



Features

■ Non lubrication

- Special housing and bushing enables self lubrication of piston rod.

■ High quality long service life

- Hard anodised stainless steel cylinder tubes offer a high resistance to corrosion and low internal friction.
- Cylinder mountings, available with a comprehensive range of accessories for rigid or flexible mounting.
- Operation, with the exception of MCMA-11, single and doubling type available- MCMA-13 / 15.

■ Magnetic as standard.

Specification

Model	MCMA				
Tube I.D. (mm)	16	20	25	32	40
Port size	M5×0.8	Rc1/8			
Medium	Air				
Max. operating pressure	0.7 MPa				
Min. operating pressure	Double	0.06 MPa			
	Single	0.15 MPa			
Proof pressure	1 MPa				
Available speed range	50~500 mm/sec				
Ambient temperature	- 5~ + 60°C (No freezing)				
Lubricator	Not required				
Sensor switch (band) (※)	RCA (Matching the BA20~BA40 band) (Matching the BGS20~BGS40 band)				
	RCM (Matching the BM16~BM40 band)				
	RCS (Matching the BJ16 band)				

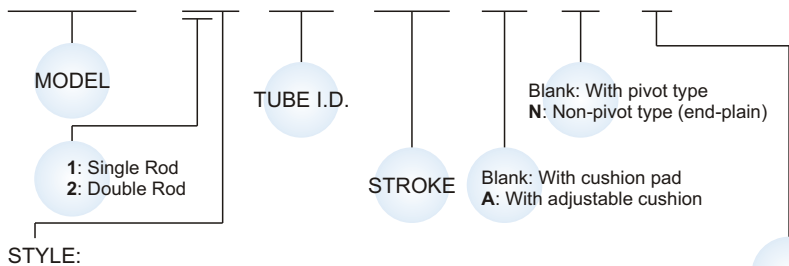
Table for standard stroke

	Tube I.D.	Stroke (mm)
Single Acting	φ 16	15, 25, 50, 75, 100
	φ 20, 25, 32	15, 25, 50, 75, 100, 125, 150
Double Acting	φ 16	15, 25, 50, 75, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500
	φ 20, 25, 32, 40	15, 25, 50, 75, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500






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

Order example

MCMA - 11 - 32 - 100 - A - N - G



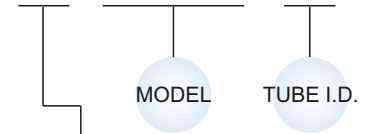
STYLE:

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

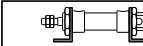
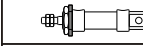
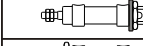
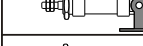
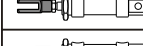

- ※ RCA, RCM, RCS specification, please refer to page V-07, V-11, V-12.
- ※ The code of sensor switch band is BM16. "16" represents the tube I.D.

Mounting accessories

FA - MCMA - 32



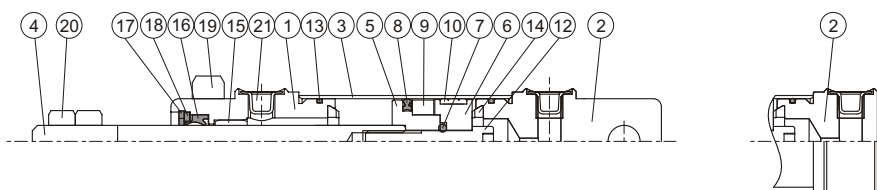
MOUNTING TYPE

	LB
	FA
	FB
	SDB
	Y
	I

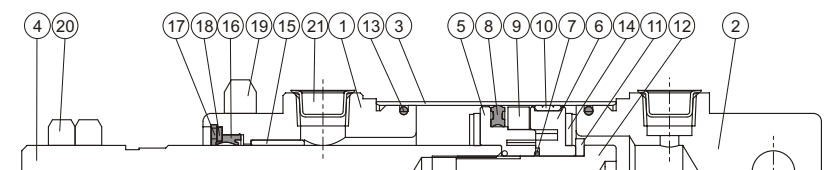
- ※ Order example for special specification, refer to page J-03.

φ 16, φ 20

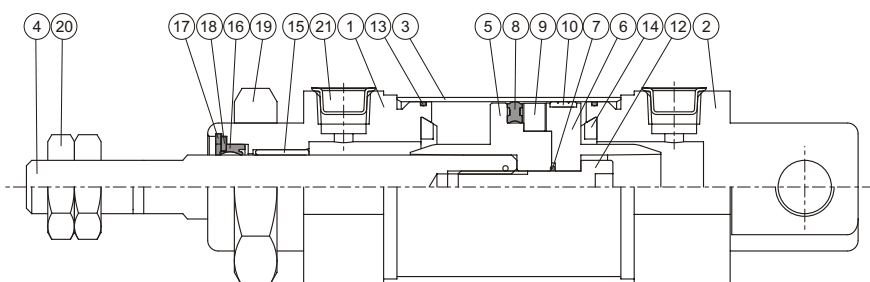
N type: φ 16~φ 40



φ 25



φ 32, φ 40



Material

No.	Part name	Tube I.D.					Q'y		Componentn parts (inclusion)		Repair kits (inclusion)
		16	20	25	32	40	11 type	21 type	11 type	21 type	
1	Rod cover	Aluminum alloy					1	2	●	●	
2	Head cover	Aluminum alloy					1	—	●		
3	Tube	Stainless steel					1	1			
4	Piston rod	※1	Carbon steel				1	1			
5	Piston-R	※2	Polyurethane		※2	1	1	●	●		
6	Piston-H	※2	Polyurethane		※2	1	1	●	●		
7	Piston gasket	NBR					1	1	●	●	
8	Piston packing	NBR					1	1	●	●	
9	Magnet ring	Magnet material					1	1	●	●	
10	Wear ring	Teflon + Graphite					1	1	●	●	
11	Washer	—	※3	—			1	—	●		
12	Piston bolt	SCM					1	—	●		
13	Cover ring	NBR					2	2	●	●	
14	Cushion gasket	NBR					2	2	●	●	
15	Rod bush	Bearing alloy					1	2	●	●	
16	Rod packing	NBR					1	2	●	●	●
17	Snap ring	Spring steel					1	2	●	●	
18	Washer	Carbon steel					1	2	●	●	
19	Tie nut	Carbon steel					1	2	●	●	
20	Rod front nut	Carbon steel					2	2	●	●	
21	Port plug	Plastic					2	2	●	●	

