

MCRPMS series

MAGNETICALLY COUPLED RODLESS CYLINDER



Technical data



Caution for safety
(Read before installing)



Table for standard stroke

Tube I.D.	Stroke (mm)	Max. stroke
ø10	50, 100, 150, 200, 250, 300	500
ø15	50, 100, 150, 200, 250, 300, 350, 400, 450, 500	750
ø20	100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800	1000
ø25		1500
ø32		

* Minimum stroke unit 1mm.

Cylinder weight

Unit: g

Tube I.D.	Basic weight MCRPMS	Stroke 100 mm MCRPMS
ø10	407	169
ø15	770	222
ø20	1360	342
ø25	1730	346
ø32	2980	520

Order example

MCRPMS – G – 10 – 100M – B S – G

MODEL

PORT LOCATION

Blank: Bilateral piping

G: Centralized piping

TUBE I.D.

MAGNET

Blank: Without magnet

M: With magnet

MD: With magnet for RDC

STROKE

CUSHION

Blank: Bumper bolt

B: Shock absorber

C: Shock absorber + Bumper bolt

PORT THREAD

Blank: M5×0.8
(Only for ø10,15)

Blank: Rc thread
G: G thread
NPT: NPT thread
(Only for ø20~32)

GREASE LUBRICATION

Blank: Standard
S: Slow motion grease

Features

- 50% space saving, centralized piping ease of mounting.
- Magnetic transit design. Magnetic force transmits the movement with piston side magnet and slider magnet.
- Stainless tube, light weighted and durable.
- The overall design of the cylinder and guide rods, can direct bear loads.

Specification

Model	MCRPMS				
Acting type	Double acting				
Tube I.D. (mm)	10	15	20	25	32
Port size	M5×0.8		Rc1/8		
Medium	Air				
Operating pressure range	Standard	0.2~0.7 MPa			
	Cushion (*1)	0.2~0.55	0.2~0.65 MPa		
Proof pressure	1 MPa				
Ambient temperature	+5° ~ +60°C				
Lubricator	Without lubrication				
Available speed range	Standard grease: 150~400 mm/sec (*2)				
	Slow motion grease: 80~150 mm/sec (*2, 3)				
Holding force	53.9 N	137 N	231 N	363 N	588N
Shock absorbers (*4)	MDSC-0806-3-N		MAC-1007-SN	MAC-1412-SN	MAC-2015-SN
Sensor switch	RDC(V), RQC(V) 🔗 , RCD 🔗 , RDFE 🔗				

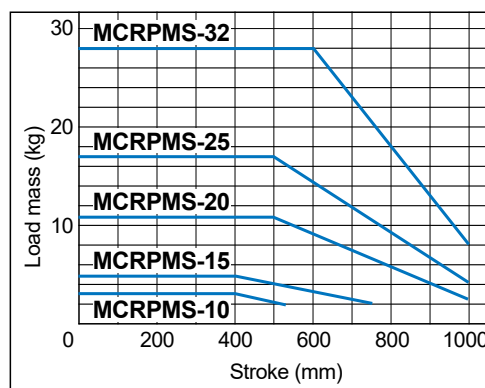
*1. Exceeding the allowable pressure will lead to the breaking of the magnetic coupling and cause the piston slider and external slider becoming separated.

*2. The cylinder must be connected to a speed controller and gradually adjusted from fully closed to achieve the desired operating speed within the designed range.

*3. Between the speed range limit the actuator stroke must not exceed 2m/minute.

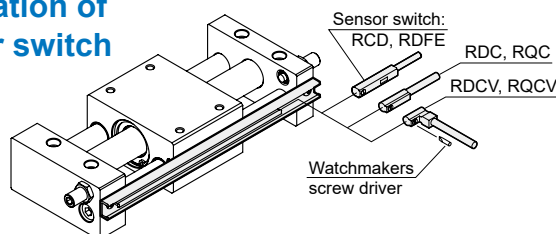
*4. Option: shock absorber MDSC, MAC.

