

Order example

MCMOB-11-16-25








MODEL

TUBE I.D.

STROKE

1: Single Rod
2: Double Rod

STYLE

Code	Symbol	Description
1 1		Double acting / Male thread
1 3		Single acting / Normally extended male thread
1 5		Single acting / Normally returned male thread
2 1		Double rod / Male thread
2 3		Single action / Double rod male thread
2 5		Double rod / Male thread hole-rod
2 6		Single action / Double rod / Male thread hole-rod

Features

- Large range 10mm bore ~ 25mm bore.
- Flat design enables non rotation of rod.
- ISO standard dimensions.
- Magnetic as standard.

Specification

Model	MCMOB		
Acting type	Double acting / Single acting		
Tube I.D. (mm)	10	16	25
Port size Rc(PT)	M5 × 0.8		
Medium	Filter air 50 μ m lubricated or not		
Operating pressure MPa	Double acting	0.15~1	0.12~1
	Single acting Push	0.2~1	0.23~1
	Single acting Pull	0.3~1	0.25~1
Work temperature	-10~60°C (No freezing)		
Stocking temperature	0~15°C		
Tolerance of stroke	1.5mm		
Cushioning of end stroke	Elastic by polyurethan internal stop built into piston		
Speed m/sec	0.6		0.7
Non-rotating accuracy	$\pm 3.5^\circ$		$\pm 2.5^\circ$
Minimum stroke with sensor	5		
Pneumatic cushioning	No		
Available speed range	50~500mm/sec		
Sensor switch (※)	RCS		
Sensor switch band	BK-81		

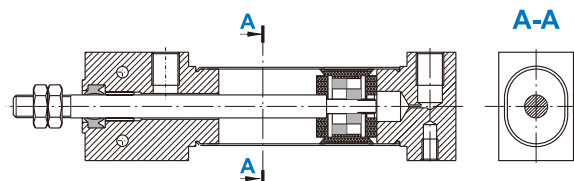
※ RCS specification, please refer to page R-12.

Material

Oval tube	Stainless steel
End cover	Anodized aluminium
Piston rod	Stainless steel
Piston	Composit polyurethan
Piston rod bearing	Bronge & PTFE
Seals	Polyurethan
Spring	Bronge & PTFE
Magnet	Ferrite
Spacer spring	Brass & Acetal resin

Options

- Hole-rod (X) with cylinders double end rod (10-16-25)



MCMOB Forces for oval cylinder $\phi 10 \sim \phi 25$



FLAT CYLINDER with no-rotation

Mindman

Forces for oval cylinder

(unit:kg)

Tube I.D.	Rod ϕ	Function	Area mm ²	Pressure MPa					
				0.2	0.3	0.4	0.5	0.6	0.7
10	4	Push	100	1.25	2.37	3.63	4.12	5	6.12
		Pull	88	0.91	1.79	2.67	3.55	4.43	5.31
		Double Push action	100	2.00	3.00	4.00	5.00	6.00	7.00
16	6	Push	200	3.50	5.00	7.40	8.20	9.10	12.00
		Pull	173	1.51	3.25	4.95	6.75	8.45	10.15
		Double Push action	200	4.00	6.00	8.00	10.00	12.00	14.00
25	10	Push	430	6.40	11.70	16.20	21.50	26.30	31.20
		Pull	352	3.52	4.14	7.66	11.18	14.70	18.22
		Double Push action	430	8.60	12.90	17.20	21.50	25.80	30.10
				7.04	10.56	14.08	17.60	21.12	24.64

Strokes

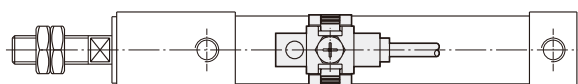
Function							
Tube I.D.			Hole-rod			Hole-rod	
10	5, 10, 15, 20, 25, 30, 40, 50, 80, 100		25, 50, 80, 100	10, 25, 50	10, 25, 50	25, 50	10, 25, 50
16	5, 10, 15, 20, 25, 30, 40, 50, 80, 100, 160, 200		25, 50, 80, 100, 160	10, 25, 50	10, 25, 50	25, 50	10, 25, 50
25	5, 10, 15, 20, 25, 30, 40, 50, 80, 100, 160, 200, 300, 400, 500, 650		25, 50, 80, 100, 160, 200	10, 25, 50	10, 25, 50	25, 50	10, 25, 50

