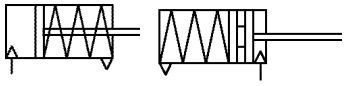
Actuators

Short stroke cylinders

RM/91000

Single acting

Ø 12 to 63 mm



One third the basic length of a corresponding ISO/VDMA model

Low friction, long life seal design

Fully non-corrodible specification

Non-lube operation

Optional non-rotating piston rod

Standard magnetic piston for full control system versatility

Technical data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
RM/91000/M
Single acting, non-cushioned, magnetic piston sprung in

RM/93000/M
Single acting, non-cushioned, magnetic piston sprung out

Operating pressure:
2 to 10 bar

Operating temperature:
-10°C to +80°C.
Consult our Technical Service for use below +2°C

Strokes:
Standard, see table
Non-standard strokes 50 mm maximum

Materials

Barrel & end caps: anodised aluminium alloy
Piston rod: stainless steel (Ø 12 to 40 mm Austenitic, Ø 50 and 63 mm Martensitic)
Seals: polyurethane and/or nitrile rubber

Standard models

Ø	Piston rod Ø	Port size	Model Sprung in	Sprung out	Service kit	Model, non-rotating Sprung in	Sprung out	Service kit
12	6	M5	RM/91012/M/*	RM/93012/M/*	–	–	–	–
16	8	M5	RM/91016/M/*	RM/93016/M/*	–	RM/91016/N2/*	RM/93016/N2/*	–
20	10	M5	RM/91020/M/*	RM/93020/M/*	–	RM/91020/N2/*	RM/93020/N2/*	–
25	12	M5	RM/91025/M/*	RM/93025/M/*	–	RM/91025/N2/*	RM/93025/N2/*	–
32	16	G1/8	RM/91032/M/*	RM/93032/M/*	–	RM/91032/N2/*	RM/93032/N2/*	–
40	16	G1/8	RM/91040/M/*	RM/93040/M/*	–	RM/91040/N2/*	RM/93040/N2/*	–
50	20	G1/8	RM/91050/M/*	RM/93050/M/*	QM/92050/00	RM/91050/N2/*	RM/93050/N2/*	QM/92050/N2/00
63	20	G1/4	RM/91063/M/*	RM/93063/M/*	QM/92063/00	RM/91063/N2/*	RM/93063/N2/*	QM/92063/N2/00

* Insert stroke length in mm.

Order magnetically operated switches separately, see page 199

Ø	RM/91000/M Theoretical forces (N) at 6 bar Outstroke	F1	RM/93000/M Theoretical forces (N) at 6 bar Instroke	F1
12	57	7	40	7
16	103	12,5	72	12,5
20	161	14,5	119	14,5
25	264	20	197	20
32	432	32	311	32
40	687	44	566	44
50	1094	56,5	906	56,5
63	1770	74,5	1582	74,5

F1 = Return force of spring (N).

Cylinder sizing and speed control see page 6

Standard strokes

Ø	5	10	25
12	❍	❍	
16	❍	❍	
20	❍	❍	
25	❍	❍	
32		❍	❍
40		❍	❍
50		❍	❍
63		❍	❍

Options selector

RM/9★★★★/★★/★★

Operating	Substitute
Sprung in	1
Sprung out	3

Cylinder diameters (mm)	Substitute
12	012
16	016
20	020
25	025
32	032
40	040
50	050
63	063

Strokes (mm)
50 max.

Variants	Substitute
Standard	M
Non-rotating piston rod	N2

Note: Disregard option positions not used.

For combinations of cylinder variants consult our Technical Service.