Maximum load mass

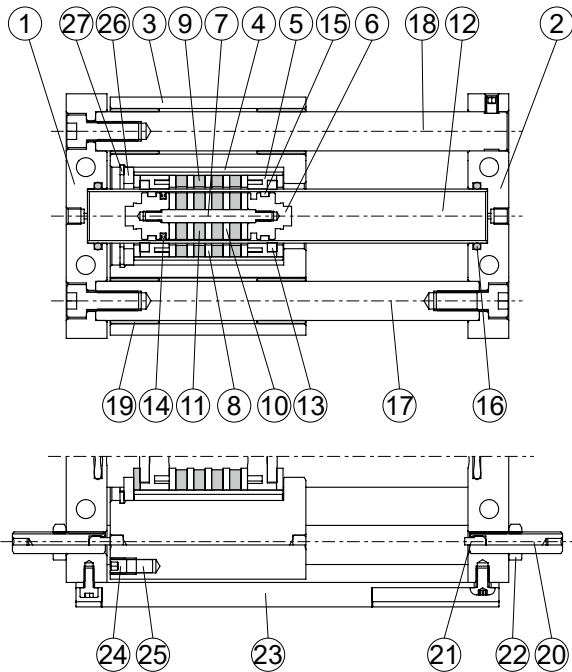


* Maximum load mass when horizontal mounting.

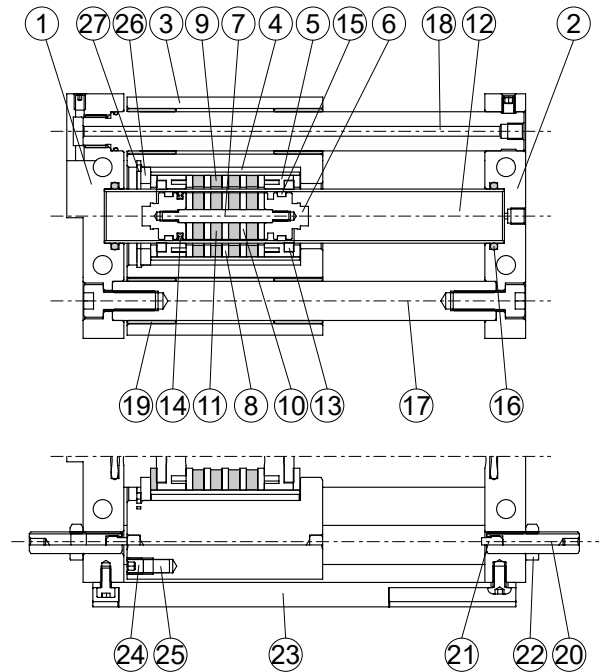
Installation of sensor switch



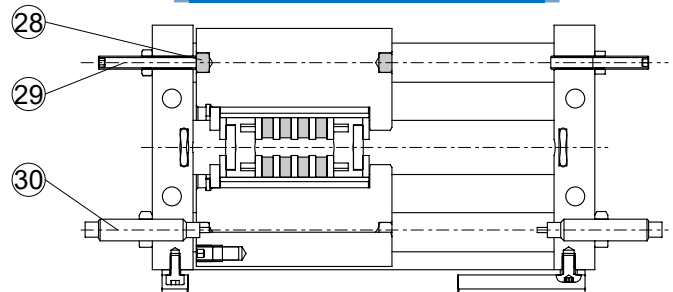
Bilateral piping



Centralized piping



With shock absorber



Material

No.	Part name	Material	Note
1	Plate A	Aluminum alloy	Anodized
2	Plate B	Aluminum alloy	Anodized
3	Slider body	Aluminum alloy	Anodized
4	External slider tube	Aluminum alloy	
5	Body wear ring	Resin	
6	Piston	Aluminum alloy	
7	Shaft	Stainless steel	
8	Slider side yoke	Carbon steel	
9	Slider side magnet	Magnet material	
10	Piston side yoke	Carbon steel	
11	Piston side magnet	Magnet material	
12	Tube	Stainless steel	
13	Lub-retainer	Special resin	
14	Piston seal	NBR	
15	Wear ring	Resin	

