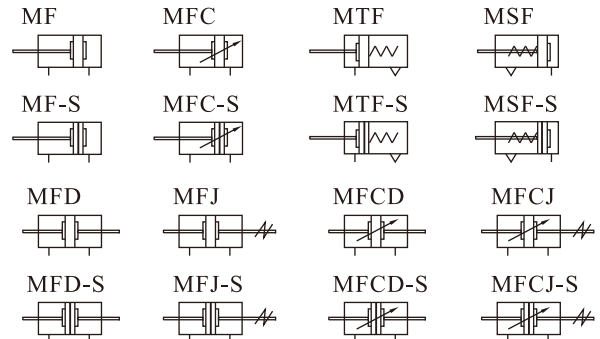




Product feature

1. JIS standard is implemented.
2. Piston adopts heterogeneous two way seal structure.
It has compact size and has the function of oil reservation.
3. Front cover owns fixed anti-impact pad which can reduce the impact of direction-change of the cylinder.
4. There are several modes of back cover, which makes the installation of cylinder more convenient.
5. Front and back cover and stainless steel block adopt riveted rolling packed structure to form a reliable connection.
6. The cylinder body has stainless steel pipes with high precision to produce high strength and corrosion resistance.
7. With the same bore size and stroke, cylinders of MF series are shorter than ISO6432 standard cylinders.
8. There are cylinders and mounting accessories with several specifications for your choice.

Symbol



Specification

Bore size(mm)		20	25	32	40
Acting type		Double acting, Double acting with cushion, Single acting			
Fluid		Air(to be filtered by 40μm filter element)			
Operating pressure	Double acting	0.15~1.0MPa(22~145psi)(1.5~10.0bar)			
	Single acting	0.2~1.0MPa(28~145psi)(2.0~10.0bar)			
Proof pressure		1.5MPa(215psi)(15bar)			
Temperature °C		-20~70			
Speed range mm/s		Double acting:30~800 Single acting:50~800			
Stroke tolerance		0~150 >150			
Cushion type		MFC/MFCD/MFCJ Series: Variable cushion; Other series: Bumper			
Port size [Note1]		1/8"			1/4"

[Note1] PT thread, G thread and NPT thread are available.

Standard Stroke

Bore size(mm)		Standard stroke (mm)																							Max.std stroke	Max. stroke
MF MFC	20	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	800	
	25	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	800	
	32	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	800	
	40	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	800	
MFD MFCD MFJ MFCJ	20	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300					300	-	
	25	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300					300	-	
	32	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	-	
	40	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	-	
MSF MTF	20	10	15	20	25	30	40	50	60	75	80	100	125	150										-	-	
	25	10	15	20	25	30	40	50	60	75	80	100	125	150										-	-	
	32	10	15	20	25	30	40	50	60	75	80	100	125	150										-	-	
	40	10	15	20	25	30	40	50	60	75	80	100	125	150										-	-	

[Note] Consult us for non-standard stroke.

Ordering code

MF - 32 × 50		-S-CM-		□	-□		
MFD- 32 × 50		-S		□	-□		
MFJ- 32 × 50 -20 -S				□	-□		
①	②	③	④	⑤	⑥	⑦	⑧

⑥ Back cover

Back cover	Series
CA: Pivot type	MF MFC
U: Flat-end type	MSF MTF
CM: Round-end type	
No this code	Others

⑦ Mounting type

Mounting type	Series
Blank: No accessories	
FA: FA type	MF
SDB: SDB type	MFC
LB: LB type	MSF
TC: TC type	MTF
Blank: No accessories	MFD
FA: FA type	MFCD
LB: LB type	MFJ
TC: TC type	MFCJ

⑧ Thread type

Blank: G thread
PT: PT thread
NPT: NPT thread

① Model

MF: Mini cylinder(Double acting)
MFC: Mini cylinder(Double acting with cushion)
MSF: Mini cylinder(Single acting_push)
MTF: Mini cylinder(Single acting_pull)
MFD: Mini cylinder(Double rod)
MFCD: Mini cylinder(Double rod with cushion)
MFJ: Mini cylinder(Adjustable stroke)
MFCJ: Mini cylinder(Adjustable stroke with cushion)

