



### Features:

- Non-lubrication:**  
 Designs of oil-filled alloy, special housing and bushing provide the needed self-lubrication of piston rod.
- High quality-long service life:**  
 Stainless cylinder tubes resist corrosion and abrasion.
- Cylinder mountings:**  
 Available with a comprehensive selection of mountings for fixed or flexible installation.
- ISO-6432 standard specification:**  
 Unified design, most parts of each type are interchangeable among each other.
- Standard with magnet.**
- Port thread PT.NPT. are also available.**

**Table for standard stroke**

	Tube I.D.	Stroke (mm)	Max. stroke
Single acting	φ 16	15, 25, 50, 75, 100	
	φ 20, 25	15, 25, 50, 75, 100, 125, 150	
Double acting	φ 8, 10	10, 25, 40, 50, 80, 100	
	φ 12	10, 25, 40, 50, 80, 100, 125, 160, 200	
	φ 16	15, 25, 50, 75, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500	900
	φ 20, 25	15, 25, 50, 75, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500	900

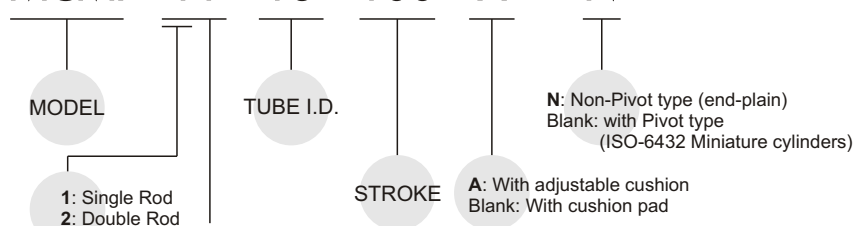
- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

Model	MCFI					
Tube I.D. (mm)	8	10	12	16	20	25
Port size	M5 × 0.8			G 1/8		
Medium	Air					
Max. operating pressure kgf/cm <sup>2</sup>	7 kgf/cm <sup>2</sup>					
Min. operating pressure kgf/cm <sup>2</sup>	1	0.8	0.6			
Proof pressure	10 kgf/cm <sup>2</sup>					
Ambient temperature	-5~+60°C (No freezing)					
Available speed range	50~500 mm/sec					
Lubricator	Not required					
Sensor switch (band)	RCA (Matching the BA20,BA25 band) (Matching the BGS20,BGS25 band)					
	RCM (Matching the BM16~BM25 band)					
	RCS (Matching the BJ8~BJ16 band)					






● The code of sensor switch band is BM16. "16" represents the tube I.D.

### Order example:

**MCFI - 11 - 16 - 100 - A - N**



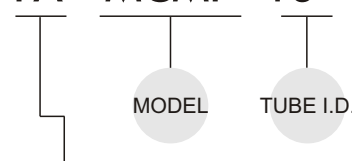
STYLE:

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		Dual rod / Male thread
2 7		Dual rod / Adjustable male thread Please mark "adjustable distance(mm)" at order list

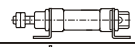
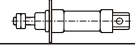
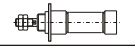
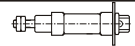
Single acting type: Please consult us.

