



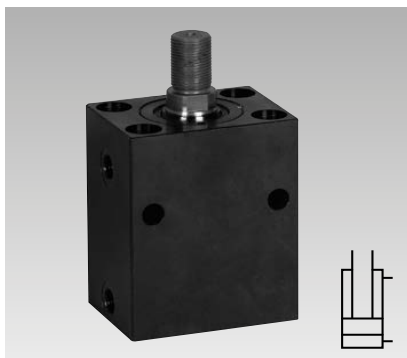
**ROEMHELD**  
HILMA ■ STARK

Issue 11-21 E

# B 1.542

## Block Cylinders

**Piston rod with external thread**  
**double acting, max. operating pressure 500 bar**



### Application

Double-acting block cylinders can be used universally for all hydraulic-operated linear movements.

### Functioning

The double-acting functioning allows a high function safety as well as exactly calculable and repeatable stroke times.

### Description

Double-acting block cylinder whose piston rod is provided with an external thread. Fixing elements as for example rod end bearings, which are available as accessory, can be screwed onto the external thread (see data sheet G 3.810).

### Material

Cylinder body: high alloy steel, black oxide  
Piston: casehardening steel, nitrated  
Sealings: NBR or FKM

### Maximum operating temperature

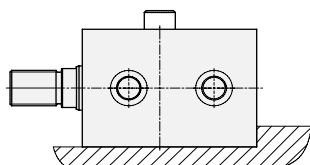
- With NBR seals: 100°C  
- With FKM seals: 150°C

### Important notes

Fixing elements have to be torqued firmly against the piston rod shoulder and then locked with the piston rod. Tolerances, further operating conditions, and other data see data sheet A 0.100.

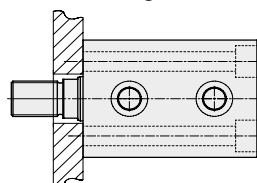
### Fixing possibilities

**Broad side with 2 cross holes**

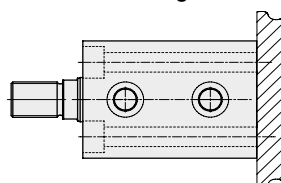


Cylinders must be backed up for operating pressures exceeding 100 bar.

**Rod side with 4 longitudinal holes**

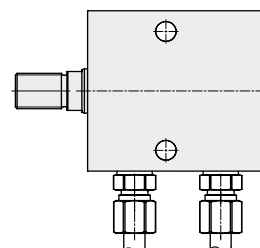


**Bottom side with 4 longitudinal holes**



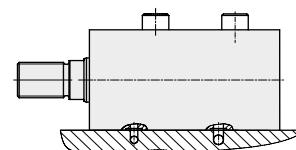
### Hydraulic connecting possibilities

**Pipe thread**

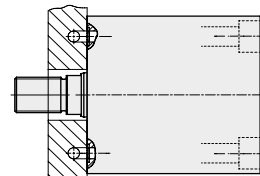


**Manifold mounting versions with O-ring sealing**

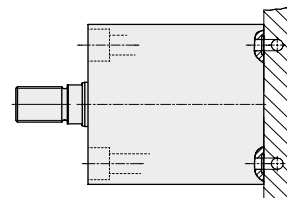
• **Broad side with 4 cross holes**  
**Version L**



• **Rod side with 4 longitudinal holes**  
**Version S**

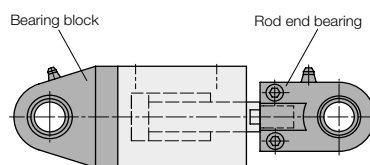


• **Bottom side with 4 longitudinal holes**  
**Version B**



### Accessory - Spherical bearing

As accessories the following spherical bearings can be delivered (see data sheet G 3.810). A bearing block, which is fixed at the cylinder bottom with socket head cap screws. A rod end bearing, which is screwed onto the external thread of the piston rod and then locked with the piston rod.