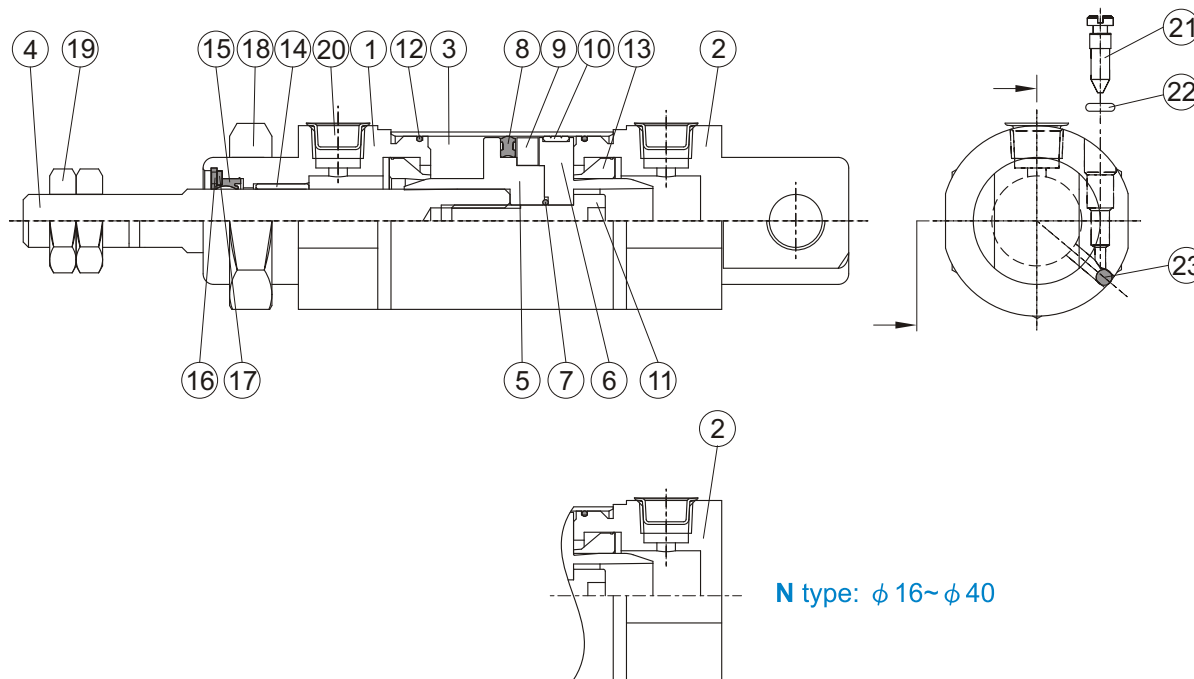
※1. Stainless steel ※2. Aluminum alloy ※3. Carbon steel

Order example of component parts / repair kits

Tube I.D.	Component parts	Repair kits
φ 16	CP-MCMA-16	PS-MCMA-16
φ 20	CP-MCMA-20	PS-MCMA-20
φ 25	CP-MCMA-25	PS-MCMA-25
φ 32	CP-MCMA-32	PS-MCMA-32
φ 40	CP-MCMA-40	PS-MCMA-40

Non-pivot type (end-plain)

Tube I.D.	Component parts
φ 16	CP-MCMA-16-N
φ 20	CP-MCMA-20-N
φ 25	CP-MCMA-25-N
φ 32	CP-MCMA-32-N
φ 40	CP-MCMA-40-N



N type: ϕ 16~ ϕ 40

Material

No.	Part name	Tube I.D.					Q'ty		Componentn parts (inclusion)		Repair kits (inclusion)
		16	20	25	32	40	11 type	21 type	11 type	21 type	
1	Rod cover	Aluminum alloy					1	2	●	●	
2	Head cover	Aluminum alloy					1	—	●		
3	Tube	Stainless steel					1	1			
4	Piston rod	※1	Carbon steel				1	1			
5	Piston-R		※2		※3	※2	1	1	●	●	
6	Piston-H		※2		※3	※2	1	1	●	●	
7	Piston gasket	NBR					1	1	●	●	
8	Piston packing	NBR					1	1	●	●	
9	Magnet ring	Magnet material					1	1	●	●	
10	Wear ring	Teflon + Graphite					1	1	●	●	
11	Piston bolt	SCM					1	—	●		
12	Cover ring	NBR					2	—	●	●	
13	Cushion packing	NBR					2	2	●	●	
14	Rod bush	Bearing alloy					1	2	●	●	
15	Rod packing	NBR					1	2	●	●	●
16	Snap ring	Spring steel					1	2	●	●	
17	Washer	Carbon steel					1	2	●	●	
18	Tie nut	Carbon steel					1	2	●	●	
19	Rod front nut	Carbon steel					2	2	●	●	
20	Port plug	Plastic					2	2	●	●	
21	Needle valve	※1	Carbon steel				2	2	●	●	
22	Needle valve packing	NBR					2	2	●	●	●
23	Steel ball	Stainless steel					2	2	●	●	

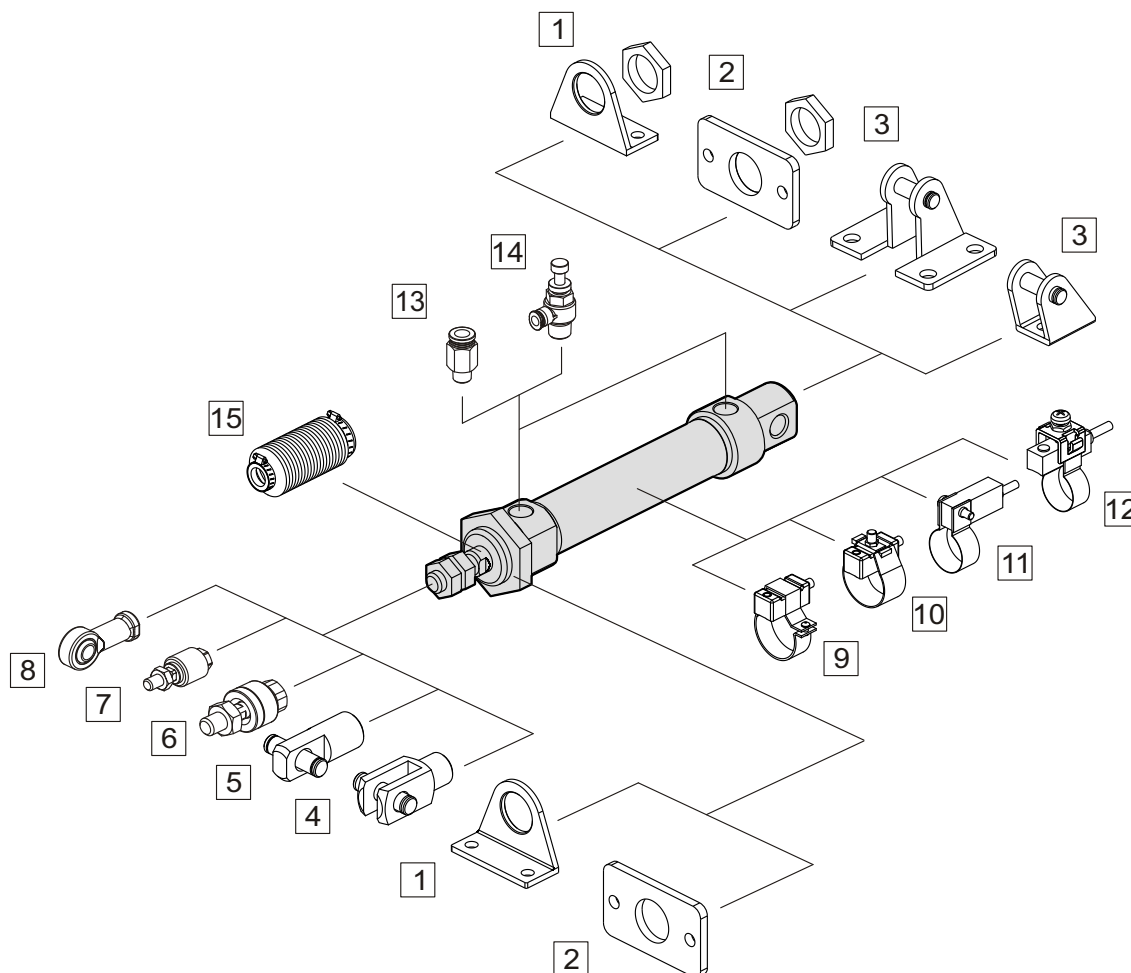
※1. Stainless steel ※2. Aluminum alloy ※3. Polyurethane