Short stroke cylinders

RM/91000

Single acting

Ø 12 to 63 mm

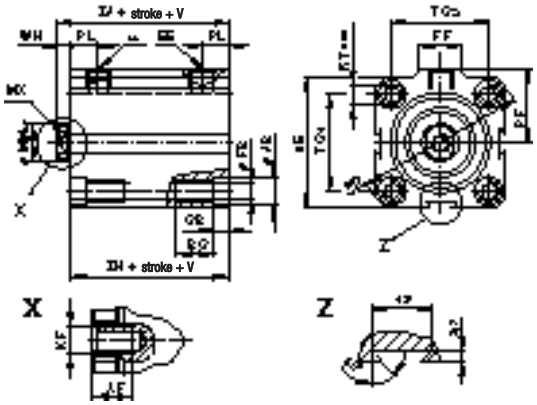
Mountings

Ø	B & G	C	F	Nut	Stud*	Adapter*	Assembly kit
							
12	QM/90012/22	QM/90012/21	QM/57008/25	M/P1500/111	M/P1710/18	–	QM/92012/55
16	QM/90016/22	QM/90016/21	QM/8010/25	M/P1501/80	M/P1710/19	–	QM/92016/55
20	QM/90020/22	QM/90020/21	QM/92020/25	M/P1501/109	M/P1710/20	–	QM/92020/55
25	QM/90025/22	QM/90025/21	QM/57016/25	M/P1501/79	M/P1710/21	–	QM/92025/55
32	QM/90032/22	QM/90032/21	QM/57020/25	M/P1501/60	M/P1710/22	–	QM/92032/55
40	QM/90040/22	QM/90040/21	QM/57020/25	M/P1501/60	M/P1710/22	–	QM/92040/55
50	QM/90050/22	QM/90050/21	QM/57025/25	–	–	M/P71470/1	QM/92050/55
63	QM/90063/22	QM/90063/21	QM/57040/25	–	–	M/P71470/2	QM/92063/55

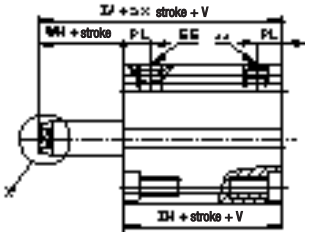
*For attaching F mounting to female piston rod thread. Please see page 45 for details of mountings

Standard cylinders

RM/91000/M (sprung in)



RM/93000/M (sprung out)



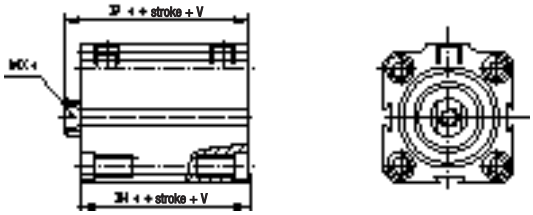
** Port thread with inserted filter, do not obstruct

*** Only the 4 front holes are tapped on stroke lengths of less than:
Ø 25 and 32 mm: 5 mm, Ø 40 and 63 mm: 15 mm (.../N2: 5 mm),
Ø 50 mm: 10 mm

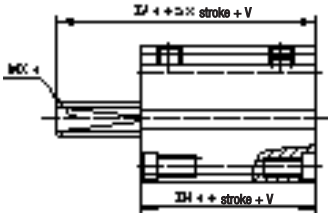
Note: Ø 12 to 20 mm feature only two side dovetails.

Cylinder variants

RM/91000/N2 – Cylinders with non–rotating piston rod – sprung in



RM/93000/N2 – Cylinders with non–rotating piston rod – sprung out



Ø	AF	BG	Ø D	❑ E	EE	Ø FB	FF	GB	Ø JB	KF	Ø MM h9	MX (A/F)	MX1 (A/F)	PF
12	6	9	32,5	25	M 5	3,3	10	3,5	6	M 3	6	5	–	15
16	7	9	36,5	28	M 5	3,3	10	3,5	6	M 4	8	6	6	17
20	8	9	41,5	32	M 5	3,3	10	3,5	6	M 5	10	8	8	19,5
25	9	12	48	37	M 5	4,2	10	4,5	7,5	M 6	12	10	10	22
32	12	12	58	45	G 1/8	4,2	18	4,5	7,5	M 8	16	13	13	27,5
40	12	16	71,5	55	G 1/8	6,8	18	6,5	10,5	M 8	16	13	13	31,5
50	14	16	81	63	G 1/8	6,8	18	6,5	10,5	M 10	20	17	16	37
63	16	20	104	80	G 1/4	8,5	22	8,5	13,5	M 12	20	17	16	48

Ø	PL	RT	TG 1	TG 2	V stroke 0 ... 25 mm	V stroke 26 ... 50 mm	WH	ZH	ZH 1	ZJ	ZJ 1	kg at 0 mm	kg per 5 mm
12	7	M 4	17	13	14	–	4,5	24	–	28,5	–	0,07	0,02
16	7,5	M 4	20	20	15	–	5,5	24,5	34,5	30	40	0,09	0,02
20	7,5	M 4	23	23	17	34	6	26	36	32	42	0,12	0,02
25	8	M 5	27	27	18	36	6,5	28,5	38,5	35	45	0,17	0,03
32	9	M 5	33	33	19	38	6,5	29	39	35,5	45,5	0,28	0,05
40	10	M 8	41	41	20	40	6,5	31,5	41,5	38	48	0,44	0,06
50	10,5	M 8	48	48	30	60	8	35	45	43	53	0,50	0,08
63	13	M 10	61	61	30	60	8	42,5	52,5	50,5	60,5	0,90	0,11