

Piston Rod Cylinders Bellows Cylinders

Advanced cylinder concepts with outstanding performance define the ORIGA piston rod cylinder programme.

The resulting advantages are the basis for trouble-free operation – whether as individual components or in a combined system, meeting the demands of modern automation for high reliability and high economic efficiency. Special solutions can be developed for optimum efficiency in specific applications.



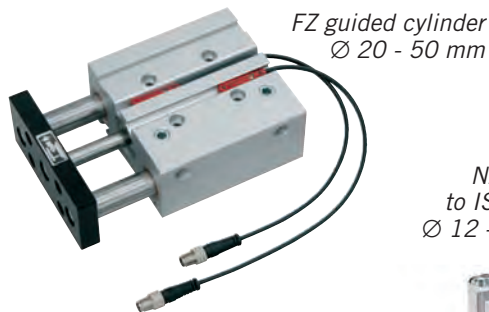
Consistent design of accessories for all cylinder series, e.g. swivel mountings, pivots, piston rod eyes, magnetic switches, etc.

DZ tie rod cylinder
to ISO 15552 (ISO 6431)
Ø 125 - 320 mm

DZB blocking cylinder
mountings to ISO 15552
(ISO 6431)
Ø 32 - 125 mm



ST stop cylinder



FZ guided cylinder
Ø 20 - 50 mm

NZ cylinder
to ISO 21287
Ø 12 - 100 mm

SZ short stroke cylinder
Ø 12 - 100 mm



AZV non-rotating cylinder
mountings to
ISO 15552 (ISO 6431)
Ø 32 - 100 mm


AZ cylinder
to ISO 15552 (ISO 6431)
VDMA 24562
Ø 32 - 100 mm

R round cylinder
to ISO 6432 Ø 10 - 25 mm
R round cylinder Ø 32 - 63 mm

SP bellows cylinder
single, double, triple convolution

HOERBIGER-ORIGA-Products for -Atmospheres

Equipment Group II Category 2GD

Piston Rod Cylinders:  II 2GD c T4 T135°C

Note on ordering:

When ordering the ATEX version of a cylinder, please add "ATEX" to the type designation and order no.

Example:

DZ 5125-0100 ATEX

PA 53540-0100 ATEX

**Cylinders
for EX-Areas
ATEX versions**



Formula	$F = p \cdot A \cdot R$
Symbol	Description
A p R	Piston area Pressure in bar Friction ca. 10%

¹⁾ Air consumption when charging in dm³/100 mm stroke. The tube volume must also be taken into consideration. The given figures relate to piston area A.

The figures for piston area B change proportionally with the piston areas A to B.