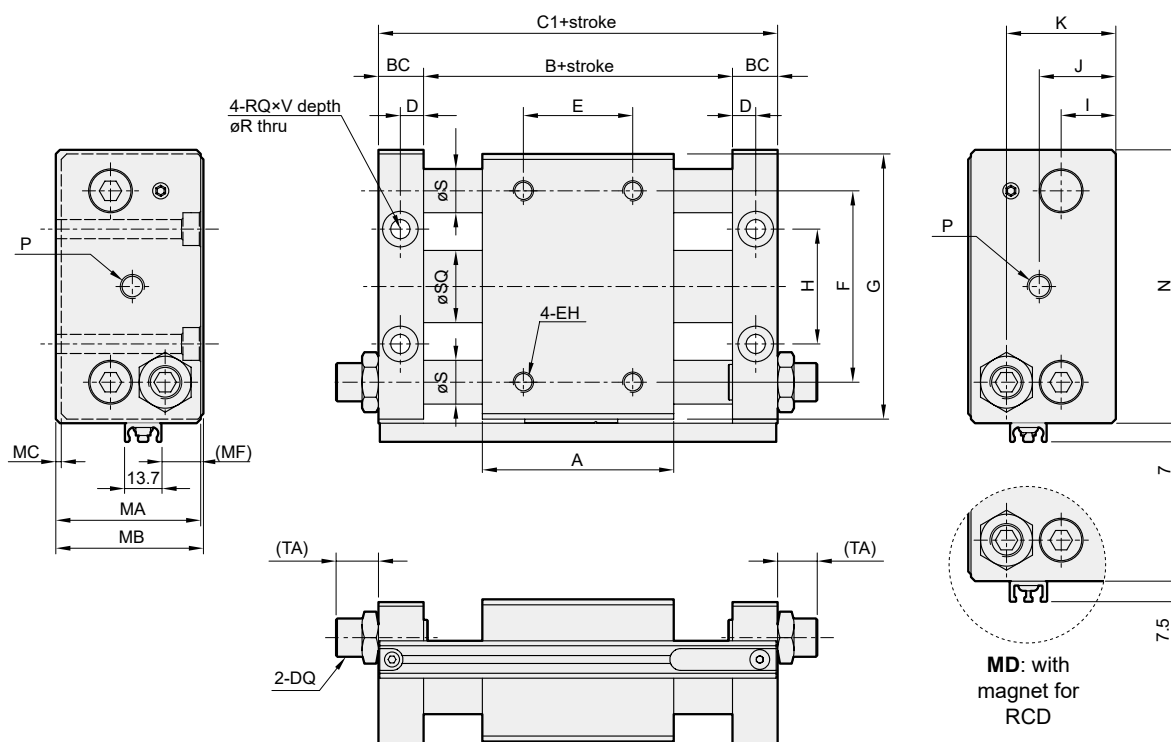
No.	Part name	Material	Note
16	O-ring	NBR	
17	Guide shaft A	Carbon steel	
18	Guide shaft B	Carbon steel	
19	Bush	Copper	
20	Adjusting bolt	Carbon steel	
21	Cushion	PU	
22	Bolt	Carbon steel	
23	Switch rail	Aluminum alloy	for with magnet
24	Hex socket screws	Stainless steel	for with magnet
25	Magnet	Magnet material	for with magnet
26	Washer	Aluminum alloy	Anodized
27	Snap ring	Spring steel	
28	Cushion block	PU	for with shock absorber
29	Adjustment bolt	Carbon steel	for with shock absorber
30	Shock absorber	Composite material	for with shock absorber

