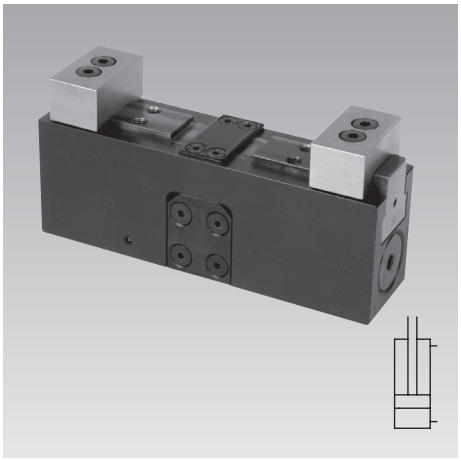
# Fixture clamp, concentric clamping

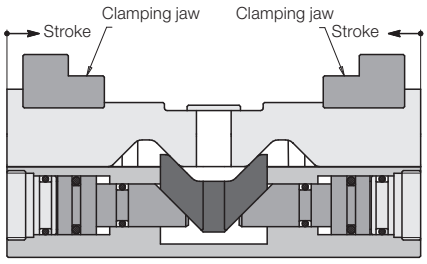
## max. clamping force 6.5 kN and 9 kN, jaw width 40 and 65 mm double acting, max. operating pressure 250 bar



### Advantages

- Very compact design
- High rigidity
- Retention force higher than clamping force
- Repetitive accuracy ±0.02 mm
- 2 sizes
- Strokes 2 x 5 and 2 x 8 mm
- Double-acting function
- Fixtures without tubes possible
- Exchangeable jaws
- Good swarf protection
- Port for central lubrication
- Mounting position: variable

### Function




### Application

The fixture clamps are used for machining of dimensionally stable workpieces in single or multiple clamping fixtures.
Due to their compact design they can be arranged in a very limited space. Fixture clamps are especially suitable for series manufacturing in automated mode.
The double-acting cylinder function combined with central lubrication and good swarf protection guarantees a high process safety.

### Description

The fixture clamp with concentric clamping function consists of a very slim basic body with 2 integrated hydraulic cylinders.
The piston forces are transfered via a guided connecting link to the two clamping slides so that a centric synchronism is obtained.
All threads and ports are at the bottom to allow a space-saving arrangement of several clamping points in a very limited space.
If fixing from below is not possible an adaptor plate for manifold mounting or tube connection is available. As accessory also blanks of clamping jaws are available for adaptation to the workpiece contour.

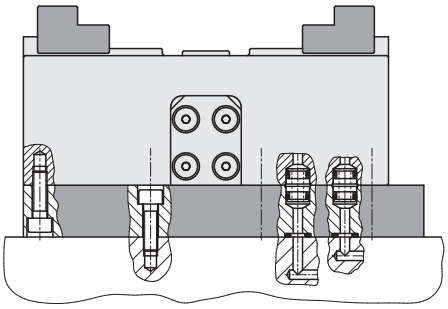
### Important notes

The fixture clamp is only suitable for exterior clamping.
Lubricate at the latest after 500 clamping cycles the clamping slide via the central lubrication.
Never use the complete clamping stroke to guarantee safe clamping of the workpiece.
Max. operating temperature 80 °C.
Operating conditions and other data see data sheet A 0.100.