② Bore size

20 25 32 40

③ Stroke

Refer to stroke table for details

④ Adjustable stroke

Series	Adjustable stroke
	10: 10mm
	20: 20mm
	30: 30mm
MFJ series	40: 40mm
MFCJ series	50: 50mm
	75: 75mm
	100: 100mm
Others series	No this code

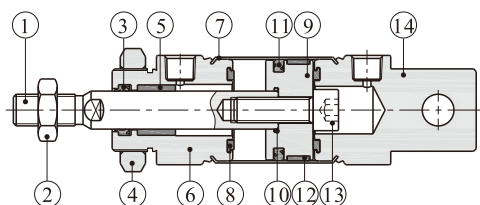
⑤ Magnet

Blank: Without magnet
S: With magnet

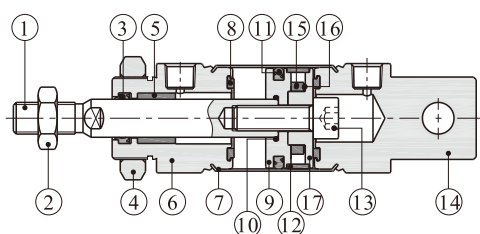
[Note1] Please refer to page 74~76 for accessory parts.

Inner structure and material of major parts

Double acting without magnet type



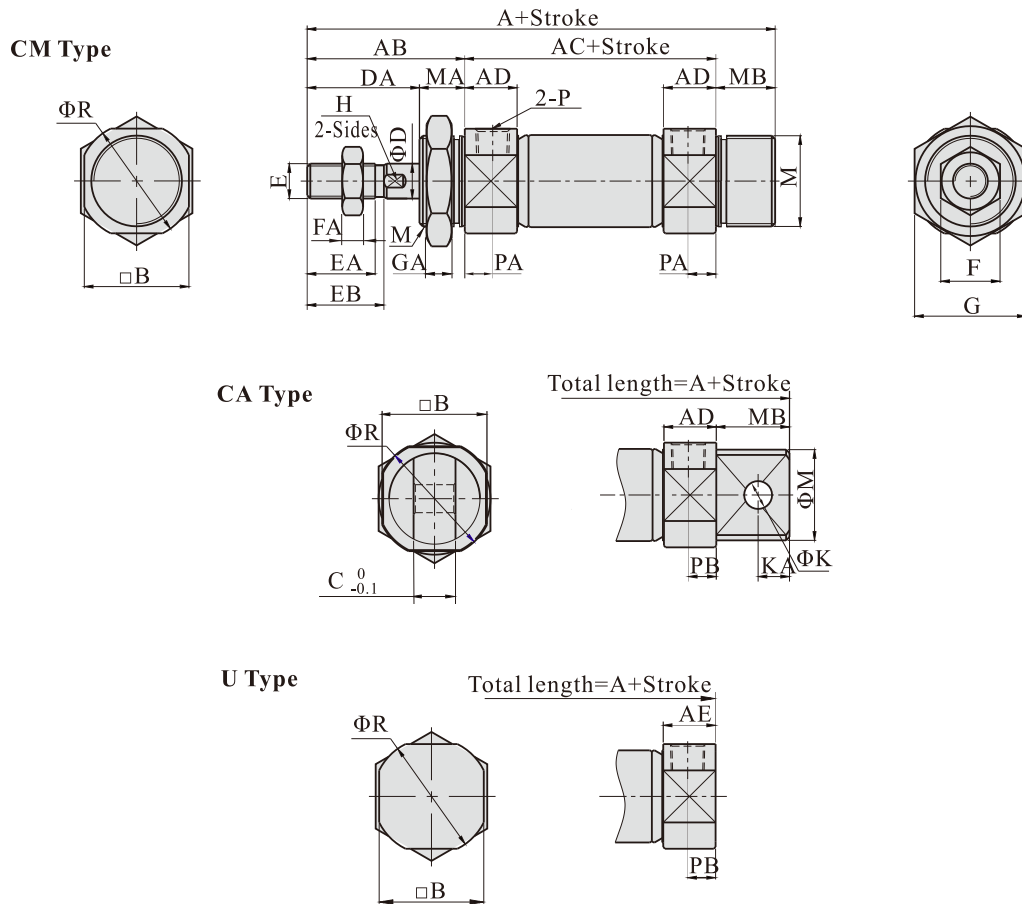
Double acting with magnet



NO.	Item	Material
1	Piston rod	Carbon steel with 20μm chrome plated
2	Rod nut	Carbon steel
3	Front cover packing	NBR
4	Front cover nut	Carbon steel
5	Bushing	Wear resistant material
6	Front cover	Aluminum alloy
7	Barrel	SUS304
8	Bumper	TPU
9	Piston	Aluminum alloy
10	O-ring	NBR
11	Piston seal	NBR
12	Wear ring	Wear resistant material
13	Screw	Carbon steel
14	Back cover	Aluminum alloy
