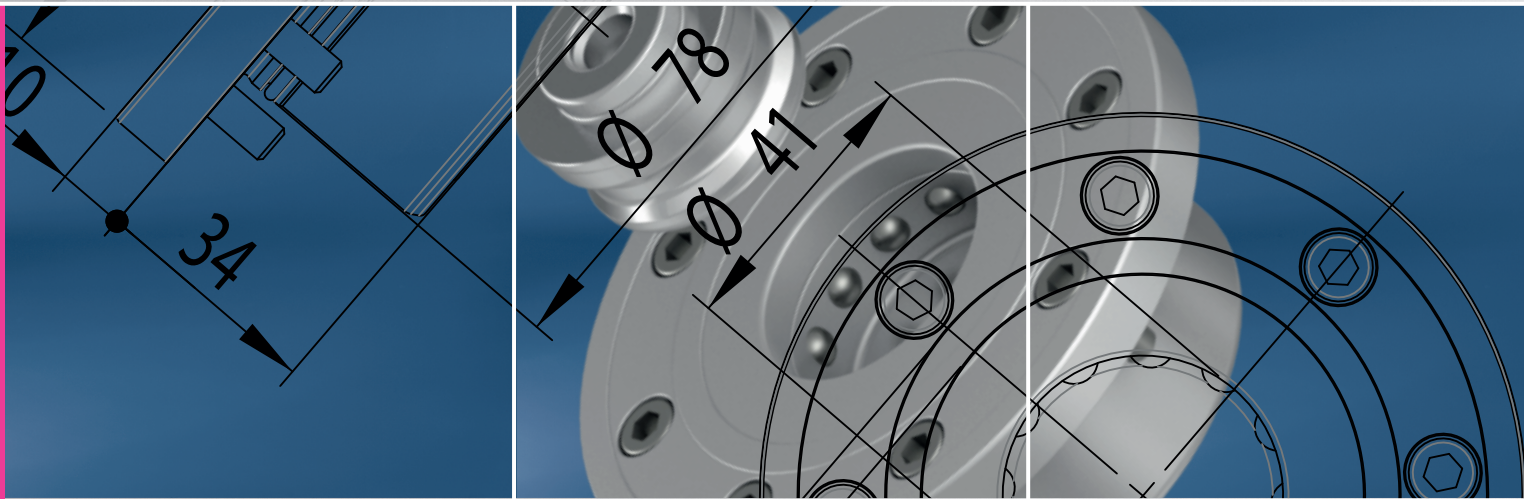




The basis for simple zero point clamping



Zero point clamping system **SPEEDY** basic



Simple
Expedient
Suitable
Versatile
Economical

- Module
- Very straightforward installation
- Hydraulic or pneumatic
- 14 variants
- Reasonable price





Contents SPEEDY basic

Information

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|--|---|
| Function description SPEEDY basic | 4 |
| Tried and tested technology with a system – original down to the smallest detail | 5 |
| Specifications – transparency from the start | 6 |
| Tilting torque calculation example | 7 |

SPEEDY basic

| | | | |
|------------|--------------------------|----------|----|
| Y p | ● Standard | 8000 802 | 8 |
| X p | ● Standard | 8000 602 | 10 |
| S h | ● Standard | 8000 001 | 12 |
| | ● With blow-out function | 8000 003 | 12 |
| S p | ● Standard | 8000 002 | 13 |
| | ● With blow-out function | 8000 004 | 13 |
| M h | ● Standard | 8000 201 | 16 |
| | ● With blow-out function | 8000 203 | 16 |
| M p | ● Standard | 8000 202 | 17 |
| | ● With blow-out function | 8000 204 | 17 |
| L h | ● Standard | 8000 401 | 18 |
| | ● With blow-out function | 8000 403 | 18 |
| L p | ● Standard | 8000 402 | 21 |
| | ● With blow-out function | 8000 404 | 21 |

Order no.

Retractable nipple

| | | | |
|------------------|--------------------|---------------------------|----|
| Y | ● With zero point | 8000 900 | 9 |
| | ● With equaliser | 8000 901 | 9 |
| | ● Without centring | 8000 902 | 9 |
| X | ● With zero point | 8000 700 | 11 |
| | ● With equaliser | 8000 701 | 11 |
| | ● Without centring | 8000 702 | 11 |
| S | ● With zero point | 8000 100 | 14 |
| | ● With equaliser | 8000 101 | 14 |
| | ● Without centring | 8000 102 | 14 |
| M | ● With zero point | 8000 300 | 18 |
| | ● With equaliser | 8000 301 | 18 |
| | ● Without centring | 8000 302 | 18 |
| L | ● With zero point | 8000 500 | 22 |
| | ● With equaliser | 8000 501 | 22 |
| | ● Without centring | 8000 502 | 22 |
| Nipple fastening | ● D | 809 127, 804 267, 804 262 | 19 |
| | ● E | 809 128, 804 266, 804 264 | 19 |

Accessories

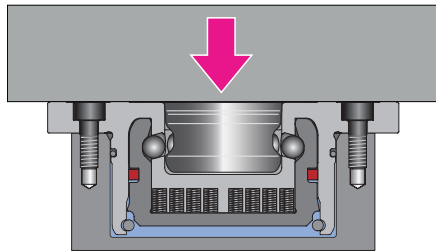
| | | | |
|---|-------------------------------------|------------------|----|
| Fast closing clamp plates, pallets with retractable nipples | 805 300 to 805 305 | 23–24 | |
| Fixing clamp | 805 201, 804 202 | 23–24 | |
| Pressure booster | ● RECORD | 804 411 | 26 |
| Hoses | ● With hydraulic coupling | 704 151, 704 153 | 26 |
| Coupler | ● Self-sealing | 952 126 | 26 |
| Coupling nipple | ● Suitable for 5000 300 and 954 208 | 5000 301 | 27 |
| Sliding coupling | ● Switchable | 5000 300 | 27 |
| Coupling | ● Suitable for 5000 301 | 954 208 | 27 |
| Retractable nipple key | ● Suitable for 8000 802 | 8000 899 | 27 |

Abbreviations

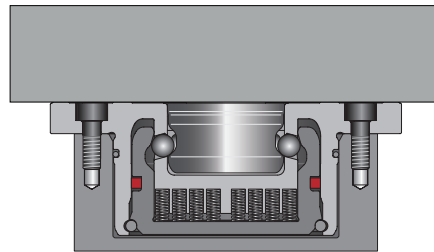
| | |
|----------|--|
| Y | (ø26 mm) |
| X | (ø54 mm) |
| S | small (ø78 mm) |
| M | middle (ø112 mm) |
| L | large (ø148 mm) |
| h | Clamped mechanically and released hydraulically |
| p | Clamped mechanically and released pneumatically |

Function description SPEEDY basic –

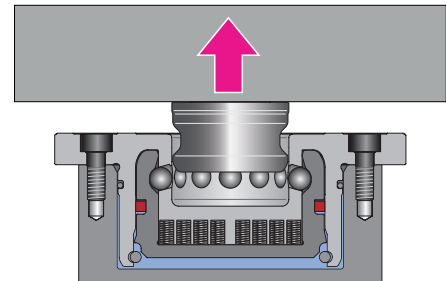
Positioning and clamping in one function