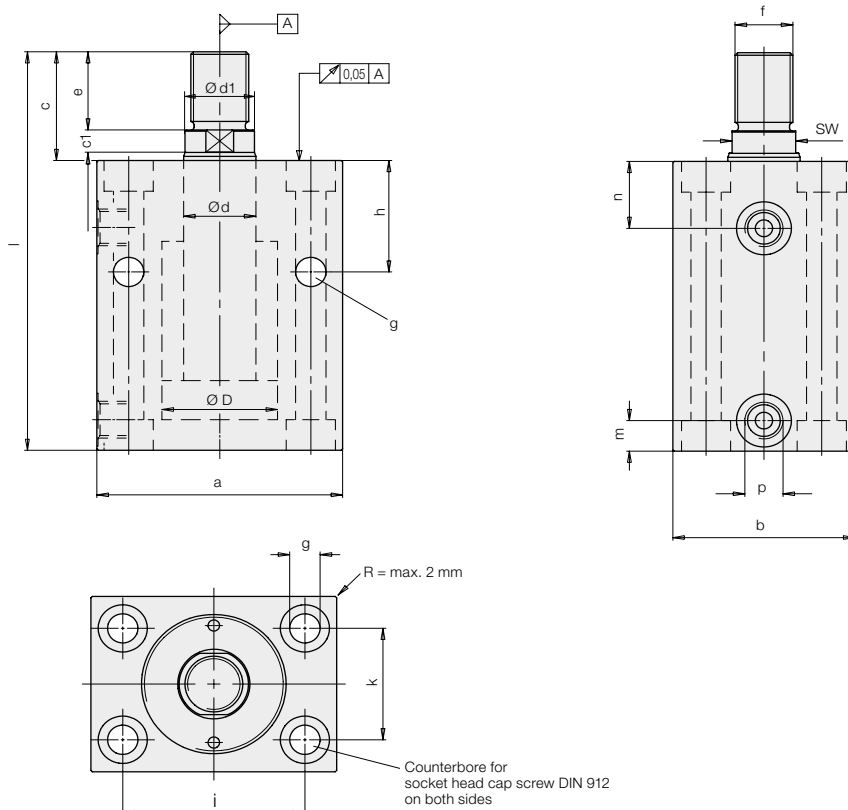


### Available variants

- Stroke reduction by distance bushing
- Keyway at the broad side of the body to support the body.
- Internal thread to fix the body at the bottom or front side (instead of longitudinal holes)

