | 25 x 7               |
| 4                     | 040       |  | 225                  | 30 x 10              |
| 5 - 6                 | 050       |  | 265                  | 35 x 15              |

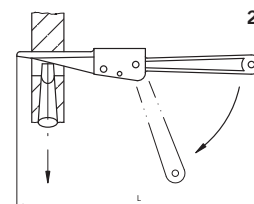
## 20 390 Semi-automatic Morse taper ejecting drift

semi-automatic for tool taper DIN 228, excludes damage to the spindle when removing conical tools, one-hand use, made of special hardened steel, plastic coated handle, red; ...001 with finger protection



20 390 ...

| Size | 20 390... |  | For Morse taper<br>MK | Overall length<br>mm |
|------|-----------|--|-----------------------|----------------------|
| 1    | 001       |  | 1 - 3                 | 317                  |
| 2    | 002       |  | 4 - 6                 | 380                  |



## 20 392 Driving tenon toolholder keys

for clamping tapered shanks with tenons and cotter slot, spindle extensions and adapter sleeves, large degree of safety due to perfect and secure fit of the tool, easy to handle, quick clamping and releasing of only one screw, protects the spindle bearing and maintains the precision of tool and machine

| Internal taper<br>MK | 20 392... |  | For spindle Ø<br>mm | Length<br>mm |
|----------------------|-----------|--|---------------------|--------------|
| 3                    | 003       |  | 36                  | 34           |
| 4                    | 005       |  | 48                  | 45           |
| 4                    | 007       |  | 63                  | 60           |
| 5                    | 009       |  | 63                  | 60           |
| 5                    | 016       |  | 80                  | 76           |
| 6                    | 021       |  | 100                 | 96           |



20 392 ...

## 20 404 Edge finder

mechanical, for aligning edges of workpiece reference surfaces or edges, spindle speed approx. 600 rpm, the sensing head is elastically connected to the clamping shank by a spring and enables an alignment accuracy of 0.01 mm, in wooden case



20 404 ...

| Size<br>mm   | 20 404... |  | Sensing head Ø<br>mm | Clamping shank Ø<br>mm |
|--------------|-----------|--|----------------------|------------------------|
| 10. 10       | 006       |  | 10                   | 10                     |
| 10. 10. 4    | 008       |  | 10 and 4             | 10                     |
| Spare spring | 100       |  | -                    | -                      |

**20 408 Edge finder**

with **LED display**, for measuring operations on drills, milling machines, machining centres, etc., for fast and precise determination of the middle of the spindle relative to the workpiece, external and internal centring, height and depth measurements, moving calibrated ball which retracts when moving over the reference edge, five LED displays for good all-round view, supplied ready for use with two batteries

**012...**: when scanning in the spring-mounted Z axis the reference length must be measured in a presetting device and must be taken into account.

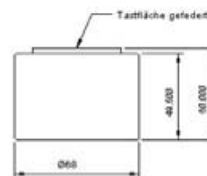
**Wodex®**

20 408 010

| Type | 20 408... |  | Accuracy<br>mm | Clamping shank Ø<br>mm | Whole length<br>mm |
|------|-----------|--|----------------|------------------------|--------------------|
| 2 D  | 010       |  | 0.005          | 20                     | ca. 94             |
| 3 D  | 012       |  | 0.01           | 20                     | ca. 106            |

**20 416 Zero finder**

for adjusting tools (milling cutters, drill bits or cutter heads) in the **Z axis**. How it works: Move dial to zero - determine the machine's reference point - move the tool onto the spring-loaded sensing surface until the dial gauge reads "0" - the tool is now exactly 50 mm above the bench or workpiece

**Wodex®**

20 416 015

| Set height<br>mm | 20 416... |  | Accuracy<br>mm |
|------------------|-----------|--|----------------|
| 50               | 015       |  | 0.01           |

**20 450 Assembly system (swivelling)**

- aluminium housing
- interchangeable toolholders made of steel
- faster and easier exchange of the toolholders
- 4 x 90° swivelling and indexing capacity
- form lock fixing of the tools
- no taper damage
- small space requirement
- low force application thanks to optimum ergonomics
- split-second and safe tool change

**Wodex®**

20 450 010



20 450 140

|            | Size    | 20 450... |  |
|------------|---------|-----------|--|
| Basic unit |         | 010       |  |
| Toolholder | SK 40   | 140       |  |
| Toolholder | SK 50   | 150       |  |
| Toolholder | HSK 63  | 263       |  |
| Toolholder | HSK 100 | 300       |  |
| Toolholder | VDI 30  | 430       |  |
| Toolholder | VDI 40  | 440       |  |
| Toolholder | VDI 50  | 450       |  |

**20 420 3D sensor, analog****HAIMER**

a precise and versatile measuring device for milling and EDM erosion machines (insulated probe tip)

- can be used to sense in any direction (X, Y, Z axis), the dial gauge always swings in the same direction and indicates the distance between the spindle axis and the workpiece edge
- as soon as the display is set to zero the spindle axis is precisely above the workpiece edge
- the probe tip can be changed without tools
- additional safety provided by the increased overrun in conjunction with the predetermined breaking point in the probe tip

| Shank Ø<br>mm | 20 420 |  | Accuracy<br>mm | Length without<br>shank mm |
|---------------|--------|--|----------------|----------------------------|
| 20            | 101    |  | 0.01           | 113                        |



20 420 101

**20 422 3D sensor, digital****HAIMER**

- Continued development of the tried and tested mechanical 3D sensor
- The approach can be precisely followed on the digital display
- The 0 position is found straightaway
- The machine's measuring system can be zeroed without calculation as the spindle axis is positioned directly on the sensed edge
- The digital gauge has a 0.001 mm display with large digits (8.5 mm)
- The gauge is protected against splashing water and dust and can be stored in the machine's tool magazine
- Operating period approx. 2 500 hrs of continuous operation

| Shank Ø | 20 422... |  | Reading accuracy | Length without shank with short probe tip |
|---------|-----------|--|------------------|-------------------------------------------|
| mm      |           |  | mm               | mm                                        |
| 20*     | 101       |  | 0.001            | 113                                       |

\* Other diameters and integrated steep-angle taper available on request



20 422 101

**20 421 Probe tips****HAIMER**

for 3-D sensor No. 20 420... and 20 422...

| Ø mm | 20 421... |  | Type  |
|------|-----------|--|-------|
| 4    | 101       |  | short |
| 8    | 102       |  | Long  |



20 421 101



20 421 102

**20 434 "TOOL BOY Modular" assembly tool**

- interchangeable toolholders for "TOOL BOY" basic unit
- 4 x 90° indexable
- tools assembled without reclamping
- can be installed on bench or tool trolleys
- accident-free mounting of cutting tools
- little effort required due to optimum ergonomics
- space requirement only 140 x 100 mm



20 434 140



20 434 263



20 434 010

|                       | Size    | 20 434... |  |
|-----------------------|---------|-----------|--|
| "Tool Boy" basic unit |         | 010       |  |
| Toolholder            | SK 40   | 140       |  |
| Toolholder            | SK 50   | 150       |  |
| Toolholder            | HSK-A63 | 263       |  |
| Toolholder            | HSK 100 | 300       |  |

SK, VDI, Capto, etc. mountings available on request



## Toolmaster tool presetters

Swiss quality work for decentralised use directly next to the machine tool. Easy to operate, robust, completely rustproof and maintenance free. Precision linear guideways with recirculating ball shoes. Modular selectable measuring systems and measuring ranges for optimum use. Patented, high-precision needle bearing with protection functions. Calibration functions and electronic compensation of the axis parallelism for self-monitoring of the accuracy and readiness for operation. Standard printer and PC outputs and language selection. Optional post processors for direct transfer to machine tools.

### 20 490 Toolmaster TM10

- with TC100 measuring electronics
- 6" LCD display
- Menu assisted operation, membrane keyboard insensitive to dirt
- 0.001 mm - AcuRite glass measuring scales
- Storage of up to 99 adapter and offset values as well as up to 500 tools
- Optionally with dial gauge (2 dim. sintered carbide probe), with SMART image processing or TCAM2 image processing

Length (z), diameter (x), angle and radii of the tool are easily determined via the zero point of the dial gauge or by positioning the reticle. To this end the measuring slide is manually clamped and precisely positioned to the nearest  $\mu\text{m}$  via endless fine adjustment.

**SMART model:** Optimises tool presetting by a fully electronic profile projector. Replaces the optical profile projector, therefore substantially improved repeatability.

The digital CMOS camera with telecentric objective scans the tool tip and transfers the live image onto a transfective 3.5" TFT colour screen.

The electronic maximum search facility enables the tip to be rotated to the maximum diameter (highest point).

The measuring process is supported by position flags which appear on reaching the optimum match between the tool contours and an axis of the reticle.

The measuring process is very easy and is no different from that of a profile projector.

**TCAM2 version:** Image processing with 6.4" colour display and mouse, with automatic contour detection or manual operation. Floating measuring axes detect measured values irrespective of the fine adjustment and the operator. Easy determination of the maximum diameters and lengths of all tool tips by simple turning of all tool tips. Optionally with frontal illumination for tip inspection. Optionally with 10.4" colour display on request.



20 490 004 + ...005



20 490 104 - ...150



20 490 204 - ...250

#### TM10-2D (dial gauge)

| Tool spindle | 20 490... |  | Measuring range $\emptyset$<br>x axis<br>mm | Measuring range<br>z axis<br>mm | L x H<br>mm | Weight<br>kg |
|--------------|-----------|--|---------------------------------------------|---------------------------------|-------------|--------------|
| SK40         | 004       |  | 310                                         | 42 - 360                        | 650 x 814   | 65           |
| SK50         | 005       |  | 310                                         | 42 - 360                        | 650 x 814   | 65           |

**Note:** Versions up to x = 550 mm, z = 82 - 500, SK 40 or SK 50 available for each

#### TM10 SMART / TM10 TCAM2

| Tool spindle | 20 490... |  | 20 490... |  | Measuring range $\emptyset$<br>X axis<br>mm | Measuring range<br>z axis<br>mm | L x H<br>mm | Weight<br>kg |
|--------------|-----------|--|-----------|--|---------------------------------------------|---------------------------------|-------------|--------------|
|              | SMART     |  | TCAM2     |  |                                             |                                 |             |              |
| SK40         | 104       |  | 204       |  | 250                                         | 42 - 360                        | 650 x 814   | 70           |
| SK50         | 105       |  | 205       |  | 250                                         | 42 - 360                        | 650 x 977   | 75           |
| SK40         | 140       |  | 240       |  | 250                                         | 82 - 500                        | 650 x 814   | 70           |
| SK50         | 150       |  | 250       |  | 250                                         | 82 - 500                        | 650 x 977   | 75           |

**SMART note:** Versions up to x = 490 mm, SK40 or SK50 available

**TCAM2 note:** Versions up to x = 490 mm, SK40 or SK50 available  
Projector versions up to x = 450 mm, z = 82 - 500mm, SK40 or SK50 available for each



## 20 494 Toolmaster TM250

Compared to the Toolmaster TM10 with additional mechanically optimised bearing (moving measuring column), pneumatic slide clamping and one-hand operation. Special age-hardened cast iron for long-term stability. Can be optionally equipped with non-contact projector measuring systems or SMART, TCAM2 (see TM10) or EPRO image processing systems. With additional analysis functions, 10" colour display and keyboard, EPRO satisfies high tool inspection and qualification standards.



20 494 104 + ...150



20 494 204 + ...250

### TM250 SMART / TM250 TCAM2

| Tool spindle | 20 494... |  | 20 494... |  | Measuring range Ø X axis | Measuring range z axis | L x H     | Weight |
|--------------|-----------|--|-----------|--|--------------------------|------------------------|-----------|--------|
|              | SMART     |  | TCAM2     |  | mm                       | mm                     | mm        | kg     |
| SK40         | 104       |  | 204       |  | 300                      | 40 - 360               | 546 x 819 | 80     |
| SK50         | 105       |  | 205       |  | 300                      | 40 - 360               | 546 x 819 | 80     |
| SK40         | 140       |  | 240       |  | 300                      | 40 - 500               | 546 x 959 | 80     |
| SK50         | 150       |  | 250       |  | 300                      | 40 - 500               | 546 x 959 | 80     |

**SMART note:** Versions up to x = 400 mm, SK40 or SK50 available

**TCAM2 note:** Versions up to x = 400 mm, SK40 or SK50 available  
Projector versions up to x = 400 mm, z = 40 - 500 mm, SK40 or SK50 available for each

Other units with measuring ranges up to 900 mm diameter and 900 mm measuring height, as well as 2 camera units available on request.

The scope of supply of all types includes: Warranty certificate, acceptance certificate, dust cover, operating instructions, disposable packaging

## 20 496 Toolmaster accessories



| Name                                                                                                                                                                | 20 496... |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--|
| <b>SK40 master mandrel</b> 50 x 330 mm for absolute calibration and parallelism compensation, with end face polish for image processing and all other unit versions | 040       |  |
| <b>SK50 master mandrel</b> 50 x 330 mm for absolute calibration and parallelism compensation, with end face polish for image processing and all other unit versions | 050       |  |
| <b>SK40 master mandrel</b> 30 x 90 mm for absolute calibration, with end face polish for image processing and all other unit versions                               | 055       |  |
| <b>SK50 master mandrel</b> 30 x 90 mm for absolute calibration, with end face polish for image processing and all other unit versions                               | 058       |  |
| <b>Wooden case</b> for master mandrel 50 x 330 mm                                                                                                                   | 090       |  |
| <b>Adapter SK50 : SK40</b> , height 15 mm                                                                                                                           | 154       |  |
| <b>Adapter SK50 : VDI 30</b> with clamping lever, height 35 mm                                                                                                      | 200       |  |
| <b>Adapter SK50 : VDI 40</b> with clamping lever, height 35 mm                                                                                                      | 202       |  |
| <b>Adapter SK50 : VDI 30</b> with indexing, height 35 mm                                                                                                            | 248       |  |
| <b>Adapter SK50 : VDI 40</b> with indexing, height 35 mm                                                                                                            | 250       |  |
| <b>4 x 90° indexing</b> for ...248 + ...250                                                                                                                         | 270       |  |
| <b>Adapter SK50 : HSK-AE63</b> with mechanical clamping                                                                                                             | 280       |  |
| <b>Label printer</b> (DINA4 wire matrix printer) with parallel interface                                                                                            | 300       |  |
| <b>Roll holder</b> for label roll, up to 2000 labels                                                                                                                | 304       |  |
| <b>Labels on roll</b> (2000 labels)                                                                                                                                 | 306       |  |



20 496 154 - ...250



20 496 040 - ...058

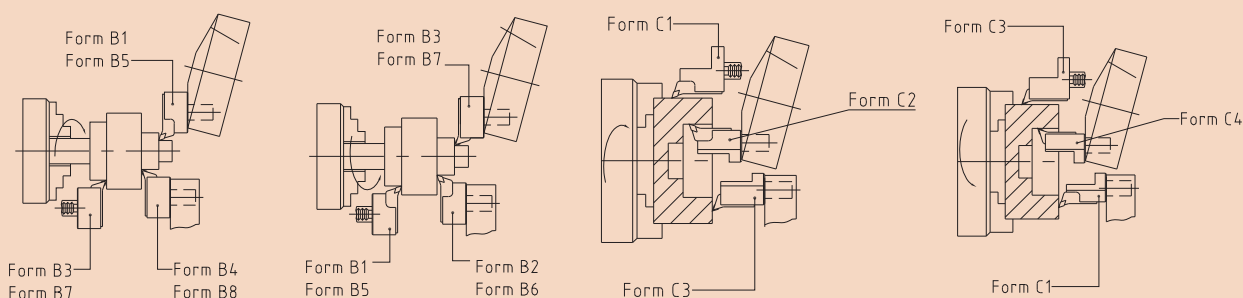


20 496 300



## Toolholders

DIN 69880, cylinder shank with tempered black surface finish, for CNC lathes, mounting shank, tooth set and lathe tool support are ground. Coolant supply via spray nozzles, coolant tube or through the holder. **Other types available on request.**

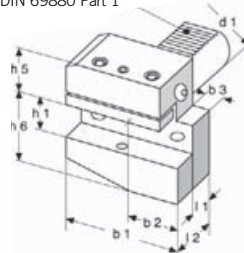


### 20 603 Tool holder

Shape B1, with square transverse support, **right-hand**, short

**Wodex**

Cylinder shank according to DIN 69880 Part 1



20 603...

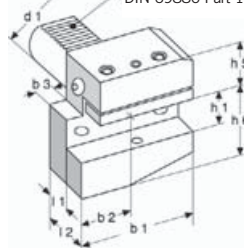
| d 1<br>mm | 20 603... |  | b 1<br>mm | b 2<br>mm | h 1<br>mm | h 5<br>mm | h 6<br>mm | l 1<br>mm | l 2<br>mm |
|-----------|-----------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 30        | 030       |  | 70        | 35        | 20        | 28        | 38        | 22        | 40        |
| 40        | 040       |  | 85        | 42.5      | 25        | 32.5      | 48        | 22        | 44        |

### 20 604 Tool holder

Shape B2, with square transverse support, **left-hand**, short

**Wodex**

Cylinder shank according to DIN 69880 Part 1



20 604...

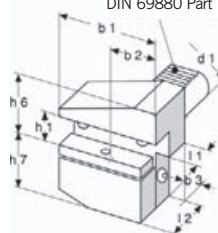
| d 1<br>mm | 20 604... |  | b 1<br>mm | b 2<br>mm | h 1<br>mm | h 5<br>mm | h 6<br>mm | l 1<br>mm | l 2<br>mm |
|-----------|-----------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 30        | 030       |  | 70        | 35        | 20        | 28        | 38        | 22        | 40        |
| 40        | 040       |  | 85        | 42.5      | 25        | 32.5      | 48        | 22        | 44        |

### 20 605 Tool holder

Shape B3, with square transverse support **overhead**, **right-hand**, short

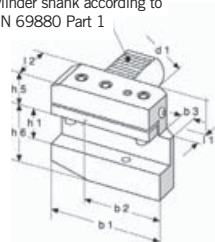
**Wodex**

Cylinder shank according to DIN 69880 Part 1



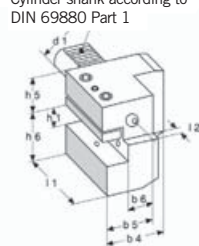
20 605...

| d 1 mm | 20 605... |  | b 1 mm | b 2 mm | h 1 mm | h 6 mm | h 7 mm | l 1 mm | l 2 mm |
|--------|-----------|--|--------|--------|--------|--------|--------|--------|--------|
| 30     | 030       |  | 70     | 35     | 20     | 38     | 35     | 22     | 40     |
| 40     | 040       |  | 85     | 42.5   | 25     | 48     | 42.5   | 22     | 44     |

**20 607 Tool holder**Shape B5, with square transverse support, **right-hand, long****Wodex®**Cylinder shank according to  
DIN 69880 Part 1

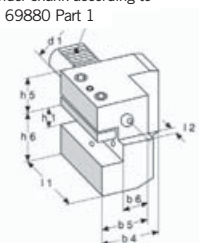
20 607...

| d 1<br>mm | 20 607 |  | b 1<br>mm | b 2<br>mm | h 1<br>mm | h 5<br>mm | h 6<br>mm | l 1<br>mm | l 2<br>mm |
|-----------|--------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 30        | 030    |  | 100       | 65        | 20        | 28        | 38        | 22        | 40        |
| 40        | 040    |  | 118       | 75.5      | 25        | 32.5      | 48        | 22        | 44        |

**20 611 Tool holder**Shape C1, with square longitudinal support, **right-hand****Wodex®**Cylinder shank according to  
DIN 69880 Part 1

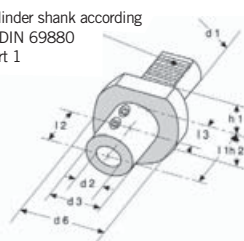
20 611...

| d 1<br>mm | 20 611... |  | b 4<br>mm | b 5<br>mm | b 6<br>mm | h 1<br>mm | h 5<br>mm | h 6<br>mm | l 1<br>mm | l 2<br>mm |
|-----------|-----------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 30        | 030       |  | 70        | 35        | 17        | 20        | 28        | 38        | 70        | 10        |
| 40        | 040       |  | 85        | 42.5      | 21        | 25        | 32.5      | 48        | 85        | 12.5      |

**20 612 Tool holder**Shape C2, with square longitudinal support, **left-hand****Wodex®**Cylinder shank according to  
DIN 69880 Part 1

20 612...

| d 1<br>mm | 20 612... |  | b 4<br>mm | b 5<br>mm | b 6<br>mm | h 1<br>mm | h 5<br>mm | h 6<br>mm | l 1<br>mm | l 2<br>mm |
|-----------|-----------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 30        | 030       |  | 76        | 41        | 23        | 20        | 28        | 38        | 70        | 10.0      |
| 40        | 040       |  | 90        | 47.5      | 25.5      | 25        | 32.5      | 48        | 85        | 12.5      |

**20 615 Tool holder**Shape E1, for drilling tools **with internal coolant supply****Wodex®**Cylinder shank according to  
DIN 69880  
Part 1

20 615...

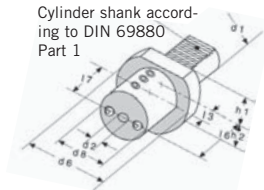
| d 1<br>mm | 20 615... |  | d 2<br>mm | d 3<br>mm | l 1<br>mm | l 2<br>mm |
|-----------|-----------|--|-----------|-----------|-----------|-----------|
| 30        | 320       |  | 20        | 40        | 67        | 45        |
| 30        | 325       |  | 25        | 45        | 71        | 49        |
| 30        | 332       |  | 32        | 52        | 75        | 53        |
| 30        | 340       |  | 40        | 60        | 95        | 73        |
| 40        | 416       |  | 16        | 36        | 64        | 42        |
| 40        | 420       |  | 20        | 40        | 67        | 45        |
| 40        | 425       |  | 25        | 45        | 75        | 53        |
| 40        | 432       |  | 32        | 52        | 75        | 53        |
| 40        | 440       |  | 40        | 65        | 90        | 48        |

**20 616 Tool holder**

Shape E2, for lathe tools with cylinder shank

**Wodex®**

Cylinder shank according to DIN 69880 Part 1



20 616...

| d 1<br>mm | 20 616... |  | d 2<br>mm | d 8<br>mm | l 6<br>mm | l 7<br>mm |
|-----------|-----------|--|-----------|-----------|-----------|-----------|
| 30        | 308       |  | 8         | 55        | 60        | 38        |
| 30        | 310       |  | 10        | 55        | 60        | 38        |
| 30        | 312       |  | 12        | 55        | 60        | 38        |
| 30        | 316       |  | 16        | 55        | 60        | 38        |
| 30        | 320       |  | 20        | 55        | 60        | 38        |
| 30        | 325       |  | 25        | 55        | 60        | 38        |
| 30        | 332       |  | 32        | 68        | 75        | 53        |

| d 1<br>mm | 20 616... |  | d 2<br>mm | d 6<br>mm | l 6<br>mm | l 7<br>mm |
|-----------|-----------|--|-----------|-----------|-----------|-----------|
| 40        | 408       |  | 8         | 55        | 75        | 53        |
| 40        | 410       |  | 10        | 55        | 75        | 53        |
| 40        | 412       |  | 12        | 55        | 75        | 53        |
| 40        | 416       |  | 16        | 55        | 75        | 53        |
| 40        | 420       |  | 20        | 55        | 75        | 53        |
| 40        | 425       |  | 25        | 55        | 75        | 53        |
| 40        | 432       |  | 32        | 83        | 90        | 68        |
| 40        | 440       |  | 40        | 83        | 90        | 68        |

**20 613 Tool holder**

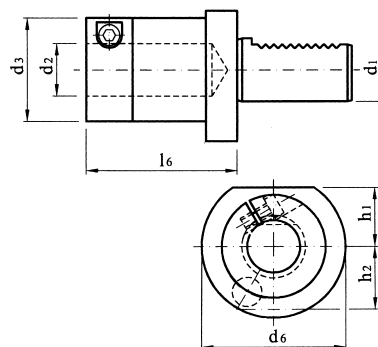
for clamping shape E2S, slotted type

- optimum clamping due to complete grip of the boring bar
- particularly suitable for working with large cantilevered or unsupported lengths
- substantially reduces vibrations

**Wodex®**

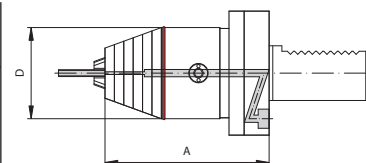
20 613...

| d1<br>mm | 20 613... |  | d2<br>mm | d3<br>mm | d6<br>mm | h1<br>mm | h2<br>mm | l6<br>mm |
|----------|-----------|--|----------|----------|----------|----------|----------|----------|
| 30       | 306       |  | 6        | 30       | 68       | 28.0     | 30       | 57       |
| 30       | 308       |  | 8        | 30       | 68       | 28.0     | 30       | 57       |
| 30       | 310       |  | 10       | 36       | 68       | 28.0     | 30       | 57       |
| 30       | 312       |  | 12       | 36       | 68       | 28.0     | 30       | 57       |
| 30       | 316       |  | 16       | 40       | 68       | 28.0     | 30       | 57       |
| 30       | 320       |  | 20       | 44       | 68       | 28.0     | 30       | 57       |
| 30       | 325       |  | 25       | 49       | 68       | 28.0     | 30       | 72       |
| 30       | 332       |  | 32       | 56       | 68       | 28.0     | 30       | 72       |
| 40       | 410       |  | 10       | 36       | 83       | 32.5     | -        | 62       |
| 40       | 412       |  | 12       | 36       | 83       | 32.5     | -        | 62       |
| 40       | 416       |  | 16       | 40       | 83       | 32.5     | -        | 62       |
| 40       | 420       |  | 20       | 44       | 83       | 32.5     | -        | 62       |
| 40       | 425       |  | 25       | 49       | 83       | 32.5     | -        | 77       |
| 40       | 432       |  | 32       | 56       | 83       | 32.5     | -        | 77       |
| 40       | 440       |  | 40       | 64       | 83       | 32.5     | -        | 77       |

**20 617 Toolholder with CNC drill chuck with central coolant supply****Wodex®**

20 617...

| d 1<br>mm | 20 617... |  | Clamping capacity mm | A mm | D mm |
|-----------|-----------|--|----------------------|------|------|
| 30        | 001       |  | 1 - 13               | 90   | 50   |
| 30        | 002       |  | 3 - 16               | 90   | 57   |
| 40        | 003       |  | 1 - 13               | 90   | 50   |
| 40        | 004       |  | 3 - 16               | 90   | 57   |

**20 618 ER toolholder**

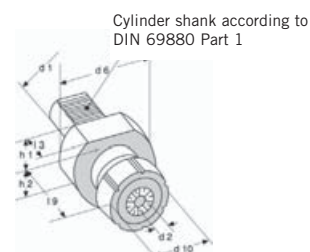
shape E4, for collets according to DIN 6499 shape A and B, see Prod. No.: 20 251 and 20 253 Type ER

**Wodex®**

20 618...

| d1<br>mm | Type  | 20 618... |  | d 2<br>mm | d 6<br>mm | d 10<br>mm | h 1<br>mm | l3<br>mm |
|----------|-------|-----------|--|-----------|-----------|------------|-----------|----------|
| 30       | ER 25 | 316       |  | 2 - 16    | 68        | 42         | 28        | 22       |
| 30       | ER 32 | 325       |  | 2 - 20    | 68        | 50         | 28        | 22       |
| 30       | ER 40 | 350       |  | 3 - 26    | 68        | 63         | 28        | 22       |
| 40       | ER 25 | 425       |  | 2 - 16    | 83        | 42         | 32.5      | 22       |
| 40       | ER 32 | 432       |  | 2 - 20    | 83        | 50         | 32.5      | 22       |
| 40       | ER 40 | 450       |  | 3 - 26    | 83        | 63         | 32.5      | 22       |

Collets according to DIN 6388 see Prod. No.: 20 239...



Cylinder shank according to DIN 69880 Part 1

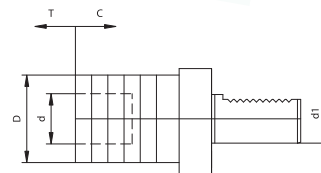
## 20 614 Quick change tapping chucks

with length adjustment to compression and tension, DIN 69880  
Suitable quick-change inserts Prod. No. 21 430... to 21 432...



20 614...

| d1<br>mm | Use<br>Size | 20 614... |  | Clamping<br>capacity | A<br>mm | D<br>mm | d<br>mm | C/T<br>mm |
|----------|-------------|-----------|--|----------------------|---------|---------|---------|-----------|
| 30       | 1           | 030       |  | M 3 / M 14           | 62      | 38      | 19      | 7 / 7     |
| 30       | 2           | 031       |  | M 5 / M 22           | 84      | 54      | 31      | 12/12     |
| 40       | 1           | 040       |  | M 3 / M 14           | 62      | 38      | 19      | 7 / 7     |
| 40       | 2           | 041       |  | M 5 / M 22           | 84      | 54      | 31      | 12/12     |

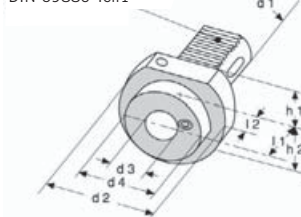


## 20 619 Tool holder

Shape F, for taper shanks with tangs

**Wodex**

Zylinderschaft nach  
DIN 69880 Teil1

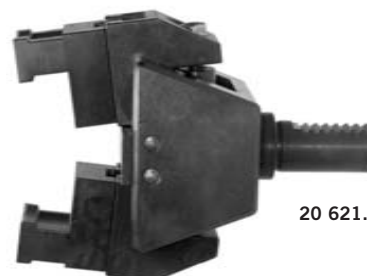
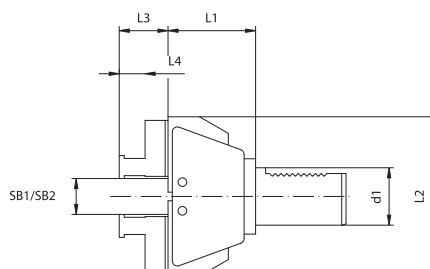


20 619...

| d 1<br>mm | 20 619... |  | d 3  | d 2<br>mm | d 4<br>mm | h 1<br>mm | l 1<br>mm | l 2<br>mm |
|-----------|-----------|--|------|-----------|-----------|-----------|-----------|-----------|
| 30        | 301       |  | MK 1 | 68        | 55        | 28        | 27        | -         |
| 30        | 302       |  | MK 2 | 68        | 55        | 28        | 27        | -         |
| 30        | 303       |  | MK 3 | 68        | 58        | 28        | 40        | 22        |
| 40        | 401       |  | MK 1 | 83        | 55        | 32.5      | 36        | 22        |
| 40        | 402       |  | MK 2 | 83        | 55        | 32.5      | 36        | 22        |
| 40        | 403       |  | MK 3 | 83        | 55        | 32.5      | 36        | 22        |
| 40        | 404       |  | MK 4 | 83        | 68        | 32.5      | 80        | 22        |

## 20 621 Rod gripper

- for two clamping capacities
- with rotatable jaws



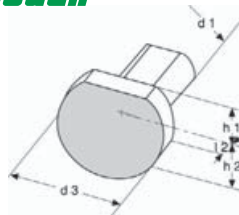
20 621...

| d1<br>mm | 20 621... |  | Clamping<br>capacity | Clamping<br>capacity | L1<br>mm | L2<br>mm | L3<br>mm | L4<br>mm |
|----------|-----------|--|----------------------|----------------------|----------|----------|----------|----------|
| 30       | 030       |  | 6 - 45               | 45 - 100             | 59       | 99       | 34       | 18       |
| 40       | 031       |  | 6 - 56               | 56 - 100             | 61       | 111      | 34       | 18       |

## 20 624 Plugs

shape Z2, made of steel or plastic

**Wodex**



20 624 030



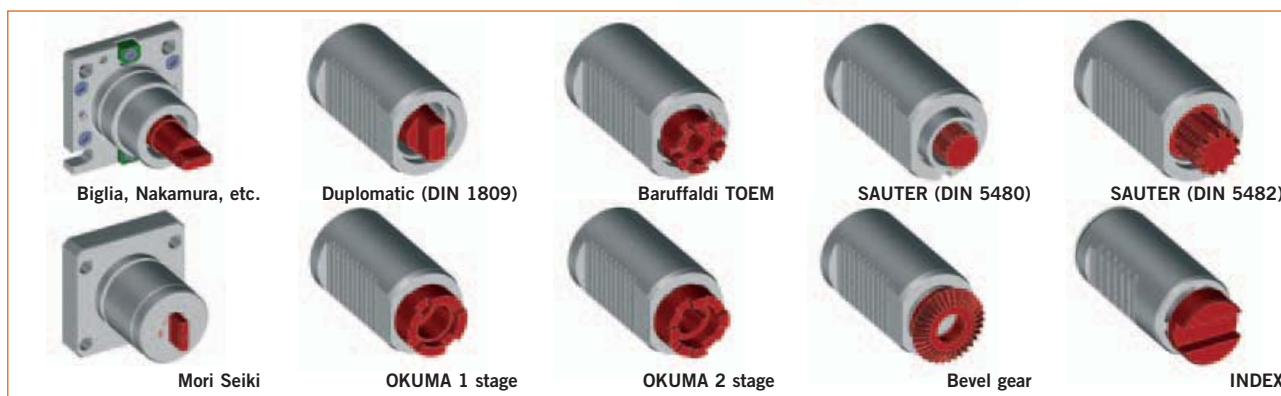
20 624 130

| d 1<br>mm      | 20 624... |  | d 3<br>mm | l 2<br>mm |
|----------------|-----------|--|-----------|-----------|
| <b>Steel</b>   |           |  |           |           |
| 30             | 030       |  | 68        | 20        |
| 40             | 040       |  | 83        | 20        |
| <b>Plastic</b> |           |  |           |           |
| 30             | 130       |  | 68        | 20        |
| 40             | 140       |  | 83        | 20        |



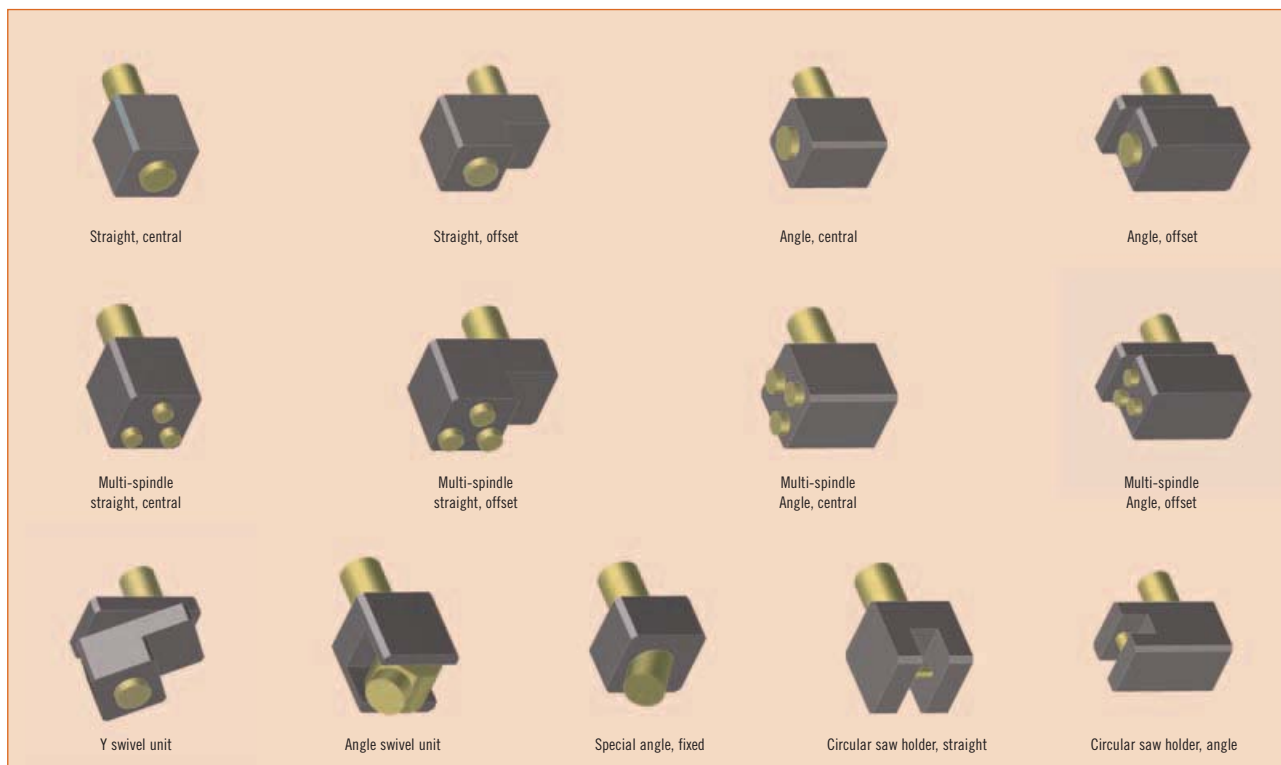
## Driven tools for CNC lathes

Our range of products includes **driven tool units** as well as **stationary tools** for all the usual machine manufacturers stocked by us, e.g. **Biglia, Emag, Emco, Gildemeister, Graziano, Index, Mazak, Okuma, Baruffaldi, Duplomatic and Sauter**



### Standard types

- Transmission  $i = 1:1$
- Internal / external coolant supply
- Collet holders
- 1 and 2 spindle tools
- Axial type
- Radial type
- Angle swivel units
- Circular saw holders, etc.



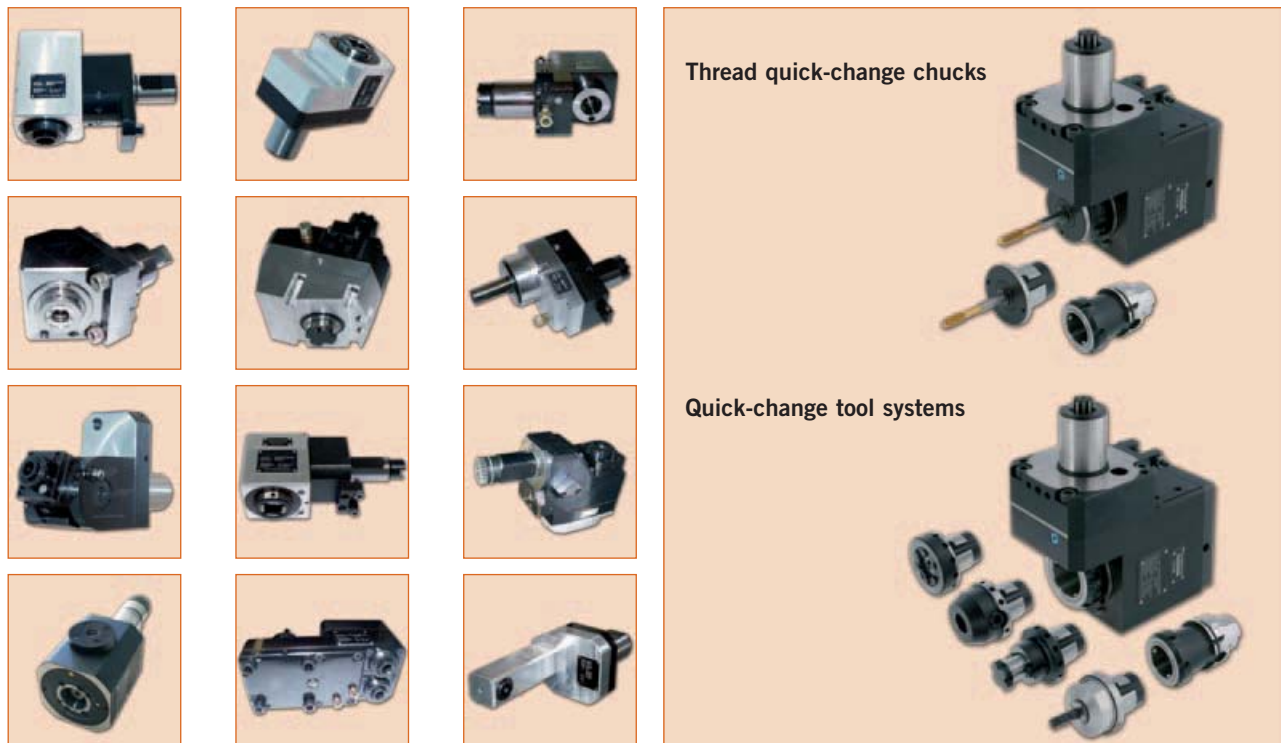
For your enquiry, please use our enquiry form for driven tools, which you can download from the Internet.

Simply ask for further information material or for technical advice on site!



Apart from a large **standard range**, we of course work closely together with you to solve your **special application**:

Innovative products such as **quick-change tool systems** or **thread quick-change chucks** for driven units stand for flexibility and productivity.



## Driven tools for CNC machining centres

Standard angle heads are also available for CNC machining centres, the available types include:

- 90° angle head
- 90° double angle head
- 90° angle head, set back
- 90° angle head, set back - narrow type
- 0 - 98° angle swivel unit
- Angle head with fixed angle

Shank types: SK, HSK, MAS-BT, CAT, etc. are possible.



**21 645 Push-type collets**

according to DIN 6343

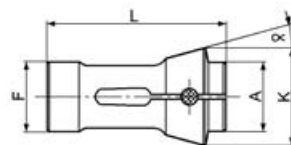
**Concentricity:**

Ø 3 - 10 mm = 0.02 mm

Ø 10 - 30 mm = 0.03 mm

Ø 30 - 60 mm = 0.04 mm

Push-type collet profile: Round!

**FAHRION®**  
PRAZISION

21 645...

| Bore Ø<br>mm | 21 645...<br>Type 173 E |  | Dimensions<br>F/A mm | K / L<br>mm |
|--------------|-------------------------|--|----------------------|-------------|
| 3.0          | 400                     |  | 48/50                | 60/94       |
| 4.0          | 402                     |  | 48/50                | 60/94       |
| 5.0          | 404                     |  | 48/50                | 60/94       |
| 6.0          | 406                     |  | 48/50                | 60/94       |
| 7.0          | 408                     |  | 48/50                | 60/94       |
| 8.0          | 410                     |  | 48/50                | 60/94       |
| 9.0          | 412                     |  | 48/50                | 60/94       |
| 10.0         | 414                     |  | 48/50                | 60/94       |
| 11.0         | 416                     |  | 48/50                | 60/94       |
| 12.0         | 418                     |  | 48/50                | 60/94       |
| 13.0         | 420                     |  | 48/50                | 60/94       |
| 14.0         | 422                     |  | 48/50                | 60/94       |
| 15.0         | 424                     |  | 48/50                | 60/94       |
| 16.0         | 426                     |  | 48/50                | 60/94       |
| 17.0         | 428                     |  | 48/50                | 60/94       |
| 18.0         | 430                     |  | 48/50                | 60/94       |
| 19.0         | 432                     |  | 48/50                | 60/94       |
| 20.0         | 434                     |  | 48/50                | 60/94       |
| 21.0         | 436                     |  | 48/50                | 60/94       |
| 22.0         | 438                     |  | 48/50                | 60/94       |

Further dimensions available on request

Push-type collets according to DIN 185E available on request

| Bore Ø<br>mm | 21 645...<br>Type 173 E |  | Dimensions<br>F/A mm | K / L<br>mm |
|--------------|-------------------------|--|----------------------|-------------|
| 23.0         | 440                     |  | 48/50                | 60/94       |
| 24.0         | 442                     |  | 48/50                | 60/94       |
| 25.0         | 444                     |  | 48/50                | 60/94       |
| 26.0         | 446                     |  | 48/50                | 60/94       |
| 27.0         | 448                     |  | 48/50                | 60/94       |
| 28.0         | 450                     |  | 48/50                | 60/94       |
| 29.0         | 452                     |  | 48/50                | 60/94       |
| 30.0         | 454                     |  | 48/50                | 60/94       |
| 31.0         | 456                     |  | 48/50                | 60/94       |
| 32.0         | 458                     |  | 48/50                | 60/94       |
| 33.0         | 460                     |  | 48/50                | 60/94       |
| 34.0         | 462                     |  | 48/50                | 60/94       |
| 35.0         | 464                     |  | 48/50                | 60/94       |
| 36.0         | 466                     |  | 48/50                | 60/94       |
| 37.0         | 468                     |  | 48/50                | 60/94       |
| 38.0         | 470                     |  | 48/50                | 60/94       |
| 39.0         | 472                     |  | 48/50                | 60/94       |
| 40.0         | 474                     |  | 48/50                | 60/94       |
| 41.0         | 476                     |  | 48/50                | 60/94       |
| 42.0         | 478                     |  | 48/50                | 60/94       |

**Thread-cutting dies and tap holders**

for making external and internal threads on lathes

The snap-on arbor is mounted in the tailstock, the tap holders are position on the arbor and can be interchanged within the size, the threading tool is positioned precisely and straight by moving the tail-stock quill; this avoids thread distortion and thread stripping.