A = Piston area - piston side
B = Piston area - piston rod side



**Piston Force
and Air
Consumption**

for
Standard Cylinders

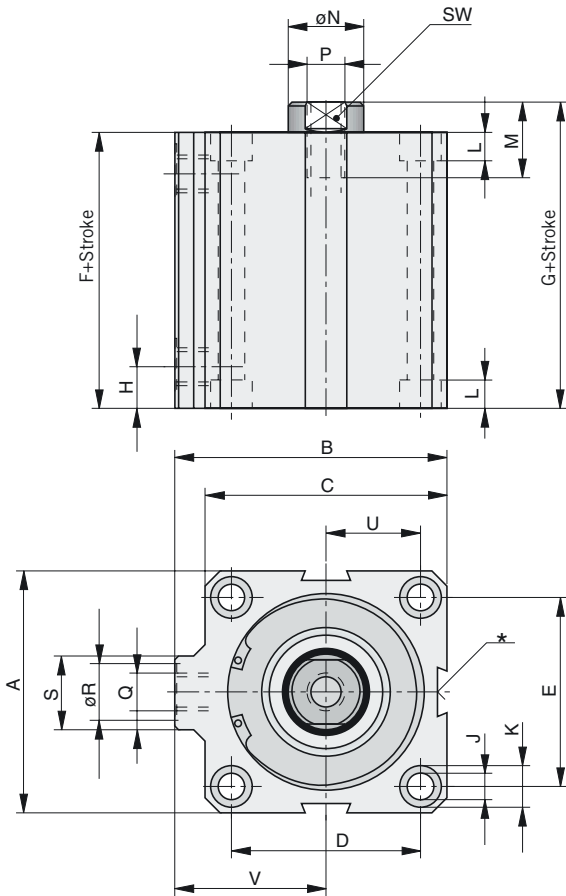
		Piston diameter (mm)																
		8	10	12	16	20	25	32	40	50	63	80	100	125	160	200	250	320
Piston area* (cm ²)	A	0.5	0.8	1.1	2.0	3.1	4.9	8.0	12.6	19.6	31.2	50.0	78.0	122.7	201.0	314.1	490.8	804
	B	0.38	0.65	0.85	1.7	2.6	4.1	6.9	10.6	16.5	28.0	45.4	73.6	114.7	188.5	301.5	471.2	773
Approx. piston force (kN) at ... bar	1	0.0045	0.007	0.010	0.018	0.028	0.044	0.072	0.113	0.176	0.281	0.452	0.706	1.104	1.809	2.827	4.417	7.236
	2	0.0090	0.014	0.020	0.036	0.056	0.088	0.144	0.226	0.353	0.561	0.905	1.413	2.209	3.619	5.654	8.835	14.476
	3	0.0135	0.021	0.030	0.054	0.084	0.132	0.217	0.339	0.530	0.842	1.357	2.120	3.313	5.428	8.482	13.253	21.715
	4	0.0180	0.028	0.040	0.072	0.113	0.176	0.289	0.452	0.707	1.122	1.809	2.827	4.417	7.238	11.309	17.671	28.953
	5	0.0225	0.035	0.050	0.090	0.141	0.220	0.362	0.565	0.884	1.402	2.262	3.534	5.522	9.407	14.137	22.089	36.191
	6	0.0270	0.042	0.060	0.108	0.169	0.265	0.434	0.678	1.060	1.683	2.714	4.241	6.626	10.857	16.964	26.507	43.429
	7	0.0315	0.049	0.070	0.126	0.197	0.309	0.506	0.792	1.237	1.963	3.167	4.948	7.731	12.666	19.792	30.952	50.652
	8	0.0360	0.056	0.080	0.144	0.226	0.353	0.579	0.905	1.414	2.244	3.619	5.654	8.835	14.476	22.619	35.342	57.788
	9	0.0405	0.063	0.090	0.162	0.254	0.397	0.651	1.018	1.590	2.524	4.071	6.361	9.940	16.286	25.447	39.760	65.124
	10	0.0450	0.070	0.100	0.180	0.282	0.441	0.723	1.131	1.767	2.805	4.523	7.068	11.044	18.095	28.274	44.178	72.360
Approx. air consumption (dm ³ /100 mm stroke at ... bar ¹) Figures are valid for piston area A (see symbol)	1	0.010	0.016	0.02	0.04	0.06	0.09	0.18	0.30	0.46	0.71	1.20	1.90	2.65	4.60	6.90	10.80	16.50
	2	0.015	0.024	0.03	0.06	0.09	0.14	0.27	0.43	0.69	1.00	1.85	2.85	4.10	6.90	10.40	16.30	24.50
	3	0.020	0.032	0.04	0.08	0.12	0.19	0.36	0.58	0.92	1.40	2.45	3.80	5.50	9.20	13.90	21.80	32.50
	4	0.025	0.040	0.05	0.10	0.15	0.24	0.45	0.72	1.15	1.75	3.00	4.75	6.95	11.50	17.40	27.20	40.50
	5	0.030	0.048	0.06	0.12	0.18	0.29	0.55	0.86	1.40	2.10	3.65	5.70	8.40	13.80	20.90	32.70	48.00
	6	0.035	0.056	0.07	0.14	0.21	0.34	0.65	1.00	1.60	2.50	4.25	6.60	9.70	16.00	24.40	38.20	56.50
	7	0.040	0.064	0.08	0.16	0.25	0.39	0.73	1.15	1.80	2.85	4.85	7.60	11.15	18.30	27.90	43.70	64.50
	8	0.045	0.072	0.09	0.18	0.28	0.41	0.82	1.30	2.00	3.20	5.45	8.50	12.55	20.60	31.50	49.20	72.50
	9	0.050	0.080	0.10	0.20	0.31	0.49	0.90	1.45	2.30	3.55	6.10	9.50	14.00	22.90	35.00	54.60	80.50
	10	0.055	0.088	0.11	0.22	0.34	0.53	1.00	1.60	2.50	3.90	6.40	10.40	15.40	25.20	38.50	60.10	89.00