## Dimensions

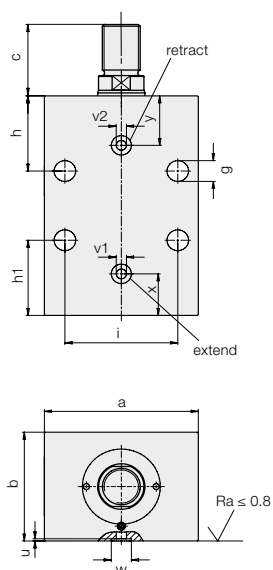
### Pipe thread



### Manifold mounting versions with O-ring sealing

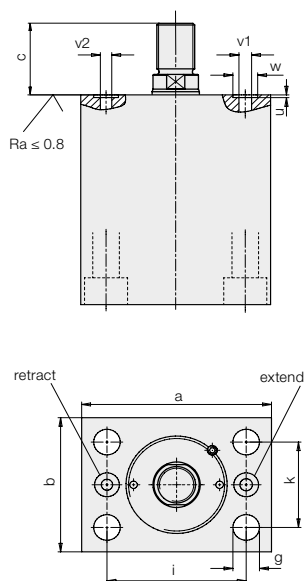
#### Version L

Broad side with 4 cross holes



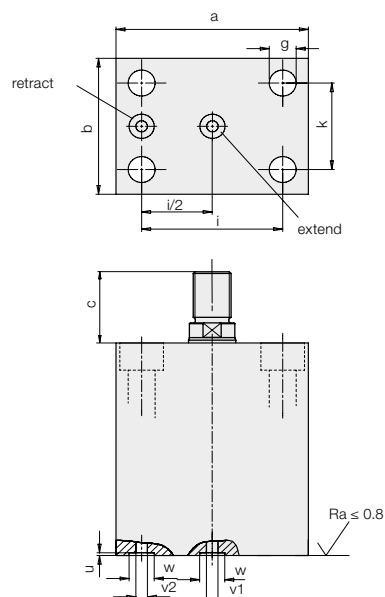
#### Version S

Rod side with 4 longitudinal holes



#### Version B

Bottom side with 4 longitudinal holes



## Technical data Dimensions

Piston Ø D	[mm]	25	32	40	50	63
Rod Ø d	[mm]	16	20	25	32	40
Stroke ±1	[mm]	50	50	50	50	63
Force to push at	100 bar	[kN]	4.9	8.0	12.6	19.5
	500 bar	[kN]	24.5	40.2	62.8	98.5
Force to pull at	100 bar	[kN]	2.9	4.9	7.7	11.6
	500 bar	[kN]	14.5	24.5	38.3	57.9
Oil volume per	Stroke to extend	[cm³]	4.91	8.05	12.56	19.63
10 mm stroke	Stroke to retract	[cm³]	2.9	4.9	7.66	11.59
a	[mm]	65	75	85	100	125
b	[mm]	45	55	63	75	95
c	[mm]	26	33	39	47	63
Ø d1 x c1	[mm]	15x5.6	19x7.8	24x8.1	30.5x8.4	38.7x14.2
e	[mm]	18	22	28	36	45
f	[mm]	M 14x1.5	M 16x1.5	M 20x1.5	M 27x2	M 33x2
g	[mm]	8.5	10.5	10.5	13	17
h	[mm]	33	38	40	44	50
h1	[mm]	26	27	27	30	41
i	[mm]	50	55	63	76	95
k	[mm]	30	35	40	45	65
l	[mm]	120	133	143	162	198
m	[mm]	11	11	11	13	17
n	[mm]	18	22	24	27	26
p		G 1/4	G 1/4	G 1/4	G 1/4	G 1/2
SW	[mm]	13	17	22	27	36
Weight	[kg]	2.0	2.8	3.7	5.4	8.2
u ± 0.05	[mm]	1.1	1.1	1.1	1.1	1.5
v1 extend	[mm]	4	5	6	6	8
v2 retract	[mm]	4	4.5	4.5	6	6
w + 0.2	[mm]	9.8	9.8	9.8	10.8	13.8
x	[mm]	7.5	10	10	13	16
y	[mm]	21	25	27	29.5	32
Dimensions O-ring	[mm]	7 x 1.5	7 x 1.5	7 x 1.5	8 x 1.5	10 x 2

### Part numbers for versions with pipe thread

with NBR seals	1543265	1544265	1545265	1546265	1547275
with FKM seals	1543266	1544266	1545266	1546266	1547276

### Part-numbers for manifold mounting versions with O-ring sealing

Basic number	154326XX	154426XX	154526XX	154626XX	154727XX
Part no. O-ring (NBR)*	3000342	3000342	3000342	3000343	3000347
Part no. O-ring (FKM)*	3001077	3001077	3001077	3000275	3001078

\* Included in our delivery

### Code for part numbers for sealing material and manifold mounting versions

**1 5 4 X 2 X X X**

Basic number  
(from the chart)

- 0L:** NBR seals, manifold mounting version L with 4 cross holes
- 1L:** FKM seals, manifold mounting version L with 4 cross holes
- 5S:** NBR seals, manifold mounting version L with 4 longitudinal holes
- 6S:** FKM seals, manifold mounting version L with 4 longitudinal holes
- 5B:** NBR seals, manifold mounting version B with 4 longitudinal holes
- 6B:** FKM seals, manifold mounting version B with 4 longitudinal holes

### Example of ordering:

Double-acting block cylinder with piston rod diameter 50 mm, with oil supply at the broad side (manifold mounting version L) and FKM seals:

**Part number: 1546261L**

### Accessories:

Spherical bearings see data sheet G 3.810.