

MCMJ series

PEN CYLINDERS



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:**
 Hard anodized aluminum cylinder tubes resist corrosion and abrasion.
- Cylinder mountings:**
 Available with a comprehensive selection of mountings for fixed or flexible installation.

Table for standard stroke

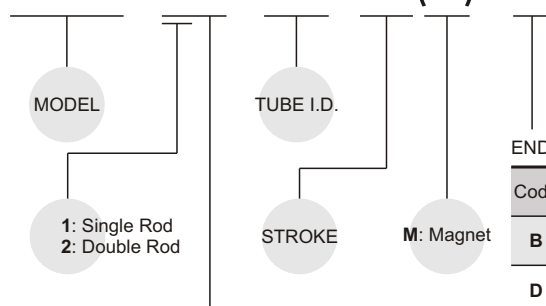
	Tube I.D.	Stroke (mm)
Single acting	φ 6	15,30,45,60
	φ 10	15,30,45,60
	φ 16	15,30,45,60,75,100,125,150
Double acting	φ 6	15,30,45,60
	φ 10	15,30,45,60,75,100,125,150
	φ 16	15,30,45,60,75,100,125,150,175,200

Model		MCMJ	
Tube I.D. (mm)		φ 6	φ 10 φ 16
Port size Rc(PT)		M5 × 0.8	
Medium		Air	
Max operation pressure		7 kgf/cm ²	
Min operation pressure (kgf/cm ²)	Single acting	normally extended	2.5
		normally returned	2.0
	Double acting	1.2	0.6
Proof pressure		10 kgf/cm ²	
Ambient temperature		-5~+60°C (No freezing)	
Lubrication		Not required	
Sensor switch		RCM, RCS	
Sensor switch band		BJ6	BJ10 BJ16
		BM6	BM10 BM16

● Sensor switch band BM** only for RCM.

Order example:

MCMJ-11-16-45(M)-B



END COVER TYPE:

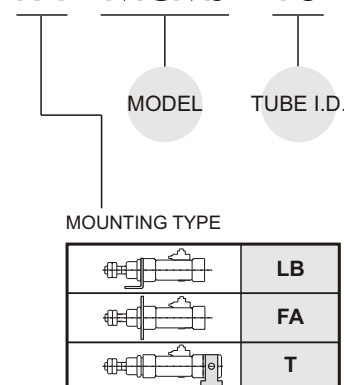
Code	Symbol	Tube I.D.
B		φ 10, 16
D		φ 10, 16
R		φ 6, 10, 16

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

Mounting accessories:

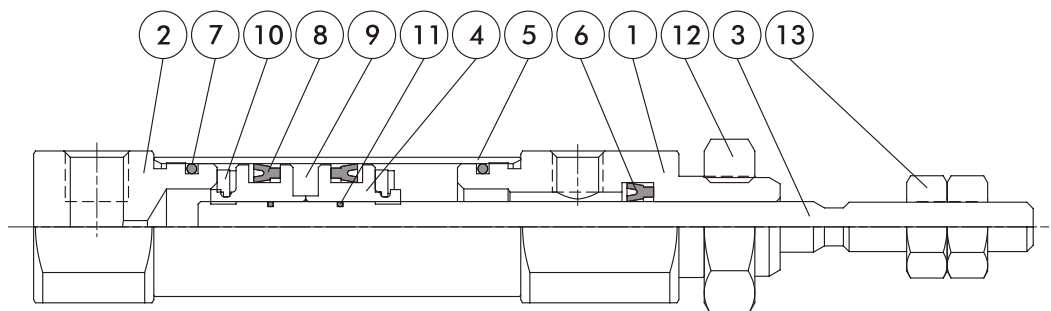
FA-MCMJ-16



Mounting

- ❶ During installation, secure the rod cover and tighten by applying an appropriate tightening force to the retaining nut or to the rod cover body. If the head cover is secured or the head cover body is tightened, the cover could rotate, leading to a deviation.
- ❷ Tighten the retaining screws to an appropriate tightening torque within the range given below.
 $\phi 6$: 2.1 to 2.5Nm, $\phi 10$: 5.9 to 6.4Nm, $\phi 16$: 10.8 to 11.8Nm.

Inside structure & Parts list



Material

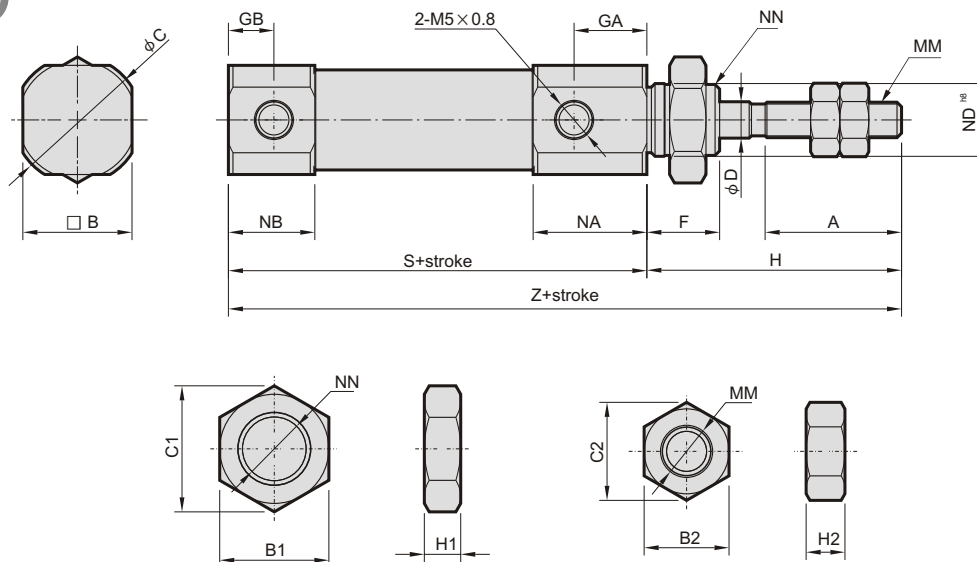
No.	Part name	Material
1	Rod cover	Aluminum alloy
2	Head cover	Aluminum alloy
3	Piston rod	Stainless steel
4	Piston	Aluminum alloy
5	Tube	Stainless steel
6	Rod packing	NBR
7	Cover ring	NBR
8	Piston packing	NBR
9	Magnet ring	Magnet material
10	Cushion gasket	NBR
11	Piston gasket	NBR
12	Cover nut	Copper
13	Rod front nut	Copper