Note: Special strokes are available on request

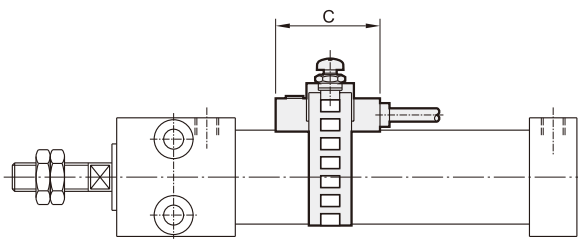
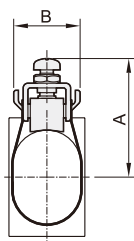
Installation of sensor switch

Sensor switch: RCS

Sensor switch band: BK-81



Code Tube I.D.	A	B	C
10	23.5	15	22
16	26.5	15	22
25	27	15	22



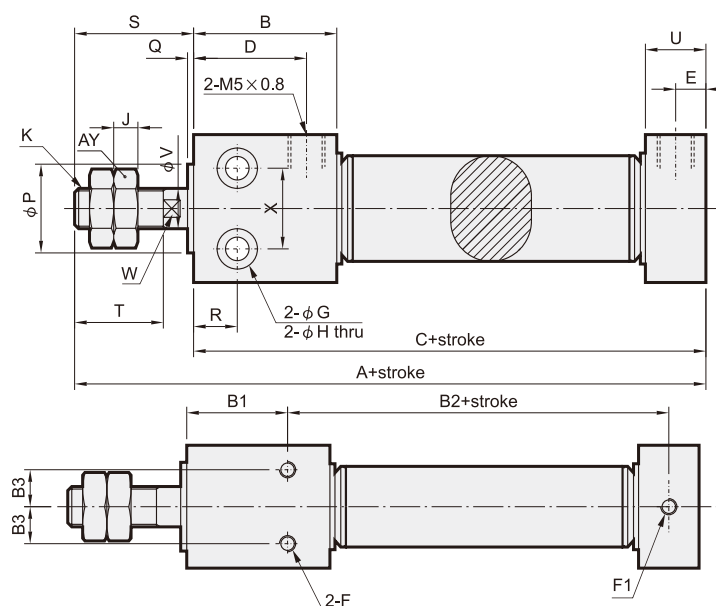
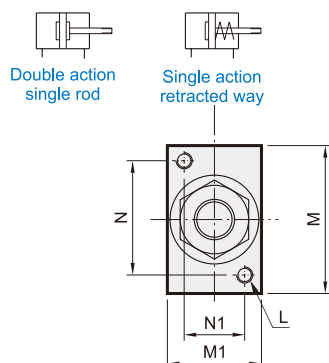
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MCMOB Dimensions $\phi 10 \sim \phi 25$



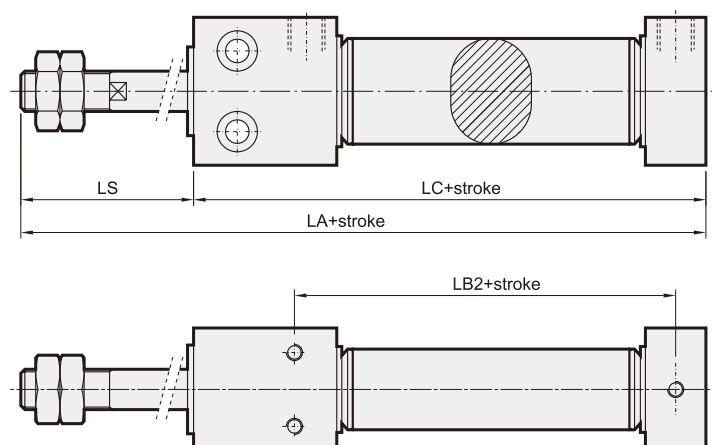
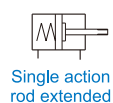
FLAT CYLINDER with no-rotation

