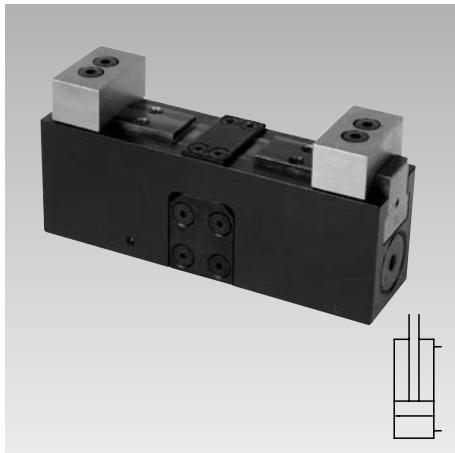




Fixture clamp, concentric clamping

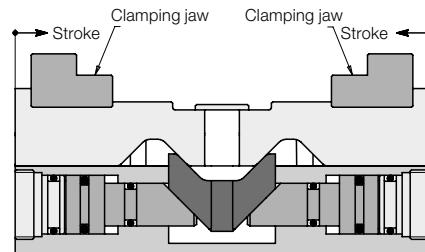
max. clamping force 6.5 kN and 9 kN, jaw width 40 and 65 mm
double acting, max. operating pressure 250 bar



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.

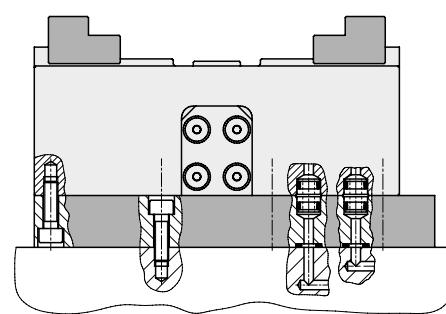
Due to their compact design they can be arranged in a very limited space. Fixture clamps are especially suitable for series manufacturing in automated mode.

The double-acting cylinder function combined with central lubrication and good swarf protection guarantees a high process safety.

Fixing from above

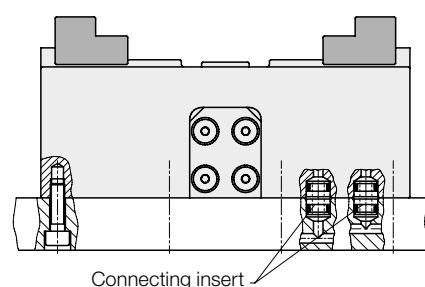
with accessory adaptor plate

Drilled channels



Fixing from below

Drilled channels



Description

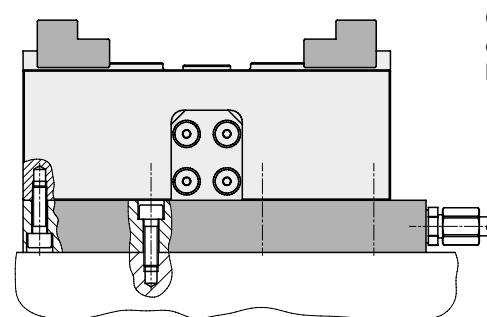
The fixture clamp with concentric clamping function consists of a very slim basic body with 2 integrated hydraulic cylinders.

The piston forces are transferred 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.

Fitting connection



Accessories

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

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.

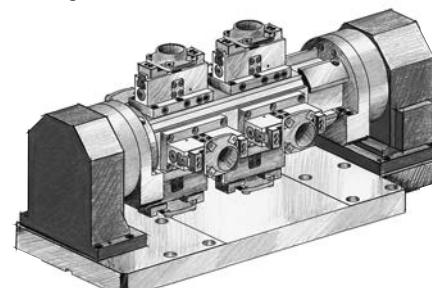
Never use the complete clamping stroke to guarantee safe clamping of the workpiece.

Max. operating temperature 80 °C.

Operating conditions and other data see data sheet A 0.100.

Application example

Concentric clamping of 8 flanges on a rotary indexing fixture.



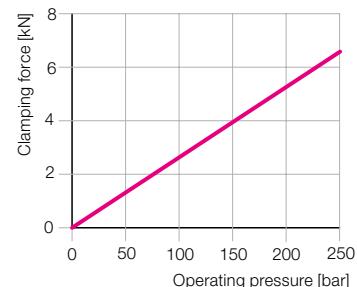
Clamping force 6.5 kN • Clamping stroke 2 x 5 mm Technical data • Accessories • Dimensions

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	[cm ³ /s]	25	
Stroke volume	Clamping Unclamping	[cm ³]	6.4 3.2
Weight	[kg]	appr. 2.4	

