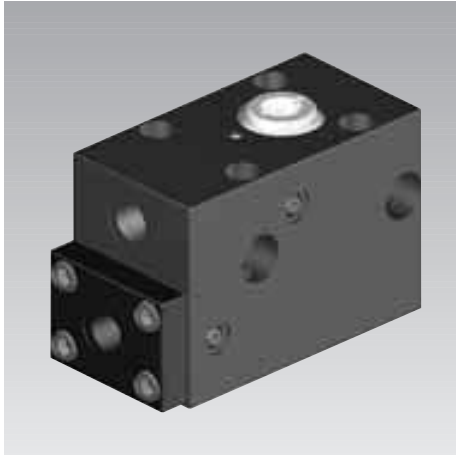
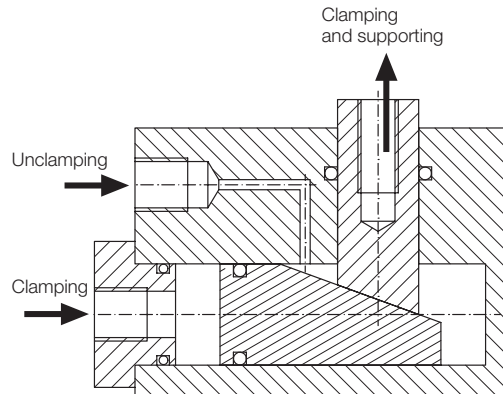




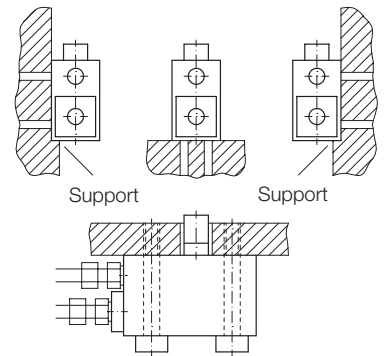
## Clamping and Supporting Element double acting, max. operating pressure 300 bar



### Function



### Fixing possibilities



### Application

The piston of traditional clamping cylinders is pushed back, if the counter force is bigger than the hydraulic clamping force. This is due to the compressibility of the hydraulic oil and the expansion of hydraulic hoses.

In the case of the clamping and supporting element this elasticity is avoided by the wedge-shaped cross piston with its self-locking geometry. Due to this fact there are the following possibilities of application:

- In case of a pressure drop in the hydraulic system the workpiece must be firmly clamped
- The machining forces are relatively high and directed against the clamping force
- Vibrations in the workpiece have to be cushioned
- Workpieces or webs of workpieces must be clamped by 2 or several opposite clamping elements in a neutral position and then immovably locked.

For all applications:

If the workpiece yields or the contact bolt digs deeper into the material due to machining forces or vibrations, the clamping and supporting element re-clamps provided that sufficient clamping pressure is available.

### Important notes

For unclamping at least 40% of the previously applied clamping pressure is required or at least 50 bar, since the design of the wedge clamping is self-locking. If the clamping and supporting element is uncoupled from oil supply after clamping, e.g. on pallets, we recommend to install an accumulator in order to guarantee the above re-clamping effect.

The clamping bolt is secured against torsion. No permanent torque must be introduced during machining. The clamping and supporting element is not suitable as pull-type cylinder. Operating conditions, tolerances and other data see data sheet A 0.100.

### Description

The clamping and supporting element is a hydraulic clamping cylinder with a mechanical locking according to the wedge principle.