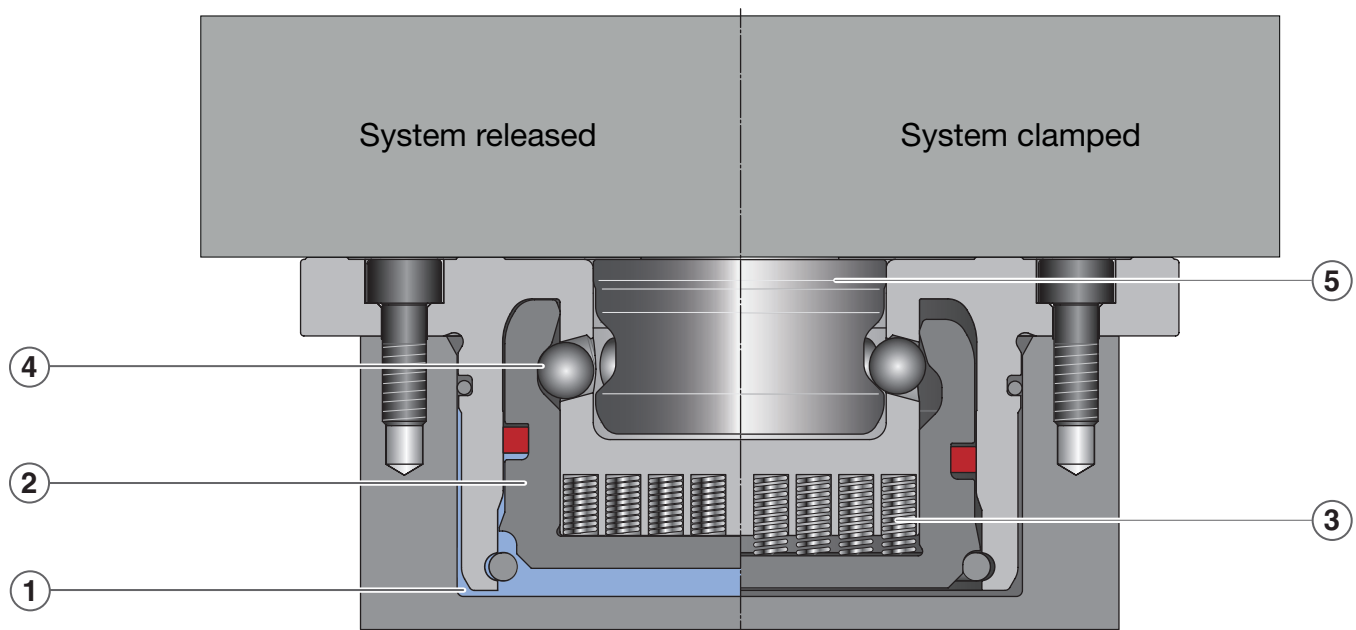
Fit and insert



Clamp and position



Release and remove

**Releasing:**

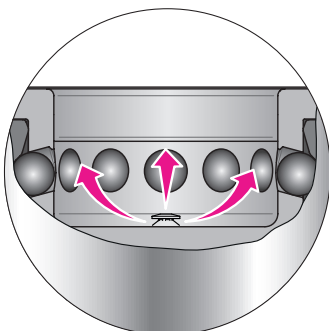
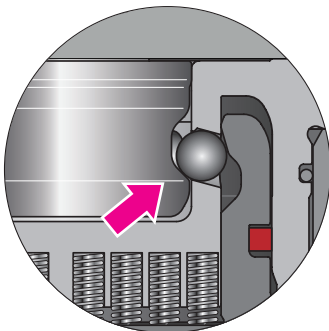
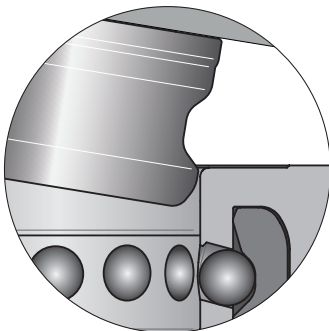
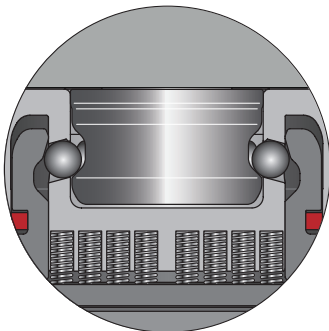
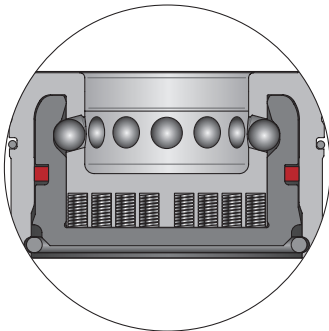
- The release pressure (1) is applied to the piston (2) and the piston moves up. The springs (3) are compressed.
- The balls (4) move to the parking position.
- The retractable nipple (5) is released.

Mechanically clamping:

- The pressure is relieved and drops to 0 bar.
- The spring pre-load is applied via the piston (2), the piston moves down.
- The balls (4) are pressed in by the piston (2) and enclose the retractable nipple.
- The retractable nipple is securely clamped by the spring pre-load.

Tried and tested technology with a system –
Original down to the smallest detail

Advantages
that pay off!



Design

- Compact design with high clamping forces
- Low installation depth
- Modular design
- Simple installation contour
- Easy to clean
- Easy to maintain – straightforward to replace
- Made of high-quality, stainless tool steel
- Can be actuated hydraulically or pneumatically
- Piston seal on inside

Space-saving, also on pallet side

- The retractable nipple basic can be mounted straightforwardly
- Extremely space-saving installation shape (on the basic S the retractable nipple protrudes only 15.5 mm)
- Easy handling of pallets due to short extraction distances

Lifting out/off at an angle

- Workpiece, jig and pallet change without tilting – particularly important with asymmetrical weight distribution on the pallet

Exact position up to the maximum load

- The spring force constantly fixes the retractable nipple positively and precisely
- No bending or lifting off
- Vibrations are damped, the quality of the surfaces to be machined increases and the lives of the tools increase

Intelligent blow-out technology

- Particularly effective cleaning due to the extending nozzle
- Is suitable for partial automation and reduces the cleaning effort



Specifications – Transparency from the start

| | | basic Y p | basic X p | basic S h | basic S p | basic M h | basic M p | basic L h | basic L p |
|---------------------------------------|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Maintenance interval, spring assembly | | 80'000 | 80'000 | 80'000 | 80'000 | 80'000 | 80'000 | 80'000 | 80'000 |
| Retention force ¹⁾ | [N] | 88 | 400 | 15'000 | 5'000 | 30'000 | 9'000 | 55'000 | 23'000 |
| Oil release pressure | [bar] | – | – | 20 | – | 20 | – | 25 | – |
| Air release pressure | [bar] | 5 | 5.5 | – | 5.5 | – | 5.5 | – | 5.5 |
| Max. pressure | [bar] | 10 * | 10 | 80 | 10 | 80 * | 10 | 60 * | 10 |
| Oil/air volume | [cm ³] | 1,6 | 1,4 | 4,5 | 4,5 | 12 | 12 | 25 | 25 |
| Operating temperature | [°C] | 10–80 | 10–80 | 10–80 | 10–80 | 10–80 | 10–80 | 10–80 | 10–80 |
| Min. permissible clamping time | [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Min. permissible release time | [s] | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Radial pre-positioning ²⁾ | [mm] | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 |
| Max. axial pre-positioning | [mm] | – 0.3 | – 0.3 | – 0.3 | – 0.3 | – 0.3 | – 0.3 | – 0.3 | – 0.3 |
| Repeatability ³⁾ | [mm] | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Weight | [kg] | approx. 0.06 | approx. 0.22 | approx. 0.5 | approx. 0.5 | approx. 1.5 | approx. 1.5 | approx. 3.8 | approx. 3.8 |

Note: Spacing tolerance: ±0.01 mm for SPEEDY and retractable nipple

* Fit overpressure safety valve

- 1) Retention force The retention force refers to the max. load at which the nipple will continue to be retained.
- 2) Radial pre-positioning The loading device must have play in the case of automated handling.
- 3) Repeatability Repeatability generally refers to the accuracy with which the same pallet is positioned on changing with the same interface.

Tilting torque calculation example

Profit from our expertise

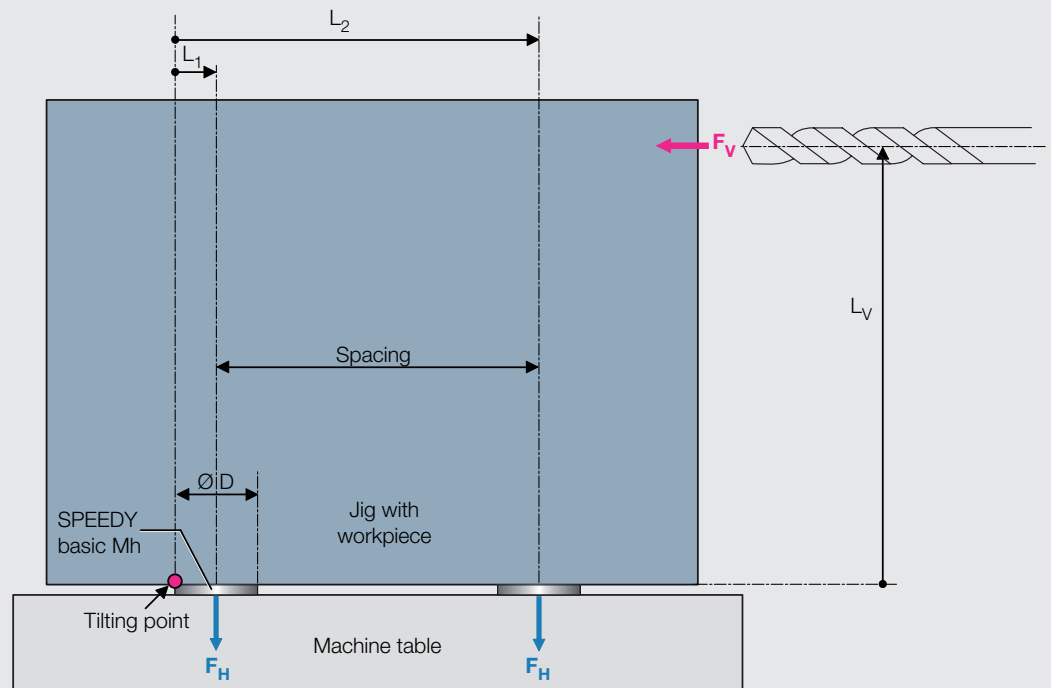


Example:

Fast closing clamp plate 4 SPEEDY basic Mh with spacing 200 x 200 and max. feed force of 10 kN with distance of 300 mm.

Question:

Due to the predominance of roughing work, the system is to be checked for a double safety factor. Are the number of fast closing clamps and the spacing selected adequate?



Solution:

$$M_H > 2 \times M_V ?$$

$$M_V = F_V \times L_V = 10'000 \text{ N} \times 0,3 \text{ m}$$

$$M_V = \mathbf{3'000 \text{ Nm}}$$

$$M_H = 2 \times (F_H \times L_1) + 2 \times (F_H \times L_2)$$

$$M_H = 2 \times F_H \times (L_1 + L_2)$$

$$L_1 = \text{ØD} / 2$$

$$L_2 = \text{ØD} / 2 + \text{Spacing} = 0,256 \text{ m}$$

$$L_1 + L_2 = \text{ØD} + \text{Spacing} = 0,312 \text{ m}$$

$$L_1 + L_2 = 0,112 \text{ m} + 0,20 \text{ m} = 0,312 \text{ m}$$

$$M_H = 2 \times F_H \times (L_1 + L_2) = 2 \times 10'000 \text{ N} \times 0,312 \text{ m}$$

$$M_H = \mathbf{6'240 \text{ Nm}}$$

$$M_H / M_V > 2 ?$$

$$M_H / M_V = 6'240 \text{ Nm} / 3'000 \text{ Nm}$$

$$M_H / M_V = \mathbf{2,08 > 2}$$

With this design there is a safety factor of around two.

