

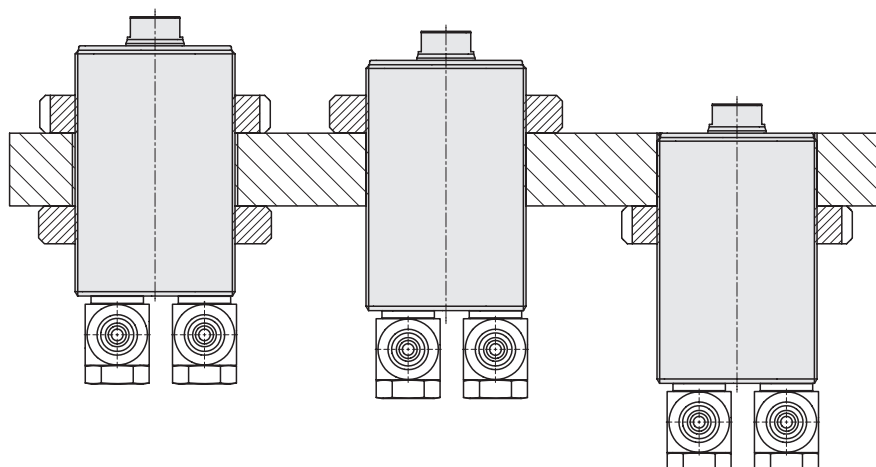


## Threaded-Body Universal Cylinders

single and double acting, max. operating pressure 500 bar



Installation possibilities



### Description

The threaded-body universal cylinders are delivered with the same piston diameters and strokes as the well-proven block cylinders. Hydraulic connection is exclusively effected at the cylinder bottom by hydraulic tubes or hoses.

Sealing of the case-hardened piston rod is made by a tandem sealing with minimum leakage and a wiper.

### Application

The threaded-body universal cylinders can be used as clamping cylinders for workpiece clamping as well as for general motion tasks. For temperatures exceeding 100 °C a version with FKM seals is available. Fixing is made in cross holes with 2 lock nuts or in threaded holes with 1 lock nut. The lock nuts allow exact positioning of the cylinder in axial direction.

### Important notes

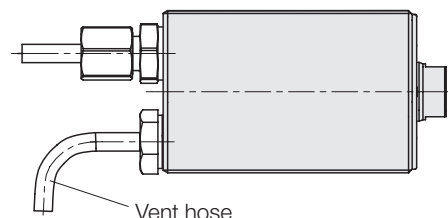
Operating conditions, tolerances and other data see data sheet A 0.100.

### Advantages

- 6 piston diameters from 16 up to 63 mm
- 3 different strokes per size
- Sealing with very little leakage
- Alternatively single acting with spring return or double acting
- Connecting thread at the cylinder bottom
- Axial regulation due to external thread
- Lock nuts as per DIN 1804 can be used
- Space-saving fixing in fixture walls
- Swarf-protected tubing is possible
- Piston rod with internal thread for fixing of different contact bolts

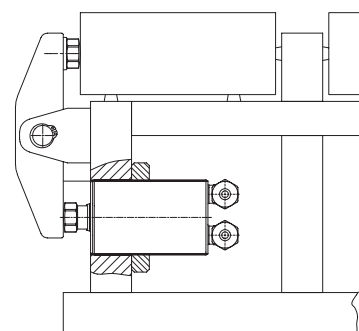
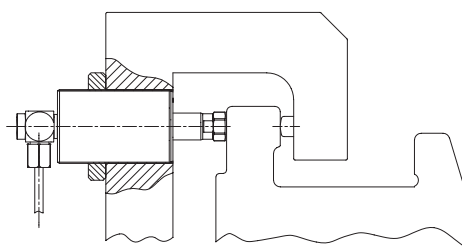
### Venting of the spring area for single-acting versions

If there is a possibility that aggressive cutting lubricants and coolants penetrate through the sintered metal air filter into the cylinder's interior, a vent hose has to be connected and be placed in a protected position, see data sheet G 0.110.

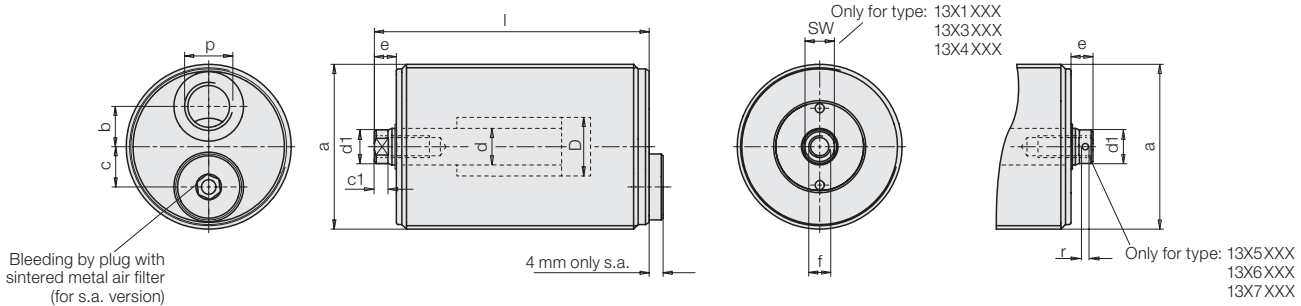


For this purpose the sintered metal air filter has to be exchanged by an insertion nipple fitting, or a corresponding male connector, see data sheet F 9.300.