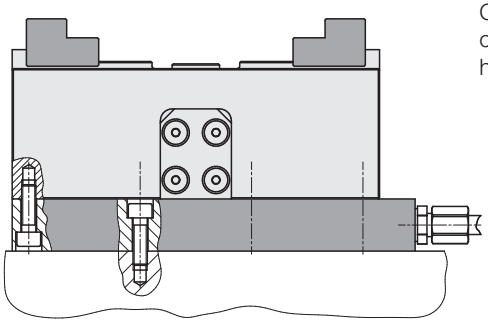
### Fixing from above

with accessory adaptor plate

**Drilled channels**

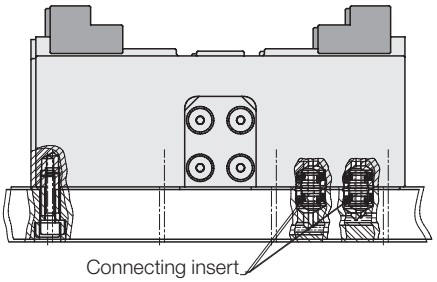


**Fitting connection**



### Fixing from below

**Drilled channels**

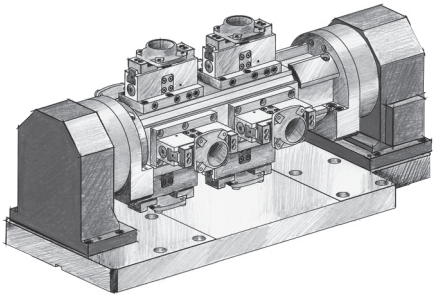



### Accessories

Clamping jaws and adaptor plate are not included in the delivery of the fixture clamp and have to be ordered separately as accessory.

### Application example

Concentric clamping of 8 flanges on a rotary indexing fixture.



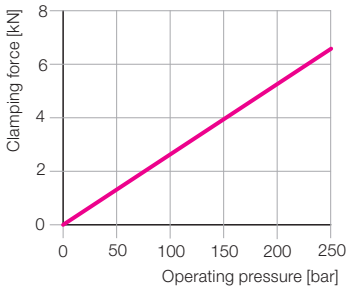
**Part no. 4413051**

| Technical data | | | |
|---|---|---|---|
| Clamping force / jaw | | [kN] | 6.5 |
| Retention force | | [kN] | 8 |
| Release force | | [kN] | 0.5 |
| Min. operating pressure | | [bar] | 10 |
| Clamping stroke | | [mm] | 2 x 5 |
| Repetitive accuracy of clamping | | [mm] | ±0.02 |
| Jaw width | | [mm] | 40 |
| Max. flow rate | | [cm³/s] | 25 |
| Stroke volume | Clamping | [cm³] | 6.4 |
| | Unclamping | [cm³] | 3.2 |
| Weight | | [kg] | appr. 2.4 |

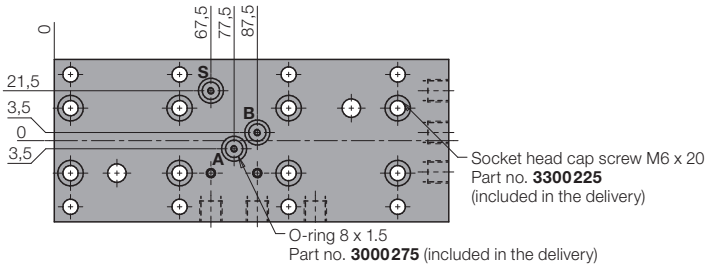
**Adaptor plate (accessory)**

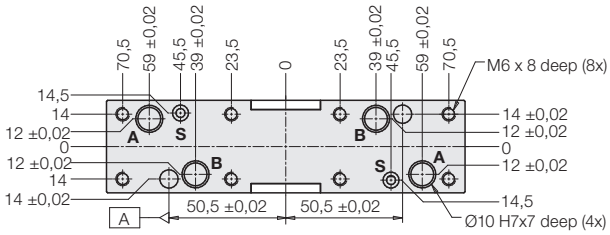
| | | |
|---|---|---|
| Weight | [kg] | approx. 1.9 |
| **Part no.** | | **0441305** |

**Clamping force diagram**
(Height of the clamping jaw 15 mm)




**Accessory: adaptor plate**
View from below



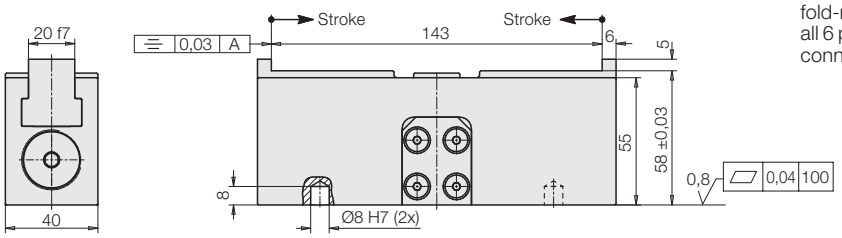



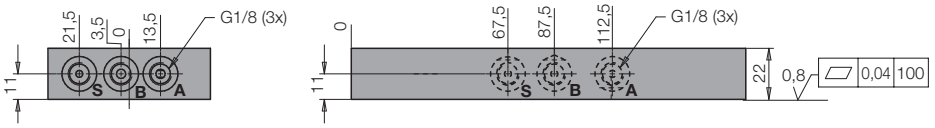

**A** = Clamping
**B** = Unclamping
**S** = Central lubrication

**Clamping and unclamping**
each Ø10 H7 x 7 deep for
4 x connecting insert **9210132**
(included in the delivery),
see also page F 9.300