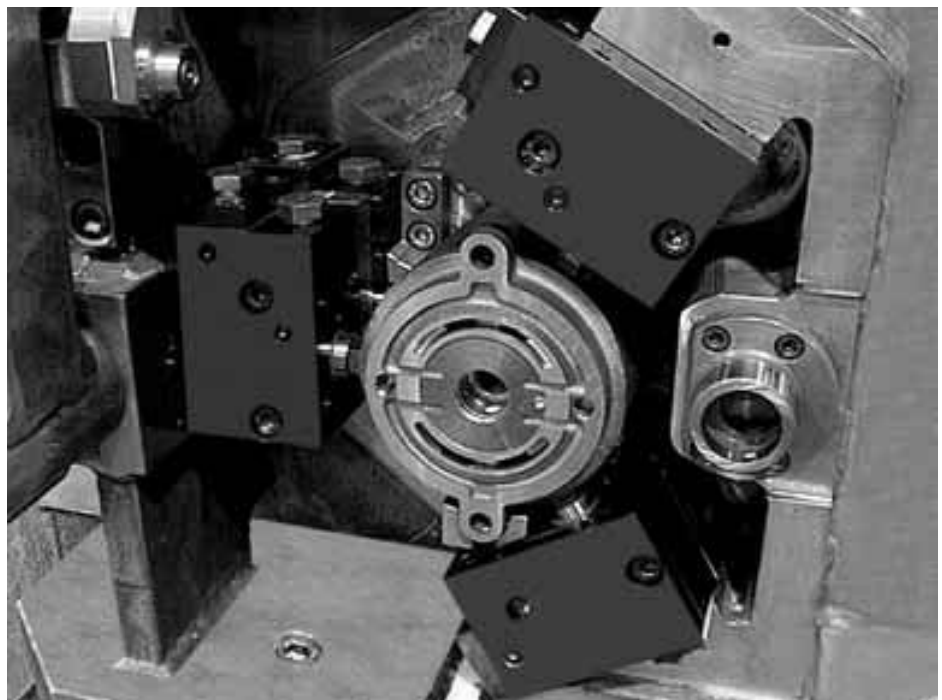
Forces which are directed against the clamping force, e.g. machining forces will be supported with a negligible elasticity of the wedge-shaped piston. The counter force must not exceed the max. clamping force (see chart).

The clamping bolt is equipped with an interior thread to screw-in contact bolts for height adjustment or adapted contact bolts for shape adjustment.

The housing allows different fixing and connecting possibilities. Oil supply is made at the front face with fittings or optionally through drilled channels with O-ring sealing at both sides or at the bottom.