15	Magnet	Sintered metal (Neodymium-iron-boron)
16	Magnet washer	NBR
17	Magnet holder	Aluminum alloy

Dimensions

MF\MFC



Bore size\Item	A			AB	AC	AD	AE	B	C	M		MA	MB	
	CM	CA	U							CM	CA		CA	CM
20	116	124	103	41	62	14.5	14.5	25	12	M20×1.5	20	14	21	13
25	120	128	108	45	62	14.5	15.5	30	12	M26×1.5	26	14	21	13
32	122	136	110	45	64	14.5	15.5	34.5	20	M26×1.5	26	14	27	13
40	154	165	138.5	50	88	21.5	22	42.5	20	M32×2.0	32	16	27	16

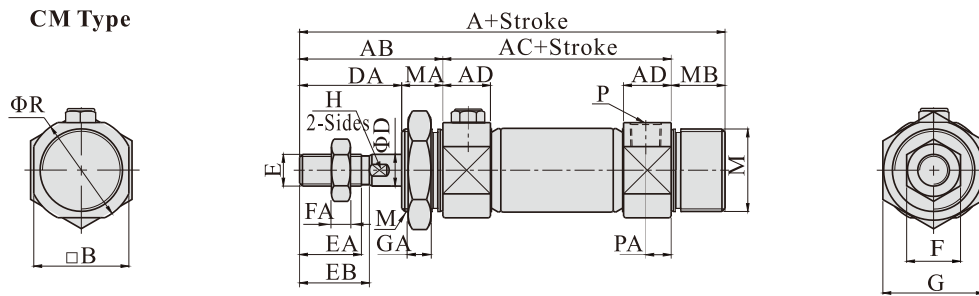
Bore size\Item	D	DA	E	EA	EB	F	FA	G	GA	H	K	KA	P	PA	PB	R
20	8	27	M8×1.25	16.5	18	12	6	26	8	6	8	9	1/8"	7.5	7.5	29
25	10	31	M10×1.25	20.5	22	17	6	32	8	8	8	9	1/8"	7.5	8	33.5
32	12	31	M10×1.25	20.5	22	17	6	32	8	10	10	12	1/8"	7.5	8	37.5
40	16	34	M14×1.5	22.5	24	19	8	41	10	14	10	12	1/4"	11	11.5	46.5

Remark:

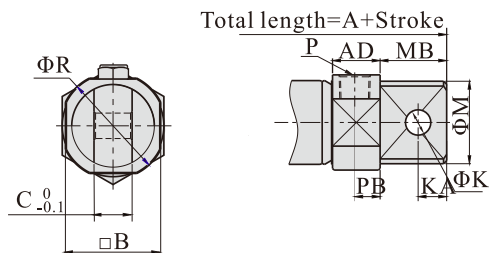
1. The dimensions of magnet type cylinder are the same as non-magnet type cylinder.
2. The dimensions of MFC series are the same as MF series.