MCMJ Dimensions / Double acting $\phi 10 \sim \phi 16$

PEN CYLINDERS

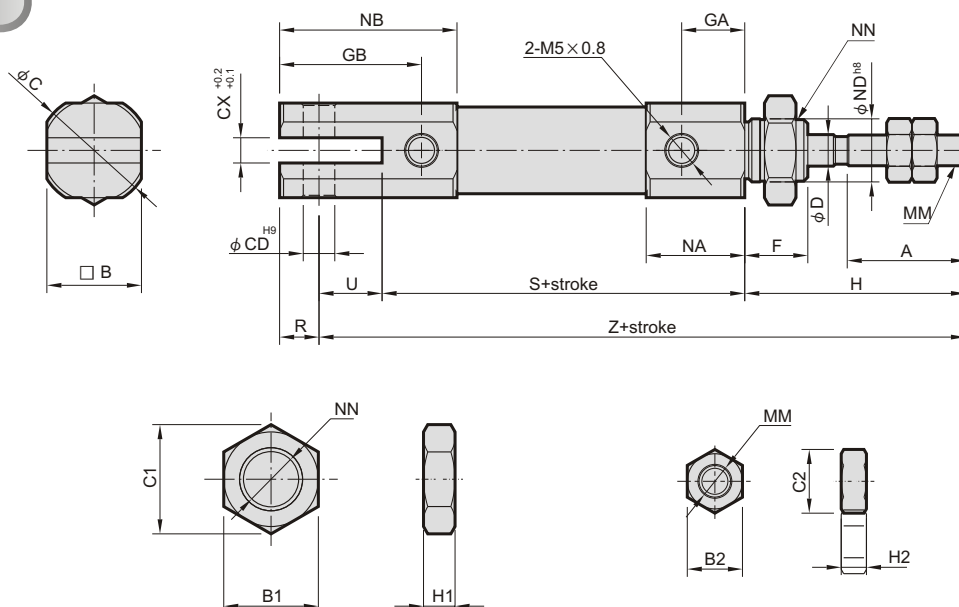


B



Code Tube I.D.	A	B	B1	B2	C	C1	C2	D	F	GA	GB	H	H1	H2	MM	NA	NB	ND ^{h8}	NN	S	Z
10	15	12	11	7	14	11.5	8.1	4	8	8	5	28	4	3.2	M4x0.7	12.5	9.5	8 ⁰ _{-0.022}	M8x1.0	46	74
16	15	18	14	8	20	16.2	9.2	5	8	8	5	28	4	4	M5x0.8	12.5	9.5	10 ⁰ _{-0.022}	M10x1.0	47	75

D



Code Tube I.D.	A	B	B1	B2	C	CD	CX	C1	C2	D	F	GA	GB	H	H1	H2	MM	NA	NB	ND ^{h8}	NN	R	S	U	Z
10	15	12	11	7	14	3.3	3.2	12.7	8.1	4	8	8	18	28	4	3.2	M4x0.7	12.5	22.5	8 ⁰ _{-0.022}	M8x1.0	5	46	8	82
16	15	18	14	8	20	5	6.5	16.2	9.2	5	8	8	23	28	4	4	M5x0.8	12.5	27.5	10 ⁰ _{-0.022}	M10x1.0	8	47	10	85

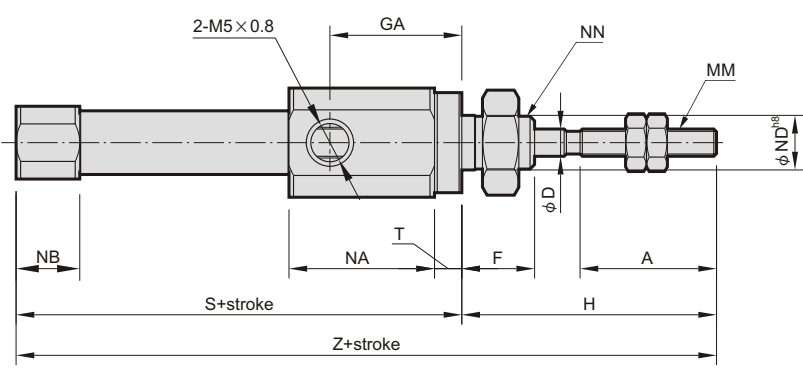
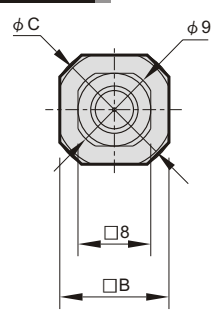
MCMJ Dimensions / Double acting $\phi 6 \sim \phi 16$