(Enter all variables in SI units (metres, newtons))

M_V : Moment from feed force

M_H : Moment from retention force

F_V : Feed force (10'000 N)

F_H : Retention force (30'000 N)

Spacing = 200 mm = 0,20 m

Ø D (bearing ring) : 112 mm = 0,112 m

L_V : 300 mm = 0,30 m

SPEEDY basic Y P

- Module
- Round
- Pneumatically actuated



Characteristics:

Flush Mount fast closing clamp module made of high-quality, stainless tool steel.

Due to the low height, little space is required.

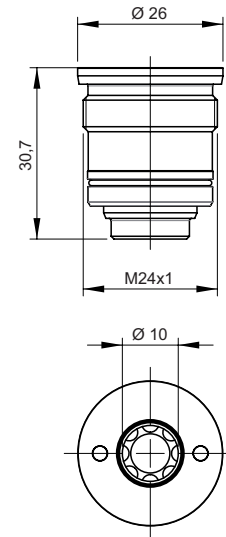
Is clamped mechanically and released pneumatically.

Application:

For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



Z 8000 802

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|----------|------------|
| 8000 002 | 88 N | 10 bar | 5 bar | 0.053 kg | D162 |

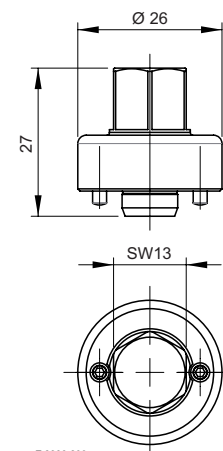
Fastening screws included.

Retractable nipple key SPEEDY basic Y



Characteristics:

Retractable nipple key for the secure installation of SPEEDY basic Y.



Z 8000 899

| Order no. | Across flats | Tightening torque | Weight |
|-----------|--------------|-------------------|---------|
| 8000 899 | SW13 | 15 Nm | 0.05 kg |

Retractable nipple basic Y

● With zero point



Characteristics:

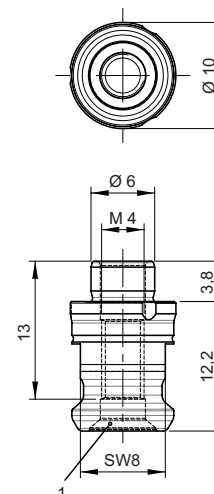
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|------|----------|------------|
| | | M3 | M4 | | |
| 8000 900 | min. 10.9 | 1 Nm | 2 Nm | 0.006 kg | D152 |

1) Counterbore for screw DIN 7991



Z 8000 900

Retractable nipple basic Y

● With equaliser



Characteristics:

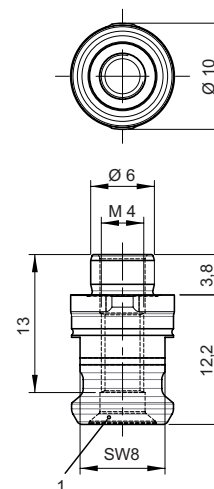
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|------|----------|------------|
| | | M3 | M4 | | |
| 8000 901 | min. 10.9 | 1 Nm | 2 Nm | 0.006 kg | D152 |

1) Counterbore for screw DIN 7991



Z 8000 901

Retractable nipple basic Y

● Without centring



Characteristics:

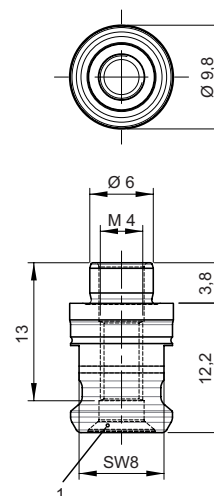
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|------|----------|------------|
| | | M3 | M4 | | |
| 8000 902 | min. 10.9 | 1 Nm | 2 Nm | 0.006 kg | D152 |

1) Counterbore for screw DIN 7991



Z 8000 902

For information on the retractable nipple fastening variants see page 19.

SPEEDY basic X P

- Module
- Round
- Pneumatically actuated



Characteristics:

Flush Mount fast closing clamp module made of high-quality, stainless tool steel.

Due to the low height, little space is required.

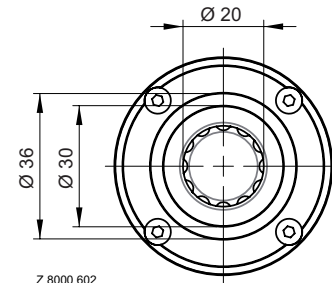
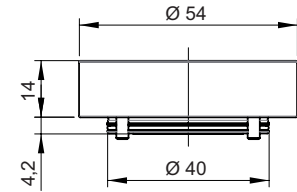
Is clamped mechanically and released pneumatically.

Application:

For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|---------|------------|
| 8000 602 | 400 N | 10 bar | 5.5 bar | 0.22 kg | D162 |

Fastening screws included.



SPEEDY basic X and SPEEDY basic Y in size comparison

Retractable nipple basic X

● With zero point



Characteristics:

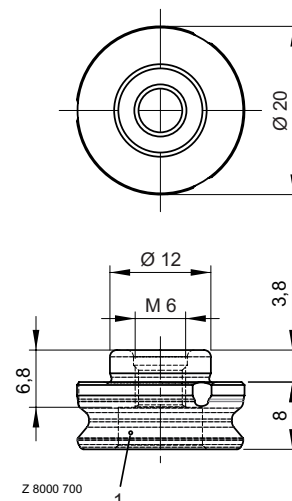
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|----------|------------|
| | | M5 | M6 | | |
| 8000 700 | min. 10.9 | 7 Nm | 10 Nm | 0.016 kg | D152 |

1) Counterbore for screw DIN 912



Retractable nipple basic X

● With equaliser



Characteristics:

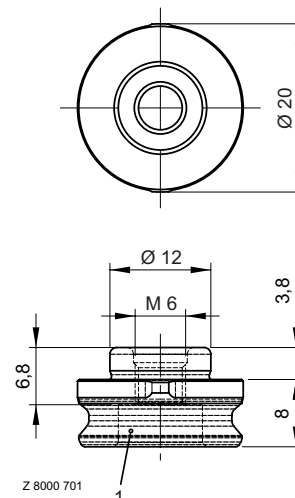
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|----------|------------|
| | | M5 | M6 | | |
| 8000 701 | min. 10.9 | 7 Nm | 10 Nm | 0.016 kg | D152 |

1) Counterbore for screw DIN 912



Retractable nipple basic X

● Without centring



Characteristics:

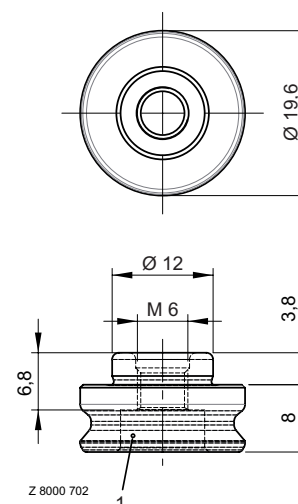
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|----------|------------|
| | | M5 | M6 | | |
| 8000 702 | min. 10.9 | 7 Nm | 10 Nm | 0.016 kg | D152 |

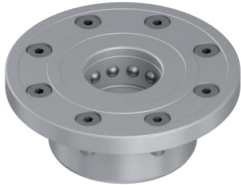
1) Counterbore for screw DIN 912



For information on the retractable nipple fastening variants see page 19.

SPEEDY basic S

- Module
- Round
- Hydraulically actuated

**Characteristics:**

Flush Mount fast closing clamp module made of high-quality, stainless tool steel.

Due to the low height, little space is required.

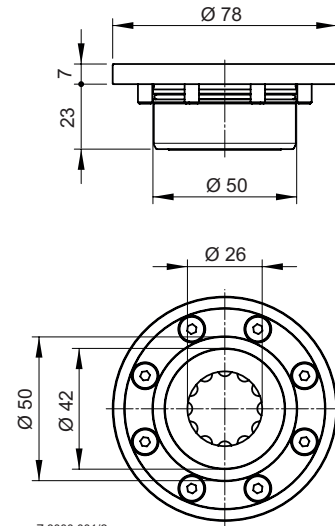
Is clamped mechanically and released hydraulically.

Application:

For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



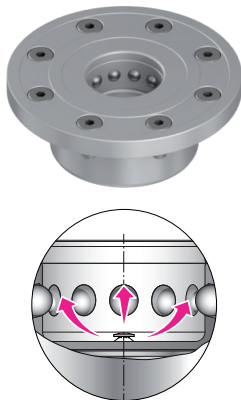
Z 8000 001/2

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 001 | 15'000 N | 80 bar | 20 bar | 0.5 kg | D148 |

Fastening screws included.

SPEEDY basic S with blow-out function

- Module
- Round
- Hydraulically actuated
- Blow-out function

**Characteristics:**

Flush Mount fast closing clamp module made of high-quality, stainless tool steel.