MSF

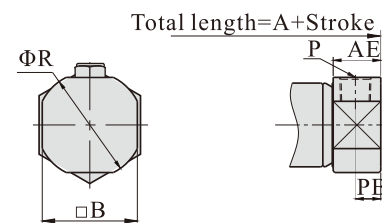
CM Type



CA Type



U Type



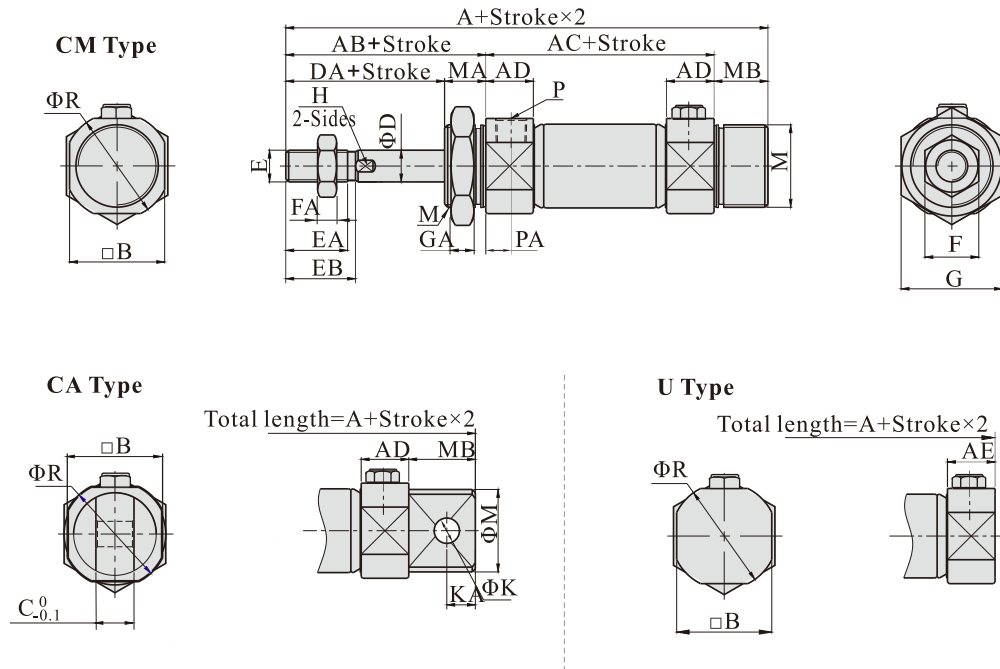
Bore size\Item	A									AC		
Back cover	CM			CA			U			-		
Stroke	1~50	51~100	101~150	1~50	51~100	101~150	1~50	51~100	101~150	1~50	51~100	101~150
20	141	166	191	149	174	199	128	153	178	87	112	137
25	145	170	195	153	178	203	133	158	183	87	112	137
32	147	172	197	161	186	211	135	160	185	89	114	139
40	179	204	229	190	215	240	163.5	188.5	213.5	113	138	163

Bore size\Item	AB	AD	AE	B	C	D	DA	E	EA	EB	F	FA	G	GA	H	K	KA
20	41	14.5	14.5	25	12	8	27	M8×1.25	16.5	18	12	6	26	8	6	8	9
25	45	14.5	15.5	30	12	10	31	M10×1.25	20.5	22	17	6	32	8	8	8	9
32	45	14.5	15.5	34.5	20	12	31	M10×1.25	20.5	22	17	6	32	8	10	10	12
40	50	21.5	22	42.5	20	16	34	M14×1.5	22.5	24	19	8	41	10	14	10	12

