

## 1. Description

The Precision Push Rod Clamp is a heavy-duty tool designed for clamping work in the metal plate processing industry. It consists of a manual feed clamp, a metal housing with connection possibilities on the front and a push rod with a holder for the work piece.

During the clamping action the manual lever increases the force on the integrated toggle joint mechanism that initiates the axial action of the clamp arm.

## 2. Safety

The Precision Push Rod Clamp was not designed as an independent tool and has therefore not been fitted with its own safety facilities. In order to comply with the safety requirements, the clamp must be integrated into a production system and it must be connected to a suitable safety control system.

In the event of any failures resulting in a risk to people's safety, the use of the Precision Push Rod Clamp must be discontinued immediately. Maintenance work must only be carried out by properly trained staff when the machine is not running. After carrying out such maintenance work, any protective devices must be fitted again properly.

## 3. Mounting the Precision Push Rod Clamp

- Connect the Precision Push Rod Clamp using fillister head screws to the mounting surfaces on the front of the clamp.

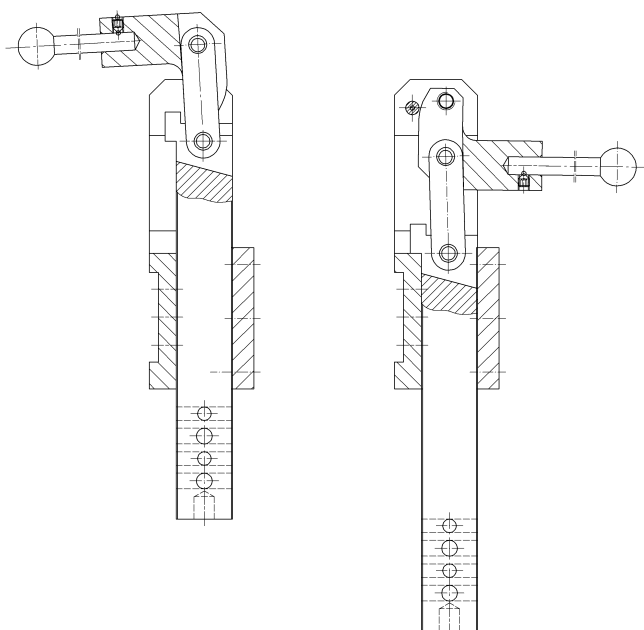


Fig. 1: Clamp

## 4. Adjusting the Precision Push Rod Clamp

### Warning: Risk of getting trapped!

When adjusting the Precision Push Rod Clamp, your fingers may get trapped between moving parts. Do not reach into the operating area of the hand lever while the Precision Push Rod Clamp is being operated.

- Screw the work piece onto the push rod.
- Close the Precision Push Rod Clamp. The toggle joint must audibly click into the position above the dead point.
- Determine the difference in size between the push rod and the product being worked on.
- Open the Precision Push Rod Clamp.
  - Adjustment without pre-tensioning (soft touch)  
Take out the difference in size to 0 mm (!) by mounting the relevant adaptor plates.  
Please note the OEM project specifications!
  - Adjustment with pre-tensioning  
Take out the difference in size to 0.3 mm by mounting the relevant adaptor plates.
- Close the Precision Push Rod Clamp. The toggle joint will take up its position above the dead point and the required pre-tension will be achieved.

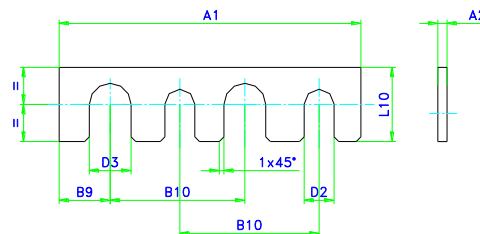


Fig. 2: Adaptor plates - example

Adaptor plate No.	A1	A2	D2	D3	B9	B10	L10
AP 4002	65	0,2	6,5	7	6	20	12,4
AP 4005		0,5					
AP 4010		1,0					
AP 4020		2,0					

## 5. Maintenance

The Precision Push Rod Clamp was primarily designed for series manufacturing applications and has been fitted with low-maintenance bearings and guides. For Precision Push Rod Clamps with an open housing we recommend regular cleaning of the moving parts of the toggle joint mechanism.

**Note:** The Precision Push Rod Clamp should only be cleaned in a closed state, as otherwise dust particles might penetrate into the housing. Cleaning the clamp with a steam jet cleaner or dry ice will damage the Precision Push Rod Clamp.