PEN CYLINDERS

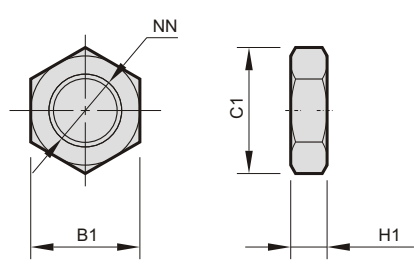
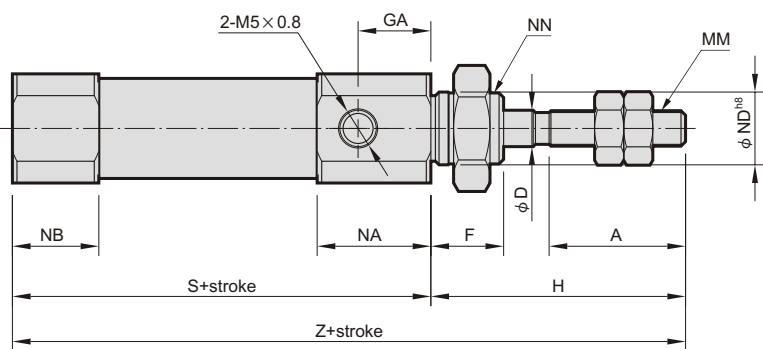
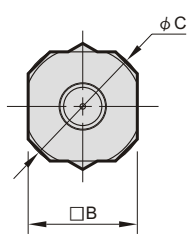


R

MCMJ-6



MCMJ-10 / MCMJ-16



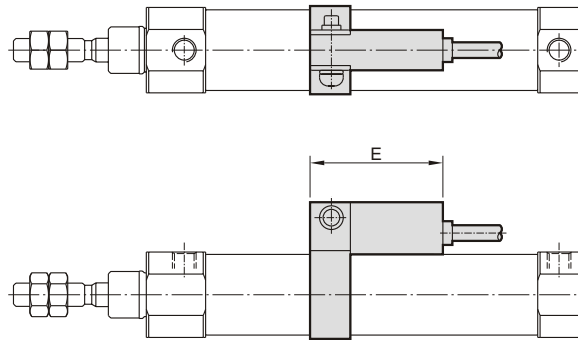
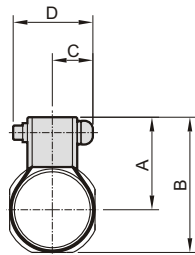
Code Tube I.D.	A	B	B1	B2	C	C1	C2	D	F	GA	H	H1	H2	MM	NA	NB	ND ^{h8}	NN	S	T	Z
6	15	12	8	5.5	14	9.2	6.4	3	8	14.5	28	4	2.4	M3×0.5	16	7	6 ⁰ _{-0.022}	M6×1.0	49	3	77
10	15	12	11	7	14	12.7	8.1	4	8	8	28	4	3.2	M4×0.7	12.5	9.5	8 ⁰ _{-0.022}	M8×1.0	46	/	74
16	15	18	14	8	20	16.2	9.2	5	8	8	28	4	4	M5×0.8	12.5	9.5	10 ⁰ _{-0.022}	M10×1.0	47	/	75

MCMJ Installation of sensor switch $\phi 6 \sim \phi 16$

PEN CYLINDERS

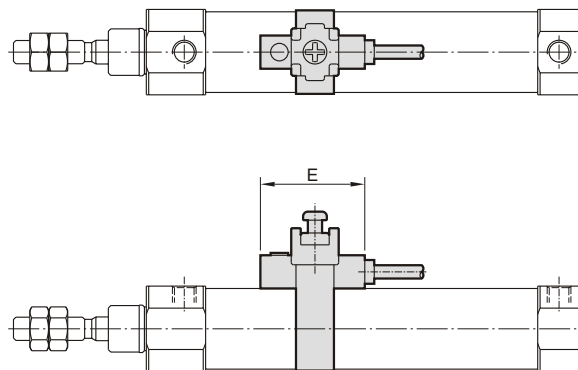
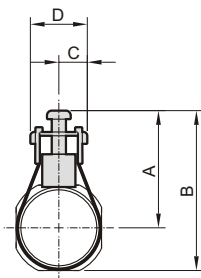


Sensor switch: RCM
Sensor switch band: BM**



Code Tube I.D.	A	B	C	D	E
6	15	21	10	16	28
10	17	23	10	16	28
16	20	29	10	16	28

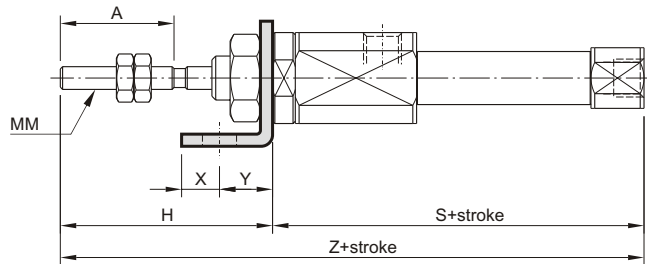
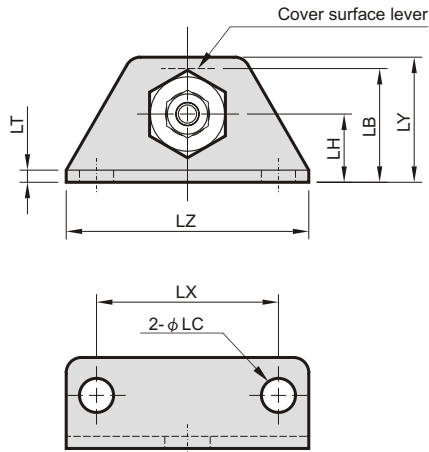
Sensor switch: RCS
Sensor switch band: BJ**



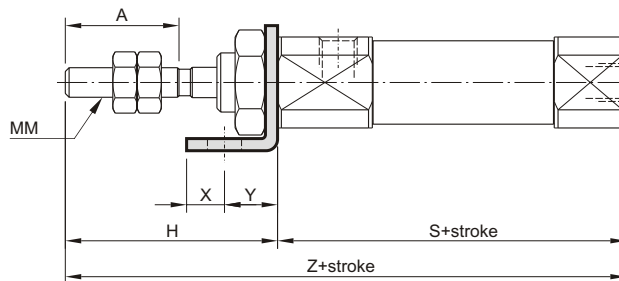
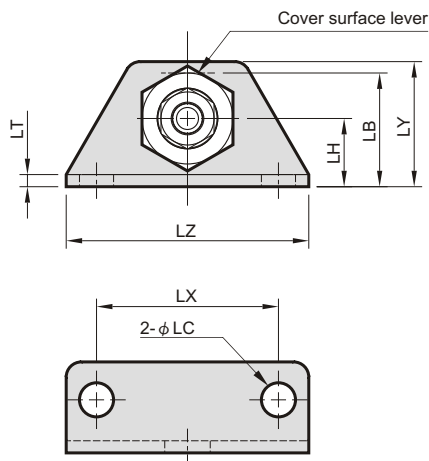
Code Tube I.D.	A	B	C	D	E
6	18.1	24.1	6	12	22
10	20.1	26.1	6	12	22
16	23.4	32.4	6	12	22