**21 752 Snap-on arbor**

for thread-cutting dies and tap holders with Morse taper and tangs



21 752...

| Size | Cutting range | 21 752... |  | Mounting Ø<br>mm | Taper shank<br>MK |
|------|---------------|-----------|--|------------------|-------------------|
| 1    | M 1 - M 6     | 002       |  | 12               | 2                 |
| 2    | M 3 - M 20    | 007       |  | 20               | 3                 |
| 3    | M 16 - M 36   | 013       |  | 25               | 4                 |

**21 754 Snap on arbor with torque clutch**

for thread-cutting dies and tap holders, with Morse taper and tangs, the torque clutch is set to the thread to be cut using the adjusting sleeve



21 754...

| Size | Cutting range | 21 754... |  | Mounting Ø<br>mm | Taper shank<br>MK |
|------|---------------|-----------|--|------------------|-------------------|
| 2    | M 6 - M 12    | 002       |  | 20               | 2                 |
| 2    | M 8 - M 16    | 004       |  | 20               | 3                 |
| 3    | M 12 - M 24   | 006       |  | 25               | 4                 |

**21 756 Holder for thread-cutting dies according to DIN 223**for fitting onto arbor **No. 21 752...** and **21 754...**

| For holder<br>Size | Thread die<br>Ø x height<br>mm | 21 756... |  | For thread  | Maximum thread<br>length<br>mm |
|--------------------|--------------------------------|-----------|--|-------------|--------------------------------|
| 1                  | 16 x 5                         | 002       |  | M 1 - M 2.6 | 60                             |
| 1                  | 20 x 7/5*                      | 003       |  | M 3 - M 6   | 70                             |
| 2                  | 20 x 7/5*                      | 005       |  | M 3 - M 6   | 70                             |
| 2                  | 25 x 9                         | 006       |  | M 7 - M 9   | 80                             |
| 2                  | 30 x 11                        | 007       |  | M 10 - M 11 | 80                             |
| 2                  | 38 x 14/10*                    | 008       |  | M 1 - M 14  | 80                             |
| 2                  | 45 x 18/14*                    | 009       |  | M 16 - M 20 | 80                             |
| 3                  | 45 x 18/14*                    | 012       |  | M 16 - M 20 | 80                             |
| 3                  | 55 x 22/16*                    | 013       |  | M 22 - M 24 | 70                             |
| 3                  | 65 x 25/18*                    | 015       |  | M 27 - M 36 | 70                             |

\* Order shim rings for flat dies separately, e.g. for metric fine or Whitworth pipe thread.



21 756...

**21 760 Holder for taps**

with square chuck,

for fitting onto arbor **No. 21 752...** and **21 754...**, with socket spanner

| For holder<br>Size | For square<br>mm | 21 760... |  | For taps<br>Size |
|--------------------|------------------|-----------|--|------------------|
| 1                  | 2.1 - 4.9        | 001       |  | M 1 - M 6        |
| 2                  | 2.7 - 9.0        | 002       |  | M 3 - M 16       |
| 3                  | 3.4 - 14.5       | 003       |  | M 4 - M 24       |



21 760...

**21 762 Holder sets**

for external and internal thread

| Size                                                                                                                                                                                                                   | For thread | 21 762 |  | Arbor shank size |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------|--|------------------|
| 1                                                                                                                                                                                                                      | M 1 - M 6  | 002    |  | MK 2             |
| <b>Set contents:</b><br>1 MK 2 arbor with tangs <b>No. 21 752 002</b><br>1 holder for 20 x 7 / 5 mm die with 20 x 5 shim ring<br>1 reducer adapter, 16 / 5 mm<br>1 holder for tap size 1                               |            |        |  |                  |
| 2                                                                                                                                                                                                                      | M 3 - M 16 | 007    |  | MK 3             |
| <b>Set contents:</b><br>1 MK 3 arbor with tangs <b>No. 21 752 007</b><br>1 holder for 38 x 14 / 10 mm die with 38 x 10 shim ring<br>1 each reducer adapter size 30 x 11, 25 x 9 and 20 x 7 mm<br>1 holder for tap size |            |        |  |                  |
| 3                                                                                                                                                                                                                      | M 4 - M 24 | 012    |  | MK 4             |
| <b>Set contents:</b><br>1 MK 4 arbor with tangs <b>No. 21 752 013</b><br>1 holder each for dies size 45 x 18 / 14 and 55 x 22 / 16 mm,<br>with shim ring 45 x 14 mm and 55 x 16 mm<br>1 holder for tap size 3          |            |        |  |                  |



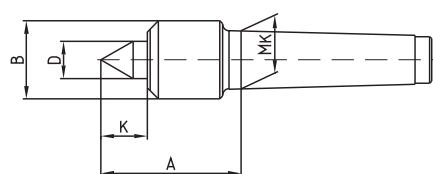
21 762 007

## **“Plant & Equipment” catalogue**

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## 22 402 60° driven lathe centres

small casing diameter, no obstruction due to supports, toolholder and lathing tools, for all turning work, in particular for machining workpieces requiring a small head diameter

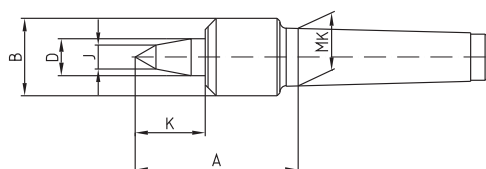


22 402...

| MK | 22 402... |  | A    | B  | D  | K  | Concentricity | Weight | Workpiece weight max. |
|----|-----------|--|------|----|----|----|---------------|--------|-----------------------|
|    |           |  | mm   | mm | mm | mm | mm            | g      | kg                    |
| 2  | 020       |  | 62   | 32 | 15 | 18 | 0.005         | 300    | 200                   |
| 3  | 030       |  | 62   | 34 | 15 | 18 | 0.005         | 400    | 400                   |
| 4  | 040       |  | 75.5 | 42 | 20 | 25 | 0.005         | 1000   | 800                   |
| 5  | 050       |  | 104  | 58 | 30 | 34 | 0.010         | 2600   | 1600                  |
| 6  | 060       |  | 143  | 80 | 42 | 49 | 0.020         | 7100   | 3500                  |

## 22 404 60° driven lathe centres

Type as 22 402...; however, with extended point, Type 600-20

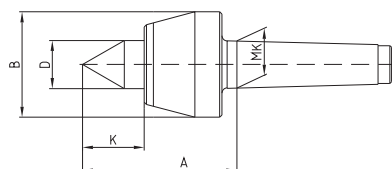


22 404...

| MK | 22 404... |  | A     | B  | D  | K  | Concentricity | Weight | Workpiece weight max. |
|----|-----------|--|-------|----|----|----|---------------|--------|-----------------------|
|    |           |  | mm    | mm | mm | mm | mm            | g      | kg                    |
| 2  | 020       |  | 73.0  | 32 | 15 | 29 | 0.008         | 320    | 170                   |
| 3  | 030       |  | 74.0  | 34 | 15 | 30 | 0.008         | 460    | 340                   |
| 4  | 040       |  | 88.5  | 42 | 20 | 38 | 0.008         | 1000   | 700                   |
| 5  | 050       |  | 119.0 | 58 | 30 | 49 | 0.010         | 2600   | 1400                  |

## 22 407 60° driven lathe centres

Body hardened and ground, short unsupported length, low-vibration running, point drop forged, through-hardened and ground, for precision turning and roughing, can be universally used on all types of lathes



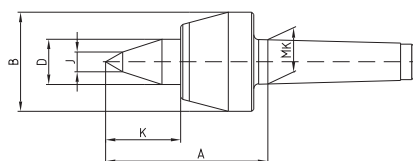
22 407...

| MK | 22 407... |  | A     | B   | D  | K    | Concentricity | Weight | Workpiece weight max. |
|----|-----------|--|-------|-----|----|------|---------------|--------|-----------------------|
|    |           |  | mm    | mm  | mm | mm   | mm            | g      | kg                    |
| 1  | 010       |  | 60.5  | 36  | 15 | 17   | 0.005         | 400    | 100                   |
| 2  | 020       |  | 65    | 45  | 20 | 24   | 0.005         | 500    | 200                   |
| 3  | 030       |  | 79.5  | 60  | 25 | 31   | 0.005         | 1300   | 500                   |
| 4  | 040       |  | 102.5 | 70  | 32 | 41   | 0.005         | 2300   | 800                   |
| 5  | 050       |  | 129   | 90  | 40 | 50.5 | 0.005         | 4700   | 2000                  |
| 6  | 060       |  | 152   | 105 | 50 | 57.5 | 0.010         | 10200  | 3500                  |



## 22 412 60° driven lathe centres

Body hardened and ground, short unsupported length, low-vibration running, point drop forged, through-hardened and ground, for precision turning and roughing, can be universally used on all types of lathes, especially for copy turning, **the extended point enables unobstructed approach to the supports**

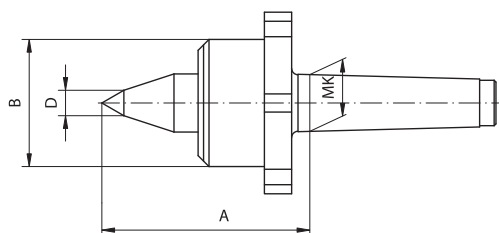


22 412...

| MK | 22 412... |  | A     | B   | D  | K  | Concentricity | Weight | Workpiece weight max. |
|----|-----------|--|-------|-----|----|----|---------------|--------|-----------------------|
|    |           |  | mm    | mm  | mm | mm | mm            | g      | kg                    |
| 2  | 020       |  | 75    | 45  | 34 | 34 | 0.005         | 500    | 140                   |
| 3  | 030       |  | 95.5  | 60  | 47 | 47 | 0.005         | 1300   | 400                   |
| 4  | 040       |  | 114.5 | 70  | 32 | 53 | 0.005         | 2300   | 500                   |
| 5  | 050       |  | 143.5 | 90  | 65 | 65 | 0.005         | 4800   | 1200                  |
| 6  | 060       |  | 172.5 | 105 | 78 | 78 | 0.010         | 10200  | 2500                  |

## 22 422 60° driven lathe centres

**with forcing nut and extended running point**, body and point drop forged and hardened, high degree of trueness/concentricity

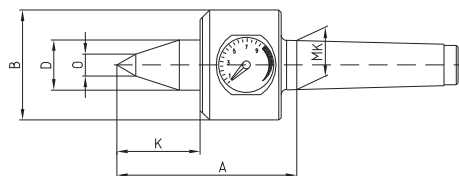


22 422...

| MK | 22 422... |  | Length up to shank joint | Body Ø | Moving centre punch Ø | Concentricity | Weight | Capacity of the forcing washer | Workpiece weight max. |
|----|-----------|--|--------------------------|--------|-----------------------|---------------|--------|--------------------------------|-----------------------|
|    |           |  | mm                       | mm     | mm                    | mm            | g      | mm                             | kg                    |
| 4  | 040       |  | 122                      | 70     | 16                    | 0.005         | 2800   | 100                            | 1000                  |
| 5  | 050       |  | 150                      | 95     | 20                    | 0.005         | 5400   | 125                            | 2000                  |

## 22 434 60° driven lathe centres

**with extended running point**, clamping force can be directly read off at **pressure gauge in daN**, the pressure is equalised by cup springs, point supported on shank, hardened body, particularly suitable as tail centre to end face drivers



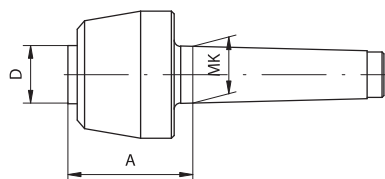
22 434...

| MK | 22 434... |  | A     | B   | D  | O  | K    | Concentricity | Weight | Workpiece weight max. |
|----|-----------|--|-------|-----|----|----|------|---------------|--------|-----------------------|
|    |           |  | mm    | mm  | mm | mm | mm   | mm            | g      | kg                    |
| 3  | 030       |  | 120   | 64  | 25 | 11 | 46.5 | 0.010         | 550    | 260                   |
| 4  | 040       |  | 137.5 | 72  | 32 | 14 | 53   | 0.010         | 900    | 550                   |
| 5  | 050       |  | 177.5 | 95  | 40 | 15 | 66   | 0.010         | 1500   | 1100                  |
| 6  | 060       |  | 223   | 120 | 52 | 24 | 80   | 0.015         | 2000   | 2500                  |



**22 442 60° driven lathe centres**

for interchangeable inserts, spindle supported on shank, body hardened, low vibration running, diverse possible uses due to fast and easy changing of centring inserts



22 442...

| MK | 22 442... |  | Length up to shank joint<br>mm | Moving centre punch Ø<br>mm | Concentricity<br>mm | Workpiece weight max<br>kg |
|----|-----------|--|--------------------------------|-----------------------------|---------------------|----------------------------|
| 2  | 020       |  | 45                             | 20                          | 0.01                | 40                         |
| 3  | 030       |  | 48                             | 22                          | 0.01                | 130                        |
| 3  | 032       |  | 55                             | 25                          | 0.01                | 150                        |
| 4  | 040       |  | 67                             | 32                          | 0.01                | 250                        |
| 5  | 050       |  | 85                             | 40                          | 0.01                | 650                        |

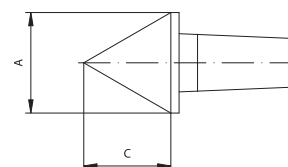
**22 443 Interchangeable inserts, 60° and 75°**

for lathe centres No. 22 442



22 443...

| For No. 22 442... | 22 443... |  | Point angle | Ø A<br>mm | Length C<br>mm |
|-------------------|-----------|--|-------------|-----------|----------------|
| 020               | 001       |  | 60°         | 16        | 13             |
| 030               | 002       |  | 60°         | 20        | 17             |
| 032               | 003       |  | 60°         | 24        | 20             |
| 040               | 004       |  | 60°         | 28        | 23.5           |
| 050               | 005       |  | 60°         | 38        | 32             |
| 020               | 007       |  | 75°         | 16        | 10             |
| 030               | 008       |  | 75°         | 20        | 12.5           |
| 032               | 009       |  | 75°         | 24        | 15             |
| 040               | 011       |  | 75°         | 28        | 17.5           |
| 050               | 012       |  | 75°         | 38        | 24             |

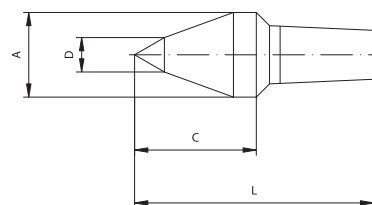
**22 444 60° interchangeable inserts**

VL, for 60° point angle, for lathe centres No. 22 442...



22 444...

| For No. 22 442... | 22 444... |  | Ø D<br>mm | Ø A<br>mm | Length C<br>mm | Overall length<br>mm |
|-------------------|-----------|--|-----------|-----------|----------------|----------------------|
| 020               | 021       |  | 6         | 14        | 20             | 43                   |
| 030               | 022       |  | 8         | 18        | 25             | 54                   |
| 032               | 023       |  | 8         | 18        | 25             | 54                   |
| 040               | 024       |  | 12        | 26        | 36             | 73                   |
| 050               | 025       |  | 13        | 32        | 46             | 90                   |

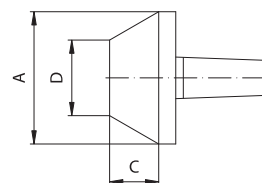
**22 445 60° interchangeable inserts**

for hollow bodies, 60° point angle, for lathe centres No. 22 442...



22 445...

| For No. 22 442... | 22 445... |  | Ø D<br>mm | Ø A<br>mm | Length C<br>mm |
|-------------------|-----------|--|-----------|-----------|----------------|
| 020               | 027       |  | 10        | 25        | 13             |
| 030               | 028       |  | 15        | 35        | 17.5           |
| 032               | 029       |  | 25        | 45        | 17.5           |
| 040               | 031       |  | 30        | 55        | 21.5           |
| 050               | 032       |  | 40        | 70        | 26             |



**22 450 Lifter**for removing the inserts **No. 22 443... up to 22 445...**

| For No. 22 443... up to 22 448... | 22 450... |  |
|-----------------------------------|-----------|--|
| 020                               | 046       |  |
| 030 / 032 / 040                   | 047       |  |
| 050                               | 048       |  |



22 450...

**22 452 Driven lathe centre sets**

with interchangeable inserts

Scope of supply: Wooden box, 1 body, 1 ejector, 1 point each 60°/30°, 60°, 75° and 90°, 1 external taper 60° stub, 2 internal tapers, hollow



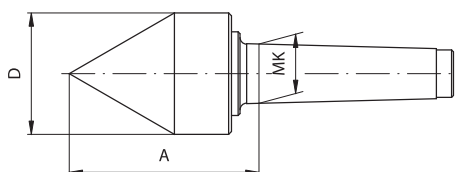
| Size  | MK | 22 452... |  |
|-------|----|-----------|--|
| 104 A | 3  | 030       |  |
| 106 A | 3  | 032       |  |
| 108 A | 4  | 040       |  |
| 110 A | 5  | 050       |  |



22 452...

**22 460 60° driven centring tapers**

Pointed end taper, 60°, stable bearing, mounting shank, body and taper hardened, as centring taper for hollow bodies and as centring point for machining normal workpieces

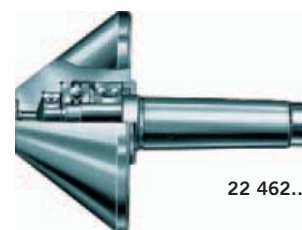
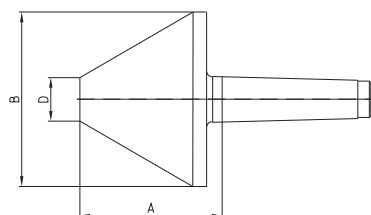


22 460...

| MK | 22 460... |  | A     | Body Ø D | Concentricity | Weight |
|----|-----------|--|-------|----------|---------------|--------|
|    |           |  | mm    | mm       | mm            | g      |
| 2  | 020       |  | 61    | 42       | 0.010         | 400    |
| 3  | 030       |  | 79    | 56       | 0.008         | 1100   |
| 4  | 040       |  | 100   | 64       | 0.008         | 1600   |
| 5  | 050       |  | 115.5 | 78       | 0.008         | 3600   |

**22 462 60° and 75° driven centring tapers**

stub, stable bearing, completely hardened, 60° or 75° taper, for clamping pipes and other hollow bodies



22 462...

| MK | 22 462... |  | Angle | A    | B   | D  | Concentricity | Weight | Workpiece weight |
|----|-----------|--|-------|------|-----|----|---------------|--------|------------------|
|    |           |  |       | mm   | mm  | mm | mm            | g      | kg               |
| 2  | 020       |  | 60°   | 65   | 50  | 20 | 0.008         | 1200   | 200              |
| 2  | 022       |  | 60°   | 77   | 80  | 30 | 0.008         | 2000   | 300              |
| 3  | 030       |  | 60°   | 77   | 80  | 30 | 0.008         | 2200   | 400              |
| 3  | 032       |  | 60°   | 96.5 | 120 | 30 | 0.008         | 4200   | 600              |
| 4  | 040       |  | 60°   | 78.5 | 80  | 30 | 0.008         | 2300   | 900              |
| 4  | 042       |  | 60°   | 98   | 120 | 30 | 0.008         | 4500   | 800              |
| 5  | 050       |  | 60°   | 99   | 120 | 30 | 0.008         | 5300   | 800              |
| 2  | 120       |  | 75°   | 80   | 80  | 20 | 0.008         | 2000   | 300              |
| 3  | 130       |  | 75°   | 80   | 80  | 20 | 0.008         | 2000   | 400              |
| 3  | 132       |  | 75°   | 85.5 | 120 | 30 | 0.008         | 4200   | 600              |
| 4  | 140       |  | 75°   | 81.5 | 80  | 20 | 0.008         | 2400   | 400              |
| 4  | 142       |  | 75°   | 87   | 120 | 30 | 0.008         | 4300   | 800              |
| 4  | 144       |  | 75°   | 107  | 170 | 50 | 0.010         | 9700   | 1200             |
| 5  | 150       |  | 75°   | 88   | 120 | 30 | 0.008         | 5100   | 800              |



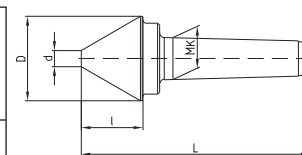
**22 464 60° driven centring tapers**

made from high alloy steel, concentricity 0.005 up to 0.008 mm, hardened point approx. 60 HRC, high precision needle bearings, for machining hollow bodies

**Wodex®**

22 464...

| MK | 22 464... |  | Speed | Point angle | max. work-piece weight | L   | l   | D   | d   |
|----|-----------|--|-------|-------------|------------------------|-----|-----|-----|-----|
|    |           |  | rpm   | °           | kg                     | mm  | mm  | mm  | mm  |
| 2  | 020       |  | 4000  | 60          | 200                    | 132 | 46  | 63  | 12  |
| 3  | 030       |  | 4000  | 60          | 200                    | 149 | 46  | 63  | 12  |
| 3  | 130       |  | 3300  | 70          | 400                    | 156 | 52  | 78  | 15  |
| 3  | 132       |  | 3000  | 70          | 500                    | 161 | 59  | 106 | 25  |
| 4  | 040       |  | 4000  | 60          | 200                    | 171 | 46  | 63  | 12  |
| 4  | 140       |  | 3300  | 70          | 400                    | 178 | 52  | 78  | 15  |
| 4  | 142       |  | 3000  | 70          | 500                    | 183 | 59  | 106 | 25  |
| 4  | 144       |  | 2000  | 70          | 650                    | 193 | 73  | 128 | 40  |
| 4  | 146       |  | 1900  | 70          | 800                    | 208 | 88  | 156 | 45  |
| 4  | 148       |  | 1500  | 70          | 1300                   | 218 | 98  | 206 | 81  |
| 4  | 240       |  | 1200  | 80          | 2000                   | 228 | 107 | 258 | 92  |
| 5  | 150       |  | 2000  | 70          | 650                    | 221 | 73  | 128 | 40  |
| 5  | 152       |  | 1900  | 70          | 800                    | 236 | 88  | 156 | 45  |
| 5  | 154       |  | 1500  | 70          | 1600                   | 246 | 98  | 206 | 81  |
| 5  | 250       |  | 1200  | 80          | 2200                   | 256 | 107 | 258 | 92  |
| 5  | 252       |  | 1000  | 90          | 3000                   | 273 | 107 | 306 | 120 |
| 6  | 160       |  | 1500  | 70          | 2000                   | 300 | 98  | 206 | 81  |
| 6  | 260       |  | 1200  | 80          | 2500                   | 310 | 107 | 258 | 92  |

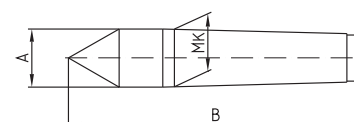
**22 470 60° fixed lathe centres**

DIN 806 SS, solid point, completely hardened and ground

**Wodex®**

22 470...

| MK | 22 470... |  | Cylinder Ø A | Length B |
|----|-----------|--|--------------|----------|
|    |           |  | mm           | mm       |
| 1  | 010       |  | 12.2         | 80       |
| 2  | 020       |  | 18           | 100      |
| 3  | 030       |  | 24.1         | 125      |
| 4  | 040       |  | 31.6         | 160      |
| 5  | 050       |  | 44.7         | 200      |

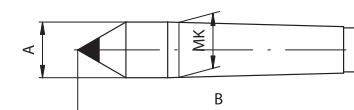
**22 474 60° fixed lathe centres**

DIN 806, with sintered carbide insert, ground

**Wodex®**

22 474...

| MK | 22 474... |  | Cylinder Ø A | Length B |
|----|-----------|--|--------------|----------|
|    |           |  | mm           | mm       |
| 2  | 020       |  | 18           | 100      |
| 3  | 030       |  | 24.1         | 125      |
| 4  | 040       |  | 31.6         | 160      |
| 5  | 050       |  | 44.7         | 200      |

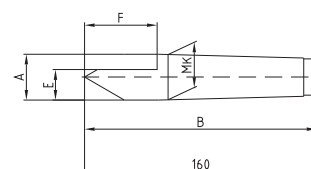
**22 478 60° fixed lathe centres**

DIN 806, with sintered carbide insert and half point, ground

**Wodex®**

22 478...

| MK | 22 478... |  | A Ø mm | B mm | E mm | F mm |
|----|-----------|--|--------|------|------|------|
| 2  | 020       |  | 18     | 100  | 11   | 30   |
| 3  | 030       |  | 24.1   | 125  | 15   | 38   |
| 4  | 040       |  | 31.6   | 160  | 21   | 50   |

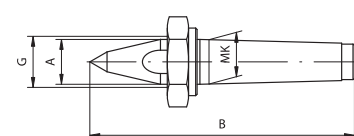
**22 482 60° fixed lathe centres**

similar to DIN 807, extended, solid point with forcing nut

**Wodex®**

22 482...

| MK | 22 482... |  | Cylinder Ø A | Length B | Forcing thread | AF of the nut |
|----|-----------|--|--------------|----------|----------------|---------------|
|    |           |  | mm           | mm       |                | mm            |
| 3  | 030       |  | 24.1         | 148      | M 27 x 1.5     | 41            |
| 4  | 040       |  | 31.6         | 186.5    | M 36 x 1.5     | 55            |
| 5  | 050       |  | 44.7         | 242      | M 48 x 1.5     | 75            |



**22 486 End face drivers**

in wooden box, small set for turning range 13 - 100 mm,



consisting of:

- 1 basic body,
- 4 driver discs for clamping circle -Ø 12, 20, 32 and 50 mm,
- 2 centring points 6 and 12 mm diameter



22 486...

| MK | Direction of rotation* | 22 486... |  |
|----|------------------------|-----------|--|
| 4  | right-hand             | 040       |  |
| 5  | right-hand             | 050       |  |
| 6  | right-hand             | 060       |  |

\* Left-hand direction of rotation available on request

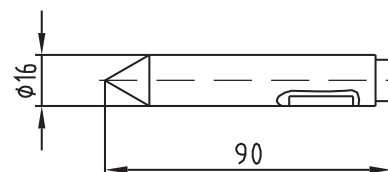
**22 489 Centre points**

for basic body and as replacement or for extending the turning range of the drivers



22 489...

| Tip Ø<br>mm | 22 489... |  | For clamping<br>circle<br>Ø<br>mm | Ø<br>mm | Overall length<br>mm |
|-------------|-----------|--|-----------------------------------|---------|----------------------|
| 4           | 004       |  | 8 - 10                            | 16      | 90                   |
| 6           | 006       |  | 12                                | 16      | 90                   |
| 10          | 010       |  | 16                                | 16      | 90                   |
| 12          | 012       |  | 20                                | 16      | 90                   |
| 16          | 016       |  | 25 - 80                           | 16      | 90                   |
| 16          | 017       |  | 25 - 80                           | 16      | 110                  |

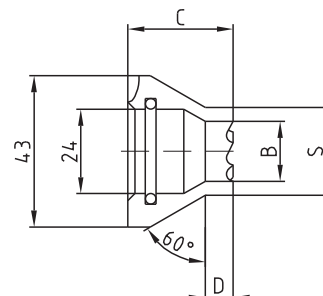
**22 491 Driver discs**

serrated, for basic body and as replacement or for extending the turning range of the drivers



22 491...

| Clamping<br>circle Ø S<br>mm | 22 491... |  | Turning<br>range<br>mm | Suitable<br>centre<br>point<br>mm | Direction<br>of rotation | Dimen-<br>sions B<br>mm | Dimen-<br>sions C<br>mm | Dimen-<br>sions D<br>mm |
|------------------------------|-----------|--|------------------------|-----------------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| 8                            | 008       |  | 9 - 16                 | 4                                 | right-hand               | 4.5                     | 38                      | 4                       |
| 8                            | 009       |  | 9 - 16                 | 4                                 | left-hand                | 4.5                     | 38                      | 4                       |
| 10                           | 010       |  | 11 - 20                | 4                                 | right-hand               | 4.5                     | 38                      | 4                       |
| 10                           | 011       |  | 11 - 20                | 4                                 | left-hand                | 4.5                     | 38                      | 4                       |
| 12                           | 012       |  | 13 - 24                | 6                                 | right-hand               | 7                       | 36                      | 4                       |
| 12                           | 013       |  | 13 - 24                | 6                                 | left-hand                | 7                       | 36                      | 4                       |
| 16                           | 016       |  | 17 - 32                | 10                                | right-hand               | 11                      | 33                      | 4                       |
| 16                           | 017       |  | 17 - 32                | 10                                | left-hand                | 11                      | 33                      | 4                       |
| 20                           | 020       |  | 21 - 40                | 12                                | right-hand               | 13                      | 30                      | 4                       |
| 20                           | 021       |  | 21 - 40                | 12                                | left-hand                | 13                      | 30                      | 4                       |
| 25                           | 025       |  | 26 - 50                | 16                                | right-hand               | 17                      | 30                      | 8                       |
| 25                           | 026       |  | 26 - 50                | 16                                | left-hand                | 17                      | 30                      | 8                       |
| 32                           | 032       |  | 33 - 64                | 16                                | right-hand               | 22                      | 30                      | 10                      |
| 32                           | 033       |  | 33 - 64                | 16                                | left-hand                | 22                      | 30                      | 10                      |



## DURO hand-operated chucks



with jaw lock, centrally clamping

• Higher speeds due to new, double-tooth blocking slide

• Higher clamping force

• Larger through hole

This chuck is successfully used where extremely high clamping force, high degree of trueness and reliable continuous repeat accuracy are required. Straight and large force transfer surfaces between wedge bar and jaw teeth provide a very large clamping force with long life and an accuracy twice as high as is specified in DIN 6386. The large clamping force is achieved by manual turning with the key, without particular effort

### 22 606 Three-jaw hand-operated chuck, steel body

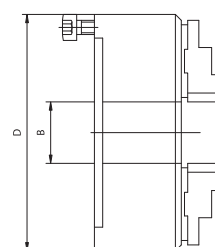


with cylindrical centre mounting to DIN 6350, with one-piece reversible jaws, jaw guideways hardened and ground



22 606...

| Ø<br>mm | 22 606... |  | External clamping ranges<br>mm | Internal chucking capacities<br>mm | Bore<br>mm |
|---------|-----------|--|--------------------------------|------------------------------------|------------|
| 125     | 012       |  | 3 - 129                        | 26 - 123                           | 32         |
| 160     | 016       |  | 5 - 161                        | 67 - 174                           | 42         |
| 200     | 020       |  | 7 - 207                        | 71 - 214                           | 52         |
| 250     | 025       |  | 8 - 253                        | 99 - 261                           | 62         |
| 315     | 031       |  | 12 - 323                       | 102 - 319                          | 87         |
| 400     | 040       |  | 16 - 413                       | 120 - 412                          | 102        |
| 500     | 050       |  | 64 - 501                       | 166 - 500                          | 162        |



### 22 608 Three-jaw hand-operated chuck, steel body

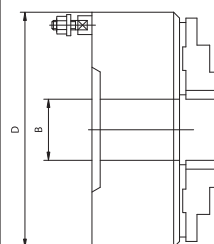


with short taper mount according to DIN 55027, ISO 702/III and DIN 55022, with stud bolts and collar nut, with one-piece reversible jaws, jaw guideways hardened and ground



22 608...

| Ø<br>mm | 22 608... |  | Taper size | External clamping range<br>mm | Internal clamping range<br>mm | Bore<br>mm |
|---------|-----------|--|------------|-------------------------------|-------------------------------|------------|
| 125     | 112       |  | 4          | 3 - 129                       | 26 - 123                      | 32         |
| 160     | 116       |  | 4          | 5 - 161                       | 67 - 174                      | 42         |
| 160     | 117       |  | 5          | 5 - 161                       | 67 - 174                      | 42         |
| 200     | 120       |  | 5          | 7 - 207                       | 71 - 214                      | 52         |
| 200     | 121       |  | 6          | 7 - 207                       | 71 - 214                      | 52         |
| 250     | 125       |  | 6          | 8 - 253                       | 99 - 261                      | 62         |
| 250     | 126       |  | 8          | 8 - 253                       | 99 - 261                      | 62         |
| 315     | 131       |  | 6          | 12 - 323                      | 102 - 319                     | 87         |
| 315     | 132       |  | 8          | 12 - 323                      | 102 - 319                     | 87         |
| 315     | 133       |  | 11         | 12 - 323                      | 102 - 319                     | 87         |
| 400     | 140       |  | 8          | 16 - 413                      | 120 - 412                     | 102        |
| 400     | 141       |  | 11         | 16 - 413                      | 120 - 412                     | 102        |



### 22 613 Stud bolts

with nuts for chuck No. 22 608...



22 613 004 - ...011

| Taper size | Number of bolts | 22 613... |  |
|------------|-----------------|-----------|--|
| 4          | 3               | 004       |  |
| 5          | 4               | 005       |  |
| 6          | 4               | 006       |  |
| 8          | 4               | 008       |  |
| 11         | 6               | 011       |  |

## Clamping jaws suitable for hand-operated chucks

RÖHM - DURO, FORKARDT F and SCHUNK ROTA - S plus

### 22 614 Base jaws for hand-operated chucks

hardened, with oblique wedge bar teeth, incl. screws

| For chuck Ø | 22 614... |  | B  | H    | L   | N  |
|-------------|-----------|--|----|------|-----|----|
| mm          | 3 pcs     |  | mm | mm   | mm  | mm |
| 160         | 160       |  | 20 | 29.5 | 74  | 18 |
| 200         | 200       |  | 22 | 35.0 | 90  | 20 |
| 250         | 250       |  | 26 | 40.0 | 110 | 20 |
| 315         | 315       |  | 32 | 46.0 | 125 | 26 |
| 400 / 500   | 400       |  | 45 | 55.0 | 160 | 30 |



22 614...



### 22 615 Reversible jaw pads

hard, with cross offset

| For chuck Ø | 22 615... |  | B  | H    | L   | S  |
|-------------|-----------|--|----|------|-----|----|
| mm          | 3 pcs     |  | mm | mm   | mm  | mm |
| 160         | 160       |  | 20 | 32.5 | 63  | 18 |
| 200         | 200       |  | 22 | 38.0 | 72  | 20 |
| 250         | 250       |  | 30 | 50.0 | 90  | 20 |
| 315         | 315       |  | 36 | 56.0 | 105 | 26 |
| 400 / 500   | 400       |  | 45 | 72.0 | 130 | 30 |



22 615...



### 22 616 Jaw pads

soft, with cross offset

| For chuck Ø | 22 616... |  | B  | H    | L   | S  |
|-------------|-----------|--|----|------|-----|----|
| mm          | 3 pcs     |  | mm | mm   | mm  | mm |
| 160         | 160       |  | 20 | 36   | 85  | 18 |
| 200         | 200       |  | 22 | 43   | 105 | 20 |
| 250         | 250       |  | 30 | 50.5 | 125 | 20 |
| 315         | 315       |  | 35 | 54   | 145 | 26 |
| 400 / 500   | 400       |  | 50 | 73   | 180 | 30 |



22 616...



### 22 618 Monobloc jaws

hardened and tempered, teeth and guide slots hardened and ground

| For chuck Ø | 22 618... |  | B  | H  | L   |
|-------------|-----------|--|----|----|-----|
| mm          | 3 pcs     |  | mm | mm | mm  |
| 160         | 160       |  | 20 | 45 | 79  |
| 200         | 200       |  | 22 | 60 | 94  |
| 250         | 250       |  | 26 | 70 | 115 |
| 315         | 315       |  | 32 | 81 | 140 |
| 400 / 500   | 400       |  | 45 | 93 | 176 |



22 618...





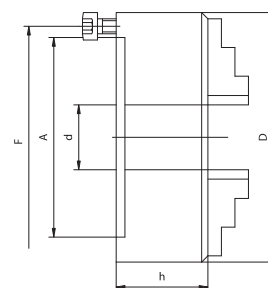
**22 750 Three-jaw lathe chuck, cast iron/steel****Wodex®**

cylindrical holder according to DIN 6350, one-piece jaws, uniform clamping force due to centrally clamping jaws, high concentricity incl.

1 set lathe and drilling jaws, chuck key and retaining screws



22 750...



| D<br>mm          | 22 750... |  | F<br>mm | d<br>mm | A <sup>H7</sup><br>mm | h<br>mm | max. speed<br>min <sup>-1</sup> | Weight<br>kg |
|------------------|-----------|--|---------|---------|-----------------------|---------|---------------------------------|--------------|
| <b>Cast iron</b> |           |  |         |         |                       |         |                                 |              |
| 100              | 010       |  | 83      | 20      | 70                    | 50.0    | 3500                            | 2.8          |
| 125              | 012       |  | 108     | 32      | 95                    | 56.0    | 3200                            | 5.0          |
| 160              | 016       |  | 140     | 42      | 125                   | 64.5    | 3000                            | 10.0         |
| 200              | 020       |  | 176     | 55      | 160                   | 75.0    | 2500                            | 18.0         |
| 250              | 025       |  | 224     | 76      | 200                   | 85.0    | 2000                            | 29.0         |
| 315              | 031       |  | 286     | 103     | 260                   | 94.0    | 1500                            | 50.0         |
| 400              | 040       |  | 362     | 136     | 330                   | 105.0   | 1000                            | 85.0         |
| <b>Steel</b>     |           |  |         |         |                       |         |                                 |              |
| 100              | 110       |  | 83      | 20      | 70                    | 50.0    | 5200                            | 2.8          |
| 125              | 112       |  | 108     | 32      | 95                    | 59.0    | 4800                            | 5.0          |
| 160              | 116       |  | 140     | 42      | 125                   | 68.0    | 4500                            | 10.0         |
| 200              | 120       |  | 176     | 55      | 160                   | 78.0    | 4000                            | 18.0         |
| 250              | 125       |  | 224     | 76      | 200                   | 89.0    | 3500                            | 29.0         |
| 315              | 131       |  | 286     | 103     | 260                   | 96.2    | 2800                            | 50.0         |
| 400              | 140       |  | 362     | 136     | 330                   | 108.0   | 2000                            | 85.0         |

**22 752 Three-jaw lathe chuck, steel****Wodex®**

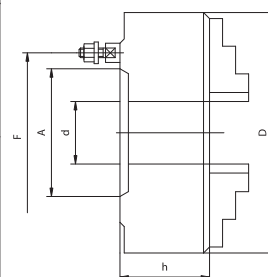
short taper mount according to DIN 55027, one-piece jaws, uniform

clamping force due to centrally clamping jaws, high concentricity incl.

1 set lathe and drilling jaws, chuck key and retaining screws



22 752...

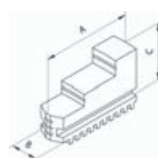
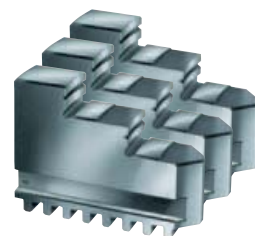


| D<br>mm | 22 752... |  | Short<br>taper | F<br>mm | d<br>mm | A<br>mm | h<br>mm | max. speed<br>min <sup>-1</sup> | Weight<br>kg |
|---------|-----------|--|----------------|---------|---------|---------|---------|---------------------------------|--------------|
| 160     | 164       |  | 4              | 85.0    | 42      | 63.513  | 68.0    | 4500                            | 9            |
| 160     | 165       |  | 5              | 104.8   | 42      | 82.563  | 68.0    | 4500                            | 9            |
| 200     | 205       |  | 5              | 104.8   | 55      | 82.563  | 78.0    | 4000                            | 19           |
| 200     | 206       |  | 6              | 133.4   | 55      | 106.375 | 78.0    | 4000                            | 19           |
| 250     | 256       |  | 6              | 133.4   | 76      | 106.375 | 89.0    | 3000                            | 32           |
| 250     | 258       |  | 8              | 171.4   | 76      | 139.719 | 89.0    | 3500                            | 32           |
| 315     | 316       |  | 6              | 133.4   | 103     | 106.375 | 96.2    | 2800                            | 51           |
| 315     | 318       |  | 8              | 171.4   | 103     | 139.719 | 96.2    | 2800                            | 51           |
| 315     | 319       |  | 11             | 235.0   | 103     | 196.869 | 111.7   | 2800                            | 51           |
| 400     | 408       |  | 8              | 171.4   | 136     | 139.719 | 108.0   | 2000                            | 101          |
| 400     | 411       |  | 11             | 235.0   | 136     | 196.869 | 108.0   | 2000                            | 101          |

**22 758 Lathe jaw sets**

hard, stepped inwards

| for D<br>mm | 22 758...<br>3 No. |  | A<br>mm | B<br>mm | C<br>mm |
|-------------|--------------------|--|---------|---------|---------|
| 100         | 010                |  | 42      | 15      | 32      |
| 125         | 012                |  | 51      | 20      | 40      |
| 160         | 016                |  | 70      | 20      | 53      |
| 200         | 020                |  | 85      | 25      | 54      |
| 250         | 025                |  | 105     | 28      | 63      |
| 315         | 031                |  | 125     | 32      | 73      |
| 400         | 040                |  | 145     | 36      | 92      |

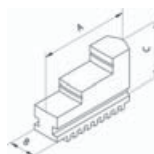
**Wodex®**

22 758...

**22 759 Drill jaw sets**

hard, stepped outwards

| for D<br>mm | 22 759...<br>3 No. |  | A<br>mm | B<br>mm | C<br>mm |
|-------------|--------------------|--|---------|---------|---------|
| 100         | 010                |  | 42      | 15      | 32      |
| 125         | 012                |  | 51      | 20      | 40      |
| 160         | 016                |  | 70      | 20      | 53      |
| 200         | 020                |  | 85      | 25      | 54      |
| 250         | 025                |  | 105     | 28      | 63      |
| 315         | 031                |  | 125     | 32      | 73      |
| 400         | 040                |  | 145     | 36      | 92      |

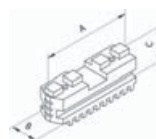
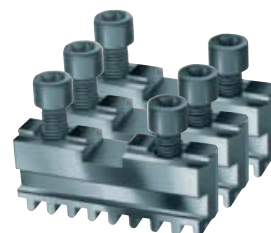
**Wodex®**

22 759...

**22 760 Base jaw sets**

hard, supplied without screws

| for D<br>mm | 22 760...<br>3 No. |  | A<br>mm | B<br>mm | C<br>mm |
|-------------|--------------------|--|---------|---------|---------|
| 125         | 012                |  | 56      | 20      | 28      |
| 160         | 016                |  | 65      | 20      | 29      |
| 200         | 020                |  | 79      | 25      | 33      |
| 250         | 025                |  | 92      | 28      | 36      |
| 315         | 031                |  | 110     | 32      | 40      |
| 400         | 040                |  | 130     | 36      | 49      |

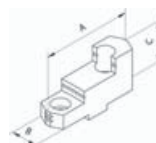
**Wodex®**

22 760...

**22 761 Jaw pad sets**

hard, reversible

| for D<br>mm | 22 761...<br>3 No. |  | A<br>mm | B<br>mm | C<br>mm |
|-------------|--------------------|--|---------|---------|---------|
| 125         | 012                |  | 56      | 22.0    | 38.5    |
| 160         | 016                |  | 67      | 25.0    | 41.5    |
| 200         | 020                |  | 80      | 27.0    | 43.5    |
| 250         | 025                |  | 95      | 32.5    | 51.5    |
| 315         | 031                |  | 110     | 37.0    | 55.0    |
| 400         | 040                |  | 127     | 42.0    | 64.5    |

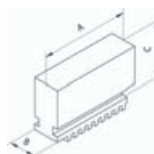
**Wodex®**

22 761...

**22 762 Block jaw sets**

soft

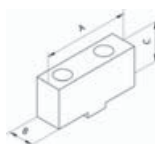
| for D<br>mm | 22 762...<br>3 No. |  | A<br>mm | B<br>mm | C<br>mm |
|-------------|--------------------|--|---------|---------|---------|
| 100         | 010                |  | 42      | 15      | 32      |
| 125         | 012                |  | 51      | 20      | 40      |
| 160         | 016                |  | 70      | 20      | 53      |
| 200         | 020                |  | 85      | 25      | 54      |
| 250         | 025                |  | 105     | 28      | 63      |
| 315         | 031                |  | 125     | 32      | 73      |
| 400         | 040                |  | 145     | 36      | 92      |

**Wodex®**

22 762...

