

SHORT STROKE CYLINDERS

Series W

Operating pressure: 1,5 ÷ 10 bar
 Room temperature: - 20 ÷ 80°C
 Medium: Filtered air, with or without lubrication

Available with mechanical shock absorbers

Construction details

Barrel profile from extruded aluminium alloy, internally and externally anodized (15 - 18 µ).

Removable aluminium end-caps for easy inspection.

Piston fitted with permanent plastroferrite magnetic ring (upon request; bore sizes 16 ÷ 100)

Piston seals produced from a special nitrile compound self-compensate against wear.

Rolled stainless steel rod (AISI 303) with female thread (male thread upon request).

Self-lubricating guide bearings.

Upon request

- Rear trunnion
- Nipple
- Non-rotating piston rod (bore sizes Ø 16 ÷ 100)
- Hollow through piston rod (bore sizes Ø 20 ÷ 100)
- Magnetic option (bore sizes Ø 16 ÷ 100)
- Magnetic sensors, see page 2.27
- Tandem cylinders
- Cylinders with slide unit, bore sizes Ø 20 ÷ 80

Developed forces

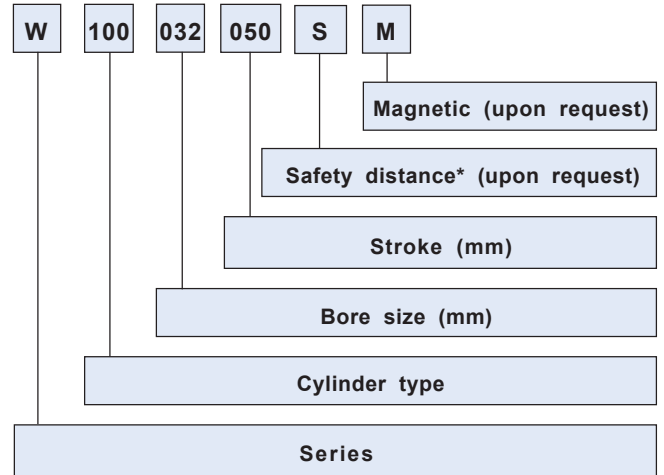
Such forces are obtained by applying the following formula:

Thrust force	Traction force
$Thf = S \cdot p - a$	$Tf = s \cdot p - a$

Where: p = supply pressure
 S = piston push surface (cm²)
 s = piston pull surface (cm²)
 a = friction (10%)

Cyl. Ø	Ø Piston rod (mm)	S (cm ²)	s (cm ²)	Max. reaction of the springs (N) (for SA-version)
12	6	1,1	0,8	6,8
16	6	2	1,7	7,8
20	10	3,1	2,3	13,2
25	10	4,9	4,1	19,6
32	12	8	6,9	35,3
40	16	12,6	10,6	45
50	16	19,6	17,6	70,5
63	20	31,1	28	96
80	25	50,3	54,3	119,5
100	25	78,5	73,6	237,2

Codification key



CYLINDER TYPE

- 100 D.A. Double acting cylinder
- 101 D.A. Double acting cylinder - through piston rod
- 110 D.A. Double acting cylinder - non-rotating piston rod*
- 111 D.A. Double acting cylinder - through, non-rotating piston rod*
- 131 D.A. Double acting cylinder - hollow through piston rod
- 160 S.A. Single acting cylinder - retracted piston rod
- 170 S.A. Single acting cylinder - extended piston rod

VERSION WITH REAR MALE HINGE

- (except bore size Ø 12)
- 700 D.A. Double acting cylinder
 - 760 S.A. Single acting cylinder - retracted piston rod
 - 770 S.A. Single acting cylinder - extended piston rod

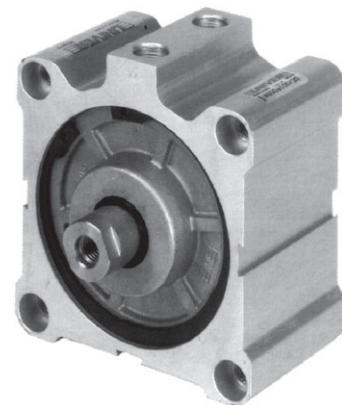
BORE

Ø 12 - 16 - 20 - 25 - 32 - 40 - 50 - 63 - 80 - 100 mm

STANDARD STROKE

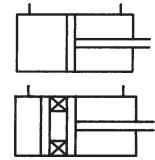
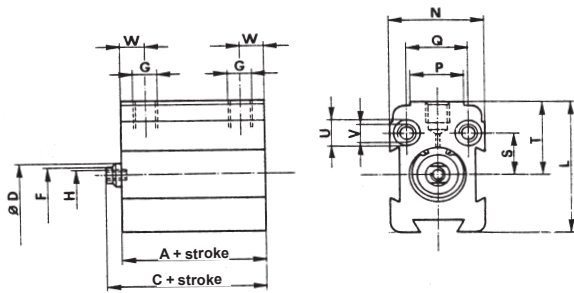
Ø 12 - 25 SA: 5-10 mm
 Ø 32 - 100 SA: 5-10-25 mm
 Ø 12 - 16 DA: 5-10-20-25-30-40-50 mm
 Ø 20 - 100 DA: 5-10-20-25-30-40-50-75 mm

* Cylinders with non rotating piston rod are available (upon request) with safety distance for accident prevention, according to EEC rules EN 349.