LB

MCMJ- $\phi 6$ -LB

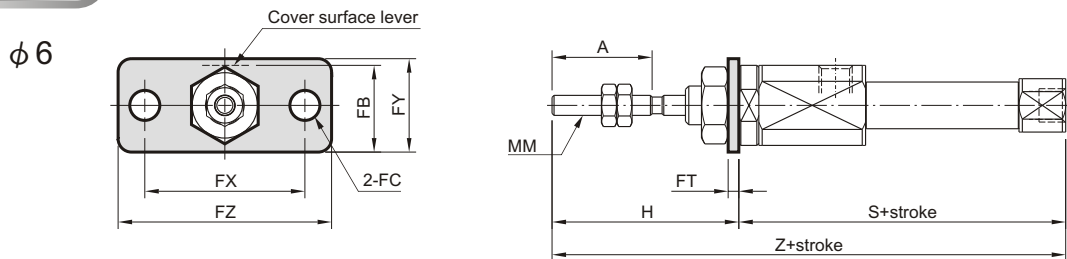


MCMJ- $\phi 10, \phi 16$ -LB

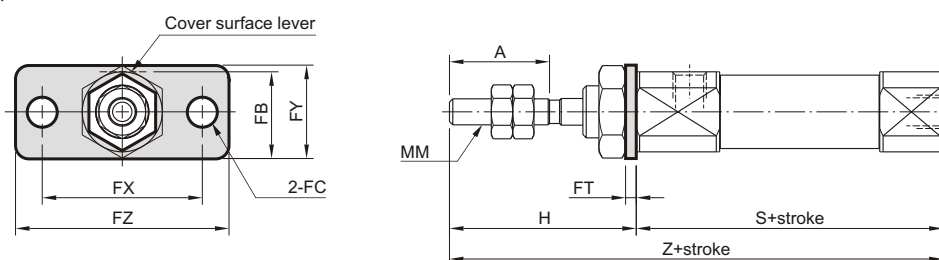


Code Tube I.D.	A	H	LB	LC	LH	LT	LX	LY	LZ	MM	S	X	Y	Z
6	15	28	15	4.5	9	1.6	24	16.5	32	M3×0.5	49	5	7	77
10	15	28	15	4.5	9	1.6	24	16.5	32	M4×0.7	46	5	7	74
16	15	28	23	5.5	14	2.3	33	25	42	M5×0.8	47	6	9	75

FA

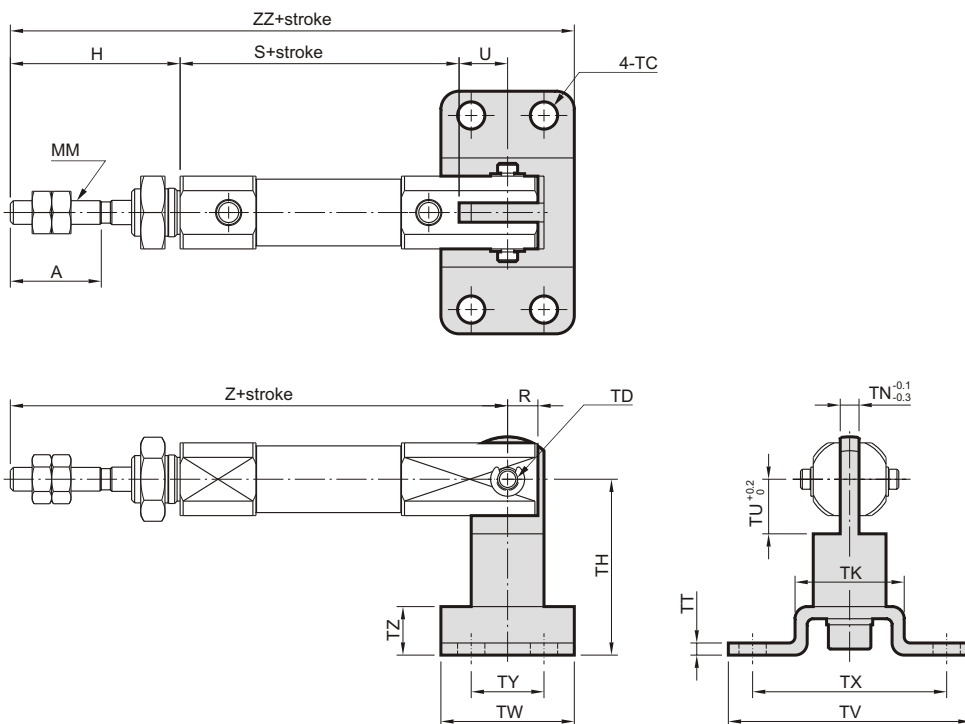


$\phi 10 \sim \phi 16$



Code Tube I.D.	A	FB	FC	FT	FX	FY	FZ	H	MM	S	Z
6	15	13	4.5	1.6	24	14	32	28	M3×0.5	49	77
10	15	13	4.5	1.6	24	14	32	28	M4×0.7	46	74
16	15	19	5.5	2.3	33	20	42	28	M5×0.8	47	75