### Mounting accessories:

**FA - MCFI - 16**

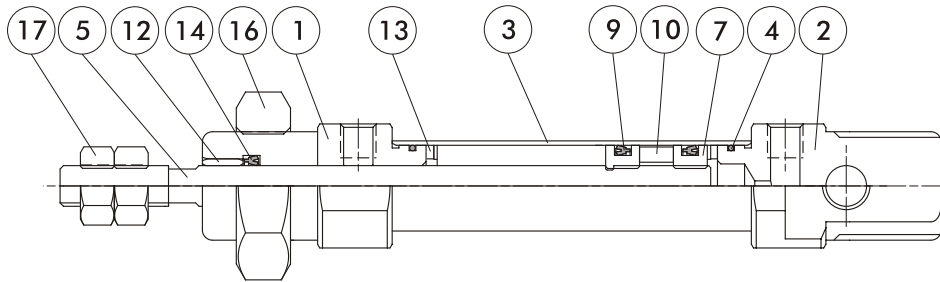


MOUNTING TYPE

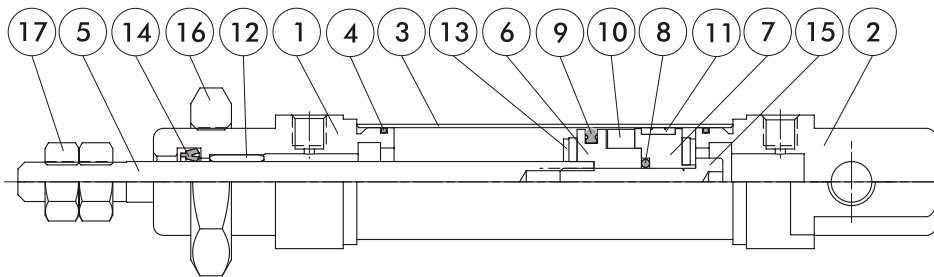
	<b>LB</b>
	<b>FA</b>
	<b>FB</b>
	<b>SDB</b>