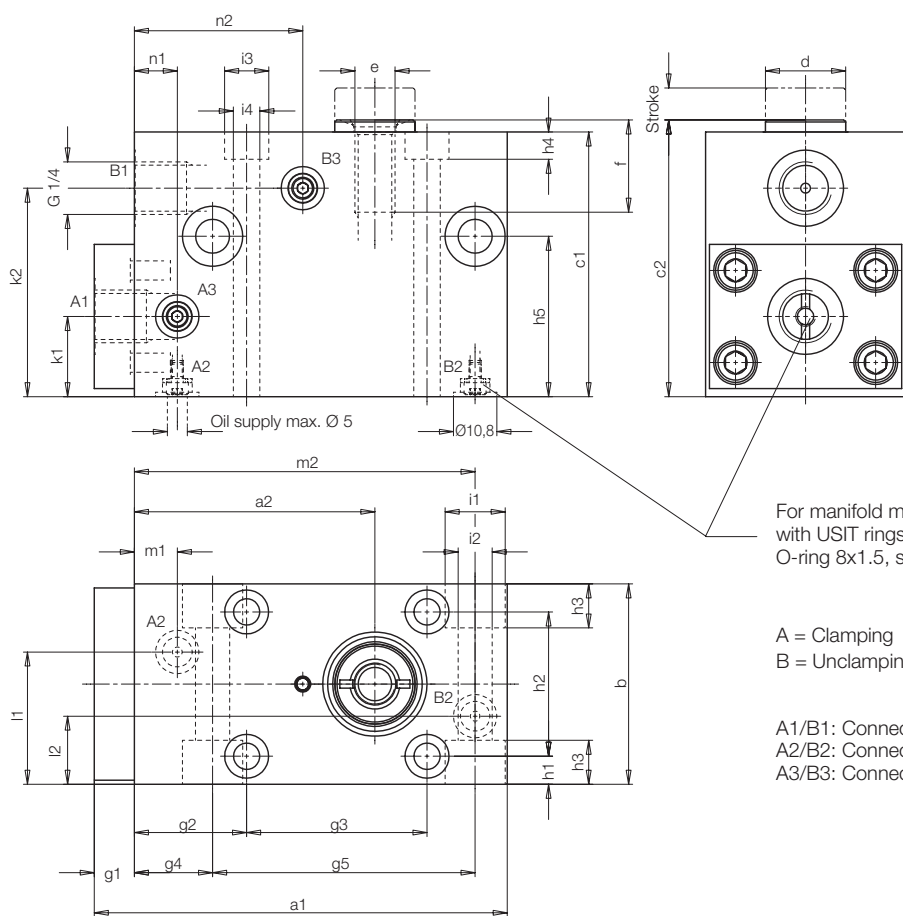
### Advantages

- Clamping and support function in one element
- Self-locking wedge clamping
- Re-clamping with hydraulic pressure
- High clamping safety also in case of sudden pressure drop
- Cushioning of vibrations
- Interchangeable contact bolts
- Many fixing possibilities
- Oil supply optionally by fittings or through drilled channels
- Standard VITON® seals
- Maintenance-free





# ROEMHELD



For manifold mounting remove socket head cap screws with USIT rings and screw-in 2 plugs G 1/4.  
O-ring 8x1.5, see accessories

A = Clamping  
B = Unclamping

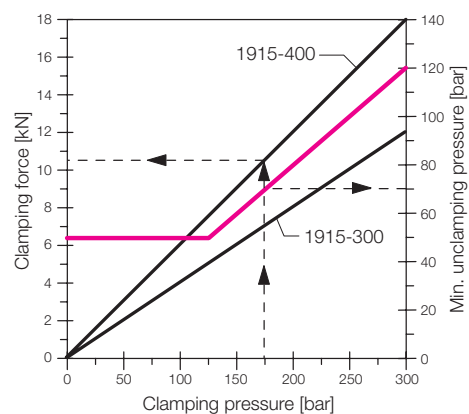
A1/B1: Connection for fittings  
A2/B2: Connection with O-rings at the bottom  
A3/B3: Connection with O-rings at both sides

Clamping force	[kN]	12	18
Max. operating pressure	[bar]	300	300
Oil volume clamping	[cm <sup>3</sup> ]	10.8	26.5
Oil volume unclamping	[cm <sup>3</sup> ]	8.3	22.0
Stroke	[mm]	8	12
a1	[mm]	103	127
a2	[mm]	60	71
b	[mm]	50	64
c1	[mm]	66	78
c2	[mm]	69	81
Ø d	[mm]	20	22
e	[mm]	M10	M12
f	[mm]	23	24
g1	[mm]	10	12
g2	[mm]	28	41
g3	[mm]	45	44
g4	[mm]	28	26
g5	[mm]	57	75
h1	[mm]	7	9
h2	[mm]	36	46
h3	[mm]	11	11
h4	[mm]	6.8	9
h5	[mm]	40	52
Ø i1	[mm]	15	18
Ø i2	[mm]	8.5	10.5
Ø i3	[mm]	11	15
Ø i4	[mm]	6.6	8.5
k1	[mm]	20	25
k2	[mm]	52	64
l1	[mm]	33	40
l2	[mm]	17	24
m1	[mm]	10.7	10.7
m2	[mm]	85	105.5
n1	[mm]	10.7	10.7
n2	[mm]	42	52
<b>Part-no.</b>		<b>1915-300</b>	<b>1915-400</b>

## Accessories

O-ring 8 x 1.5 VITON®	<b>3000-275</b>
Screw plug G1/4	<b>3300-821</b>

## Part-no.



## Example

### Clamping and supporting element 1915-400

Clamping pressure	[bar]	175
Clamping force	[kN]	10.5
Min. unclamping pressure	[bar]	70