T



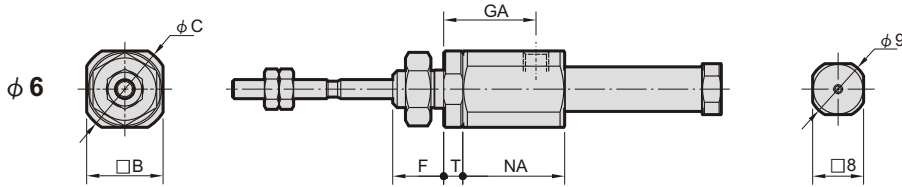
Code Tube I.D.	A	H	MM	R	S	TC	TD ^{H10}	TH	TK	TN	TT	TU	TV	TW	TX	TY	TZ	U	Z	ZZ
10	15	28	M4×0.7	5	46	4.5	3.3 ^{+0.048} ₀	29	18	3.1	2	9	40	22	32	12	8	8	8	93
16	15	28	M5×0.8	8	47	4.5	5 ^{+0.048} ₀	35	20	6.4	2.3	14	48	28	38	16	10	10	10	99

MCMJ Dimensions / Normally extended $\phi 6 \sim \phi 16$

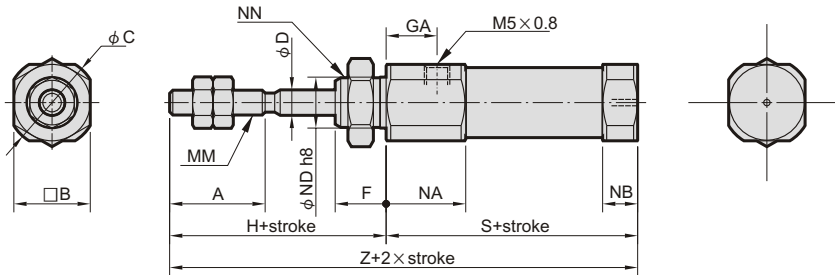
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$\phi 10, \phi 16$

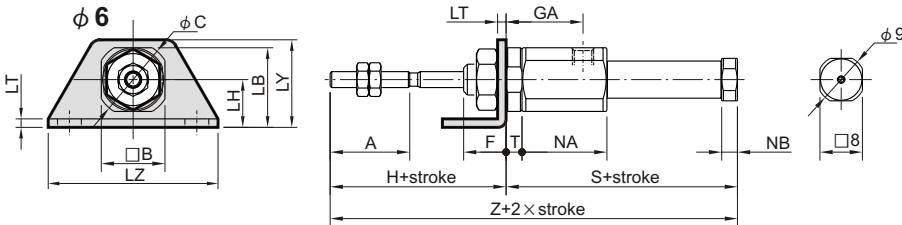


Code Tube I.D.	A	B	C	D	F	GA	H	MM	NA	NB	ND	NN	T
6	15	12	14	3	8	14.5	28	M3×0.5	16	3	6 ⁰ _{-0.018}	M6×1.0	3
10	15	12	14	4	8	8	28	M4×0.7	12.5	5.5	8 ⁰ _{-0.022}	M8×1.0	-
16	15	18	20	5	8	8	28	M5×0.8	12.5	5.5	10 ⁰ _{-0.022}	M10×1.0	-

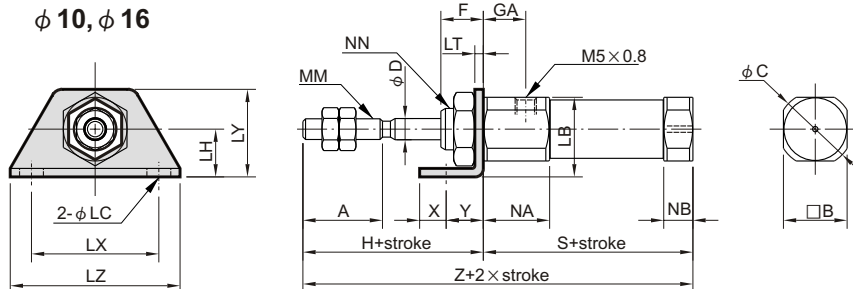
Code Stroke I.D.	※S								※Z							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	46.5 (51.5)	55.5 (60.5)	59.5 (64.5)	73.5 (78.5)	-	-	-	-	74.5 (79.5)	83.5 (88.5)	87.5 (92.5)	101.5 (106.5)	-	-	-	-
10	48.5	56	68	80	-	-	-	-	76.5	84	96	108	-	-	-	-
16	48.5	57	69	81	87	111	129	141	76.5	85	97	109	115	139	157	169

※(S), (Z) () indicate the size of that with magnet ring

LB



$\phi 10, \phi 16$



Code Tube I.D.	A	B	C	D	F	GA	H	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NB	NN	T	X	Y
6	15	12	14	3	8	14.5	28	15	4.5	9	1.6	24	16.5	32	M3×0.5	16	3	M6×1.0	3	5	7
10	15	12	14	4	8	8	28	15	4.5	9	1.6	24	16.5	32	M4×0.7	12.5	5.5	M8×1.0	-	5	7
16	15	18	20	5	8	8	28	23	5.5	14	2.3	33	25	42	M5×0.8	12.5	5.5	M10×1.0	-	6	9

Code Stroke I.D.	※S								※Z							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	46.5 (51.5)	55.5 (60.5)	59.5 (64.5)	73.5 (78.5)	-	-	-	-	74.5 (79.5)	83.5 (88.5)	87.5 (92.5)	101.5 (106.5)	-	-	-	-
10	48.5	56	68	80	-	-	-	-	76.5	84	96	108	-	-	-	-
16	48.5	57	69	81	87	111	129	141	76.5	85	97	109	115	139	157	169