Bore size\Item	M		MA	MB		P	PA	PB	R
Back cover	CM	CA		CA	CM				
20	M20×1.5	20	14	21	13	1/8"	7.5	7.5	29
25	M26×1.5	26	14	21	13	1/8"	7.5	8	33.5
32	M26×1.5	26	14	27	13	1/8"	7.5	8	37.5
40	M32×2.0	32	16	27	16	1/4"	11	11.5	46.5

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

MTF



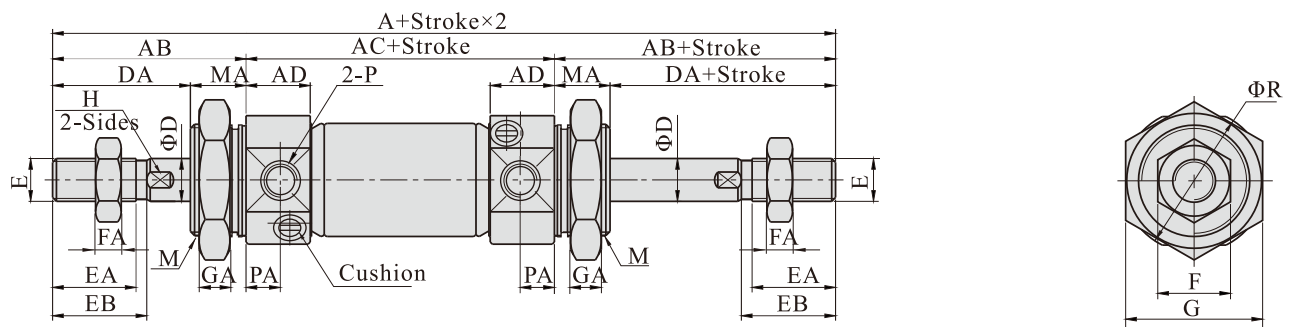
Bore size\Item	A									AC		
Back cover	CM			CA			U			-		
Stroke	1~50	51~100	101~150	1~50	51~100	101~150	1~50	51~100	101~150	1~50	51~100	101~150
20	141	166	191	149	174	199	128	153	178	87	112	137
25	145	170	195	153	178	203	133	158	183	87	112	137
32	147	172	197	161	186	211	135	160	185	89	114	139
40	179	204	229	190	215	240	163.5	188.5	213.5	113	138	163

Bore size\Item	M		MA	MB		AB	AD	AE	B	C	D	DA	E	EA
Back cover	CM	CA	-	CA	CM									
20	M20×1.5	20	14	21	13	41	14.5	14.5	25	12	8	27	M8×1.25	16.5
25	M26×1.5	26	14	21	13	45	14.5	15.5	30	12	10	31	M10×1.25	20.5
32	M26×1.5	26	14	27	13	45	14.5	15.5	34.5	20	12	31	M10×1.25	20.5
40	M32×2.0	32	16	27	16	50	21.5	22	42.5	20	16	34	M14×1.5	22.5

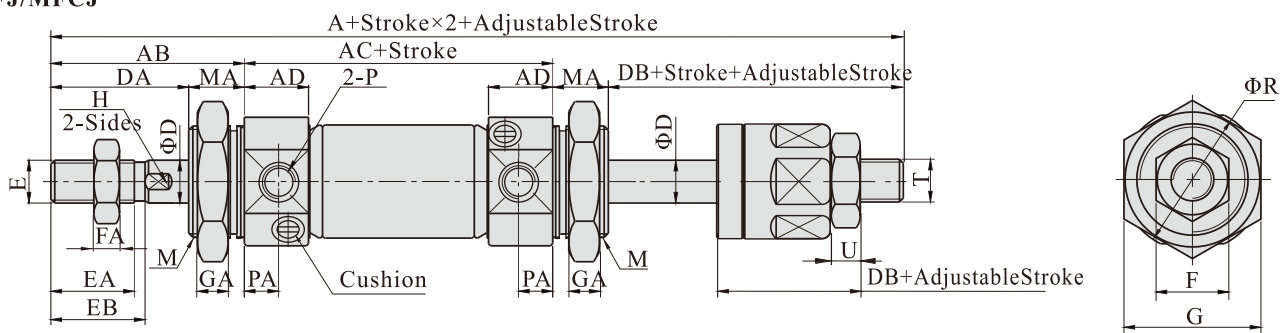
Bore size\Item	EB	F	FA	G	GA	H	K	KA	P	PA	R
20	18	12	6	26	8	6	8	9	1/8"	7.5	29
25	22	17	6	32	8	8	8	9	1/8"	7.5	33.5
32	22	17	6	32	8	10	10	12	1/8"	7.5	37.5
40	24	19	8	41	10	14	10	12	1/4"	11	46.5