**22 763 Jaw pad sets**

soft, unstepped

**Wodex®**

22 763...

| for D<br>mm | 22 763...<br>3 No. |  | A<br>mm | B<br>mm | C<br>mm |
|-------------|--------------------|--|---------|---------|---------|
| 125         | 012                |  | 64      | 22      | 38.5    |
| 160         | 016                |  | 78      | 25      | 41.5    |
| 200         | 020                |  | 90      | 27      | 43.5    |
| 250         | 025                |  | 106     | 32      | 51.5    |
| 315         | 031                |  | 120     | 37      | 55.0    |
| 400         | 040                |  | 140     | 42      | 64.5    |

**22 770 Flange for lathe chucks, cast iron****Wodex®**

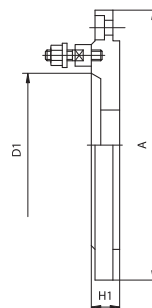
Short taper mount according to DIN 55027

finished on machine side, pre-turned and drilled on chuck side, incl. bolts



22 770...

| A<br>mm | 22 770... |  | Short<br>taper | D1<br>mm | H1<br>mm | Number of bolts | Weight<br>kg |
|---------|-----------|--|----------------|----------|----------|-----------------|--------------|
| 125/4   | 125       |  | 4              | 63.513   | 18.5     | 3               | 2.4          |
| 160/4   | 164       |  | 4              | 63.513   | 21.0     | 3               | 4.3          |
| 160/5   | 165       |  | 5              | 82.563   | 21.0     | 4               | 4.3          |
| 200/5   | 205       |  | 5              | 82.563   | 21.0     | 4               | 7.0          |
| 200/6   | 206       |  | 6              | 106.375  | 21.0     | 4               | 7.0          |
| 250/6   | 256       |  | 6              | 106.375  | 21.0     | 4               | 11.0         |
| 250/8   | 258       |  | 8              | 139.719  | 26.0     | 4               | 11.0         |
| 315/6   | 316       |  | 6              | 106.375  | 33.0     | 4               | 18.0         |
| 315/8   | 318       |  | 8              | 139.719  | 33.0     | 4               | 18.0         |
| 400/8   | 408       |  | 8              | 139.719  | 33.0     | 4               | 36.0         |

**22 772 Flange for lathe chucks, cast iron****Wodex®**

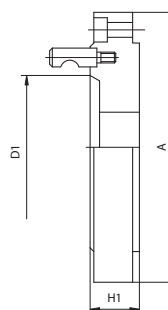
Short taper mounting according to DIN 55029 (camlock)

finished on machine side, pre-turned and drilled on chuck side, incl. bolts



22 772...

| A<br>mm | 22 772... |  | Short<br>taper | D1<br>mm | H1<br>mm | Number of bolts | Weight<br>kg |
|---------|-----------|--|----------------|----------|----------|-----------------|--------------|
| 125/4   | 125       |  | 4              | 63.513   | 26.0     | 3               | 2.4          |
| 160/4   | 164       |  | 4              | 63.513   | 27.0     | 3               | 4.3          |
| 160/5   | 165       |  | 5              | 82.563   | 30.0     | 6               | 4.3          |
| 200/5   | 205       |  | 5              | 82.563   | 30.0     | 6               | 7.0          |
| 200/6   | 206       |  | 6              | 106.375  | 36.5     | 6               | 7.0          |
| 250/6   | 256       |  | 6              | 106.375  | 36.5     | 6               | 11.0         |
| 250/8   | 258       |  | 8              | 139.719  | 39.0     | 6               | 11.0         |
| 315/6   | 316       |  | 6              | 106.375  | 39.5     | 6               | 18.0         |
| 315/8   | 318       |  | 8              | 139.719  | 42.0     | 6               | 18.0         |
| 400/8   | 408       |  | 8              | 139.719  | 39.0     | 6               | 36.0         |



## Chucking capacities of the jaw steps (guideline values) for Röhms chucks

| External clamping | Size | 74      | 80      | 85      | 100     | 110     | 125     | 140      | 160      | 200      | 250     |
|-------------------|------|---------|---------|---------|---------|---------|---------|----------|----------|----------|---------|
| A1                |      | 2-24    | 2-30    | 2-30    | 3-38    | 3-42    | 3-53    | 3-53     | 3-72     | 4-100    | 5-122   |
| A2                |      | 2-24    | 2-30    | 2-30    | 3-38    | 3-42    | 3-53    | 3-53     | 3-72     | 4-100    | 5-122   |
| A3                |      | 23-46   | 27-55   | 27-55   | 38-71   | 39-77   | 39-89   | 47-97    | 47-116   | 56-152   | 73-190  |
| A4                |      | 45-68   | 52-80   | 52-80   | 70-100  | 70-100  | 75-125  | 91-140   | 91-160   | 104-200  | 131-250 |
| Largest swing Ø   |      | 88      | 104     | 104     | 128     | 138     | 157     | 174      | 194      | 238      | 302     |
| Jaw feed          |      | 11      | 14      | 14      | 15      | 19      | 25      | 25       | 34       | 48       | 58      |
| Size              |      | 315     | 350     | 400     | 500     | 630     | 700     | 800      | 1000     | 1250     |         |
| A1                |      | 6-135   | 20-180  | 20-200  | 35-260  | 50-350  | 110-350 | 150-450  | 250-600  | 320-600  |         |
| A2                |      | 6-135   | 20-180  | 20-200  | 35-260  | 50-350  | 280-672 | 325-853  | 425-1070 | 490-1150 |         |
| A3                |      | 96-225  | 110-270 | 110-300 | 140-360 | 190-490 | 356-748 | 400-928  | 500-1150 | 564-1224 |         |
| A4                |      | 186-315 | 200-350 | 200-400 | 280-500 | 330-630 | -       | -        | -        | -        |         |
| Largest swing Ø   |      | 395     | 440     | 480     | 600     | 730     | 1000    | 1170     | 1390     | 1476     |         |
| Jaw feed          |      | 64      | 80      | 100     | 110     | 150     | 120     | 150      | 175      | 140      |         |
| Internal clamping | Size | 74      | 80      | 85      | 100     | 110     | 125     | 140      | 160      | 200      | 250     |
| J1                |      | 23-46   | 25-53   | 25-53   | 33-66   | 33-71   | 37-87   | 39-89    | 39-107   | 44-140   | 59-165  |
| J2                |      | 45-68   | 50-78   | 50-78   | 65-94   | 65-104  | 73-123  | 83-132   | 83-152   | 92-186   | 119-236 |
| Size              |      | 315     | 350     | 400     | 500     | 630     | 700     | 800      | 1000     | 1250     |         |
| J1                |      | 96-224  | 100-260 | 100-300 | 135-335 | 150-450 | 212-648 | 251-855  | 356-1080 | 426-1162 |         |
| J2                |      | 186-305 | 190-350 | 190-390 | 275-460 | 290-590 | 290-758 | 326-930  | 430-1150 | 500-1236 |         |
| J3                |      |         |         |         |         |         | 526-922 | 566-1094 | 660-1314 | 740-1400 |         |

Chucking capacities of the lathe chucks with individually adjustable jaws (EG-ES) correspond with the above values. They apply to 3 and 4 jaw chucks and lathe chucks with reversible jaws.  
The maximum chucking capacities may not be exceeded.

### Max. allowable speed for lathe chucks ZG-ZS, ZGU-ZSU, ZG Hi-Tru according to DIN 6350.

The maximum allowable speed is specified so that at maximum clamping force and if the heaviest corresponding clamping jaws are used, 1/3 of the clamping force is still available as residual clamping force. The chuck jaws may not protrude beyond the outer diameter of the chuck. The lathe chucks must be in perfect condition.

The speed limit for the cast iron lathe chucks is matched to the allowable peripheral speed for cast iron. Otherwise the provisions according to DIN 6386 Part 1 apply.

| Size | 3 and 4 jaws               |                        |
|------|----------------------------|------------------------|
|      | Cast iron body<br>max rpm. | Steel body<br>max rpm. |
| 74   | 5000                       | -                      |
| 80   | 5000                       | 7000                   |
| 100  | 4500                       | 6300                   |
| 125  | 4000                       | 5500                   |
| 140  | 3700                       | 5000                   |
| 160  | 3600                       | 4600                   |
| 200  | 3000                       | 4000                   |
| 250  | 2500                       | 3000                   |
| 315  | 2000                       | 2300                   |
| 350  | 1700                       | 1900                   |
| 400  | 1600                       | 1800                   |
| 500  | 1000                       | 1300                   |
| 630  | 800                        | 850                    |

### 22 633 ZG three-jaw lathe chucks

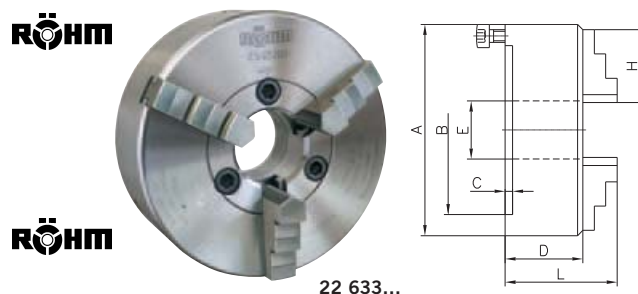
with cast iron body and cylindrical centre mounting, according to DIN 6350

Scope of supply: 1 set hardened drill jaws, stepped towards the outside; 1 set hardened lathe jaws, stepped towards the outside; 1 set chuck keys

### 22 634 ZS three-jaw lathe chucks

with steel body and cylindrical centre mounting, according to DIN 6350

Scope of supply: 1 set hardened drill jaws, stepped towards the outside; 1 set hardened lathe jaws, stepped towards the outside; 1 set chuck keys



| A<br>mm | 22 633...<br>Cast iron |   | 22 634...<br>Steel |   | B<br>mm | C<br>mm | D<br>mm | E<br>mm | H<br>mm | L<br>mm | Weight<br>kg |
|---------|------------------------|---|--------------------|---|---------|---------|---------|---------|---------|---------|--------------|
| 74      | 007                    |   | -                  | - | 56      | 2.5     | 32.5    | 15      | 32      | -       | 1.0          |
| 80      | 008                    |   | 008                |   | 56      | 3       | 39.5    | 19      | 37      | -       | 1.3          |
| 100     | 010                    |   | 010                |   | 70      | 3       | 50      | 20      | 46      | 80.5    | 2.9          |
| 125     | 012                    |   | 012                |   | 95      | 4       | 56      | 32      | 52      | 95.5    | 4.5          |
| 140     | 014                    |   | 014                |   | 105     | 4       | 60      | 40      | 61      | 106.0   | 5.8          |
| 160     | 016                    |   | 016                |   | 125     | 4       | 65      | 42      | 61      | 108.0   | 8.2          |
| 200     | 020                    |   | 020                |   | 160     | 4       | 73.5    | 55      | 69      | 119.6   | 14.6         |
| 250     | 025                    |   | 025                |   | 200     | 5       | 82      | 76      | 90      | 139.3   | 25.7         |
| 315     | 031                    |   | 031                |   | 260     | 5       | 95      | 103     | 130     | 155.0   | 44.2         |
| 400     | 040                    |   | 040                |   | 330     | 5       | 105     | 136     | 130     | 171.5   | 80.0         |
| 500     | 050                    |   | 050                |   | 420     | 5       | 120     | 190     | 190     | 201.5   | 126.0        |
| 630     | -                      | - | 063                |   | 545     | 7       | 135     | 240     | 190     | 216.5   | 208.0        |

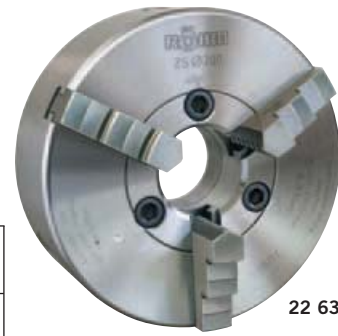
## 22 636 ZS three-jaw lathe chucks



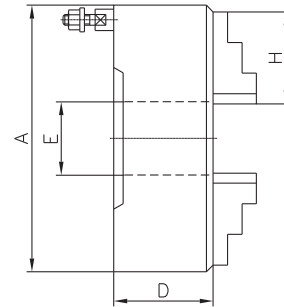
steel body with short taper mounting for spindle heads according to DIN 55027, ISO 702 / III and DIN 55022, with stud bolts and collar nuts

Scope of supply: 1 set hardened drill jaws, stepped towards the outside; 1 set hardened lathe jaws, stepped towards the outside; 1 set chuck keys

| A<br>mm | Taper size | 22 636...<br>Steel |  | E<br>mm | D<br>mm | H<br>mm |
|---------|------------|--------------------|--|---------|---------|---------|
| 100     | 3          | 010                |  | 20      | 75      | 48      |
| 125     | 3          | 012                |  | 32      | 69      | 52      |
| 125     | 4          | 013                |  | 32      | 69      | 52      |
| 140     | 4          | 014                |  | 40      | 74      | 61      |
| 140     | 5          | 015                |  | 40      | 74      | 61      |
| 160     | 4          | 016                |  | 42      | 66      | 61      |
| 160     | 5          | 017                |  | 42      | 66      | 61      |
| 200     | 4          | 020                |  | 55      | 74.5    | 69      |
| 200     | 5          | 021                |  | 55      | 74.5    | 69      |
| 200     | 6          | 022                |  | 55      | 74.5    | 69      |
| 250     | 5          | 025                |  | 76      | 83      | 90      |
| 250     | 6          | 026                |  | 76      | 83      | 90      |
| 250     | 8          | 027                |  | 76      | 83      | 90      |
| 315     | 6          | 031                |  | 103     | 96      | 130     |
| 315     | 8          | 032                |  | 103     | 96      | 130     |
| 315     | 11         | 033                |  | 103     | 104     | 130     |
| 400     | 6          | 040                |  | 136     | 106     | 130     |
| 400     | 8          | 041                |  | 136     | 106     | 130     |
| 400     | 11         | 042                |  | 136     | 106     | 130     |



22 636...



## 22 637 ZS three-jaw lathe chucks



Steel body with short taper mounting for spindle heads according to DIN 55029, ASA B 5.9 D1 and ISO 702 / II, with camlock stud bolts

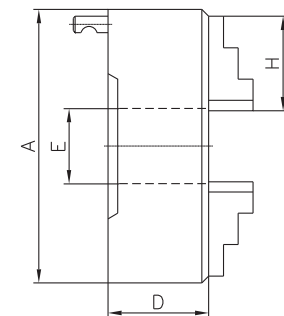
Scope of supply: 1 set hardened drill jaws, stepped towards the outside; 1 set hardened lathe jaws, stepped towards the outside; 1 set chuck keys

| A<br>mm | Taper size | 22 637...<br>Steel |  | E<br>mm | D<br>mm | H<br>mm |
|---------|------------|--------------------|--|---------|---------|---------|
| 100     | 3          | 010                |  | 20      | 75      | 48      |
| 125     | 3          | 012                |  | 32      | 69      | 52      |
| 125     | 4          | 013                |  | 32      | 69      | 52      |
| 140     | 3          | 014                |  | 40      | 74      | 61      |
| 140     | 4          | 015                |  | 40      | 74      | 61      |
| 160     | 3          | 016                |  | 42      | 66      | 61      |
| 160     | 4          | 017                |  | 42      | 66      | 61      |
| 200     | 4          | 020                |  | 55      | 74.5    | 69      |
| 200     | 5          | 021                |  | 55      | 74.5    | 69      |
| 200     | 6          | 022                |  | 55      | 74.5    | 69      |
| 250     | 5          | 025                |  | 76      | 83      | 90      |
| 250     | 6          | 026                |  | 76      | 83      | 90      |
| 250     | 8          | 027                |  | 76      | 83      | 90      |
| 315     | 6          | 031                |  | 103     | 96      | 130     |
| 315     | 8          | 032                |  | 103     | 96      | 130     |
| 315     | 11         | 033                |  | 103     | 104     | 130     |
| 400     | 11         | 040                |  | 136     | 106     | 130     |

Further taper sizes available on request



22 637...



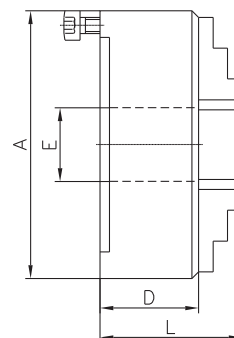
**22 641 Four-jaw chuck, ZS**

**steel body** with cylindrical centre mounting according to **DIN 6350**

**Scope of supply:** 1 set hardened drill jaws, stepped towards the outside;  
1 set hardened lathe jaws, stepped towards the outside;  
1 set chuck keys

**22 641...**

| A<br>mm | 22 641...<br>Steel |  | E<br>mm | D<br>mm | L<br>mm |
|---------|--------------------|--|---------|---------|---------|
| 80      | 008                |  | 19      | 39.5    | 53.5    |
| 100     | 010                |  | 20      | 50      | 68      |
| 125     | 012                |  | 32      | 56      | 78.5    |
| 140     | 014                |  | 40      | 60      | 82.5    |
| 160     | 016                |  | 42      | 65      | 91      |
| 200     | 020                |  | 55      | 73.5    | 106     |
| 250     | 025                |  | 76      | 82      | 122     |
| 315     | 031                |  | 103     | 95      | 141     |
| 400     | 040                |  | 136     | 105     | 148     |

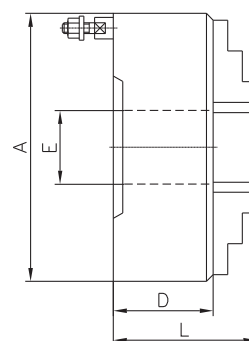
**22 642 Four-jaw chuck, ZS**

**steel body** with short taper mounting for spindle heads according to **DIN 55027, ISO 702 / III and DIN 55022**, with stud bolts and collar nuts

**Scope of supply:** 1 set hardened drill jaws, stepped towards the outside;  
1 set hardened lathe jaws, stepped towards the outside;  
1 set chuck keys

**22 642...**

| A<br>mm | Taper size | 22 642...<br>Steel |  | E<br>mm | D<br>mm | L<br>mm |
|---------|------------|--------------------|--|---------|---------|---------|
| 100     | 3          | 010                |  | 20      | 75      | 93      |
| 125     | 3          | 012                |  | 32      | 69      | 91.5    |
| 125     | 4          | 013                |  | 32      | 69      | 91.5    |
| 140     | 5          | 014                |  | 42      | 74      | 96.5    |
| 160     | 4          | 016                |  | 42      | 66      | 92      |
| 160     | 5          | 017                |  | 42      | 66      | 92      |
| 200     | 4          | 020                |  | 55      | 74.5    | 107     |
| 200     | 5          | 021                |  | 55      | 74.5    | 107     |
| 200     | 6          | 022                |  | 55      | 74.5    | 107     |
| 250     | 6          | 025                |  | 76      | 83      | 123     |
| 250     | 8          | 026                |  | 76      | 83      | 123     |
| 315     | 6          | 031                |  | 103     | 96      | 142     |
| 315     | 8          | 032                |  | 103     | 96      | 142     |
| 315     | 11         | 033                |  | 103     | 104     | 150     |
| 400     | 8          | 040                |  | 136     | 106     | 149     |
| 400     | 11         | 041                |  | 136     | 106     | 149     |

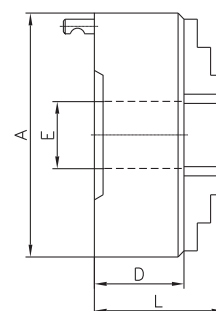
**22 643 Four-jaw chuck, ZS**

**Steel body** with short taper mounting for spindle heads according to **DIN 55029, ASA B 5.9 D1 and ISO 702 / II**, with camlock stud bolts,

**Scope of supply:** 1 set hardened drill jaws, stepped towards the outside;  
1 set hardened lathe jaws, stepped towards the outside;  
1 set chuck keys

**22 643...**

| A<br>mm | Taper size | 22 643...<br>Steel |  | E<br>mm | D<br>mm | L<br>mm |
|---------|------------|--------------------|--|---------|---------|---------|
| 125     | 4          | 012                |  | 32      | 69      | 91.5    |
| 140     | 3          | 014                |  | 40      | 74      | 96.5    |
| 140     | 4          | 015                |  | 40      | 74      | 96.5    |
| 160     | 4          | 017                |  | 42      | 66      | 92      |
| 200     | 4          | 020                |  | 55      | 74.5    | 107     |
| 200     | 5          | 021                |  | 55      | 74.5    | 107     |
| 200     | 6          | 022                |  | 55      | 74.5    | 107     |
| 250     | 5          | 025                |  | 76      | 83      | 123     |
| 250     | 6          | 026                |  | 76      | 83      | 123     |
| 250     | 8          | 027                |  | 76      | 83      | 123     |
| 315     | 8          | 031                |  | 103     | 96      | 142     |
| 315     | 11         | 032                |  | 103     | 104     | 150     |



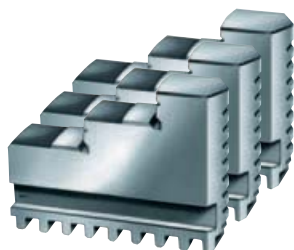
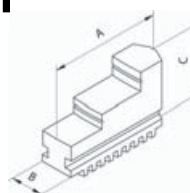


**22 671 Drill jaws**

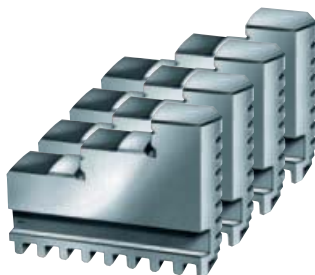
hardened, for **three-jaw** chuck No. 22 633... up to 22 637...,  
set contains **3** jaws

**22 672 Drill jaws**

hardened, for **four-jaw** chuck No. 22 641..., set contains **4** jaws



22 671...



22 672...

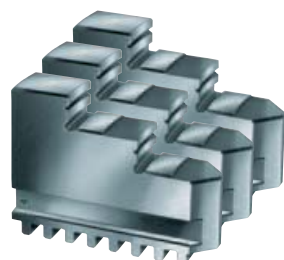
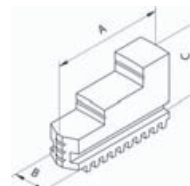
| For chuck Ø | 22 671...<br>Set of 3 |  | 22 672...<br>Set of 4 |   | A   | B  | C    |
|-------------|-----------------------|--|-----------------------|---|-----|----|------|
| mm          |                       |  |                       |   | mm  | mm | mm   |
| 74          | 007                   |  | -                     | - | 32  | 10 | 23   |
| 80          | 008                   |  | 008                   |   | 37  | 12 | 26   |
| 100         | 010                   |  | 010                   |   | 48  | 14 | 33.5 |
| 125         | 012                   |  | 012                   |   | 52  | 18 | 41.5 |
| 140         | 014                   |  | 014                   |   | 61  | 18 | 41.5 |
| 160         | 016                   |  | 016                   |   | 61  | 18 | 47.5 |
| 200         | 020                   |  | 020                   |   | 69  | 20 | 53.5 |
| 250         | 025                   |  | 025                   |   | 90  | 24 | 67.5 |
| 315         | 031                   |  | 031                   |   | 130 | 34 | 79.5 |
| 400         | 040                   |  | 040                   |   | 130 | 34 | 79.5 |
| 500 / 630   | 050                   |  | 050                   |   | 190 | 42 | 95   |

**22 674 Lathe jaws**

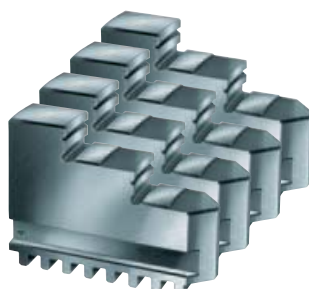
hardened, for **three-jaw** chuck No. 22 633... up to 22 634...,  
set contains **3** jaws

**22 675 Lathe jaws**

hardened, for **four-jaw** chuck No. 22 640... up to 22 643...,  
set contains **4** jaws



22 674...



22 675...

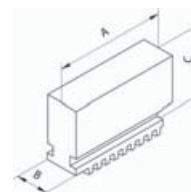
| For chuck Ø | 22 674...<br>Set of 3 |  | 22 675...<br>Set of 4 |  | A   | B  | C    |
|-------------|-----------------------|--|-----------------------|--|-----|----|------|
| mm          |                       |  |                       |  | mm  | mm | mm   |
| 80          | 008                   |  | 008                   |  | 37  | 12 | 26   |
| 100         | 010                   |  | 010                   |  | 48  | 14 | 33.5 |
| 125         | 012                   |  | 012                   |  | 52  | 18 | 41.5 |
| 140         | 014                   |  | 014                   |  | 61  | 18 | 41.5 |
| 160         | 016                   |  | 016                   |  | 61  | 18 | 47.5 |
| 200         | 020                   |  | 020                   |  | 69  | 20 | 53.5 |
| 250         | 025                   |  | 025                   |  | 90  | 24 | 67.5 |
| 315         | 031                   |  | 031                   |  | 130 | 34 | 79.5 |
| 400         | 040                   |  | 040                   |  | 130 | 34 | 79.5 |
| 500 / 630   | 050                   |  | 050                   |  | 190 | 42 | 95   |

**22 677 Block jaws**

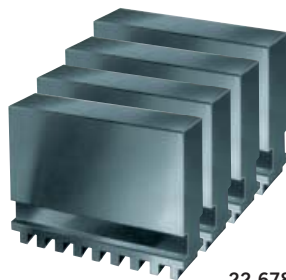
soft, for **three-jaw** chuck No. 22 633... up to 22 634...,  
set contains 3 jaws

**22 678 Block jaws**

soft, for **four-jaw** chuck No. 22 640... up to 22 643...,  
set contains 4 jaws



22 677...



22 678...

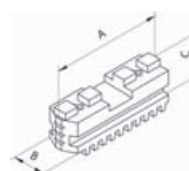
| For chuck Ø | 22 677...<br>Set of 3 |  | 22 678...<br>Set of 4 |   | A   | B  | C    |
|-------------|-----------------------|--|-----------------------|---|-----|----|------|
| mm          |                       |  |                       |   | mm  | mm | mm   |
| 74          | 007                   |  | -                     | - | 32  | 10 | 23   |
| 80          | 008                   |  | 008                   | - | 37  | 12 | 26   |
| 100         | 010                   |  | 010                   |   | 48  | 14 | 33.5 |
| 125         | 012                   |  | 012                   |   | 52  | 18 | 41.5 |
| 140         | 014                   |  | 014                   |   | 61  | 18 | 41.5 |
| 160         | 016                   |  | 016                   |   | 61  | 18 | 47.5 |
| 200         | 020                   |  | 020                   |   | 69  | 20 | 53.5 |
| 250         | 025                   |  | 025                   |   | 90  | 24 | 67.5 |
| 315         | 031                   |  | 031                   |   | 130 | 34 | 79.5 |
| 400         | 040                   |  | 040                   |   | 130 | 34 | 79.5 |
| 500 / 630   | 050                   |  | 050                   |   | 190 | 42 | 95   |

**22 680 Base jaws**

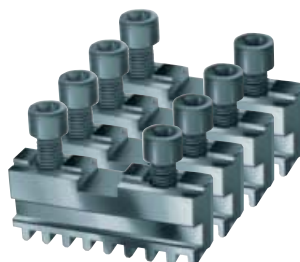
hardened, for **three-jaw** chuck No. 22 633... up to 22 634...,  
set contains 3 jaws

**22 681 Base jaws**

hardened, for **four-jaw** chuck No. 22 640... up to 22 643...,  
set contains 4 jaws



22 680...



22 681...

| For chuck Ø | 22 680...<br>Set of 3 |  | 22 681...<br>Set of 4 |  | A   | B  | C  |
|-------------|-----------------------|--|-----------------------|--|-----|----|----|
| mm          |                       |  |                       |  | mm  | mm | mm |
| 100         | 010                   |  | 010                   |  | 46  | 14 | 6  |
| 125         | 012                   |  | 012                   |  | 55  | 18 | 8  |
| 140         | 014                   |  | 014                   |  | 65  | 18 | 8  |
| 160         | 016                   |  | 016                   |  | 65  | 18 | 8  |
| 200         | 020                   |  | 020                   |  | 78  | 20 | 8  |
| 250         | 025                   |  | 025                   |  | 92  | 24 | 12 |
| 315         | 031                   |  | 031                   |  | 108 | 34 | 12 |
| 400         | 040                   |  | 040                   |  | 127 | 34 | 16 |
| 500         | 050                   |  | 050                   |  | 165 | 42 | 20 |
| 630         | 063                   |  | 063                   |  | 203 | 42 | 20 |



**22 683 Reversible jaw pads**

hardened, for three-jaw chuck No. 22 633... up to 22 634...,  
set contains 3 jaws

**22 684 Reversible jaw pads**

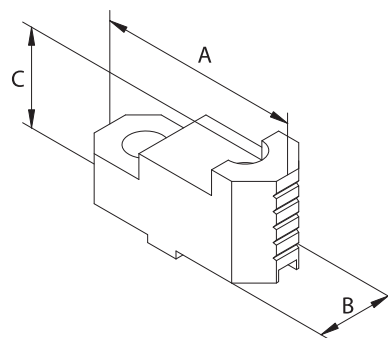
hardened, for four-jaw chuck No. 22 640... up to 22 643...,  
set contains 4 jaws



22 683...



22 684...



| For chuck Ø | 22 683...<br>Set of 3 |  | 22 684...<br>Set of 4 |   | A     | B  | C    |
|-------------|-----------------------|--|-----------------------|---|-------|----|------|
| mm          |                       |  |                       |   | mm    | mm | mm   |
| 100         | 010                   |  | 010                   |   | 47    | 22 | 29.5 |
| 125         | 012                   |  | 012                   |   | 56    | 26 | 37.5 |
| 140 / 160   | 014                   |  | 014                   |   | 66.7  | 28 | 41.5 |
| 200         | 020                   |  | 020                   |   | 79.5  | 30 | 42.5 |
| 250         | 025                   |  | 025                   |   | 95.3  | 36 | 52.5 |
| 315         | 031                   |  | 031                   |   | 109.5 | 42 | 57.5 |
| 400         | 040                   |  | 040                   |   | 127   | 42 | 64.5 |
| 500 / 630   | 050                   |  | -                     | - | 127   | 50 | 79.5 |

**22 686 Unstepped jaw pads**

soft, for three-jaw chuck No. 22 633... up to 22 634...,  
set contains 3 jaws

**22 687 Unstepped jaw pads**

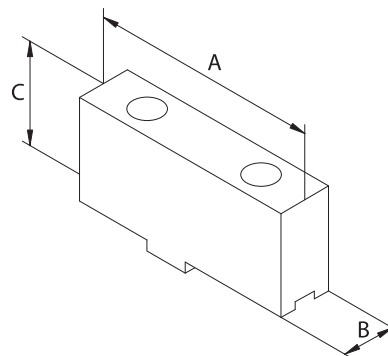
soft, for four-jaw chuck No. 22 640... up to 22 643...,  
set contains 4 jaws



22 686...



22 687...



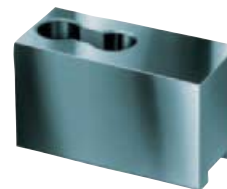
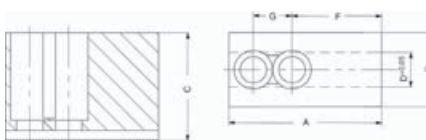
| For chuck Ø | 22 686...<br>Set of 3 |  | 22 687...<br>Set of 4 |   | A   | B    | C  |
|-------------|-----------------------|--|-----------------------|---|-----|------|----|
| mm          |                       |  |                       |   | mm  | mm   | mm |
| 100         | 010                   |  | 010                   |   | 53  | 22.5 | 30 |
| 125         | 012                   |  | 012                   |   | 62  | 26.5 | 38 |
| 140 / 160   | 014                   |  | 014                   |   | 74  | 28.5 | 42 |
| 200         | 020                   |  | 020                   |   | 87  | 30.5 | 43 |
| 250         | 025                   |  | 025                   |   | 103 | 36.5 | 53 |
| 315         | 031                   |  | 031                   |   | 120 | 42.5 | 58 |
| 400         | 040                   |  | 040                   |   | 137 | 42.5 | 65 |
| 500 / 630   | 050                   |  | -                     | - | 140 | 50.5 | 80 |

**22 689 Jaw pads, hardenable**

Pointed teeth 1.5 x 60°

Material: 16 MnCr 5

Set contents: 3 jaw pads



22 689...

| 22 689...<br>Set of<br>3 |  | A<br>mm | B<br>mm | C<br>mm | D<br>mm | F + G<br>M     | suitable for following power chuck types                                                                                                                                                                                                                                                                    |
|--------------------------|--|---------|---------|---------|---------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 001                      |  | 54      | 22.5    | 30      | 10      | 13 + 14<br>M8  | <b>RÖHM:</b> KFD-HE 130, KFN 105<br><b>KITAGAWA:</b> HJ-4, AS 110, N-4/N 05, B 205, B 204, HOB-5, B-05                                                                                                                                                                                                      |
| 003                      |  | 72      | 32.7    | 40      | 12      | 15 + 20<br>M10 | <b>RÖHM:</b> KFD-HE 170<br><b>KITAGAWA:</b> HJA 5-6, HOS 6, AS 165, B-160, B-0,6, B-0,7, HOH 160, HOH 106, HOH-06, HOH 206, N-160, N-06, HOB-6, B-206 A 5, HO-6<br><b>SCHUNK:</b> HSL 165<br><b>SMW-Autoblok:</b> AN-M 165, AL-M 165, BH-M 165, BHM-FC 165, PB-M 165, PBI-M 165, HB-M 165                   |
| 005                      |  | 95      | 35      | 45.5    | 14      | 24 + 25<br>M12 | <b>RÖHM:</b> KFD-HE 210<br><b>KITAGAWA:</b> B-200, B-8, N-200, N 8, AS 210, HOS-8, HJA 6-8, HO-8, B-208 A 6, HOB-8, HOH 200, HOH 8, HOH 108<br><b>SCHUNK:</b> HSL 210<br><b>SMW-Autoblok:</b> AN-M 210, AL-M 210, BH-M 210, BHM-FC 210, BB-M 210, PB-M 210, PBI-M 210, HB-M 210                             |
| 007                      |  | 110     | 50      | 45      | 16      | 30 + 30<br>M12 | <b>RÖHM:</b> KFD-HE 254<br><b>KITAGAWA:</b> B-250, B-10, HOH-250, HOH-10, HOH 110, B-210 A 6, B-210 A 8, HOB-10, AS 250, N-250, HOS-10, N-10, HJA 8-10, HJA 6-10, HO-10<br><b>SCHUNK:</b> HSL 250<br><b>SMW-Autoblok:</b> AN-M 250, AL-M 250, BH-M 250, BHM-FC 250, BB-M 250, PB-M 250, PBI-M 250, HB-M 210 |
| 009                      |  | 130     | 50      | 58      | 21      | 39 + 30<br>M16 | <b>RÖHM:</b> KFD-HE 315, KFN 350, KFM 350, KFG 350, KFE 350<br><b>KITAGAWA:</b> B 212<br><b>SMW-Autoblok:</b> AN-M 315, AL-M 315, BH-M 315, BHM-FC 315, BB-M 315, PB-M 315, PBI-M 315, HB-M 315, HFKN-M 260, HFKN-M 315                                                                                     |

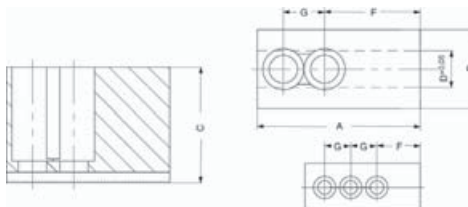


## 22 691 Jaw pads, hardenable

Pointed teeth 1/16" x 90°

Material: 16 MnCr 5

Set contents: 3 pcs



22 691...

| 22 691...<br>Set of<br>3 |  | A<br>mm | B<br>mm | C<br>mm | D<br>mm | F + G<br>M       | suitable for following power chuck-types                                                                                                                                                                                                                                                                    |
|--------------------------|--|---------|---------|---------|---------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 001                      |  | 45      | 26.5    | 32      | 10      | 18 + 15<br>M8    | RÖHM: KFD-HS 110                                                                                                                                                                                                                                                                                            |
| 003                      |  | 53      | 22.5    | 30      | 10      | 20 + 12<br>M6    | RÖHM: KFD 110/125/140. KFD-HS 130/140                                                                                                                                                                                                                                                                       |
| 005                      |  | 55      | 26.5    | 38      | 12      | 31 + 15<br>M8    | RÖHM: KFD 130, KFD-HS 160/175<br>FORKARDT: KTH 130-140<br>SCHUNK: HSG 160<br>SMW-Autoblok: AN-D 125, AL-D 125, HB-D 130, BH-D 130, PB-D 130, PBI-D 130, BB-D 165                                                                                                                                            |
| 007                      |  | 70      | 32.5    | 40      | 14      | 38 + 16.5<br>M12 | RÖHM: KFD 160, KFD-HS 200<br>FORKARDT: 3 KGH 160-175-200, KTG 160-200, 3 KGHF 160-175-200, KTN 160-200<br>SCHUNK: HSG 200, THF 165                                                                                                                                                                          |
| 009                      |  | 75      | 36.5    | 53      | 17      | 44 + 19<br>M12   | RÖHM: KFD 200/250 Δ                                                                                                                                                                                                                                                                                         |
| 011                      |  | 90      | 40      | 60      | 17      | 43 + 22<br>M12   | FORKARDT: 3 KGH 200, KTG 200, 3 KGHF 200, KTN 200, KS 200-250, KSH 200                                                                                                                                                                                                                                      |
| 013                      |  | 98      | 35      | 40      | 17      | 61 + 22<br>M12   | SCHUNK: HSG 250, THF 210<br>SMW-Autoblok: AN-D 210, AL-D 210, BH-D 210, BHD-FC 210, BB-D 210, PB-D 210, PDI-D 210, HB-D 210, HFKN-D 210                                                                                                                                                                     |
| 015                      |  | 95      | 45      | 54.5    | 21      | 55 + 25<br>M16   | RÖHM: KFD 250, KFD-HF 250                                                                                                                                                                                                                                                                                   |
| 017                      |  | 95      | 45      | 54.5    | 21      | 55 + 28<br>M16   | FORKARDT: KS 315-400, KSH 250-315-400, KG 250-315, KP 250-315, 3 KTGF 250-315, KT 250-315                                                                                                                                                                                                                   |
| 019                      |  | 110     | 50      | 55.5    | 21      | 60 + 30<br>M16   | SMW-Autoblok: CL-D 200, AN-D 250, AL-D 250, BH-D 250, BHD-FC 250, BB-D 250, PB-D 250, PBI-D 250, HB-D 250, BB-H (M) 250                                                                                                                                                                                     |
| 021                      |  | 130     | 50      | 80      | 25.5    | 79 + 31<br>M20   | RÖHM: KFD 400-800, KFD-HF 400/500, KFD-HF 630<br>FORKARDT: KS 500-630, KSH 500, KSL 630, KSHF 630, 3 KTGF 400-500<br>SCHUNK: HSG 400, HSG 500, THF 400, TH 400, THF 500, TH 500<br>SMW-Autoblok: AN-D 400, GH-D 500, BHD-FC 500, GH-D 610, BHD-FC 630, IN-D 800, IL-D 800, GH-D 800, HFKN-D 400, HFKN-D 500 |

## 22 693 KFD T-slot nuts

without screws



| T-slot nut size<br>mm | 22 693... |  | suitable for size D<br>mm |
|-----------------------|-----------|--|---------------------------|
| 10.0 x M 6            | 006       |  | 10                        |
| 12.0 x M 8            | 008       |  | 12                        |
| 17.0 x M 12           | 012       |  | 17                        |
| 21.0 x M 16           | 016       |  | 21                        |
| 25.5 x M 20           | 020       |  | 25.5                      |



22 693...

## 22 695 Screws for KFD T-slot nuts



| Screw size<br>mm | 22 695... |  |
|------------------|-----------|--|
| M 6 x 18         | 018       |  |
| M 8 x 20         | 020       |  |
| M 10 x 25        | 022       |  |
| M 12 x 25        | 025       |  |
| M 16 x 30        | 030       |  |
| M 20 x 40        | 040       |  |



22 695...

## 22 697 KFD-HE T-slot nuts

without screws



| T-slot nut size<br>mm | 22 697... |  | suitable for size D<br>mm |
|-----------------------|-----------|--|---------------------------|
| 17 x M 12 x 30        | 012       |  | 17                        |
| 21 x M 16             | 016       |  | 21                        |
| 25.5 x M 20           | 020       |  | 25.5                      |
| 12 x M 10 x 20        | 021       |  | 12                        |
| 14 x M 12 x 25        | 025       |  | 14                        |
| 16 x M 12 x 30        | 030       |  | 16                        |



22 697...



## 22 699 Screws for KFD-HE T-slot nuts



| Screw size<br>mm | 22 699... |  |
|------------------|-----------|--|
| M 12 x 25        | 025       |  |
| M 16 x 30        | 030       |  |
| M 20 x 40        | 040       |  |
| M 10 x 25        | 125       |  |
| M 12 x 30        | 130       |  |



22 699...

## 22 704 Chuck keys

| For chuck Ø<br>mm | 22 704... |  | Square<br>mm |
|-------------------|-----------|--|--------------|
| 100               | 003       |  | 8            |
| 125 / 140         | 004       |  | 9            |
| 160               | 005       |  | 10           |
| 200               | 006       |  | 11           |
| 250               | 007       |  | 12           |
| 315               | 008       |  | 14           |
| 400               | 009       |  | 17           |
| 500 / 630         | 011       |  | 19           |



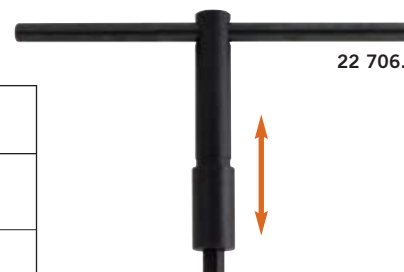
22 704...

## 22 706 Safety chuck keys

with spring safety pressure pin which prevents the key from being left in the chuck



| For chuck Ø<br>mm | 22 706... |  | Square |
|-------------------|-----------|--|--------|
| 80 / 85           | 003       |  | 6      |
| 100 / 110         | 005       |  | 8      |
| 125 / 140         | 007       |  | 9      |
| 160               | 009       |  | 10     |
| 200               | 012       |  | 11     |
| 250               | 014       |  | 12     |
| 315               | 016       |  | 14     |



22 706...

## 22 708 Chip guard for three and four jaw chuck

suitable for Röhmm "ZG" and "ZS" chucks, prevents chips from penetrating



| Chuck Ø<br>mm | 22 708... |  |
|---------------|-----------|--|
| 160           | 116       |  |
| 200           | 120       |  |
| 250           | 125       |  |
| 315           | 130       |  |
| 400           | 140       |  |
| 500           | 150       |  |



22 708 116 - ...150

## 22 710 Jaw cutting device for three-jaw chucks

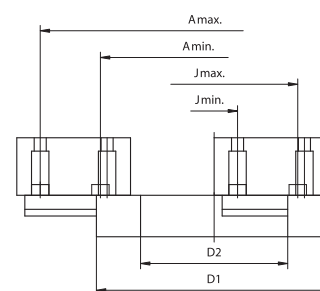


For internal turning out and external turning over soft jaw pads on lathe chucks. A drop forged spiral ring is built into a housing. This ring steplessly moves 3 reversible adjustable jaws inwards or outwards. For turning out, the hook screws of the adjusting jaws are placed in the holes of the lathe chuck jaw pads and in this way clamp the chuck. When turned out the chuck is in the state it takes up during subsequent workpiece machining. The clamping surfaces of the chuck jaws therefore keyed when clamped and are precisely central. Also suitable for grinding out and regrinding hardened jaw pads for true running.



22 710...

| For lathe<br>chucks up to<br>Ø<br>mm | 22 710... |  | Size external/<br>internal Ø<br>D1 / D2<br>mm | Hook in area<br>Ø position "J"<br>min. / max.<br>mm | Hook in area<br>Ø position "A"<br>min. / max.<br>mm | Weight<br>kg |
|--------------------------------------|-----------|--|-----------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|--------------|
| 125                                  | 153       |  | 153/110                                       | 50 - 115                                            | 150 - 215                                           | 1.6          |
| 200                                  | 176       |  | 176/110                                       | 35 - 125                                            | 170 - 260                                           | 3.4          |
| 250                                  | 215       |  | 215/135                                       | 70 - 140                                            | 215 - 285                                           | 5.0          |
| 250                                  | 244       |  | 244/162                                       | 100 - 175                                           | 240 - 360                                           | 5.7          |
| 315                                  | 290       |  | 290/208                                       | 145 - 215                                           | 290 - 360                                           | 6.9          |
| 400                                  | 342       |  | 342/260                                       | 160 - 270                                           | 330 - 440                                           | 8.5          |





**WODEX quick change toolholder for firms  
who value high performance and economic efficiency.**



**The advantage of the WODEX quick change toolholder:  
Time and cost savings during tool change.**

Even in difficult work operations, the WODEX toolholder brings considerable time and therefore cost savings. The level of the lathe tools is quickly and effortlessly adjusted using an adjusting screw. Shimming the lathe tools becomes superfluous. With the WODEX toolholder, the tool cartridge can be lifted off from the top without moving the transverse or longitudinal slides. The changing time is usually 10 seconds. The tools can be preset outside the lathe.

**Technical data**

When choosing the size, the following must be noted:

1. Drive output of the lathe.
2. Pitch from transverse slides "X".
3. As far as possible, the length of the interchangeable toolholder "lg" should equal the width "Z" of the transverse slide.
4. The tool height "D" to be used together with the tool support "Y" and the intermediate space left below it give the necessary dimension "X" (see table).

Example of choosing the size:  
If drive output 6 kW and width of the slide  
"Z" 145 mm  
USE: Toolholder "B" and interchangeable  
toolholder: BD 25120, BD 25140,  
BD 32140, BH 32130, BJ 40120.