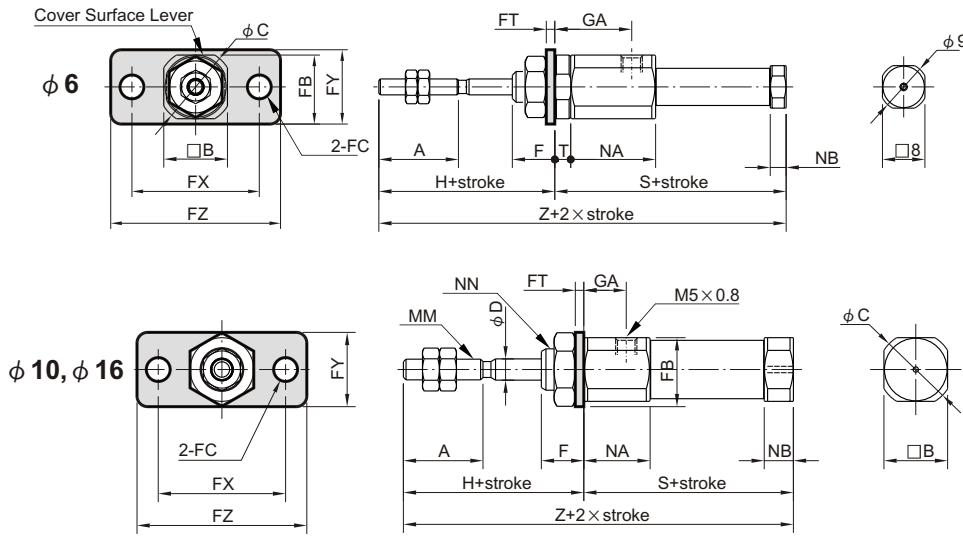
※(S), (Z) () indicate the size of that with magnet ring

MCMJ Mounting accessories / Normally extended $\phi 6 \sim \phi 16$



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FA

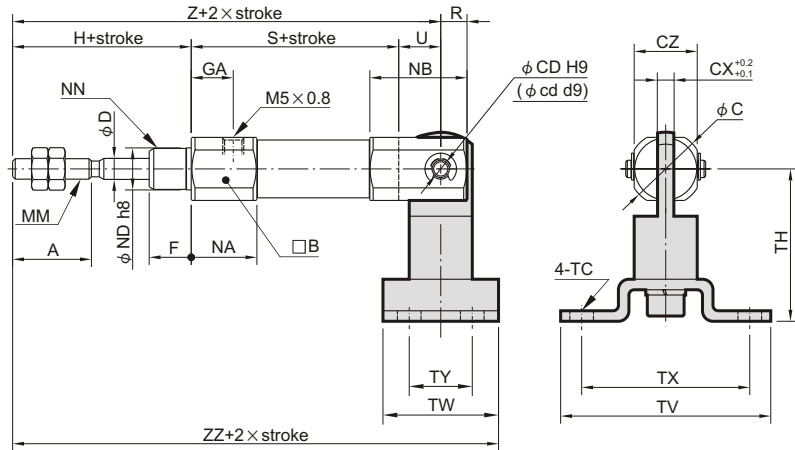


Code Tube I.D.	A	B	C	D	F	GA	H	FB	FC	FT	FX	FY	FZ	MM	NA	NB	NN	T	X	Y
6	15	12	14	3	8	14.5	28	11	4.5	1.6	24	14	32	M3×0.5	16	3	M6×1.0	3	5	7
10	15	12	14	4	8	8	28	13	4.5	1.6	24	14	32	M4×0.7	12.5	5.5	M8×1.0	-	5	7
16	15	18	20	5	8	8	28	19	5.5	2.3	33	20	42	M5×0.8	12.5	5.5	M10×1.0	-	6	9

Code Stroke I.D.	※S								※Z							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	46.5 (51.5)	55.5 (60.5)	59.5 (64.5)	73.5 (78.5)	-	-	-	-	74.5 (79.5)	83.5 (88.5)	87.5 (92.5)	101.5 (106.5)	-	-	-	-
10	48.5	56	68	80	-	-	-	-	76.5	84	96	108	-	-	-	-
16	48.5	57	69	81	87	111	129	141	76.5	85	97	109	115	139	157	169

※(S), (Z) () indicate the size of that with magnet ring

T



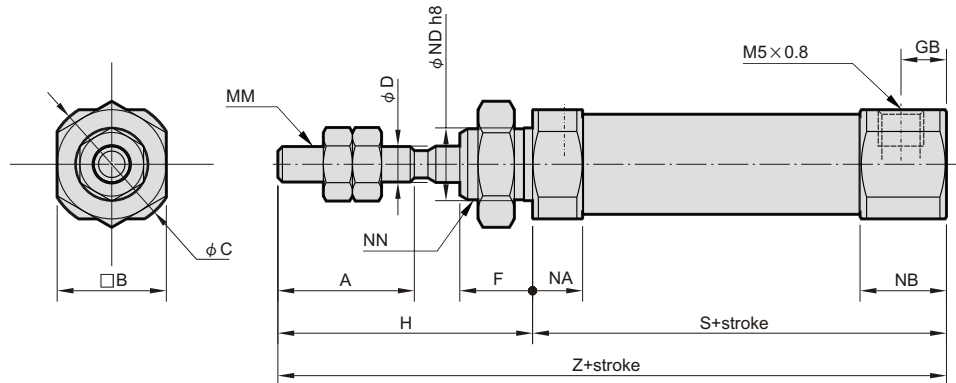
Code Tube I.D.	A	B	C	CD (cd)	CX	CZ	D	F	GA	H	MM	NA	NB	ND	NN	R	TC	TH	TV	TW	TX	TU	U
10	15	12	14	3.3	3.2	12	4	8	8	28	M4×0.7	12.5	18.5	8 ⁰ _{-0.022}	M8×1.0	5	4.5	29	40	22	32	12	8
16	15	18	20	5	6.5	18	5	8	8	28	M5×0.8	12.5	23.5	10 ⁰ _{-0.022}	M10×1.0	8	5.5	35	48	28	38	16	10

