














### Forces for oval cylinder

(unit:kg)

Tube I.D.	Rod $\phi$	Function	Area $\text{mm}^2$	Pressure $\text{kgf/cm}^2$					
				2	3	4	5	6	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 88	2.00 1.76	3.00 2.64	4.00 3.52	5.00 4.40	6.00 5.28	7.00 6.16
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	200 173	4.00 3.46	6.00 5.20	8.00 6.90	10.00 8.70	12.00 10.40	14.00 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	430 352	8.60 7.04	12.90 10.56	17.20 14.08	21.50 17.60	25.80 21.12	30.10 24.64

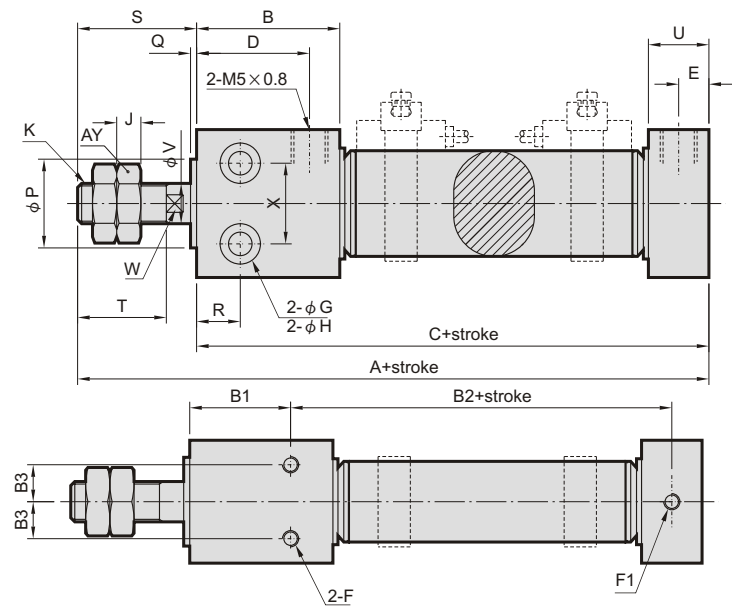
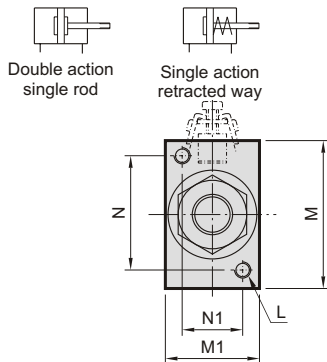
### Strokes

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

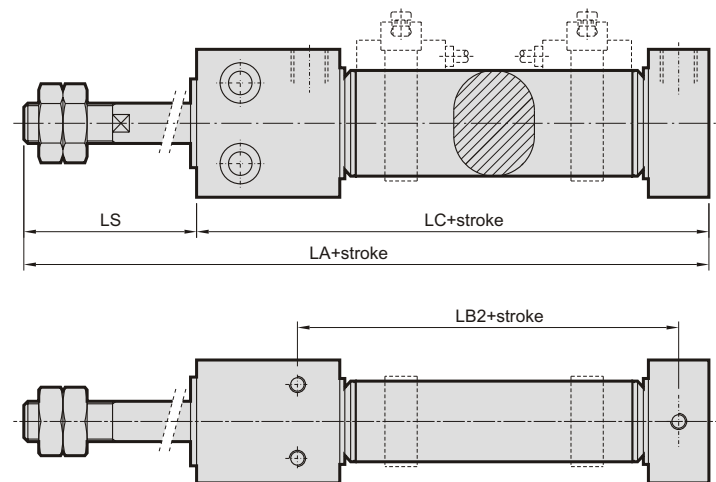
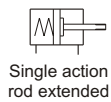
# MCMOB $\phi 10 \sim \phi 25$