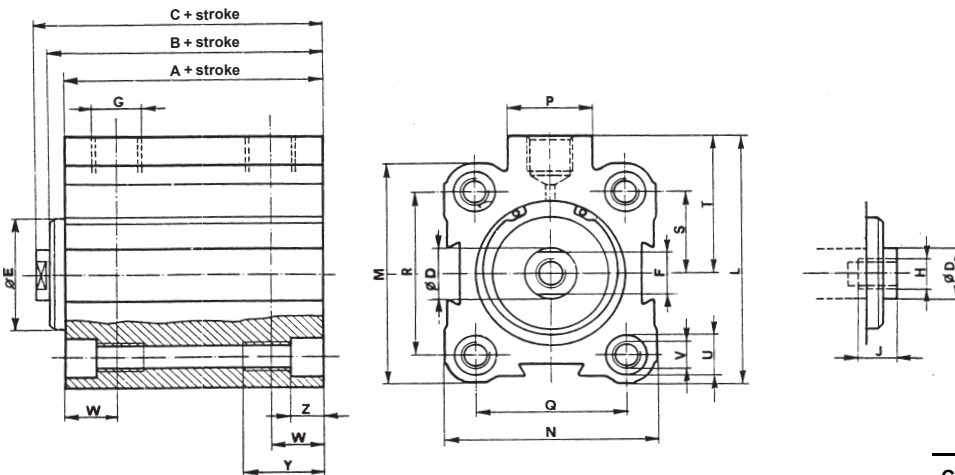


Double-acting cylinder W 100 . . / W 100 . . M Series

Ø 12 mm cylinder



Ø 16 ÷ 100 cylinder



Mass at 0 (g) stroke

Cyl. Ø	Non-magnetic	Magnetic	Increase per mm
12	45	-	1,2
16	74	102	1,4
20	95	120	2
25	135,5	155,5	2,85
32	233	292	4,06
40	394	430	5,47
50	390	446	6,4
63	640	772	9,7
80	1190	1275	14,85
100	1720	1920	19,7

Cyl. Ø	A	B	C	+ STROKE			D	E	F	G	H	J	L	M	N	P	Q	R	S	T	U	V		W	Y	Z
				A*	B*	C*																hole	thread			
12	32	-	35,5	-	-	-	6	-	5	M5	M3	6,5	28,5	-	20	11	13	-	9	16	6	3,7	M4	8,2	9	3,4
16	32	-	35,5	42	-	45,5	6	-	5	M5	M3	6,5	31	28	28	11	20	20	10	17	5,8	3,7	M4	6,5	9	3,4
20	35	-	42	45	-	52	10	-	8	M5	M5	10	35	32	32	11	22	22	11	19	7,5	4,6	M5	7	10	4,6
25	35	-	42	45	-	52	10	-	8	G 1/8	M5	10	44,5	39	37	18	26	28	14	25	7,5	4,6	M5	7,5	10	4,6
32	37	42	49	47	52	59	12	23	10	G 1/8	M6	12	54	48	45	18	32	36	18	30	8,5	5,55	M6	9	16	5,7
40	40	47	55	45	52	60	16	29,5	13	G 1/8	M8	14	60	54,5	54,5	18	40	40	20	33	8,5	5,55	M6	9,5	16	5,7
50	40	46,5	55	45	51,5	60	16	35,5	13	G 1/4	M8	14	72	64	64	22	50	50	25	40	10,5	7,4	M8	10	16	6,8
63	42	50,5	59	47	55,5	64	20	43	17	G 1/4	M10	15	88	80	80	22	62	62	31	48	13,5	9,3	M10	10	20	9
80	52	60	71,5	57	65	76,5	25	50	22	G 3/8	M12	20	110	100	100	26	82	82	41	60	13,5	9,3	M10	15	20	9
100	52	60	71,5	57	65	76,5	25	56	22	G 3/8	M12	20	134	124	124	26	103	103	51,5	72	16,5	11,2	M12	15	25	11

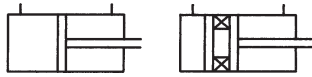
* Magnetic option

Technical modifications keep in reserve !