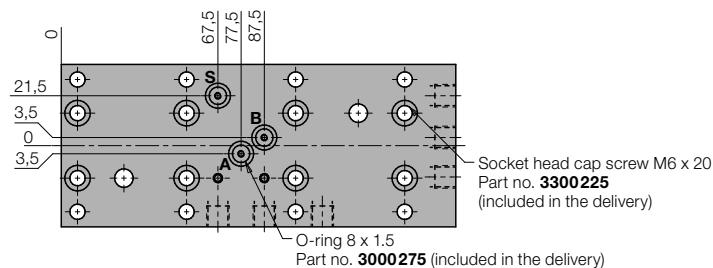
Adaptor plate (accessory)

Adapter plate (accessory),
Weight [kg] approx. 1.9
Part no. **0441305**

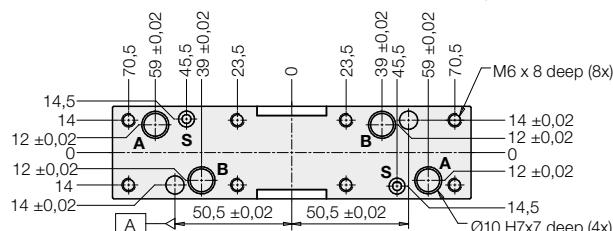


Accessory: adaptor plate

View from below



A = Clamping
B = Unclamping
S = Central lubrication

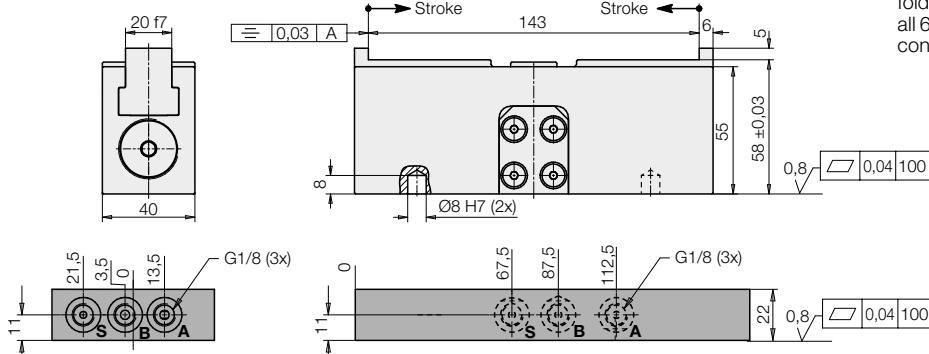


Clamping and unclamping
each Ø10 H7 x 7 deep for
4 x connecting insert **9210 132**
(included in the delivery),
see also page F 9.300

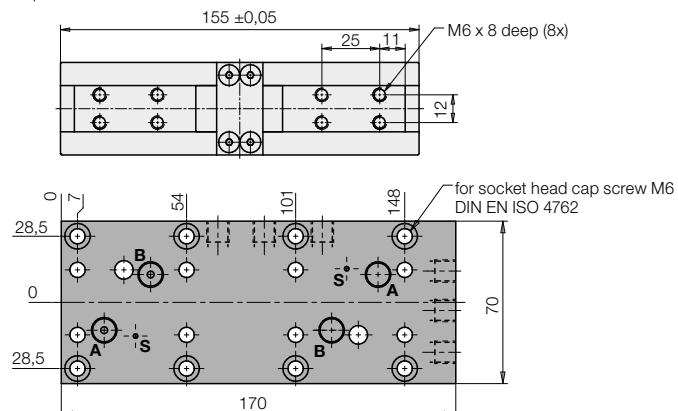
Central lubrication
2 x with O-ring **3001842** (5x1 mm)
(included in the delivery)

Important note!

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



Accessory: adaptor plate

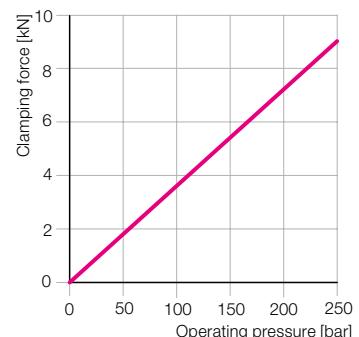
Clamping force 9 kN • Clamping stroke 2 x 8 mm Technical data • Accessories • Dimensions

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	[cm ³ /s]	50
Stroke volume	Clamping	[cm ³]
	Unclamping	[cm ³]
Weight	[kg]	appr. 6