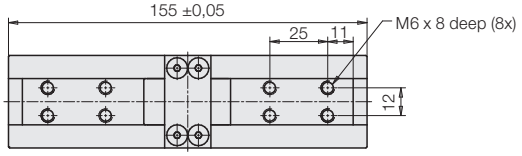
**Central lubrication**
2 x with O-ring **3001842** (5x1 mm)
(included in the delivery)

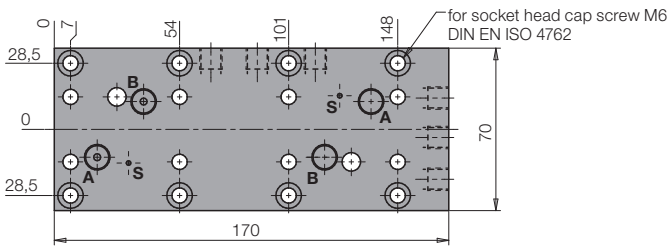
**Important note!**
If the fixture clamp is directly manifold-mounted without adaptor plate, all 6 ports (2xA, 2xB, 2xS) have to be connected individually.




**Accessory: adaptor plate**
Side views




**Accessory: adaptor plate**
View from above

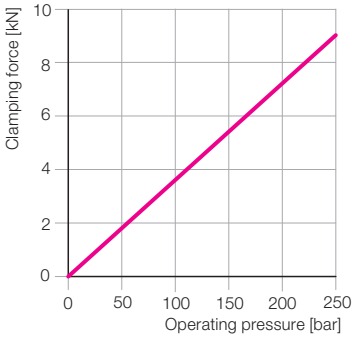
**Part no. 4413151**

| Technical data | | | |
|---|---|---|---|
| Clamping force / jaw | | [kN] | 9 |
| Retention force | | [kN] | 15 |
| Release force | | [kN] | 0.5 |
| Min. operating pressure | | [bar] | 10 |
| Clamping stroke | | [mm] | 2 x 8 |
| Repetitive accuracy of clamping | | [mm] | ±0.02 |
| Jaw width | | [mm] | 65 |
| Max. flow rate | | [cm³/s] | 50 |
| Stroke volume | Clamping | [cm³] | 14.2 |
| | Unclamping | [cm³] | 6.0 |
| Weight | | [kg] | appr. 6 |

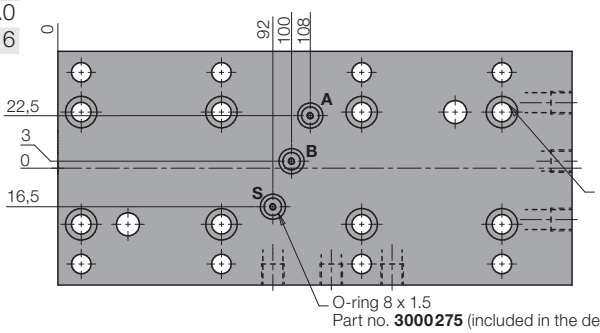
**Adaptor plate (accessory)**

| | | |
|---|---|---|
| Weight | [kg] | ca. 3.5 |
| **Part no.** | | **0441315** |

**Clamping force diagram**
(Height of the clamping jaw 25 mm)




**Accessory: adaptor plate**
View from below

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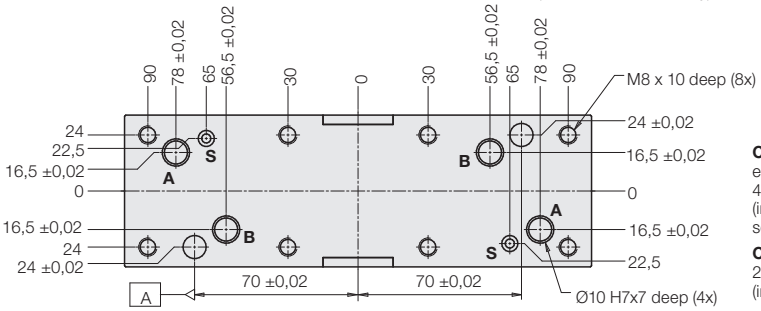