SZ - Short Stroke Cylinders

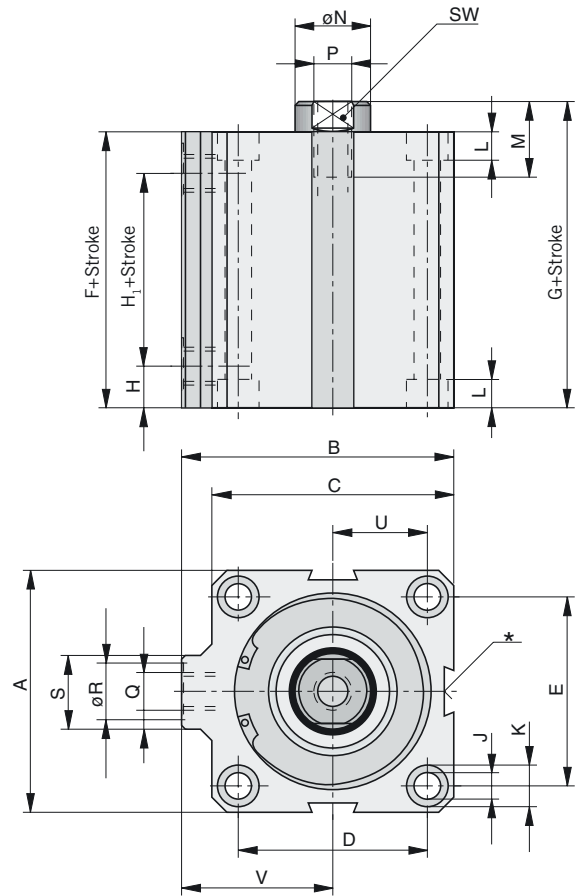
Ø 12-100 mm

Dimensions – Cylinder, Series SZ7..., Ø 12 – 100 mm



* are omitted for cyl. Ø12 to 20 mm

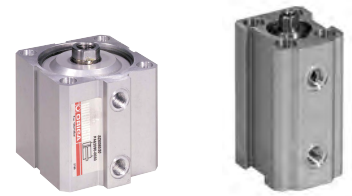
Dimensions – Cylinder, Series SZ6..., Ø 12 – 100 mm



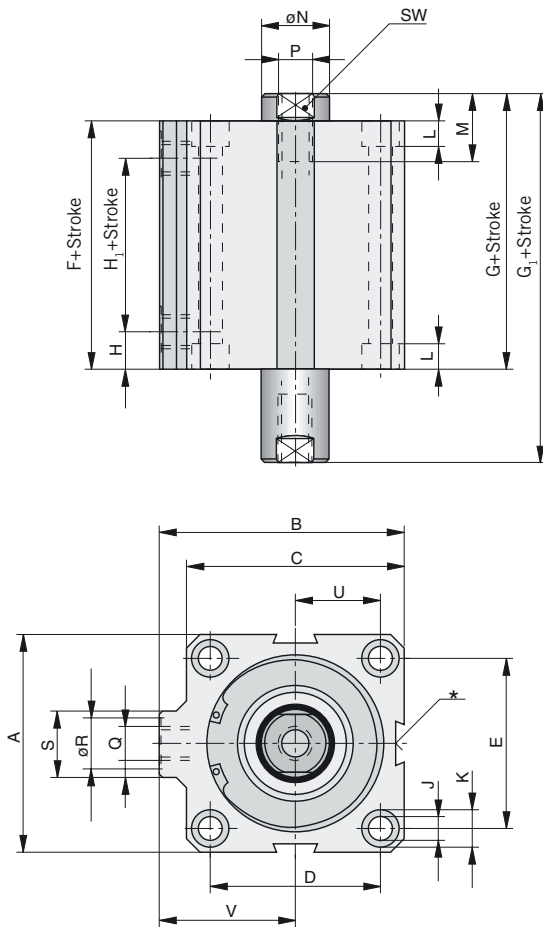
* are omitted for cyl. Ø12 to 20 mm

Dimension Table (mm) – Series SZ7..., SZ6..., SZD6..., SZV6...

