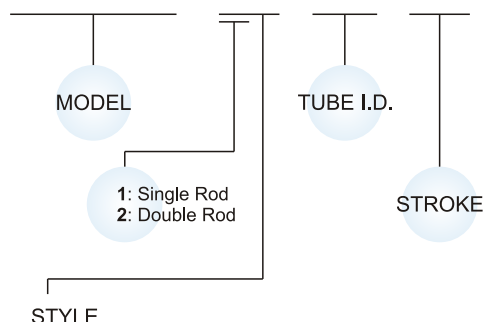











### Order example

**MCMOB-11-16-25**



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 μm lubricated or not			
Operating pressure MPa	Double acting	0.15~1	0.12~1	0.1~1
	Single acting	0.2~1	0.23~1	0.15~1
	Push Pull	0.3~1	0.25~1	0.2~1
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	±3.5°		±2.5°	
Minimum stroke with sensor	5			
Pneumatic cushioning	No			
Available speed range	50~500mm/sec			
Sensor switch (※)	RCS			
Sensor switch band	BK-81			

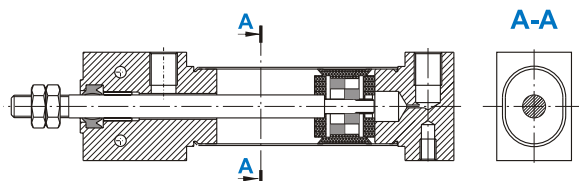
※ RCS specification, please refer to page R-12.

### 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)



## FLAT CYLINDER with no-rotation

Mindman

### Forces for oval cylinder

(unit:kg)

Tube I.D.	Rod $\phi$	Function	Area mm <sup>2</sup>	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 Pull	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 Pull	200	4.00	6.00	8.00	10.00	12.00	14.00
			173	3.46	5.20	6.90	8.70	10.40	12.10
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 Pull	430	8.60	12.90	17.20	21.50	25.80	30.10
			352	7.04	10.56	14.08	17.60	21.12	24.64

### Strokes

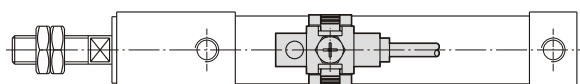
Function								
Tube I.D.			Hole-rod			Hole-rod		
10	5, 10, 15, 20, 25, 30, 40, 50, 80, 100		25, 50, 80, 100	10, 25, 50		10, 25, 50		25, 50
16	5, 10, 15, 20, 25, 30, 40, 50, 80, 100, 160, 200		25, 50, 80, 100, 160	10, 25, 50		10, 25, 50		25, 50
25	5, 10, 15, 20, 25, 30, 40, 50, 80, 100, 160, 200, 300,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

Note: Special strokes are available on request

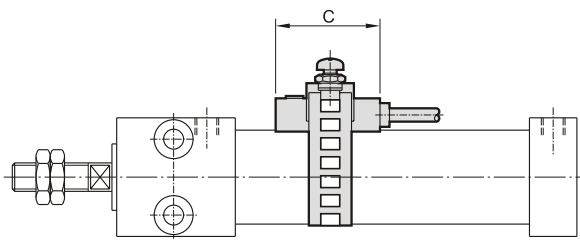
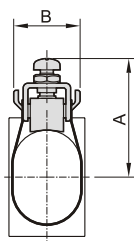
## Installation of sensor switch

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

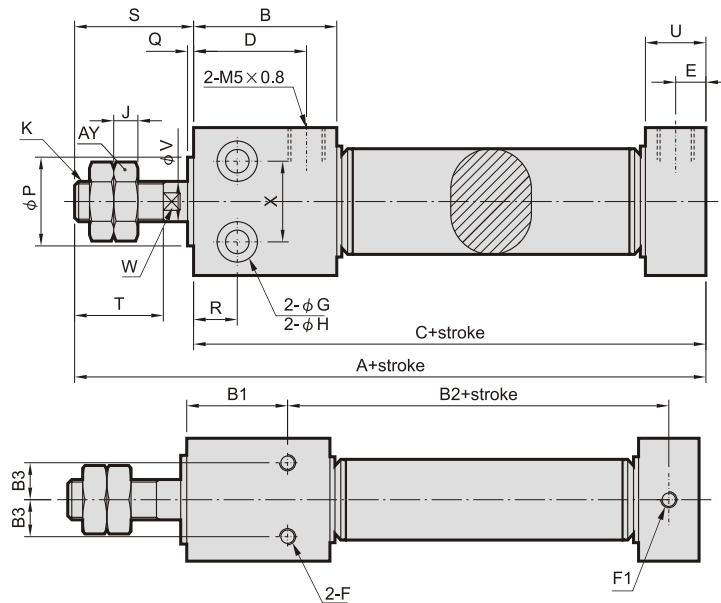
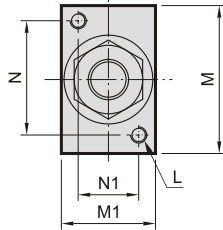