**Minimum dimension "X" required for toolholder "D"**

| Type                   | Aa    | A  |    |    | E  |    |    | B  |    |    | C  |    |    | D1 |    |    | D2 |  |
|------------------------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Toolholder D <b>Z</b>  | 12    | 16 | 20 | 16 | 20 | 25 | 25 | 32 | 32 | 40 | 45 | 40 | 50 | 63 | 50 | 63 |    |  |
| Tool height D <b>Z</b> | X min |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| 6                      | 12    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| 8                      | 14    | 17 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| 10                     | 16    | 19 | 19 | 19 | 19 | 22 |    |    |    |    |    |    |    |    |    |    |    |  |
| 12                     | 18    | 21 | 21 | 21 | 21 | 24 | 25 | 26 |    |    |    |    |    |    |    |    |    |  |
| (14)                   |       | 23 | 23 | 23 | 23 | 26 | 27 | 28 | 29 |    |    |    |    |    |    |    |    |  |
| 16                     |       | 25 | 25 | 25 | 25 | 28 | 29 | 30 | 31 | 31 |    |    |    |    |    |    |    |  |
| 20                     |       |    |    |    | 29 | 32 | 33 | 34 | 35 | 35 | 38 |    |    |    |    |    |    |  |
| 25                     |       |    |    |    |    | 37 | 38 | 39 | 40 | 40 | 43 | 45 |    |    |    |    |    |  |
| (30)                   |       |    |    |    |    |    |    | 44 | 45 | 45 | 48 | 50 | 51 | 52 | 50 | 55 |    |  |
| 32                     |       |    |    |    |    |    |    |    | 47 | 47 | 50 | 52 | 53 | 54 | 52 | 57 |    |  |
| 40                     |       |    |    |    |    |    |    |    |    | 55 | 58 | 60 | 61 | 62 | 60 | 65 |    |  |
| 50                     |       |    |    |    |    |    |    |    |    |    |    |    | 71 | 72 | 70 | 75 |    |  |
| 63                     |       |    |    |    |    |    |    |    |    |    |    |    |    | 85 |    | 88 |    |  |

**The bore "R" in the centring disc must be enlarged to the size of the clamping screw.**

|                                  |       |    |      |      |      |      |    |     |      |     |    |    |     |     |     |     |     |
|----------------------------------|-------|----|------|------|------|------|----|-----|------|-----|----|----|-----|-----|-----|-----|-----|
| MULTIFIX Type                    |       | Aa | A    |      | E    |      |    | B   |      | C   |    |    | D1  |     |     | D2  |     |
| Drive output                     | kW    | 1  | 2    |      | 4.5  |      |    | 7   |      | 13  |    |    | 20  |     |     | 28  |     |
| Interchangeable toolholder size  | D     | 12 | 16   | 20   | 16   | 20   | 25 | 25  | 32   | 32  | 40 | 45 | 40  | 50  | 63  | 50  | 63  |
| Slide width max.                 | Z mm  | 80 | 100  |      | 120  |      |    | 150 |      | 180 |    |    | 200 |     |     | 250 |     |
| Pitch from transverse slides min | X min | 18 | 24.5 | 28.5 | 24.5 | 28.5 | 37 | 37  | 45.5 | 47  | 55 | 63 | 60  | 70  | 83  | 70  | 88  |
| Pitch from transverse slides max | X max | 26 | 35.5 | 39.5 | 40.5 | 39.5 | 43 | 57  | 56.5 | 87  | 90 | 93 | 95  | 100 | 103 | 90  | 118 |
| Height adjustability             | h mm  | 8  | 11   |      | 16   | 11   | 6  | 20  | 11   | 40  | 35 | 30 | 35  | 30  | 20  | 20  | 30  |
| Tool support                     | Y mm  | 6  | 8.5  | 8.5  | 8.5  | 8.5  | 12 | 12  | 13.5 | 15  | 15 | 18 | 20  | 20  | 25  | 20  | 25  |
| Height of the working tool max.  | D mm  | 12 | 16   | 20   | 16   | 20   | 25 | 25  | 32   | 32  | 40 | 45 | 40  | 50  | 63  | 50  | 65  |
| Total width max.                 | V mm  | 70 | 100  |      | 125  |      |    | 150 |      | 200 |    |    | 230 | 234 | 242 | 275 | 282 |
| Total height                     | S mm  | 37 | 56   |      | 68   |      |    | 79  |      | 110 |    |    | 122 |     |     | 135 |     |
| Overhang max.                    | U mm  | 30 | 48   |      | 60   |      |    | 71  |      | 90  |    |    | 112 | 116 | 124 | 140 | 147 |
| Bore Ø max.                      | T mm  | 13 | 20   |      | 20   |      |    | 32  |      | 40  |    |    | 40  |     |     | 80  |     |



## Quick change toolholders

**Wodex®**

- Performance and economic efficiency due to unlimited number of tools which can be used for split second tool change
- Precision due to hardened profile-ground teething of the basic body and the interchangeable toolholder

### 23 004 Toolholder heads with lever actuated eccentric clamp

**Wodex®**


23 004...

| Size | 23 004... |  | Machine's drive output<br>kW | Slide width max.<br>mm | Pitch from transverse slides min | Pitch from transverse slides max | Interchangeable toolholder size D |
|------|-----------|--|------------------------------|------------------------|----------------------------------|----------------------------------|-----------------------------------|
| Aa   | 012       |  | 1                            | 80                     | 18                               | 26                               | 12                                |
| A    | 020       |  | 2                            | 100                    | 24.5 / 28.5                      | 35.5 / 39.5                      | 16 / 20                           |
| E    | 045       |  | 4.5                          | 120                    | 24.5 / 28.5 / 37                 | 46.5 / 39.5 / 43                 | 16 / 20 / 25                      |
| B    | 070       |  | 7                            | 150                    | 37 / 45.5                        | 57 / 56.5                        | 25 / 32                           |
| C    | 130       |  | 13                           | 180                    | 47 / 55 / 63                     | 87 / 90 / 93                     | 32 / 40 / 45                      |
| D1   | 190       |  | 20                           | 200                    | 60 / 70 / 83                     | 5 / 100 / 103                    | 40 / 50 / 63                      |

### 23 006 Turning toolholder "D" with flat tool support

**Wodex®**

| Size mm | 23 006... |  | Height mm | Length mm |
|---------|-----------|--|-----------|-----------|
| AaD     | 102       |  | 12        | 50        |
| AD      | 112       |  | 16        | 75        |
| AD      | 113       |  | 16        | 90        |
| AD      | 114       |  | 20        | 75        |
| AD      | 115       |  | 20        | 90        |
| ED      | 132       |  | 20        | 100       |
| ED      | 133       |  | 25        | 100       |
| BD      | 152       |  | 25        | 120       |
| BD      | 153       |  | 25        | 140       |
| BD      | 154       |  | 32        | 120       |
| BD      | 155       |  | 32        | 140       |
| CD      | 172       |  | 32        | 150       |
| CD      | 173       |  | 32        | 170       |
| CD      | 174       |  | 40        | 150       |
| CD      | 175       |  | 40        | 170       |
| CD      | 176       |  | 45        | 170       |
| D1D     | 202       |  | 40        | 180       |
| D1D     | 203       |  | 50        | 180       |
| D1D     | 204       |  | 63        | 180       |



23 006...

### 23 008 Drilling toolholder "H" with V support

**Wodex®**

| Size | 23 008... |  | max. Ø mm | Length mm |
|------|-----------|--|-----------|-----------|
| AaH  | 103       |  | 12        | 50        |
| AH   | 116       |  | 20        | 85*       |
| EH   | 134       |  | 20        | 100*      |
| BH   | 156       |  | 30        | 100*      |
| CH   | 177       |  | 40        | 160*      |
| CH   | 178       |  | 50        | 160*      |
| D1H  | 205       |  | 63        | 180*      |

\* Insertable Vees "P" No. 23 020... can be used



23 008...

## 23 010 Boring bar holder "J" with cylindrical bore

**Wodex®**

| Size | 23 010... |  | Ø<br>mm | Screw      | Length<br>mm |
|------|-----------|--|---------|------------|--------------|
| AaJ  | 104       |  | 15      | lateral    | 50           |
| AJ   | 117       |  | 30      | from above | 80           |
| EJ   | 135       |  | 30      | from above | 100          |
| EJ   | 136       |  | 40      | from above | 100          |
| BJ   | 157       |  | 40      | lateral    | 120          |
| CJ   | 179       |  | 40      | lateral    | 160          |
| CJ   | 181       |  | 50      | lateral    | 160          |
| D1J  | 206       |  | 63      | lateral    | 180          |



23 010...

## 23 012 Parting off toolholder "A" with direct mounting, for parting off blades

**Wodex®**

| Size  | 23 012... |  |
|-------|-----------|--|
| A-A0  | 118       |  |
| E-A0  | 137       |  |
| B-A2a | 158       |  |



23 012...

## 23 018 Sleeves "L"

with forcing screw, for mounting tools with Morse taper shank

**Wodex®**

| Size | 23 018... |  | MK | Ø<br>mm |
|------|-----------|--|----|---------|
| AL   | 121       |  | 1  | 30      |
| AL   | 122       |  | 2  | 30      |
| BL   | 162       |  | 3  | 40      |
| BL   | 163       |  | 4  | 40      |
| CL   | 184       |  | 3  | 40      |
| CL   | 185       |  | 4  | 40      |
| CL   | 186       |  | 3  | 50      |
| CL   | 187       |  | 4  | 50      |
| D1L  | 207       |  | 5  | 63      |



23 018...

## 23 020 Insertable vees "P"

for mounting small boring bars and tools

**Wodex®**

| Size | 23 020... |  | max. Ø<br>mm | Length<br>mm |
|------|-----------|--|--------------|--------------|
| AP   | 124       |  | 14           | 85           |
| EP   | 144       |  | 14           | 100          |
| BP   | 166       |  | 20           | 130          |
| CP   | 192       |  | 25           | 160          |
| CP   | 193       |  | 32           | 160          |
| D1P  | 212       |  | 40           | 180          |



23 020...

## 23 024 Bore enlarger bars "M" (without tool blank)

**Wodex®**

| Size<br>mm | 23 024... |  | Ø<br>mm | Length<br>mm | Square<br>mm |
|------------|-----------|--|---------|--------------|--------------|
| A 22       | 143       |  | 40      | 500          | 12           |
| A 33       | 191       |  | 50      | 500          | 20           |



23 024...

**23 028 Height adjusting screw****Wodex®**

with height adjusting nut, for interchangeable toolholder No. 23 006...

| Interchangeable toolholder size | 23 028... |  | Size<br>M x length |
|---------------------------------|-----------|--|--------------------|
| Aa                              | 010       |  | M 4 x 23           |
| A                               | 020       |  | M 5 x 36           |
| E                               | 030       |  | M 5 x 36           |
| B                               | 040       |  | M 7 x 56           |
| C                               | 050       |  | M 9 x 62           |
| D                               | 060       |  | M 12 x 80          |



23 028...

**23 030 square head bolts****Wodex®**

for interchangeable toolholder No. 23 006...

| Interchangeable toolholder size | 23 030... |  | Square<br>mm | Size<br>Thread Ø x length |
|---------------------------------|-----------|--|--------------|---------------------------|
| Aa                              | 010       |  | 8            | M 5 x 18                  |
| A                               | 020       |  | 8            | M 7 x 21                  |
| E                               | 030       |  | 8            | M 7 x 30                  |
| B                               | 040       |  | 10           | M 11 x 27                 |
| C                               | 050       |  | 14           | M 14 x 1.5 x 38           |
| D                               | 060       |  | 14           | M 14 x 1.5 x 38           |



23 030...

**23 032 Clamping lever****Wodex®**

for interchangeable toolholder No. 23 006..., bi-hexagon

| for size | 23 032... |  |
|----------|-----------|--|
| Aa       | 010       |  |
| A        | 020       |  |
| E        | 030       |  |
| B        | 040       |  |
| C        | 050       |  |
| D1       | 060       |  |



23 032...

**23 040 "Power Worker" chip remover****Wodex®**

- universal, fast and mobile use, even in places difficult to access
- Reduction in risk of injuries due to sharp edged metal
- Long life due to permanent magnets
- Diameter: 25 mm
- Low weight: 600 g



23 040 001

| Length<br>mm | 23 040... |  |
|--------------|-----------|--|
| 390          | 001       |  |

**23 042 Chip hook**

with hand guard and plastic handle, according to the regulations of the trade associations liable for industrial safety (Berufsgenossenschaften)



23 042...

| Hook length<br>mm | 23 042... |  |
|-------------------|-----------|--|
| 300               | 002       |  |
| 500               | 003       |  |

### 23 046 Chip guard screens

with magnetic base 55 x 40 x 45 mm, magnetic clamping force approx. 40 kg, easy fixing on flat and cylindrical surfaces by V-shaped formation of the clamping surface, shank can be swivelled in all directions on spherical joint, equipped with parabolic shield made of acrylic plastic



23 046...

### 23 047 Replacement shields

suitable for No. 23 046...

| Size | Acrylic screen size mm | 23 046... |  | 23 047... |  |
|------|------------------------|-----------|--|-----------|--|
| 1    | 200 x 250              | 001       |  | 001       |  |
| 2    | 250 x 300              | 002       |  | 002       |  |
| 3    | 300 x 400              | 003       |  | 003       |  |

### 23 050 Chip protective screens

with magnet base for protecting the face against flying chips, the screens are made of non-flammable, transparent plastic, the screen can be easily placed in the most favourable position for guarding against chips using the flexible metal hose, magnetic clamping force approx. 16 kg



23 050...

### 23 051 Replacement screens

suitable for No. 23 050...

| Size | Screen dimensions mm | Hose length mm | 23 050... |  | 23 051... |  |
|------|----------------------|----------------|-----------|--|-----------|--|
| 1    | 170 x 200            | 240            | 003       |  | 003       |  |
| 2    | 200 x 300            | 300            | 006       |  | 006       |  |

### 23 054 Hollow spindle stops

- tried and tested and safe to use universal turning tool for series and individual production
- fast and easy adjustment of the stop to any point on the hollow spindle
- with 3 clamping jaws **incl. clamping key**
- Interchangeable stop bolts

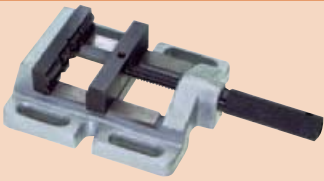
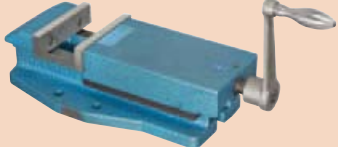
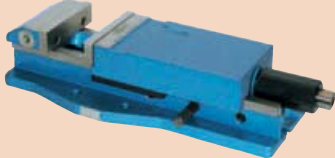
**Use:** The limit stop is introduced into the lathe spindle from behind and is tightened using a special key, by tightening the clamping screw the 3 clamping jaws are pressed on the internal wall of the hollow spindle as they are milled in a wedge shape, this ensures compact and secure fit of the stop, the key is made so that the stop cannot only be tightened and loosened but also moved lengthwise, the key is removed after fixing the stop



23 054...

| For spindle passage mm | 23 054... |  | Key length mm |
|------------------------|-----------|--|---------------|
| 27 - 31                | 003       |  | 550           |
| 31 - 39                | 004       |  | 650           |
| 39 - 47                | 005       |  | 650           |
| 47 - 57                | 006       |  | 750           |
| 57 - 65                | 007       |  | 750           |
| 65 - 78                | 008       |  | 950           |
| 78 - 94                | 009       |  | 950           |

## Overview of vice types

| Designation                                                   |        | Prod. No. | Page |                                                                                       |
|---------------------------------------------------------------|--------|-----------|------|---------------------------------------------------------------------------------------|
| <b>Drill press vices</b>                                      |        |           |      |                                                                                       |
| Drill press vices<br>Jaw width: 85, 100, 120 mm               |        | 24 402... | 470  |    |
| Drill press vices<br>Jaw width: 80, 100, 125, 160 mm          | CEKABA | 24 406... | 470  |    |
| Drill press vices<br>Jaw width: 90, 110, 135, 160 mm          | RÖHM   | 24 412... | 471  |    |
| <b>Quick-action vices</b>                                     |        |           |      |                                                                                       |
| Quick-action vices<br>Jaw width: 110, 135 mm                  | RÖHM   | 24 416... | 471  |   |
| Quick-action vices<br>Jaw width: 100, 125 mm                  | CEKABA | 24 422... | 471  |  |
| <b>Machine vices</b>                                          |        |           |      |                                                                                       |
| Machine vices<br>Jaw width: 100, 125, 150, 200 mm             | Wodex  | 24 439... | 472  |   |
| RS machine vices<br>Jaw width: 92, 113, 135, 160, 200 mm      | RÖHM   | 24 442... | 472  |  |
| RS machine vices<br>Jaw width: 92, 113, 135, 160, 200 mm      | RÖHM   | 24 444... | 472  |  |
| RB hydraulic machine vice<br>Jaw width: 113, 135, 160, 200 mm | RÖHM   | 24 446... | 473  |  |



| Designation                                                                                                                                                            |                                                                                                | Prod. No. | Page |                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------|------|-------------------------------------------------------------------------------------|
| Hydraulic machine vices<br>Jaw width: 100, 125, 150, 200 mm                                                                                                            | <b>Wodex</b>                                                                                   | 24 448... | 474  |   |
| NC machine vice<br>Jaw width: 125 mm<br>With mountable base                                                                                                            | <b>Wodex</b>                                                                                   | 24 575... | 475  |  |
| NC machine vice<br>Jaw width: 125 mm<br>can be mounted horizontally, vertically and laterally                                                                          | <b>Wodex</b>                                                                                   | 24 576... | 475  |  |
| NC hydro-machine vices<br>Jaw width: 100, 125, 160 mm<br>With mountable base                                                                                           |  <b>HILMA</b> | 24 490... | 478  |   |
| NC compact machine vices<br>Jaw width: 100, 125, 160 mm<br>Standard type: With mountable base<br>Universal type: can be mounted horizontally, vertically and laterally |  <b>HILMA</b> | 24 500... | 480  |  |

### NC compact vice

|                                                                                                                 |             |           |     |                                                                                      |
|-----------------------------------------------------------------------------------------------------------------|-------------|-----------|-----|--------------------------------------------------------------------------------------|
| NC compact vice RKE-L<br>Jaw width: 125, 160 mm<br>With mountable base                                          | <b>RÖHM</b> | 24 522... | 482 |  |
| NC compact vice RKE<br>Jaw width: 125, 160 mm<br>can be mounted horizontally, vertically or laterally           | <b>RÖHM</b> | 24 512... | 483 |  |
| NC compact vice RKE-L<br>Jaw width: 125 mm<br>for clear, conflict-free 5 sided machining with a single mounting | <b>RÖHM</b> | 24 530... | 483 |  |
| NC compact centring vice RKZ-M<br>Jaw width: 50, 70, 92 and 125 mm<br>With mountable base                       | <b>RÖHM</b> | 24 535... | 483 |  |
| NC compact double vice RKD<br>Jaw width: 92, 125 mm<br>3-side mounting: Base , end, side                        | <b>RÖHM</b> | 24 518... | 485 |  |

**24 005 Angle plate 90° Quality 3**

with clamping slots, made of dense special cast iron, age-hardened and annealed, **Quality 3**: Mounting surfaces milled at right-angles to each other, outer edges milled



24 005...

**24 006 Angle plate 90° Quality 1**

with clamping slots, made of dense special cast iron, age-hardened and annealed, **Quality 1**: Base and mounting surfaces ground at right-angles to each other, outer edges milled

| Length<br>mm | Width<br>mm | Height<br>mm | 24 005...<br>Quality 3 |  | 24 006...<br>Quality 1 |  | Weight<br>kg |
|--------------|-------------|--------------|------------------------|--|------------------------|--|--------------|
| 150          | 75          | 100          | 010                    |  | 011                    |  | 4            |
| 200          | 100         | 150          | 020                    |  | 012                    |  | 7            |
| 275          | 150         | 200          | 030                    |  | 013                    |  | 16           |
| 400          | 225         | 300          | 040                    |  | 014                    |  | 42           |
| 500          | 300         | 400          | 050                    |  | 015                    |  | 75           |



24 006...

**24 010 Cube plate**

for aligning and clamping purposes when machining workpieces, type: made of grey cast iron, hollow with an open end-face, four sides with pre-cast clamping slots, one side with clamping T-slots according to DIN 650, six sides smooth finished parallel and at right-angles, **Quality 3**: unmachined surfaces with textured paint finish

| Length<br>mm | Width<br>mm | Height<br>mm | 24 010... |  | Groove<br>width mm | Slot width<br>mm | Weight<br>kg |
|--------------|-------------|--------------|-----------|--|--------------------|------------------|--------------|
| 250          | 180         | 150          | 010       |  | 14                 | 16               | 25           |
| 300          | 220         | 200          | 020       |  | 14                 | 18               | 35           |
| 400          | 350         | 300          | 030       |  | 22                 | 22               | 110          |
| 500          | 450         | 400          | 040       |  | 22                 | 22               | 190          |
| 600          | 550         | 500          | 050       |  | 24                 | 25               | 270          |

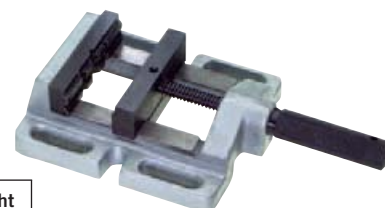


24 010...

**24 402 Drill press vices**

Body made of special cast iron, universal fixing options, movable jaw with side guides, fixed jaw with V-prisms, for clamping flat workpieces, both jaws with bearing surfaces

| Jaw width<br>mm | 24 402... |  | Jaw opening<br>mm | Jaw height<br>mm | Total length<br>mm | Total height<br>mm |
|-----------------|-----------|--|-------------------|------------------|--------------------|--------------------|
| 85              | 010       |  | 65                | 30               | 255                | 64                 |
| 100             | 020       |  | 87                | 30               | 287                | 65                 |
| 120             | 030       |  | 110               | 30               | 368                | 63                 |



24 402...

**24 406 Drill press vices****CEKABA**

Strong design, optimum mounting options, long guides in the whole clamping area, 2 offset V-jaws

**24 407 V-jaws**

for drill vices No. 24 406...

| Jaw width<br>mm | Jaw opening<br>mm | 24 406... |  | 24 407... |  | Jaw height<br>mm | Body length<br>mm | Total height<br>mm |
|-----------------|-------------------|-----------|--|-----------|--|------------------|-------------------|--------------------|
| 80              | 70                | 010       |  | 010       |  | 30               | 150               | 62                 |
| 100             | 115               | 020       |  | 020       |  | 35               | 280               | 74                 |
| 125             | 135               | 030       |  | 030       |  | 40               | 350               | 85                 |
| 160             | 225               | 040       |  | 040       |  | 50               | 460               | 102                |



24 406...

## 24 412 Drill press vices

made of special cast iron, large clamping area, fixings on the side and end, long moveable jaw guideway - including in the outer clamping area, both jaws with support surfaces for clamping flat workpieces, clamping jaws reversible, one side smooth and with longitudinal and transverse V-prisms, both sides ground



24 412...

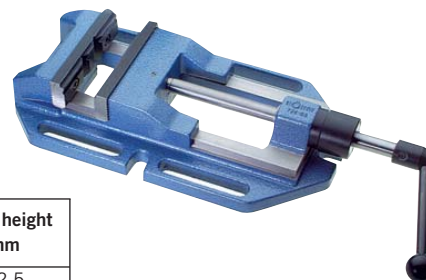
## 24 413 Replacement jaws

for drill vices No. 24 412... and No. 24 416...

| Jaw width<br>mm | 24 412... |  | 24 413... |  | Jaw opening<br>mm | Jaw height<br>mm | Body length<br>mm | Total height<br>mm |
|-----------------|-----------|--|-----------|--|-------------------|------------------|-------------------|--------------------|
| 90              | 010       |  | 010       |  | 90                | 25               | 195               | 60.0               |
| 110             | 020       |  | 020       |  | 130               | 32               | 315               | 72.5               |
| 135             | 030       |  | 030       |  | 160               | 40               | 365               | 80.5               |
| 160             | 040       |  | 040       |  | 220               | 50               | 445               | 95.5               |

## 24 416 Quick-action vices

as 24 412...; however, with one-hand operation due to quick jaw adjustment and clamping with a lever handle, **for replacement jaws**, see No. 24 413...

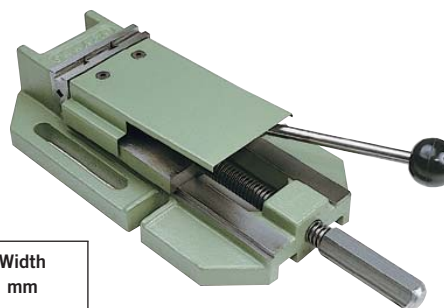


24 416...

| Jaw width<br>mm | 24 416... |  | Jaw opening<br>mm | Jaw height<br>mm | Body length<br>mm | Total height<br>mm |
|-----------------|-----------|--|-------------------|------------------|-------------------|--------------------|
| 110             | 020       |  | 130               | 32               | 315               | 72.5               |
| 135             | 030       |  | 160               | 40               | 365               | 80.5               |

## 24 422 Quick-action vices

Short clamping times, eccentric clamping on the left and right-hand side, **including 2 V-jaws**



24 422...

| Jaw width<br>mm | 24 422... |  | Jaw opening<br>mm | Jaw height<br>mm | Length<br>mm | Width<br>mm |
|-----------------|-----------|--|-------------------|------------------|--------------|-------------|
| 100             | 010       |  | 80                | 35               | 325          | 170         |
| 125             | 020       |  | 125               | 40               | 410          | 195         |

## 24 439 Machine vices

**Clamping system:** mechanical, with swivel base for all machine tools, made of fine-grained cast iron

**Wodex®**



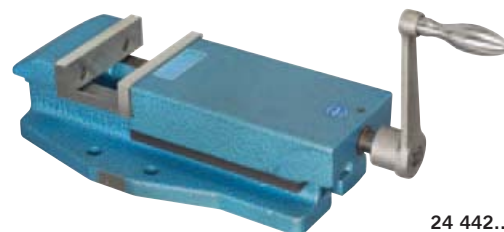
24 439...

| Jaw width<br>mm | Jaw opening<br>mm | 24 439... |  | Jaw height<br>mm |
|-----------------|-------------------|-----------|--|------------------|
| 100             | 62                | 010       |  | 30               |
| 125             | 85                | 020       |  | 37               |
| 150             | 114               | 030       |  | 40               |
| 200             | 150               | 040       |  | 58               |

## 24 442 RS machine vices

**Clamping system:** mechanical, particularly suitable for use on conventional machine tools. Technical features, modern assembly design made of special cast iron, reversible SGN clamping jaws, one side smooth, the other serrated, use on swivel base with graduation, movable jaw has long guideway, spindle protected against dirt and swarf

**RÖHM**



24 442...

| Jaw width<br>mm | Jaw opening<br>mm | 24 442... |  | Jaw height<br>mm | Total height<br>mm | Body length<br>mm | Clamping<br>force kN |
|-----------------|-------------------|-----------|--|------------------|--------------------|-------------------|----------------------|
| 92              | 85                | 010       |  | 31.6             | 80                 | 260               | 18                   |
| 113             | 105               | 020       |  | 31.6             | 90                 | 300               | 25                   |
| 135             | 125               | 030       |  | 39.6             | 104                | 365               | 35                   |
| 160             | 145               | 040       |  | 49.6             | 120                | 410               | 45                   |
| 200             | 185               | 050       |  | 62.6             | 145                | 460               | 55                   |

## 24 443 Swivel base for RB and SG

with fixing screws and T-slot nuts, for fixing the vice on the swivel base, suitable for No. 24 444... and 24 446...

| Jaw width<br>mm | 24 443... |  | External Ø<br>mm | Height<br>mm |
|-----------------|-----------|--|------------------|--------------|
| 92              | 092       |  | 242              | 30           |
| 113             | 113       |  | 242              | 30           |
| 135             | 135       |  | 280              | 30           |
| 160             | 160       |  | 340              | 34           |
| 200             | 200       |  | 420              | 40           |

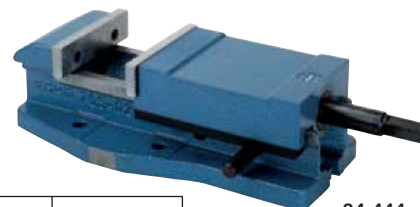


24 443...

## 24 444 SG machine vice

**Mechanical clamping system**, manually actuated with normal SGN jaws and crank handle. Modern design machine vice made of special cast iron. Extensive, exchangeable jaw range, reversible SGN clamping jaws, one side smooth, one side serrated. Can be used on swivel base with graduation, see **Product No.:** 24 443...

**RÖHM**



24 444...

| Jaw width<br>mm | Jaw opening<br>mm | 24 444... |  | Jaw height<br>mm | Total height<br>mm | Body length<br>mm | Clamping<br>force kN |
|-----------------|-------------------|-----------|--|------------------|--------------------|-------------------|----------------------|
| 92              | 100               | 092       |  | 31.6             | 91                 | 310               | 20                   |
| 113             | 125               | 113       |  | 31.6             | 96                 | 320               | 25                   |
| 135             | 150               | 135       |  | 39.6             | 107                | 380               | 35                   |
| 160             | 180               | 160       |  | 49.6             | 124                | 430               | 45                   |
| 200             | 215               | 200       |  | 62.6             | 145                | 500               | 55                   |

## 24 445 Crank handles

with octagon socket for machine vices RS + SG,  
Prod. No.: 24 442... and 24 444...



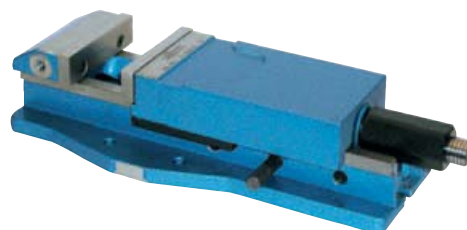
24 445...

| Octagon x length<br>mm | 24 445... |  | Suitable for type                                    |
|------------------------|-----------|--|------------------------------------------------------|
| 12 x 80                | 012       |  | RS. SG                                               |
| 14 x 125               | 014       |  | 24 442 020 / 24 448 020 /<br>24 448 030              |
| 17 x 160               | 017       |  | 24 442 030 / 24 448 040                              |
| 19 x 200               | 019       |  | 24 442 040 / 24 448 050 /<br>24 442 050 / 24 448 060 |

## 24 446 RB hydraulic machine vice

for high clamping precision

**Mechanical-hydraulic clamping system**, manually actuated, with normal SGN jaws and crank handle. For individual and series production on drills and milling machines. Steel body with fixed clamping jaw forged as one in the die and body made of nodular cast iron. Large clamping area. Long flat guideway for movable jaw. High precision. Fast clamping area adjustment using a pin bolt. Can be used on swivel base with graduation, see **Product No.: 24 443...**



24 446...

| Jaw width<br>mm | Jaw opening<br>mm | 24 446... |  | Jaw height<br>mm | Clamping force<br>kN |
|-----------------|-------------------|-----------|--|------------------|----------------------|
| 113             | 170               | 113       |  | 31.6             | 30                   |
| 135             | 220               | 135       |  | 39.6             | 40                   |
| 160             | 310               | 160       |  | 49.6             | 50                   |
| 200             | 350               | 200       |  | 66.6             | 100                  |

## Jaw range, exchangeable

for machine vices, Prod. No.: 24 442..., 24 444... and 24 446...



| Designation              | Jaw width<br>mm | Product number |  | Jaw height<br>mm |
|--------------------------|-----------------|----------------|--|------------------|
| ENR roller drawdown jaws | 110             | 24 455 111     |  | 32               |
|                          | 135             | 24 455 131     |  | 40               |
|                          | 160             | 24 455 151     |  | 50               |
|                          | 200 RB          | 24 455 171     |  | 67               |
|                          | 200 SG          | 24 455 191     |  | 63               |
| ETB deep-drawing jaws    | 110             | 24 457 011     |  | 32               |
|                          | 135             | 24 457 012     |  | 40               |
|                          | 160             | 24 457 013     |  | 50               |
|                          | 200 RB          | 24 457 014     |  | 67               |
|                          | 200 SG          | 24 457 015     |  | 63               |
| EPA pivoted jaws         | 110             | 24 459 031     |  | 37               |
|                          | 135             | 24 459 032     |  | 45               |
|                          | 160             | 24 459 033     |  | 54               |
|                          | 200 RB          | 24 459 034     |  | 68               |
|                          | 200 SG          | 24 459 035     |  | 68               |
| SGN normal jaws          | 113             | 24 469 011     |  | 31.6             |
|                          | 135             | 24 469 013     |  | 39.6             |
|                          | 160             | 24 469 016     |  | 49.6             |
|                          | 200 RB          | 24 469 020     |  | 64.6             |
|                          | 200 SG          | 24 469 022     |  | 62.6             |
|                          | 200 RB*         | 24 469 025     |  | 64.6             |
|                          | 200 SG*         | 24 469 027     |  | 62.6             |
| SPR V-jaws               | 113             | 24 471 011     |  | 31.6             |
|                          | 135             | 24 471 013     |  | 39.6             |
|                          | 160             | 24 471 016     |  | 49.6             |
|                          | 200 RB          | 24 471 020     |  | 64.6             |
|                          | 200 SG          | 24 471 022     |  | 62.6             |

\* Type: finely serrated



24 455...



24 457...



24 459...



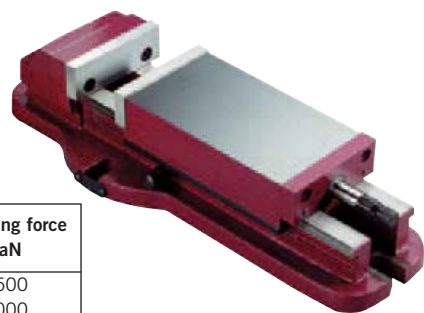
24 469...



24 471...

**24 448 Hydraulic machine vices**

robust design with high-pressure hydraulic spindle, with mechanical drive, large jaw opening, high clamping accuracy, quick adjustment due to lock pins, suitable for both light and heavy chip removal due to hardened wearing parts

**Wodex®**

24 448...

| Jaw width<br>mm | 24 448... |  | Jaw opening<br>mm | Jaw height<br>mm | Clamping force<br>daN |
|-----------------|-----------|--|-------------------|------------------|-----------------------|
| 100             | 110       |  | 170               | 35               | 2500                  |
| 125             | 125       |  | 220               | 45               | 4000                  |
| 150             | 150       |  | 300               | 51               | 5000                  |
| 200             | 200       |  | 300               | 62               | 8500                  |

**24 449 Accessories**

for machine vices: No. 24 448...

**Wodex®**

| Designation   | Jaw width<br>mm | 24 449... |  |
|---------------|-----------------|-----------|--|
| Drawdown jaws | 100             | 111       |  |
| Drawdown jaws | 125             | 131       |  |
| Drawdown jaws | 150             | 151       |  |
| Drawdown jaws | 200             | 171       |  |



...111



...151

| Designation                   | Jaw width<br>mm | 24 449... |  |
|-------------------------------|-----------------|-----------|--|
| V-jaws (smooth/with V-prisms) | 100             | 115       |  |
| V-jaws (smooth/with V-prisms) | 125             | 135       |  |
| V-jaws (smooth/with V-prisms) | 150             | 155       |  |
| V-jaws (smooth/with V-prisms) | 200             | 175       |  |



...115



...155

| Designation | Jaw width<br>mm | 24 449... |  |
|-------------|-----------------|-----------|--|
| Swivel base | 100             | 101       |  |
| Swivel base | 125             | 121       |  |
| Swivel base | 150             | 141       |  |
| Swivel base | 200             | 161       |  |



...101



## 24 575 NC machine vice NC 125 E

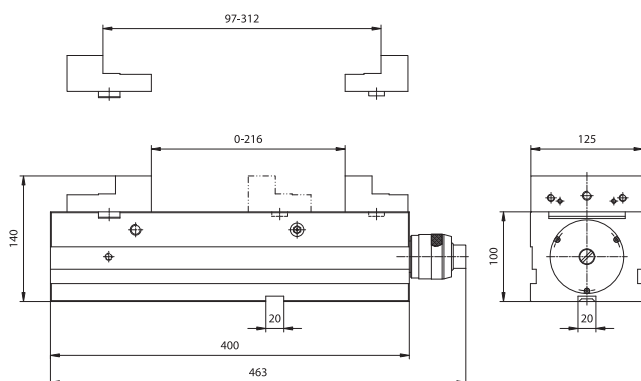
**Wodex**

- Base mounting
- Stable base made of GGG
- Mechanical/mechanical clamping system
- Stepped jaws, reversible, hardened and ground
- Long chucking slide assembly with transverse grooves - drive spindle with clamping force pre-adjustment
- Stable swarf protection prevents chips from penetrating inside the body
- M12 fastening thread for workpiece limit stop
- Clamping areas for anchoring attachments

**Scope of supply:** Stepped jaws, crank handle and workpiece limit stop



24 575 125



| Jaw width<br>mm | 24 575... |  | Jaw opening<br>mm | Total length<br>mm | Length of the bottom<br>section mm | Clamping force<br>kN |
|-----------------|-----------|--|-------------------|--------------------|------------------------------------|----------------------|
| 125             | 125       |  | 0 - 312           | 463                | 400                                | 0 - 40               |

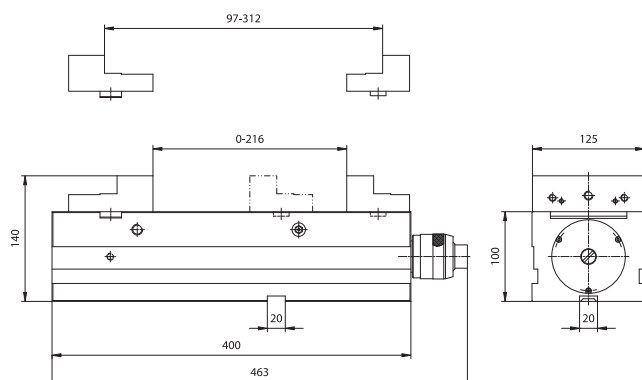
**24 576 NC machine vice NC 125 A****Wodex®**

- for vertical, horizontal and side mounting
- Base ground on all sides
- Stable base made of GGG
- With mountable base
- Mechanical/mechanical clamping system
- Stepped jaws, reversible, hardened and ground
- Long chucking slide assembly with transverse grooves - drive spindle with clamping force pre-adjustment
- Stable swarf protection prevents chips from penetrating inside the body
- M12 fastening thread for workpiece limit stop
- Clamping areas for anchoring attachments

Scope of supply: Stepped jaws, crank handle and workpiece limit stop



24 576 125



| Jaw width<br>mm | 24 576... |  | Jaw opening<br>mm | Total length<br>mm | Length of the bottom<br>section mm | Clamping force<br>kN |
|-----------------|-----------|--|-------------------|--------------------|------------------------------------|----------------------|
| 125             | 125       |  | 0 - 312           | 463                | 400                                | 0 - 40               |



## Jaw range, exchangeable

for NC machine vice NC 125 E and A

**Wodex**

| Designation                                  | Jaw width<br>mm | Product number |  | Jaw height<br>mm |
|----------------------------------------------|-----------------|----------------|--|------------------|
| Stepped jaw set                              | 125             | 24 514 012     |  | 40               |
| Standard jaw pad set                         | 125             | 24 514 022     |  | 40               |
| Carrier jaw set                              | 125             | 24 514 032     |  | 30               |
| Claw insert piece,<br>reversible with screws | 125/160         | 24 514 050     |  | -                |
| Pivoted jaw piece (horizontal)               | 135             | 24 514 062     |  | 40               |
| Drawdown jaw piece<br>with permanent magnet  | 125             | 24 515 012     |  | 40               |
| Standard insert jaw set                      | 125             | 24 515 022     |  | 40               |
| Claw insert jaw set                          | 125             | 24 515 032     |  | 40               |



## 24 516 Accessories

for NC machine vice NC 125 E and A

**Wodex**

| Designation       | Jaw width<br>mm | 24 516... |  |
|-------------------|-----------------|-----------|--|
| Angular drive 90° | 125             | 012       |  |



24 516 012

## 24 517 Single anchoring attachments

complete for end and base fixing

for NC machine vice NC 125 E and A

**Wodex**

| suitable for T-slot<br>mm | 24 517... |  |
|---------------------------|-----------|--|
| 12                        | 012       |  |
| 14                        | 014       |  |
| 16                        | 016       |  |
| 18                        | 018       |  |
| 20                        | 020       |  |
| 22                        | 022       |  |



24 517 012

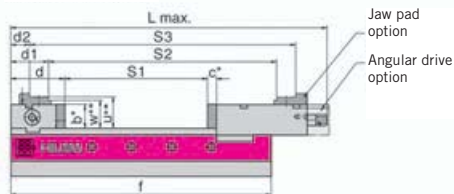
**24 490 NC hydro-machine vice**

HILMA

NC classic  
Made by HILMA

**mechanical-hydraulic**, for use on vertical machining centres. Can be precisely positioned on all slot benches, optimum utilisation of the machine's traversed distance through clamping area extension with stepped jaw pad.

| Jaw width<br>mm | 24 490... |  | Clamping<br>force<br>kN |
|-----------------|-----------|--|-------------------------|
| 100             | 100       |  | 25                      |
| 125             | 125       |  | 40                      |
| 160             | 160       |  | 50                      |

**Technical data**

24 490...

Q.I.S quick-change jaw system, optional

| For jaw width | S1<br>mm | S2<br>mm | S3<br>mm | L<br>max. | b<br>mm | d<br>mm | d1<br>mm | d2<br>mm | f<br>mm | u<br>mm | w<br>mm |
|---------------|----------|----------|----------|-----------|---------|---------|----------|----------|---------|---------|---------|
| 100           | 205      | 330      | 386      | 464       | 34      | 80      | 56       | 28       | 380     | 45      | 40      |
| 125           | 225      | 363      | 431      | 526       | 45      | 100     | 69       | 35       | 430     | 58      | 53      |
| 160           | 309      | 503      | 573      | 684       | 54      | 120     | 72       | 37       | 550     | 70      | 65      |

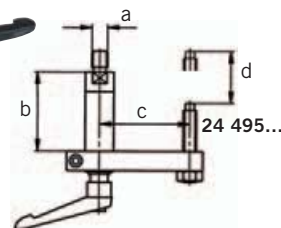
**24 495 Precision workpiece limit stop**

HILMA

For the machine vices 24 490...

Can be swung clear, with quick clamping, adjustment in 2 planes

| For jaw width<br>mm | 24 495... |  | a    | b<br>mm | c<br>mm | d<br>mm |
|---------------------|-----------|--|------|---------|---------|---------|
| 100/125             | 100       |  | M 12 | 61      | 95      | 46      |
| 160                 | 160       |  | M 20 | 81      | 124     | 66      |

**24 496 Angular drive for type NC**

HILMA

For subsequent attachment to machine vice 24 490...

Use if normal actuation is difficult or not possible at all

| For jaw width<br>mm | 24 496... |  | SW | b  | Crank radius<br>mm |
|---------------------|-----------|--|----|----|--------------------|
| 100                 | 100       |  | 10 | 39 | 125                |
| 125                 | 125       |  | 10 | 43 | 125                |
| 160                 | 160       |  | 10 | 46 | 125                |



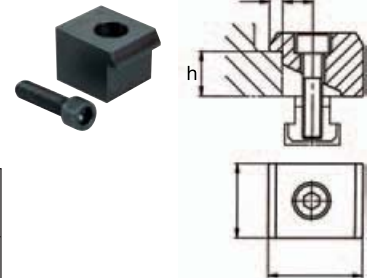
24 496...

**24 497 Set of anchoring attachments with screws for type NC**

HILMA

Set of 4

| h<br>mm | 24 497... |  | Screw<br>DIN 912 | for        |
|---------|-----------|--|------------------|------------|
| 24      | 200       |  | M 12 x 45        | NC 100     |
| 27      | 201       |  | M 12 x 45        | NC 125/160 |
| 27      | 202       |  | M 16 x 50        | NC 125/160 |



24 497...

**24 497 Clamping force preselector for type NC**

HILMA

can be retrofitted, for mechanical-hydraulic types, enables the clamping force to be preselected with 6 levels

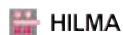
| for jaw width<br>mm | 24 497... |  | Thread of the pressing<br>screw |
|---------------------|-----------|--|---------------------------------|
| 100                 | 300       |  | M 6 x 12                        |
| 125                 | 325       |  | M 6 x 12                        |
| 160                 | 360       |  | M 6 x 12                        |



24 497 300

## 24 498 Q.I.S jaws

Jaw change in seconds, with hold-down effect



| Designation                       | Jaw width a<br>mm | 24 498... |  | Jaw height b<br>mm | for machine vice |
|-----------------------------------|-------------------|-----------|--|--------------------|------------------|
| Master jaw with permanent magnets | 100               | 001       |  | 34                 | NC. KNC          |
|                                   | 125               | 002       |  | 45                 | NC. KNC          |
|                                   | 160               | 003       |  | 54                 | NC. KNC          |
| Exchangeable jaw, ribbed          | 100               | 021       |  | 34                 | NC. KNC          |
|                                   | 125               | 022       |  | 45                 | NC. KNC          |
|                                   | 160               | 023       |  | 54                 | NC. KNC          |
| Exchangeable jaw, with steps      | 100               | 041       |  | 34                 | NC. KNC          |
|                                   | 125               | 042       |  | 45                 | NC. KNC          |
|                                   | 160               | 043       |  | 54                 | NC. KNC          |
| Exchangeable jaw, with V-prisms   | 100               | 051       |  | 34                 | NC               |
|                                   | 125               | 052       |  | 45                 | NC               |
|                                   | 160               | 053       |  | 54                 | NC               |
| Exchangeable jaw, smooth          | 100               | 061       |  | 34                 | NC. KNC          |
|                                   | 125               | 062       |  | 45                 | NC. KNC          |
|                                   | 160               | 063       |  | 54                 | NC. KNC          |
| Exchangeable jaw, with rollers    | 100               | 071       |  | 34                 | NC. KNC          |
|                                   | 125               | 072       |  | 45                 | NC. KNC          |
|                                   | 160               | 073       |  | 54                 | NC. KNC          |
| Exchangeable jaw, soft            | 100               | 081       |  | 34                 | NC               |
|                                   | 125               | 082       |  | 45                 | NC               |
|                                   | 160               | 083       |  | 54                 | NC               |



24 498 001 - ...003



24 498 021 - ...023



24 498 041 - ...043



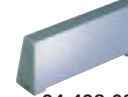
24 498 051 - ...053



24 498 061 - ...063



24 498 071 - ...073

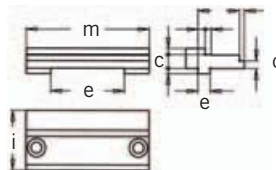


24 498 081 - ...083

## 24 499 Stepped jaw pad for type NC

for achieving very large jaw openings.

