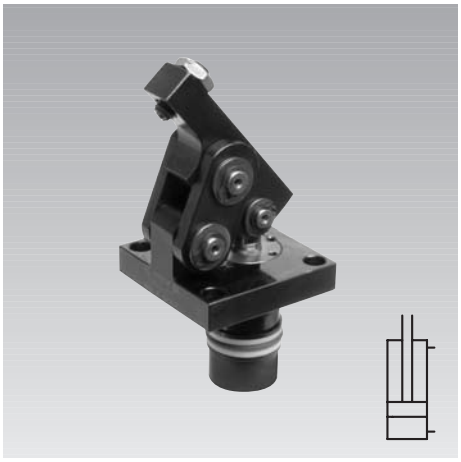
Mini Hinge Clamp
with metallic wiper, double acting, max. operating pressure 250 bar



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.

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.

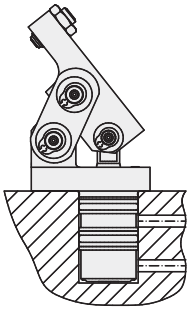
Workpieces which are very sensitive against deformation are clamped nearly without cross loads, if the clamping surface is at the height of the bearing pins of the clamping lever (34 mm above the flange surface, see page 2).

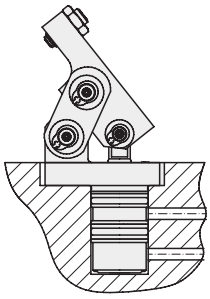
The optionally available long clamping lever is provided for customer-specific adaptations.

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 now and then on contamination by swarf and has to be cleaned, if required.
- Operating conditions, tolerances and other data see data sheet A 0.100.

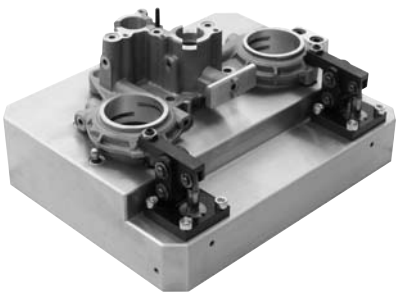
Advantages
- Compact design
- Body partially recessible
- Oil supply through drilled channels
- Unimpeded loading and unloading of the fixture when using clamping levers with swivel contact bolt
- Clamping lever can be swivelled into small recesses
- Clamping possible without side loads
- Two different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

Installation and connecting possibilities
Cartridge-type version
for horizontally-drilled channels

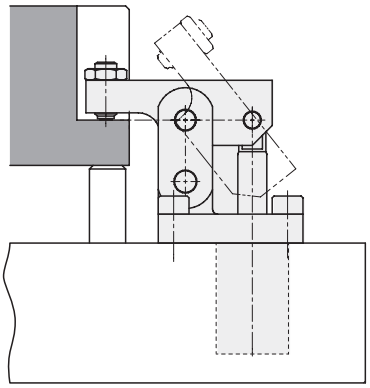




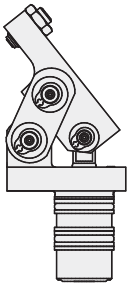
Application example



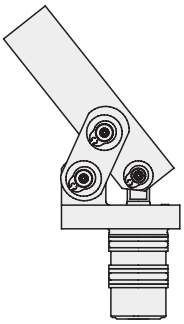
Function



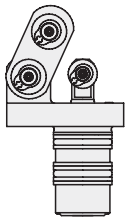
Options for clamping levers
Clamping lever with swivel contact bolt