Due to the low height, little space is required.

Is clamped mechanically and released hydraulically.

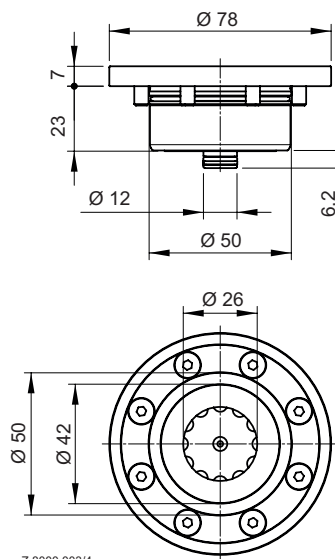
Intelligent blow-out function for cleaning the precision bore. Mount control via differential pressure or blocking air possible.

Application:

For partial automation, reduces the cleaning effort. For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



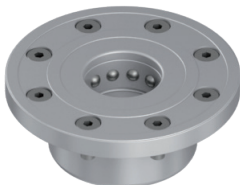
Z 8000 003/4

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 003 | 15'000 N | 80 bar | 20 bar | 0.5 kg | D154 |

Fastening screws included.

SPEEDY basic S $\text{\textcircled{P}}$

- Module
- Round
- Pneumatically actuated



Characteristics:

Flush Mount fast closing clamp module made of high-quality, stainless tool steel.

Due to the low height, little space is required.

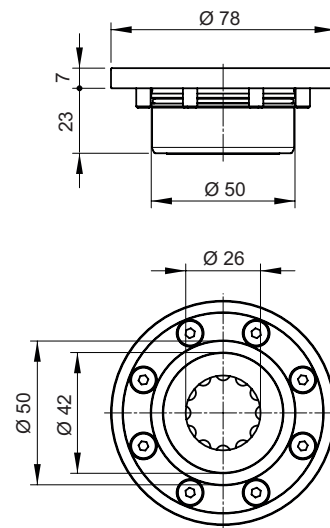
Is clamped mechanically and released pneumatically.

Application:

For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.

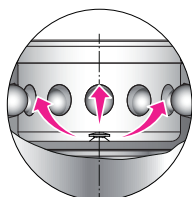


| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 002 | 5'000 N | 10 bar | 5.5 bar | 0.5 kg | D148 |

Fastening screws included.

SPEEDY basic S $\text{\textcircled{P}}$ with blow-out function

- Module
- Round
- Pneumatically actuated
- Blow-out function



Characteristics:

Flush Mount fast closing clamp module made of high-quality, stainless tool steel.

Due to the low height, little space is required.

Is clamped mechanically and released pneumatically.

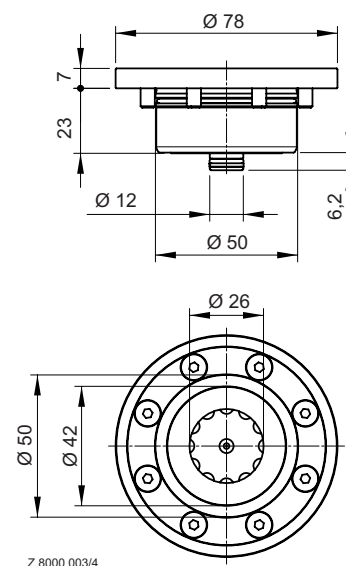
Intelligent blow-out function for cleaning the precision bore. Mount control via differential pressure or blocking air possible.

Application:

For partial automation, reduces the cleaning effort. For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 004 | 5'000 N | 10 bar | 5.5 bar | 0.5 kg | D154 |

Fastening screws included.

Retractable nipple basic S

• With zero point



Characteristics:

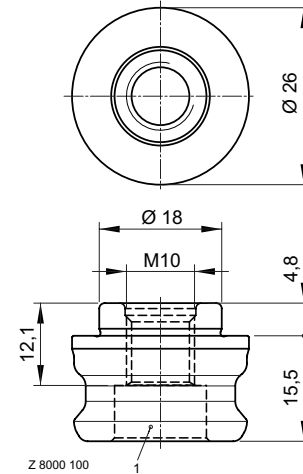
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|---------|------------|
| | | M8 | M10 | | |
| 8000 100 | min. 10.9 | 36 Nm | 36 Nm | 0.05 kg | D152 |

1) Counterbore for screw DIN 912



Retractable nipple basic S

• With equaliser



Characteristics:

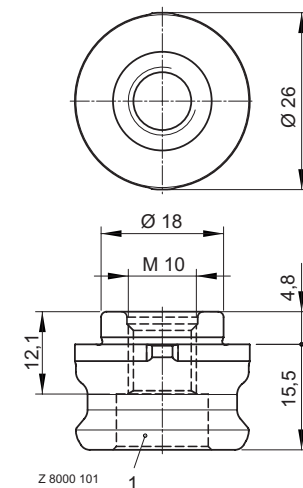
Retractable nipple with equaliser in one axis (sword shape).

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|---------|------------|
| | | M8 | M10 | | |
| 8000 101 | min. 10.9 | 36 Nm | 36 Nm | 0.05 kg | D152 |

1) Counterbore for screw DIN 912



Retractable nipple basic S

• Without centring



Characteristics:

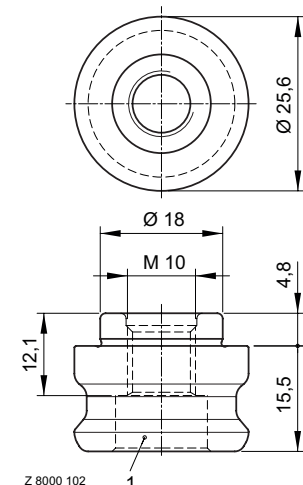
Retractable nipple without centring.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

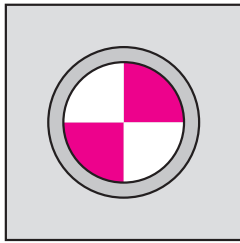
| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|---------|------------|
| | | M8 | M10 | | |
| 8000 102 | min. 10.9 | 36 Nm | 36 Nm | 0.05 kg | D152 |

1) Counterbore for screw DIN 912

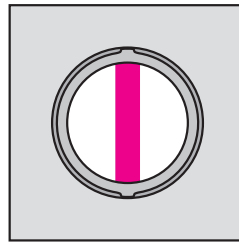


For information on the retractable nipple fastening variants see page 19.

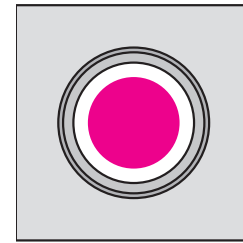
One thing is certain – the fixed zero point with SPEEDY retractable nipples



1) Retractable nipple with zero point

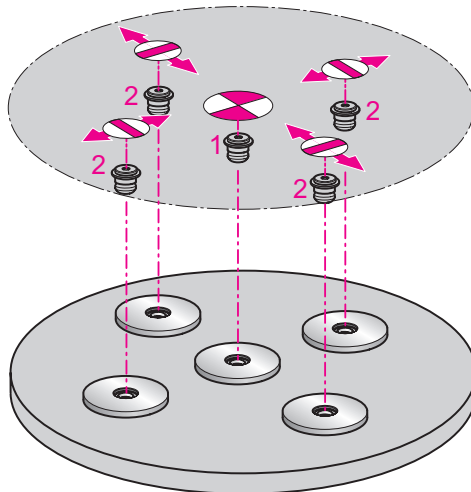


2) Retractable nipple with equaliser



3) Retractable nipple

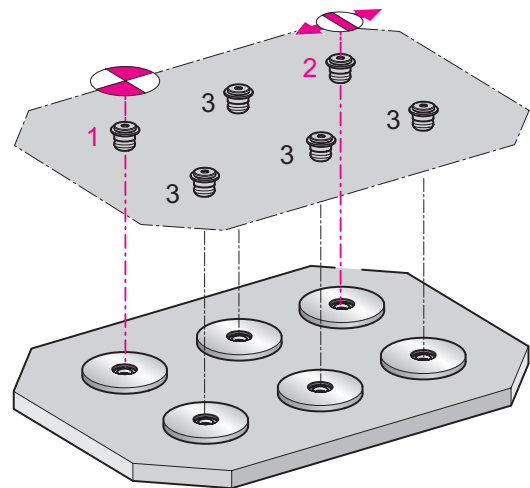
Retractable nipple with zero point in the middle of the pallet



Application:

Equalisation of thermal expansion
Manufacturing tolerances = position tolerances for fast closing clamps and retractable nipples, each 0.01 mm

Retractable nipple with zero point at the top left corner of the pallet



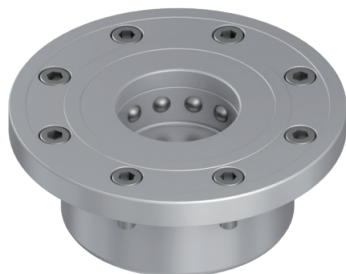
Application:

Equalisation of thermal expansion and manufacturing tolerances



SPEEDY basic M

- Module
- Round
- Hydraulically actuated

**Characteristics:**

Flush Mount fast closing clamp module made of high-quality, stainless tool steel. Due to the low height, little space is required.