### Double acting

$\phi 8 \sim \phi 12$



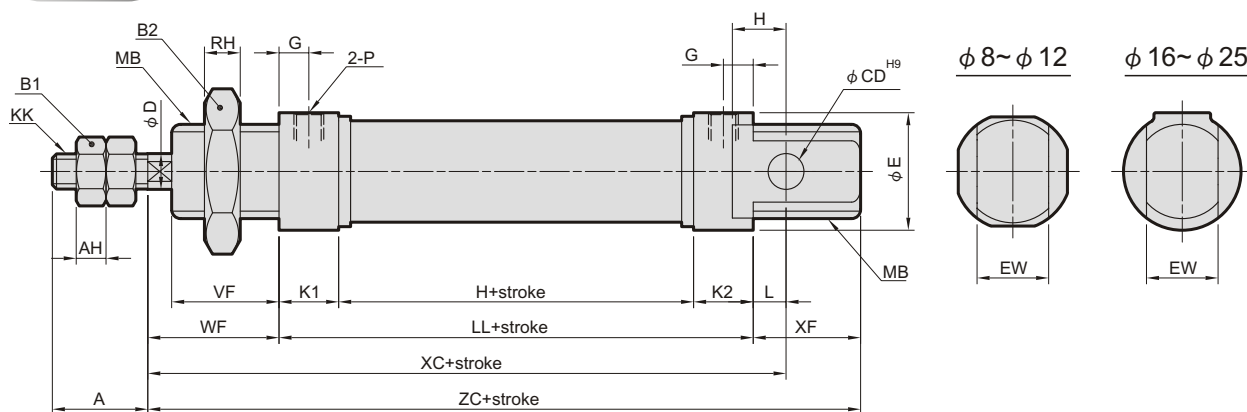
$\phi 16 \sim \phi 25$



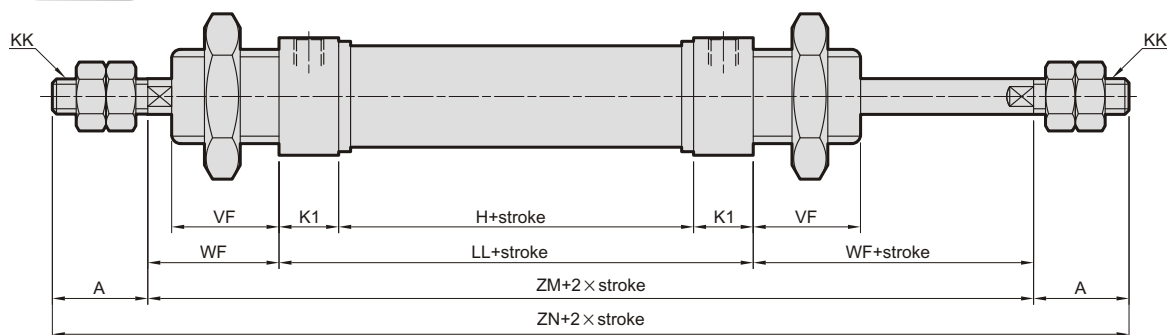
### Material

No.	Part name	Material
1	Rod cover	Aluminum alloy
2	Head cover	Aluminum alloy
3	Tube	Stainless steel
4	Cover ring	NBR
5	Piston rod	Stainless steel
6	Piston-R	Aluminum alloy
7	Piston-H	Aluminum alloy
8	Piston gasket	NBR
9	Piston packing	NBR
10	Magnet ring	Magnet material
11	Wear ring	Teflon
12	Rod bush	Copper
13	Cushion gasket	NBR
14	Rod packing	NBR
15	Piston lock bolt	SCM
16	Tie nut	Rolled steel
17	Rod front nut	Rolled steel

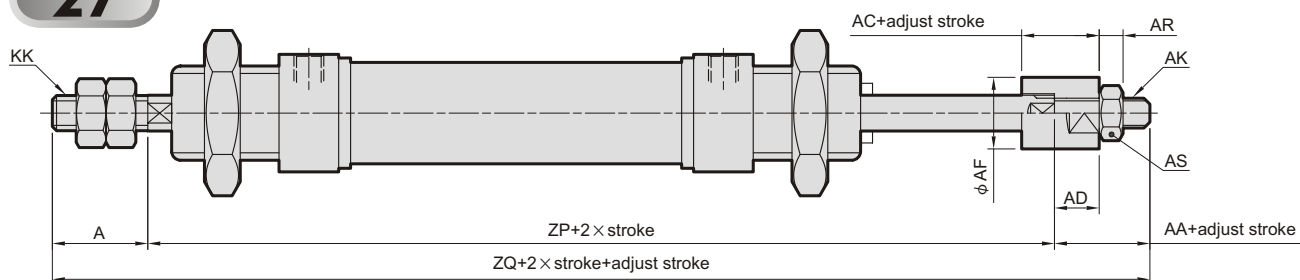
### 11



### 21



### 27



Code Tube I.D.	A	AA	AC	AD	AF	AH	AK	AR	AS	B1	B2	CD	D	E	EW	G	H	KK	K1	K2	L	LL	MB	N
8	12	—	—	—	—	3.2	—	—	—	7	19	4	4	16.7	$8 \begin{smallmatrix} -0.05 \\ -0.4 \end{smallmatrix}$	6	24	M4 x 0.7	11	11	2	46	M12 x 1.25	6
10	12	—	—	—	—	3.2	—	—	—	7	19	4	4	16.7	$8 \begin{smallmatrix} -0.05 \\ -0.4 \end{smallmatrix}$	6	24	M4 x 0.7	11	11	2	46	M12 x 1.25	6
12	16	—	—	—	—	5	—	—	—	10	24	6	6	19.7	$12 \begin{smallmatrix} -0.05 \\ -0.4 \end{smallmatrix}$	6	28	M6 x 1.0	11	11	3	50	M16 x 1.5	9
16	16	16	13	7.5	12	5	M5 x 0.8	4	8	10	22	6	6	19.7	$12 \begin{smallmatrix} -0.05 \\ -0.4 \end{smallmatrix}$	5	34.5	M6 x 1.0	10	10	5.5	54.5	M16 x 1.5	9
20	20	19	15	9.5	16	5	M8 x 1.25	5	13	13	30	8	8	29.7	$16 \begin{smallmatrix} -0.05 \\ -0.4 \end{smallmatrix}$	8	38	M8 x 1.25	15	15	3	68	M22 x 1.5	12
25	22	19	15	9.5	16	6	M8 x 1.25	5	13	17	30	8	10	29.7	$16 \begin{smallmatrix} -0.05 \\ -0.4 \end{smallmatrix}$	7.5	37	M10 x 1.25	15	15	9	67	M22 x 1.5	12