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Code Tube I.D.	A ^{+1.5 +0}	AY	B	B1	B2 ^{+1.5 +0}	B3	C ^{+1.5 +0}	D	E	F	F1	G	H	J
10	74	7	22	18.3	34.2	2.5	57	16	5	M3 depth:5	M3 depth:5	6.5 depth:3.5	3.2	2
16	89	10	24	19	43	5	67	19	5	M3 depth:6	M3 depth:6	8.2 depth:4.5	4.2	3
25	123	17	35.5	27.5	56	8	91.5	28	8	M4 depth:10	M4 depth:10	11 depth:6.5	6.5	5

Code Tube I.D.	K	L	M	M1	N	N1	P ^{+0 -0.05}	Q	R	S	T	U	V	W	X
10	M4 × 0.7	M3 depth:5	20	12	15	7	10	1	9	17	12	10	4	-	12
16	M6 × 1.0	M3 depth:6	25	16	18	10	14	1	12	22	16	10	6	5	16
25	M10 × 1.25	M4 depth:10	36	24	28	16	20	1.5	16	31.5	22	16	10	9	24



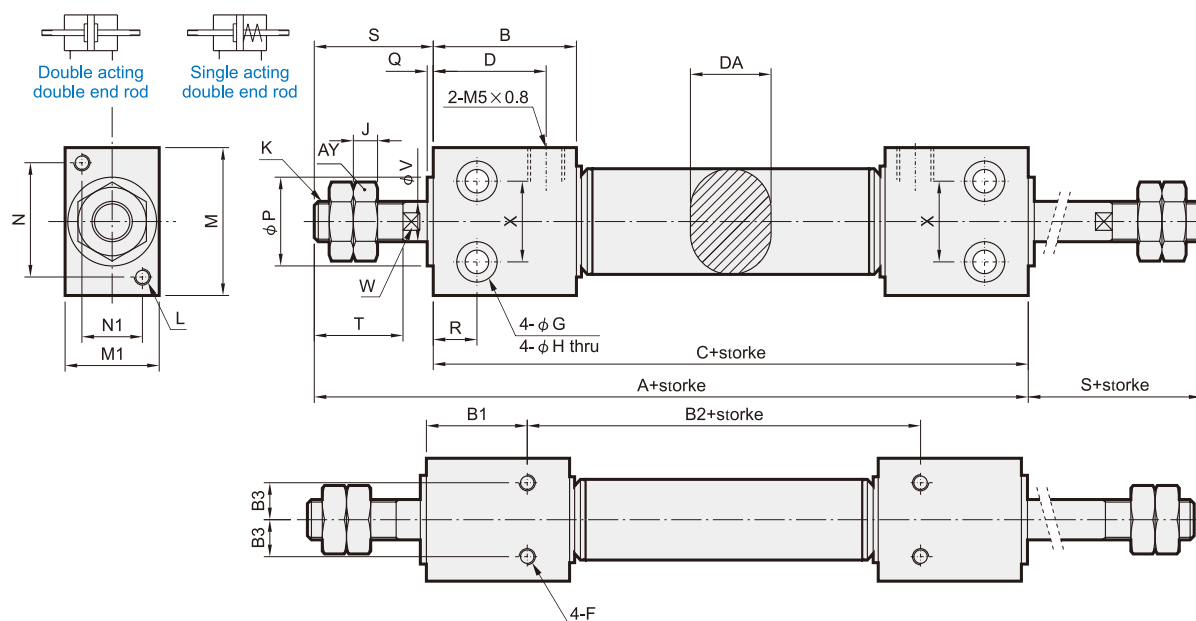
Code Tube I.D.	LA ^{+1.5 -0}			LB2 ^{+1.5 -0}			LC ^{+1.5 -0}			LS		
	10	25	50	10	25	50	10	25	50	10	25	50
10	94	124	174	54.2	84.2	134.2	77	107	157	29	44	69
16	109	139	189	63	93	143	87	117	167	32	47	72
25	143	173	223	76	106	156	111.5	141.5	191.5	41.5	56.5	81.5