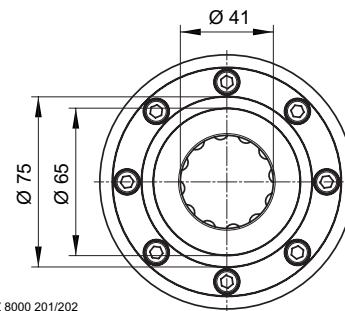
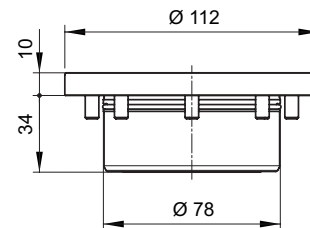
Is clamped mechanically and released hydraulically.

Application:

For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



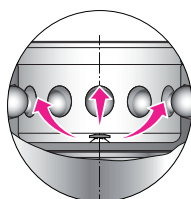
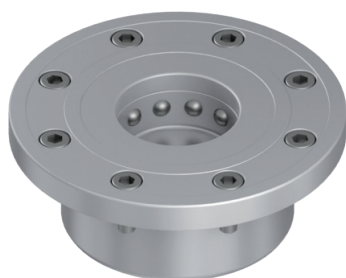
Z 8000 201/202

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 201 | 30'000 N | 80 bar | 20 bar | 1.5 kg | D148 |

Fastening screws included.

SPEEDY basic M with blow-out function

- Module
- Round
- Hydraulically actuated
- Blow-out function

**Characteristics:**

Flush Mount fast closing clamp module made of high-quality, stainless tool steel. Due to the low height, little space is required. Is clamped mechanically and released hydraulically.

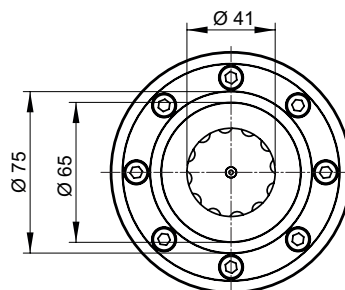
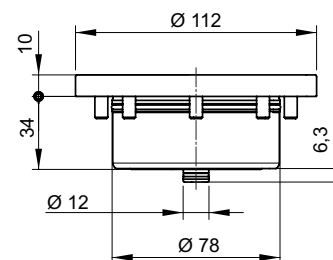
Intelligent blow-out function for cleaning the precision bore. Mount control via differential pressure or blocking air possible.

Application:

For partial automation, reduces the cleaning effort. For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



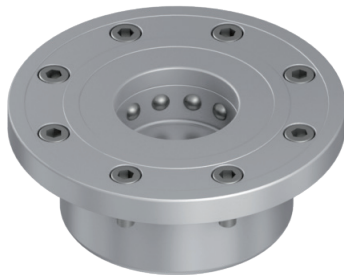
Z 8000 203/204

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 203 | 30'000 N | 80 bar | 20 bar | 1.5 kg | D154 |

Fastening screws and screw covers included.

SPEEDY basic M

- Module
- Round
- Pneumatically actuated



Characteristics:

Flush Mount fast closing clamp module made of high-quality, stainless tool steel. Due to the low height, little space is required.

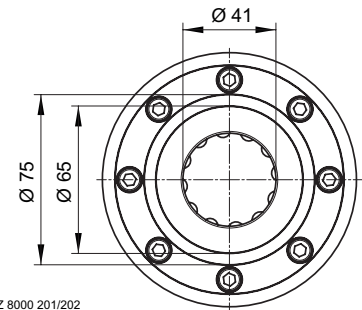
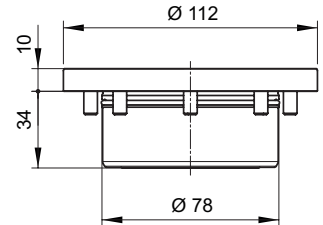
Is clamped mechanically and released pneumatically.

Application:

For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



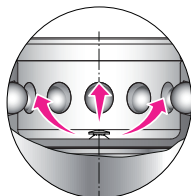
Z 8000 201/202

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 202 | 9'000 N | 10 bar | 5.5 bar | 1.5 kg | D148 |

Fastening screws included.

SPEEDY basic M with blow-out function

- Module
- Round
- Pneumatically actuated
- Blow-out function



Characteristics:

Flush Mount fast closing clamp module made of high-quality, stainless tool steel. Due to the low height, little space is required. Is clamped mechanically and released pneumatically.

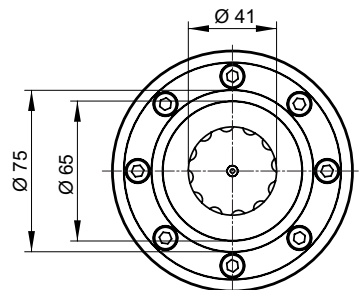
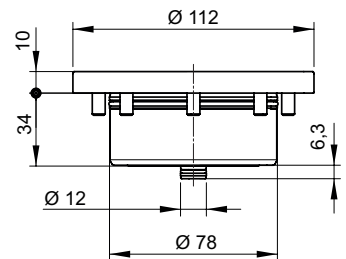
Intelligent blow-out function for cleaning the precision bore. Mount control via differential pressure or blocking air possible.

Application:

For partial automation, reduces the cleaning effort. For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



Z 8000 203/204

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 204 | 9'000 N | 10 bar | 5.5 bar | 1.5 kg | D154 |

Fastening screws included.

Retractable nipple basic M

● With zero point



Characteristics:

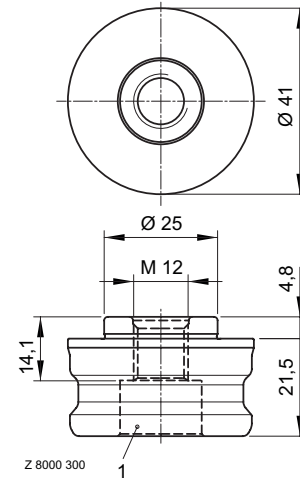
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|--------|------------|
| | | M10 | M12 | | |
| 8000 300 | min. 10.9 | 45 Nm | 45 Nm | 0.2 kg | D152 |

1) Counterbore for screw DIN 912



Retractable nipple basic M

● With equaliser



Characteristics:

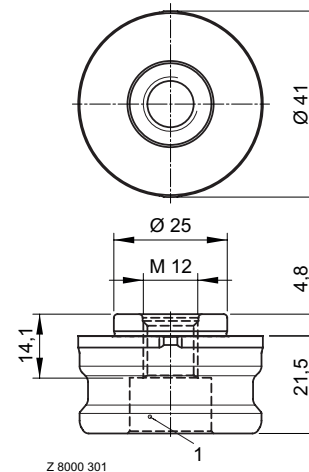
Retractable nipple with equaliser in one axis (sword shape).

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|--------|------------|
| | | M10 | M12 | | |
| 8000 301 | min. 10.9 | 45 Nm | 45 Nm | 0.2 kg | D152 |

1) Counterbore for screw DIN 912



Retractable nipple basic M

● Without centring



Characteristics:

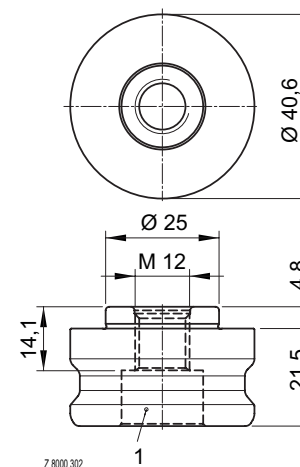
Retractable nipple without centring.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|---------------|-------------------|-------|--------|------------|
| | | M10 | M12 | | |
| 8000 302 | min. 10.9 | 45 Nm | 45 Nm | 0.2 kg | D152 |

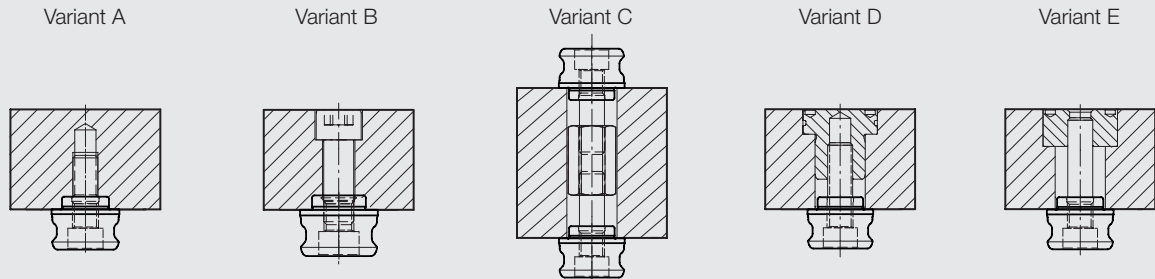
1) Counterbore for screw DIN 912



For information on the retractable nipple fastening variants see page 19.

i Retractable nipple fastening variants

The fastening variants shown are possible for SPEEDY basic S, M and L.



Variant A:

For applications in which nipple bores are not allowed on the surface of the pallet, or for direct workpiece clamping.

Variant B:

Simple nipple fastening from above, if particular accuracy between the position of the nipple and the upper side of the pallet is not necessary.

Variant C:

Ideal fastening variant for clamping arrangements using which the workpiece is machined on both sides. Highest accuracy is ensured because the nipples are fastened in the same mounting bore.

Variant D, E:

These fastening variants are to be preferred. The precision bore for the nipple and all the necessary positioning holes on the pallet can be manufactured in one operation. As a consequence the positions have the highest accuracy in relation to each other.