Including fixing screws. One jaw each is required for the slides and one for the fixed jaw



24 499...

| For jaw<br>width a<br>mm | For fixed<br>jaws<br>24 499... |  | For slide<br>24 499... |  | Dimensions<br>c<br>mm | Dimensions<br>d<br>mm | Dimensions<br>e<br>mm | Dimensions<br>h<br>mm | Dimensions<br>i<br>mm | Dimensions<br>m<br>mm |
|--------------------------|--------------------------------|--|------------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 100                      | 010                            |  | 100                    |  | 11.5                  | 6                     | 34                    | 6.5                   | 48                    | 60                    |
| 125                      | 012                            |  | 125                    |  | 14                    | 6                     | 40                    | 9                     | 58                    | 65                    |
| 160                      | 016                            |  | 160                    |  | 17                    | 8                     | 43                    | 12                    | 64                    | 88                    |

## 24 499 Additional jaw for type NC, KNC

for Hilma machine vice



24 499 410 - ...416  
Stepped jaws



24 499 510 - ...516  
V-jaws



24 499 610 - ...616  
Pivoted jaws



24 499 710 - ...716  
Extra wide jaw

| Designation            | Jaw width a<br>mm | 24 499... |  | Jaw height b<br>mm |
|------------------------|-------------------|-----------|--|--------------------|
| Stepped jaws / each    | 100               | 410       |  | 34                 |
|                        | 125               | 412       |  | 45                 |
|                        | 160               | 416       |  | 54                 |
| V-jaws / each          | 100               | 510       |  | 34                 |
|                        | 125               | 512       |  | 45                 |
|                        | 160               | 516       |  | 54                 |
| Pivoted jaws / each    | 100               | 610       |  | 34                 |
|                        | 125               | 612       |  | 45                 |
|                        | 160               | 616       |  | 54                 |
| Extra wide jaws / each | 100               | 710       |  | 34                 |
|                        | 125               | 712       |  | 45                 |
|                        | 160               | 716       |  | 54                 |





## 24 499 Floating middle jaw for type NC

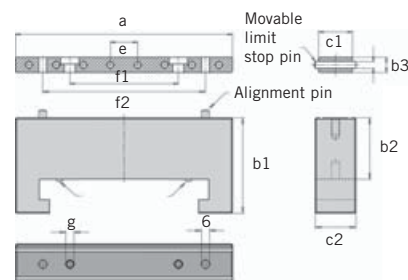
 HILMA

Use of floating middle jaws enables cost-effective multiple mounting in conjunction with new or existing HILMA machine vices in the SM/EL/NC series. A noticeable reduction in setting up costs is possible through the reduction in tool change, travel distances and unit costs.

Substantial reduction  
in unit costs



24 499...



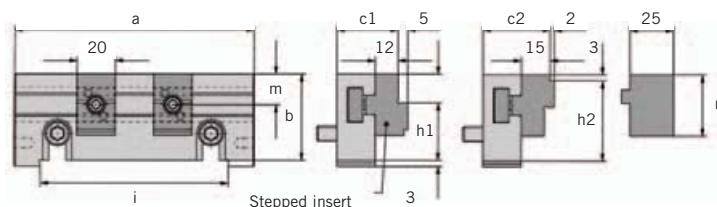
| Jaw width a<br>mm | 24 499... |  | b1<br>mm | b2<br>mm | b3<br>mm | c1<br>mm  | c2<br>mm | e<br>mm | f1<br>mm | f2<br>mm   | g<br>mm |
|-------------------|-----------|--|----------|----------|----------|-----------|----------|---------|----------|------------|---------|
| 100               | 200       |  | 48       | 29       | 5        | 12 - 0.01 | 20       | 13      | 52       | 78 ± 0.01  | M5      |
| 125               | 225       |  | 61       | 39       | 6        | 16 - 0.01 | 26       | 16      | 64       | 96 ± 0.01  | M5      |
| 160               | 260       |  | 70       | 45       | 9        | 20 - 0.01 | 30       | 20      | 80       | 120 ± 0.01 | M6      |

## 24 499 SlimFlex jaw system for type NC

 HILMA

The SlimFlex jaw system enables 3-side machining of workpieces clamped in the middle which are decisively located underneath the jaw width of the middle of the clamp. The inserts expose the workpiece opposite the master jaw and therefore make it optimally accessible to the work spindle from three sides.

for 3-sided machining



24 499...

| Jaw width a<br>mm | 24 499... |  | b<br>mm | c1<br>mm | c2<br>mm | e<br>mm | h1<br>mm | h2<br>mm | i<br>mm | m<br>mm | n<br>mm |
|-------------------|-----------|--|---------|----------|----------|---------|----------|----------|---------|---------|---------|
| 100               | 300       |  | 34      | 30       | 33       | 10      | 24       | 31       | 78 H7   | 11      | 30      |
| 125               | 325       |  | 45      | 32       | 35       | 15      | 30       | 42       | 98 H7   | 16      | 40      |
| 160               | 360       |  | 54      | 34       | 37       | 15      | 39       | 51       | 125 H7  | 16      | 40      |

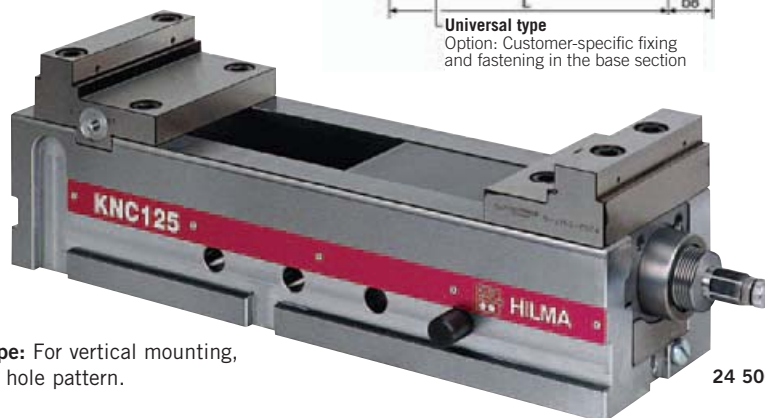
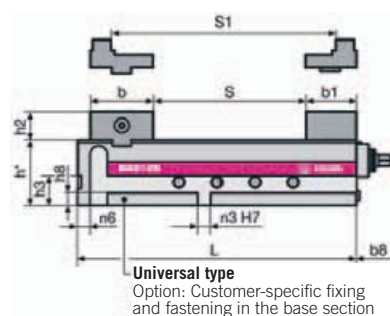
## 24 500 KNC compact machine vice mechanical-hydraulic

 HILMA

 KNC

KNC the new generation of HILMA hydro machine vices. Screw link actuator and force transmission are completely encapsulated in the slide and are reliably protected against swarf. The bottom section, completely made of steel, with inner slide guideway and new fixed jaw holder ensures maximum precision. The side cross-grooves as well as the mounting edge ensure fast and safe mounting on the machine bench. The tried and tested lock pin principle enables fast adjustment of the clamping area as well as absolutely effortless maintenance and cleaning.

The figure shows the standard version of the KNC machine vice. Customer-specific wishes regarding type, fixing, fastenings and side mounting are possible on request.



24 500...

Standard type: For vertical mounting,  
without end hole pattern.

| Designation<br>mm | Jaw width | 24 500... |  | Jaw opening<br>with block jaws<br>mm | Jaw opening<br>with stepped jaws *<br>mm | Clamping<br>force<br>kN | Weight<br>kg |
|-------------------|-----------|-----------|--|--------------------------------------|------------------------------------------|-------------------------|--------------|
| Standard          | 100       | 010       |  | 140                                  | 230                                      | 25                      | 16.7         |
| Standard          | 125       | 025       |  | 240                                  | 354                                      | 40                      | 39.5         |
| Standard          | 160       | 060       |  | 300                                  | 436                                      | 50                      | 72.0         |



## 24 500 Stepped reversible jaws for type KNC HILMA

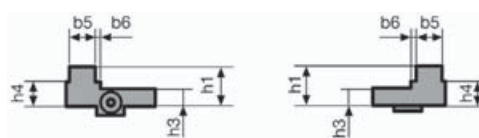
incl. fixing screws



...300 - ...360



...400 - ...460



| Jaw width<br>a = mm | 24 500...<br>Fixed |  | 24 500...<br>Movable |  | b5<br>mm | b6<br>mm | h1<br>mm | h3<br>mm | h4<br>mm |
|---------------------|--------------------|--|----------------------|--|----------|----------|----------|----------|----------|
| 100                 | 300                |  | 400                  |  | 20/22    | 4        | 30       | 16       | 24       |
| 125                 | 325                |  | 425                  |  | 28       | 5        | 44       | 20       | 28       |
| 160                 | 360                |  | 460                  |  | 34/38    | 6        | 52       | 27       | 36       |

## 24 500 Angular drive for type KNC HILMA

incl. fixing screws. With 15° deflection, if normal actuation is difficult or not possible at all due to the bench dimensions. Can be used in conjunction with arrester.

**Scope of supply:** Crank handle and fixing screw

| Jaw width<br>mm | 24 500... |  |
|-----------------|-----------|--|
| 100             | 500       |  |
| 125/160         | 505       |  |



24 500 500 - ...505

## 24 500 Clamping force preselector for type KNC HILMA

Clamping force with 6-level adjustment and exactly reproducible. Can be used in conjunction with arrester.

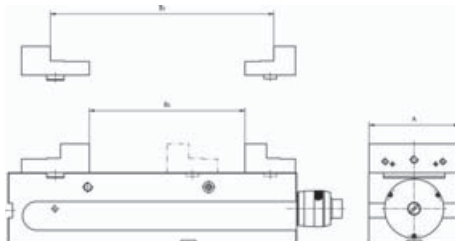
| Jaw width<br>mm | 24 500... |  |
|-----------------|-----------|--|
| 100             | 510       |  |
| 125/160         | 515       |  |



24 500 510 - ...515

## 24 522 NC compact vice RKE-L

- with mechanical force transmission
- With mountable base
- Stable steel body
- All guideways hardened and ground
- Fixed jaw pad, hardened and ground
- Movable jaw pad, reversible, hardened and ground
- Long chucking slide assembly with transverse grooves, hardened on all sides
- Functional surfaces ground
- Drive spindle with clamping force presetting
- Lubricating nipples attached on both sides enable optimum lubrication of the spindle thread and all guideways subjected to wear
- Fastening thread for workpiece limit stop and clamping surfaces for anchoring attachments
- Stable swarf protection prevents chips from penetrating inside the body



| Jaw width A<br>mm | 24 522... |  | Jaw height C<br>mm | Jaw opening B<br>mm | Clamping force<br>kN | Height E<br>mm | Width K<br>mm |
|-------------------|-----------|--|--------------------|---------------------|----------------------|----------------|---------------|
| 90                | 090       |  | 32                 | 0-138               | 25                   | 112            | 94            |
| 125               | 125       |  | 40                 | 0-216               | 40                   | 140            | 162           |
| 160               | 160       |  | 50                 | 0-320               | 60                   | 165            | 162           |
| 200               | 200       |  | 60                 | 0-315               | 60                   | 175            | 162           |



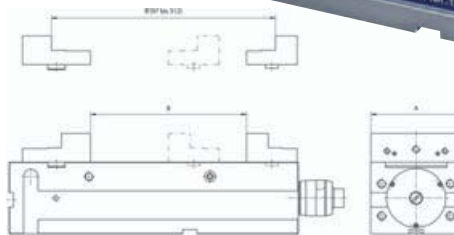
## 24 512 NC compact vice RKE

with stepped jaw set  
with mechanical force transmission, horizontal, vertical or side mounting possible

- The stable steel body is hardened and ground on all sides.
- All guideways are hardened and ground
- **Fixed** stepped jaw pad, reversible, hardened and ground
- **Movable** stepped jaw pad, reversible, hardened and ground
- Long chucking slide assembly with transverse grooves, hardened on all sides, ground functional surfaces
- Drive spindle with clamping force presetting
- With lubricating nipples attached on both sides, all guideways subjected to wear and the spindle thread can be lubricated
- M12 fastening thread for workpiece limit stop.
- Clamping areas for anchoring attachments
- **Stable swarf protection** prevents swarf from penetrating inside the body



24 512...



| Jaw width A<br>mm | 24 512... |  | Jaw opening B<br>mm | Jaw height C<br>mm | D<br>mm | E<br>mm | K<br>mm | Clamping<br>force KN |
|-------------------|-----------|--|---------------------|--------------------|---------|---------|---------|----------------------|
| 125               | 125       |  | 0 - 215             | 40                 | 463     | 140     | 126     | 40                   |
| 160               | 160       |  | 0 - 320             | 50                 | 618     | 165     | 162     | 60                   |

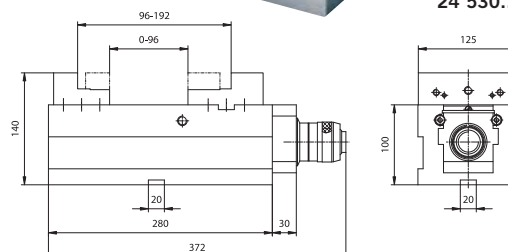
## 24 530 NC compact vice RKE-LV

for clear, conflict-free, 5-sided machining with a single mounting.  
Short, compact design with stepped jaws, jaw width 125, mechanical / mechanical clamping system with force transmission and clamping force presetting.

- Body made of steel
- All guideways are hardened and ground
- Long chucking slide assembly with transverse grooves, hardened on all sides, ground functional surfaces
- Stable swarf protection prevents chips from penetrating inside the body
- Drive spindle with clamping force presetting
- Clamping areas for anchoring attachments



24 530...



| Jaw width<br>mm | 24 530... |  | Jaw opening<br>mm | Jaw height<br>mm | Clamping<br>force KN |
|-----------------|-----------|--|-------------------|------------------|----------------------|
| 125             | 125       |  | 0 - 192           | 40               | 40                   |

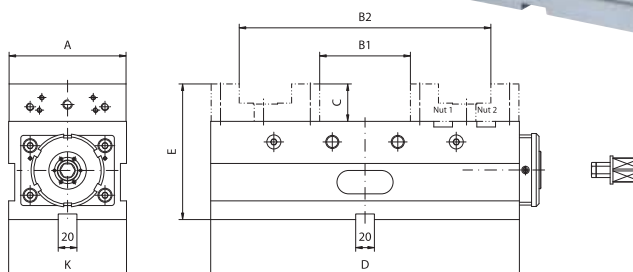
## 24 535 NC compact centring vice RKZ-M

Short, compact design - particularly suitable for 5-sided machining

- Centrally clamping with two movable clamping jaws
- Large clamping stroke, 48 mm per jaw
- the steel body is hardened on all sides, all guideways are hardened and ground
- Constant clamping force for each clamping operation and high repeat accuracy when using a torque wrench
- With mountable base
- Clamping jaws available on request



24 535...



| Jaw width A<br>mm | 24 535... |  | Jaw opening    |                |                |                | Jaw height C<br>mm | D<br>mm | E<br>mm | K<br>mm | Clamping<br>force<br>KN |
|-------------------|-----------|--|----------------|----------------|----------------|----------------|--------------------|---------|---------|---------|-------------------------|
|                   |           |  | B1<br>Groove 1 | B2<br>Groove 2 | B1<br>Groove 1 | B2<br>Groove 2 |                    |         |         |         |                         |
| 50                | 050       |  | 0-39           | 36-75          | 37-75          | 72-111         | 20                 | 157     | 10      | 75      | 10                      |
| 70                | 070       |  | 0-58           | 48-106         | 48-105         | 95-153         | 25                 | 209     | 15      | 95      | 15                      |
| 92                | 092       |  | 0-76           | 70-146         | 78-138         | 132-208        | 32                 | 283     | 20      | 117     | 20                      |
| 125               | 125       |  | 0-97           | 92-189         | 81-177         | 172-269        | 40                 | 353     | 25      | 145     | 25                      |
| 125*              | 126       |  | 0-97           | 92-189         | 81-177         | 172-269        | 60                 | 353     | 25      | 165     | 25                      |

\* With increased stepped jaw pad.

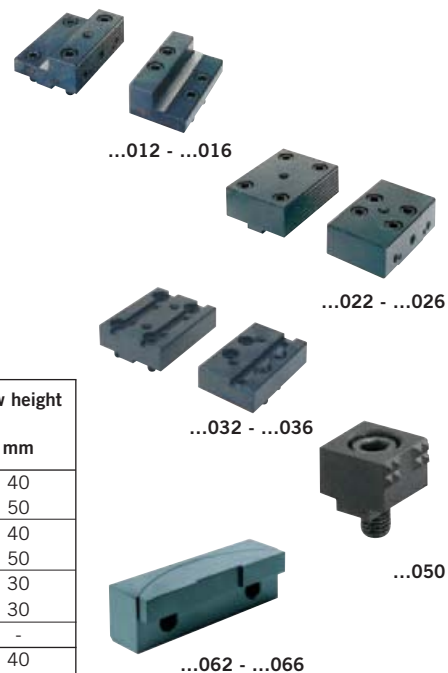


## 24 514 Jaws

suitable for NC compact vice RKE **Prod. No. 24 512...**, NC compact vice RKE-L **Prod. No. 24 522...** and NC compact vice RKE-LV **Prod. No. 24 530...**



| Designation                         | Jaw width<br>mm | 24 514... |  | Jaw height<br>mm |
|-------------------------------------|-----------------|-----------|--|------------------|
| Stepped jaw set                     | 125             | 012       |  | 40               |
|                                     | 160             | 016       |  | 50               |
| Standard jaw pads                   | 125             | 022       |  | 40               |
|                                     | 160             | 026       |  | 50               |
| Carrier jaw set                     | 125             | 032       |  | 30               |
|                                     | 160             | 036       |  | 30               |
| Claw insert, reversible with screws | 125/160         | 050       |  | -                |
| Pivoted jaw (horizontal)            | 135             | 062       |  | 40               |
|                                     | 160             | 066       |  | 50               |

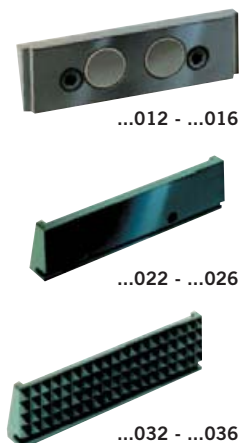


## 24 515 Drawdown jaws

suitable for NC compact vice RKE **Prod. No. 24 512...**, NC compact vice RKE-L **Prod. No. 24 522...** and NC compact vice RKE-LV **Prod. No. 24 530...**



| Designation                      | Jaw width<br>mm | 24 515... |  | Jaw height<br>mm |
|----------------------------------|-----------------|-----------|--|------------------|
| Master jaw with permanent magnet | 125             | 012       |  | 40               |
|                                  | 160             | 016       |  | 49.5             |
| Standard insert jaw set          | 125             | 022       |  | 40               |
|                                  | 160             | 026       |  | 50               |
| Claw insert jaw set              | 125             | 032       |  | 40               |
|                                  | 160             | 036       |  | 50               |



## 24 516 Accessories

for NC compact vice RKE **Prod. No. 24 512...**, NC compact vice RKE-L **Prod. No. 24 522...** and NC compact vice RKE-LV **Prod. No. 24 530...**



| Designation       | Jaw width<br>mm | 24 516... |  |
|-------------------|-----------------|-----------|--|
| Angular drive 90° | 125             | 012       |  |
|                   | 160             | 016       |  |



24 516...

## 24 517 Single anchoring attachments

complete for end and base fixing  
for NC compact vice RKE **Prod. No. 24 512...**, NC compact vice RKE-L **Prod. No. 24 522...**, NC compact vice RKD **Prod. No. 24 518...** and NC compact vice RKE-LV **Prod. No. 24 530...**



| suitable for T-slot<br>mm | 24 517... |  |
|---------------------------|-----------|--|
| 12                        | 012       |  |
| 14                        | 014       |  |
| 16                        | 016       |  |
| 18                        | 018       |  |
| 20                        | 020       |  |
| 22                        | 022       |  |



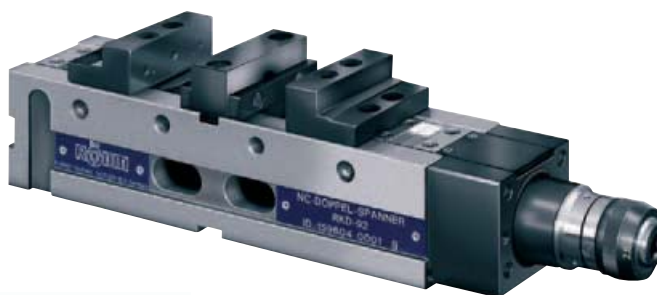
24 517 012

## 24 518 NC compact twin vice RKD

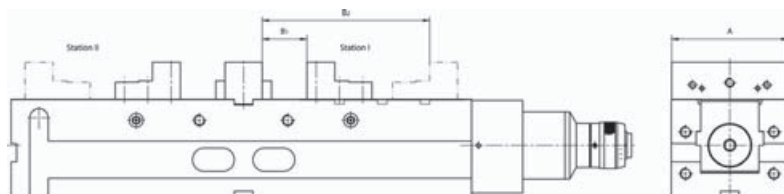
with one-sided drive and mechanical force transmission through toggle lever, horizontal, vertical or even side mounting possible.

- an extremely diverse clamping technique with optimum use of working space, high and safe clamping force
- Only approx. 1 1/2 crank turns at max. clamping force
- constant clamping force for each clamping operation
- high repeat accuracy (0.01)
- no overloading of the vice at max. clamping force
- clamping force presetting with blocking device
- self-locking force transfer
- Large clamping stroke, 50 mm per jaw

**RÖHM**



24 518...



| Jaw width<br>A<br>mm | 24 518... |  | Jaw height<br>C<br>mm | Jaw opening -<br>high side B1<br>mm | Jaw opening -<br>stepped side B2<br>mm | Total length<br>D<br>mm | Height<br>E<br>mm | Width<br>K<br>mm | Clamping<br>force<br>KN |
|----------------------|-----------|--|-----------------------|-------------------------------------|----------------------------------------|-------------------------|-------------------|------------------|-------------------------|
| 92                   | 092       |  | 32                    | 0 - 96                              | 42 - 127                               | 500 <sup>+5</sup>       | 117               | 94               | 25                      |
| 125                  | 125       |  | 40                    | 0 - 140                             | 51 - 180                               | 667 <sup>+5</sup>       | 145               | 126              | 40                      |

## 24 519 Jaws

for NC double vice RKD No. 24 518...

**RÖHM**



...009 - ...012



...019 - ...022



...029 - 032



...039 - 042

| Designation                               | Jaw width<br>mm | 24 519... |  | Jaw height<br>mm |
|-------------------------------------------|-----------------|-----------|--|------------------|
| Stepped jaw set                           | 92              | 009       |  | 32               |
|                                           | 125             | 012       |  | 40               |
| Workpiece support set<br>for stepped jaws | 92              | 019       |  | 16               |
|                                           | 125             | 022       |  | 20               |
| Middle jaw piece                          | 92              | 029       |  | 32               |
|                                           | 125             | 032       |  | 40               |
| Workpiece support set<br>for middle jaws  | 92              | 039       |  | 16               |
|                                           | 125             | 042       |  | 20               |

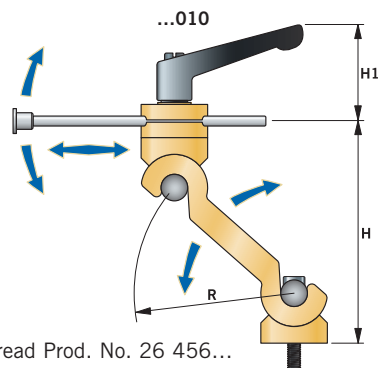
## 24 701 Three-dimensional limit stops

Pivot limit stops made of anodised aluminium. The rod made of hardened and tempered steel as well as the position of the limit stop can be locked by means of a locking handle.

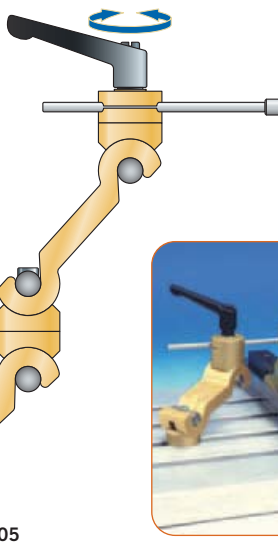
The limit stops can be fixed onto all slotted benches or modular panels by means of M8 screw.

The joint structure enables rotation through 360° and tilting by 100°.

- Large stiffness
- Adjustable directions
- Fast installation



KOPAL



### Special accessories:

- T-slot nuts with M 8 thread Prod. No. 26 456...

| Designation       | 24 701... |  | R<br>mm | H<br>mm | H1<br>mm | Rod<br>mm |
|-------------------|-----------|--|---------|---------|----------|-----------|
| Double limit stop | 005       |  | 80      | 286     | 60       | Ø 6 x 150 |
| Single limit stop | 010       |  | 80      | 145     | 60       | Ø 6 x 150 |

## 24 804 Pair of parallel blocks

**DIN 6346 P, made of steel, case-hardened,**

**ground, accuracy grade 1, DIN 876, pair wise tolerance IT 5**

Nominal dimensions according to ISO 2768 m. Parallel blocks are used as bases/supports, limit stops or intermediate layers on machine tools, they are indispensable for parallel support of workpieces in machine vices or marking out plates, through the favourable stepping and accuracy grade 1 the parallel blocks are also useful for marking out or tracing work, the parallel blocks can be used flat or upright, the large degree of accuracy also allows two sizes to be positioned on top of each other

AMFO



24 804...

| Height<br>mm | Width<br>mm | Length<br>mm | 24 804... |  | Tolerance tp1<br>mm | Tolerance tp2<br>mm |
|--------------|-------------|--------------|-----------|--|---------------------|---------------------|
| 12           | 4           | 100          | 112       |  | 0.008               | 0.005               |
| 16           | 5           | 100          | 116       |  | 0.008               | 0.005               |
| 20           | 6.3         | 100          | 120       |  | 0.009               | 0.006               |
| 25           | 8           | 100          | 125       |  | 0.009               | 0.006               |
| 32           | 10          | 100          | 132       |  | 0.011               | 0.006               |
| 40           | 12          | 100          | 140       |  | 0.011               | 0.008               |
| 25           | 8           | 160          | 225       |  | 0.009               | 0.006               |
| 32           | 10          | 160          | 232       |  | 0.011               | 0.006               |
| 40           | 12          | 160          | 240       |  | 0.011               | 0.008               |
| 50           | 16          | 160          | 250       |  | 0.011               | 0.008               |
| 63           | 20          | 160          | 263       |  | 0.013               | 0.009               |

## 24 806 Parallel support set

14 pairs in wooden box with removable hinged cover. Case hardened and ground, bearing surfaces finely ground. Pair height tolerance 0.010 mm, nominal size tolerance according to DIN 2768

AMFO



24 806 014

| Size L x B<br>mm | 24 806... |  | Contains 1 pair each                                                  |
|------------------|-----------|--|-----------------------------------------------------------------------|
| 150 x 10         | 014       |  | 14 / 16 / 18 / 20 / 22<br>24 / 26 / 28 / 30 / 32<br>35 / 40 / 45 / 50 |



## 24 807 Parallel support set

### Precision design

14 pairs in wooden box with removable hinged lid.  
Pair tolerance 0.004, nominal size tolerance  $\pm 0.004$

AMF



24 807 014

| Size L x B<br>mm | 24 807... |  | Contains 1 pair each<br>H x B                                                                                                                   |
|------------------|-----------|--|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 150 x 10         | 014       |  | 14 x 10 / 16 x 10 / 18 x 10 / 20 x 10 / 22 x 10 /<br>24 x 10 / 26 x 10 / 28 x 10 / 30 x 10 / 32 x 10 /<br>35 x 10 / 40 x 10 / 45 x 10 / 50 x 10 |

## 24 813 Parallel block sets

DIN 6346 Pausstahl, case hardened, ground, accuracy grade 1, in wooden box, with removable hinged lid, the geometric stepping enables full utilisation of the support height.

AMF



24 813...

| Size<br>mm | 24 813... |  | 63 mm                                                  | 100 mm                                                    | Wooden box<br>mm |
|------------|-----------|--|--------------------------------------------------------|-----------------------------------------------------------|------------------|
| 2.5 - 25   | 025       |  | 8 x 25<br>10 x 3.2<br>12 x 4.0<br>16 x 5.0<br>20 x 6.3 | 12 x 4.0<br>16 x 5.0<br>20 x 6.3<br>25 x 8.0<br>-         | 200 x 100 x 36   |
| 4 - 32     | 032       |  | -<br>-<br>-<br>-<br>-                                  | 12 x 4.0<br>16 x 5.0<br>20 x 6.3<br>25 x 8.0<br>32 x 10.0 | 132 x 145 x 50   |
| 8 - 50     | 050       |  | -<br>-<br>-<br>-                                       | 25 x 8.0<br>32 x 10.0<br>40 x 12.0<br>50 x 16.0           | 192 x 158 x 75   |

## 24 825 Parallel block sets

in wooden stand, made of steel, hardened and ground pair wise,  
machined plane-parallel and angular, accuracy  $\pm 0.01$  mm



24 825...

| Size<br>mm | 24 825... |  | Contains on pair each with cross-section<br>mm                                                                                                                                                                                                | Length<br>mm |
|------------|-----------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 2 - 24     | 024       |  | 2 x 5 / 2 x 10 / 2 x 15 / 2 x 20 / 3 x 6 / 3 x 11 / 3 x 16 / 3 x 21 / 4 x 7 / 4 x 12 / 4 x 17 / 4 x 22 /<br>5 x 8 / 5 x 13 / 5 x 18 / 5 x 23 / 6 x 9 / 6 x 14 / 6 x 19 / 6 x 24                                                               | 100          |
| 8 - 42     | 042       |  | 8 x 11 / 8 x 16 / 8 x 21 / 8 x 26 / 8 x 31 / 8 x 36 / 10 x 13 / 10 x 18 / 10 x 23 / 10 x 28 / 10 x 33 /<br>10 x 38 / 12 x 15 / 12 x 20 / 12 x 25 / 12 x 30 / 12 x 35 / 12 x 40 / 14 x 17 / 14 x 22 / 14 x 27 /<br>14 x 32 / 14 x 34 / 14 x 42 | 125          |
| 8 - 42     | 142       |  | 8 x 11 / 8 x 16 / 8 x 21 / 8 x 26 / 8 x 31 / 8 x 36 / 10 x 13 / 10 x 18 / 10 x 23 / 10 x 28 / 10 x 33 /<br>10 x 38 / 12 x 15 / 12 x 20 / 12 x 25 / 12 x 30 / 12 x 35 / 12 x 40 / 14 x 17 / 14 x 22 / 14 x 27 /<br>14 x 32 / 14 x 37 / 14 x 42 | 150          |

**25 632 Semi-universal dividers****Wodex®**

- High-precision divider as standard with tailstock, index plates and flange
- Fast, direct division into 24 identical steps
- Simple division with index plates
- Divisions between 2 to 50 and between 52 to 380 are possible
- Chuck available as an option

| Pitch (height of centres)<br>mm | 25 632... |  | Overall length<br>mm | Base width<br>mm | Overall height<br>mm | Spindle bore<br>mm |
|---------------------------------|-----------|--|----------------------|------------------|----------------------|--------------------|
| 100                             | 010       |  | 189                  | 160              | 173                  | 13                 |
| 128                             | 020       |  | 293                  | 207              | 220                  | 16                 |

Chuck diameter for Prod. No. 25 632 010: 100/125 mm  
Prod. No. 25 632 020: 125/150 mm



25 632...

**25 632 Flange**

| For Prod. No. | 25 632... |  |
|---------------|-----------|--|
| 25 632 010    | 110       |  |
| 25 632 020    | 120       |  |



25 632...

**25 634 Fully universal divider****Wodex®**

- High-precision divider as standard with tailstock, index plates and flange
- Fast, direct division into 24 identical steps
- Simple division with index plates
- Divisions by means of index plates and gearing (40:1)
- Worm gear and running parts hardened and ground
- Divisions between 2 and 380 are possible
- Spiral shaped milling is possible
- Can be motor driven
- Chuck available as an option

| Pitch (height of centres)<br>mm | 25 634... |  | Overall length<br>mm | Base width<br>mm | Overall height<br>mm | Spindle bore<br>mm |
|---------------------------------|-----------|--|----------------------|------------------|----------------------|--------------------|
| 132.7                           | 010       |  | 365                  | 213              | 236                  | 16                 |

Chuck diameter for Prod. No. 25 634 010: 150/175/200 mm



25 634 010

**25 634 Flange**

| For Prod. No. | 25 634... |  |
|---------------|-----------|--|
| 25 634 010    | 110       |  |



25 634 110

**25 638 Horizontal / vertical rotary attachments****Wodex®**

made of high-quality cast iron, high accuracy and sound workmanship, worm gear and running parts hardened and ground, division ratio 90:1, uncoupling system for fast turning. Set of index plates and tailstocks available on request

| Table Ø<br>mm | 25 638... |  | Total height<br>mm | Overall length<br>mm | Total width<br>mm | Groove width<br>mm |
|---------------|-----------|--|--------------------|----------------------|-------------------|--------------------|
| 200           | 105       |  | 105                | 265                  | 220               | 14                 |
| 250           | 115       |  | 115                | 225                  | 280               | 14                 |



25 638...

**25 650 Cross carriages**

universal x-y platform made of high-quality cast iron, accuracy +/- 0.03 mm/m, with T slots for fixing, all round coolant channel, scales matt chromed in mm gradation, handwheels with Vernier 0.05 mm

| Platform size<br>mm | 25 650... |  | Height<br>mm | Base area<br>mm | Traversed distance<br>mm |
|---------------------|-----------|--|--------------|-----------------|--------------------------|
| 350 x 150           | 001       |  | 130          | 300 x 230       | 150 x 175                |
| 730 x 210           | 003       |  | 190          | 350 x 400       | 350 x 165                |

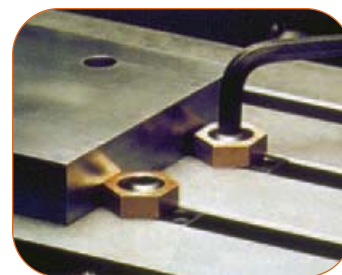


25 650...

## 26 211 Tappet clamping screws for T-slots

The combination of tappet anchor clamps and a T-slide results in a cost effective workpiece clamping system for machine benches or chucks with T-slots.

- is universally adaptable for all workpiece shapes; the swivel clamp disc can be adapted to the edge of the workpiece
- Low installation height
- even flat components can be machined on the surface, at a low price
- Eccentric screws and Ms-hexagonal with case hardened T-slide, the T-slide is secured in the slot with a screw



26 211...

| Clamping force KN | 26 211... |  | Allenscrew | Thread      | SW | A/F height | Eccentric stroke | for T-slot | Pieces/pack |
|-------------------|-----------|--|------------|-------------|----|------------|------------------|------------|-------------|
| 340               | 001       |  | 4          | M 6 x 1.0   | 16 | 4.8        | 1.3              | 8          | 2           |
| 340               | 003       |  | 4          | M 6 x 1.0   | 16 | 4.8        | 1.3              | 10         | 2           |
| 360               | 005       |  | 5          | M 8 x 1.25  | 21 | 4.8        | 1                | 12         | 2           |
| 900               | 007       |  | 7          | M 10 x 1.5  | 21 | 6.4        | 1.6              | 14         | 2           |
| 1800              | 009       |  | 8          | M 12 x 1.75 | 25 | 9.5        | 2                | 16         | 2           |
| 1800              | 011       |  | 8          | M 12 x 1.75 | 25 | 9.5        | 2                | 18         | 2           |
| 2700              | 013       |  | 12         | M 16 x 2.0  | 30 | 12.7       | 2.5              | 20         | 2           |
| 2700              | 015       |  | 12         | M 16 x 2.0  | 30 | 12.7       | 2.5              | 22         | 2           |

## 26 215 Tappet anchor clamps set

in storage case consisting of: 6 eccentric screws with Ms- hexagonal discs, 4 T-slides, 2 Allen wrenches

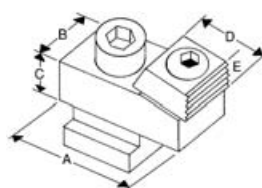


26 215...

| T-slot size mm | 26 215... |  |
|----------------|-----------|--|
| 10             | 010       |  |
| 12             | 012       |  |
| 14             | 014       |  |
| 16             | 016       |  |

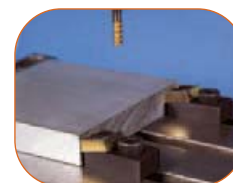
## 26 218 Drawdown anchoring attachments

The workpiece is pressed down onto the base through the incline of the clamp disc, for assembly directly on the fixture plate or for the T-slots. Eccentric screw M12 for max. clamping force 18 kN, fixing screw M12, body and case hardened clamp disc, one size for different T-slides.



26 218...

| T-slot size    | 26 218... |  | A  | B    | C front | C rear | D    | E  |
|----------------|-----------|--|----|------|---------|--------|------|----|
|                |           |  | mm | mm   | mm      | mm     | mm   | mm |
| 14             | 001       |  | 50 | 28.5 | 12.7    | 16     | 25.5 | 2  |
| 16             | 003       |  | 50 | 28.5 | 12.7    | 16     | 25.5 | 2  |
| 18             | 005       |  | 50 | 28.5 | 12.7    | 16     | 25.5 | 2  |
| without T-slot | 007       |  | 50 | 28.5 | 12.7    | 16     | 25.5 | 2  |



## 26 260 Mounting bolts

Practically every workpiece shape can be effectively mounted with precision using the mounting bolts. The mounting bolt can also be used only as a base for mounting workpieces in the conventional way with anchoring attachments. The low tolerance class (js6) in length ensures that the mounting is carried out parallel with the bench.

The lower part of the bolt is provided with threads M10 that are used for direct clamping on the machine bench with T-slides. The adapter plate prevents damage to the machine bench and shifting during the fastening process. The workpieces are clamped with the screw made of hardened and tempered steel ( $R_m > 1000 \text{ N/mm}^2$ ). The clamping ring made of brass prevents damage to the workpiece.

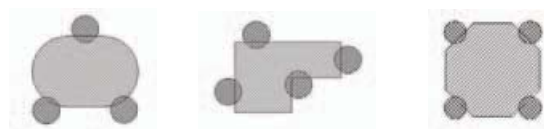
The standard clamping range is 8-40 mm and can be increased to a max. of 87 mm by changing the clamping screw.

**Scope of supply:** Bolt with adapter plate and clamping screw with clamping ring

Wodex®



Clamping examples



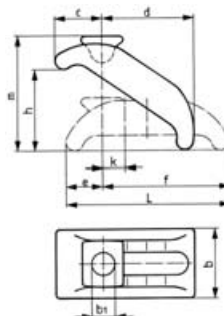
| Designation    | 26 260... |  | Length                    |
|----------------|-----------|--|---------------------------|
| Mounting bolts | 005       |  | 50 mm                     |
| Mounting bolts | 010       |  | 100 mm                    |
| Mounting bolts | 015       |  | 150 mm                    |
| Clamping screw | 167       |  | Clamping range 40 - 67 mm |
| Clamping screw | 187       |  | Clamping range 65 - 87 mm |

## 26 380 Anchoring attachment - short

with U piece, **without clamping screw**, continuously adjustable, hardened and treated, zinc plated and yellow passivated

| Slot width<br>mm | 26 380... |  | for<br>clamping<br>screws | Clamping<br>height<br>mm | Total height<br>mm |
|------------------|-----------|--|---------------------------|--------------------------|--------------------|
| 13               | 013       |  | M 12                      | 0 - 35                   | 52                 |
| 18               | 018       |  | M 16                      | 0 - 55                   | 80                 |
| 22               | 022       |  | M 20                      | 0 - 65                   | 98                 |
| 26               | 026       |  | M 24                      | 0 - 75                   | 110                |

AMF



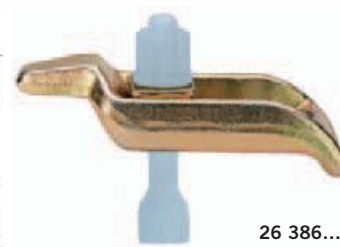
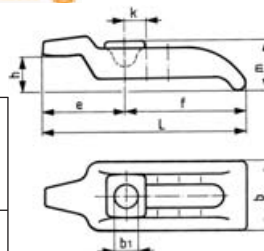
26 380...

## 26 386 Anchoring attachments - long cropped

with U piece, **without clamping screw**, continuously adjustable, hardened and treated, zinc plated and yellow passivated

| Slot width<br>mm | 26 386... |  | for<br>clamping<br>screws | Clamping<br>height<br>mm | Total height<br>mm |
|------------------|-----------|--|---------------------------|--------------------------|--------------------|
| 22               | 022       |  | M 20                      | 25 - 50                  | 60                 |
| 26               | 026       |  | M 24                      | 30 - 70                  | 70                 |

AMF



26 386...

## 26 400 Clamps, chamfered

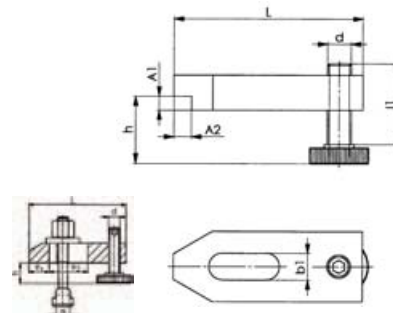
with screw for T-slot DIN 787 (8.8) with adjustable supporting screw, nut and disc, hardened and tempered steel, enamelled



26 400 110 - ...221



26 400 500 - ...520



| T-slot width a mm                     | 26 400... |  | Clamping height h mm | Length L mm | Width mm | T-slot bolt     |
|---------------------------------------|-----------|--|----------------------|-------------|----------|-----------------|
| 10                                    | 110       |  | 8 - 32               | 80          | 30       | M 10 x 10 x 80  |
| 12                                    | 120       |  | 10 - 40              | 100         | 40       | M 12 x 12 x 100 |
| 12                                    | 121       |  | 24 - 92              | 100         | 40       | M 12 x 12 x 160 |
| 14                                    | 140       |  | 10 - 38              | 100         | 40       | M 12 x 14 x 100 |
| 14                                    | 141       |  | 16 - 92              | 100         | 40       | M 12 x 14 x 160 |
| 16                                    | 160       |  | 13 - 48              | 125         | 45       | M 16 x 16 x 125 |
| 16                                    | 161       |  | 13 - 83              | 125         | 45       | M 16 x 16 x 160 |
| 18                                    | 180       |  | 13 - 46              | 125         | 45       | M 16 x 18 x 125 |
| 18                                    | 181       |  | 13 - 81              | 125         | 45       | M 16 x 18 x 160 |
| 20                                    | 200       |  | 16 - 65              | 160         | 60       | M 20 x 20 x 160 |
| 20                                    | 201       |  | 21 - 105             | 160         | 60       | M 20 x 20 x 200 |
| 22                                    | 220       |  | 16 - 65              | 160         | 60       | M 20 x 22 x 160 |
| 22                                    | 221       |  | 19 - 105             | 160         | 60       | M 20 x 22 x 200 |
| chamfered, <b>without</b> T-slot bolt |           |  |                      |             |          |                 |
| 12 + 14                               | 500       |  | 10 - 55              | 100         | 40       | M 12 x 49       |
| 16 + 18                               | 510       |  | 13 - 62              | 125         | 45       | M 16 x 55       |
| 20 + 22                               | 520       |  | 16 - 77              | 160         | 60       | M 20 x 69       |

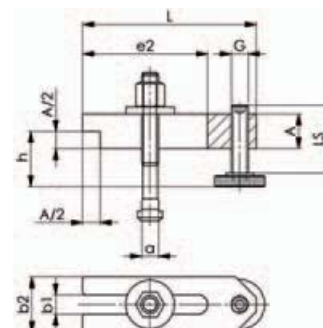
## 26 401 Forked clamp - stepped

with adjustable supporting screw. The stepped clamp base allows for considerable clamping height during left or right application.

out T-slot bolt, hardened and tempered steel, enamelled



26 401...



| T-slot width mm | 26 401... |  | Clamping height h mm | Length L mm | Width b2 mm |
|-----------------|-----------|--|----------------------|-------------|-------------|
| 10              | 110       |  | 8 - 47               | 100         | 30          |
| 12 + 14         | 120       |  | 10 - 59              | 125         | 40          |
| 16 + 18         | 160       |  | 13 - 67              | 160         | 50          |
| 20 + 22         | 200       |  | 16 - 85              | 200         | 60          |

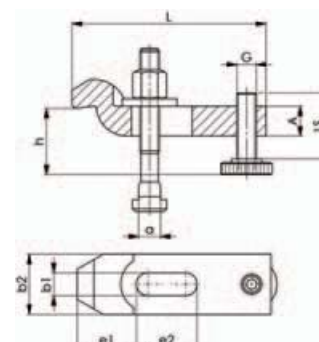
Tip: The lower clamping height is achieved by turning over the clamp

## 26 402 Clamps - cropped

with screw for T-slot DIN 787 (8.8) with adjustable supporting screw, nut and disc, clamping height continuously adjustable, hardened and tempered steel, enamelled



26 402...



| T-slot width a mm | 26 402... |  | Clamping height h mm | Length L mm | Width b2 mm | T-slot bolt     |
|-------------------|-----------|--|----------------------|-------------|-------------|-----------------|
| 10                | 110       |  | 22 - 46              | 100         | 32          | M 10 x 10 x 80  |
| 12                | 120       |  | 28 - 58              | 125         | 40          | M 12 x 12 x 100 |
| 14                | 140       |  | 28 - 56              | 125         | 40          | M 12 x 14 x 100 |
| 16                | 160       |  | 36 - 71              | 160         | 50          | M 16 x 16 x 125 |
| 18                | 180       |  | 43 - 92              | 160         | 50          | M 16 x 18 x 125 |

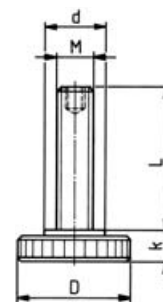


## 26 404 Supporting screw

hardened and treated, property class 8.8, suitable for all adjustable clamps



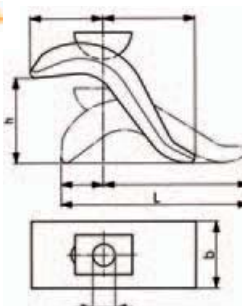
| M x L     | 26 404... |  | D<br>mm | d<br>mm | k<br>mm |
|-----------|-----------|--|---------|---------|---------|
| M10 x 39  | 103       |  | 30      | 16      | 8       |
| M12 x 49  | 124       |  | 36      | 20      | 10      |
| M12 x 94  | 129       |  | 36      | 20      | 10      |
| M16 x 55  | 165       |  | 42      | 25      | 13      |
| M16 x 90  | 169       |  | 42      | 25      | 13      |
| M20 x 69  | 206       |  | 50      | 25      | 16      |
| M20 x 109 | 210       |  | 50      | 25      | 16      |



26 404...