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

MFD/MFCD



MFJ/MFCJ



Bore size\Item	A		AB	AC	AD	D	DA	DB	E	EA	EB
Back cover	MFD\MFCD	MFJ\MFCJ									
20	144	141	41	62	14.5	8	27	24	M8×1.25	16.5	18
25	152	148	45	62	14.5	10	31	27	M10×1.25	20.5	22
32	154	150	45	64	14.5	12	31	27	M10×1.25	20.5	22
40	188	182	50	88	21.5	16	34	28	M14×1.5	22.5	24

Bore size\Item	F	FA	G	GA	H	M	MA	P	PA	R	T	U
Back cover												
20	12	6	26	8	6	M20×1.5	14	1/8"	7.5	29	M8×1.25	5
25	17	6	32	8	8	M26×1.5	14	1/8"	7.5	33.5	M10×1.25	6
32	17	6	32	8	10	M26×1.5	14	1/8"	7.5	37.5	M10×1.25	6
40	19	8	41	10	14	M32×2.0	16	1/4"	11	46.5	M12×1.25	7

Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

List for ordering code of accessories

Accessories Bore size	Mounting accessories				Knuckle				Sensor switch		
	LB	FA	TC	SDB	I	Y	F	U	CMSG	DMSG	EMSG
20	F-MF20LB	F-MF20FA	F-MF20TC	F-MF20SDB	F-MF20I	F-MF20Y	F-M8X125F	F-M8X125U	CMSG	DMSG	EMSG
25	F-MF32LB	F-MF32FA	F-MF32TC		F-MF25I	F-MF25Y	F-M10X125F	F-M10X125U			
32	F-MF40LB	F-MF40FA	F-MF40TC	F-MF32SDB	F-MF40I	F-MF40Y	F-M14X150F	F-M14X150U			
40	F-MF40LB	F-MF40FA	F-MF40TC		F-MF40I	F-MF40Y	F-M14X150F	F-M14X150U			

Accessory selection

Accessories Cylinder model		Mounting accessories				Knuckle				Sensor switch		
		LB	FA	SDB	TC	I	Y	U [1]	F	CMSG	DMSG	EMSG
MF MFC	Standard	●	●	●	●	●	●	●	●	×	×	×
	With magnet	●	●	●	●	●	●	●	●	●	●	●
MSF MTF	Standard	●	●	●	●	●	●	●	●	×	×	×
	With magnet	●	●	●	●	●	●	●	●	●	●	●
MFD MFCJ	Standard	●	●	×	●	●	●	●	●	×	×	×
	With magnet	●	●	×	●	●	●	●	●	●	●	●
MFJ MFCJ	Standard	●	●	×	●	●	●	●	●	×	×	×
	With magnet	●	●	×	●	●	●	●	●	●	●	●