Application examples



## Technical data



<b>Piston Ø D</b>	[mm]	<b>16</b>	<b>16</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>63</b>
<b>Rod Ø d</b>	[mm]	<b>10</b>	<b>10</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>32</b>	<b>40</b>
Force to push at 100 bar	[kN]	2	2	4.9	8	12.6	19.5	31.2
Force to push at 500 bar	[kN]	10	10	24.5	40.2	62.8	98.5	156
Force to pull at 100 bar	[kN]	1.2	1.2	2.9	4.9	7.7	11.6	18.6
Force to pull at 500 bar	[kN]	6.1	6.1	14.5	24.5	38.3	57.9	93
Spring return force, min.	[N]	50	50	140	195	270	410	430
Oil volume/ Stroke to extend	[cm³]	2.01	2.01	4.91	8.05	12.56	19.63	31.17
10 mm stroke Stroke to retract	[cm³]	1.2	1.2	2.9	4.9	7.7	11.6	18.6
a	[mm]	M40x1.5	M45x1.5	M48x1.5	M55x1.5	M65x1.5	M75x1.5	M90x2
b	[mm]	11	11	13.5	13	16.5	21	28
c	[mm]	11	11	13.5	17	21.5	27	33.5
Ø d1 x c1	[mm]	9.2x3.7	9.2x3.7	15x5	19x7.8	24x7.1	30.5x6.4	38.7x9.2
f	[mm]	M6x12	M6x12	M10x15	M12x15	M16x25	M20x30	M27x40
e	[mm]	6(7)*	6 (7)*	7	10	10	10	14
p		G1/8	G1/4	G1/4	G1/4	G1/4	G1/4	G1/4
r	[mm]					4	4	4
SW	[mm]	8	8	13	17			

### Single acting with spring return

<b>Stroke ±1</b>	[mm]	<b>8</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>10</b>	<b>12</b>	<b>12</b>
Total length l ±1	[mm]	72	75	84	96	99	109	122
Weight	[kg]	0.78	0.67	0.88	1.38	1.93	2.87	4.51
<b>Part no.</b>		<b>1311 205</b>	<b>1311 005</b>	<b>1313 005</b>	<b>1314 105</b>	<b>1315 005</b>	<b>1316 005</b>	<b>1317 005</b>

<b>Stroke ±1</b>	[mm]	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>25</b>
Total length l ±1	[mm]	107	110	114	121	124	134	155
Weight	[kg]	1.07	1.13	1.28	1.75	2.52	3.67	5.98
<b>Part no.</b>		<b>1311 225</b>	<b>1311 025</b>	<b>1313 025</b>	<b>1314 125</b>	<b>1315 025</b>	<b>1316 025</b>	<b>1317 035</b>

### Double acting

<b>Stroke ±1</b>	[mm]	<b>16</b>	<b>16</b>	<b>20</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>30</b>
Total length l ±1	[mm]	72	75	84	96	99	109	122
Weight	[kg]	0.77	0.66	0.85	1.32	1.84	2.75	4.25
<b>Part no.</b>		<b>1341 305</b>	<b>1341 105</b>	<b>1343 105</b>	<b>1344 105</b>	<b>1345 105</b>	<b>1346 105</b>	<b>1347 105</b>

<b>Stroke ±1</b>	[mm]	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>63</b>
Total length l ±1	[mm]	107	110	114	121	124	134	155
Weight	[kg]	1.04	1.10	1.21	1.63	2.34	3.39	5.42
<b>Part no.</b>		<b>1341 365</b>	<b>1341 165</b>	<b>1343 165</b>	<b>1344 165</b>	<b>1345 165</b>	<b>1346 165</b>	<b>1347 175</b>

<b>Stroke ±1</b>	[mm]	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total length l ±1	[mm]	160	163	164	171	174	184	192
Weight	[kg]	1.59	1.68	1.81	2.38	3.35	4.67	6.73
<b>Part no.</b>		<b>1341 395</b>	<b>1341 195</b>	<b>1343 195</b>	<b>1344 195</b>	<b>1345 195</b>	<b>1346 195</b>	<b>1347 195</b>

### Accessories

<b>Part no. lock nut DIN 1804</b>	<b>3300699</b>	<b>3300326</b>	<b>3300324</b>	<b>3300992</b>	<b>3301661</b>	<b>3300673</b>	<b>3300412</b>
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### \* only for 1311 025, -225 and

### 1341 165, -195, -365, -395

Part-nos. for versions with FKM seals for temperatures exceeding 100°C up to 150°C

13XXX6

Contact bolts see data sheet G 3.800.