MCRPMS Dimensions – Bilateral piping type $\phi 10 \sim \phi 32$

MAGNETICALLY COUPLED RODLESS CYLINDER

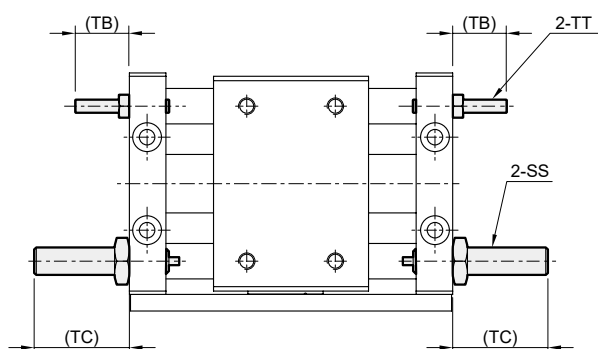


Mindman



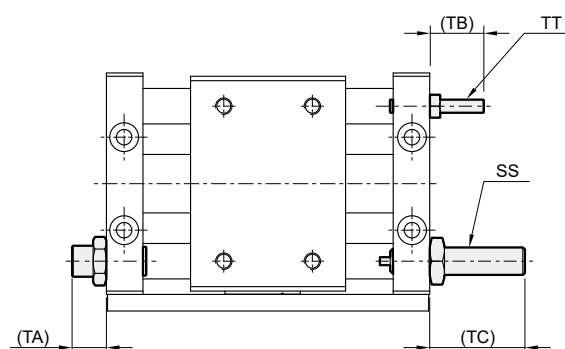
MCRPMS-*-B

With shock absorber



MCRPMS-*-C

With shock absorber +
Adjustment bolt

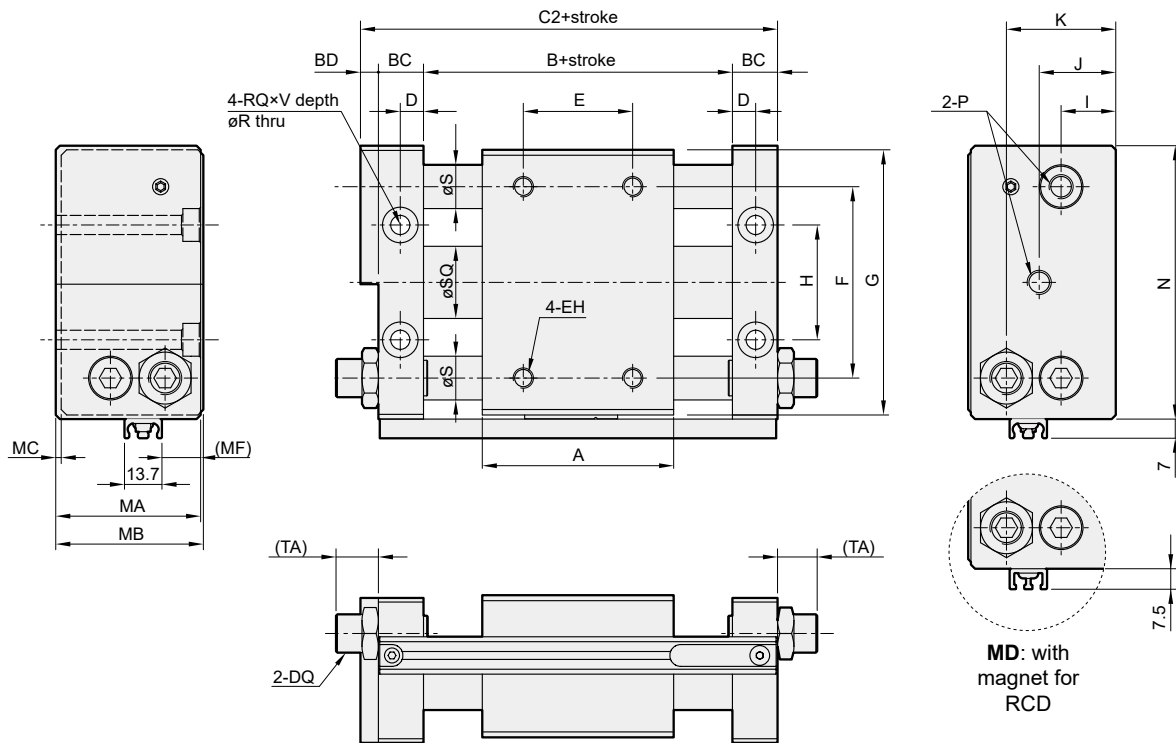


Code Tube I.D.	A	B	BC	C1	D	DQ	E	EH	F	G	H	I	J	K	MA	MB	MC
10	45	47	12.5	72	6.5	M8×1.0	25	M4×0.7×6 depth	38	58	24	13.5	17	26	33	34	2.5
15	60	62	12.5	87	6.5	M8×1.0	30	M5×0.8×8 depth	50	73	30	15	20.5	29	39	40	2
20	70	73	16.5	106	8.5	M10×1.0	40	M6×1.0×10 depth	70	87	38	19	24	36	45	46	2
25	70	73	16.5	106	8.5	M14×1.5	40	M6×1.0×10 depth	70	96	42	21.5	27.5	40.5	53	54	2
32	85	91	18.5	128	9.5	M20×1.5	40	M8×1.25×12 depth	75	116	50	26	33	50	64	66	2