## FLAT CYLINDER with no-rotation

Mindman

Double action  
single rod

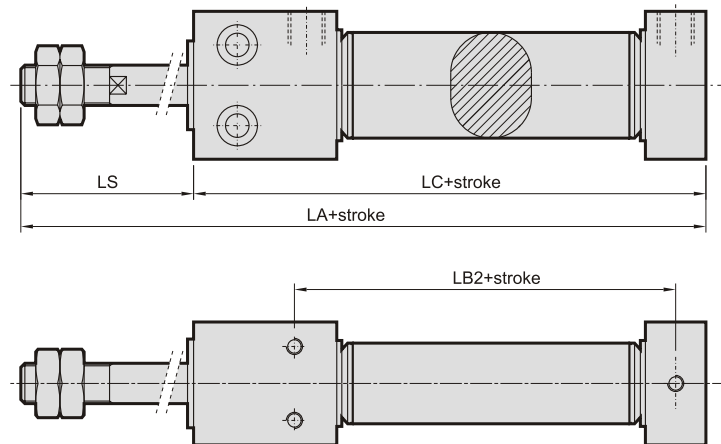
Single action  
retracted way



Code Tube I.D.	A <sup>+1.5</sup> <sub>+0</sub>	AY	B	B1	B2 <sup>+1.5</sup> <sub>+0</sub>	B3	C <sup>+1.5</sup> <sub>+0</sub>	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 <sup>+0</sup> <sub>-0.05</sub>	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

