

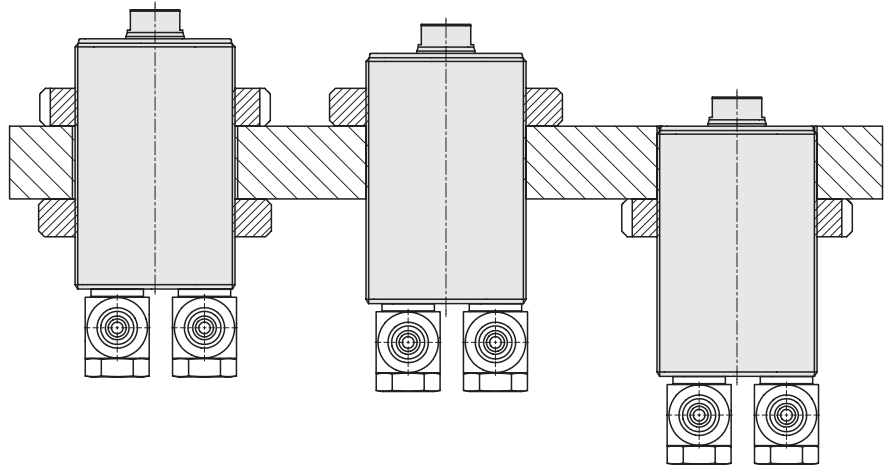


Threaded-Body Universal Cylinders

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

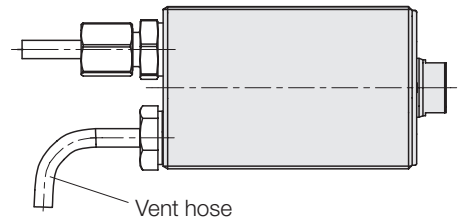
The threaded-body universal cylinders can be used as clamping cylinders for workpiece clamping as well as for general motion tasks. For temperatures exceeding 100 °C a version with FKM seals is available. Fixing is made in cross holes with 2 lock nuts or in threaded holes with 1 lock nut. The lock nuts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

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

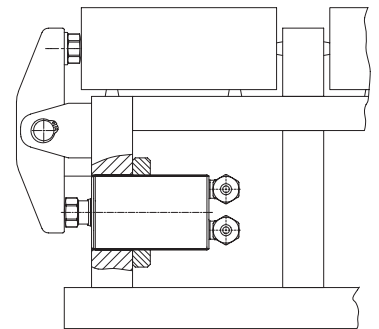
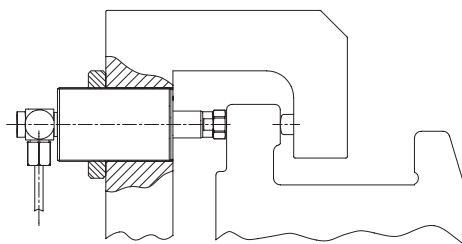
Venting of the spring area for single-acting versions

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.

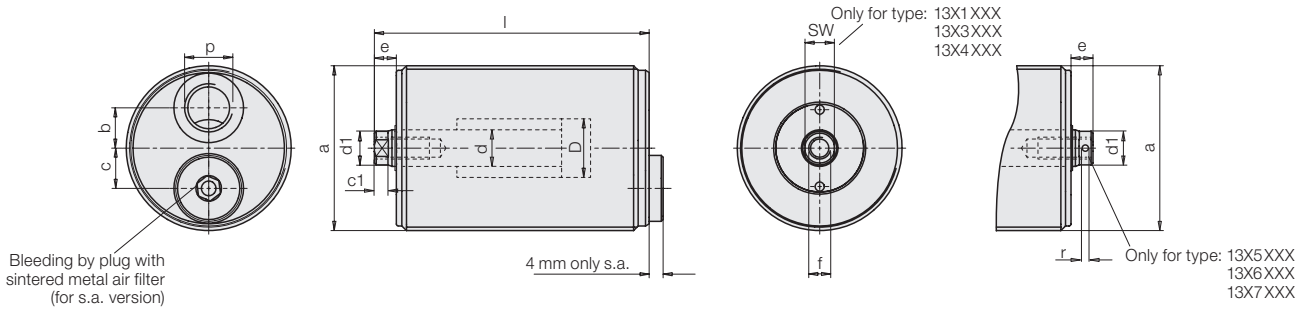


For this purpose the sintered metal air filter has to be exchanged by an insertion nipple fitting, or a corresponding male connector, see data sheet F 9.300.

Application examples



Technical Data



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

Single acting with spring return

Stroke ±1	[mm]	8	8	10	10	12	12
Total length l ±1	[mm]	72	84	96	99	109	122
Weight	[kg]	0.78	0.88	1.38	1.93	2.87	4.51
Part no.		1311 205	1313 005	1314 105	1315 005	1316 005	1317 005
Stroke ±1	[mm]	20	20	20	20	20	25
Total length l ±1	[mm]	107	114	121	124	134	155
Weight	[kg]	1.07	1.28	1.75	2.52	3.67	5.98
Part no.		1311 225	1313 025	1314 125	1315 025	1316 025	1317 035

Double acting

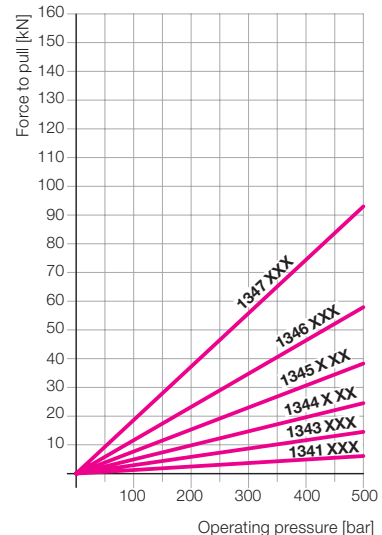
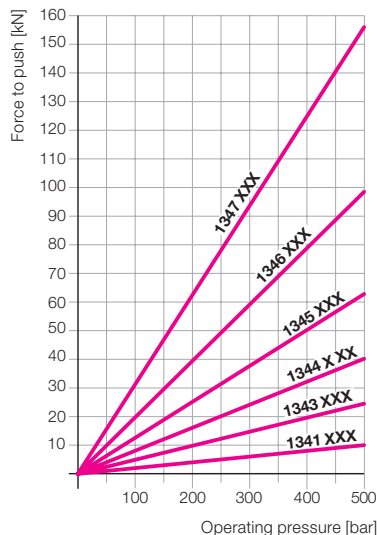
Stroke ±1	[mm]	16	20	25	25	25	30
Total length l ±1	[mm]	72	84	96	99	109	122
Weight	[kg]	0.77	0.85	1.32	1.84	2.75	4.25
Part no.		1341 305	1343 105	1344 105	1345 105	1346 105	1347 105
Stroke ±1	[mm]	50	50	50	50	50	63
Total length l ±1	[mm]	107	114	121	124	134	155
Weight	[kg]	1.04	1.21	1.63	2.34	3.39	5.42
Part no.		1341 365	1343 165	1344 165	1345 165	1346 165	1347 175
Stroke ±1	[mm]	100	100	100	100	100	100
Total length l ±1	[mm]	160	164	171	174	184	192
Weight	[kg]	1.59	1.81	2.38	3.35	4.67	6.73
Part no.		1341 395	1343 195	1344 195	1345 195	1346 195	1347 195

Accessories

Part no. lock nut DIN 1804	3300699	3300324	3300992	3301661	3300673	3300412
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* only for 1311 225, 1341 365 and -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.



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