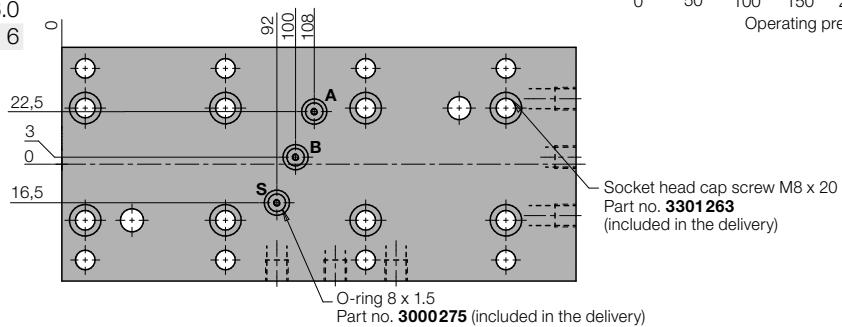
Adaptor plate (accessory)

Adaptor plate (accessory)
Weight [kg] ca. 3.5
Part no. 0441315

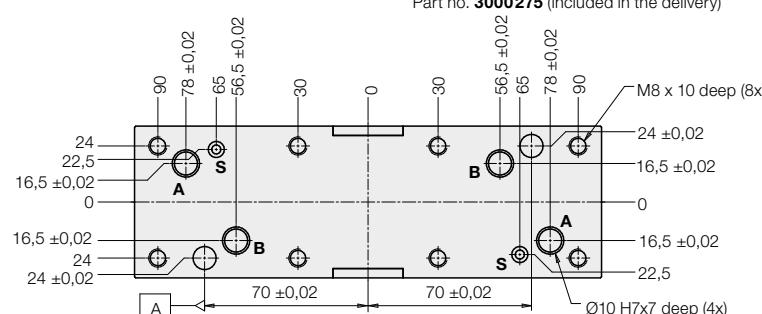


Accessory: adaptor plate

View from below

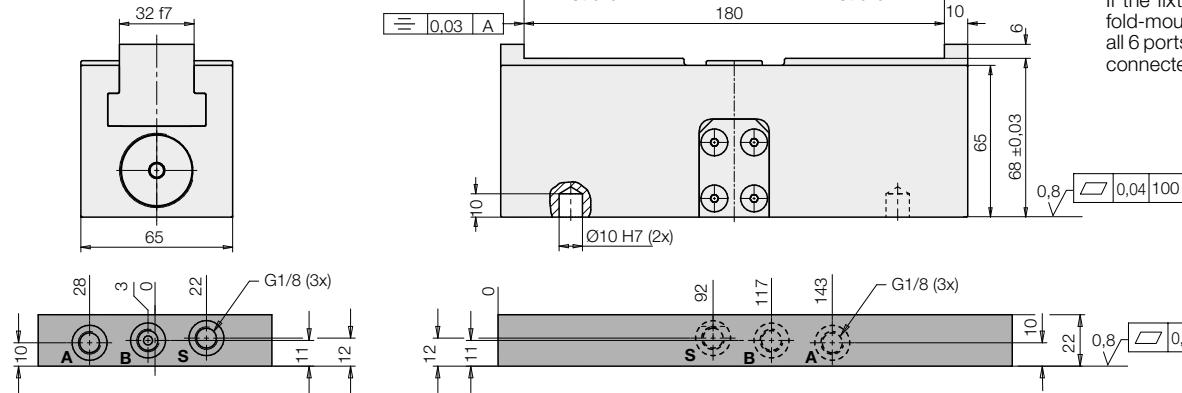


A = Clamping
B = Unclamping
S = Central lubrication

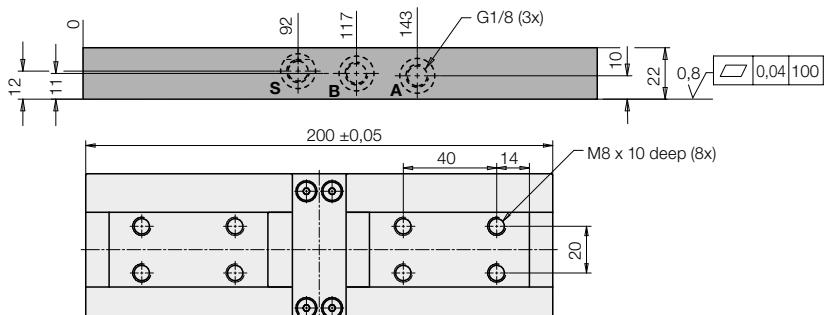


Clamping and unclamping
each Ø10 H7 x 7 deep for
4 x connecting insert **9210 132**
(included in the delivery),
see also page F 9.300