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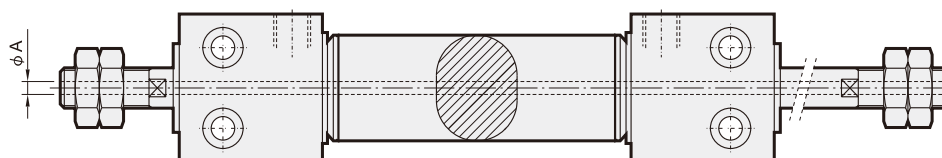
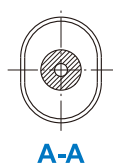
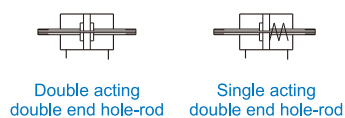
MCMOB Dimensions $\phi 10 \sim \phi 25$

FLAT CYLINDER with no-rotation



Code Tube I.D.	A +1.5 +0	AY	B	B1	B2 +1.5 +0	B3	C +1.5 +0	D	DA	F	G	H	J	K
10	82	7	22	18.3	33	2.5	69	16	10.3	M3 depth:5	6.5 depth:3.5	3.2	2	M4 x 0.7
16	103	10	24	19	43	5	81	19	14.3	M3 depth:6	8.2 depth:4.5	4.2	3	M6 x 1.0
25	142.5	17	35.5	28	56	8	111	28	22.5	M4 depth:10	11 depth:6.5	6.5	5	M10 x 1.25

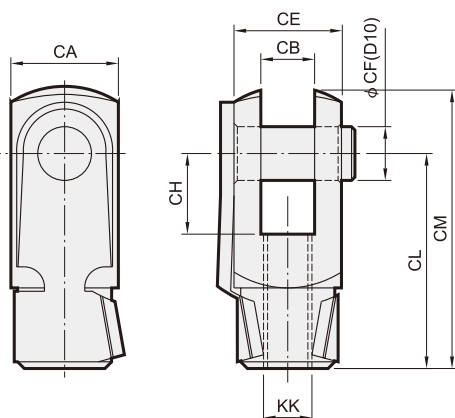
Code Tube I.D.	L	M	M1	N	N1	P +0 -0.05	Q	R	S	T	V	W	X
10	M3 depth:5	20	12	15	7	10	1	9	17	12	4	-	12
16	M3 depth:6	25	16	18	10	14	1	12	22	16	6	5	16
25	M4 depth:10	36	24	28	16	20	1.5	16	31.5	22	10	9	24



Code Tube I.D.	A +0.15 +0
10	1
16	1.2
25	3.2

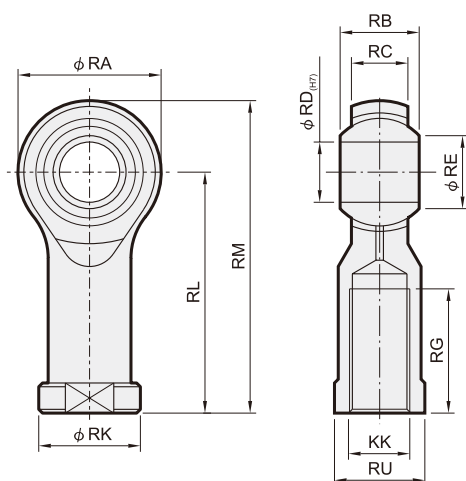


Y connector



Code Tube I.D.	CA	CB	CE	CF	CH	CL	CM	KK
8	8	4	11	4	8	16	21	M4
10	8	4	11	4	8	16	21	M4
12	12	6	16	6	12	24	31	M6
16	12	6	16	6	12	24	31	M6
20	16	8	22	8	16	32	42	M8
25	20	10	26	10	20	40	52	M10 × 1.25

Female rod ends



Order example	Code Tube I.D.	KK	RA	RB	RC	RD	RE	RG	RK	RL	RM	RU
PHS 4	8,10	M4	18	8	6	5	7.7	10	11	27	36	9
PHS 6	12,16	M6	18	9	7	6	8.95	14	12	30	39	10
PHS 8	20	M8	22	12	9	8	10.4	17	16	36	47	13
PHS 10	25	M10 × 1.25	28	14	9	10	12.9	20	19	43	56	17