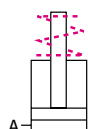
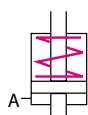
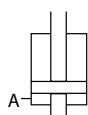


Hollow piston cylinders



Application:

- In connection with tie rods, lead screws and threaded rods, for clamping and locking dies on presses and machines

Hollow piston cylinder, single-acting, without spring return, as a pulling or pressing cylinder

Can be attached, screwed or flange-mounted in any position. The clamping force is built up by applying pressure to the piston and the piston is returned by external action. The piston is provided with a through hole and is hardened and ground. The housing is made from heat-treatable steel and its surface is burnished.

Hollow piston cylinder, single-acting, with spring return, as a pulling or pressing cylinder

Can be attached, screwed or flange-mounted in any position. The clamping force is built up by applying pressure to the piston and the piston is returned by a spring. The piston is provided with a through hole and is hardened and ground. The housing is made from heat-treatable steel and its surface is burnished.

Hollow piston cylinder, single-acting, as a pulling or pressing cylinder

This cylinder is very suitable for clamping mechanical clamping bars on die bending presses and folding presses. The clamping force is built up by applying pressure to the piston and the piston is returned by a spring which is installed in the clamping bar. The piston is provided with a through hole and is hardened and ground. For an optimum adaptation to the clamping surface, the hollow piston cylinder may be provided with a spherical washer.

Special features:

- ◆ flat and compact design
- ◆ steady piston movement
- ◆ stroke limited even with max. working pressure
- ◆ rapid and easy retrofit
- ◆ ideal power transmission

For power units
please see product group 7

For accessories
please see product group 11

Subject to technical modification

2.1300

05/2011

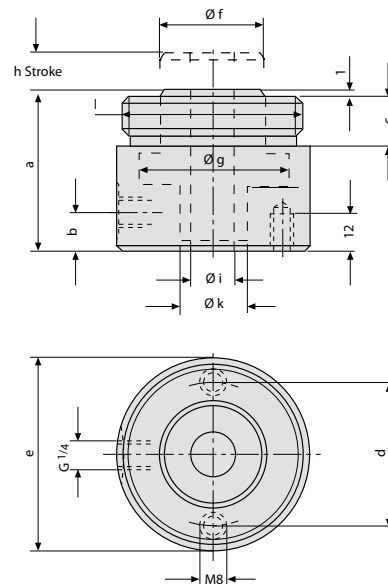


Hollow piston cylinder single-acting, without spring return

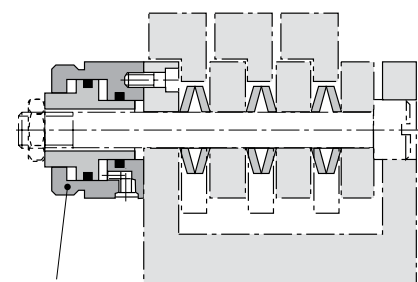
Clamping force at 100 bar (kN)	8,7	13,5	21	34,3
400 bar (kN)	34,8	54	84	137,2
Stroke h (mm)	12	12	15	15
Piston restoring force (kN)	0,18	0,27	0,42	0,70
Piston area (cm ²)	8,7	13,5	21	34,3
Oil consumpt./1 mm stroke (cm ³)	0,9	1,4	2,1	3,5
a (mm)	61	61	72	72
b (mm)	11	15	18,5	24
c (mm)	22	22	27,5	27,5
d (mm)	44	55	68	84
e (mm)	60	75	93	113
f (mm)	28	38	54	60
g (mm)	40	50	63	80
i (mm)	16,5	20,5	24,5	30,5
k (mm)	22	28	36	45
l (mm)	M52 x 1,5	M72 x 1,5	M90 x 2	M110 x 2
Weight (kg)	1	1,7	3,1	4,6
Part no.	1303 003	1305 003	1307 003	1309 003

max. operating pressure: 400 bar.

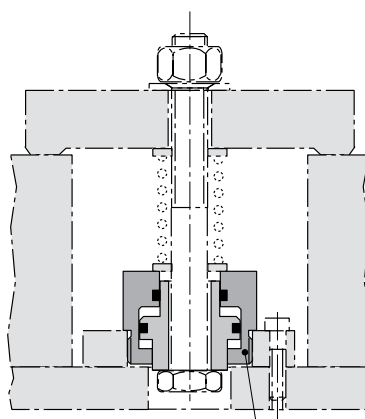
Special designs are available on request.



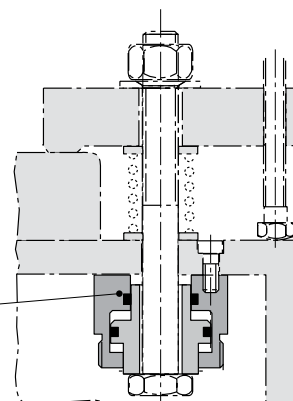
Examples for application



Hollow piston cylinder



Hollow piston cylinders



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