Order example of component parts / repair kits

Tube I.D.	Component parts	Repair kits
ϕ 16	CP-MCMA-16A	PS-MCMA-16A
ϕ 20	CP-MCMA-20A	PS-MCMA-20A
ϕ 25	CP-MCMA-25A	PS-MCMA-25A
ϕ 32	CP-MCMA-32A	PS-MCMA-32A
ϕ 40	CP-MCMA-40A	PS-MCMA-40A

Non-pivot type (end-plain)

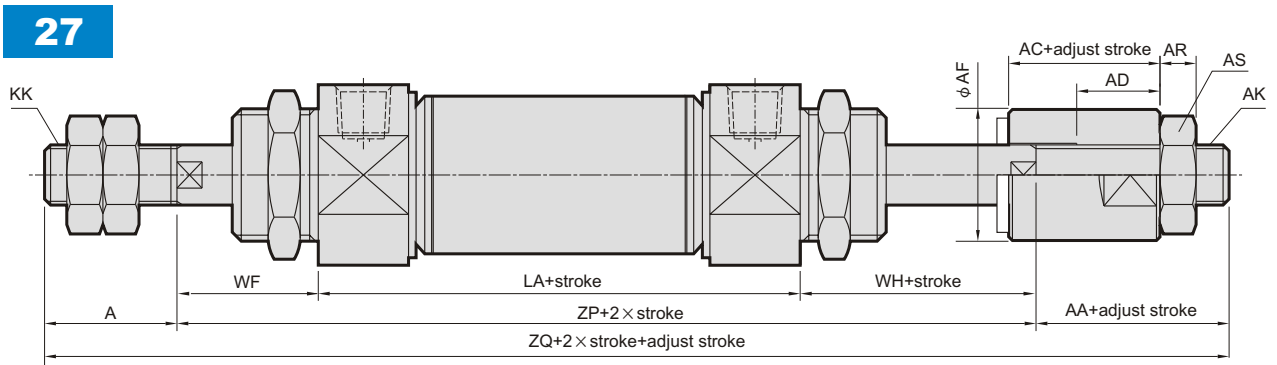
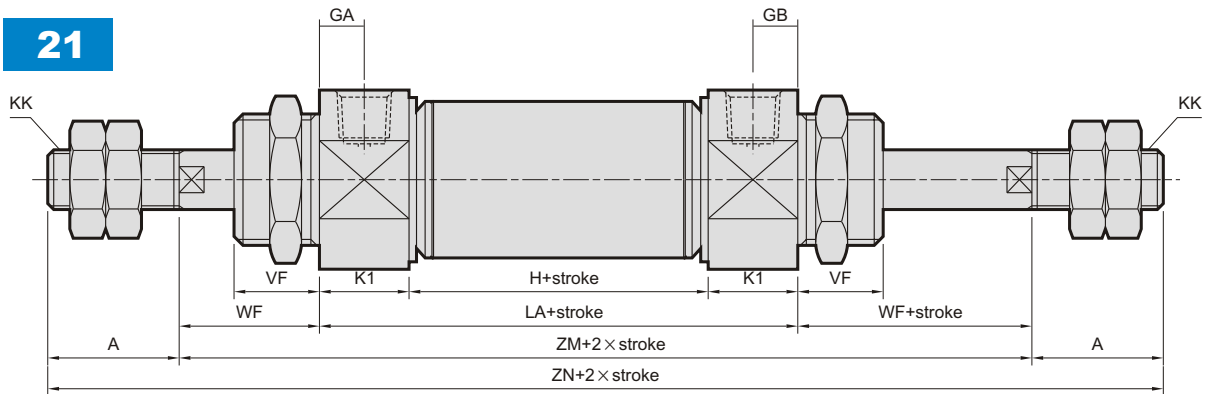
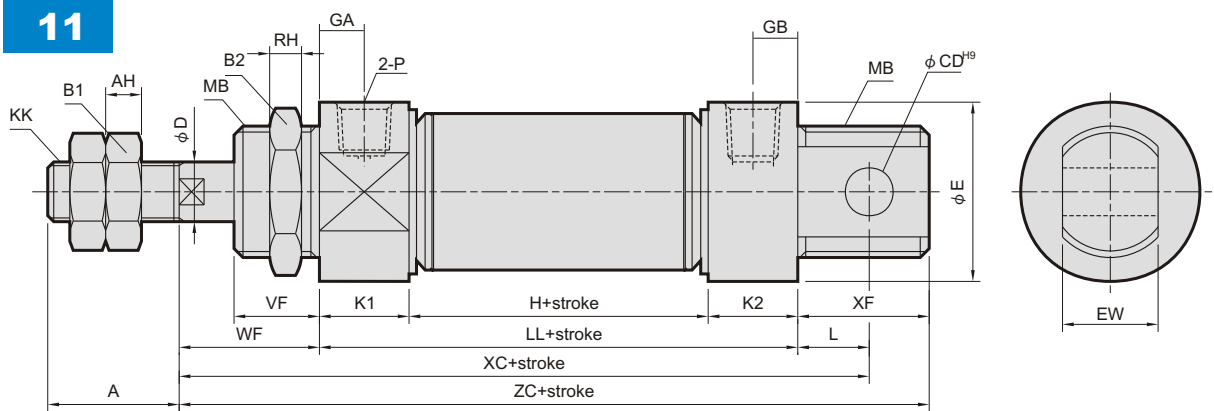
Tube I.D.	Component parts
ϕ 16	CP-MCMA-16A-N
ϕ 20	CP-MCMA-20A-N
ϕ 25	CP-MCMA-25A-N
ϕ 32	CP-MCMA-32A-N
ϕ 40	CP-MCMA-40A-N



No.	Accessories	Page
1	Mounting accessories LB	L-06,11
2	Mounting accessories FA/FB	L-07,12
3	Mounting accessories SDB+PIN	L-07,12,13
4	Accessories Y+PIN	L-13
5	Accessories I+PIN	L-13
6	Floating joint MFC	V-01
7	Floating joint MFCS	V-03
8	Female rod ends PHS	V-04

No.	Accessories	Page
9	Sensor switch RCA+BGS**	V-05
10	Sensor switch RCA+BA**	V-05
11	Sensor switch RCM+BM**	V-11
12	Sensor switch RCS+BJ 16	V-12
13	Fitting PC (PISCO)	H-03
14	Speed controller JSC (PISCO)	H-14
15	Protective bellows kit	—

