

MCMOB series

FLAT CYLINDER with no-rotation



Order example:

MCMOB-11-16-25

MODEL

TUBE I.D.

STROKE

1: Single Rod
2: Double Rod

STYLE:

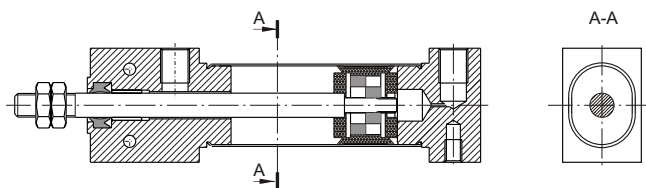
| Code | Symbol | Description |
|------|--------|---|
| 1 1 | | Double acting / Male thread |
| 1 3 | | Single acting / Normally extended male thread |
| 1 5 | | Single acting / Normally returned male thread |
| 2 1 | | Double rod / Male thread |
| 2 3 | | Single action / Double rod male thread |
| 2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

Options

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



| 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 kgf/cm ² | Double acting | | 1.5~10 | 1.2~10 | 1~10 |
| | Single Push | | 2.0~10 | 2.3~10 | 1.5~10 |
| | acting Pull | | 3~10 | 2.5~10 | 2~10 |
| Work temperature | | | -10~60℃ (No freezing) | | |
| Stocking temperature | | | 0~15℃ | | |
| Tolerance of stoke | | | 1.5mm | | |
| Cushioning of end stroke | | | Elastic by polyurethan internal stop built into piston | | |
| Speed | m/sec | | 0.6 | | 0.7 |
| Non-rotating accruacy | | | ±3.5° | ±2.5° | |
| Minimum stroke with sensor | | | 5 | | |
| Pneumatic cushioning | | | No | | |
| Sensor switch | | | RCS | | |
| Sensor switch band | | | BK-81 | | |

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 |










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

FLAT CYLINDER with no-rotation






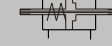



Forces for oval cylinder

(unit:kg)

| Tube I.D. | Rod ϕ | Function | Area mm^2 | Pressure 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 | 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

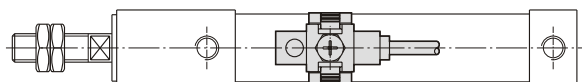
| Function |  |  |  |  |  |  |  |
|-----------|---|---|---|---|--|---|---|
| Tube I.D. | | | Hole-rod | | | Hole-rod | |
| 10 | 5, 10, 15, 20, 25, 30, 40, 50, 80, 100 | | 25, 50, 80, 100 | 10, 25, 50 | 10, 25, 50 | 25, 50 | 10, 25, 50 |
| 16 | 5, 10, 15, 20, 25, 30, 40, 50, 80, 100, 160, 200 | | 25,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

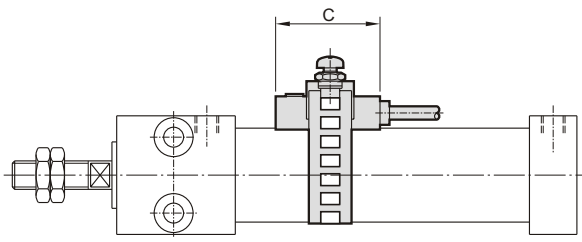
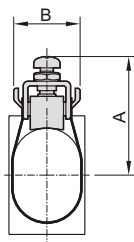
Installation of sensor switch