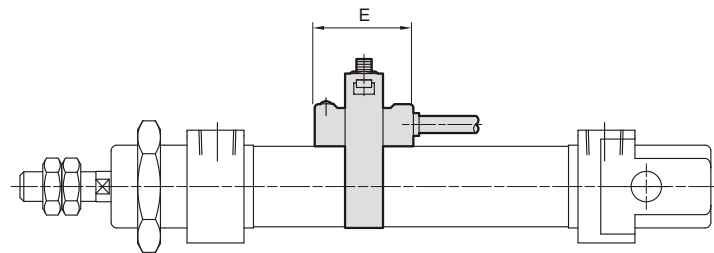
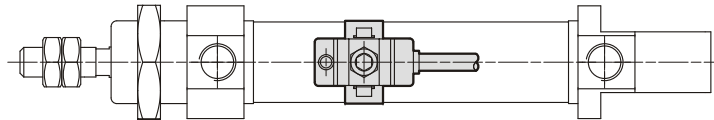
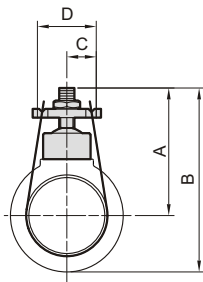
Code Tube I.D.	P	RH	VF	WF	XC	XF	ZC	ZM	ZN	ZP	ZQ
8	M5 x 0.8	6	12	16	64	12	74	—	—	—	—
10	M5 x 0.8	6	12	16	64	12	74	—	—	—	—
12	M5 x 0.8	8	17	22	75	17	89	—	—	—	—
16	M5 x 0.8	6	18	22	82	18	94.5	98.5	130.5	102	134
20	G 1/8	6	20	24	95	20	112	116	156	119	158
25	G 1/8	6	22	28	104	22	117	123	167	124.5	165.5

# MCM Installation of sensor switch $\phi 20, \phi 25$

ISO-6432 **MINIATURE CYLINDERS**

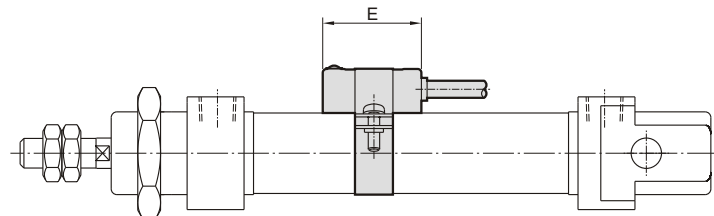
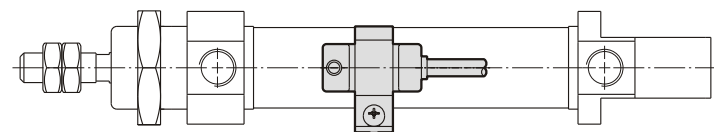
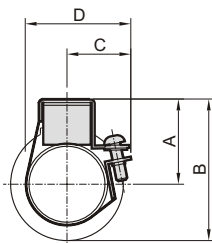


Sensor switch: RCA  
Sensor switch band: BA\*\*



Code Tube I.D.	A	B	C	D	E
20	33	48	9	18	26
25	35.5	50.5	9	18	26

Sensor switch: RCA  
Sensor switch band: BGS\*\*



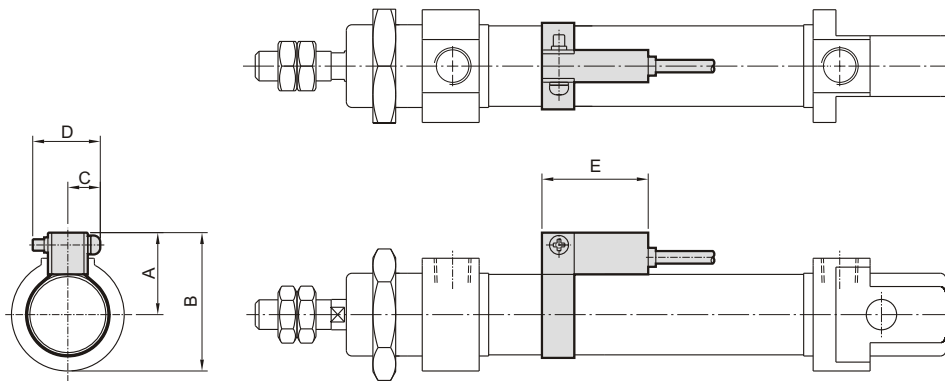
Code Tube I.D.	A	B	C	D	E
20	25	40	18	33	26
25	25.5	40.5	18.5	33.5	26