Code Tube I.D.	MF	N	P	R	RQ	S	SQ	SS	TA	TB	TC	TT	V
10	4.2	60	M5×0.8	4.5	8	10	12	MDSC-0806-3-N	16.5	16.5	25	M4×0.7	4.4
15	6.1	75	M5×0.8	5.8	9.5	12	16.6	MDSC-0806-3-N	16.5	16.5	25	M4×0.7	5.5
20	8	89	Rc1/8	5.5	9.5	16	21.6	MAC-1007-SN	16.5	22	29	M6×1.0	5.5
25	13	98	Rc1/8	7	12	16	26.4	MAC-1412-SN	14.5	22	49	M6×1.0	6.5
32	18	118	Rc1/8	9	14	20	33.6	MAC-2015-SN	12	23.5	51.5	M8×1.25	8.6

MCRPMS Dimensions – Centralized piping type $\varnothing 10 \sim \varnothing 32$

MAGNETICALLY COUPLED RODLESS CYLINDER

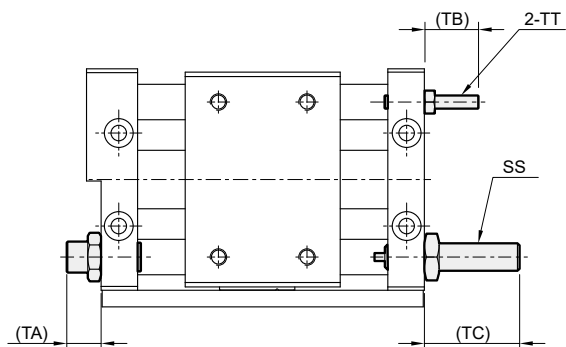
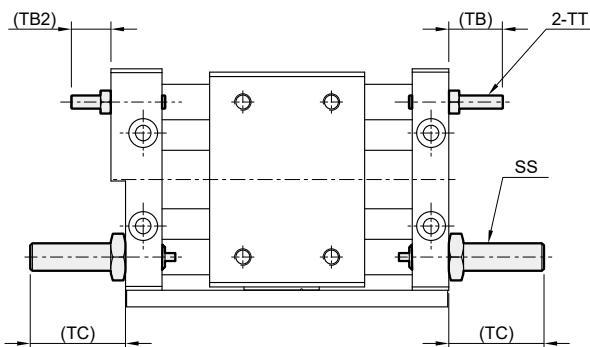


MCRPMS-G-* -B

With shock absorber

MCRPMS-G-* -C

With shock absorber +
Adjustment bolt



Code Tube I.D.	A	B	BC	BD	C2	D	DQ	E	EH	F	G	H	I	J	K	MA	MB	MC
10	45	47	12.5	4	76	6.5	M8×1.0	25	M4×0.7×6 depth	38	58	24	13.5	17	26	33	34	2.5
15	60	62	12.5	5	92	6.5	M8×1.0	30	M5×0.8×8 depth	50	73	30	15	20.5	29	39	40	2
20	70	73	16.5	5	111	8.5	M10×1.0	40	M6×1.0×10 depth	70	87	38	19	24	36	45	46	2
25	70	73	16.5	5	111	8.5	M14×1.5	40	M6×1.0×10 depth	70	96	42	21.5	27.5	40.5	53	54	2
32	85	91	18.5	6	134	9.5	M20×1.5	40	M8×1.25×12 depth	75	116	50	26	33	50	64	66	2

Code Tube I.D.	MF	N	P	R	RQ	S	SQ	SS	TA	TB	TB2	TC	TT	V
10	4.2	60	M5×0.8	4.5	8	10	12	MDSC-0806-3-N	16.5	16.5	12.5	25	M4×0.7	4.4
15	6.1	75	M5×0.8	5.8	9.5	12	16.6	MDSC-0806-3-N	16.5	16.5	11.5	25	M4×0.7	5.5
20	8	89	Rc1/8	5.5	9.5	16	21.6	MAC-1007-SN	16.5	22	22	29	M6×1.0	5.5
25	13	98	Rc1/8	7	12	16	26.4	MAC-1412-SN	14.5	22	22	49	M6×1.0	6.5
32	18	118	Rc1/8	9	14	20	33.6	MAC-2015-SN	12	23.5	17.5	51.5	M8×1.25	8.6