**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

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**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**

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**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.

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**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.

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**Fixing from above**
with accessory adaptor plate

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**Fixing from below**

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**Fixing from below**

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**Connecting insert**

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

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**Application example**
Concentric clamping of 8 flanges on a rotary indexing fixture.

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**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.
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
- Stroke volume 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

Important note!
If the fixture clamp is directly mani-fold-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

Socket head cap screw M6 x 20
Part no. 3300225 (included in the delivery)

O-ring 8 x 1.5
Part no. 3000275 (included in the delivery)

M6 x 8 deep (8x)

Stroke

for socket head cap screw M6 DIN EN ISO 4762

Accessory: adaptor plate

View from above

Central lubrication
2 x with O-ring 3001842 (6x1 mm) (included in the delivery), see also page F 9.300

Important note!
If the fixture clamp is directly mani-fold-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 below

Socket head cap screw M6 x 20
Part no. 3300225 (included in the delivery)

O-ring 8 x 1.5
Part no. 3000275 (included in the delivery)

M6 x 8 deep (8x)
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

Accessory: adaptor plate
View from below

A = Clamping
B = Unclamping
S = Central lubrication

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

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

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

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Subject to modifications
**Accessories**

**For fixture clamp 4413051**
Clamping jaw blank 40 mm
Part no. 3548070

**For fixture clamp 4413151**
Clamping jaw blank 65 mm
Part no. 3548080

**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

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

**Admissible torques acting on the clamping jaws**

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\begin{align*}
M_x &= 140 \text{ Nm} \\
M_y &= 120 \text{ Nm} \\
M_z &= 120 \text{ Nm}
\end{align*}
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**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.

**Material:** 16 MnCr5 smooth

**Support face**

**Workpiece side**

**Fixing screws:**
2x M6x16 12.9
Part no. 3301 107

**Support face**

**Workpiece side**

**Fixing screws:**
2x M8x25 12.9
Part no. 3300 625

**Material:** 16 MnCr5 smooth

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Subject to modifications

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