**Clamping and unclamping**
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see also page F 9.300

**Central lubrication**
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**Important note**
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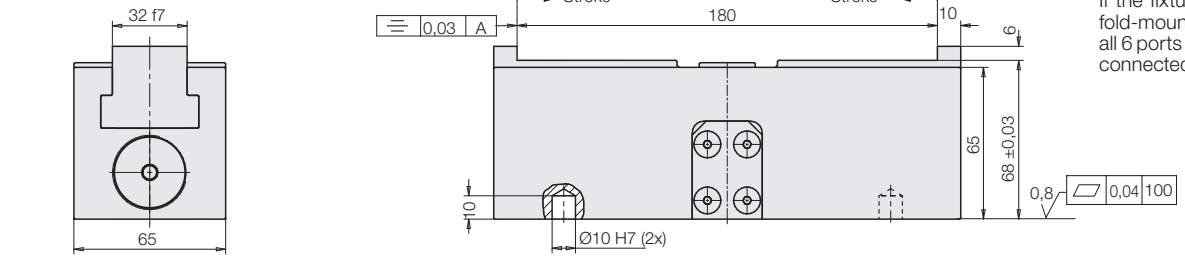
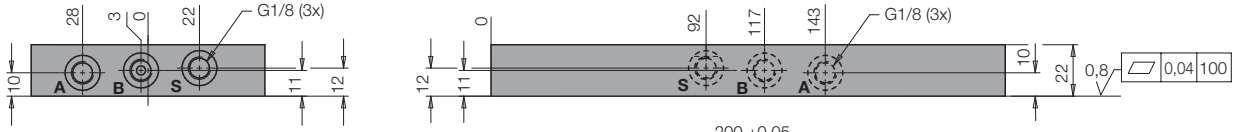
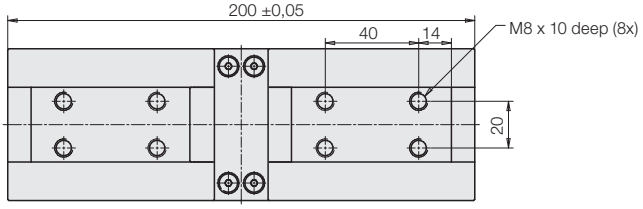
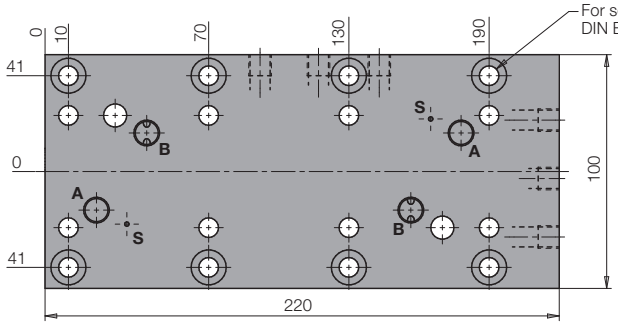