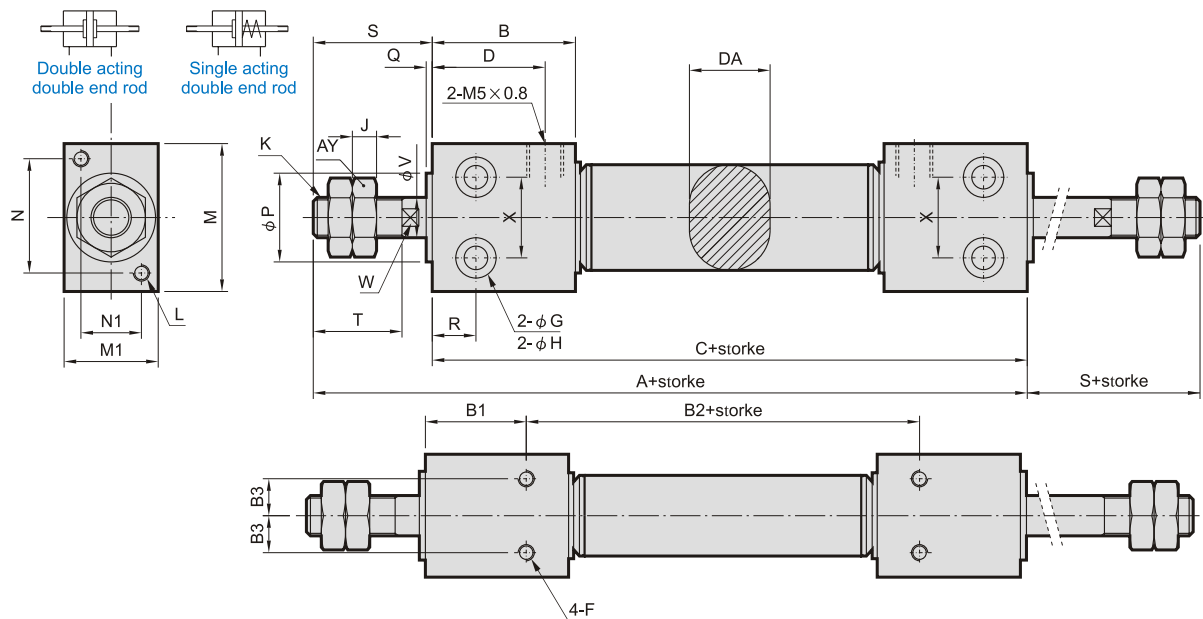
Single action  
rod extended



Code Tube I.D.	LA <sup>+1.5</sup> <sub>-0</sub>			LB2 <sup>+1.5</sup> <sub>-0</sub>			LC <sup>+1.5</sup> <sub>-0</sub>			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

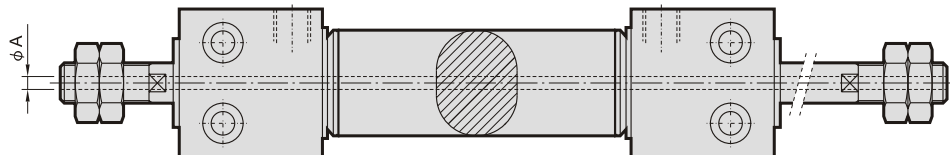
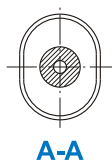
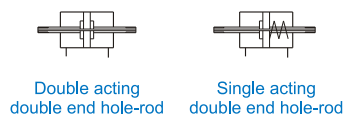
## FLAT CYLINDER with no-rotation

Mindman



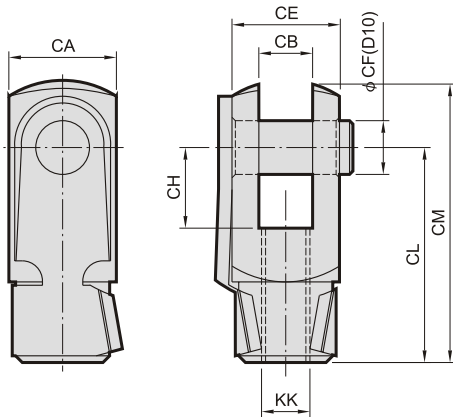
Code Tube I.D.	A +1.5 +0	AY	B	B1	B2 +1.5 +0	B3	C +1.5 +0	D	DA	F	G	H	J	K
10	82	7	22	18.3	33	2.5	69	16	10.3	M3 depth:5	6.5 depth:3.5	3.2	2	M4 x 0.7
16	103	10	24	19	43	5	81	19	14.3	M3 depth:6	8.2 depth:4.5	4.2	3	M6 x 1.0
25	142.5	17	35.5	28	56	8	111	28	22.5	M4 depth:10	11 depth:6.5	6.5	5	M10 x 1.25

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



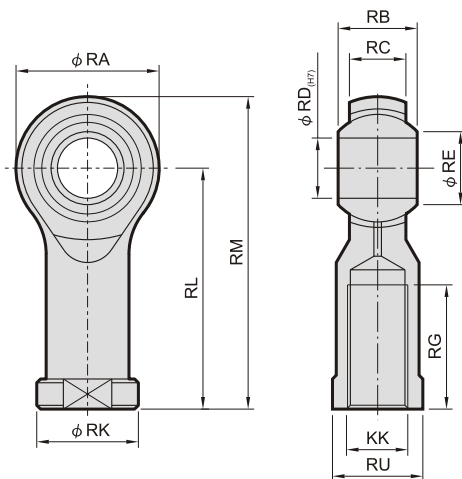
Code Tube I.D.	A +0.15 +0
10	1
16	1.2
25	3.2

### 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
<b>PHS 4</b>	8,10	M4	18	8	6	5	7.7	10	11	27	36	9
<b>PHS 6</b>	12,16	M6	18	9	7	6	8.95	14	12	30	39	10
<b>PHS 8</b>	20	M8	22	12	9	8	10.4	17	16	36	47	13
<b>PHS 10</b>	25	M10×1.25	28	14	9	10	12.9	20	19	43	56	17