Cyl. Ø	Stroke (mm) Series SZ7...	A	B	C	D	E	F + Stroke SZ7...	F + Stroke SZ6... SZD6...	G + Stroke SZ6... SZ7...	G ₁ + 2x Stroke SZD6...	H	H ₁ + Stroke SZ7...
12		23	27	25	17.4	13	34	34	38.6	43	10	14
16	5.10	28	30	28	20	20	34.5	34.5	40.1	45.5	10.3	14
	25						44.5	44.5	50			
20	5.10	32	34	32	22	22	36	36	42	48	11	14
	25						46	46	52			
25	5.10	37	44	39	28	26	38.5	38.5	45	51.5	11.6	15.5
	25						48.5	48.5	55			
32	5.10.25	45	52	48	36	32	39	39	45.7	52	11.5	16
40	5.10.25	55	59	55	41	41	42	42	48.1	55.5	12.4	17
50	10.25	64	72	64	50	50	45	45	52.8	61.5	13.5	18
63	10.25	80	88	80	62	62	52.5	52.5	60.7	69.5	15.5	21.5
80	10.25	94	104	94	73	73	57	57	66.5	76	16	25
100	10.25	117	125.5	117	90.5	90.5	58.5	58.5	69.7	80.5	15.6	27.5

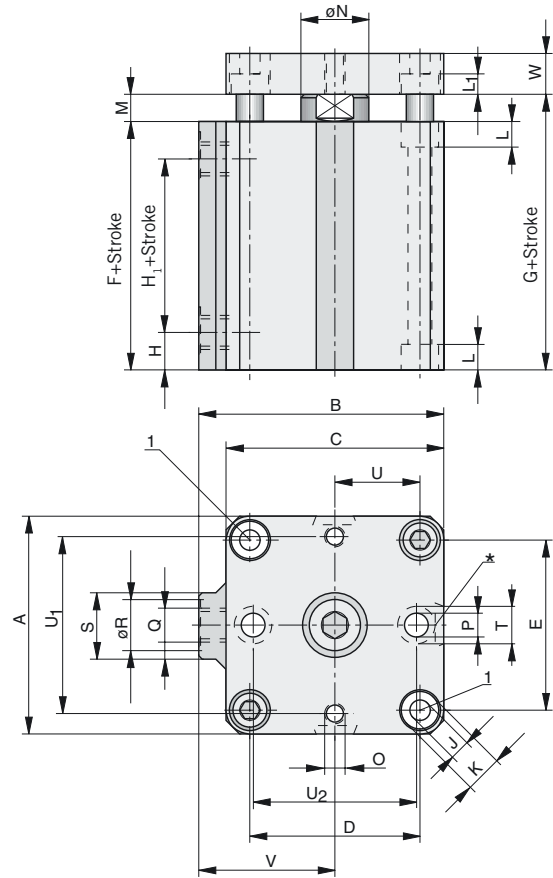


Dimensions – Cylinder, Series SZD6..., Ø 12 – 100 mm



* are omitted for cyl. Ø12 to 20 mm

Dimensions – Cylinder, Series SZV6..., Ø 20 – 63 mm



* is omitted for cyl. Ø 20 mm
¹⁾ Mounting holes for cylinder

Cyl. Ø	ØJ	ØK	L	M	ØN	P	Q	ØR	S	U	V	SW
12	3.4	6	3.5	6	6	M3	M5	8	11	8.6	14.5	5
16	3.4	6	3.5	8	8	M4	M5	8	11	10	16	6
20	4.5	7.5	4.8	8	10	M5	M5	8	11	11	18	8
25	4.5	7.5	4.8	12	12	M6	G1/8	15	19	14	24.5	10
32	5.5	10	5.8	12	12	M8	G1/8	15	19	18	28	10
40	6.7	11	6.8	12	16	M8	G1/8	15	19	20.5	31.5	13
50	6.7	11	6.8	17.5	20	M10	G1/8	15	19	25	40	17
63	8.5	14	8.3	17.5	20	M12	G1/8	15	23	31	48	17
80	8.5	14	8.3	25	25	M16	G1/4	19	23	36.5	57	22
100	10.5	18	11	28	32	M20	G1/4	19	23	45.25	67	27