# MCM Installation of sensor switch $\phi 8 \sim \phi 25$

ISO-6432 **MINIATURE CYLINDERS**

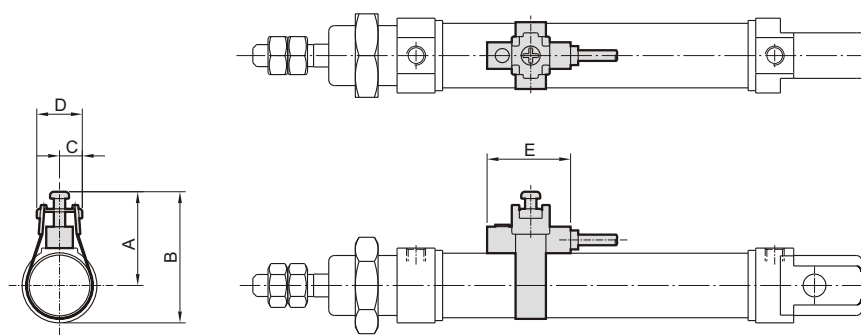


Sensor switch: RCM  
Sensor switch band: BM\*\*



Code Tube I.D.	A	B	C	D	E
16	20	30	10	16	28
20	22	37	10	16	28
25	25	40	10	16	28

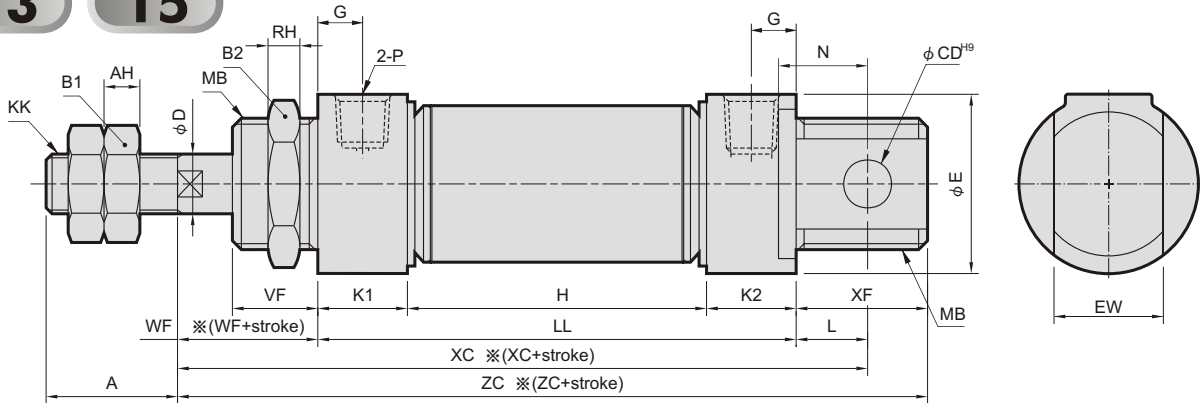
Sensor switch: RCS  
Sensor switch band: BJ\*\*



Code Tube I.D.	A	B	C	D	E
8	19.1	26.6	6	12	22
10	20.1	27.6	6	12	22
12	21.3	30.5	6	12	22
16	23.4	33.3	6	12	22