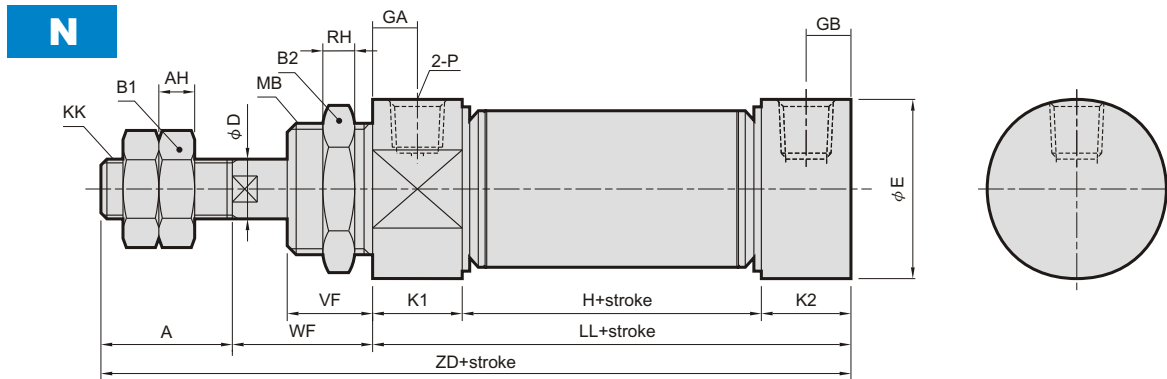
MINIATURE CYLINDERS



Code Tube I.D.	A	AA	AC	AD	AF	AH	AR	AS	AK	B1	B2	CD	D	E	EW	GA	GB	H	KK
16	16	16	13	7.5	12	5	4	8	M5×0.8	10	22	6	6	19.7	12 ^{-0.05} _{-0.4}	5	5	34	M6×1.0
20	20	19	15	9.5	16	5	5	13	M8×1.25	13	30	8	8	26.7	16 ^{-0.05} _{-0.4}	7.5	7.5	40	M8×1.25
25	22	19	15	9.5	16	5	5	13	M8×1.25	17	30	8	10	29.7	16 ^{-0.05} _{-0.4}	7.5	7.5	40	M10×1.25
32	22	18	12	7	20	5	6	17	M10×1.25	17	32	10	12	36	16 ^{-0.05} _{-0.4}	7.5	10.5	37	M10×1.25
40	30	18	12	7	30	7	7	19	M12×1.25	19	41	12	14	45	20 ^{-0.05} _{-0.4}	7.5	10.5	42	M12×1.25

Code Tube I.D.	K1	K2	L	LA	LL	MB	P	RH	VF	WF	WH	XC	XF	ZC	ZM	ZN	ZP	ZQ
16	10	10	9	54	54	M16×1.5	M5×0.8	6	12	22	19.5	85	16	92	98	130	95.5	127.5
20	15	15	12	70	70	M22×1.5	Rc1/8	6	12	18	19.5	100	21	109	106	146	107.5	146.5
25	15	15	12	70	70	M22×1.5	Rc1/8	6	15	27	22.5	109	21	118	124	168	119.5	160.5
32	15	18	14	67	70	M24×2.0	Rc1/8	8	18	30	24	114	24	124	127	171	121	161
40	15	18	16	72	75	M30×2.0	Rc1/8	8	17	27	24	118	28	130	126	186	123	171

MINIATURE CYLINDERS

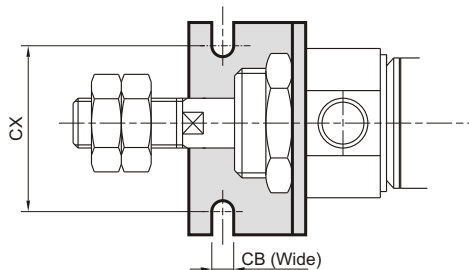


Code Tube I.D.	A	AH	B1	B2	D	E	GA	GB	H	KK	K1	K2	LL	MB	P	RH	VF	WF	ZD
16	16	5	10	22	6	19.7	5	5	34	M6×1.0	10	10	54	M16×1.5	M5×0.8	6	12	22	92
20	20	5	13	30	8	26.7	7.5	7.5	40	M8×1.25	15	15	70	M22×1.5	Rc1/8	6	12	18	108
25	22	6	17	30	10	29.7	7.5	7.5	40	M10×1.25	15	15	70	M22×1.5	Rc1/8	6	15	27	119
32	22	6	17	32	12	36	7.5	10.5	37	M10×1.25	15	18	70	M24×2.0	Rc1/8	8	18	30	122
40	30	7	19	41	14	45	7.5	10.5	42	M12×1.25	15	18	75	M30×2.0	Rc1/8	8	17	27	132

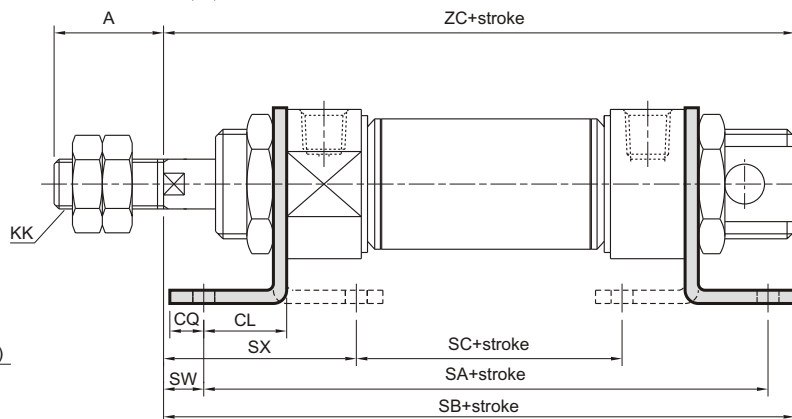
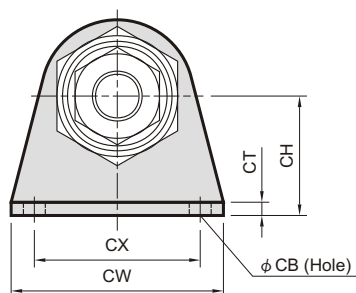
Mounting accessories

LB

MCMA- $\phi 16$



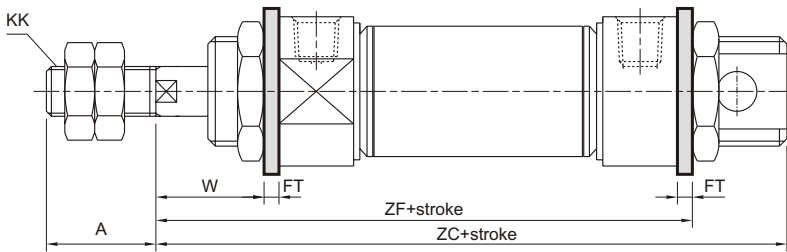
MCMA- $\phi 20 \sim \phi 40$



Code Tube I.D.	A	CB	CH	CL	CQ	CT	CW	CX	KK	SA	SB	SC	SW	SX	ZC
16	16	5.5	20	13	6	3.2	44	32	M6×1.0	80	95	34.4	9	31.8	92
20	20	6.6	25	15	8	3.2	54	40	M8×1.25	100	111	46.4	3	29.8	109
25	22	6.6	25	15	8	3.2	54	40	M10×1.25	100	120	46.4	12	38.8	118
32	22	6.6	32	25	8	4	59	45	M10×1.25	120	133	28	5	51	124
40	30	6.6	36	25	8	4	64	50	M12×1.25	125	135	33	2	48	130

