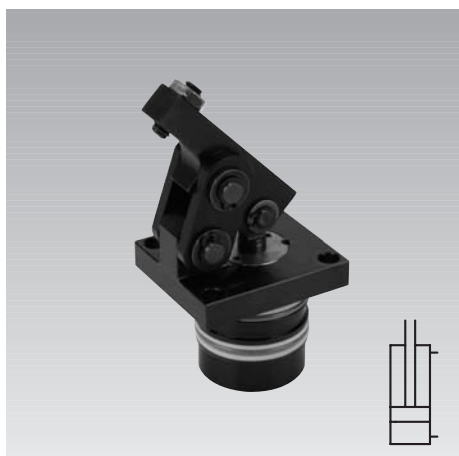




Mini Hinge Clamp 70 bar with metallic wiper edge, double acting, max. operating pressure 70 bar



Advantages

- High clamping force at low operating pressure
- Long life due to metallic wiper edge to protect the piston rod
- Compact design
- Body partially recessible
- Oil supply through drilled channels
- Unimpeded loading and unloading of the fixture when using clamping levers with swivel contact bolt
- Clamping possible without side loads
- Two different clamping levers are available
- Long clamping lever adaptable to the workpiece
- Lever mechanism easy to clean
- Standard FKM seals
- Mounting position: any

Application

The mini hinge clamp is a low-cost hydraulic clamping element for thin-walled workpieces and reduced space. The special kinematics allow clamping nearly without side loads of workpieces which are very sensitive against deformation.

A clamping recess in the workpiece a little bit wider than the clamping lever is sufficient as clamping surface.

This line is designed for the direct connection to the machine hydraulics with a max. operating pressure of 70 bar.

Description

When pressurising the element, the piston moves upwards and swivels the clamping lever over the hinges forwards and at the same time downwards onto the workpiece. The piston force is deviated by 180° and is available as clamping force with virtually no loss of efficiency.

During unclamping the clamping lever with swivel contact bolt will be swivelled behind the front edge of the flange, thereby unimpeded loading and unloading of the workpiece is possible.

Workpieces which are very sensitive against deformation are clamped nearly without cross loads, if the clamping surface is at the height of the bearing pins of the clamping lever (34 mm above the flange surface, see page 2).

The optionally available long clamping lever is provided for customer-specific adaptations.

Important notes!

Hydraulic clamping elements generate big forces. Considerable injuries can be caused to fingers during clamping and unclamping in the effective area of the clamping arm. Remedy: protection device with electrical locking.

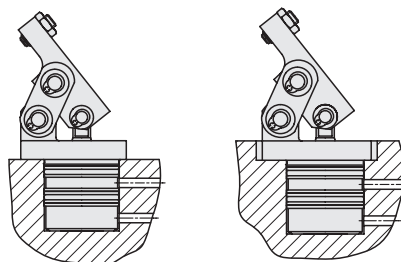
The hinge clamp has to be checked regularly on contamination by swarf and has to be cleaned, if required.

Operating conditions, tolerances and other data see data sheet A 0.100.

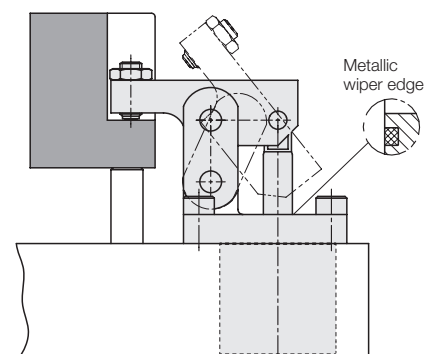
Installation and connecting possibilities