**Accessory: adaptor plate**
Side views

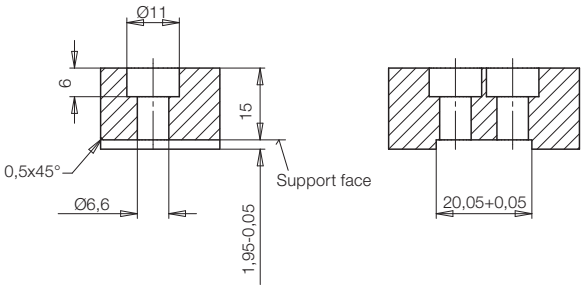


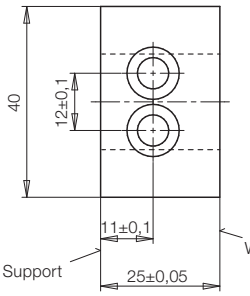




**Accessory adaptor plate**
View from above

## For fixture clamp 4413051

**Clamping jaw blank 40 mm**
**Part no. 3548070**



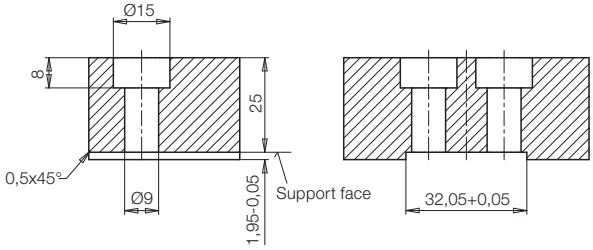



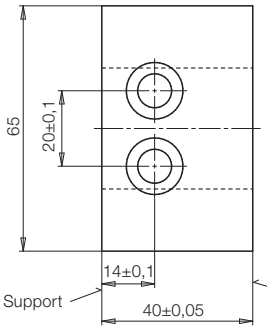

Fixing screws:
2x M6x16 12.9
**Part no. 3301107**

Material: 16 MnCr5 smooth

## For fixture clamp 4413151

**Clamping jaw blank 65 mm**
**Part no. 3548080**




Fixing screws:
2x M8x25 12.9
**Part no. 3300625**

Material: 16 MnCr5 smooth

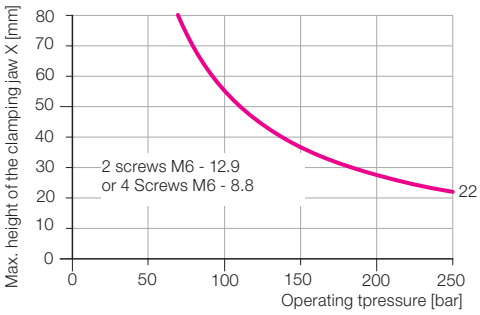
## Self-made clamping jaws

Clamping jaws are manufactured according to the contour of the workpiece to be clamped.
The max. height of the clamping jaw X at 250 bar operating pressure is indicated in the below diagrams.

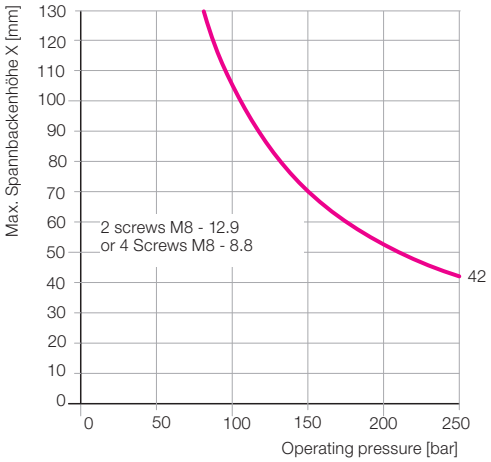
## Important note

The clamping jaws must always contact the provided support, since the fixing screws are not in the position to compensate the generated clamping forces.

**Max. height of the clamping jaw X for 4413051 as a function of the operating pressure**

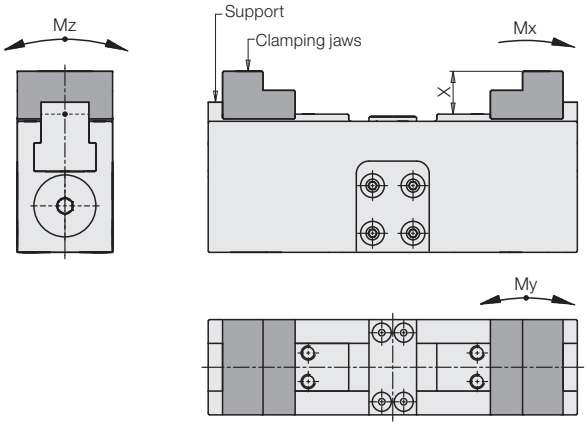



**Max. height of the clamping jaw X for 4413151 as a function of the operating pressure**




**Admissible torques acting on the clamping jaws**

**Mx** = 140 Nm
**My** = 120 Nm
**Mz** = 120 Nm




**Mx** = 375 Nm
**My** = 200 Nm
**Mz** = 200 Nm