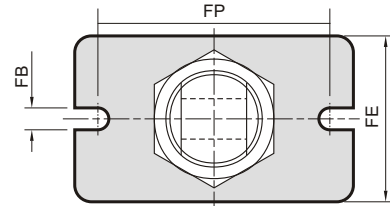
MINIATURE CYLINDERS

FA / FB

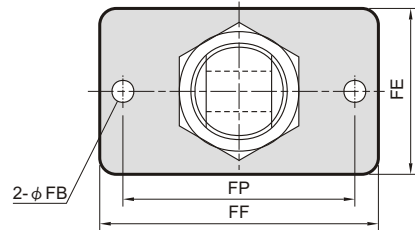


Code Tube I.D.	A	FB	FE	FF	FP	FR	FT	KK	W	ZC	ZF
16	16	5.5	26	52	40	/	3.2	M6 × 1.0	18.8	92	79.2
20	20	6.6	38	64	50	/	4.5	M8 × 1.25	13.5	109	92.5
25	22	6.6	38	64	50	/	4.5	M10 × 1.25	22.5	118	101.5
32	22	6.6	47	72	58	33	4.5	M10 × 1.25	25.5	124	104.5
40	30	6.6	50	84	70	36	4.5	M12 × 1.25	22.5	130	105.5

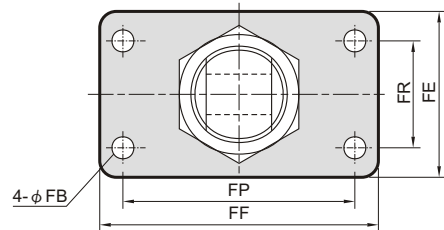
MCMA- $\phi 16$



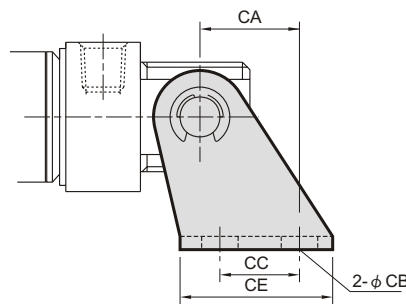
MCMA- $\phi 20, \phi 25$



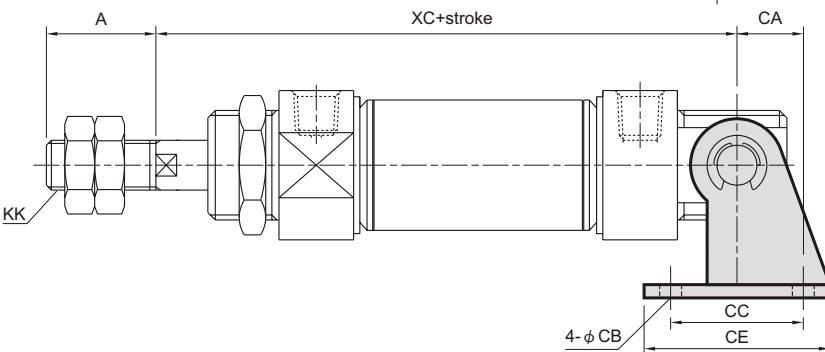
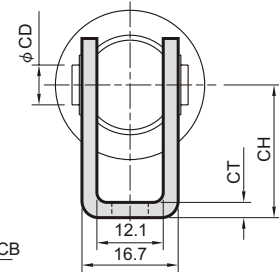
MCMA- $\phi 32, \phi 40$



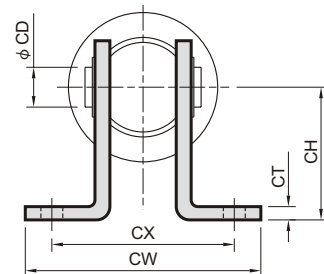
SDB



MCMA- $\phi 16$



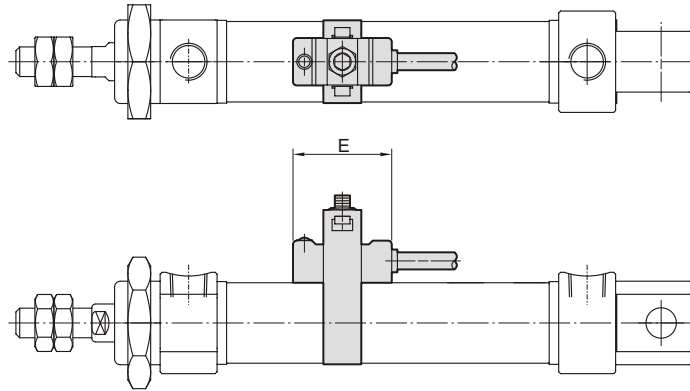
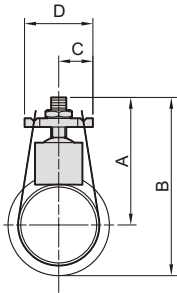
MCMA- $\phi 20 \sim \phi 40$



Code Tube I.D.	A	CA	CB	CC	CD	CE	CH	CT	CW	CX	KK	XC
16	16	15	5.5	12	6	23	20	2.3	/	/	M6 × 1.0	85
20	20	16	6.6	32	8	48	32	3.2	67	51	M8 × 1.25	100
25	22	16	6.6	32	8	48	32	3.2	67	51	M10 × 1.25	109
32	22	18	6.6	36	10	52	36	4	67	51	M10 × 1.25	114
40	30	20	6.6	40	12	56	40	4	69	53	M12 × 1.25	118

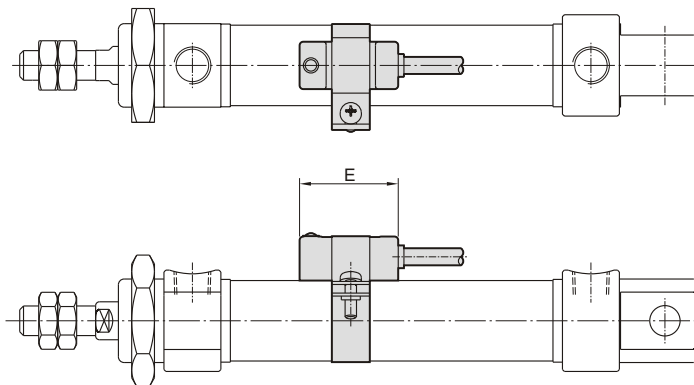
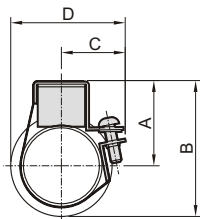
MINIATURE CYLINDERS