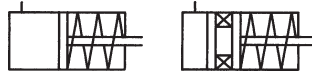
(2020/10)

Rear male hinge

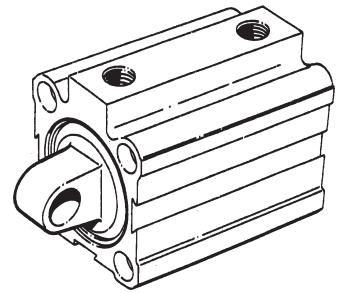
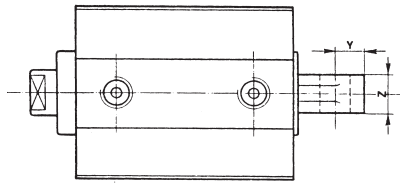
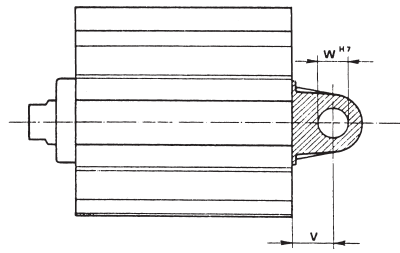
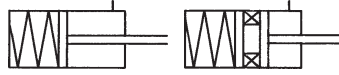
W 700 ... / W 700 ... M Series



W 760 ... / W 760 ... M Series



W 770 ... / W 770 ... M Series

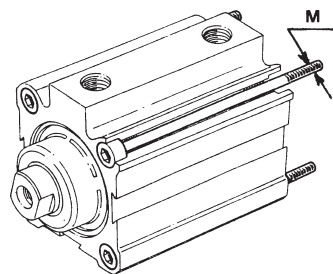


Mass (g) stroke 0

Cyl. Ø	W700.../W700...M			W760.../W760...M			W770.../W770...M		
	Non-magnetic Stroke 0	Magnetic Stroke 0	Increase per mm	Non-magnetic Stroke 0	Magnetic Stroke 0	Increase per mm	Non-magnetic Stroke 0	Magnetic Stroke 0	Increase per mm
12	-	-	-	-	-	-	-	-	-
16	82	110	1,4	67	87	1,4	78	106	1,4
20	107,5	132,5	2	82,5	97,5	2	98,5	123,5	2
25	158,5	178,5	2,85	119	139	2,85	145	165	2,85
32	276,5	335,5	4,06	237,5	296,5	4,06	255,5	315,5	4,06
40	470,5	506,5	5,47	402,5	438,5	5,47	442	478,5	5,47
50	417	473	6,4	349	405	6,4	379	435	6,4
63	681,5	813,5	9,7	574,5	756,5	9,7	631,5	913,5	9,7
80	1238,5	1323,5	14,85	1068,5	1153,5	14,85	1152,5	1237,5	14,85
100	1775	1975	19,7	1545	1745	19,7	1631	1831	19,7

Cyl. Ø	Y	Z	Ø W H7	v
12	-	-	-	-
16	5,5	9	6 H7	6,2
20	5,5	9	6 H7	6,5
25	6	12	6 H7	8
32	9	14	10 H7	11
40	10	16	12 H7	13
50	12	17	12 H7	16,5
63	14	21	16 H7	18
80	14	21	16 H7	16,5
100	17	25	20 H7	21

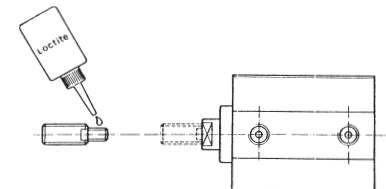
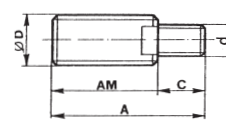
Mounting screws



Cyl. Ø	12	16	20	25	32	40	50	63	80	100
M	3	3	4	4	5	5	6	8	8	10

NOTE: mounting of the magnetic cylinder bore Ø 16 mm requires non-magnetic (stainless steel) mounting screws

Nipple



Cyl. Ø	A	AM	C	D	d	Part number
12	22,5	16	6,5	M 6 x 1	M 3	WF-50012
16	22,5	16	6,5	M 6 x 1	M 3	WF-50012
20	30	20	10	M 8 x 1,25	M 5	WF-50020
25	30	20	10	M 8 x 1,25	M 5	WF-50020
32	34	22	12	M 10 x 1,25	M 6	WF-50032
40	38	24	14	M 12 x 1,25	M 8	WF-50040
50	46	32	14	M 16 x 1,5	M 8	WF-50050
63	47	32	15	M 16 x 1,5	M 10	WF-50063
80	60	40	20	M 20 x 1,5	M 12	WF-50080
100	60	40	20	M 20 x 1,5	M 12	WF-50080