Nipple fastening D

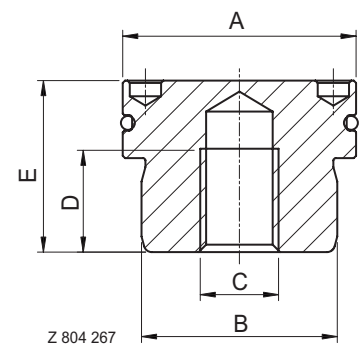


Characteristics:

Makes it possible to manufacture the nipple fastening with one clamping arrangement. In this way the highest accuracy is achieved.

Application:

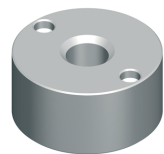
Machine pallets, machine vices, chucks, jigs, direct workpiece clamping.



Z 804 267

| Order no. | For retractable nipples | øA | øB | C | D | E | Data sheet |
|-----------|-------------------------|------|----|-----|----|------|------------|
| 809 127 | basic S | 24.8 | 18 | M8 | 12 | 21.9 | D152 |
| 804 267 | basic M | 29.8 | 25 | M10 | 13 | 21.9 | D152 |
| 804 262 | basic L | 37.8 | 32 | M12 | 18 | 27.9 | D152 |

Nipple fastening E

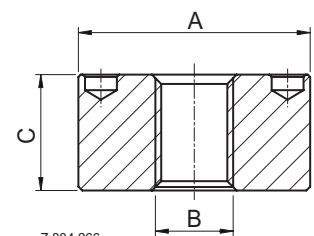


Characteristics:

Makes it possible to manufacture the nipple fastening with one clamping arrangement. In this way the highest accuracy is achieved.

Application:

Machine pallets, machine vices, chucks, jigs, direct workpiece clamping.



Z 804 266

| Order no. | For retractable nipples | øA | øB | C | Data sheet |
|-----------|-------------------------|------|-----|------|------------|
| 809 128 | basic S | 24.8 | M8 | 14.9 | D152 |
| 804 266 | basic M | 29.8 | M10 | 14.9 | D152 |
| 804 264 | basic L | 37.8 | M12 | 17.9 | D152 |

SPEEDY basic L ^h

- Module
- Round
- Hydraulically actuated

**Characteristics:**

Flush Mount fast closing clamp module made of high-quality, stainless tool steel.

Due to the low height, little space is required.

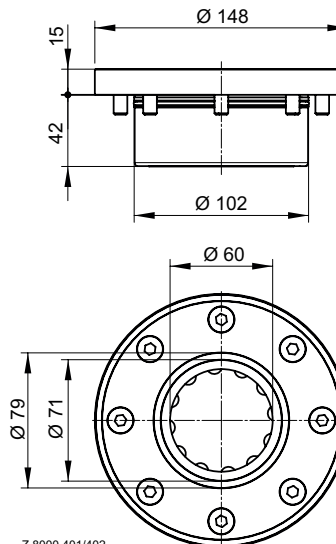
Is clamped mechanically and released hydraulically.

Application:

For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



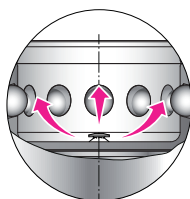
Z 8000 401/402

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 401 | 55'000 N | 60 bar | 25 bar | 3.8 kg | D148 |

Fastening screws and screw covers included.

SPEEDY basic L ^h with blow-out function

- Module
- Round
- Hydraulically actuated
- Blow-out function

**Characteristics:**

Flush Mount fast closing clamp module made of high-quality, stainless tool steel.

Due to the low height, little space is required.

Is clamped mechanically and released hydraulically.

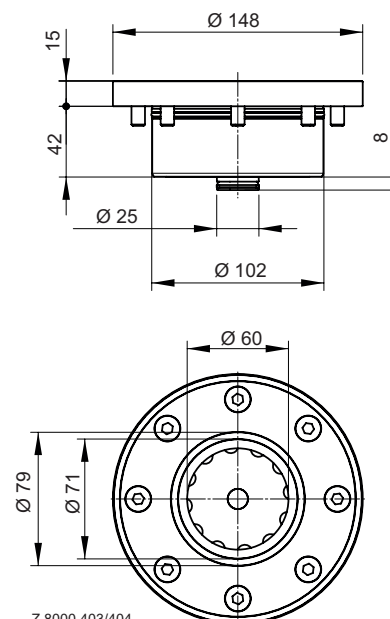
Intelligent blow-out function for cleaning the precision bore. Mount control via differential pressure or blocking air possible.

Application:

For partial automation, reduces the cleaning effort. For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



Z 8000 403/404

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 403 | 55'000 N | 60 bar | 25 bar | 3.8 kg | D154 |

Fastening screws included.

SPEEDY basic L P

- Module
- Round
- Pneumatically actuated



Characteristics:

Flush Mount fast closing clamp module made of high-quality, stainless tool steel. Due to the low height, little space is required.

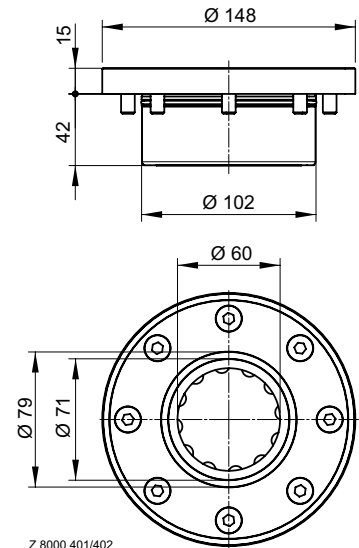
Is clamped mechanically and released pneumatically.

Application:

For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



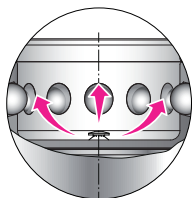
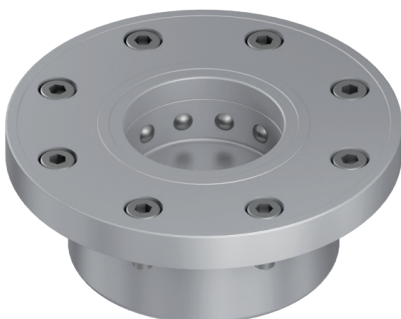
Z 8000 401/402

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 402 | 23'000 N | 10 bar | 5.5 bar | 3.8 kg | D148 |

Fastening screws and screw covers included.

SPEEDY basic L P with blow-out function

- Module
- Round
- Pneumatically actuated
- Blow-out function



Characteristics:

Flush Mount fast closing clamp module made of high-quality, stainless tool steel. Due to the low height, little space is required.

Is clamped mechanically and released pneumatically.

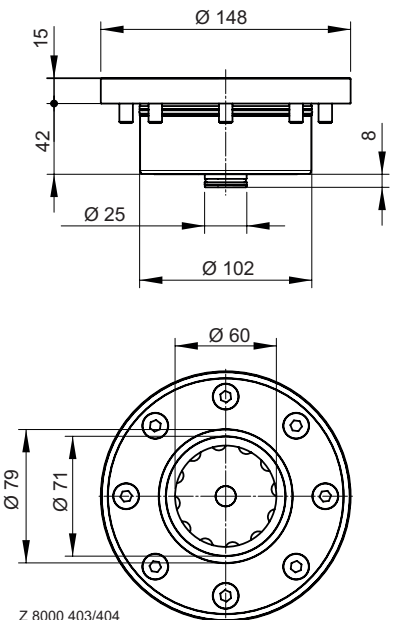
Intelligent blow-out function for cleaning the precision bore. Mount control via differential pressure or blocking air possible.

Application:

For partial automation, reduces the cleaning effort. For flush mounting in machines, machine pallets, plates, angles, cubes, mounting towers and trunnion tables.

Machine element:

Can be used for all common machining tasks such as milling, grinding, eroding as well as on test stands and assembly devices.



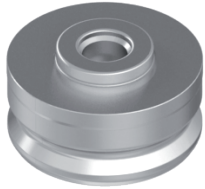
Z 8000 403/404

| Order no. | Retention force | Pressure max. | Release pressure | Weight | Data sheet |
|-----------|-----------------|---------------|------------------|--------|------------|
| 8000 404 | 23'000 N | 10 bar | 5.5 bar | 3.8 kg | D154 |

Fastening screws included.

Retractable nipple basic L

• With zero point



Characteristics:

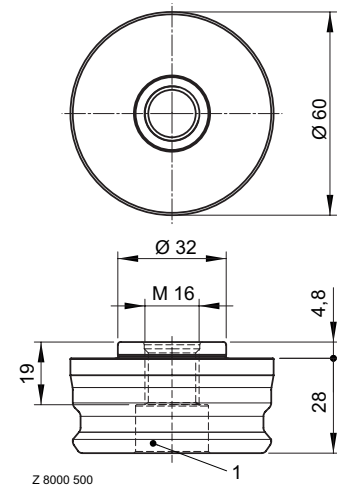
Retractable nipple with zero point.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|--------------------|-------------------|--------|--------|------------|
| | | M12 | M16 | | |
| 8000 500 | M12:12.9 / M16:8.8 | 140 Nm | 200 Nm | 0.6 kg | D152 |

1) Counterbore for screw DIN 912



Retractable nipple basic L

• With equaliser



Characteristics:

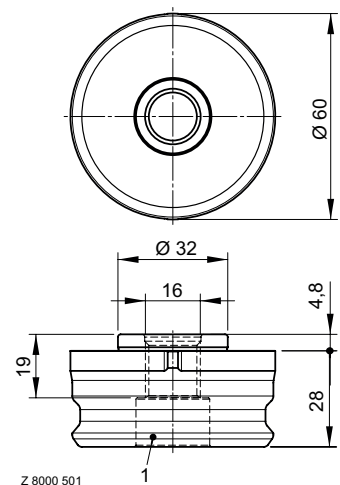
Retractable nipple with equaliser in one axis (sword shape).

