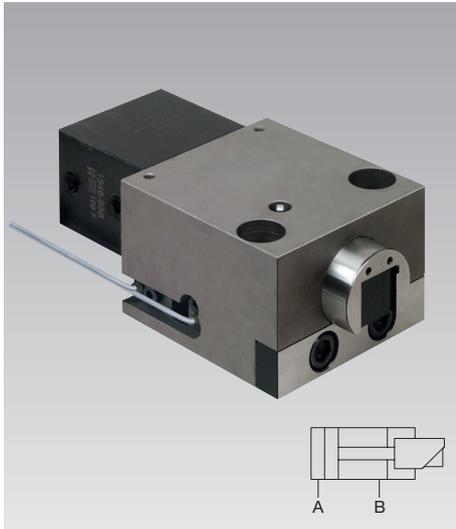




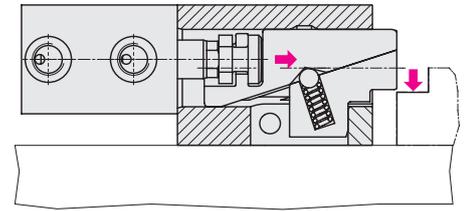
Wedge Clamps for Flat Clamping Edge

double acting, clamping force 25 up to 100 kN,
 hydraulic clamping and unclamping, without and with position monitoring at the side



Advantages

- Safe clamping of dies with flat clamping edge
- The clamping piston does not retract in the case of pressure drop
- Uniform clamping and unclamping pressure
- High operational safety by position monitoring and automatic motion sequence
- Very sturdy and compact design
- Well-proven clamping element with high degree of safety and long service life
- Retracting clamping bolt ensures unimpeded mould and die change
- Special versions on request
- Minimum space requirement due to position monitoring without lateral overhang



Application

Double-acting wedge clamps are particularly suitable for safe clamping of dies with flat clamping edge on a press bed or ram or for clamping dies in injection moulding machines.

Description

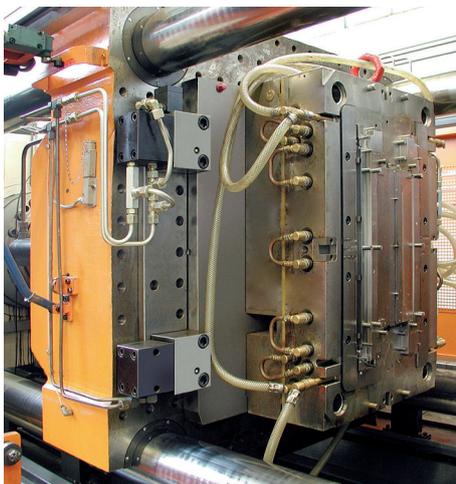
The double acting wedge clamps consist of a hydraulic block cylinder connected with a two-piece mechanical clamping bolt in a floating manner.

Clamping cycle: the clamping bolt with thrust pad first performs an idle stroke. When the inner stop is reached, the clamping bolt is vertically lowered onto the clamping edge.

The 5° angle of the thrust pad has been determined so as to ensure that despite self-locking the hydraulic pressure required for clamping is not higher than the required pressure for unclamping.

Since the clamping force is vertically transmitted to the clamping point, no side loads occur. The wedge clamp is available with or without position monitoring.

Application example



Technical data

| | | |
|--------------------------|-------|----------|
| Max. clamping force | [kN] | 25 – 100 |
| Max. operating force | [kN] | 45 – 145 |
| Max. clamping pressure | [bar] | 250 |
| Max. unclamping pressure | [bar] | 250 |

Clamping force

This is the force the clamping element applies to the workpiece. The die or the tool is clamped on the fixture plate by means of this force.

Maximum operating force

This is the force that can be absorbed by the clamping element and the fastener (screws).

Important notes!

In case of incorrect operation of the wedge clamps, the clamping bolt may fully retract into the guide housing and thus cause the upper die falling off the ram.

When using wedge clamps on the press ram, it is recommended that multiple-circuit hydraulic supply of the clamping elements and pilot-controlled check valves are used for securing hydraulic clamping.

The greasing intervals (high-temperature grease) should be scheduled in accordance with the operating conditions (at least once a week). Please note that greasing of the wedge bolts should only be made with the elements being retracted.

Clamping elements with a wedge clamping bolt must be protected against dirt, scale, swarf, coolant, etc. by means of a suitable covering. If penetration of such foreign matters cannot be prevented, this type of element should not be used.

Versions

- without position monitoring
 max. temperature: 160 °C
 (300 °C on request)
- with position monitoring at the side
 max. temperature: 100 °C

Position monitoring

The integrated position monitoring is coupled to the clamping bolt and the contact bolt and signals:

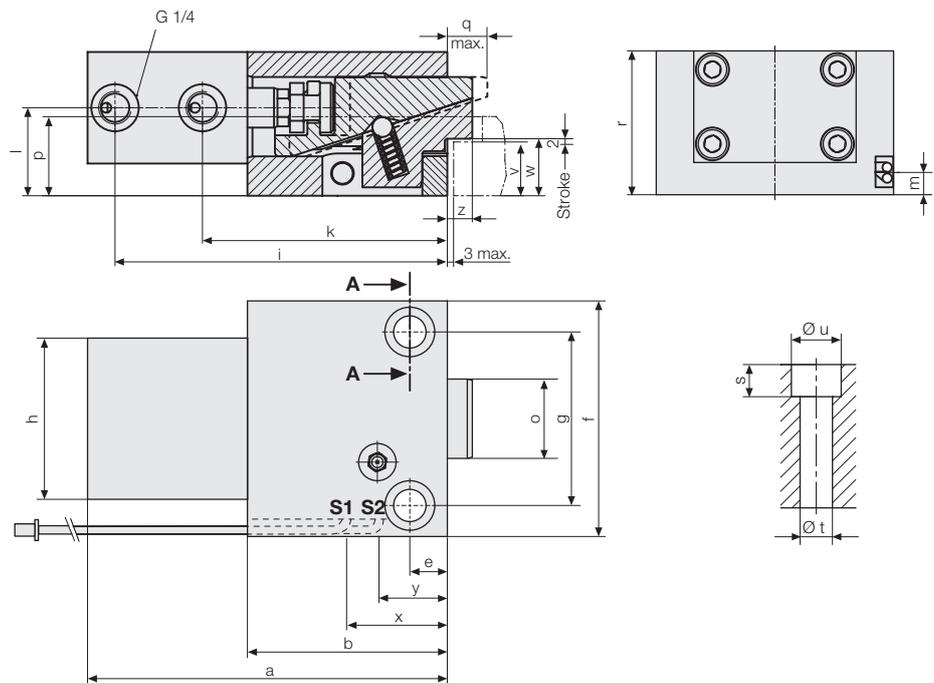
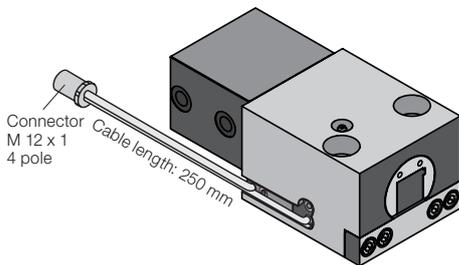
1. Clamping bolt in unclamping position
2. Clamping bolt in clamping position

Dimensions Technical data

Wedge clamps

with position monitoring (at the side)

Clamping bolt for vertical clamping



| Clamping force max. | [kN] | 25 | 50 | 100 |
|---------------------------------|-------|------|------|-------|
| Max. admissible operating force | | | | |
| Screw DIN 912 8.8 | [kN] | 35 | 65 | 130 |
| Screw DIN 912 12.9 | [kN] | 45 | 75 | 145 |
| Screw DIN 912 (2 off) | | M12 | M16 | M20 |
| Max. operating pressure | [bar] | 250 | 250 | 250 |
| Cylinder Ø | [mm] | 25 | 40 | 50 |
| Max. stroke | [mm] | 2 | 2 | 2 |
| Max. oil consumption | [mm] | 10 | 31 | 49 |
| Clamping stroke | [mm] | 1 | 1 | 1 |
| a | [mm] | 144 | 196 | 240 |
| b | [mm] | 80 | 117 | 150 |
| e | [mm] | 15 | 33 | 32 |
| f | [mm] | 95 | 100 | 140 |
| g (± 0,2) | [mm] | 70 | 70 | 105 |
| h | [mm] | 65 | 85 | 100 |
| i | [mm] | 133 | 185 | 227 |
| k | [mm] | 98 | 141 | 177 |
| l | [mm] | 35.5 | 48.5 | 62.5 |
| m | [mm] | 9 | 9 | 17 |
| Ø o | [mm] | 32 | 50 | 60 |
| p | [mm] | 32 | 43 | 56 |
| q max. | [mm] | 17 | 24 | 24 |
| r | [mm] | 58 | 80 | 100 |
| s | [mm] | 13 | 16 | 22 |
| Ø t | [mm] | 13 | 17 | 21 |
| Ø u | [mm] | 20 | 26 | 32 |
| v** (± 0.3) | [mm] | 22 | 25 | 35 |
| w | [mm] | 23 | 26 | 36 |
| x | [mm] | 39 | 65 | 85 |
| y | [mm] | 26 | 47 | 50 |
| z | [mm] | 10 | 17 | 17 |
| Weight | [kg] | 4.28 | 9.55 | 15.20 |

| Part no. | | | |
|--|------------------|------------------|------------------|
| without position monitoring up to 160 °C* | | | |
| | 824036800 | 824046810 | 824056820 |
| with position monitoring up to 100 °C | 824036601 | 824046611 | 824056621 |

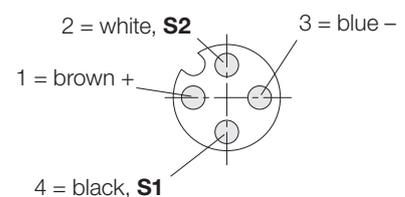
* Higher temperatures up to 300 °C on request

** clamping edge height as per Euromap Standard on request, tolerance ± 0.3 mm

Position monitoring

| | |
|---|----------------------------|
| Switching function | interlock |
| Output | PNP |
| Rated operating distance S _n | 1 mm |
| Ambient temperature T _A | -25 °C... + 100 °C* |
| Operating voltage U _B | 10 ... 30 V DC |
| Residual ripple/supply frequency | ≤ 15 % (SS) |
| Constant current max. | 100 mA |
| Unit power consumption | ≤ 10 mA |
| Voltage drop U _D at I max. | ≤ 1.5 V |
| Output resistance R _A | 4.7 kΩ |
| Housing material | steel, corrosion resistant |
| Type of connection *2 | Plug on the right side |
| Code class as per DIN 40050 | IP 67 |
| Length of cable | 250 mm |

Pin assignment



Accessories

Connecting cable with screw coupling
 Cable length 5 m **Part no. 5700013**
 Cable length 10 m **Part no. 5700014**

Proximity switch (spare part)
 Twin-Set **Part no. 250120073**