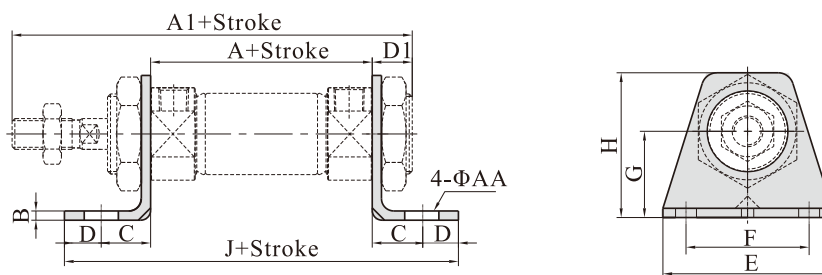
Accessory selection

Bore size/Accessories	Mounting accessories				Knuckle			
	LB	FA	SDB	TC	I	Y	F	U
20~40	△	△	△	■	□	□	□	□

■——Cast steel; □——SPCC; □——Carbon steel

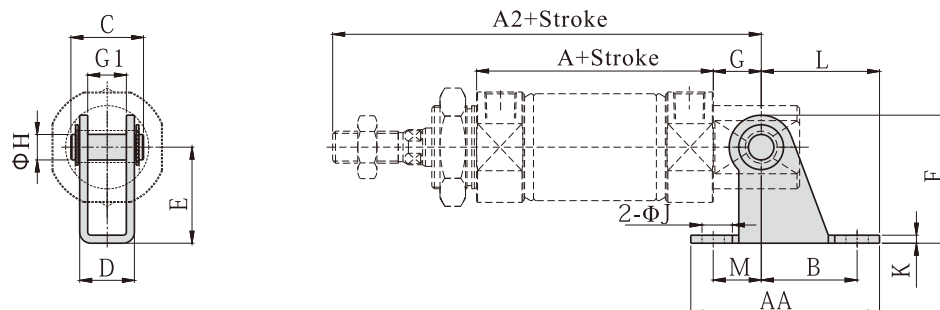
Dimensions

LB type



Bore size\Item	A	A1	AA	B	C	D	D1	E	F	G	H	J
20	62	116	7	3	20	8	13	55	40	25	40	118
25	62	120	7	3.5	20	8	13	55	40	28	47	118
32	64	122	7	3.5	20	8	13	55	40	28	47	120
40	88	154	7	3.5	23	10	16	75	55	30	54	154

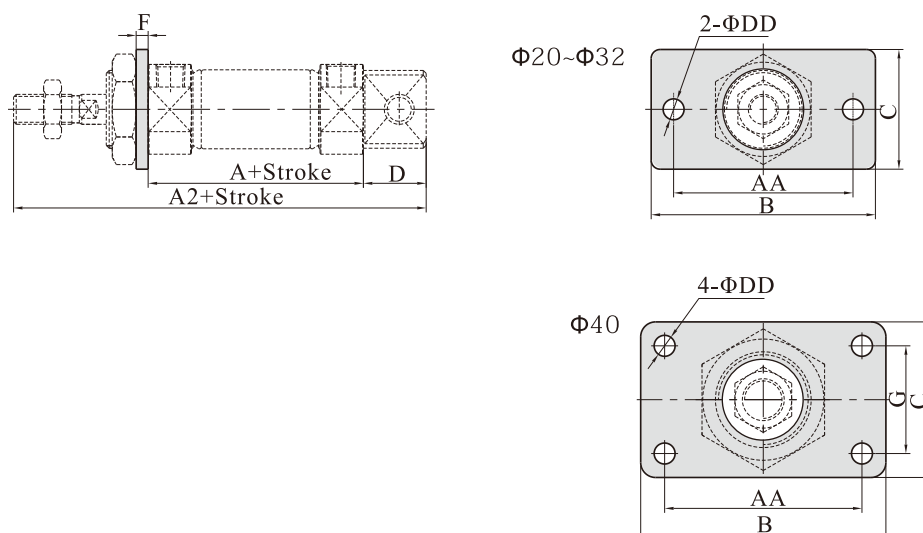
SDB type



Bore size\Item	A	A2	AA	B	C	D	E	F	G	G1	H	K	J	L	M
20	62	115	59	30	22.7	17.1	30	40	12	12.1	8	2.5	7	37	15
25	62	119	59	30	22.7	17.1	30	40	12	12.1	8	2.5	7	37	15
32	64	124	75	40	32.7	26.1	40	53	15	20.1	10	3	9	50	15
40	88	153	75	40	32.7	26.1	40	53	15	20.1	10	3	9	50	15