**13**

**15**



※ ( ) Dimension for 13 type

Code Tube I.D.	A	AH	B1	B2	CD	D	E	EW	G	KK	K1	K2	L	LA	MB	N	P	RH	VF	WF	XF	ZM	ZN	ZP	ZQ
16	16	5	10	22	6	6	19.7	12 <sup>-0.05</sup> <sub>-0.4</sub>	5	M6×1.0	10	10	5.5	54.5	M16×1.5	9	M5×0.8	6	18	22	18	98.5	130.5	96	134
20	20	5	13	30	8	8	29.7	16 <sup>-0.05</sup> <sub>-0.4</sub>	8	M8×1.25	15	15	3	68	M22×1.5	12	G 1/8	6	20	24	20	116	156	119	158
25	22	6	17	30	8	10	29.7	16 <sup>-0.05</sup> <sub>-0.4</sub>	7.5	M10×1.25	15	15	9	67	M22×1.5	12	G 1/8	6	22	28	22	123	167	124.5	165.5

Code Stroke I.D.	H							LL							XC						
	15	25	50	75	100	125	150	15	25	50	75	100	125	150	15	25	50	75	100	125	150
16	64.5	74.5	114.5	154.5	194.5	/	/	84.5	94.5	134.5	174.5	214.5	/	/	112	122	162	202	242	/	/
20	78	88	138	188	238	288	338	108	118	168	218	268	318	368	135	145	195	245	295	345	395
25	77	87	137	187	237	287	337	107	117	167	217	267	317	367	144	154	204	254	304	354	404

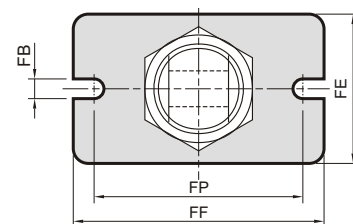
Code Stroke I.D.	ZC						
	15	25	50	75	100	125	150
16	124.5	134.5	174.5	214.5	254.5	/	/
20	152	162	212	262	312	362	412
25	153	163	213	263	313	363	413

### ■ Mounting accessories / Double acting

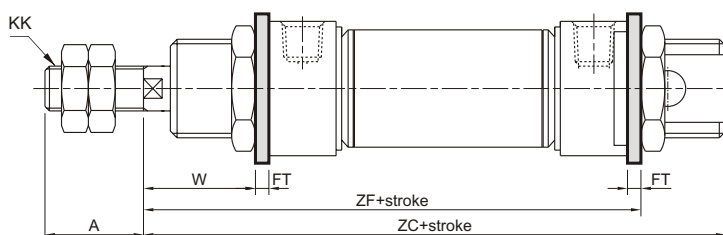
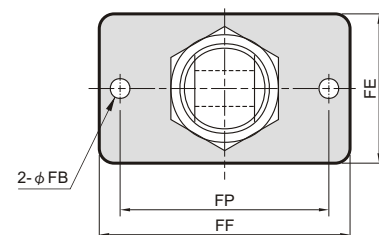
**FA(FB)**

Code Tube I.D.	A	FB	FE	FF	FP	FT	KK	W	ZC	ZF
8	12	4.5	22	40	30	3.2	M4×0.7	12.8	74	65.2
10	12	4.5	22	40	30	3.2	M4×0.7	12.8	74	65.2
12	16	5.5	26	52	40	3.2	M6×1.0	18.8	89	75.2
16	16	5.5	26	52	40	3.2	M6×1.0	18.8	94.5	79.7
20	20	6.6	38	64	50	4.5	M8×1.25	19.5	112	96.5
25	22	6.6	38	64	50	4.5	M10×1.25	23.5	117	99.5