Cartridge-type version

for horizontally-drilled channels

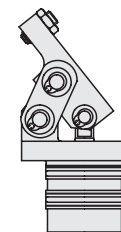


Function

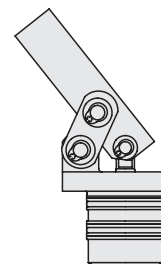


Options for clamping levers

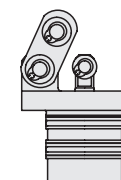
Clamping lever with swivel contact bolt



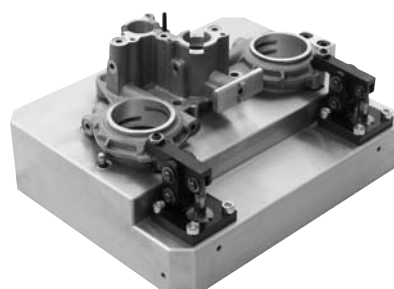
Long clamping lever

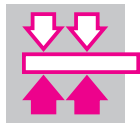


without clamping lever

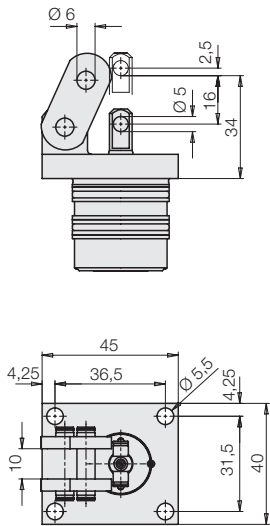


Application example

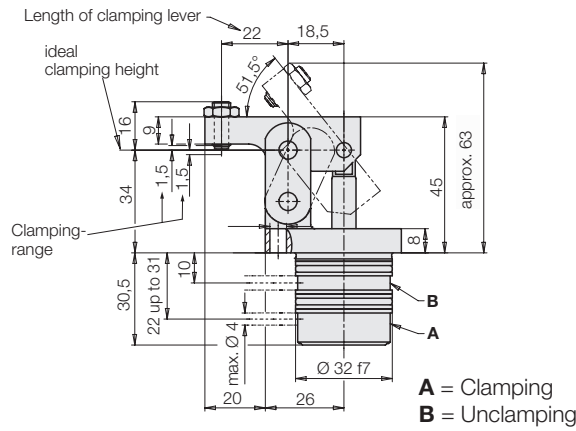




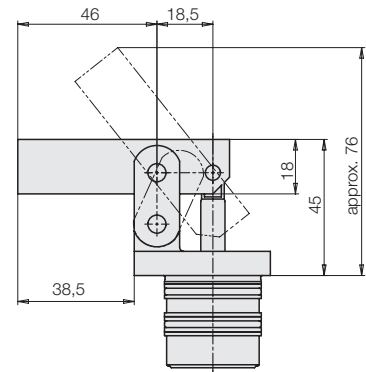
Without clamping lever 1826-010



Clamping lever with contact bolt 1826-011



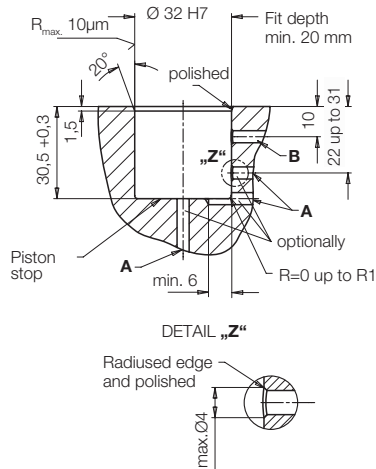
Long clamping lever 1826-012



Technical characteristics

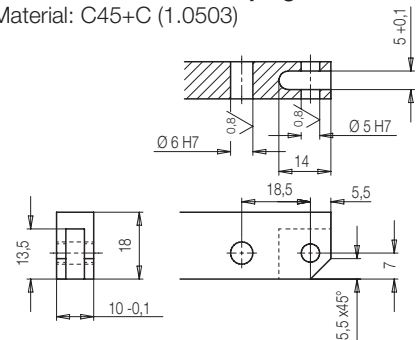
Clamping force	[kN]	2,2
Max. operating pressure	[bar]	70
Min. operating pressure	[bar]	10
Oil volume Clamping	[cm ³]	7.7
Unclamping	[cm ³]	6.8
Max. oil flow rate		
Clamping	[cm ³ /s]	50
Unclamping	[cm ³ /s]	45

Location hole

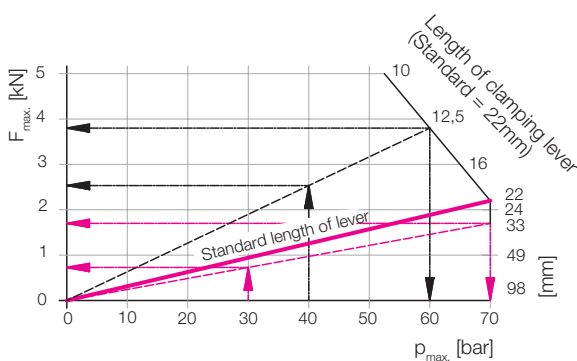


Connecting dimensions for self-manufactured clamping levers

Material: C45+C (1.0503)



Clamping force F_{max} as a function of the length of the clamping lever and maximum operating pressure p_{max} .



Example 1:

Given: Length of clamping lever = 30 mm
Operating pressure p = 30 bar
Searched: Clamping force F
As per diagram: F_{max} = 1,7 kN
 p_{max} = 70 bar
Solution: Clamping force $F = F_{max} \cdot \frac{p}{p_{max}} = 1.7 \text{ kN} \cdot \frac{30 \text{ bar}}{70 \text{ bar}} = 0.7 \text{ kN}$

Example 2:

Given: Length of clamping lever = 13 mm
Operating pressure p = 40 bar
Searched: Clamping force F
As per diagram: F_{max} = 3,8 kN
 p_{max} = 60 bar
Solution: Clamping force $F = F_{max} \cdot \frac{p}{p_{max}} = 3.8 \text{ kN} \cdot \frac{40 \text{ bar}}{60 \text{ bar}} = 2.5 \text{ kN}$