Code Stroke I.D.	S								Z							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
10	48.5	56	68	80	-	-	-	-	84.5	92	104	116	-	-	-	-
16	48.5	57	69	81	87	111	129	141	86.5	95	107	119	125	149	167	179

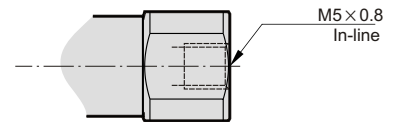
Code Stroke I.D.	ZZ							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
10	95.5	103	115	127	-	-	-	-
16	100.5	109	121	133	139	163	181	193

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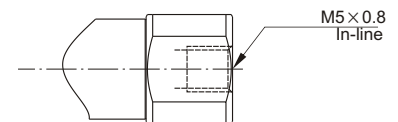
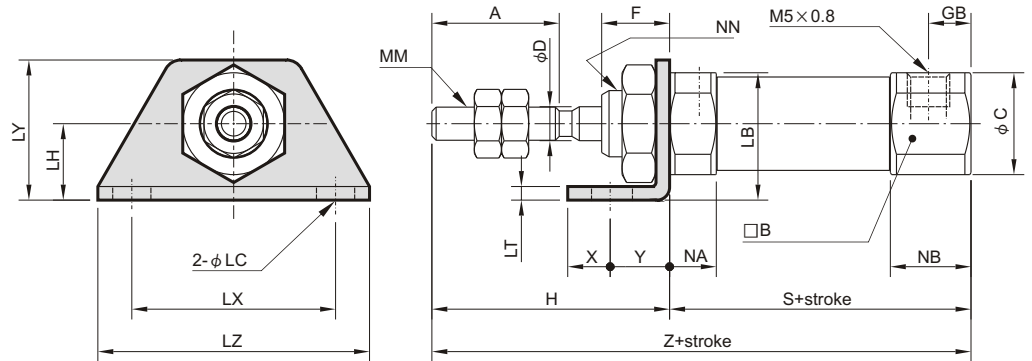
Code Tube I.D.	A	B	C	D	F	GB	H	MM	NA	NB	ND	NN
6	15	8	9	3	8	-	28	M3x0.5	3	7	6 ⁰ _{-0.018}	M6x1.0
10	15	12	14	4	8	5	28	M4x0.7	5.5	9.5	8 ⁰ _{-0.022}	M8x1.0
16	15	18	20	5	8	5	28	M5x0.8	5.5	9.5	10 ⁰ _{-0.022}	M10x1.0



Code Stroke I.D.	※S								※Z							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	34.5 (39.5)	43.5 (48.5)	47.5 (52.5)	61.5 (66.5)	-	-	-	-	62.5 (67.5)	71.5 (76.5)	75.5 (80.5)	89.5 (94.5)	-	-	-	-
10	45.5	53	65	77	-	-	-	-	73.5	81	93	105	-	-	-	-
16	45.5	54	66	78	84	108	126	138	73.5	82	94	106	112	136	154	166

※(S), (Z) () indicate the size of that with magnet ring

LB



Code Tube I.D.	A	B	C	D	F	GB	H	LB	LC	LH	LT	LX	LY	LZ	MM	NA	NB	NN	X	Y
6	15	8	9	3	8	-	28	13	4.5	9	1.6	24	16.5	32	M3x0.5	3	7	M6x1.0	5	7
10	15	12	14	4	8	5	28	15	4.5	9	1.6	24	16.5	32	M4x0.7	5.5	9.5	M8x1.0	5	7
16	15	18	20	5	8	5	28	23	5.5	14	2.3	33	25	42	M5x0.8	5.5	9.5	M10x1.0	6	9

Code Stroke I.D.	※S								※Z							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	34.5 (39.5)	43.5 (48.5)	47.5 (52.5)	61.5 (66.5)	-	-	-	-	62.5 (67.5)	71.5 (76.5)	75.5 (80.5)	89.5 (94.5)	-	-	-	-
10	45.5	53	65	77	-	-	-	-	73.5	81	93	105	-	-	-	-
16	45.5	54	66	78	84	108	126	138	73.5	82	94	106	112	136	154	166

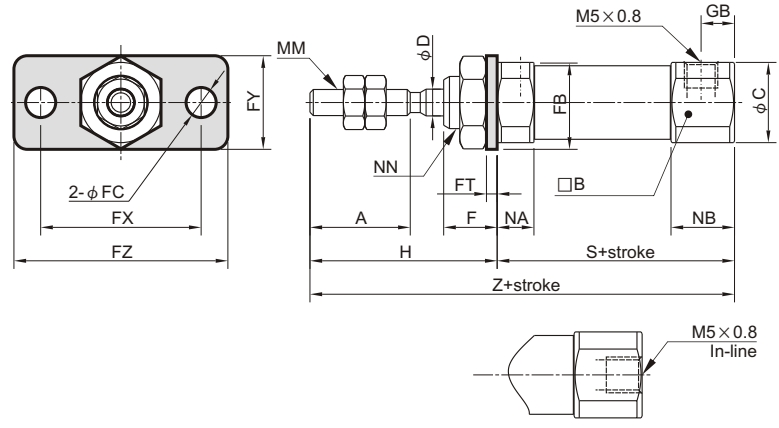
※(S), (Z) () indicate the size of that with magnet ring