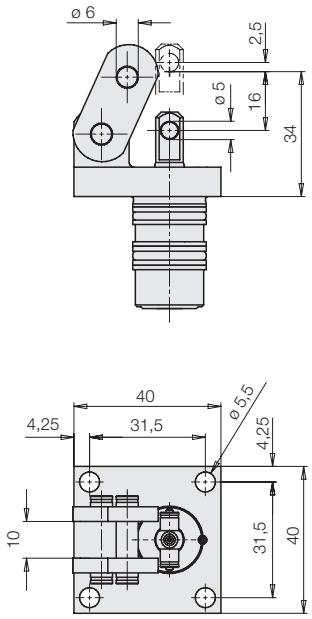
Long clamping lever



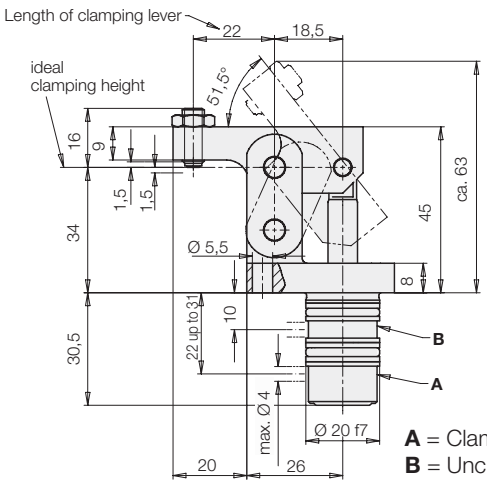
without clamping lever



Without clamping lever
1825-010

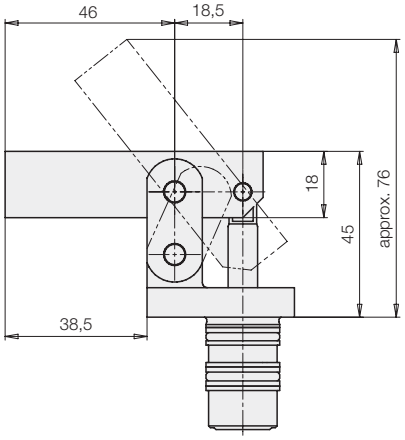


Clamping lever with contact bolt
1825-011

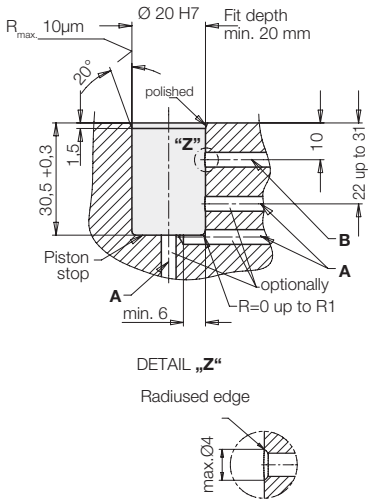


A = Clamping
B = Unclamping

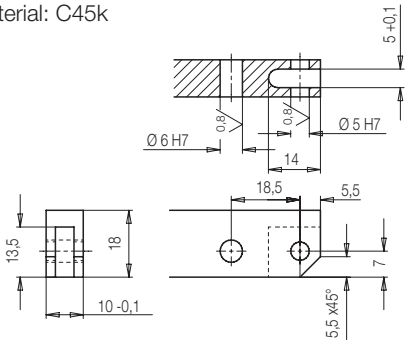
Long clamping lever
1825-012



Location hole



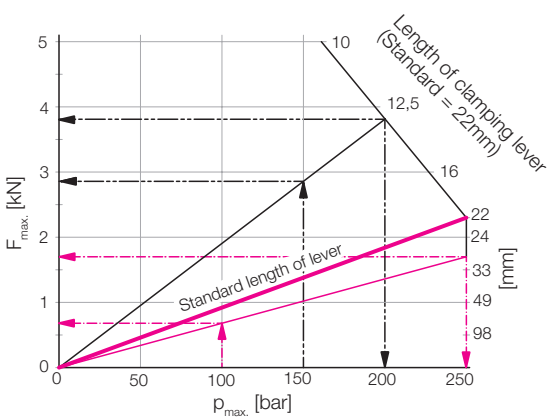
Connecting dimensions for self-manufactured clamping levers
Material: C45k



Technical characteristics

Clamping force		[kN]	2.2
Max. operating pressure		[bar]	250
Min. operating pressure		[bar]	10
Oil volume	Clamping	[cm³]	2.1
	Unclamping	[cm³]	1.2
Max. oil flow rate			
	Clamping	[cm³/s]	15
	Unclamping	[cm³/s]	8

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	=	100	bar
Searched:	Clamping force F			
As per diagram:	$F_{max.}$	=	1.7	kN
	$p_{max.}$	=	250	bar

Solution: Clamping force $F = F_{max.} \frac{p}{p_{max.}} = 1.7\ kN \frac{100\ bar}{250\ bar} = 0.68\ kN$

Example 2:

Given:	Length of clamping lever	=	13	mm
	Operating pressure p	=	150	bar
Searched:	Clamping force F			
As per diagram:	$F_{max.}$	=	3.8	kN
	$p_{max.}$	=	200	bar

Solution: Clamping force $F = F_{max.} \frac{p}{p_{max.}} = 3.8\ kN \frac{150\ bar}{200\ bar} = 2.8\ kN$