Sensor switch: RCA
Sensor switch band: BA**



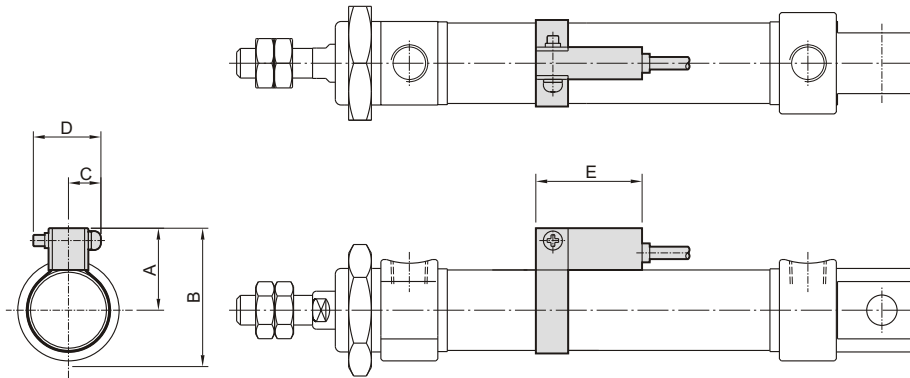
Code Tube I.D.	A	B	C	D	E
20	33	46.5	9	18	26
25	35.5	50.5	9	18	26
32	39	57	9	18	26
40	43	65.5	9	18	26

Sensor switch: RCA
Sensor switch band: BGS**



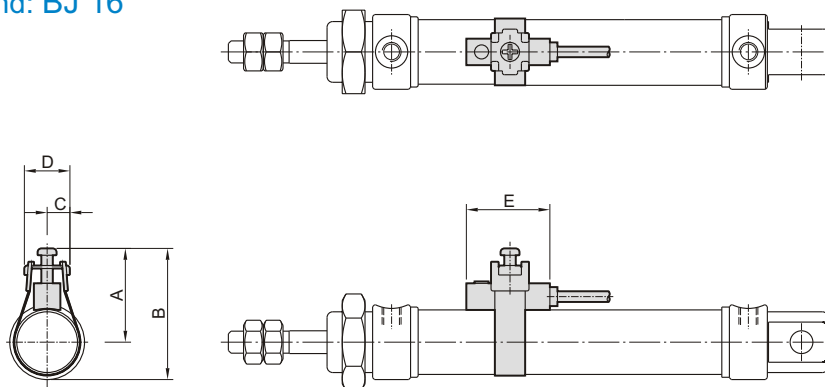
Code Tube I.D.	A	B	C	D	E
20	25	38.5	18	30.5	26
25	25.5	40.5	18.5	31.5	26
32	29	47	22	39	26
40	33	55.5	26	47	26

Sensor switch: RCM
Sensor switch band: BM**



Code Tube I.D.	A	B	C	D	E
16	20	30	10	16	28
20	22	36	10	16	28
25	25	40	10	16	28
32	28	46	10	16	28
40	32	55	10	16	28

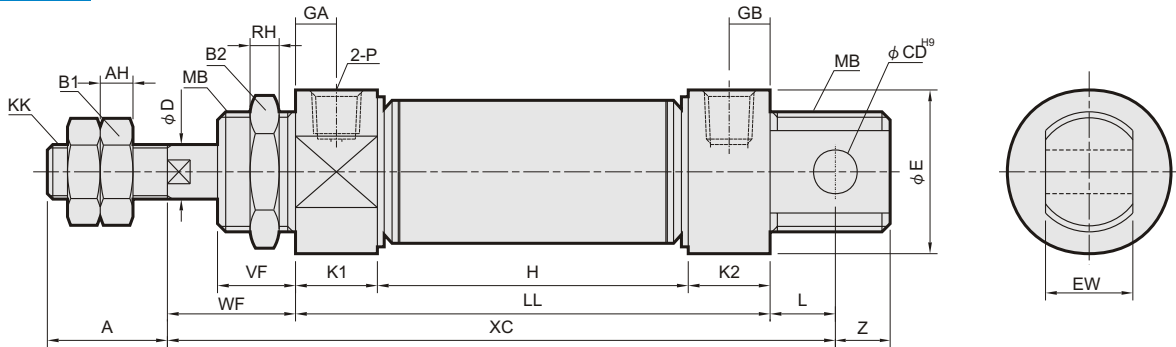
Sensor switch: RCS
Sensor switch band: BJ 16



Code Tube I.D.	A	B	C	D	E
16	23.4	33.3	6	12	22

MINIATURE CYLINDERS

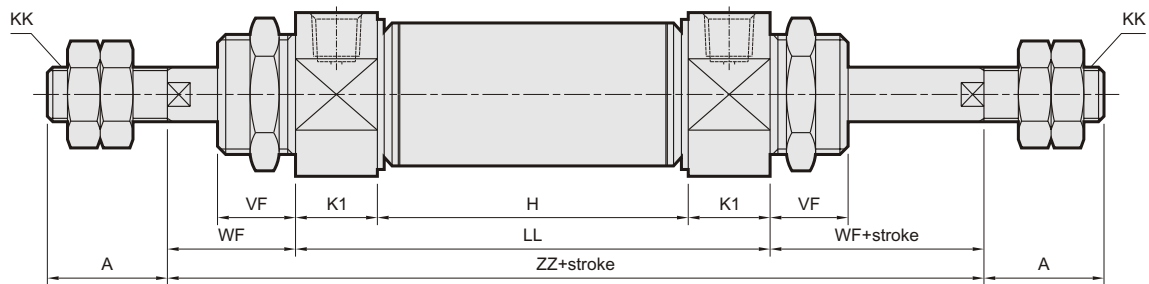
15



Code Tube I.D.	A	AH	B1	B2	CD	D	E	EW	GA	GB	KK	K1	K2	L	MB	P	RH	VF	WF	YP	Z
16	16	5	10	22	6	6	19.7	12 ^{-0.05/-0.4}	5	5	M6×1.0	10	10	9	M16×1.5	M5×0.8	6	12	22	5	7
20	20	5	13	30	8	8	26.7	16 ^{-0.05/-0.4}	7.5	7.5	M8×1.25	15	15	12	M22×1.5	Rc1/8	6	12	18	7.5	9
25	22	6	17	30	8	10	29.7	16 ^{-0.05/-0.4}	7.5	7.5	M10×1.25	15	15	12	M22×1.5	Rc1/8	6	15	27	7.5	9
32	22	6	17	32	10	12	36	16 ^{-0.05/-0.4}	7.5	10.5	M10×1.25	15	18	14	M24×2.0	Rc1/8	8	18	30	7.5	10

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	74	114	154	194	/	/	84	94	134	174	214	/	/	115	125	165	205	245	/	/
20	80	90	140	190	240	290	340	110	120	170	220	270	320	370	140	150	200	250	300	350	400
25	80	90	140	190	240	290	340	110	120	170	220	270	320	370	149	159	209	259	309	359	409
32	77	87	137	187	237	287	337	110	120	170	220	270	320	370	154	164	214	264	314	364	414