MCMJ Mounting accessories / Normally returned $\phi 6\sim\phi 16$

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FA

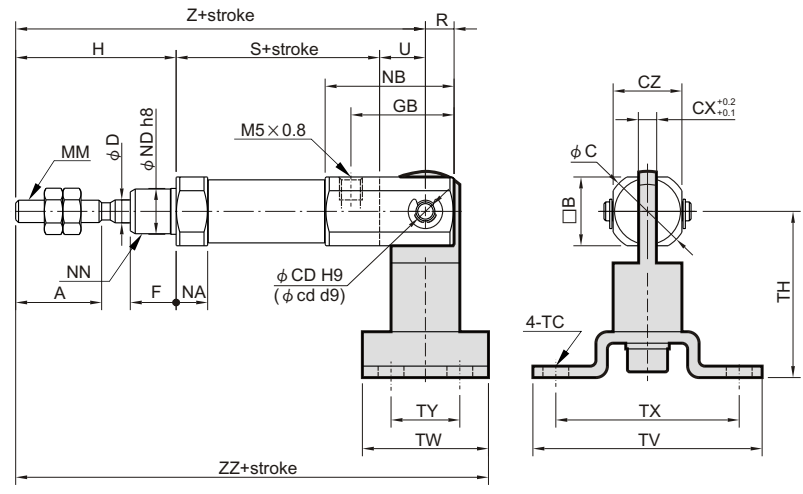


Code Tube I.D.	A	B	C	D	F	GB	H	FB	FC	FT	FX	FY	FZ	MM	NA	NB	NN	X	Y
6	15	8	9	3	8	-	28	11	4.5	1.6	24	14	32	M3×0.5	3	7	M6×1.0	5	7
10	15	12	14	4	8	5	28	13	4.5	1.6	24	14	32	M4×0.7	5.5	9.5	M8×1.0	5	7
16	15	18	20	5	8	5	28	19	5.5	2.3	33	20	42	M5×0.8	5.5	9.5	M10×1.0	6	9

Code Stroke I.D.	※S								※Z							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	34.5 (39.5)	43.5 (48.5)	47.5 (52.5)	61.5 (66.5)	-	-	-	-	62.5 (67.5)	71.5 (76.5)	75.5 (80.5)	89.5 (94.5)	-	-	-	-
10	45.5	53	65	77	-	-	-	-	73.5	81	93	105	-	-	-	-
16	45.5	54	66	78	84	108	126	138	73.5	82	94	106	112	136	154	166

※(S), (Z) () indicate the size of that with magnet ring

T



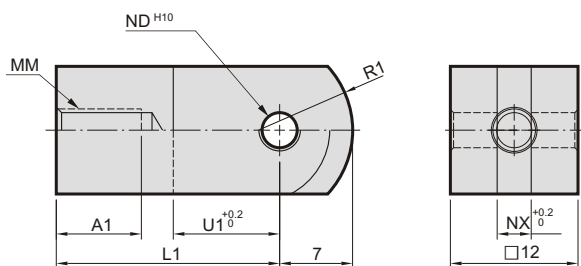
Code Tube I.D.	A	B	C	CD (cd)	CX	CZ	D	F	GB	H	MM	NA	NB	ND	NN	R	U	TC	TH	TV	TW	TX	TU
10	15	12	14	3.3	3.2	12	4	8	18	28	M4×0.7	5.5	9.5	8 ⁰ _{-0.022}	M8×1.0	5	8	4.5	29	40	22	32	12
16	15	18	20	5	6.5	18	5	8	23	28	M5×0.8	5.5	9.5	10 ⁰ _{-0.022}	M10×1.0	8	10	5.5	35	48	28	38	16

Code Stroke I.D.	S								Z							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
10	45.5	53	65	77	-	-	-	-	81.5	89	101	113	-	-	-	-
16	45.5	54	66	78	84	108	126	138	83.5	92	104	116	122	146	164	176

Code Stroke I.D.	ZZ							
	5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
10	92.5	100	112	124	-	-	-	-
16	97.5	106	118	130	136	160	178	190

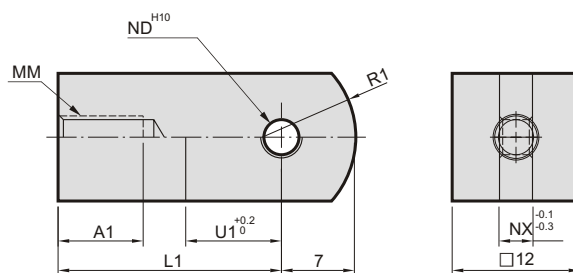
PEN CYLINDERS

Y connector



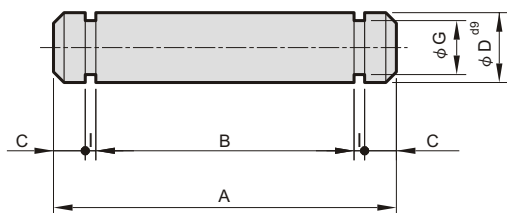
Code Tube I.D.	A1	L1	MM	ND ^{H10}	NX	R1	U1
10	8	21	M4×0.7	3.3 ^{+0.048} / ₀	3.2	8	10
16	11	21	M5×0.8	5 ^{+0.048} / ₀	6.5	12	10

I connector



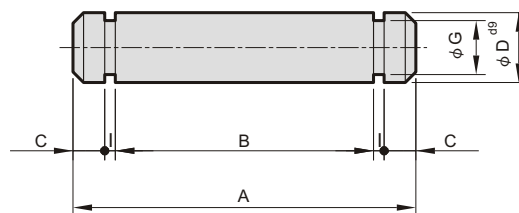
Code Tube I.D.	A1	L1	MM	ND ^{H10}	NX	R1	U1
10	8	21	M4×0.7	3.3 ^{+0.048} / ₀	3.1	8	9
16	8	25	M5×0.8	5 ^{+0.048} / ₀	6.4	12	14

Pin for I & Y connector



Code Tube I.D.	A	B	C	D ^{d9}	G	I	Split pin
10	16.2	12.2	1.5	3.3 ^{-0.03} / _{-0.06}	2.5	0.5	E-2.5
16	16.2	12.2	1.5	5 ^{-0.03} / _{-0.06}	4	0.7	E-4

Pin for end cover D type



Code Tube I.D.	A	B	C	D ^{d9}	G	I	Split pin
10	15.2	12.2	1	3.3 ^{-0.03} / _{-0.06}	2.5	0.5	E-2.5
16	22.7	18.3	1.5	5 ^{-0.03} / _{-0.06}	4	0.7	E-4