## 26 403 Anchoring attachments

continuously adjustable, made of steel, forged and hardened and treated, zinc plated, with screw for T-slots DIN 787 (8.8), nut and disc



26 403...

| T- slot width a<br>mm | 26 403... |  | Clamping height h<br>mm | Overall length L<br>mm | Width b<br>mm | T-slot bolt     |
|-----------------------|-----------|--|-------------------------|------------------------|---------------|-----------------|
| 12                    | 120       |  | 0 - 50                  | 140                    | 50            | M 12 x 12 x 125 |
| 14                    | 140       |  | 0 - 50                  | 140                    | 50            | M 12 x 14 x 125 |
| 16                    | 160       |  | 0 - 75                  | 140                    | 50            | M 16 x 16 x 160 |
| 18                    | 180       |  | 0 - 75                  | 140                    | 50            | M 16 x 18 x 160 |
| 20                    | 200       |  | 0 - 85                  | 175                    | 60            | M 20 x 20 x 200 |
| 22                    | 220       |  | 0 - 85                  | 175                    | 60            | M 20 x 22 x 200 |

## 26 408 Simple clamp

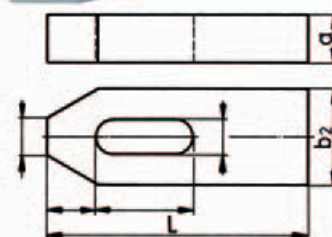
DIN 6314, made of hardened and tempered steel, enamelled



| Slot width<br>mm | 26 408... |  | Overall length<br>L<br>mm | For screws M | Height<br>a<br>mm | Width<br>b2<br>mm |
|------------------|-----------|--|---------------------------|--------------|-------------------|-------------------|
| 6.6              | 070       |  | 50                        | 6            | 10                | 20                |
| 9                | 090       |  | 60                        | 8            | 12                | 25                |
| 11               | 110       |  | 80                        | 10           | 15                | 30                |
| 14               | 140       |  | 100                       | 12 / 14      | 20                | 40                |
| 14               | 141       |  | 125                       | 12 / 14      | 20                | 40                |
| 18               | 180       |  | 125                       | 16 / 18      | 25                | 50                |
| 18               | 181       |  | 160                       | 16 / 18      | 25                | 50                |
| 22               | 220       |  | 160                       | 20 / 22      | 30                | 60                |
| 22               | 221       |  | 200                       | 20 / 22      | 30                | 60                |
| 26               | 260       |  | 200                       | 24           | 30                | 70                |
| 26               | 261       |  | 250                       | 24           | 35                | 70                |



26 408...



## 26 410 Clamps

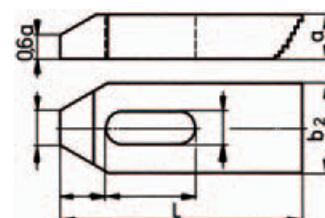
with stair teeth, made of hardened and tempered steel, enamelled, only compatible with toothed clamping supports **No. 26 426...**



| Slot width<br>mm | 26 410... |  | Overall length<br>L<br>mm | For screws M | Height<br>a<br>mm | Width<br>b2<br>mm |
|------------------|-----------|--|---------------------------|--------------|-------------------|-------------------|
| 6.6              | 070       |  | 50                        | 6            | 10                | 20                |
| 6.6              | 080       |  | 80                        | 6            | 10                | 20                |
| 9                | 090       |  | 60                        | 8            | 12                | 25                |
| 9                | 100       |  | 100                       | 8            | 12                | 25                |
| 11               | 110       |  | 80                        | 10           | 15                | 30                |
| 11               | 125       |  | 125                       | 10           | 15                | 30                |
| 14               | 140       |  | 100                       | 12 / 14      | 20                | 40                |
| 14               | 160       |  | 160                       | 12 / 14      | 20                | 40                |
| 18               | 180       |  | 125                       | 16 / 18      | 25                | 50                |
| 18               | 200       |  | 200                       | 16 / 18      | 25                | 50                |
| 22               | 220       |  | 160                       | 20 / 22      | 30                | 60                |
| 26               | 260       |  | 200                       | 24           | 30                | 70                |



26 410...



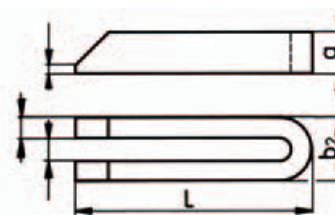


**26 412 Forked clamp**

chamfered, DIN 6315 B, made of hardened and tempered steel, enamelled



26 412...



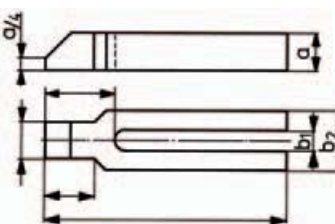
| Slot width<br>mm | 26 412... |  | Overall length<br>L<br>mm | For screws M | Height<br>a<br>mm | Width<br>b2<br>mm |
|------------------|-----------|--|---------------------------|--------------|-------------------|-------------------|
| 6.6              | 070       |  | 60                        | 6            | 12                | 19                |
| 9                | 090       |  | 80                        | 8            | 15                | 25                |
| 11               | 110       |  | 100                       | 10           | 20                | 31                |
| 14               | 140       |  | 125                       | 12 / 14      | 25                | 38                |
| 14               | 141       |  | 160                       | 12 / 14      | 25                | 38                |
| 14               | 142       |  | 200                       | 12 / 14      | 25                | 38                |
| 18               | 180       |  | 160                       | 16 / 18      | 30                | 48                |
| 18               | 181       |  | 200                       | 16 / 18      | 30                | 48                |
| 18               | 182       |  | 250                       | 16 / 18      | 40                | 48                |
| 22               | 220       |  | 200                       | 20 / 22      | 40                | 52                |
| 22               | 221       |  | 250                       | 20 / 22      | 40                | 62                |
| 22               | 222       |  | 315                       | 20 / 22      | 40                | 62                |
| 26               | 260       |  | 200                       | 24           | 40                | 66                |
| 26               | 261       |  | 250                       | 24           | 40                | 66                |
| 26               | 262       |  | 315                       | 24           | 40                | 66                |
| 33               | 340       |  | 250                       | 30           | 50                | 74                |
| 33               | 341       |  | 315                       | 30           | 50                | 74                |
| 33               | 342       |  | 400                       | 30           | 50                | 74                |
| 40               | 400       |  | 400                       | 36           | 60                | 100               |
| 40               | 401       |  | 600                       | 36           | 60                | 100               |

**26 414 Forked clamp**

with lug, made of hardened and tempered steel, enamelled



26 414...



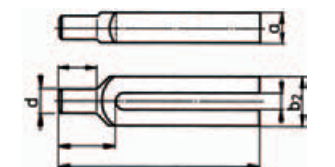
| Slot width<br>mm | 26 414... |  | Overall length<br>L<br>mm | For screws M | Height<br>a<br>mm | Width<br>b2<br>mm |
|------------------|-----------|--|---------------------------|--------------|-------------------|-------------------|
| 9                | 090       |  | 100                       | 8            | 15                | 30                |
| 11               | 110       |  | 125                       | 10           | 20                | 30                |
| 14               | 140       |  | 160                       | 12 / 14      | 25                | 40                |
| 14               | 141       |  | 200                       | 12 / 14      | 25                | 40                |
| 18               | 180       |  | 200                       | 16 / 18      | 30                | 50                |
| 18               | 181       |  | 250                       | 16 / 18      | 30                | 50                |
| 22               | 220       |  | 250                       | 20 / 22      | 40                | 60                |
| 22               | 221       |  | 315                       | 20 / 22      | 40                | 60                |
| 26               | 260       |  | 250                       | 24           | 40                | 70                |
| 26               | 261       |  | 315                       | 24           | 40                | 70                |
| 33               | 340       |  | 315                       | 30           | 50                | 80                |
| 33               | 341       |  | 400                       | 30           | 50                | 80                |

**26 416 Forked clamp**

with round clamping lug, DIN 6315 C, made of hardened and tempered steel, enamelled



26 416...



| Slot width b<br>1<br>mm | 26 416... |  | Overall length<br>L<br>mm | For screws<br>M<br>mm | Height<br>a<br>mm | Width<br>b2<br>mm | Lug-Ø<br>d<br>mm |
|-------------------------|-----------|--|---------------------------|-----------------------|-------------------|-------------------|------------------|
| 11                      | 110       |  | 125                       | 10                    | 20                | 30                | 16               |
| 14                      | 140       |  | 160                       | 12 / 14               | 25                | 40                | 20               |
| 18                      | 180       |  | 200                       | 16 / 18               | 30                | 50                | 24               |
| 22                      | 220       |  | 250                       | 20 / 22               | 40                | 60                | 30               |
| 26                      | 260       |  | 250                       | 24                    | 40                | 70                | 38               |

## 26 418 Clamps

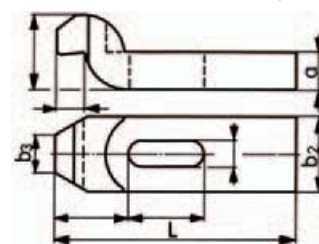
simple cropping, DIN 6316, made of hardened and tempered steel, enamelled



| Slot width<br>b 1<br>mm | 26 418... |  | Overall<br>length<br>L<br>mm | For screws<br>M | Height<br>a<br>mm | Width<br>b2<br>mm | Width<br>b3<br>mm |
|-------------------------|-----------|--|------------------------------|-----------------|-------------------|-------------------|-------------------|
| 6.6                     | 070       |  | 60                           | 6               | 10                | 20                | 10                |
| 9                       | 090       |  | 80                           | 8               | 12                | 25                | 12                |
| 11                      | 110       |  | 100                          | 10              | 15                | 30                | 15                |
| 14                      | 140       |  | 125                          | 12 / 14         | 20                | 40                | 20                |
| 18                      | 180       |  | 125                          | 16 / 18         | 25                | 50                | 25                |
| 18                      | 181       |  | 160                          | 16 / 18         | 25                | 50                | 25                |
| 22                      | 220       |  | 160                          | 20 / 22         | 30                | 60                | 30                |
| 22                      | 221       |  | 200                          | 20 / 22         | 30                | 60                | 30                |
| 26                      | 260       |  | 200                          | 24              | 35                | 70                | 35                |
| 26                      | 261       |  | 250                          | 24              | 35                | 70                | 35                |



26 418...



## 26 420 Stair supports

DIN 6318, base 50 mm wide, with 6 clamping steps each at 7.5 mm height distance, forged, enamelled, base surface and stairs flat-milled



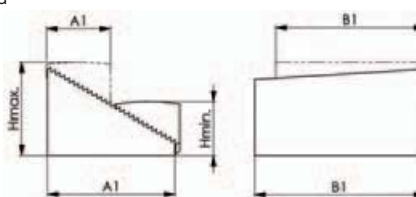
| Size | 26 420... |  | Clamping height<br>mm | Base area<br>mm |
|------|-----------|--|-----------------------|-----------------|
| 50   | 050       |  | 12.5 - 50             | 42.5 x 50       |
| 95   | 095       |  | 57.5 - 95             | 95 x 55         |
| 140  | 140       |  | 102.5 - 140           | 100 x 60        |



26 420...

## 26 422 Clamping supports, continuously adjustable

DIN 6326, with incline teeth, made of hardened and tempered steel, enamelled



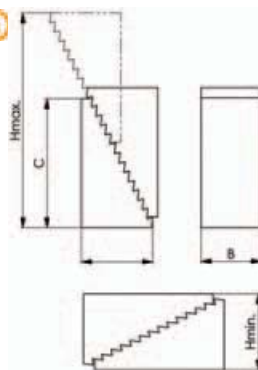
| Combinat. | 26 422... |  | Clamping height<br>mm | Consisting of<br>base section | Consisting of<br>upper section |
|-----------|-----------|--|-----------------------|-------------------------------|--------------------------------|
| AK        | 010       |  | 25 - 45               | A                             | K                              |
| AG        | 020       |  | 45 - 65               | A                             | G                              |
| BK        | 030       |  | 65 - 85               | B                             | K                              |
| BG        | 040       |  | 85 - 105              | B                             | G                              |



26 422...

## 26 426 Universal clamping supports

made of hardened and tempered steel, enamelled, step heights: vertical 4.65 mm, horizontal 2.30 mm, the clamping supports can be combined with all clamps as a pair and with separate clamps if they are toothed



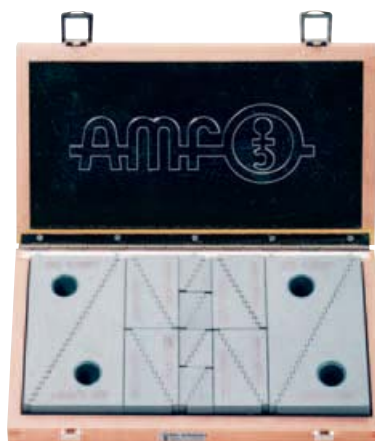
26 426...

| Size | 26 426... |  | Height<br>c<br>mm | Width<br>B<br>mm | Attainable sup-<br>port height H<br>mm |
|------|-----------|--|-------------------|------------------|----------------------------------------|
| 1    | 101       |  | 33                | 19               | 22 - 51                                |
| 2    | 102       |  | 66                | 35.5             | 39 - 107                               |
| 3    | 103       |  | 131               | 68               | 71 - 208                               |



## 26 428 Universal clamping supports set

in a solid wood case with hinged cover, hardened and tempered steel, enamelled



26 428 010

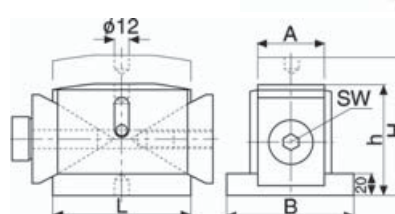
| Set contents                                       | 26 428... |  | Support height<br>mm | Wooden box<br>mm |
|----------------------------------------------------|-----------|--|----------------------|------------------|
| 8 x 26 426 101<br>8 x 26 426 102<br>4 x 26 426 103 | 010       |  | 22 - 208             | 280 x 155 x 40   |

## 26 434 Alignment wedges - Herkules

elevator wedge, 12 mm diameter centre hole, ductile cast iron, hardened and tempered steel with black finish, smoothed machine wedge surface, a ball top attachment, the alignment wedge can still be adjusted easily by hand even under 1/3 of its capacity load, the wedge has a smooth surface which allows for an even and precise adjustments of less than 1/10 mm, can be delivered either with knurled screw or with hexagonal screwdriver, a double wedge effect combines both good lift with precision vertical movement without shifting to the side, the elevator wedge is best suited for difficult castings or forgings on large tool machinery, the alignment wedge has an extra centre hole in the bottom base area, this enables placement of the alignment wedge on "difficult screwing supports", this requires the cylinder pin DIN 6325 12 x 30



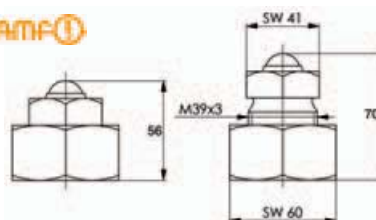
26 434...



| Size | 26 434... |  | Support height<br>h - H mm | A<br>mm | B<br>mm | L<br>mm | SW<br>mm | Height adjustment<br>per rotation<br>mm | Load capacity max.<br>kN |
|------|-----------|--|----------------------------|---------|---------|---------|----------|-----------------------------------------|--------------------------|
| 63   | 063       |  | 50 - 63                    | 40      | -       | 63      | 8        | 0.86                                    | 40                       |
| 125  | 125       |  | 100 - 125                  | 60      | 115     | 125     | 14       | 1.16                                    | 100                      |
| 190  | 190       |  | 170 - 190                  | 80      | 145     | 175     | 22       | 2.02                                    | 250                      |

## 26 435 Alignment vice

with rotating ball end, made of hardened and tempered with black finish, well suited for supporting and aligning freeform surfaces such as cast iron and forgings

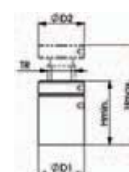


26 435 001

| Height<br>mm | 26 435... |  | Load capacity max.<br>kN |
|--------------|-----------|--|--------------------------|
| 56 - 70      | 001       |  | 30                       |

## 26 436 Screwing supports

with flat mounting surfaces and 12 mm diameter centre hole, spindle with trapezoidal thread, self-locking with final locking feature, hardened and tempered steel, enamelled



26 436...

| Size | 26 436... |  | Support height<br>mm | Head Ø<br>mm | Base section-<br>Ø mm | Load capacity max.<br>kN |
|------|-----------|--|----------------------|--------------|-----------------------|--------------------------|
| 50   | 050       |  | 38 - 50              | 31           | 31                    | 15                       |
| 52   | 052       |  | 42 - 52              | 50           | 50                    | 60                       |
| 70   | 070       |  | 50 - 70              | 50           | 50                    | 60                       |
| 100  | 100       |  | 70 - 100             | 50           | 50                    | 60                       |
| 140  | 140       |  | 100 - 140            | 65           | 70                    | 100                      |
| 210  | 210       |  | 140 - 210            | 70           | 80                    | 170                      |
| 300  | 300       |  | 190 - 300            | 80           | 100                   | 350                      |

## 26 438 Magnet screwing supports

12 mm diameter centre hole, spindle with trapezoidal thread, self-locking with final locking feature, hardened and tempered steel, with black finish, base section: Aluminium 400 N/mm<sup>2</sup> tensile strength



| Size | 26 438... |  | Support height mm | Head Ø mm | Base section-Ø mm | Load capacity max. kN |
|------|-----------|--|-------------------|-----------|-------------------|-----------------------|
| 62   | 162       |  | 52 - 62           | 50        | 50                | 30                    |
| 80   | 180       |  | 60 - 80           | 50        | 50                | 30                    |
| 110  | 210       |  | 80 - 110          | 50        | 50                | 30                    |



26 438...

## 26 439 Alu-screwing supports with swarf guard

screwing support - threads with deflectors for protection against the penetration of swarf. Centre hole Ø 12 mm. Spindle made of hardened and tempered steel, with black finish. Trapezoidal thread self-locking with final locking feature.

Consisting of:

- screwing support
- alu base **or** magnetic base



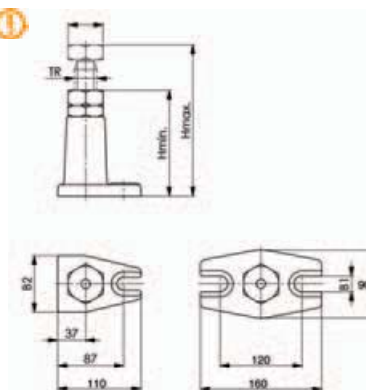
| Base          | 26 439... |  | Support height mm | Head Ø mm | Base section-Ø mm | Load capacity max. kN |
|---------------|-----------|--|-------------------|-----------|-------------------|-----------------------|
| Alu-base      | 010       |  | 75 - 88           | 50        | 50                | 30                    |
| Magnetic base | 020       |  | 75 - 88           | 50        | 50                | 30                    |



26 439...

## 26 440 Screwing supports

with lock nuts and 12 diameter centre hole, spindle made of hardened and tempered steel with trapezoidal thread, body made of grey cast iron, enamelled



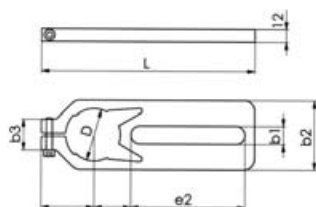
| Size | 26 440... |  | Support height H mm | Slot width B1 mm | Housing Ø mm | Load capacity max. kN |
|------|-----------|--|---------------------|------------------|--------------|-----------------------|
| 140  | 140       |  | 100 - 140           | 18               | 50           | 60                    |
| 200  | 200       |  | 140 - 200           | 18               | 50           | 60                    |
| 320  | 320       |  | 200 - 320           | 22               | 50           | 40                    |
| 550  | 550       |  | 320 - 550           | 22               | 50           | 25                    |



26 440...

**26 443 Holder for screwing supports**

Hardened and tempered steel, enamelled



26 443...

| suitable for size | 26 443... |  | Overall length L mm | D Ø mm | Slot width b1 mm | Slot length e2 mm | Width b2 mm |
|-------------------|-----------|--|---------------------|--------|------------------|-------------------|-------------|
| 50                | 031       |  | 190                 | 31     | 17               | 95                | 45          |
| 52. 70. 100       | 050       |  | 200                 | 50     | 17               | 90                | 65          |
| 140               | 070       |  | 220                 | 70     | 17               | 85                | 85          |

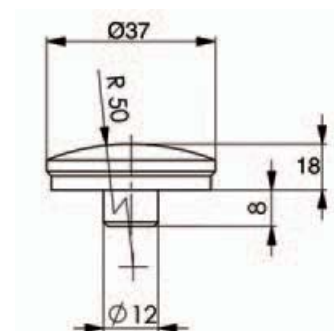
**26 445 Ball top attachment**

made of hardened and tempered steel with black finish, for all screwing supports with centre holes



26 445 001

| Centre hole-Ø mm | 26 445... |  |
|------------------|-----------|--|
| 12               | 001       |  |

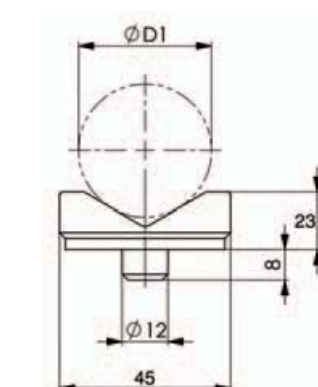
**26 446 Prism type top attachment**

made of hardened and tempered with black finish, for all screwing supports with centre holes, size 45



26 446 001

| Centre hole-Ø mm | 26 446... |  | D1 max. mm | D1 min. mm |
|------------------|-----------|--|------------|------------|
| 12               | 001       |  | 50         | 10         |

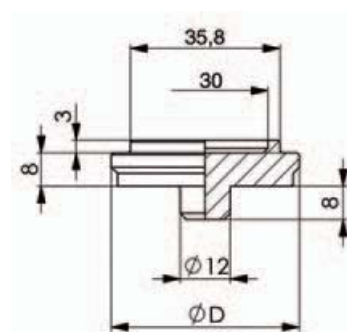
**26 447 Centering plate**

made of hardened and tempered steel with black finish, for all screwing supports with centre holes



26 447 001

| Centre hole-Ø mm | 26 447... |  |
|------------------|-----------|--|
| 12               | 001       |  |

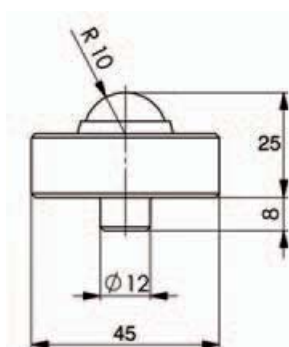
**26 449 Top attachment with rotating ball**

made of hardened and tempered steel with black finish. Ball hardened for all screwing supports with centre hole



26 449 001

| Centre hole-Ø mm | 26 449... |  |
|------------------|-----------|--|
| 12               | 001       |  |



## 26 452 Screws for T-slots complete with nut and disc



forged, T-slot guide milled, wrapped threads, stamped with AMF and property classes.

M6 - M12 hardened to strength 10.9,

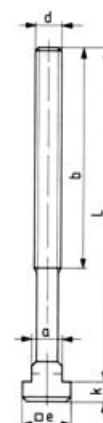
M14 - M42 hardened to strength 8.8

| T-slot nominal dimension mm | Screw size d x L | 26 452... |  | b<br>mm | a<br>mm | e<br>mm | k<br>mm |
|-----------------------------|------------------|-----------|--|---------|---------|---------|---------|
| 6                           | M 6 x 25         | 062       |  | 15      | 5.7     | 10      | 4       |
| 6                           | M 6 x 40         | 064       |  | 28      | 5.7     | 10      | 4       |
| 6                           | M 6 x 63         | 066       |  | 40      | 5.7     | 10      | 4       |
| 8                           | M 8 x 32         | 083       |  | 22      | 7.7     | 13      | 6       |
| 8                           | M 8 x 50         | 085       |  | 35      | 7.7     | 13      | 6       |
| 8                           | M 8 x 80         | 088       |  | 50      | 7.7     | 13      | 6       |
| 10                          | M 10 x 40        | 104       |  | 30      | 9.7     | 15      | 6       |
| 10                          | M 10 x 63        | 106       |  | 45      | 9.7     | 15      | 6       |
| 10                          | M 10 x 80        | 108       |  | 50      | 9.7     | 15      | 6       |
| 10                          | M 10 x 100       | 110       |  | 60      | 9.7     | 15      | 6       |
| 12                          | M 12 x 50        | 121       |  | 35      | 11.7    | 18      | 7       |
| 12                          | M 12 x 80        | 123       |  | 55      | 11.7    | 18      | 7       |
| 12                          | M 12 x 100       | 124       |  | 65      | 11.7    | 18      | 7       |
| 12                          | M 12 x 125       | 125       |  | 75      | 11.7    | 18      | 7       |
| 12                          | M 12 x 160       | 126       |  | 100     | 11.7    | 18      | 7       |
| 12                          | M 12 x 200       | 127       |  | 120     | 11.7    | 18      | 7       |
| 14                          | M 12 x 50        | 131       |  | 35      | 13.7    | 22      | 8       |
| 14                          | M 12 x 80        | 133       |  | 55      | 13.7    | 22      | 8       |
| 14                          | M 12 x 100       | 134       |  | 65      | 13.7    | 22      | 8       |
| 14                          | M 12 x 125       | 135       |  | 75      | 13.7    | 22      | 8       |
| 14                          | M 12 x 160       | 136       |  | 100     | 13.7    | 22      | 8       |
| 14                          | M 12 x 200       | 137       |  | 120     | 13.7    | 22      | 8       |
| 16                          | M 14 x 63        | 142       |  | 45      | 15.7    | 25      | 9       |
| 16                          | M 14 x 80        | 143       |  | 55      | 15.7    | 25      | 9       |
| 16                          | M 14 x 100       | 144       |  | 65      | 15.7    | 25      | 9       |
| 16                          | M 14 x 125       | 145       |  | 75      | 15.7    | 25      | 9       |
| 16                          | M 14 x 160       | 146       |  | 100     | 15.7    | 25      | 9       |
| 16                          | M 14 x 250       | 148       |  | 120     | 15.7    | 25      | 9       |
| 16                          | M 16 x 63        | 162       |  | 45      | 15.7    | 25      | 9       |
| 16                          | M 16 x 100       | 164       |  | 65      | 15.7    | 25      | 9       |
| 16                          | M 16 x 125       | 165       |  | 85      | 15.7    | 25      | 9       |
| 16                          | M 16 x 160       | 166       |  | 100     | 15.7    | 25      | 9       |
| 16                          | M 16 x 250       | 168       |  | 150     | 15.7    | 25      | 9       |
| 18                          | M 16 x 63        | 172       |  | 45      | 17.7    | 28      | 10      |
| 18                          | M 16 x 100       | 174       |  | 65      | 17.7    | 28      | 10      |
| 18                          | M 16 x 125       | 175       |  | 85      | 17.7    | 28      | 10      |
| 18                          | M 16 x 160       | 176       |  | 100     | 17.7    | 28      | 10      |
| 18                          | M 16 x 250       | 178       |  | 150     | 17.7    | 28      | 10      |
| 20                          | M 20 x 80        | 203       |  | 55      | 19.7    | 32      | 12      |
| 20                          | M 20 x 125       | 205       |  | 85      | 19.7    | 32      | 12      |
| 20                          | M 20 x 200       | 207       |  | 125     | 19.7    | 32      | 12      |
| 20                          | M 20 x 315       | 209       |  | 190     | 19.7    | 32      | 12      |
| 22                          | M 20 x 80        | 213       |  | 55      | 21.7    | 35      | 14      |
| 22                          | M 20 x 125       | 215       |  | 85      | 21.7    | 35      | 14      |
| 22                          | M 20 x 200       | 217       |  | 125     | 21.7    | 35      | 14      |
| 22                          | M 20 x 315       | 219       |  | 190     | 21.7    | 35      | 14      |
| 28                          | M 24 x 100       | 244       |  | 70      | 27.7    | 44      | 18      |
| 28                          | M 24 x 160       | 246       |  | 110     | 27.7    | 44      | 18      |
| 28                          | M 24 x 250       | 248       |  | 150     | 27.7    | 44      | 18      |
| 28                          | M 24 x 400       | 250       |  | 240     | 27.7    | 44      | 18      |

Other sizes available on request



26 452...





## 26 454 Stud bolts

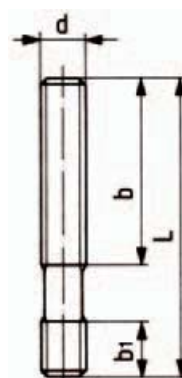


DIN 6379, wrapped threads, M6 - M12, hardened to strength 10.9, M14 - M30, strength 8.8, these stud bolts are specially developed for clamping purposes and are graduated in length to conform with the standard numbers

| for T-slots nominal dimension<br>mm | d x L<br>mm | 26 454... |  | b<br>mm | b1<br>mm |
|-------------------------------------|-------------|-----------|--|---------|----------|
| 8                                   | M 6 x 32    | 060       |  | 16      | 9        |
| 8                                   | M 6 x 50    | 061       |  | 30      | 9        |
| 8                                   | M 6 x 80    | 062       |  | 50      | 9        |
| 10                                  | M 8 x 40    | 080       |  | 20      | 11       |
| 10                                  | M 8 x 63    | 081       |  | 40      | 11       |
| 10                                  | M 8 x 100   | 082       |  | 63      | 11       |
| 10                                  | M 8 x 160   | 083       |  | 100     | 11       |
| 10                                  | M 8 x 125   | 084       |  | 75      | 11       |
| 12                                  | M 10 x 50   | 100       |  | 25      | 13       |
| 12                                  | M 10 x 80   | 101       |  | 50      | 13       |
| 12                                  | M 10 x 125  | 102       |  | 75      | 13       |
| 12                                  | M 10 x 160  | 103       |  | 100     | 13       |
| 12                                  | M 10 x 200  | 104       |  | 125     | 13       |
| 14                                  | M 12 x 50   | 120       |  | 25      | 15       |
| 14                                  | M 12 x 63   | 121       |  | 32      | 15       |
| 14                                  | M 12 x 80   | 122       |  | 50      | 15       |
| 14                                  | M 12 x 100  | 123       |  | 63      | 15       |
| 14                                  | M 12 x 125  | 124       |  | 75      | 15       |
| 14                                  | M 12 x 160  | 125       |  | 100     | 15       |
| 14                                  | M 12 x 200  | 126       |  | 125     | 15       |
| 16                                  | M 14 x 63   | 140       |  | 32      | 17       |
| 16                                  | M 14 x 80   | 170       |  | 50      | 17       |
| 16                                  | M 14 x 100  | 141       |  | 63      | 17       |
| 16                                  | M 14 x 125  | 172       |  | 75      | 17       |
| 16                                  | M 14 x 160  | 142       |  | 100     | 17       |
| 16                                  | M 14 x 250  | 143       |  | 160     | 17       |
| 18                                  | M 16 x 63   | 160       |  | 32      | 19       |
| 18                                  | M 16 x 80   | 161       |  | 50      | 19       |
| 18                                  | M 16 x 100  | 162       |  | 63      | 19       |
| 18                                  | M 16 x 125  | 163       |  | 75      | 19       |
| 18                                  | M 16 x 160  | 164       |  | 100     | 19       |
| 18                                  | M 16 x 200  | 165       |  | 125     | 19       |
| 18                                  | M 16 x 250  | 166       |  | 160     | 19       |
| 20                                  | M 18 x 80   | 180       |  | 50      | 23       |
| 20                                  | M 18 x 125  | 181       |  | 75      | 23       |
| 20                                  | M 18 x 200  | 182       |  | 125     | 23       |
| 20                                  | M 18 x 315  | 183       |  | 180     | 23       |
| 22                                  | M 20 x 80   | 200       |  | 32      | 27       |
| 22                                  | M 20 x 125  | 201       |  | 70      | 27       |
| 22                                  | M 20 x 160  | 202       |  | 100     | 27       |
| 22                                  | M 20 x 200  | 203       |  | 125     | 27       |
| 22                                  | M 20 x 250  | 204       |  | 160     | 27       |
| 22                                  | M 20 x 315  | 205       |  | 200     | 27       |
| 22                                  | M 20 x 400  | 206       |  | 250     | 27       |
| 22                                  | M 20 x 500  | 207       |  | 315     | 27       |
| 24                                  | M 22 x 100  | 220       |  | 45      | 31       |
| 24                                  | M 22 x 160  | 221       |  | 100     | 31       |
| 24                                  | M 22 x 250  | 222       |  | 160     | 31       |
| 24                                  | M 22 x 400  | 223       |  | 250     | 31       |
| 28                                  | M 24 x 100  | 240       |  | 45      | 35       |
| 28                                  | M 24 x 160  | 241       |  | 100     | 35       |
| 28                                  | M 24 x 200  | 242       |  | 125     | 35       |
| 28                                  | M 24 x 250  | 243       |  | 160     | 35       |
| 28                                  | M 24 x 315  | 244       |  | 200     | 35       |
| 28                                  | M 24 x 400  | 245       |  | 250     | 35       |
| 28                                  | M 24 x 500  | 246       |  | 315     | 35       |
| 28                                  | M 24 x 630  | 247       |  | 315     | 35       |
| 36                                  | M 30 x 200  | 300       |  | 125     | 43       |
| 36                                  | M 30 x 315  | 301       |  | 200     | 43       |
| 36                                  | M 30 x 500  | 302       |  | 315     | 43       |
| 36                                  | M 30 x 700  | 303       |  | 400     | 43       |



26 454...



**26 456 Nuts for T-slots**

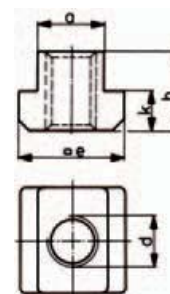
DIN 508, hardened and tempered, property class 10



| Internal thread d | 26 456... |  | a<br>mm | e<br>mm | h<br>mm | k<br>mm |
|-------------------|-----------|--|---------|---------|---------|---------|
| M 5 x 6           | 060       |  | 5.7     | 10      | 8       | 4       |
| M 6 x 8           | 080       |  | 7.7     | 13      | 10      | 6       |
| M 8 x 10          | 100       |  | 9.7     | 15      | 12      | 6       |
| M 8 x 12          | 112       |  | 11.7    | 18      | 17      | 7       |
| M 8 x 14          | 114       |  | 13.7    | 22      | 16      | 8       |
| M 8 x 16          | 116       |  | 15.7    | 25      | 18      | 9       |
| M 8 x 18          | 118       |  | 17.7    | 28      | 20      | 10      |
| M 10 x 12         | 120       |  | 11.7    | 18      | 14      | 7       |
| M 10 x 14         | 124       |  | 13.7    | 22      | 16      | 8       |
| M 10 x 16         | 126       |  | 15.7    | 25      | 18      | 9       |
| M 10 x 18         | 128       |  | 17.7    | 28      | 20      | 10      |
| M 12 x 14         | 140       |  | 13.7    | 22      | 16      | 8       |
| M 12 x 16         | 160       |  | 15.7    | 25      | 18      | 9       |
| M 12 x 18         | 162       |  | 17.7    | 28      | 20      | 10      |
| M 14 x 16         | 161       |  | 15.7    | 25      | 18      | 9       |
| M 14 x 18         | 180       |  | 17.7    | 28      | 20      | 10      |
| M 16 x 18         | 181       |  | 17.7    | 28      | 20      | 10      |
| M 16 x 20         | 200       |  | 19.7    | 32      | 24      | 12      |
| M 16 x 22         | 202       |  | 21.7    | 35      | 28      | 14      |
| M 18 x 20         | 201       |  | 19.7    | 32      | 24      | 12      |
| M 20 x 22         | 220       |  | 21.7    | 35      | 28      | 14      |
| M 20 x 24         | 240       |  | 23.7    | 40      | 32      | 16      |
| M 20 x 28         | 242       |  | 27.7    | 44      | 36      | 18      |
| M 22 x 24         | 241       |  | 23.7    | 40      | 32      | 16      |
| M 24 x 28         | 280       |  | 27.7    | 44      | 36      | 18      |
| M 30 x 36         | 360       |  | 35.6    | 54      | 44      | 22      |



26 456...

**26 460 Nuts for T-slots**

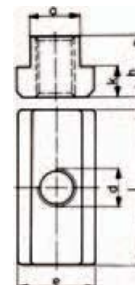
long form, hardened and tempered, property class 10, protects against damage to the bench slots on precision machines



| Internal thread d | 26 460... |  | a<br>mm | e<br>mm | l<br>mm | h<br>mm | k<br>mm |
|-------------------|-----------|--|---------|---------|---------|---------|---------|
| M 6 x 8           | 080       |  | 7.7     | 13      | 26      | 10      | 6       |
| M 8 x 10          | 100       |  | 9.7     | 15      | 30      | 12      | 6       |
| M 10 x 12         | 120       |  | 11.7    | 18      | 36      | 14      | 7       |
| M 12 x 14         | 140       |  | 13.7    | 22      | 44      | 16      | 8       |
| M 14 x 16         | 160       |  | 15.7    | 25      | 50      | 18      | 9       |
| M 16 x 18         | 180       |  | 17.7    | 28      | 56      | 20      | 10      |
| M 20 x 22         | 200       |  | 21.7    | 35      | 70      | 28      | 14      |
| M 24 x 28         | 280       |  | 27.7    | 44      | 88      | 36      | 18      |



26 460...

**26 462 Nuts for T-slots Rhombus**

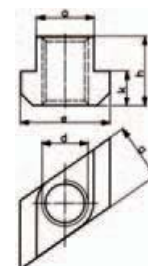
hardened and tempered, the low surface base in the T-slot has less load capacity as with the comparable sizes DIN 508, Rhombus-T-slides can be inserted from the top

**Use:** insert from the top then rotate and make sure to observe the stopper in the slot to ensure full clamping force

| Internal thread d | 26 462... |  | a<br>mm | e<br>mm | h<br>mm | k<br>mm |
|-------------------|-----------|--|---------|---------|---------|---------|
| M 8 x 10          | 080       |  | 9.7     | 15      | 12      | 6       |
| M 10 x 12         | 100       |  | 11.7    | 18      | 14      | 7       |
| M 10 x 14         | 110       |  | 13.7    | 22      | 16      | 8       |
| M 12 x 14         | 120       |  | 13.7    | 22      | 16      | 8       |
| M 14 x 16         | 140       |  | 15.7    | 25      | 18      | 9       |
| M 16 x 18         | 160       |  | 17.7    | 28      | 20      | 10      |
| M 16 x 22         | 170       |  | 21.7    | 35      | 28      | 14      |
| M 18 x 20         | 180       |  | 19.7    | 32      | 24      | 12      |
| M 20 x 22         | 200       |  | 21.7    | 35      | 28      | 14      |
| M 20 x 28         | 210       |  | 27.7    | 44      | 36      | 18      |
| M 24 x 28         | 240       |  | 27.7    | 44      | 36      | 18      |



26 462...

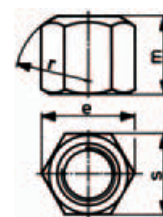


## 26 463 Hexagonal nuts

DIN 6330 B, hardened and tempered, strength 10, with ball type end can be applied with spherical discs **No. 26 470...** and **No. 26 472...**, with the flat end applied toward the disc **No. 26 474...**, to the power of 1.5 d



26 463...



| Size | 26 463... |  | s<br>mm | e<br>mm | m<br>mm |
|------|-----------|--|---------|---------|---------|
| M 6  | 060       |  | 10      | 11.5    | 9       |
| M 8  | 080       |  | 13      | 15      | 12      |
| M 10 | 100       |  | 16      | 18.4    | 15      |
| M 12 | 120       |  | 18      | 20.7    | 18      |
| M 14 | 140       |  | 21      | 24.2    | 21      |
| M 16 | 160       |  | 24      | 27.7    | 24      |
| M 18 | 180       |  | 27      | 31.2    | 27      |
| M 20 | 200       |  | 30      | 34.6    | 30      |
| M 22 | 220       |  | 34      | 39.2    | 33      |
| M 24 | 240       |  | 36      | 41.5    | 36      |
| M 27 | 270       |  | 41      | 47.3    | 40      |
| M 30 | 300       |  | 46      | 53.1    | 45      |

## 26 464 Hexagonal nuts with collar

DIN 6331, lathed and milled, hardened and tempered, property class 10, to the power of 1.5 d



26 464...



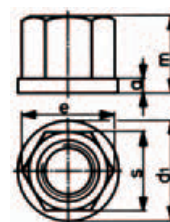
26 465...