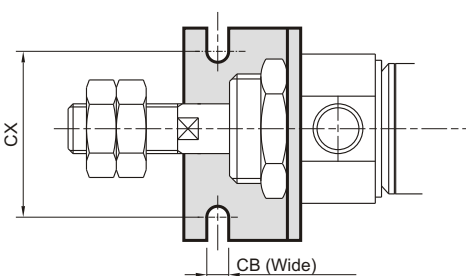
21



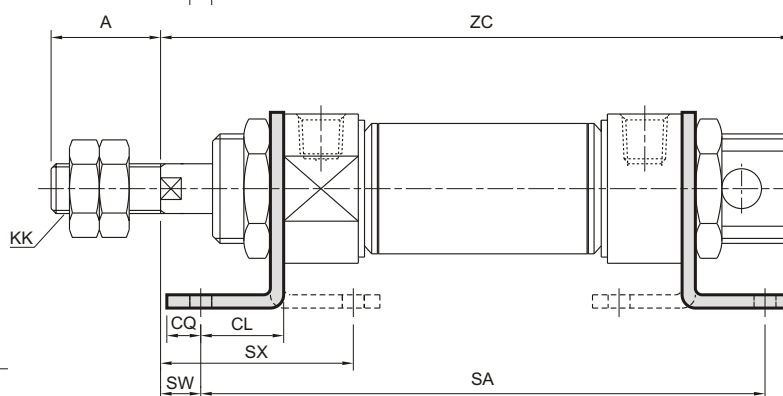
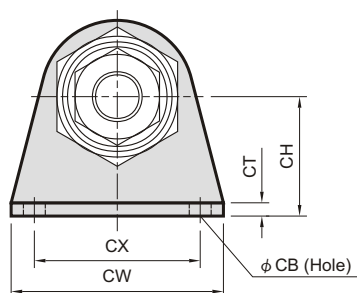
Code Stroke I.D.	H							LL							ZZ						
	15	25	50	75	100	125	150	15	25	50	75	100	125	150	15	25	50	75	100	125	150
16	64	74	114	154	194	/	/	84	94	134	174	214	/	/	125	135	175	215	255	/	/
20	80	90	140	190	240	290	340	110	120	170	220	270	320	370	146	156	206	256	306	356	406
25	80	90	140	190	240	290	340	110	120	170	220	270	320	370	164	174	224	274	324	374	424
32	77	87	137	187	237	287	337	107	117	167	217	267	317	367	167	177	227	277	327	377	427

LB

MCMA- $\phi 16$



MCMA- $\phi 20 \sim \phi 32$

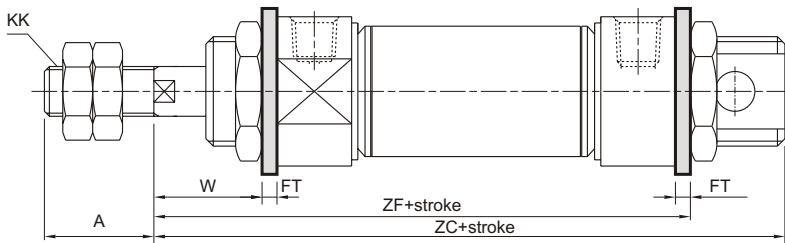


Code Tube I.D.	A	CB	CH	CL	CQ	CT	CW	CX	KK	SW	SX
16	16	5.5	20	13	6	3.2	44	32	M6×1.0	9	31.8
20	20	6.6	25	15	8	3.2	54	40	M8×1.25	3	29.8
25	22	6.6	25	15	8	3.2	54	40	M10×1.25	12	38.8
32	22	6.6	32	25	8	4	59	45	M10×1.25	5	51

Code Stroke I.D.	SA							ZC						
	15	25	50	75	100	125	150	15	25	50	75	100	125	150
16	110	120	160	200	240	/	/	121	131	171	211	251	/	/
20	140	150	200	250	300	350	400	146	156	206	256	306	356	406
25	140	150	200	250	300	350	400	155	165	215	265	315	365	415
32	160	170	220	270	320	370	420	162	172	222	272	322	372	422

MINIATURE CYLINDERS

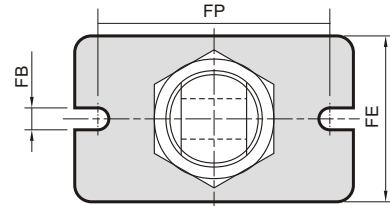
FA / FB



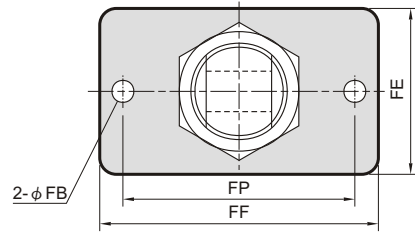
Code Tube I.D.	A	FB	FE	FF	FP	FR	FT	KK	W
16	16	5.5	26	52	40		3.2	M6×1.0	18.8
20	20	6.6	38	64	50		4.5	M8×1.25	13.5
25	22	6.6	38	64	50		4.5	M10×1.25	22.5
32	22	6.6	47	72	58	33	4.5	M10×1.25	25.5

Code Stroke I.D.	ZC							ZF						
	15	25	50	75	100	125	150	15	25	50	75	100	125	150
16	121	131	171	211	251			109.2	119.2	159.2	199.2	239.2		
20	146	156	206	256	306	356	406	132.5	142.5	192.5	242.5	292.5	342.5	392.5
25	155	165	215	265	315	365	415	141.5	151.5	201.5	251.5	301.5	351.5	401.5
32	162	172	222	272	322	372	422	144.5	154.5	204.5	254.5	304.5	354.5	404.5

