ROEMHELD

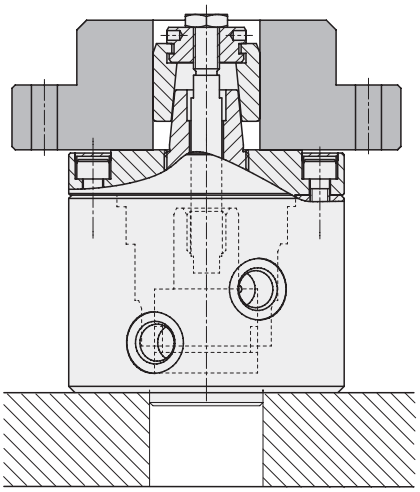
B 1.481

Bore Clamp with Centring Function

double-acting , pull-type, clamping diameter 16 to 46 mm, max. operating pressure from 50 up to 350 bar

Advantages

- Clamping and supporting with one element
- Compact design
- 5 optimised clamping ranges
- High clamping force
- Hardened support face
- Easy exchange of segment clamping bushings
- Centring at the bottom of the body
- Oil supply optionnally by connecting threads or drilled channels
- Repetitive accuracy of clamping force 0.005 mm
- Standard FKM seals



Application

The bore clamp is particularly suitable for centring and clamping of workpieces with smoothly machined bores with diameters from 16 to 46 mm and a support surface square to the hole axis.

Description

The bore clamp with centring function is a combination of a double-acting pull-tpye cylinder equipped with a segement clamping bushing, which is pulled by a tie rod over a fixed cone. Thereby the segment clamping bushing expands radially to the bore diameter of the workpiece to be clamped.

By the simultaneous axial movement the workpiece is clamped onto the hardened support at the housing. The obtainable low-clamping force depends on the factor of friction within the bore and the operating pressure.

The sectioning of the complete clamping range from 16 to 46 mm in 5 sub-ranges allows an optimum adaptation of tie-rods, conus and workpiece support.

For detailed information on possible low-clamping forces and maximum operating pressures see charts and diagrams on page 2.

Important notes

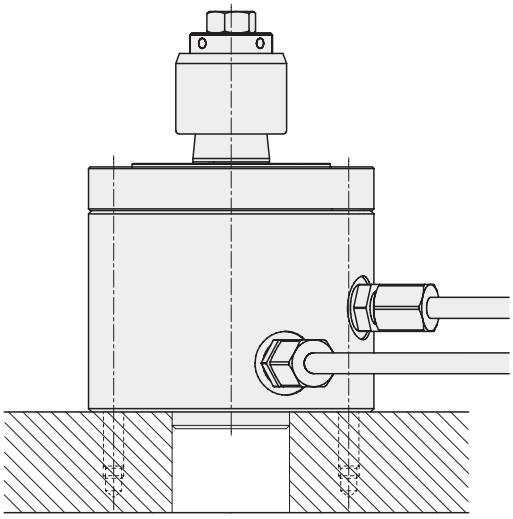
Since the segment clamping bushings are operated by a tie rod, it is imperative to consider the max. operating pressure depending on the clamping range. A too high operating pressure will destroy the tie rod.

Avoid clamping without workpiece, if possible.

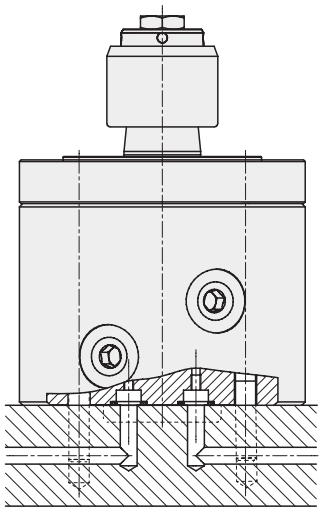
Operating conditions and other data see data sheet A 0.100.