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

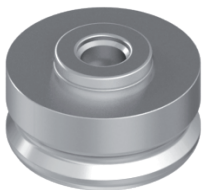
| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|--------------------|-------------------|--------|--------|------------|
| | | M12 | M16 | | |
| 8000 501 | M12:12.9 / M16:8.8 | 140 Nm | 200 Nm | 0.6 kg | D152 |

1) Counterbore for screw DIN 912



Retractable nipple basic L

• Without centring



Characteristics:

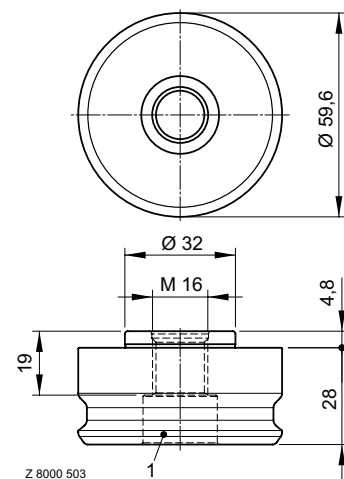
Retractable nipple without centring.

Application:

For positioning and clamping on machine pallets, machine vices, chucks, jigs, direct workpiece clamping.

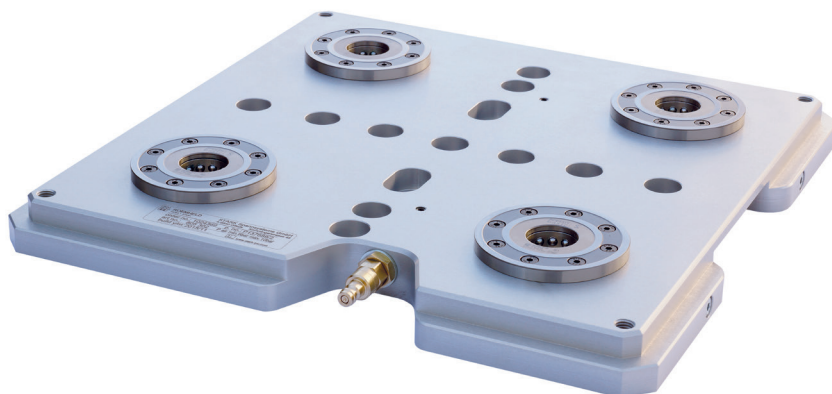
| Order no. | Screw quality | Tightening torque | | Weight | Data sheet |
|-----------|--------------------|-------------------|--------|--------|------------|
| | | M12 | M16 | | |
| 8000 502 | M12:12.9 / M16:8.8 | 140 Nm | 200 Nm | 0.6 kg | D152 |

1) Counterbore for screw DIN 912



For information on the retractable nipple fastening variants see page 19.

Fast closing clamp plate **SPEEDY basic S/M P**



Characteristics:

Fast closing clamp plate made of anodised aluminium with 4 SPEEDY basic. The pallet is clamped mechanically and released pneumatically. Fastening holes, clamping edge, positioning holes and an alignment surface make placing in operation straightforward on many common machines.

Fast closing clamp plate **SPEEDY basic S P**

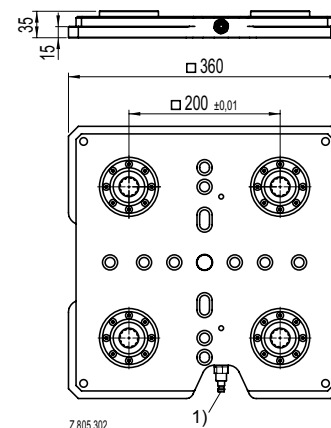
Application:

- On 3/4/5-axis machines for all common machining tasks such as milling, grinding, eroding.

| Order no. | Description | Dimensions (mm) | Weight |
|-----------|---|-----------------|---------|
| 805 302 | Set SVP SPEEDY basic Sp | 360 x 360 x 35 | 9.8 kg |
| 805 305 | Pallet with retractable nipples basic S | 360 x 360 x 28 | 9.6 kg |
| 805 202 | Fixing clamp for basic S | 40X40X23 / M12 | 0.01 kg |



805 202



805 302

1) Coupling 5000 301

Fast closing clamp plate **SPEEDY basic M P**

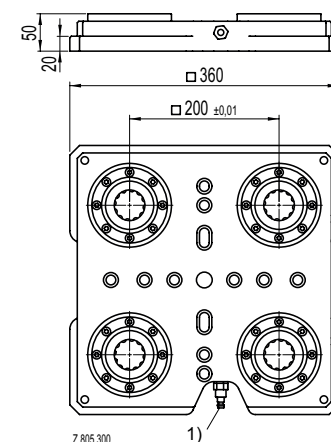
Application:

- On 3/4/5-axis machines for all common machining tasks such as milling, grinding, eroding.

| Order no. | Description | Dimensions (mm) | Weight |
|-----------|---|-----------------|---------|
| 805 300 | Set SVP SPEEDY basic Mp | 360 x 360 x 50 | 13.8 kg |
| 805 304 | Pallet with retractable nipples basic M | 360 x 360 x 28 | 10.2 kg |
| 805 201 | Fixing clamp for basic M | 40X40X28 / M12 | 0.01 kg |



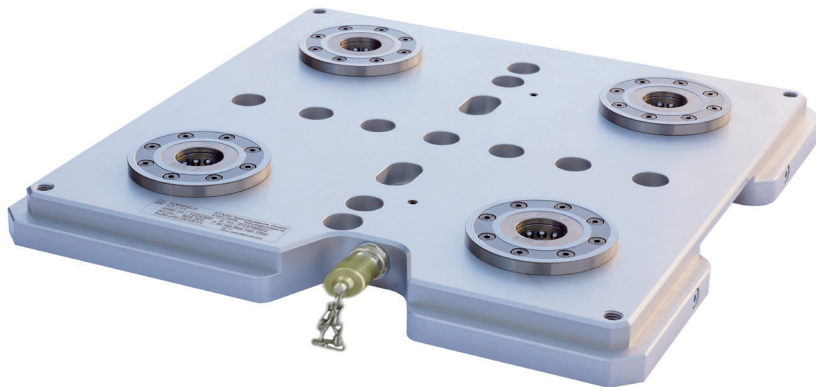
805 201



805 300

1) Coupling 5000 301

Fast closing clamp plate SPEEDY basic S/M



Characteristics:

Fast closing clamp plate made of anodised aluminium with 4 SPEEDY basic. The pallet is clamped mechanically and released hydraulically. Fastening holes, clamping edge, positioning holes and an alignment surface make placing in operation straightforward on many common machines.

Fast closing clamp plate SPEEDY basic S

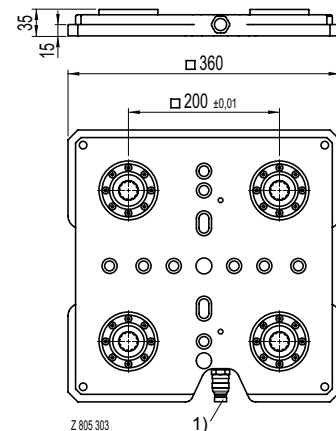
Application:

- On 3/4/5-axis machines for all common machining tasks such as milling, grinding, eroding.

| Order no. | Description | Dimensions (mm) | Weight |
|-----------|---|-----------------|---------|
| 805 303 | Set SVP SPEEDY basic Sh | 360 x 360 x 35 | 9.8 kg |
| 805 305 | Pallet with retractable nipples basic S | 360 x 360 x 28 | 9.6 kg |
| 805 202 | Fixing clamp for basic S | 40x40x23 / M12 | 0.01 kg |



805 202



805 303

- 1) Coupling 952 126: use self-sealing coupling 952 177 on hose

Fast closing clamp plate SPEEDY basic M

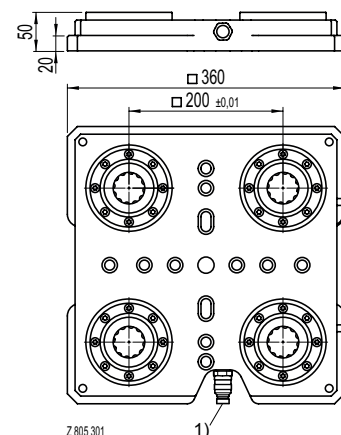
Application:

- On 3/4/5-axis machines for all common machining tasks such as milling, grinding, eroding.

| Order no. | Description | Dimensions (mm) | Weight |
|-----------|---|-----------------|---------|
| 805 301 | Set SVP SPEEDY basic Mh | 360 x 360 x 50 | 13.8 kg |
| 805 304 | Pallet with retractable nipples basic M | 360 x 360 x 28 | 10.2 kg |
| 805 201 | Fixing clamp for basic M | 40x40x28 / M12 | 0.01 kg |