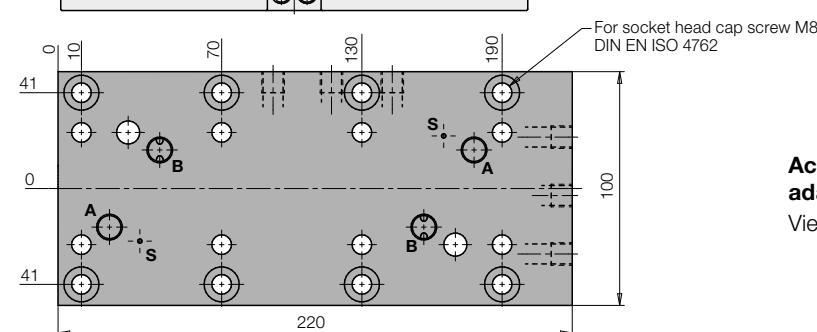
Central lubrication
2 x with O-ring **3001842** (5x1 mm)
(included in the delivery)



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

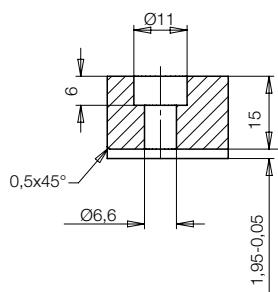


Accessory adaptor plate

For fixture clamp 4413051

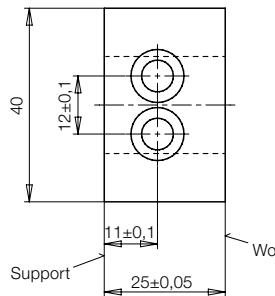
Clamping jaw blank 40 mm

Part no. 3548070



Fixing screws:
2x M6x16 12.9
Part no. 3301107

Material: 16 MnCr5 smooth

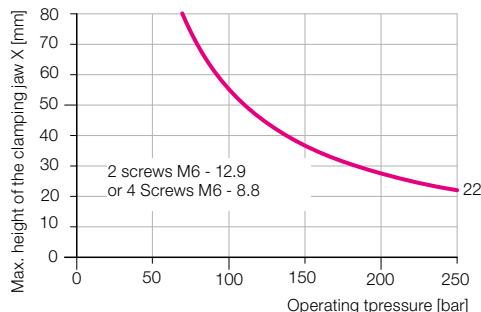


Self-made clamping jaws

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.

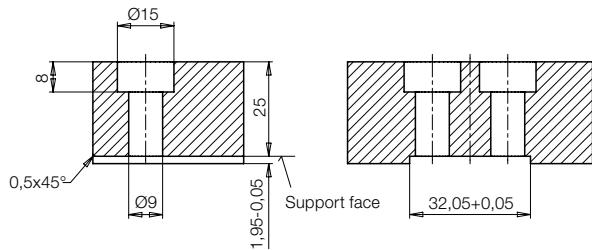
Max. height of the clamping jaw X for 4413051 as a function of the operating pressure



For fixture clamp 4413151

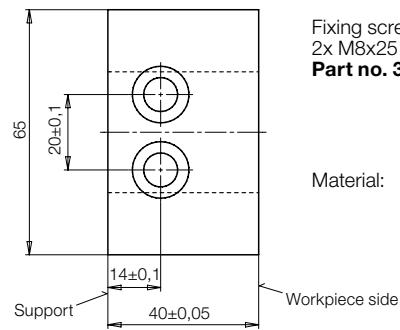
Clamping jaw blank 65 mm

Part no. 3548080



Fixing screws:
2x M8x25 12.9
Part no. 3300625

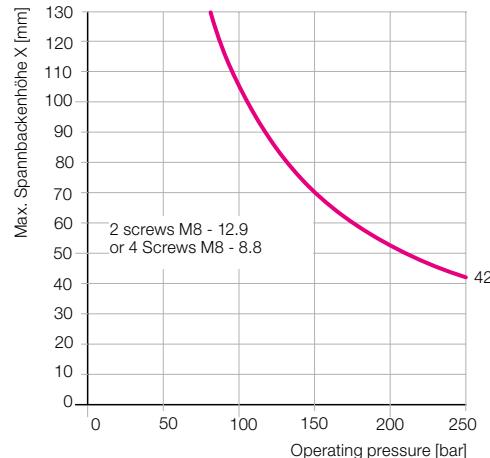
Material: 16 MnCr5 smooth



Important note

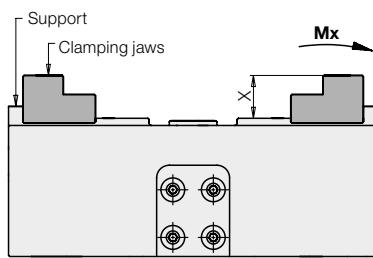
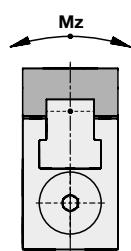
The clamping jaws must always contact the provided support, since the fixing screws are not in the position to compensate the generated clamping forces.

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



Admissible torques acting on the clamping jaws

M_x = 140 Nm
M_y = 120 Nm
M_z = 120 Nm



M_x = 375 Nm
M_y = 200 Nm
M_z = 200 Nm