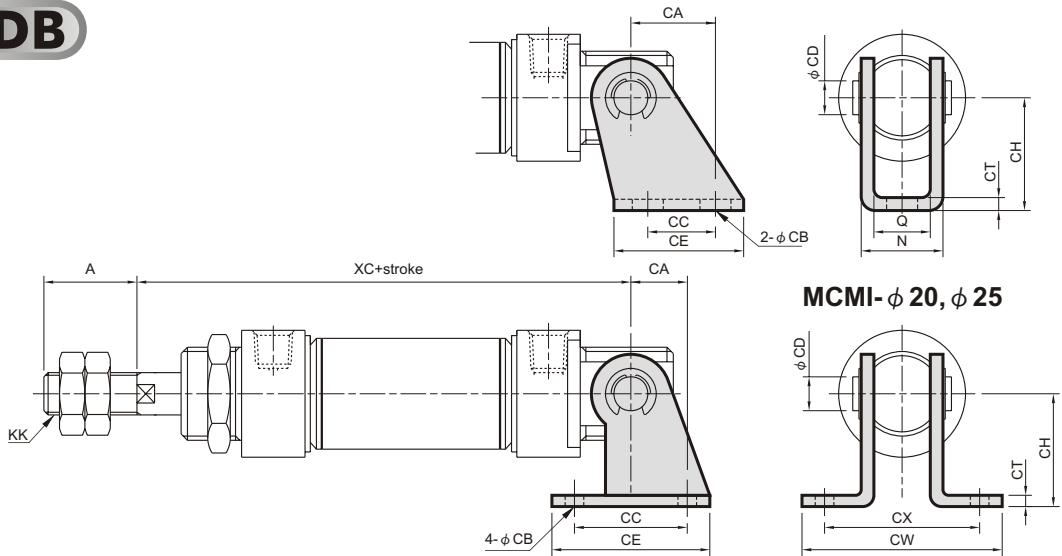
MCFM- $\phi 12, \phi 16$



MCFM- $\phi 8, \phi 10, \phi 20, \phi 25$



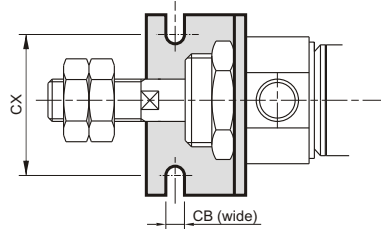
### SDB



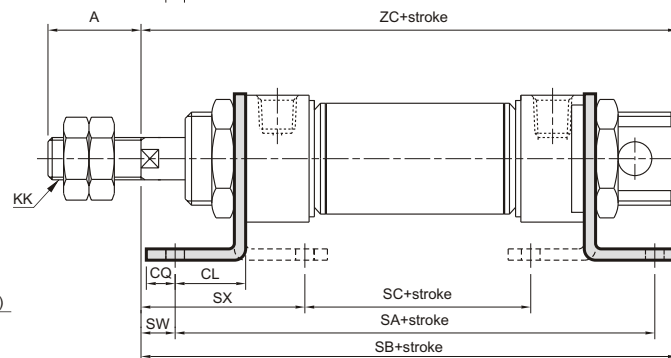
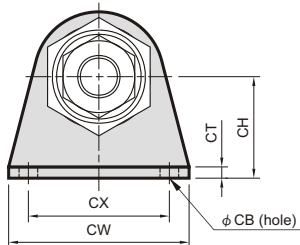
Code Tube I.D.	A	CA	CB	CC	CD	CE	CH	CT	CW	CX	KK	N	Q	XC
8	12	11	4.5	12.5	4	20	24	2.5			M4×0.7	13.1	8.1	64
10	12	11	4.5	12.5	4	20	24	2.5			M4×0.7	13.1	8.1	64
12	16	13	5.5	15	6	25	27	3.2			M6×1.0	18.5	12.1	75
16	16	15	5.5	12	6	23	20	2.3			M6×1.0	16.7	12.1	82
20	20	16	6.6	32	8	48	32	3.2	67	51	M8×1.25			95
25	22	16	6.6	32	8	48	32	3.2	67	51	M10×1.25			104