## 26 465 Hexagonal nuts with collar

as 26 464 however, **forged**, hardened and tempered, property class 10, to the power of 1.5 d



| Size | 26 464... |  | 26 465... |   | s<br>mm | e<br>mm | m<br>mm | a<br>mm | d1<br>mm |
|------|-----------|--|-----------|---|---------|---------|---------|---------|----------|
| M 8  | 080       |  | 080       |   | 13      | 15      | 12      | 3.5     | 18       |
| M 10 | 100       |  | 100       |   | 16      | 18.4    | 15      | 4.0     | 22       |
| M 12 | 120       |  | 120       |   | 18      | 20.7    | 18      | 4.0     | 25       |
| M 14 | 140       |  | -         | - | 21      | 24.2    | 21      | 4.5     | 28       |
| M 16 | 160       |  | 160       |   | 24      | 27.7    | 24      | 5.0     | 31       |
| M 18 | 180       |  | 180       |   | 27      | 31.2    | 27      | 5.0     | 34       |
| M 20 | 200       |  | 200       |   | 30      | 34.6    | 30      | 6.0     | 37       |
| M 22 | 220       |  | -         | - | 34      | 39.2    | 33      | 6.0     | 40       |
| M 24 | 240       |  | 240       |   | 36      | 41.5    | 36      | 6.0     | 45       |
| M 30 | 300       |  | -         | - | 46      | 53.1    | 45      | 8.0     | 58       |

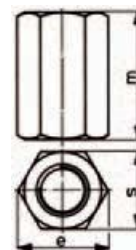


## 26 466 Extension nuts

hardened and tempered, property class 10, to the power of 3.0 d, for function and safety reasons the screws should not be screwed past half of the nuts length on either side, minimum screw-in length  $1 \times \varnothing$



26 466...



| Size | 26 466... |  | s<br>mm | e<br>mm | m<br>mm |
|------|-----------|--|---------|---------|---------|
| M 6  | 060       |  | 10      | 11.5    | 18      |
| M 8  | 080       |  | 13      | 15      | 24      |
| M 10 | 100       |  | 16      | 18.4    | 30      |
| M 12 | 120       |  | 18      | 20.7    | 36      |
| M 14 | 140       |  | 21      | 24.2    | 42      |
| M 16 | 160       |  | 24      | 27.7    | 48      |
| M 18 | 180       |  | 27      | 31.2    | 54      |
| M 20 | 200       |  | 30      | 34.6    | 60      |
| M 22 | 220       |  | 34      | 39.2    | 66      |
| M 24 | 240       |  | 36      | 41.5    | 72      |

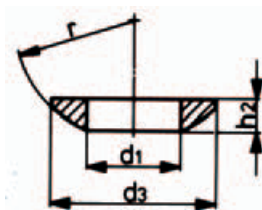
## 26 468 Rounded discs

DIN 6319, Form C, case hardened, phosphated, rounded discs and spherical discs are used for the transfer of clamping force in those cases where clamping elements must be adjusted to uneven clamping surfaces



26 468...

| For size | 26 468... |  | d1<br>mm | d3<br>mm | h2<br>mm | r  |
|----------|-----------|--|----------|----------|----------|----|
| M 6      | 060       |  | 6.4      | 12       | 2.3      | 9  |
| M 8      | 080       |  | 8.4      | 17       | 3.2      | 12 |
| M 10     | 100       |  | 10.5     | 21       | 4        | 15 |
| M 12     | 120       |  | 13       | 24       | 4.6      | 17 |
| M 14     | 140       |  | 15       | 28       | 5        | 22 |
| M 16     | 160       |  | 17       | 30       | 5.3      | 22 |
| M 20     | 200       |  | 21       | 36       | 6.3      | 27 |
| M 24     | 240       |  | 25       | 44       | 8.2      | 32 |



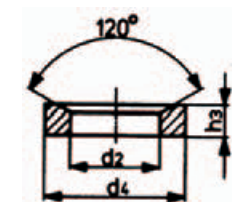
## 26 470 Spherical discs

DIN 6319, Form D, case hardened, phosphated, only use when the spherical disc has full contact, can only be used for level and closed ring surfaces, screw strength conforms with 8.8



26 470...

| For size | 26 470... |  | d2<br>mm | d4<br>mm | h3<br>mm |
|----------|-----------|--|----------|----------|----------|
| M 6      | 060       |  | 7.1      | 12       | 2.8      |
| M 8      | 080       |  | 9.6      | 17       | 3.5      |
| M 10     | 100       |  | 12       | 21       | 4.2      |
| M 12     | 120       |  | 14.2     | 24       | 5        |
| M 14     | 140       |  | 16.5     | 28       | 5.6      |
| M 16     | 160       |  | 19       | 30       | 6.2      |
| M 20     | 200       |  | 23.2     | 36       | 7.5      |
| M 24     | 240       |  | 28       | 44       | 9.5      |



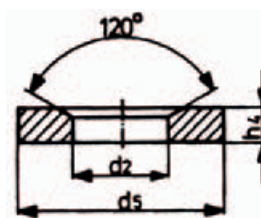
## 26 472 Spherical discs

DIN 6319, Form G, type similar to DIN, punched, cast and hardened and tempered, the large diameter of the spherical disc is best suited for clamping over the slot with clamps



26 472...

| For size | 26 472... |  | d2<br>mm | d5<br>mm | h4<br>mm |
|----------|-----------|--|----------|----------|----------|
| M 6      | 060       |  | 7.1      | 17       | 4        |
| M 8      | 080       |  | 9.6      | 24       | 4        |
| M 10     | 100       |  | 12       | 30       | 5        |
| M 12     | 120       |  | 14.2     | 35       | 5        |
| M 14     | 140       |  | 16.5     | 40       | 5        |
| M 16     | 160       |  | 19       | 45       | 6        |
| M 20     | 200       |  | 23.2     | 50       | 8        |
| M 24     | 240       |  | 28       | 60       | 10       |



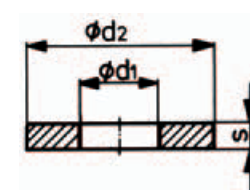
## 26 474 Discs

DIN 6340, hardened and tempered (350 + 80 HV 30)



26 474...

| For size | 26 474... |  | d1<br>mm | d2<br>mm | s<br>mm |
|----------|-----------|--|----------|----------|---------|
| M 6      | 060       |  | 6.4      | 17       | 3       |
| M 8      | 080       |  | 8.4      | 23       | 4       |
| M 10     | 100       |  | 10.5     | 28       | 4       |
| M 12     | 120       |  | 13       | 35       | 5       |
| M 14     | 140       |  | 15       | 40       | 5       |
| M 16     | 160       |  | 17       | 45       | 6       |
| M 18     | 180       |  | 19       | 45       | 6       |
| M 20     | 200       |  | 21       | 50       | 6       |
| M 22     | 220       |  | 23       | 50       | 8       |
| M 24     | 240       |  | 25       | 60       | 8       |
| M 27     | 270       |  | 28       | 68       | 10      |
| M 30     | 300       |  | 31       | 68       | 10      |



## 26 475 Covering strip for T-slots

from aluminium section, length 1000 mm

the sections can be cut to the required length without difficulty using a fine saw blade



26 475...

| Groove width<br>mm | 26 475... |  |
|--------------------|-----------|--|
| 12                 | 120       |  |
| 14                 | 140       |  |
| 16                 | 160       |  |
| 18                 | 180       |  |
| 20                 | 200       |  |
| 22                 | 220       |  |
| 28                 | 280       |  |
| 36                 | 360       |  |

## 26 476 Slot reamer



26 476...

| for T-slots nominal dimension<br>mm | 26 476... |  |
|-------------------------------------|-----------|--|
| 14 - 20                             | 001       |  |
| 22 - 32                             | 002       |  |



## 26 478 Clamping elements - set

made of plastic, consisting of 55 elements, anchoring attachment supports, anchoring attachments, nuts and stud bolts made of aluminium

suited for using on 3D coordinate measuring machines, engraving and spark erosion machines,

for all mountings that only require a small amount of clamping force (ca. 500 N), the potential clamping force depends on the leverage ratio of the anchoring attachment support that is selected and is achieved by tightening the nut on the knurl, if the clamping elements are jammed, then the nut can be loosened with a combination spanner

Advantages: weighs only 1/4 as much as elements made of aluminium and 1/10 of elements made of steel

corrosion resistant to hand sweat, very easy to handle

no machine bench or workpiece damage, multi-purpose combinations are possible



26 478...

| Thread   | 26 478... |  | Case size<br>mm |
|----------|-----------|--|-----------------|
| M 6 x M8 | 008       |  | 370 x 440 x 50  |
| M 8 x M8 | 010       |  | 370 x 440 x 50  |
| M10 x M8 | 012       |  | 190 x 220 x 110 |
| M12 x M8 | 014       |  | 190 x 220 x 110 |

## 26 480 Clamping screw sets

for T-slots in solid wood case with hinged cover, all parts hardened and tempered steel, property classes 8 and 10



26 480...

| Thread Ø<br>Slot nominal dimension | 26 480... |  | Wooden box<br>mm |
|------------------------------------|-----------|--|------------------|
| M 10 x 10                          | 100       |  | 254 x 188 x 32   |
| M 12 x 12                          | 120       |  | 278 x 234 x 36   |
| M 12 x 14                          | 121       |  | 278 x 234 x 36   |
| M 14 x 16                          | 140       |  | 317 x 239 x 44   |
| M 16 x 18                          | 160       |  | 339 x 294 x 48   |
| M 20 x 22                          | 200       |  | 358 x 342 x 56   |
| M 24 x 28                          | 240       |  | 444 x 409 x 72   |

### Set contents:

| 26 480... |          | 26 450...<br>Length | 26 450...<br>Qty | 26 454...<br>Length      | 26 454...<br>Qty | 26 456... | 26 463... | 26 466... | 26 468... | 26 472... | 26 474... | Weight<br>g |
|-----------|----------|---------------------|------------------|--------------------------|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| 100       | M10 x 10 | 40<br>63<br>100     | 2<br>4<br>4      | 50<br>80<br>200          | 4<br>4<br>4      | 1*        | 4x        | 4x        | 4x        | 4x        | 4x        | 2050        |
| 120       | M12 x 12 | 50<br>80<br>125     | 2<br>4<br>4      | 63<br>100<br>200         | 4<br>4<br>4      | 1*        | 4x        | 4x        | 4x        | 4x        | 4x        | 3200        |
| 121       | M12 x 14 | 50<br>80            | 2<br>4           | 63<br>100<br>125<br>200  | 4<br>4<br>4<br>4 | 4x        | 4x        | 4x        | 4x        | 4x        | 4x        | 3500        |
| 140       | M14 x 16 | 63<br>100           | 2<br>4           | 63<br>100<br>160<br>250  | 4<br>4<br>4<br>4 | 4x        | 4x        | 4x        | 4x        | 4x        | 4x        | 5400        |
| 160       | M16 x 18 | 63<br>100           | 2<br>4           | 80<br>125<br>160<br>250  | 4<br>4<br>4<br>4 | 4x        | 4x        | 4x        | 4x        | 4x        | 4x        | 7400        |
| 200       | M20 x 22 | 80<br>125           | 2<br>4           | 80<br>125<br>200<br>315  | 4<br>4<br>4<br>4 | 4x        | 4x        | 4x        | 4x        | 4x        | 4x        | 13500       |
| 240       | M24 x 28 | 100<br>160          | 2<br>4           | 100<br>160<br>250<br>400 | 4<br>4<br>4<br>4 | 4x        | 4x        | 4x        | 4x        | 4x        | 4x        | 23600       |

1\* = "Nuts for T-slots No. 26 456..." cannot be used for these sizes



## 26 482 Clamping tool assortments

lower clamp jaws and screw paste are part of this assortment that includes all of the required elements for the quick clamping of tools, fixtures or workpieces onto T-slot benches, all parts are interchangeable and can be retrofitted at any time, the hinged lid can be removed to allow for open storage of the case in the tool cabinet



26 482...

| Thread Ø                 | 26 482... |  | Wooden box     |
|--------------------------|-----------|--|----------------|
| T-slot nominal dimension |           |  | mm             |
| M 10 x 10                | 100       |  | 355 x 270 x 47 |
| M 12 x 12                | 120       |  | 460 x 330 x 50 |
| M 12 x 14                | 121       |  | 460 x 330 x 50 |
| M 14 x 16                | 130       |  | 510 x 415 x 50 |
| M 16 x 16                | 160       |  | 510 x 415 x 50 |
| M 16 x 18                | 161       |  | 510 x 415 x 50 |

### Set contents:

| 26 482... |           | 26 426...<br>Gr. | 26 426...<br>Qty | 26 410...                    | 26 450...<br>Length | 26 450...<br>Qty | 26 454...<br>Length | 26 454...<br>Qty | 26 463... | 26 472... | 26 466... | *26 492...    | 26 476...   | 3113A       |
|-----------|-----------|------------------|------------------|------------------------------|---------------------|------------------|---------------------|------------------|-----------|-----------|-----------|---------------|-------------|-------------|
| 100       | M 10 x 10 | 1<br>2<br>3      | 4<br>4<br>2      | 11x80<br>4x                  | 100<br>63<br>40     | 4<br>4<br>2      | 80                  | 4                | M10<br>6x | M10<br>6x | M10<br>4x | Size 12<br>4x | -           | 16x16<br>1x |
| 120       | M 12 x 12 | 2<br>3           | 4<br>4           | 14x 100<br>4x                | 125<br>80<br>50     | 4<br>4<br>2      | 100                 | 4                | M12<br>6x | M12<br>6x | M12<br>4x | Size 12<br>4x | -           | 18x18<br>1x |
| 121       | M 12 x 14 | 2<br>3           | 4<br>4           | 14x 100<br>4x                | 125<br>80<br>50     | 4<br>4<br>2      | 100                 | 4                | M12<br>6x | M12<br>6x | M12<br>4x | Size 14<br>4x | 14-20<br>1x | 18x18<br>1x |
| 130       | M 14 x 16 | 2<br>3           | 4<br>4           | 14x100<br>2x<br>14x160<br>4x | 100<br>260<br>63    | 4<br>4<br>2      | 125                 | 4                | M14<br>6x | M14<br>6x | M14<br>4x | Size 16<br>4x | 14-20<br>1x | 22x22<br>1x |
| 160       | M 16 x 16 | 2<br>3           | 4<br>4           | 18x 125<br>4x                | 160<br>100<br>63    | 4<br>4<br>2      | 125                 | 4                | M16<br>6x | M16<br>6x | M16<br>4x | Size 16<br>4x | 14-20<br>1x | 24x24<br>1x |
| 161       | M 16 x 18 | 2<br>3           | 4<br>4           | 18x 125<br>4x                | 160<br>100<br>63    | 4<br>4<br>2      | 125                 | 4                | M16<br>6x | M16<br>6x | M16<br>4x | Size 18<br>4x | 14-20<br>1x | 24x24<br>1x |

\* The lower clamp jaws No. 26 492... are delivered complete with nuts for T-slots 26 456..., screws DIN 912 and two hexagonal screwdrivers DIN 911.

## 26 483 Clamping tool assortments

52-part, contents: each set contains 75 - 100 - 125 - 150 - 175 and 200 mm, 4 extension nuts, step clamps, 6 step blocks, 6 collar nuts, 6 T-slot-nuts, in a plastic stand with wall bracket

| Groove width<br>mm | Thread<br>M | 26 483... |  |
|--------------------|-------------|-----------|--|
| 12                 | 10          | 410       |  |
| 14                 | 12          | 412       |  |
| 16                 | 14          | 414       |  |
| 18                 | 16          | 416       |  |



26 483...

## 26 490 Flat tensioning lever model "Mini-Bulle"

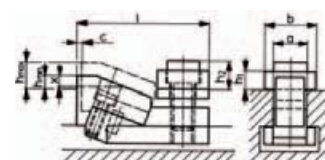


made of hardened and tempered steel with black finish, includes fixing screws and hexagonal screw driver, this hardened and tempered steel flat tensioning lever can be used for clamping workpieces that are especially low, the wedge effect of the clamping jaws presses the workpiece firmly and securely against the machine bench, only available in pairs

| T-slot nominal dimension<br>mm | 26 490... |  | Clamping stroke<br>mm | Max height above the top edge of the bench mm | Length max.<br>mm | Width<br>mm |
|--------------------------------|-----------|--|-----------------------|-----------------------------------------------|-------------------|-------------|
| 12                             | 120       |  | 1.8                   | 8.5                                           | 52                | 18          |
| 14                             | 140       |  | 1.8                   | 7.5                                           | 55                | 22          |
| 16                             | 160       |  | 2.5                   | 11                                            | 68                | 25          |
| 18                             | 180       |  | 2.5                   | 9                                             | 71                | 28          |
| 22                             | 220       |  | 3.0                   | 14                                            | 89                | 35          |



26 490...



## 26 492 Lower clamp jaws model "Bulle"

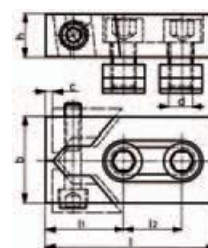


made of hardened and tempered steel with black finish, with fixing screws, nuts for T-slots and hexagonal screwdriver, this handy lower clamp jaw with its flat type design is suited well for processing most sizes of workpieces, only available in pairs

| T-slot nominal dimension<br>mm | 26 492... |  | Clamping stroke<br>mm | Height<br>mm | Width<br>mm | Length<br>mm | for clamping screws |
|--------------------------------|-----------|--|-----------------------|--------------|-------------|--------------|---------------------|
| 12                             | 120       |  | 3                     | 20           | 40          | 80           | M 10                |
| 14                             | 140       |  | 3                     | 20           | 40          | 80           | M 12                |
| 16                             | 160       |  | 3                     | 20           | 40          | 80           | M 12                |
| 16                             | 161       |  | 4                     | 25           | 50          | 100          | M 14                |
| 18                             | 180       |  | 4                     | 25           | 50          | 100          | M 16                |
| 20                             | 200       |  | 4                     | 25           | 50          | 100          | M 16                |
| 22                             | 220       |  | 5                     | 30           | 78          | 140          | M 20                |
| 28                             | 280       |  | 5                     | 30           | 78          | 140          | M 24                |



26 492...



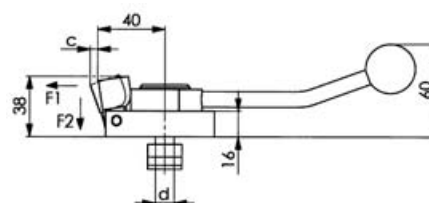
## 26 496 Lower clamp jaws with control lever



Case hardened and tempered with black finish. Quick clamping with the control lever, no reclamping due to low overall height. The adjustable jaws push the workpiece onto the stopper and the base at the same time.



26 496...



| T-slot size<br>mm | Thread Ø | 26 496... |  | F1<br>kN | F2<br>kN |
|-------------------|----------|-----------|--|----------|----------|
| 12                | M10      | 120       |  | 9        | 0.6      |
| 14                | M12      | 140       |  | 9        | 0.6      |



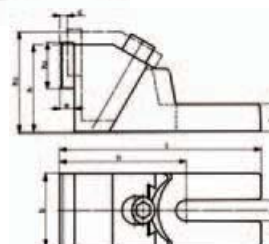
## 26 497 Stable clamping jaws

Body made of malleable cast iron, clamping jaws case hardened. These stable clamping jaws have large clamping surfaces and are best suited for laterally clamping high workpieces, the clamping jaws can be rotated, have a smooth side for machined workpieces and a grooved side for rough clamping surfaces.



26 497...

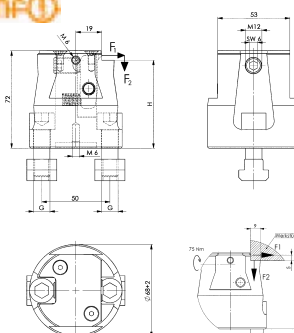
| Jaw width<br>mm | 26 497... |  | Slot width<br>mm | Clamping<br>stroke<br>mm | Base height<br>mm | Total height<br>mm | Overall<br>length<br>mm |
|-----------------|-----------|--|------------------|--------------------------|-------------------|--------------------|-------------------------|
| 65              | 001       |  | 19               | 8                        | 37                | 99                 | 177.5                   |
| 75              | 002       |  | 26               | 11                       | 45                | 118                | 226.5                   |
| 90              | 003       |  | 38               | 15                       | 55                | 145                | 262.5                   |



## 26 495 Side tensioning lever

M 12x14, complete with mounting M12. Body made of case hardened steel, nitrided. Clamping hook made of case hardened steel. Starting torque 75 Nm. Mounting with screws of the property class 10.9.

- Firm and secure fastening of the workpiece through pull-down effect
- Lateral clamping of plates for complete machining of surfaces without interfering contours
- Lateral threads allow for the fastening of a stopper
- Horizontal and vertical applications
- Reduces setup costs by saving setup time and parts required for setup



26 495...

| Size     | 26 495... |  | Slot a<br>mm | H<br>± 0.1<br>mm | G   | F1<br>kN | F2<br>kN |
|----------|-----------|--|--------------|------------------|-----|----------|----------|
| M12 x 14 | 012       |  | 14           | 65               | M12 | 12       | 5        |

## 26 498 Clamping chain sets

Clamping hook and holder hardened and tempered. Chain made of hardened and tempered steel. Consisting of:

- Clamping hook
- Holder
- 4 different length chain links
- 4 locking elements with cotters for connecting.
- 6 latching plastic elements (for protecting the workpiece)



Overall length M12 = 1302 mm

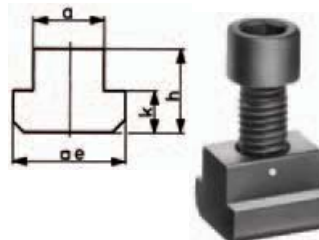
Overall length M16 = 1829 mm

26 498...

| Overall length<br>mm | Fastening screw<br>mm | 26 498... |  |
|----------------------|-----------------------|-----------|--|
| 1302                 | M12                   | 001       |  |
| 1829                 | M16                   | 002       |  |

## 26 499 Mounting for T-slots

for mounting the clamping chain set **Part-No. 26498** on the machine bench, consists of a nut for the T-slot similar to DIN 508 and screw DIN 912, property class 8.8.



26 499...

| T-slot size<br>mm | Internal thread<br>M | 26 499... |  |
|-------------------|----------------------|-----------|--|
| 14                | 12                   | 140       |  |
| 16                | 12                   | 160       |  |
| 18                | 12                   | 180       |  |
| 18                | 16                   | 190       |  |
| 20                | 16                   | 200       |  |
| 22                | 16                   | 220       |  |
| 24                | 16                   | 240       |  |
| 28                | 16                   | 280       |  |

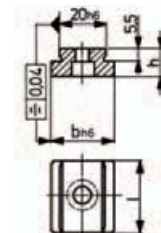
## 26 501 Permanently installed T-slides

made of special steel C 15, case hardened, fitting surface h6 smoothed, for screwing in as pairs in the standardised, 20 mm wide alignment slot for vices or fixtures, work can be carried out on machines with different slots by changing the T-slides



26 501...

| T-slot width of the machine<br>mm | T-slot width of the fixture<br>mm | 26 501... |  | Overall length<br>L<br>mm | Total height<br>h<br>mm | For screw<br>DIN 84 or<br>DIN 912 |
|-----------------------------------|-----------------------------------|-----------|--|---------------------------|-------------------------|-----------------------------------|
| 10                                | 20                                | 100       |  | 22                        | 10                      | M 6 x 10                          |
| 12                                | 20                                | 120       |  | 22                        | 10                      | M 6 x 10                          |
| 14                                | 20                                | 140       |  | 25                        | 10                      | M 6 x 16                          |
| 16                                | 20                                | 160       |  | 25                        | 10                      | M 6 x 16                          |
| 18                                | 20                                | 180       |  | 25                        | 10                      | M 6 x 16                          |
| 22                                | 20                                | 220       |  | 32                        | 12                      | M 6 x 16                          |
| 28                                | 20                                | 280       |  | 32                        | 12                      | M 6 x 16                          |



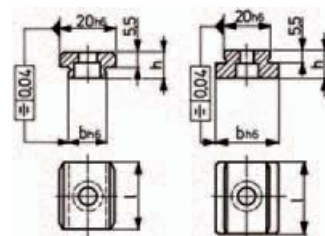
## 26 503 Flat T-slides

made of special steel C 15, case hardened, smoothed, is suited for use with fixtures that are always used on the same machine



26 503...

| T-slot width of the machine<br>mm | T-slot width of the fixture<br>mm | 26 503... |  | Overall length<br>l<br>mm | Total height<br>h<br>mm | for screw<br>DIN 84<br>or<br>DIN 912 |
|-----------------------------------|-----------------------------------|-----------|--|---------------------------|-------------------------|--------------------------------------|
| 10                                | 10                                | 100       |  | 20                        | 8                       | M 4 x 10                             |
| 12                                | 12                                | 120       |  | 20                        | 8                       | M 5 x 12                             |
| 14                                | 14                                | 140       |  | 22                        | 10                      | M 6 x 16                             |
| 16                                | 16                                | 160       |  | 22                        | 10                      | M 6 x 16                             |
| 18                                | 18                                | 180       |  | 22                        | 10                      | M 6 x 16                             |
| 20                                | 20                                | 200       |  | 22                        | 10                      | M 6 x 16                             |
| 22                                | 22                                | 220       |  | 32                        | 12                      | M 6 x 16                             |



for cases that are especially difficult, loose T-slide according to DIN 6323 available

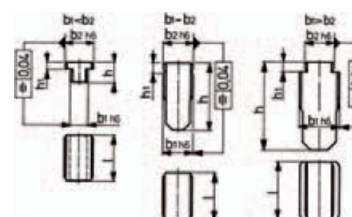
## 26 505 Loose T-slides

made of special steel C 15, case hardened, smoothed, these T-slides are inserted on the side after rough alignment, T-slides do not protrude on the bottom and the machine cannot be damaged during transport



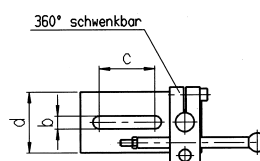
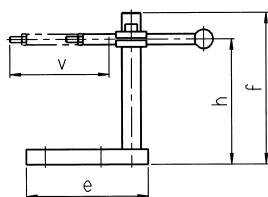
26 505...

| T-slot width of the machine<br>mm | T-slot width of the fixture<br>mm | 26 505... |  | Overall length<br>l<br>mm | Height<br>h<br>mm | Height<br>h1<br>mm |
|-----------------------------------|-----------------------------------|-----------|--|---------------------------|-------------------|--------------------|
| 12                                | 12                                | 120       |  | 20                        | 28.6              | 5.5                |
| 12                                | 20                                | 121       |  | 32                        | 14                | 5.5                |
| 14                                | 20                                | 140       |  | 32                        | 14                | 5.5                |
| 16                                | 20                                | 160       |  | 32                        | 14                | 5.5                |
| 18                                | 20                                | 180       |  | 32                        | 14                | 5.5                |
| 20                                | 20                                | 200       |  | 32                        | 45.5              | 7                  |
| 22                                | 20                                | 220       |  | 40                        | 50.5              | 7                  |
| 28                                | 20                                | 280       |  | 40                        | 61.5              | 7                  |



## 26 507 Adjustable stopper

made of hardened and tempered steel, with large height and longitudinal adjustment range, this adjustable stopper can be used to quickly position workpieces onto different tool machines, includes hexagonal screwdriver



| Size | Height adjustment<br>mm | 26 507... |  | Transverse adjustment<br>mm | Base size<br>L x B<br>mm | Slot width<br>mm |
|------|-------------------------|-----------|--|-----------------------------|--------------------------|------------------|
| 2    | 30 - 190                | 020       |  | 140                         | 60 x 120                 | 11               |



26 507...

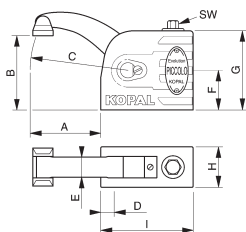
## 26 510 Quick clamp

for continuous clamping. For all types of machines. (CNC, milling machines, drills)

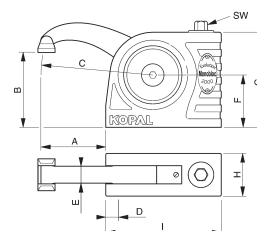
KOPAL



...010



...040



| Type                        | 26 510... |  | Clamping force N | Torque Nm | A mm | B mm      | C mm | D mm | E mm | F mm | G mm | H mm | I mm | A/F |
|-----------------------------|-----------|--|------------------|-----------|------|-----------|------|------|------|------|------|------|------|-----|
| Piccolo short clamping arm  | 010       |  | 6500             | 30        | 54   | -15 to 58 | 76   | 11   | 16   | 31   | 63   | 32   | 73   | 8   |
| Piccolo long clamping arm   | 020       |  | 4200             | 30        | 100  | -40 to 90 | 122  | 11   | 16   | 31   | 63   | 32   | 73   | 8   |
| Monobloc short clamping arm | 040       |  | 16000            | 80        | 33   | 0 to 80   | 77   | 13   | 16   | 49   | 89   | 40   | 108  | 11  |
| Monobloc long clamping arm  | 050       |  | 12000            | 80        | 61   | -8 to 102 | 105  | 13   | 16   | 49   | 89   | 40   | 108  | 11  |

## 26 511 Mounting accessories for 26 510...

KOPAL



...010



...015



...041



...042



...043



...044



...045



...108 - ...216

| Accessories                                         | 26 511... |  | suitable for     | Type                     |
|-----------------------------------------------------|-----------|--|------------------|--------------------------|
| Base 60 mm delivered with fastening screw M 8 x 30  | 010       |  | Piccolo          | -                        |
| Base 74 mm delivered with fastening screw M 10 x 35 | 015       |  | Monobloc         | -                        |
| Nickel plated control key                           | 020       |  | Piccolo          | height 38 mm             |
| Coated control key                                  | 022       |  | Monobloc         | height 58 mm (standard)  |
| exchangeable aluminium clamping shoes               |           |  |                  |                          |
| Clamping shoe N°1                                   | 041       |  | Piccolo/Monobloc | Standard                 |
| Clamping shoe N°2                                   | 042       |  | Piccolo/Monobloc | lengthwise               |
| Clamping shoe N°3                                   | 043       |  | Piccolo/Monobloc | crosswise                |
| Clamping shoe N°4                                   | 044       |  | Piccolo/Monobloc | V in traverse position   |
| Clamping shoe N°5                                   | 045       |  | Piccolo/Monobloc | V in lengthwise position |
| Set of 4 multifunction-clamping shoes               | 050       |  | Piccolo/Monobloc | N° 2-3-4-5               |
| Screw M 8 x 30                                      | 108       |  | Piccolo          | -                        |
| Screw M 10 x 35                                     | 110       |  | Piccolo          | -                        |
| Screw M 12 x 35                                     | 112       |  | Piccolo          | -                        |
| Screw M 10 x 35                                     | 203       |  | Monobloc         | for T-slot 12 and 14 mm  |
| Screw M 10 x 40                                     | 204       |  | Monobloc         | for T-slot 16 and 18 mm  |
| Screw M 10 x 45                                     | 205       |  | Monobloc         | for T-slot 20 and 22 mm  |
| Screw M 12 x 40                                     | 212       |  | Monobloc         | -                        |
| Screw M 14 x 45                                     | 214       |  | Monobloc         | -                        |
| Screw M 16 x 45                                     | 216       |  | Monobloc         | -                        |

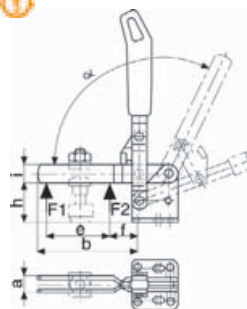
The matching T-slot slides can be found on page 500 Part-No 26 456...



## 26 520 Perpendicular tensioning lever

with open supporting arm and horizontal base, zinc plated and passivated, equipped with ergonomic handle made of red, oil resistant plastic, case hardened and greased bearing bushings, due to space restrictions not for sizes 0 and 1, rivet made of stainless steel, complete with hardened, tempered zinc plated jack screw, sizes 0 - 4 also available in stainless steel

AMFO



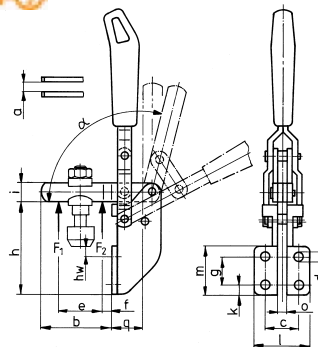
26 520...

| Size | 26 520... |  | Clamping force F1<br>kN | Clamping force F2<br>kN | Total height<br>mm | Clamping height<br>mm | Jack screw |
|------|-----------|--|-------------------------|-------------------------|--------------------|-----------------------|------------|
| 0    | 001       |  | 0.5                     | 0.7                     | 90                 | 17.5                  | M 4 x 25   |
| 1    | 002       |  | 0.8                     | 1.1                     | 105                | 20                    | M 5 x 30   |
| 2    | 003       |  | 1                       | 1.2                     | 144                | 25                    | M 6 x 35   |
| 3    | 004       |  | 1.4                     | 2.5                     | 206                | 34                    | M 8 x 45   |
| 4    | 005       |  | 2                       | 3                       | 230                | 42                    | M 8 x 65   |
| 5    | 006       |  | 3                       | 5                       | 300                | 55                    | M 12 x 80  |
| 6    | 007       |  | 3.5                     | 5.5                     | 347                | 81                    | M 12 x 110 |

## 26 524 Perpendicular tensioning lever

with open supporting arm and elbow base, zinc plated and passivated, equipped with ergonomic handle made of red, oil resistant plastic, case hardened and greased bearing bushings, due to space restrictions not for size 1, rivet made of stainless steel, complete with hardened, tempered zinc plated jack screw, also in size 2 available in stainless steel

AMFO



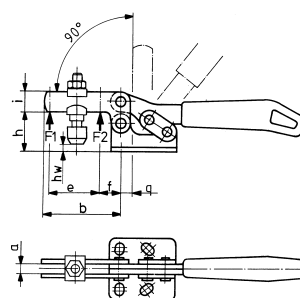
26 524...

| Size | 26 524... |  | Clamping force F1<br>kN | Clamping force F2<br>kN | Total height<br>mm | Clamping height<br>mm | Jack screw |
|------|-----------|--|-------------------------|-------------------------|--------------------|-----------------------|------------|
| 1    | 002       |  | 0.8                     | 1.1                     | 132                | 47                    | M 5 x 30   |
| 2    | 003       |  | 1                       | 1.2                     | 180                | 61                    | M 6 x 35   |
| 3    | 004       |  | 1.4                     | 2.5                     | 243                | 71                    | M 8 x 45   |

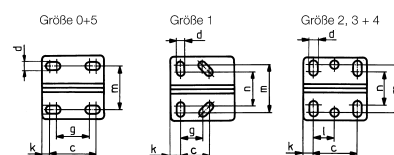
## 26 530 Horizontal tensioning lever

with open supporting arm and horizontal base, zinc plated and passivated, equipped with ergonomic handle made of red, oil resistant plastic, case hardened and greased bearing bushings, due to space restrictions not for sizes 0 and 1, rivet made of stainless steel, complete with hardened, tempered zinc plated jack screw, sizes 0 - 4 also available in stainless steel

AMFO



26 530...

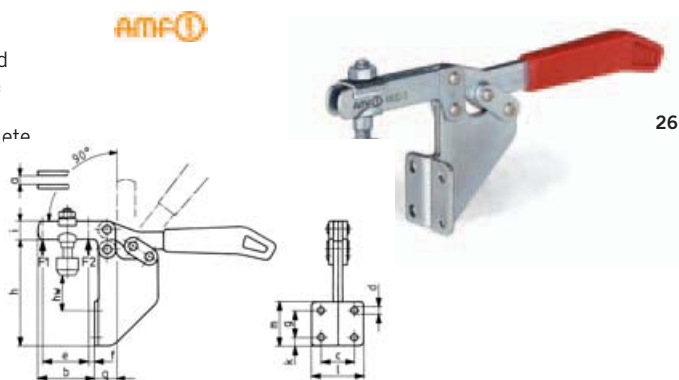


| Size | 26 530... |  | Clamping force F1<br>kN | Clamping force F2<br>kN | Total height<br>mm | Clamping height<br>mm | Jack screw |
|------|-----------|--|-------------------------|-------------------------|--------------------|-----------------------|------------|
| 0    | 001       |  | 0.25                    | 0.4                     | 23                 | 15                    | M 4 x 25   |
| 1    | 002       |  | 0.8                     | 1.1                     | 30                 | 20                    | M 5 x 30   |
| 2    | 003       |  | 1                       | 1.2                     | 44                 | 25                    | M 6 x 35   |
| 3    | 004       |  | 1.8                     | 2.5                     | 48                 | 33                    | M 8 x 45   |
| 4    | 005       |  | 2                       | 3                       | 74                 | 44                    | M 8 x 65   |
| 5    | 006       |  | 3                       | 5                       | 71                 | 46                    | M 8 x 65   |



## 26 532 Horizontal tensioning lever

with open supporting arm and elbow base. Zinc plated and passivated. Rivet made of stainless steel that runs in case hardened bearing bushings. Bearing positions greased. Ergonomic handle made of red oil resistant plastic. Complete with hardened, tempered zinc plated jack screws

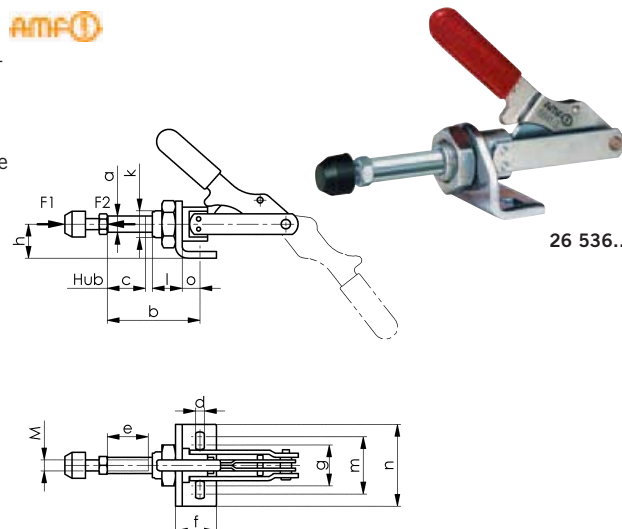


26 532...

| Size | 26 532... |  | Clamping force F1<br>kN | Clamping force F2<br>kN | Total height<br>mm | Clamping height<br>mm | Jack screw |
|------|-----------|--|-------------------------|-------------------------|--------------------|-----------------------|------------|
| 2    | 003       |  | 1.0                     | 1.2                     | 88.5               | 42                    | M 6 x 35   |
| 3    | 004       |  | 1.8                     | 2.5                     | 86.0               | 33                    | M 8 x 45   |

## 26 536 Connecting rod tensioning lever

with small elbow base, connecting rod and handle synchronous, pressure and tensioning device with long connecting rod track, fastening thread and nut, zinc plated and passivated, connecting rod and lever component made of hardened and tempered steel, greased bearing positions, rivet made of stainless steel, red oil resistant plastic handle as shown in the picture, handle can be adjusted to any angle on the base surface, complete with hardened and tempered zinc plated jack screw, sizes 0 and 3 also available in stainless steel, with front side threads for installing directly in sheet metal walls or fixtures

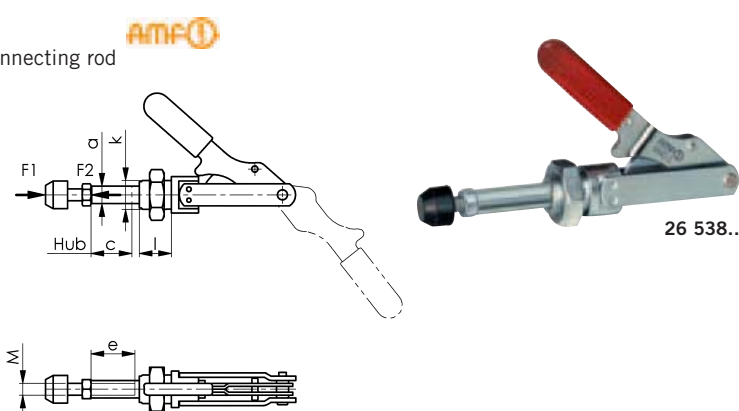


26 536...

| Size | 26 536... |  | Clamping force F1<br>kN | Clamping force F2<br>kN | Total height<br>mm | Clamping stroke<br>mm | Jack screw |
|------|-----------|--|-------------------------|-------------------------|--------------------|-----------------------|------------|
| 0    | 001       |  | 0.8                     | 0.8                     | 47                 | 16                    | M 4 x 20   |
| 1    | 002       |  | 1                       | 1                       | 60                 | 20                    | M 4 x 20   |
| 2    | 003       |  | 2.0                     | 2.0                     | 95                 | 25                    | M 6 x 25   |
| 3    | 004       |  | 2.5                     | 2.5                     | 96                 | 32                    | M 8 x 35   |
| 5    | 006       |  | 4.5                     | 4.5                     | 131                | 40                    | M 12 x 50  |

## 26 538 Connecting rod tensioning lever

without elbow base, (pressure and tensioning device), connecting rod and hand lever synchronous



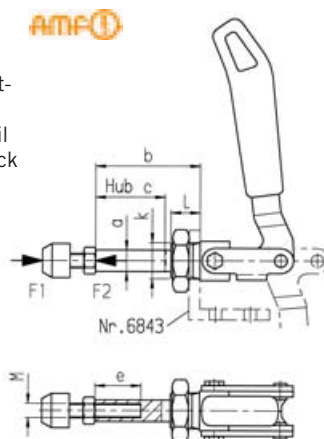
26 538...

| Size | 26 538... |  | Clamping force F1<br>kN | Clamping force F2<br>kN | Total height<br>mm | Jack screw |
|------|-----------|--|-------------------------|-------------------------|--------------------|------------|
| 0    | 001       |  | 0.8                     | 0.8                     | 35                 | M 4 x 20   |
| 1    | 002       |  | 1                       | 1                       | 45                 | M 4 x 20   |
| 2    | 003       |  | 2.0                     | 2.0                     | 75                 | M 6 x 25   |
| 3    | 004       |  | 2.5                     | 2.5                     | 71                 | M 8 x 35   |
| 5    | 006       |  | 4.5                     | 4.5                     | 96                 | M 12 x 50  |

## 26 539 Connecting rod tensioning lever

Short design. pressure and tensioning device. Long connecting rod track with fastening screw thread and nut. Zinc plated and passivated. Rivet made of stainless steel. Fitting screw hardened and tempered. Bearing positions greased. Ergonomic handle made of red oil resistant plastic. Complete with hardened, tempered zinc plated jack screws.

This tensioning lever is also available in stainless steel.

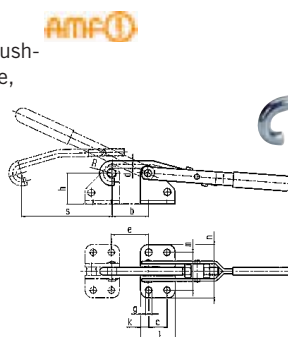


26 539...

| Size | 26 539... |  | Clamping force F1<br>kN | Clamping force F2<br>kN | Total height<br>mm | Stroke<br>mm | Jack screw |
|------|-----------|--|-------------------------|-------------------------|--------------------|--------------|------------|
| 2    | 002       |  | 1.0                     | 1.0                     | 85                 | 21           | M 6 x 25   |
| 3    | 003       |  | 2.5                     | 2.5                     | 135                | 38           | M 8 x 35   |
| 5    | 005       |  | 4.0                     | 4.0                     | 155                | 67           | M 12 x 50  |

## 26 540 Latch tensioning lever

zinc plated and passivated, case hardened and greased bearing bushings, rivets made of stainless steel, red oil resistant plastic handle, this tensioning lever is also available in stainless steel

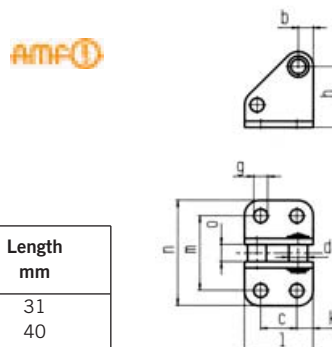


26 540...

| Size | 26 540... |  | Clamping force<br>kN | Adjustment range mm | Total height<br>mm | Max Overall length<br>mm |
|------|-----------|--|----------------------|---------------------|--------------------|--------------------------|
| 1    | 002       |  | 2                    | 5                   | 33                 | 148                      |
| 3    | 004       |  | 3                    | 12                  | 36                 | 242                      |
| 5    | 006       |  | 5                    | 12                  | 70                 | 320                      |

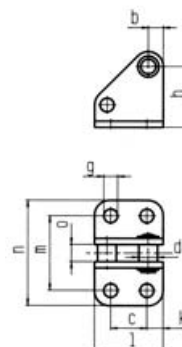
## 26 542 Holder

Zinc plated and passivated. Case hardened bushings. Rivet made of stainless steel. Is also available in stainless steel.



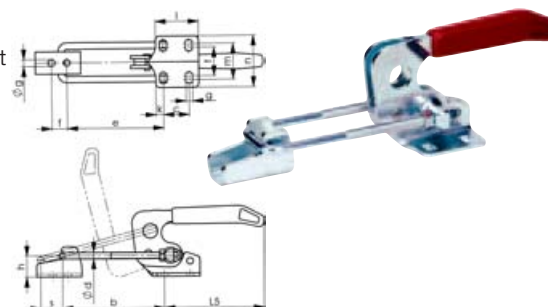
26 542...

| Size | 26 542... |  | Height<br>mm | Length<br>mm |
|------|-----------|--|--------------|--------------|
| 1    | 001       |  | 29           | 31           |
| 3    | 003       |  | 29           | 40           |
| 5    | 005       |  | 61           | 55           |



## 26 543 Latch tensioning lever - horizontal

Zinc plated and passivated. Rivet made of stainless steel that runs in case hardened bearing bushings. Hook hardened and tempered. Bearing positions greased. Ergonomic handle made of red oil resistant plastic. Complete with holder. This tensioning lever is also available in stainless steel.

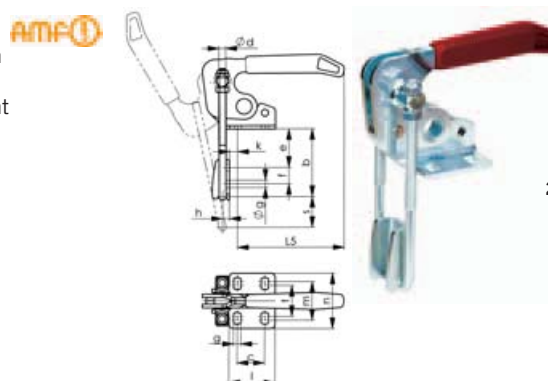


26 543...

| Size | 26 543... |  | Clamping force<br>kN | Length without latch<br>fastener mm | Height<br>mm | Adjustment<br>range mm |
|------|-----------|--|----------------------|-------------------------------------|--------------|------------------------|
| 2    | 002       |  | 1.6                  | 100                                 | 45           | 32                     |
| 3    | 003       |  | 3.2                  | 135                                 | 68           | 42                     |
| 4    | 004       |  | 7.0                  | 165                                 | 90           | 55                     |

## 26 544 Latch tensioning lever - vertical

Zinc plated and passivated. Rivet made of stainless steel that runs in case hardened bearing bushings. Hook hardened and tempered. Bearing positions greased. Ergonomic handle made of red oil resistant plastic. Complete with holder. This tensioning lever is also available in stainless steel.