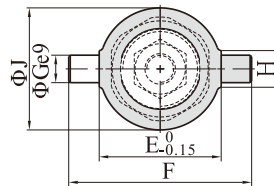
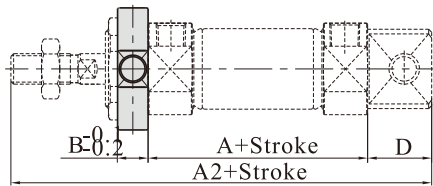
[Note] SDB is attached with relevant PIN.

FA type

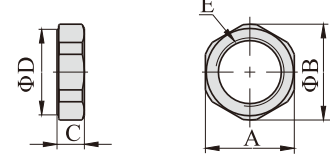


Bore size\Item	A	A2	AA	B	C	D	DD	F	G
20	62	124	60	75	34	21	7	3.5	-
25	62	128	60	75	40	21	7	4	-
32	64	136	60	75	40	27	7	4	-
40	88	165	66	82	52	27	7	4	36

TC type



Special nut for TC

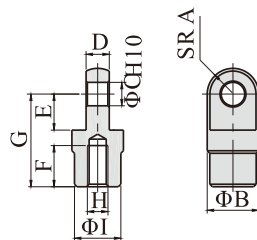


Bore size\Item	A	A2	B	D	E	F	G	H	J
20	62	124	10	21	32	52	8	12	32
25	62	128	10	21	40	60	9	12	40
32	64	136	10	27	40	60	9	12	40
40	88	165	11	27	53	77	10	14	53

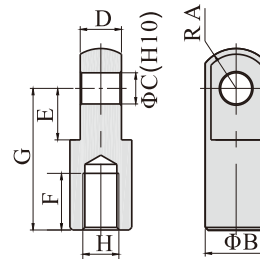
Bore size\Item	A	B	C	D	E
20	26	28	8	25	M20×1.5
25	32	34	8	31	M26×1.5
32	32	34	8	31	M26×1.5
40	41	45	10	40	M32×2.0

I Knuckle

F-MF20I, F-MF25I



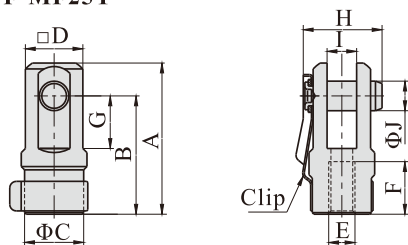
F-MF40I



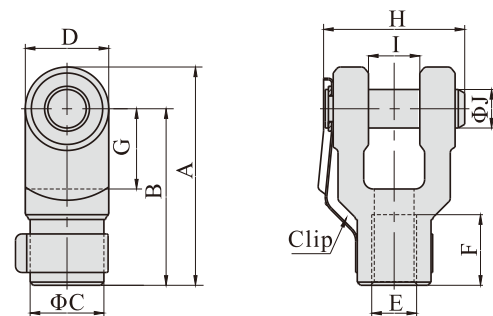
Type\Item	A	B	C	D	E	F	G	H	I
F-MF20I	9.5	20	9	9	14	16	36	M8×1.25	18
F-MF25I	9.5	20	9	9	14	18	38	M10×1.25	18
F-MF40I	15	24	12	16	20	22	55	M14×1.5	-

Y Knuckle

F-MF20Y F-MF25Y



F-MF40Y



Type\Item	A	B	C	D	E	F	G	H	I	J
F-MF20Y	46	36	18	17.5	M8×1.25	16	16	24	9	9
F-MF25Y	48	38	18	17.5	M10×1.25	18	16	24	9	9
F-MF40Y	68	55	23	26	M14×1.5	22	25	44	16	12