### LB

MCFI- $\phi 16$



MCFI- $\phi 8, \phi 10, \phi 12,$   
 $\phi 20, \phi 25$



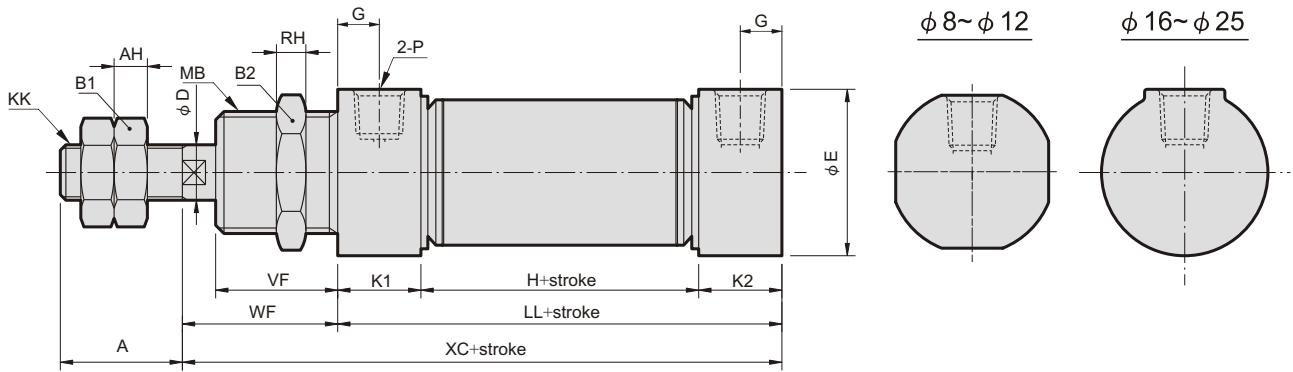
Code Tube I.D.	A	CB	CH	CL	CQ	CT	CW	CX	KK	SA	SB	SC	SW	SX	ZC
8	12	4.5	16	11	5	3.2	35	25	M4×0.7	68	73	30.4	5	23.8	74
10	12	4.5	16	11	5	3.2	35	25	M4×0.7	68	73	30.4	5	23.8	74
12	16	5.5	20	14	6	4	42	32	M6×1.0	78	86	30	8	32	89
16	16	5.5	20	13	6	3.2	44	32	M6×1.0	80.5	89.5	34.9	9	31.8	94.5
20	20	6.6	25	15	8	3.2	54	40	M8×1.25	98	107	44.4	9	35.8	112
25	22	6.6	25	15	8	3.2	54	40	M10×1.25	97	110	43.4	13	39.8	117

# MCFM Dimensions / Double acting $\phi 8 \sim \phi 25$

## NON-PIVOT TYPE MINIATURE CYLINDERS



### N

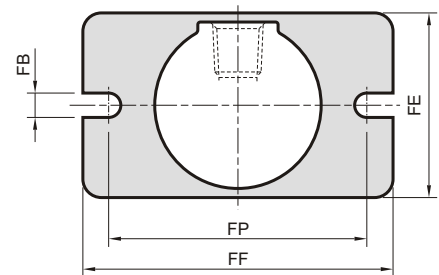


Code Tube I.D.	A	AH	B1	B2	D	E	G	H	KK	K1	K2	LL	MB	P	RH	VF	WF	XC
8	12	3.2	7	19	4	16.7	6	24	M4×0.7	11	11	46	M12×1.25	M5×0.8	6	12	16	62
10	12	3.2	7	19	4	16.7	6	24	M4×0.7	11	11	46	M12×1.25	M5×0.8	6	12	16	62
12	16	5	10	24	6	19.7	6	28	M6×1.0	11	11	50	M16×1.5	M5×0.8	8	17	22	72
16	16	5	10	22	6	19.7	5	34.5	M6×1.0	10	10	54.5	M16×1.5	M5×0.8	6	18	22	76.5
20	20	5	13	30	8	29.7	8	38	M8×1.25	15	15	68	M22×1.5	G 1/8	6	20	24	92
25	22	6	17	30	10	29.7	7.5	37	M10×1.25	15	15	67	M22×1.5	G 1/8	6	22	28	95

### FA

Code Tube I.D.	A	FB	FE	FF	FP	FT	W	XC
8	12	4.5	22	40	30	3.2	12.8	62
10	12	4.5	22	40	30	3.2	12.8	62
12	16	5.5	26	52	40	3.2	18.8	72
16	16	5.5	26	52	40	3.2	18.8	76.5
20	20	6.6	38	64	50	4.5	19.5	92
25	22	6.6	38	64	50	4.5	23.5	96

#### MCFM- $\phi 12, \phi 16$



#### MCFM- $\phi 8, \phi 10, \phi 20, \phi 25$