Sensor switch: RCS

Sensor switch band: BK-81

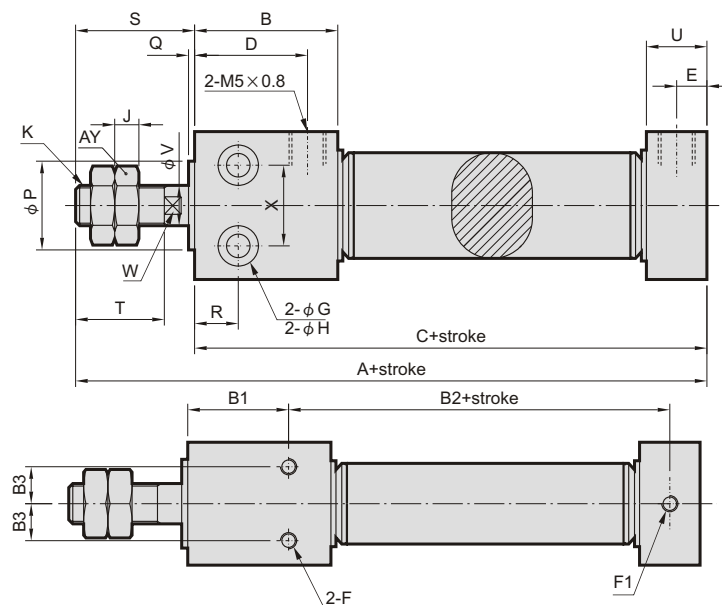
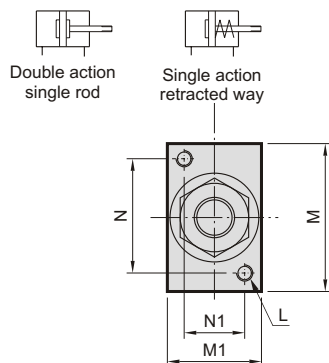


| Code Tube I.D. | A | B | C |
|-------------------|------|----|----|
| 10 | 23.5 | 15 | 22 |
| 16 | 26.5 | 15 | 22 |
| 25 | 27 | 15 | 22 |



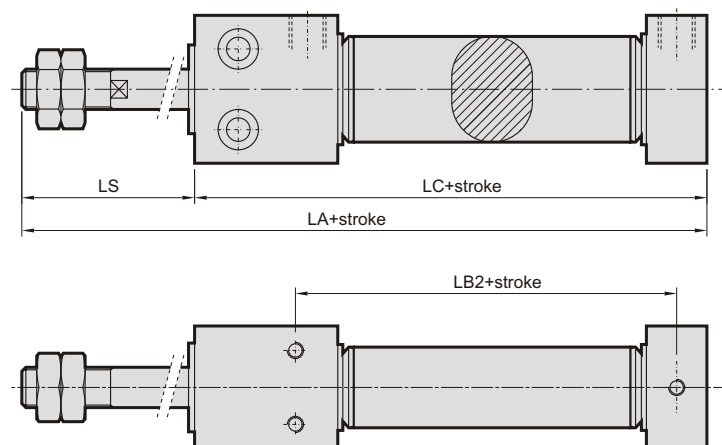
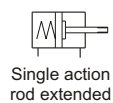
MCMOB Dimensions $\phi 10 \sim \phi 25$

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 | 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 |

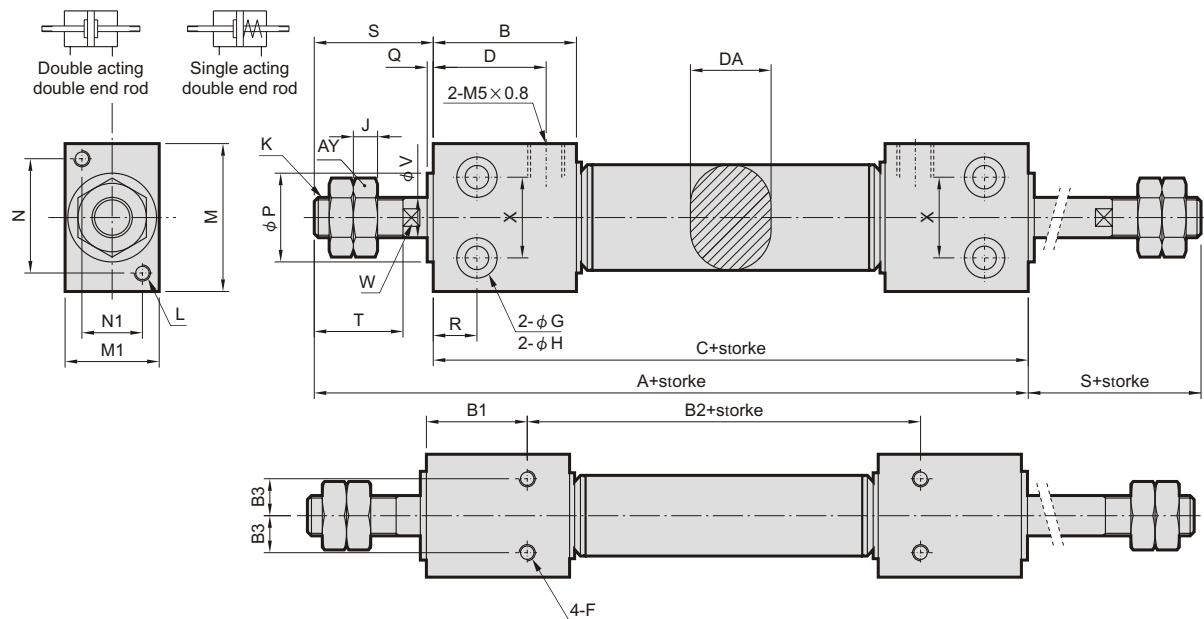
| Code Tube I.D. | K | L | M | M1 | N | N1 | P +0 -0.05 | Q | R | S | T | U | V | W | X |
|-------------------|----------|-------------|----|----|----|----|------------------|-----|----|------|----|----|----|---|----|
| 10 | M4×0.7 | M3 depth:5 | 20 | 12 | 15 | 7 | 10 | 1 | 9 | 17 | 12 | 10 | 4 | - | 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 |