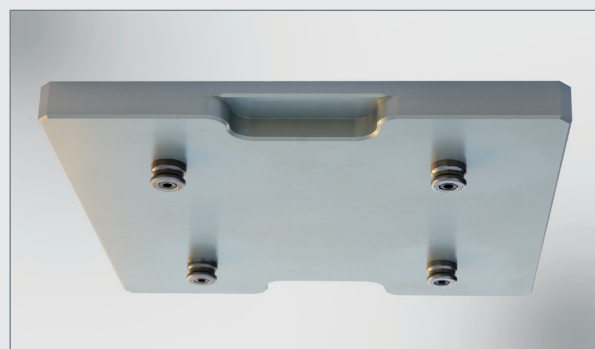
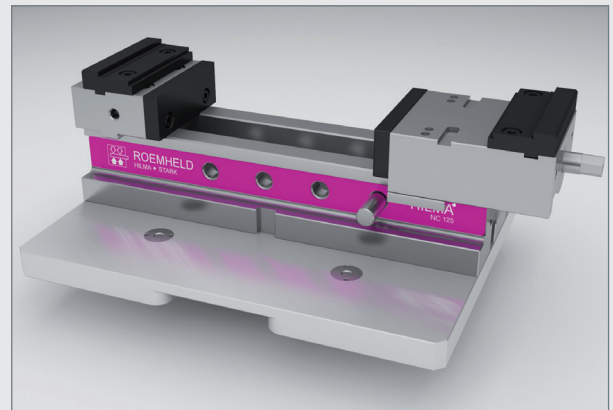
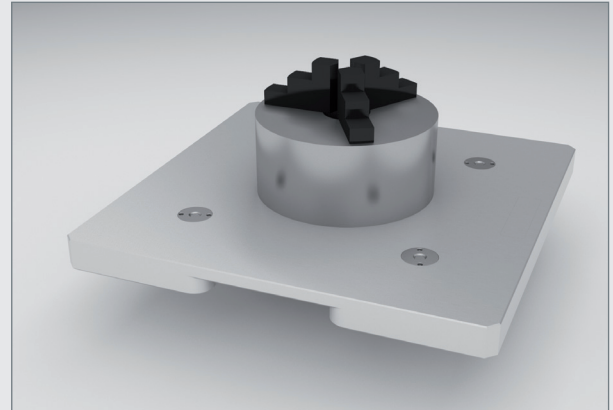
805 201



805 301

- 1) Coupling 952 126: use self-sealing coupling 952 177 on hose

i Possible applications



Pallets with retractable nipples are available in different versions complete with means of clamping the work-piece. Please request information from your STARK sales partner.

Accessory

Pressure booster RECORD ^h

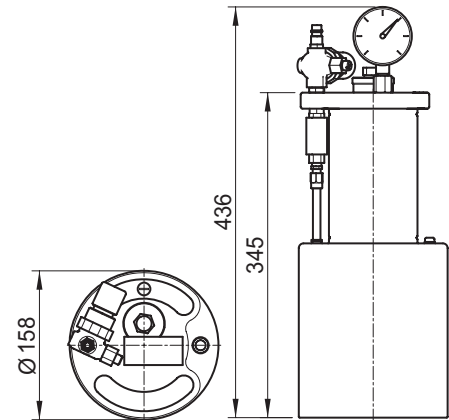

Characteristics:

The pressure booster RECORD converts air pressure to the hydraulic system pressure required to operate the SPEEDYs.

Application:

Operation of:

- 50 SPEEDY basic S
- 20 SPEEDY basic M
- 10 SPEEDY basic L



Z 804 411

| Order no. | System pressure | Air pressure | Oil capacity | Weight |
|-----------|-----------------|--------------|--------------|---------|
| 804 411 | 40 bar | 6 bar | 0.31 l | 8.80 kg |

Hydraulic connection via hydraulic coupler 804 371 (use coupling 952 044 on hose), hydraulic hose not included.

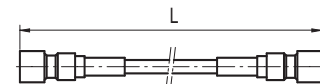
Hydraulic hose with couplings ^h


Characteristics:

Hydraulic hose with hydraulic couplers at both ends (952 044 and 952 177 self-sealing).

Application:

Is used to connect between pressure booster and fast closing clamp plate or SPEEDY basic.



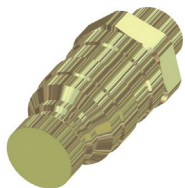
Z 704 150

| Order no. | L | Max. pressure | Weight |
|-----------|-------|---------------|---------|
| 704 151 | 1.5 m | 300 bar | 0.60 kg |
| 704 153 | 3.0 m | 300 bar | 1.20 kg |

Self-sealing coupler ^h

- SPEEDY side

- Self-sealing

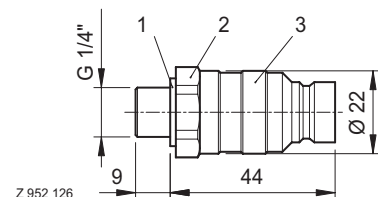

Characteristics:

Coupling for fast closing clamp plates or connection block to the pipework for the SPEEDY basic fast closing clamps.

Application:

Particularly recommendable for use in conjunction with pressure boosters (it is not necessary to top-up the pressure booster).

Can be used wherever oil is not allowed to leak into the drilling emulsion and for frequent coupling processes.

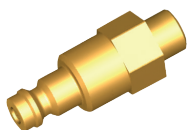


Z 952 126

- 1) Sealing ring
- 2) AF 22
- 3) Coupling

| Order no. | Connection | Pressure | Weight |
|-----------|-------------------|----------|---------|
| 952 126 | Hydraulic coupler | 300 bar | 0.05 kg |

Coupling nipple

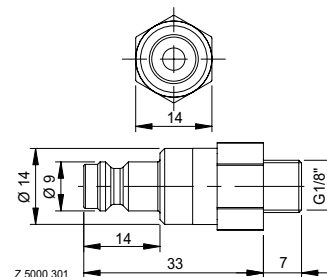


Characteristics:

Coupling nipple for SPEEDY basic in conjunction with the coupling 5000 300 or 954 208.

Application:

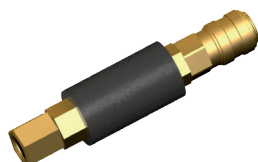
For the connection and actuation of the fast closing clamps.



| Order no. | Connection | Weight |
|-----------|------------|---------|
| 5000 301 | G1/8" | 0.05 kg |

Slide coupling

- Switchable

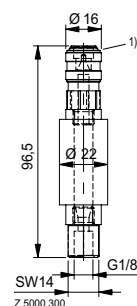


Characteristics:

Pneumatic coupling unit with slide valve for SPEEDY basic.

Application:

Actuation of the fast closing clamps SPEEDY basic.



| Order no. | Connection | Weight |
|-----------|------------|---------|
| 5000 300 | G1/8" | 0.20 kg |

1) Coupling 954 208 suitable for coupling nipple 5000 301.

Coupling

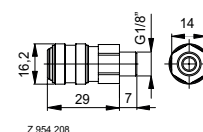


Characteristics:

Pneumatic coupling, suitable for 5000 301.

Application:

Actuation of the fast closing clamps SPEEDY basic.



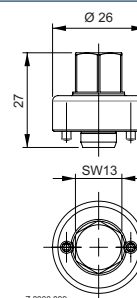
| Order no. | Connection | Weight |
|-----------|------------|---------|
| 954 208 | G1/8" | 0.05 kg |

Retractable nipple key SPEEDY basic Y



Characteristics:

Retractable nipple key for the secure installation of SPEEDY basic Y.



| Order no. | Across flats | Tightening torque | Weight |
|-----------|--------------|-------------------|---------|
| 8000 899 | SW13 | 15 Nm | 0,05 kg |



Everything from a single source

Development

Machine technology has continued to develop strongly. STARK offers systems for modern manufacturing, from simple versions to complex, clamping solutions suitable for automation. In this way STARK facilitates sustainable growth and potential for your business.

At STARK it is tradition to take new paths, e.g. the expansion of the SPEEDY hydratec programme with a new type of electrical drive as an alternative to hydraulic and pneumatic operation.



Design

The modern design department, equipped with CAD since 1988, prepares individual, optimised solutions for customers. Continuous innovation and improvement of existing products and solutions for positioning and clamping safeguard the market position over the long term.

STARK also has its own test facility for the practical verification of the parameters determined theoretically. During this process, e.g., endurance tests are undertaken under production conditions (coolant, swarf).



Production

STARK stands for meticulous manufacture in-house with high requirements on quality and precision. The specialist knowledge of our employees and the high level of vertical integration are prerequisites for the ability to react flexibly to customer wishes.

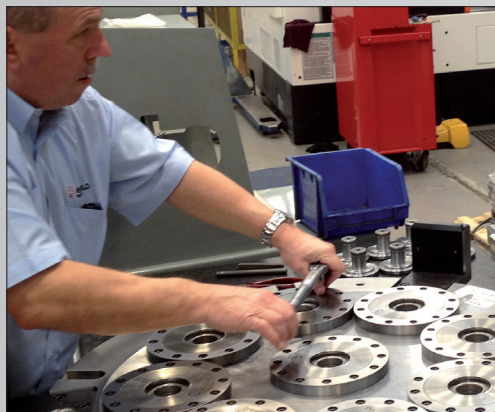
STARK continuously invests in the latest technologies to pass this lead onto our customers. Here the focus is on the highest possible quality and the best possible adherence to schedule.



Placing in operation and service

With the delivery of STARK products we offer other services along with placing in operation on your premises. This could be a predefined acceptance that could take place, e.g., at the machine manufacturer, or a staff training course for the safe and efficient usage of your STARK zero point clamping system.

STARK service is also available after placing in operation.



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