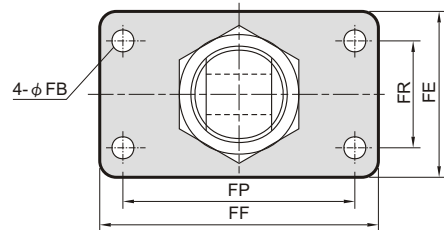
MCMA- $\phi 16$



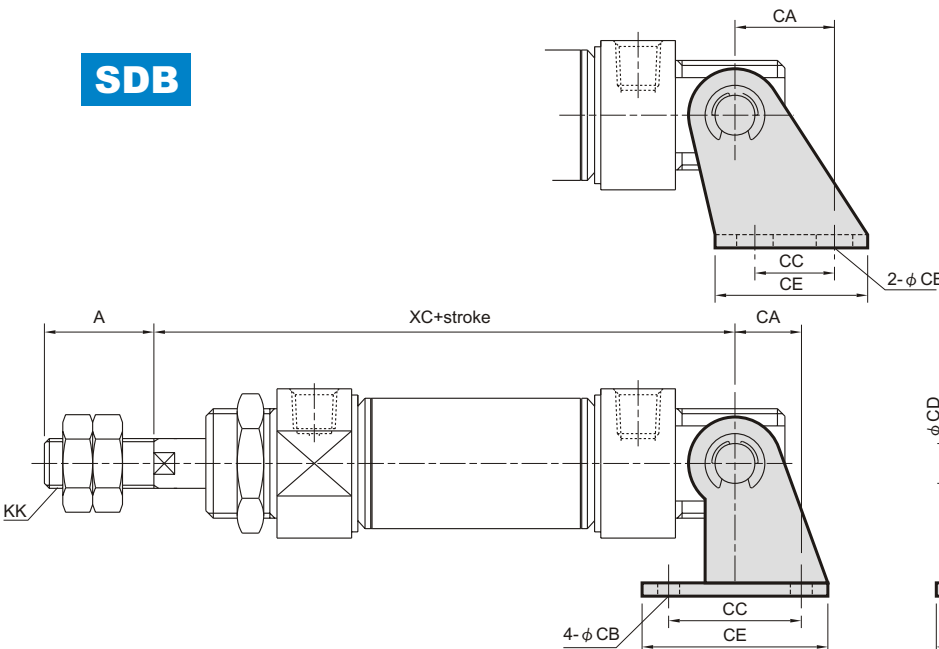
MCMA- $\phi 20, \phi 25$



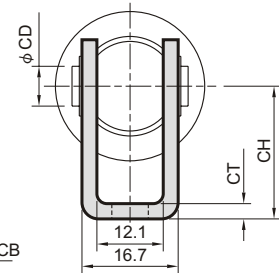
MCMA- $\phi 32$



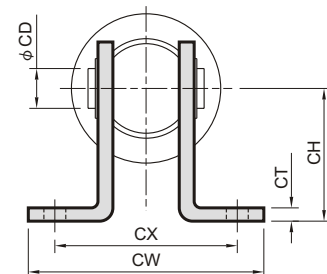
SDB



MCMA- $\phi 16$



MCMA- $\phi 20 \sim \phi 32$



Code Tube I.D.	A	CA	CB	CC	CD	CE	CH	CT	CX	CW	KK
16	16	15	5.5	12	6	23	20	2.3			M6×1.0
20	20	16	6.6	32	8	48	32	3.2	51	67	M8×1.25
25	22	16	6.6	32	8	48	32	3.2	51	67	M10×1.25
32	22	18	6.6	36	10	52	36	4	51	67	M10×1.25

Code Stroke I.D.	XC						
	15	25	50	75	100	125	150
16	107	117	157	197	257		
20	139	149	199	249	299	349	399
25	141	151	172	222	272	322	372
32	142	152	173	223	273	323	373

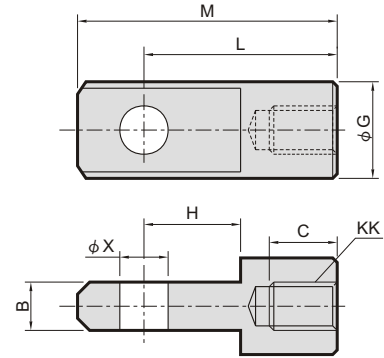
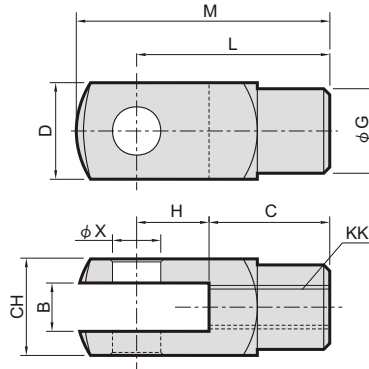
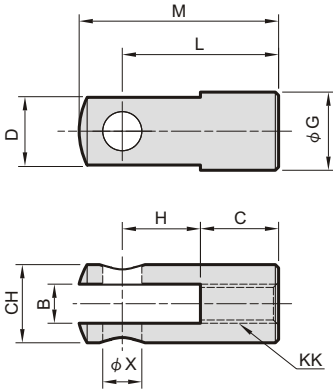
MINIATURE CYLINDERS

Y connector

I connector

$\phi 8 \sim \phi 16$

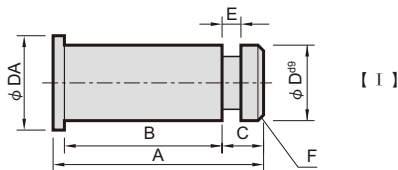
$\phi 20 \sim \phi 40$



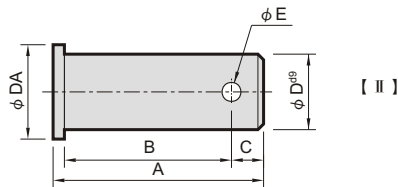
Code Tube I.D.	B		C		CH		D		G		H		KK		L		M		X ^{H9}
	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	Y	I	
8,10	4 ^{+0.4} _{+0.1}		8		8		8				8		M4×0.7		16		20.75		4 ^{+0.03} ₊₀
12,16	6 ^{+0.4} _{+0.1}	6 ^{-0.2} _{-0.3}	12	8	12				12	12	12	10	M6×1		24	21	31	28	6 ^{+0.03} ₊₀
20	8 ^{+0.5} _{+0.15}	8 ^{-0.1} _{-0.2}	16	14	16			16		14	16	12	M8×1.25		32	32	42	42	8 ^{+0.036} ₊₀
25,32	10 ^{+0.5} _{+0.15}	10 ^{-0.1} _{-0.2}	20	17	19			19		18	20	15	M10×1.25		40	40	52	52	10 ^{+0.036} ₊₀
40	12 ^{+0.5} _{+0.15}	12 ^{-0.1} _{-0.2}	24	21	22			22		20	24	18	M12×1.25		48	48	62	62	12 ^{+0.043} ₊₀

Pin

$\phi 8 \sim \phi 16$

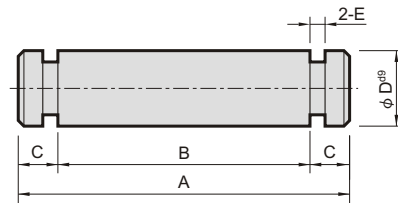
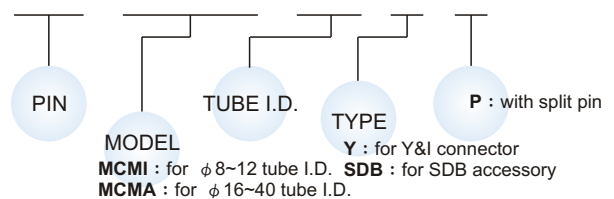


$\phi 20 \sim \phi 40$



Order example

PIN – MCMA – 16 – Y – P



for Y & I connector

Code Tube I.D.	A	B	C	D ^{#9}	DA	E	Split pin
8,10	12	8.5	2	4 ^{-0.03} _{-0.06}	8	0.7	E3
12,16	18.5	15	2	6 ^{-0.03} _{-0.06}	10	0.7	E4
20	24.5	20.5	2.5	8 ^{-0.04} _{-0.08}	12	$\phi 2.5$	2.5×16L
25,32	30	25	3.5	10 ^{-0.04} _{-0.08}	14	$\phi 3.2$	3.2×20L
40	37	30	5	12 ^{-0.05} _{-0.09}	16	$\phi 3.2$	3.2×20L

for SDB

Code Tube I.D.	A	B	C	D ^{#9}	E	Split pin
8,10	18	14	2	4 ^{-0.03} _{-0.06}	0.7	E3.2
12	23.5	19.5	2	6 ^{-0.03} _{-0.06}	0.7	E5
16	21	17	2	6 ^{-0.03} _{-0.06}	0.7	E5
20,25	30	25	2.5	8 ^{-0.04} _{-0.08}	0.9	E7
32	33	27	3	10 ^{-0.04} _{-0.08}	0.9	E9
40	37	31	3	12 ^{-0.05} _{-0.09}	0.9	E9