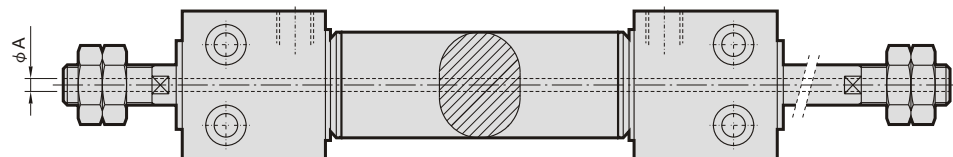
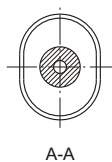
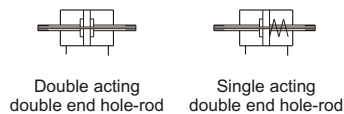
MCMOB Dimensions $\phi 10 \sim \phi 25$

FLAT CYLINDER with no-rotation



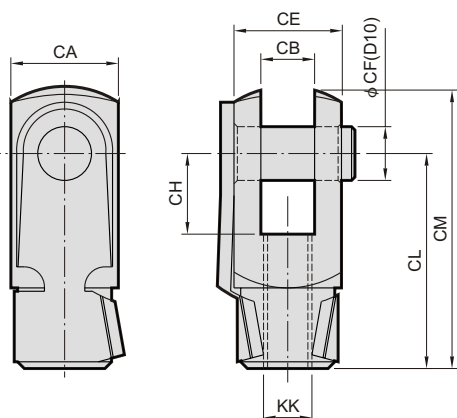
| Code Tube I.D. | A +1.5 +0 | AY | B | B1 | B2 +1.5 +0 | B3 | C +1.5 +0 | D | DA | F | G | H | J | K |
|-------------------|-----------------|----|------|------|------------------|-----|-----------------|----|------|-------------|---------------|-----|---|----------|
| 10 | 82 | 7 | 22 | 18.3 | 33 |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

| 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 |



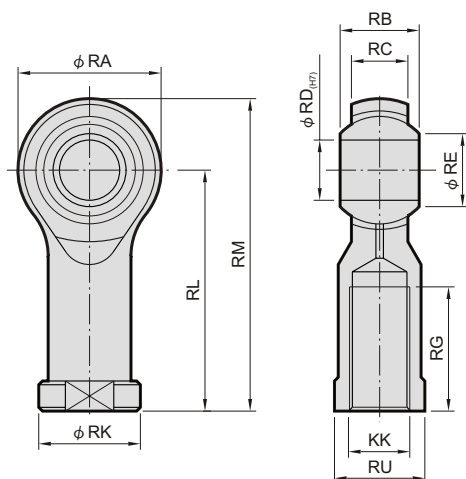
| Code Tube I.D. | A +0.15 +0 |
|-------------------|------------------|
| 10 | 1 |
| 16 | 1.2 |
| 25 | 3.2 |

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 |