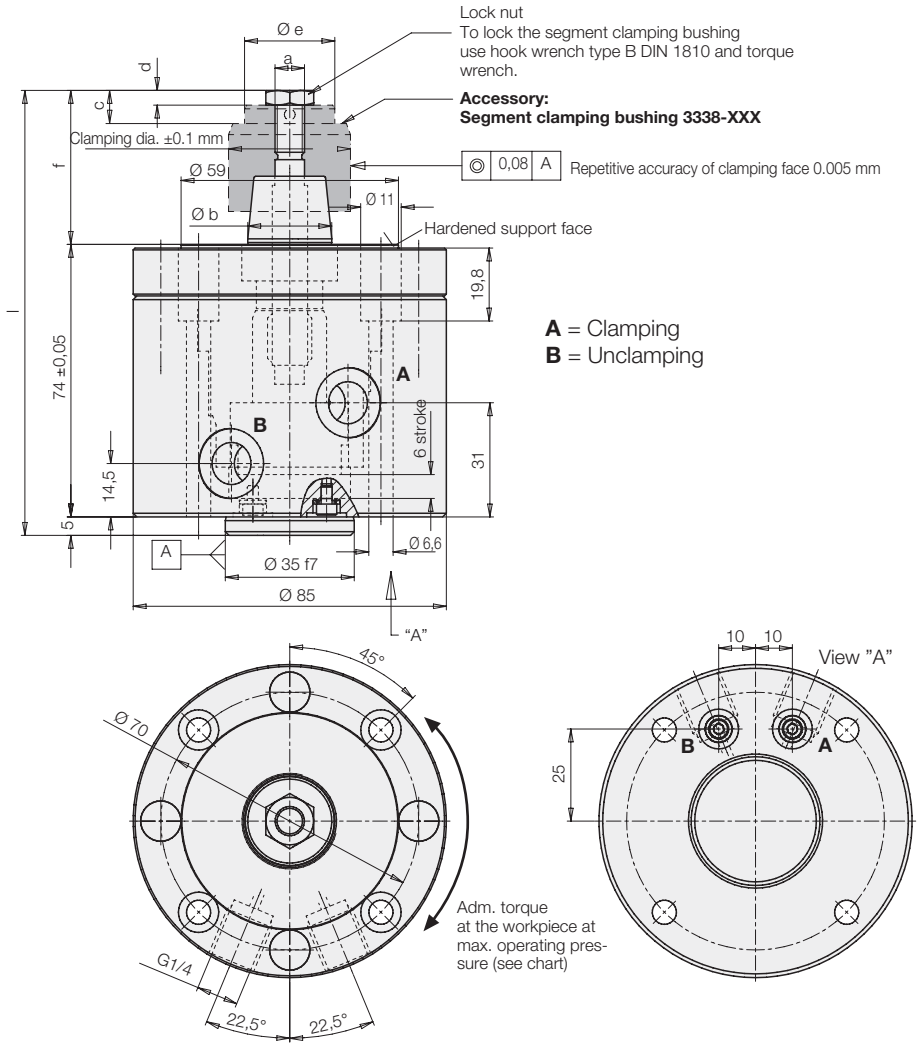
Connecting possibilities

Fitting connection



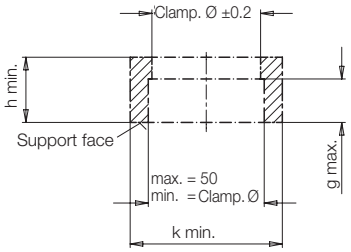
Drilled channels





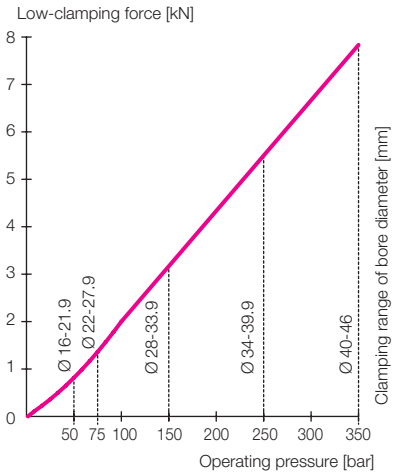
Workpiece dimensions

The workpiece to be clamped should always contact the hardened support face and cover at least in the zone of the bore hole a minimum surface of the segment clamping bushing. This is only guaranteed, if the relevant dimensions meet the requirements shown in the drawing.



Low-clamping force

Material:	Steel, unhardened
Surface roughness:	Rmax. 3 µm



Clamping range*	[mm]	Ø 16-21.9	Ø 22-27.9	Ø 28-33.9	Ø 34-39.9	Ø 40-46
Max. low-clamping force	[kN]	0.8	1.3	3.1	5.5	7.9
Max. operating pressure	**[bar]**	**50**	**75**	**150**	**250**	**350**
Adm. torque	[Nm]	15	35	90	180	300
Max. oil volume	[mm³]					
Clamping / unclamping		2.95/4.8	2.95/4.8	2.95/4.8	2.95/4.8	2.95/4.8
a		M5	M6	M8	M10	M12
b	[mm]	12.8	16.8	22.8	28.8	34.8
c	[mm]	8	10	12.5	15	18
d	[mm]	4	5	6.5	8	10
e	[mm]	13.5	18.5	24.5	30.5	36.5
f	[mm]	39.5	43	45.5	54	57
l	[mm]	118.5	122	124.5	133	136
g max.	[mm]	12	12	12	15	15
h min.	[mm]	18	18	18	24	24
k min.	[mm]	32	35	42	48	55
Seating torque Lock nut/bushing	[Nm]	6	10	25	49	85
Part-no.		**4317-100**	**4317-200**	**4317-300**	**4317-400**	**4317-500**

Material

Cylinder body:	Steel
Piston, Workpiece support, Segment clamping bushing:	Case-hardening steel, hardened

***** For each bore hole diameter within the clamping range the appropriate segment clamping bushing has to be selected as per the below example of ordering. Admissible bore hole tolerance ±0.2 mm.

Accessories:

Segment clamping bushing **Part-no. 3338-XXX**

Clamping diameter in 0.1 mm

Example of ordering:

Clamping diameter Ø **16.0** **Part-no.** 3338-**160**
Clamping diameter Ø **34.8** **Part-no.** 3338-**348**

Accessories for connection through drilled channels

O-ring 8x1.5	**Part-no. 3000-343**
Screw plug G1/4 with hexagon head	**Part-no. 3300-821**
Alternatively Screw plug G1/4 with hexagon socket	**Part-no. 0361-987**