26 544...

| Size | 26 544... |  | Clamping force<br>kN | Length without latch<br>fastener mm | Height<br>mm | Adjustment<br>range mm |
|------|-----------|--|----------------------|-------------------------------------|--------------|------------------------|
| 2    | 002       |  | 1.6                  | 100                                 | 45           | 26                     |
| 3    | 003       |  | 3.2                  | 135                                 | 68           | 28                     |
| 4    | 004       |  | 7.0                  | 165                                 | 90           | 36                     |

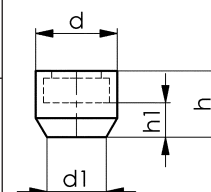
## 26 546 Protective caps

made of oil resistant rubber for the protection workpieces that are susceptible to damage, hardness 70 Shore, minimum order amount in each size = 10 units. Price per unit



26 546...

| Size<br>kN | 26 546... |  | Ø<br>mm | Height<br>mm | for jack screw | Socket size |
|------------|-----------|--|---------|--------------|----------------|-------------|
| 0          | 001       |  | 11      | 8.5          | M 4            | 7           |
| 1          | 002       |  | 12.5    | 10           | M 5            | 8           |
| 2          | 003       |  | 15      | 12           | M 6            | 10          |
| 3 + 4      | 004       |  | 19      | 15           | M 8            | 13          |
| 6          | 007       |  | 25      | 20           | M 12           | 18          |
| 6          | 008       |  | 26      | 20           | M 12           | 19          |
| 8          | 009       |  | 33      | 27           | M 16           | 24          |



## 26 548 Pneumatic tensioning lever

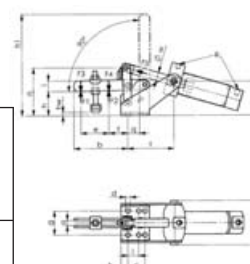
with horizontal cylinder mounting. Equipped with FESTO-pneumatic-cylinder, double action, anodised and mounted ready for connection.

**Magnetic piston for end position query.** With throttling ports for choked speed. Tensioning lever zinc plated and passivated, rivet made of stainless steel which run in case hardened bearing bushings. Due to space restrictions size 1 bearing positions are not greased. Complete with hardened, tempered zinc plated jack screw.



26 548...

| Size | 26 548... |  | Clamping force<br>kN | Clamping force<br>kN | Cylinder<br>Stroke | Height x length<br>mm |
|------|-----------|--|----------------------|----------------------|--------------------|-----------------------|
| 1    | 001       |  | 0.8 / 1.1            | 0.20 / 0.3           | 34                 | 52 x 175              |
| 2    | 002       |  | 1.0 / 1.2            | 0.70 / 1.0           | 42                 | 66 x 200              |
| 3    | 003       |  | 1.4 / 2.5            | 0.65 / 1.1           | 52                 | 85 x 260              |
| 4    | 004       |  | 2.0 / 3.0            | 1.50 / 2.2           | 62                 | 100 x 315             |



**27 210 Permanent magnetic chucks, rectangular**

Magnet system made of neodymium iron boron magnets NdFeB (rare-earths)

Clamping force: max. 70 N/cm<sup>2</sup> on ground workpiece clamping face.

Application: The chucks are especially designed for clamping very thin and small workpieces. The clamping systems can also be used on spark erosion systems.

Connection points: 1



27 210...

| Length<br>mm | 27 210... |  | Width<br>mm | Height<br>mm | Pole pitch |          | Weight<br>kg |
|--------------|-----------|--|-------------|--------------|------------|----------|--------------|
|              |           |  |             |              | St<br>mm   | NE<br>mm |              |
| 150          | 015       |  | 100         | 40           | 1.5        | 0.8      | 6            |
| 255          | 025       |  | 130         | 40           | 1.5        | 0.8      | 13           |
| 300          | 030       |  | 150         | 40           | 1.5        | 0.8      | 17           |
| 350          | 035       |  | 150         | 40           | 1.5        | 0.8      | 20           |
| 450          | 045       |  | 150         | 40           | 1.5        | 0.8      | 26           |

**27 212 Permanent magnetic chucks, rectangular**

For difficult machining and cutting of medium and large volume workpieces. Transverse pole pitch  $p = 18 \text{ mm}$  ( 10 mm St / 8 mm non-ferrous, dual strengthened ceramic magnet system, hard soldered pole plate, stable housing with integrated switching key. Clamping force max. 100 N/cm<sup>2</sup>. Magnetic field height approx. 10 mm. Wear capacity of pole plate approx. 6 mm. Height of the magnetic plate 80 mm.

| Pole face length<br>mm | Pole face width<br>mm | 27 212... |  | Weight<br>kg |
|------------------------|-----------------------|-----------|--|--------------|
| 260                    | 140                   | 260       |  | 21           |
| 300                    | 150                   | 300       |  | 27           |
| 320                    | 200                   | 320       |  | 39           |
| 360                    | 200                   | 360       |  | 46           |
| 400                    | 200                   | 400       |  | 49           |
| 500                    | 200                   | 500       |  | 67           |
| 500                    | 300                   | 530       |  | 98           |
| 600                    | 200                   | 600       |  | 72           |

Further dimensions available on request



27 212...

**27 217 Permanent magnetic chucks, circular**

Use for turning and grinding, for clamping medium and large volume workpieces. Parallel pole pitch  $p=13\text{mm}$ , strengthened permanent ceramic magnet system, concentric grooves in the pole plate make it easier to centre the workpiece.

| Ø<br>mm | 27 217... |  | B height<br>mm | C<br>mm | D dia-<br>meter<br>mm | F<br>mm | G dia-<br>meter<br>mm | H<br>mm | Weight<br>kg |
|---------|-----------|--|----------------|---------|-----------------------|---------|-----------------------|---------|--------------|
| 200     | 200       |  | 80             | 150     | 20                    | 4.5     | 182                   | 6       | 13           |
| 250     | 250       |  | 80             | 200     | 20                    | 4.5     | 232                   | 20      | 20           |
| 300     | 300       |  | 85             | 250     | 20                    | 4.5     | 285                   | 20      | 29           |
| 350     | 350       |  | 85             | 300     | 30                    | 4.5     | 334                   | 20      | 40           |

Further dimensions available on request



27 217...

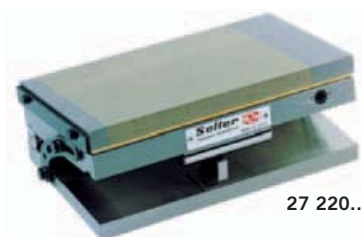
**27 220 Precision sine tables with permanent magnetic chucks**

Clamping force: max. 70 N/cm<sup>2</sup> on ground workpiece clamping face.

Application: Precision sine tables are particularly suitable for extremely precise grinding of very thin and small workpieces with non-parallel faces. The angles can be adjusted by means of gauge blocks. The table must be locked onto the main shaft to avoid fluctuations during the grinding process. The clamping systems can also be used on spark erosion systems. A sine table is included in the scope of supply.

Connection points: 1

| Length<br>mm | 27 220... |  | Width<br>mm | Height<br>mm | Pole pitch |          | Weight<br>kg |
|--------------|-----------|--|-------------|--------------|------------|----------|--------------|
|              |           |  |             |              | St<br>mm   | NE<br>mm |              |
| 175          | 150       |  | 100         | 77           | 1.5        | 0.8      | 9            |
| 255          | 255       |  | 130         | 77           | 1.5        | 0.8      | 18           |
| 350          | 350       |  | 150         | 77           | 1.5        | 0.8      | 30           |



27 220...

## 27 226 Plate demagnetisers

Easy demagnetising of workpieces with residual magnetism. Divided pole plate, laminated, made of sheet silicon with low power loss, indicator lamp for availability. The demagnetisation occurs by moving the workpiece once or several times in the same direction over the pole plate.

Voltage 230 V/50Hz.



27 226...

| A Length<br>mm | 27 226... |  | B Width<br>mm | C Height<br>mm | Pole face<br>mm | Output<br>VA | Weight<br>kg |
|----------------|-----------|--|---------------|----------------|-----------------|--------------|--------------|
| 200            | 020       |  | 170           | 70             | 200 x 170       | 150          | 3.0          |
| 350            | 035       |  | 200           | 125            | 300 x 200       | 440          | 22.0         |

Further dimensions available on request. Tunnel demagnetisers available also.

## 27 306 Permanent magnetic V-blocks

For grinding and marking work on irregularly shaped, round and angular workpieces. Four magnetic contact faces (top and underside as well as two end faces). When switched on the V face and opposite face are magnetised. The magnetic V-blocks are completely sealed.

Precision: Plan parallelism less than 0.01 mm.



27 306 001

| Length<br>mm | 27 306... |  | Width<br>mm | Height<br>mm | Weight<br>kg |
|--------------|-----------|--|-------------|--------------|--------------|
| 80           | 001       |  | 60          | 73           | 1.0          |

## 27 314 Adjustable magnetic positioner

max. working temperature: 450 °C

Description: two magnetic blocks connected by an articulated joint. Can be clamped at any angle required. One magnetic face each.

Use: as welding and assembly aid for holding sheet metals and flat bars



27 314 001

| Magnetic block<br>Length<br>mm | 27 314... |  | Magnetic block<br>Width<br>mm | Magnetic block<br>Height<br>mm | Total<br>length<br>mm | Clamping<br>force<br>N | Weight<br>kg |
|--------------------------------|-----------|--|-------------------------------|--------------------------------|-----------------------|------------------------|--------------|
| 60                             | 001       |  | 25                            | 25                             | 125                   | 150                    | 0.53         |

## 27 318 Permanent magnetic V-block joint

Description: Two magnetic blocks with rotary switch connected by an articulated joint, each with 2 magnetic faces: V-shape and flat

Use: The magnetic blocks are suitable for positioning sheet metals, round and flat material for every required angle



27 318 001

| Magnetic block<br>Length<br>mm | 27 318... |  | Magnetic block<br>Width<br>mm | Magnetic block<br>Height<br>mm | Total<br>length<br>mm | Clamping force each<br>magnetic block<br>N |
|--------------------------------|-----------|--|-------------------------------|--------------------------------|-----------------------|--------------------------------------------|
| 65                             | 001       |  | 50                            | 55                             | 180                   | 800                                        |

## 27 326 Permanent multiple angle magnet

fixed 30°, 45°, 60°, 75° and 90° angles

as welding and assembly aid, suitable for flat and round workpieces

| Length<br>mm | 27 326... |  | Width<br>mm | Height<br>mm | Weight<br>kg |
|--------------|-----------|--|-------------|--------------|--------------|
| 96           | 001       |  | 12          | 64           | 0.3          |



27 326 001



**27 334 Permanent magnetic variable clamp**

For securely holding sheet metals, sectional and flat bar, etc. and as an aid during assembly work. Very stable design, both end faces magnetic. Fixed or adjustable angle.

| Angle              | 27 334... |  | Clamping face length mm | Clamping face width mm | Weight kg |
|--------------------|-----------|--|-------------------------|------------------------|-----------|
| 90° fixed          | 001       |  | 120                     | 30                     | 1.0       |
| 45°-90° adjustable | 002       |  | 138                     | 30                     | 1.0       |



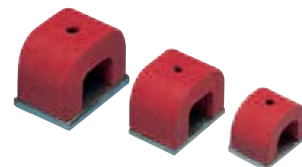
27 334...

**27 452 Strong horseshoe magnets, AlNiCo 500**

max. working temperature: 450 °C

Bridge-shaped magnet with high clamping force and drillhole for fixing with one through hole for positioning, holding, aligning, etc.

| Height mm | 27 452... |  | Pole spacing mm | Cross-section mm | Clamping force N | Weight kg |
|-----------|-----------|--|-----------------|------------------|------------------|-----------|
| 20        | 020       |  | 15              | 7.5 x 20.0       | 45               | 0.08      |
| 25        | 025       |  | 20              | 10.0 x 25.0      | 90               | 0.15      |
| 30        | 030       |  | 23              | 11.0 x 30.0      | 118              | 0.23      |



27 452...

**27 454 Pot magnets, AlNiCo 500**

max. working temperature: 450 °C

shielded with threaded blind hole

for installation in jigs, holding, clamping, assembling, etc.

| Ø mm | 27 454... |  | Height mm | Threaded hole | Clamping force N | Weight g |
|------|-----------|--|-----------|---------------|------------------|----------|
| 17.5 | 017       |  | 16        | M6            | 26               | 26       |
| 20.6 | 021       |  | 19        | M6            | 40               | 47       |
| 27.0 | 027       |  | 25        | M6            | 61               | 102      |
| 35.0 | 035       |  | 30        | M6            | 147              | 218      |
| 65.0 | 065       |  | 43        | M12           | 400              | 870      |



27 454...

**27 458 Shallow pot magnets, AlNiCo 500**

max. working temperature: 450 °C

shielded with through hole and countersink on the clamping face for installation in jigs, for holding, etc.

| Ø mm | 27 458... |  | Height mm | Bore mm | Clamping force N | Weight g |
|------|-----------|--|-----------|---------|------------------|----------|
| 19.1 | 019       |  | 7.5       | 3.7     | 30               | 15       |
| 28.6 | 029       |  | 8.5       | 4.8     | 50               | 40       |
| 38.1 | 038       |  | 10.4      | 4.8     | 130              | 92       |



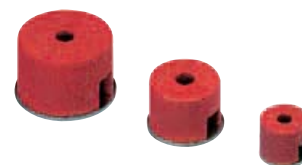
27 458...

**27 460 Button magnets, AlNiCo 500**

max. working temperature: 450 °C

Divided clamping face, with fixing hole for positioning, holding, for laboratory purposes, etc.

| Ø mm | 27 460... |  | Height mm | Bore mm | Clamping force N | Weight g |
|------|-----------|--|-----------|---------|------------------|----------|
| 12.7 | 013       |  | 9.5       | 4.4     | 7                | 7        |
| 19.1 | 019       |  | 12.7      | 4.8     | 19               | 22       |
| 25.4 | 025       |  | 15.9      | 4.8     | 34               | 56       |
| 31.8 | 032       |  | 25.4      | 7.1     | 48               | 126      |



27 460...



**27 462 Magnetic flat gripper with threaded bush**

max. working temperature: 200° C  
Zinc-plated surface, shielded



27 462...

| Ø<br>mm | 27 462... |  | Magnet height<br>mm | Total height<br>mm | Thread<br>mm | Thread length<br>mm | Clamping<br>force N | Weight<br>g |
|---------|-----------|--|---------------------|--------------------|--------------|---------------------|---------------------|-------------|
| 16      | 016       |  | 4.5                 | 11.5               | 3            | 5                   | 18                  | 6           |
| 20      | 020       |  | 6.0                 | 13.0               | 3            | 5                   | 30                  | 11          |
| 25      | 025       |  | 7.0                 | 15.0               | 4            | 6                   | 40                  | 22          |
| 32      | 032       |  | 7.0                 | 15.0               | 4            | 6                   | 80                  | 32          |
| 40      | 040       |  | 8.0                 | 18.0               | 5            | 8                   | 125                 | 60          |
| 50      | 050       |  | 10.0                | 22.0               | 6            | 10                  | 220                 | 110         |
| 63      | 063       |  | 14.0                | 33.0               | 8            | 14                  | 350                 | 240         |

**27 464 Magnetic flat gripper without threaded bush**

max. working temperature: 200° C  
Zinc-plated surface, shielded



27 464...

| Ø<br>mm | 27 464... |  | Height<br>mm | Clamping<br>force N | Weight<br>g |
|---------|-----------|--|--------------|---------------------|-------------|
| 16      | 016       |  | 4.5          | 18                  | 4.5         |
| 20      | 020       |  | 6.0          | 30                  | 10.0        |
| 25      | 025       |  | 7.0          | 40                  | 19.0        |
| 32      | 032       |  | 7.0          | 80                  | 30.0        |
| 40      | 040       |  | 8.0          | 125                 | 55.0        |
| 50      | 050       |  | 10.0         | 220                 | 100.0       |
| 63      | 063       |  | 14.0         | 350                 | 230.0       |

**27 465 Bar gripper made of neodymium**

smooth type with fit tolerance h6. Working temperature up to 80°

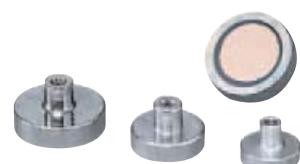


27 465...

| Magnet Ø<br>mm | 27 465... |  | Length L<br>mm | Length A<br>mm | Clamping<br>force<br>N | Weight<br>g |
|----------------|-----------|--|----------------|----------------|------------------------|-------------|
| 6              | 006       |  | 20             | 10             | 10                     | 4.5         |
| 8              | 008       |  | 20             | 10             | 25                     | 8.0         |
| 10             | 010       |  | 20             | 8              | 45                     | 12.5        |
| 13             | 013       |  | 20             | 6              | 70                     | 20.0        |
| 16             | 016       |  | 20             | 2              | 150                    | 32.0        |
| 20             | 020       |  | 25             | 5              | 280                    | 60.0        |
| 25             | 025       |  | 35             | 7              | 450                    | 135         |
| 32             | 032       |  | 40             | 4.5            | 700                    | 250         |

**27 466 Flat gripper magnets made of samarium cobalt (SmCo)**

with threaded bush, working temperature up to 200°. Extremely high clamping force relative to their size.



27 466...

| Ø<br>mm | 27 466... |  | Height<br>mm | Clamping force<br>N | Weight<br>g |
|---------|-----------|--|--------------|---------------------|-------------|
| 8       | 008       |  | 4.5          | 11                  | 2.0         |
| 10      | 010       |  | 4.5          | 20                  | 3.0         |
| 13      | 013       |  | 4.5          | 40                  | 5.0         |
| 16      | 016       |  | 4.5          | 60                  | 7.5         |
| 20      | 020       |  | 6.0          | 90                  | 16          |
| 25      | 025       |  | 7.0          | 150                 | 25          |
| 32      | 032       |  | 7.0          | 220                 | 48          |

Further dimensions available on request

**27 468 Flat gripper magnets made of neodymium**

available with and without threaded bush, working temperature of neodymium up to 80°, extremely high clamping force relative to their size.

Type a = without threaded bush, b = with threaded bush

| Ø<br>mm | Height<br>mm | 27 468...<br>a |  | 27 468...<br>b |  | Clamping<br>force Neodym | Weight<br>g |
|---------|--------------|----------------|--|----------------|--|--------------------------|-------------|
| 6       | 4.5          | 006            |  | 106            |  | 5                        | 1.5         |
| 8       | 4.5          | 008            |  | 108            |  | 13                       | 2.0         |
| 10      | 4.5          | 010            |  | 110            |  | 25                       | 3.0         |
| 13      | 4.5          | 013            |  | 113            |  | 60                       | 5.0         |
| 16      | 4.5          | 016            |  | 116            |  | 95                       | 7.5         |
| 20      | 6.0          | 020            |  | 120            |  | 140                      | 16          |
| 25      | 7.0          | 025            |  | 125            |  | 200                      | 25          |
| 32      | 7.0          | 032            |  | 132            |  | 350                      | 48          |

Further dimensions available on request



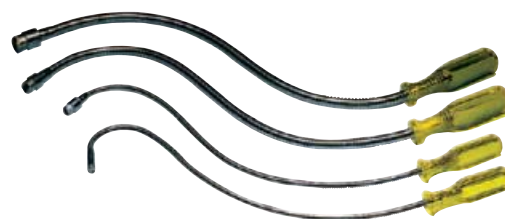
27 468...

**27 490 EXTRA STRONG magnetic pick-up**

with NEODYMIUM magnet

for retrieving metal parts from inaccessible places. Flexible, chrome-plated, brass hose with strong magnetic insert

| Ø of the magnet<br>mm | 27 490... |  | Overall length<br>mm | Tensile force<br>g |
|-----------------------|-----------|--|----------------------|--------------------|
| 8                     | 006       |  | 450                  | 500                |
| 12                    | 010       |  | 450                  | 1000               |
| 15                    | 013       |  | 520                  | 1800               |
| 19                    | 017       |  | 520                  | 3000               |



27 490...

**27 492 Blind hole magnets**

for cleaning blind holes and threaded holes.

Head made of chrome-plated metal sleeve, strong permanent magnet.

| Magnet Ø<br>mm | 27 492... |  | Length of mag-<br>net<br>mm | Overall length<br>mm | Weight<br>g |
|----------------|-----------|--|-----------------------------|----------------------|-------------|
| 1.6            | 016       |  | 35                          | 65                   | 15          |
| 3.0            | 030       |  | 38                          | 90                   | 35          |
| 5.0            | 050       |  | 35                          | 130                  | 17          |
| 8.0            | 080       |  | 40                          | 150                  | 29          |
| 11.0           | 110       |  | 42                          | 180                  | 47          |



27 492...

**27 496 Blind hole magnet set**

in wooden case, type as Prod. No. 27 492...



27 496 010

| Contains 1 magnet each Ø<br>mm | 27 496... |  |
|--------------------------------|-----------|--|
| 1.6 / 3 / 5 / 8 / 11           | 010       |  |

## 28 003 Hydraulic cylinders

ENERPAC

single-acting with spring return, operating pressure max. 700 bar, golden ring cylinder with hard chromed piston rod.

Piston rod bearing also withstands otherwise harmful lateral loads, a stop ring prevents the piston rod from being pushed out, protected against dirt and moisture, cylinders operate in any position, with high-flow coupling-half (sleeve) with dust cap and hardened rocker



28 003...

| Type     | 28 003... |  | Cylinder type<br>t | Compressive force<br>kN | Stroke<br>mm | Overall height retracted<br>mm | External Ø<br>mm | Oil volume<br>cm³ |
|----------|-----------|--|--------------------|-------------------------|--------------|--------------------------------|------------------|-------------------|
| RC- 50   | 010       |  | 5                  | 45                      | 16           | 41                             | 58               | 10                |
| RC- 51   | 011       |  | 5                  | 45                      | 25           | 110                            | 38               | 16                |
| RC- 53   | 012       |  | 5                  | 45                      | 76           | 165                            | 38               | 50                |
| RC- 55   | 013       |  | 5                  | 45                      | 127          | 215                            | 38               | 83                |
| RC- 101  | 020       |  | 10                 | 101                     | 26           | 89                             | 57               | 38                |
| RC- 102  | 021       |  | 10                 | 101                     | 54           | 121                            | 57               | 78                |
| RC- 104  | 023       |  | 10                 | 101                     | 105          | 171                            | 57               | 152               |
| RC- 106  | 024       |  | 10                 | 101                     | 156          | 247                            | 57               | 226               |
| RC- 108  | 025       |  | 10                 | 101                     | 203          | 298                            | 57               | 294               |
| RC- 152  | 030       |  | 15                 | 142                     | 51           | 149                            | 69               | 104               |
| RC- 154  | 031       |  | 15                 | 142                     | 101          | 200                            | 69               | 205               |
| RC- 156  | 032       |  | 15                 | 142                     | 152          | 271                            | 69               | 308               |
| RC- 252  | 040       |  | 23                 | 232                     | 50           | 165                            | 85               | 166               |
| RC- 254  | 041       |  | 23                 | 232                     | 102          | 215                            | 85               | 339               |
| RC- 256  | 042       |  | 23                 | 232                     | 158          | 273                            | 85               | 525               |
| RC- 2510 | 043       |  | 23                 | 232                     | 261          | 374                            | 85               | 867               |
| RC- 502  | 050       |  | 50                 | 498                     | 51           | 176                            | 127              | 362               |
| RC- 504  | 051       |  | 50                 | 498                     | 101          | 227                            | 127              | 719               |
| RC- 506  | 052       |  | 50                 | 498                     | 159          | 282                            | 127              | 1131              |
| RC- 5013 | 053       |  | 50                 | 498                     | 337          | 460                            | 127              | 2399              |

Further sizes up to 90 t available on request

## 28 006 Hydraulic cylinders

ENERPAC

double-acting, operating pressure max. 700 bar, full piston extension for diverse applications for lifting, pulling and pressure work, the large models have carry handles or lifting lugs for transport and aligning, cylinder with high-flow coupling-half (sleeve) with dust cap and hardened rocker



28 006...

| Type       | 28 006... |  | Cylinder type<br>t | Compressive force<br>kN | Tensile force<br>kN | Stroke<br>mm | Overall height, retracted<br>mm | External Ø<br>mm | Oil volume, tension<br>cm³ | Oil volume, compression<br>cm³ |
|------------|-----------|--|--------------------|-------------------------|---------------------|--------------|---------------------------------|------------------|----------------------------|--------------------------------|
| RR - 1010  | 010       |  | 10                 | 101                     | 33                  | 254          | 409                             | 73               | 122                        | 368                            |
| RR - 506   | 050       |  | 50                 | 498                     | 103                 | 156          | 331                             | 127              | 335                        | 1111                           |
| RR - 10013 | 090       |  | 100                | 933                     | 435                 | 333          | 524                             | 177              | 2071                       | 4439                           |

Further sizes up to 200 t available on request

## 28 009 Lifting and aligning cylinder

ENERPAC

single action with spring return, operating pressure max. 700 bar, extra flat cylinder, hard-chromed piston, improved withstanding against lateral loads, the steel stop ring prevents the piston from being pushed out, cylinder with 5 t load capacity with standard coupling-half, cylinders from 10 t capacity with high-flow coupling-half



28 009...

| Type      | 28 009... |  | Cylinder type<br>t | Compressive force<br>kN | Stroke<br>mm | Overall height, retracted<br>mm | External Ø<br>mm | Oil volume<br>cm³ |
|-----------|-----------|--|--------------------|-------------------------|--------------|---------------------------------|------------------|-------------------|
| RSM - 50  | 010       |  | 5                  | 45                      | 6            | 32                              | 58 x 41          | 4                 |
| RSM - 100 | 020       |  | 10                 | 101                     | 12           | 42                              | 82 x 55          | 18                |
| RSM - 200 | 030       |  | 20                 | 201                     | 11           | 51                              | 101 x 76         | 32                |
| RSM - 300 | 040       |  | 30                 | 295                     | 13           | 58                              | 117 x 95         | 55                |
| RSM - 500 | 050       |  | 45                 | 435                     | 16           | 66                              | 139 x 114        | 99                |

## 28 012 Short stroke cylinder

single action with spring return operating pressure max. 700 bar as 28 009; however, compact lifting cylinder for heavy loads with small overall height, ideal for lifting in confined spaces

ENERPAC



28 012...

| Type       | 28 012... |  | Cylinder type | Compressive force<br>kN | Stroke<br>mm | Overall height retracted<br>mm | External Ø<br>mm | Oil volume<br>cm³ |
|------------|-----------|--|---------------|-------------------------|--------------|--------------------------------|------------------|-------------------|
|            |           |  | t             |                         |              |                                |                  |                   |
| RCS - 101  | 010       |  | 10            | 101                     | 38           | 88                             | 69               | 55                |
| RCS - 201  | 020       |  | 20            | 201                     | 45           | 98                             | 92               | 129               |
| RCS - 302  | 030       |  | 30            | 295                     | 62           | 117                            | 101              | 261               |
| RCS - 502  | 045       |  | 45            | 435                     | 60           | 122                            | 124              | 373               |
| RCS - 1002 | 090       |  | 90            | 887                     | 57           | 141                            | 165              | 722               |

## 28 015 Hollow piston cylinder

single action with spring return, operating pressure max. 700 bar, the hollow piston design enables these cylinders to be used for pressure and pulling work, pull rods can be passed through the lengthwise hole. The cylinders are supplied with smooth rocker and centre hole. Cylinder with high-flow coupling-half (sleeve) and dust cap

ENERPAC



28 015...

| Type       | 28 015... |  | Cylinder type | Compressive force<br>kN | Stroke<br>mm | Overall height retracted<br>mm | External Ø<br>mm | Centre hole Ø<br>mm | Oil volume<br>cm³ |
|------------|-----------|--|---------------|-------------------------|--------------|--------------------------------|------------------|---------------------|-------------------|
|            |           |  | t             |                         |              |                                |                  |                     |                   |
| RCH - 121  | 010       |  | 13            | 125                     | 42           | 120                            | 69               | 19.6                | 75                |
| RCH - 123  | 011       |  | 13            | 125                     | 76           | 184                            | 69               | 19.6                | 136               |
| RCH - 202  | 020       |  | 20            | 215                     | 49           | 162                            | 98               | 26.9                | 150               |
| RCH - 206  | 021       |  | 20            | 215                     | 155          | 306                            | 98               | 26.9                | 476               |
| RCH - 302  | 030       |  | 30            | 326                     | 64           | 178                            | 114              | 33.3                | 298               |
| RCH - 306  | 031       |  | 30            | 326                     | 155          | 330                            | 114              | 33.3                | 722               |
| RCH - 603  | 060       |  | 60            | 576                     | 76           | 247                            | 159              | 53.8                | 626               |
| RCH - 606  | 061       |  | 60            | 576                     | 153          | 323                            | 159              | 53.8                | 1259              |
| RCH - 1003 | 090       |  | 95            | 931                     | 76           | 254                            | 212              | 79.0                | 1011              |

## 28 018 Hydraulic hand pump

Single stage design, with built-in pressure-limiting valve, set to maximum operating pressure in the factory, suitable for driving single action cylinders with small oil volume, with drain valve

ENERPAC



28 018...

| Type  | 28 018... |  | Operating pressure<br>bar | Swept volume<br>cm³ | Total tank volume<br>cm³ | Usable tank volume<br>cm³ | Oil connection thread | Weight<br>kg |
|-------|-----------|--|---------------------------|---------------------|--------------------------|---------------------------|-----------------------|--------------|
| P 141 | 010       |  | 700                       | 0.90                | 500                      | 327                       | 1/4"-18NPT            | 2.0          |

## 28 021 Hydraulic hand pumps

two-stage design, with built-in pressure-limiting valve, set to maximum operating pressure in the factory. Within the low-pressure range, two pistons pump simultaneously, as the pressure rises the larger piston switches off and only the high-pressure piston continues pumping, oil connection thread 3/8"- NPT

\*For double-action cylinders with 4-way manually actuated valve

ENERPAC



28 021...

| Type      | 28 021... |  | Operating pressure 1st stage<br>bar | Operating pressure 2nd stage<br>bar | Pump capacity 1st stage<br>cm³ | Pump capacity 2nd stage<br>cm³ | Total tank volume<br>cm³ | Usable tank volume<br>cm³ |
|-----------|-----------|--|-------------------------------------|-------------------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------|
| P - 142*  | 010       |  | 13                                  | 700                                 | 3.62                           | 0.90                           | 500                      | 327                       |
| P - 392   | 015       |  | 13                                  | 700                                 | 11.26                          | 2.47                           | 1000                     | 901                       |
| P - 80    | 020       |  | 25                                  | 700                                 | 16.22                          | 2.46                           | 2294                     | 2200                      |
| P - 801   | 025       |  | 25                                  | 700                                 | 16.22                          | 2.46                           | 4199                     | 4080                      |
| P - 462   | 030       |  | 14                                  | 700                                 | 126.00                         | 4.75                           | 7527                     | 7423                      |
| P - 84**  | 035       |  | 25                                  | 700                                 | 16.22                          | 2.46                           | 2294                     | 2200                      |
| P - 464** | 040       |  | 14                                  | 700                                 | 126.20                         | 4.75                           | 7527                     | 7423                      |

\* Thread size 1/4"-NPT

\*\* For double-action cylinders with 4-way manually actuated valve

## 28 027 Compact electric pumps

ENERPAC

versatile, two-stage, electric pump equipped with a 0.37 kW motor operates actively from 0 - 700 bar. It offers an optimum delivery rate to weight ratio and supplies 3.2 l/m to 14 bar, as well as 0.32 l/min from 14 - 700 bar. With motor remote control

| Type         | 28 027... |  | Single phase mains connection | Valve type fitted         | Tank volume l |
|--------------|-----------|--|-------------------------------|---------------------------|---------------|
| PUJ - 1200 E | 020       |  | 230 V                         | 3/2-way manual valve      | 1.9           |
| PUD - 1100 E | 030       |  | 230 V                         | 2/2 electromagnetic valve | 1.9           |
| PUJ - 1400 E | 040       |  | 230 V                         | 4/3-way manual valve      | 1.9           |



28 027...

## 28 032 Air-hydraulic pump unit

ENERPAC

technical advantages: 30 % energy saving compared to competitors' products, very robust design, the integrated tank return connection enables the additional installation of three and four-way valves, permanent tank venting. Installation air/oil ratio of 144:1 enables the pump to be operated at low air pressures, large tank capacity, noise level below 75 dB(A). Max. operating pressure 700 bar



28 032...

| Type          | 28 032... |  | Pump capacity 0 - 7 bar l/min | Pump capacity 8 - 700 bar l/min | Tank volume l | Usable tank volume cm³ | Weight kg | Air pressure bar |
|---------------|-----------|--|-------------------------------|---------------------------------|---------------|------------------------|-----------|------------------|
| PATG - 1102 N | 010       |  | 1.0                           | 1.16                            | 2.5           | 2081                   | 8.2       | 1.7-8.6          |

## 28 035 High-pressure distributor

ENERPAC

for connecting several cylinders with a pressure generator, six connections with screw plugs, with two mounting holes for the installation

| Type | 28 035... |  | Height mm | Width mm | Connection thread |
|------|-----------|--|-----------|----------|-------------------|
| A-66 | 010       |  | 41        | 50       | 3/8" - 18 NPT     |



28 035 010

## 28 039 Hydraulic high-pressure hoses

ENERPAC

robust design due to highly wear-resistant rubber with steel fabric insert ply, nominal size 6.5 mm for max. 700 bar operating pressure

| Type     | 28 039... |  | Hose length m | Connection thread (pump end) | Coupler connector (cylinder end) |
|----------|-----------|--|---------------|------------------------------|----------------------------------|
| HC7203   | 010       |  | 0.9           | 3/8" - 18 NPT                | High-flow                        |
| HC7206   | 020       |  | 1.8           | 3/8" - 18 NPT                | High-flow                        |
| HC7210   | 030       |  | 3.0           | 3/8" - 18 NPT                | High-flow                        |
| HC7220   | 040       |  | 6.0           | 3/8" - 18 NPT                | High-flow                        |
| HA7206   | 050       |  | 1.8           | 3/8" - 18 NPT                | Standard                         |
| HC7206 Q | 060       |  | 1.8           | 1/4" - 18 NPT                | High-flow                        |



28 039...

## 28 042 Hydraulic couplings and accessories

ENERPAC

with connection thread 3/8" - 18 NPT



28 042...

| Type      | 28 042... |  | Designation                  |
|-----------|-----------|--|------------------------------|
| C - 604   | 010       |  | High-flow coupling, complete |
| CR - 400  | 020       |  | High-flow coupling sleeve    |
| CH - 604  | 030       |  | High-flow coupling connector |
| CD - 411  | 040       |  | Dust cap                     |
| FZ - 1617 | 050       |  | Double nipple 3/8" - 18 NPT  |



## 28 045 Hydraulic pressure gauge

with damping through glycerine fill, with robust design, for installation between the pump and cylinder, the pressure generated by the pump can be visually checked, overloading of the hydraulic units is avoided, accuracy  $\pm 1\%$

ENERPAC



28 045...

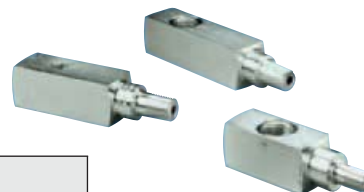
| Type       | 28 045... |  | Scaling        | Housing Ø mm | Connection thread |
|------------|-----------|--|----------------|--------------|-------------------|
| GF - 10 B  | 010       |  | 0 - 90 kN      | 100          | 1/2" - 14 NPT     |
| GF - 230 B | 020       |  | 0 - 175/275 kN | 100          | 1/2" - 14 NPT     |
| GF - 510 B | 030       |  | 0 - 450/900 kN | 100          | 1/2" - 14 NPT     |
| G - 4039 L | 040       |  | 0 - 700 bar    | 100          | 1/2" - 14 NPT     |

Special models available on request

## 28 048 Pressure gauge adapter

Type GA - 2, for direct installation of the pressure gauge on the pump or cylinder, pressure gauge connection thread 1/2" - 14 NPT, oil line connection thread 3/8" - 18 NPT

ENERPAC



28 048 010

| TYPE   | 28 048... |  |
|--------|-----------|--|
| GA - 2 | 010       |  |

## 28 051 Hydraulic oil

Premium hydraulic oil fulfils the requirements for trouble-free operation of all hydraulic equipment, it ensures optimum force transfer with high lubricity and effectively protects all wearing parts, additives reduce the formation of rust, sludge and foam and reduces oxidation

ENERPAC



28 051...

| Type     | 28 051... |  | Contents litre | Vessel           |
|----------|-----------|--|----------------|------------------|
| HF - 95X | 010       |  | 1 l            | Plastic canister |
| HF - 95Y | 020       |  | 5 l            | Plastic canister |

## 28 056 Hydraulic nut splitter

for hexagon sizes from 10 - 60 mm; with these hydraulic nut splitters you make short work of corroded nuts whatever their grade. Forget dangerous and time-consuming work such as abrading or cutting, the blades of the nut splitter are easy to replace or resharpen, the units are equipped with a spring return.

ENERPAC



28 056...

| Type      | 28 056... |  | Hexagon mm | Thread      |
|-----------|-----------|--|------------|-------------|
| NC - 1319 | 010       |  | 10 - 19    | M 6 - M 12  |
| NC - 1924 | 020       |  | 19 - 24    | M 12 - M 16 |
| NC - 2432 | 030       |  | 24 - 32    | M 16 - M 22 |
| NC - 3241 | 040       |  | 32 - 41    | M 22 - M 27 |
| NC - 4150 | 050       |  | 41 - 50    | M 27 - M 33 |
| NC - 5060 | 060       |  | 50 - 60    | M 33 - M 39 |

Special models available on request

## 28 058 Hydraulic and mechanical vertical lifting wedges

for maintenance, startup, shutdown, testing, valve change. Access opening of 6mm only required. One-man operation, user-friendly, portable. The frictionless, soft and parallel wedge movement protects the flange against damage and ensures that the spread arm does not fail.

ENERPAC



28 058...

| Model | Spreading (lifting) force max. t / KN | 28 058... |  | Gap size mm | Spread max.* mm | Type       | Weight kg |
|-------|---------------------------------------|-----------|--|-------------|-----------------|------------|-----------|
| FSH   | 14 / 125                              | 001       |  | 6           | 81              | hydraulic  | 7.1       |
| FSM   | 8 / 72                                | 002       |  | 6           | 81              | mechanical | 6.5       |

\* =with the stepped blocks



## 28 068 Workshop presses

tried and tested and extremely robust press frame structures with different cylinder types and types of operation

### No. 28 068 001:

Compact bench press with single action cylinder with spring return and two-stage hand pump

### No. 28 068 010:

manually adjustable press bench with single action heavy duty cylinder with spring return and two-stage hand pump

### No. 28 068 100 - ...108:

for maximum possible press force with double-action heavy duty cylinder and electro-hydraulic pump unit



28 068...

|     |      |      | 28 068... |  | Cylinder stroke | Pump type <sup>2)</sup> | Cylinder type <sup>3)</sup> | Depth dimension | Height dimension | Width dimension |          | Pressing speed | Weight |
|-----|------|------|-----------|--|-----------------|-------------------------|-----------------------------|-----------------|------------------|-----------------|----------|----------------|--------|
| t   | mm   | mm   |           |  | mm              |                         |                             | mm              | mm               | mm              | m / sec. | m / sec.       | kg     |
| 10  | 444  | 431  | 001       |  | 156             | manual                  | E.W.                        | 203             | 534              | 762             | 2.5*     | 0.6*           | 50     |
| 25  | 1225 | 510  | 010       |  | 158             | manual                  | E.W.                        | 775             | 1060             | 1830            | 3.4*     | 0.7*           | 160    |
| 50  | 1060 | 1000 | 100       |  | 156             | electric                | D.W.                        | 1016            | 1775             | 1880            | 3.6      | 3.6            | 1008   |
| 50  | 1060 | 1000 | 104       |  | 334             | electric                | D.W.                        | 1016            | 1775             | 2040            | 3.6      | 3.6            | 1042   |
| 100 | 1040 | 1000 | 106       |  | 168             | electric                | D.W.                        | 1016            | 1800             | 1885            | 6.4      | 6.4            | 1417   |
| 100 | 1040 | 1000 | 108       |  | 333             | electric                | D.W.                        | 1016            | 1800             | 2052            | 6.4      | 6.4            | 1465   |

<sup>2)</sup> With 400 V electric pump, other motor voltages available on request.

<sup>3)</sup> E.W.= single action D.W.= double action.

\*) Extended distance in mm per hand pump stroke

# ENERPAC

## Hydraulic power for all industrial applications



## 28 802 Machine bearing elements

for installing machines without fixing them to the floor, vibration insulating, impact absorbing, structurally borne sound insulating, easy installation, maintenance-free, oil and ageing resistant

EFFBE



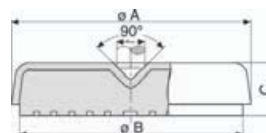
28 802...

| TYPE LM | 28 802... |  | Load per element in presses generally<br>kg | Lathes<br>No. of strokes up to 100/min | Milling machines<br>No. of strokes up to 100/min | Flat grinding machines<br>No. of strokes up to 100/min | Machines in general<br>No. of strokes up to 100/min | Maximum static load<br>kg | Ø<br>mm | Height<br>mm | Thread<br>ISO | Standard screw length<br>mm | max. machine base thickness<br>mm | Levelling height<br>mm | Weight<br>kg |
|---------|-----------|--|---------------------------------------------|----------------------------------------|--------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------|---------------------------|---------|--------------|---------------|-----------------------------|-----------------------------------|------------------------|--------------|
| 1-11    | 011       |  | 450                                         | 220                                    | 300                                              | 220                                                    | 480                                                 | 600                       | 80      | 25           | M 10          | 80                          | 43                                | 15                     | 0.4          |
| 3-33    | 033       |  | 1000                                        | 420                                    | 600                                              | 420                                                    | 1200                                                | 2000                      | 120     | 32           | M 12          | 90                          | 44                                | 20                     | 1.1          |
| 5-55    | 055       |  | 2000                                        | 1000                                   | 1500                                             | 1000                                                   | 3000                                                | 4000                      | 160     | 35           | M 16 x 1.5    | 100                         | 44                                | 20                     | 2.2          |
| 6-66    | 066       |  | 3500                                        | 2000                                   | 2800                                             | 2000                                                   | 4000                                                | 5500                      | 185     | 39           | M 20 x 1.5    | 120                         | 58                                | 20                     | 4            |

## 28 805 Installation elements

Insulating plates for non-slip installation of machines and units, the elements have a 90° dip for using levelling screws according to DIN 78, types K (flat chamfered end), L (rounded end), Sp (point)

EFFBE



28 805...

| Size | 28 805... |  | Ø A<br>mm | Ø B<br>mm | Height C<br>mm | Screw size, max. |
|------|-----------|--|-----------|-----------|----------------|------------------|
| 8    | 008       |  | 80        | 75        | 18             | M 12             |
| 10   | 010       |  | 100       | 95        | 22             | M 12             |
| 12   | 012       |  | 120       | 114       | 27             | M 16             |
| 16   | 016       |  | 160.5     | 152       | 31             | M 20             |

## 28 806 Insulating plates

for slip-resistant and anchor-free installation of machines and units on which it is not possible to fix levelling elements, an angle web can be cut off for straight line arrangement

EFFBE



28 806...

| Size | 28 806... |  | Length x width<br>mm | Height<br>mm | Recommended load range<br>daN | max. allowable static load<br>daN |
|------|-----------|--|----------------------|--------------|-------------------------------|-----------------------------------|
| 7    | 007       |  | 70 x 70              | 13           | 50 - 300                      | 500                               |
| 10   | 010       |  | 100 x 100            | 13           | 200 - 600                     | 1000                              |

## 28 808 Wedge elements

universal use, fine levelling element for anchor-free installation of machine tools, the levelling is achieved by means of an adjustable threaded spindle with fine thread, supporting surface with anti-skid protection, installation without fixing screw, the recommended load range is the maximum value

EFFBE



28 808...

| Size | 28 808... |  | Length<br>mm | Width<br>mm | Height<br>mm | Ni<br>mm | SW<br>mm | Load range<br>daN |
|------|-----------|--|--------------|-------------|--------------|----------|----------|-------------------|
| 5    | 005       |  | 105          | 55          | 35           | 8        | 17       | up to 1000        |
| 10   | 010       |  | 110          | 95          | 50           | 10       | 12       | up to 2000        |
| 20   | 020       |  | 120          | 190         | 54           | 10       | 14       | up to 4000        |
| 40   | 080       |  | 200          | 200         | 45           | 12       | 22       | up to 8000        |