## FLAT CYLINDER with no-rotation



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

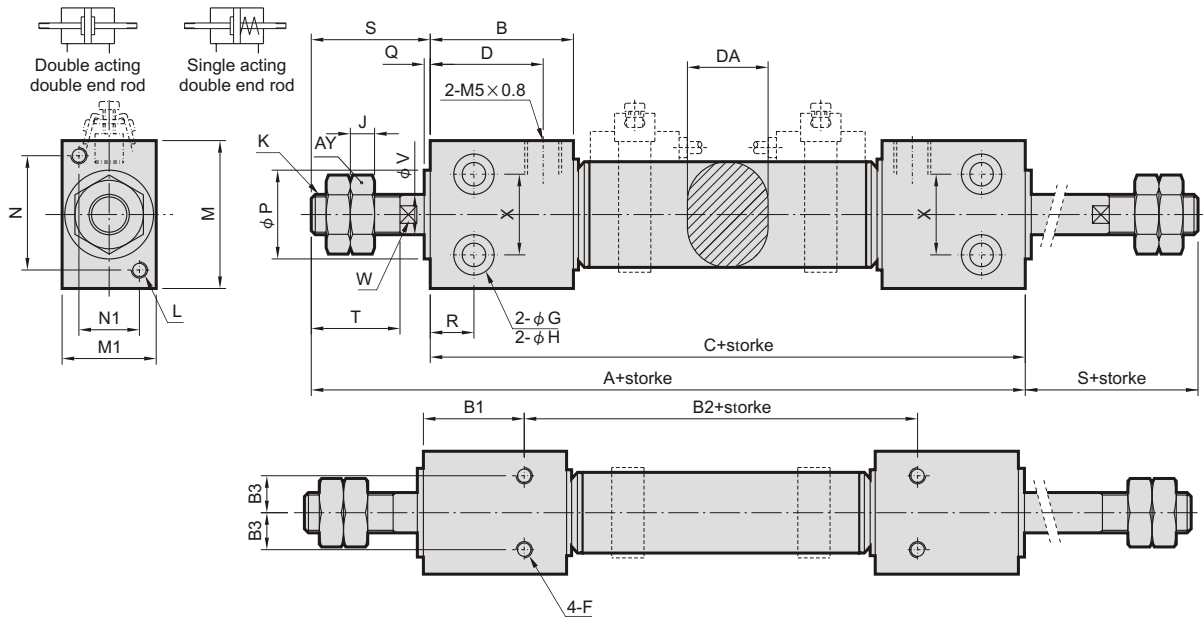
Code Tube I.D.	K	L	M	M1	N	N1	P <sup>+0</sup> <sub>-0.05</sub>	Q	R	S	T	U	V	W	X
10	M4 x 0.7	M3 depth:5	20	12	15	7	10	1	9	19	12	10	4	-	12
16	M6 x 1.0	M3 depth:6	25	16	18	10	14	1	12	22	16	10	6	5	16
25	M10 x 1.25	M4 depth:10	36	24	28	16	20	1.5	16	31.5	22	16	10	9	24



Code Tube I.D.	LA <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

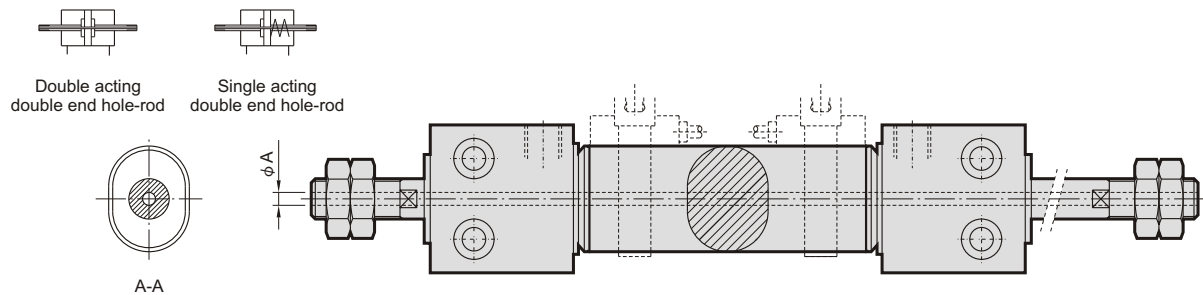
# MCMOB $\phi 10 \sim \phi 25$

## FLAT CYLINDER with no-rotation



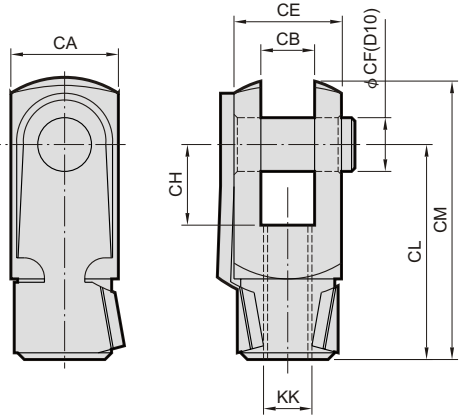
Code Tube I.D.	A +1.5 +0	AY	B	B1	B2 +1.5 +0	B3	C +1.5 +0	D	DA	F	G	H	J	K
10	74	7	22	18.3	33	2.5	69	16	10.3	M3 depth:5	6.5 depth:3.5	3.2	2	M4 x 0.7
16	89	10	24	19	43	5	81	19	14.3	M3 depth:6	8.2 depth:4.5	4.2	3	M6 x 1.0
25	123	17	35.5	28	56	8	111	28	22.5	M4 depth:10	11 depth:6.5	6.5	5	M10 x 1.25

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	19	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



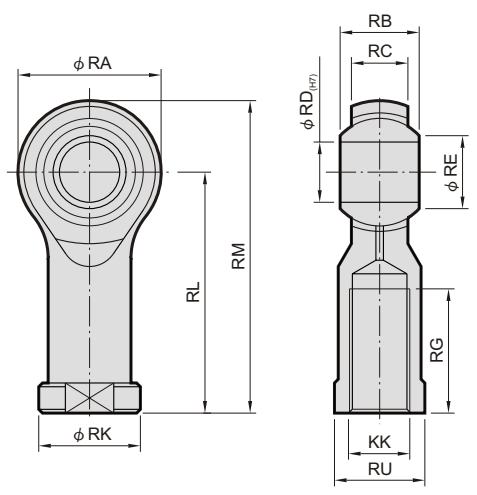
Code Tube I.D.	A +0.15 +0
10	1
16	1.2
25	3.2

### 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