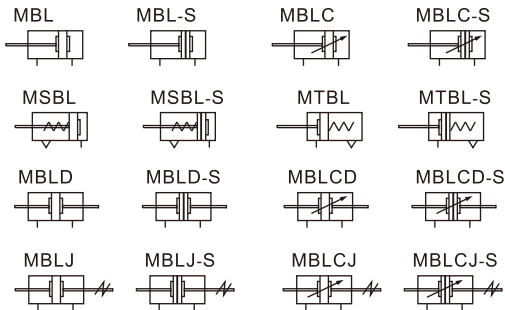


Mini cylinder(Aluminum barrel)

MBL Series



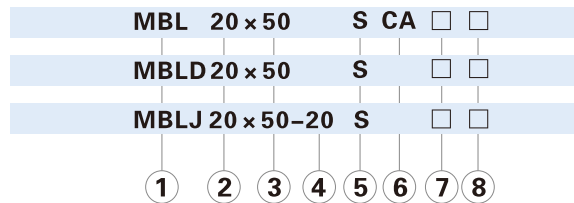
Symbol



Product feature

1. Manufactured by our enterprise.
2. Riveted structure is adopted to connect front and back cover and cylinder tube to make it credibility.
3. Piston adopts heterogeneous two-way seal structure. It has compact size and has the function of grease reservation.
4. There are several modes of back cover, which makes the installation of cylinder more convenient.
5. There are cylinders and mounting accessories with several specifications for your choice.

Ordering code



① Model	② Bore size	③ Stroke	④ Adjustable Stroke	⑤ Magnet	⑥ Back cover	⑦ Mounting type [Note1]	⑧ Thread type
MBL: Mini cylinder(Double acting)	20 25 32	Refer to stroke table for details	No this code	Blank: Without magnet S: With magnet	CA: Pivot type U: Flat-end type	Blank: No accessories FA: FA type SDB: SDB type LB: LB type	Blank: PT G: G T: NPT
MBLC: Mini cylinder(Double acting with cushion)	40 50 63						
MSBL: Mini cylinder(Single acting_push)	20 25 32 40						
MTBL: Mini cylinder(Single acting_pull)			10 20 30 40 50 75 100		No this code		
MBLD: Mini cylinder(Double rod)							
MBLCD: Mini cylinder(Double rod with cushion)	20 25 32						
MBLJ: Mini cylinder(Adjustable stroke)	40 50 63						
MBLCJ: Mini cylinder(Adjustable stroke with cushion)							

[Note1] Please refer to page 106~107 for accessory parts.

Specification

Bore size(mm)		20	25	32	40	50	63
Acting type	MSBL/MTBL	Single acting					-
	MBL/MBLD/MBLJ	Double acting					-
	MBLC/MBLCD/MBLCJ	Double acting with cushion					-
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		-20~70					
Speed range mm/s		Double acting □ 30~800					Single acting □ 50~800
Stroke tolerance		0~150 ^{+1.0} ₀					>150 ^{+1.5} ₀
Cushion type		MBLC, MBLCD, MBLCDJ: Adjustable cushion; Others: Bumper					
Port size [Note1]		1/8"					1/4"

[Note1] PT thread, G thread and NPT thread are available.
Add) Refer to P338 for detail of sensor switch.

Stroke

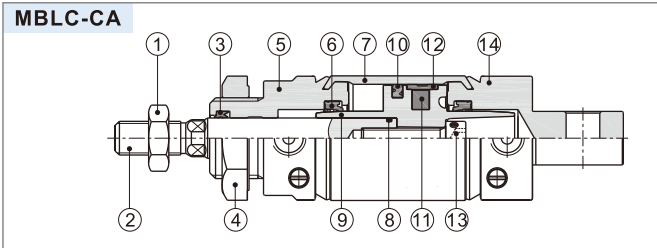
Bore size (mm)		Standard stroke (mm)																				Max.std stroke	Max. stroke			
MBL MBLC	20/25	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	800	
	32/40	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	800	
	50/63	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	800	
MBLD MBLJ MBLCD MBLCJ	20/25	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	300	-	
	32/40	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	-	
	50/63	10	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	300	350	400	450	500	500	-	
MSBL	20/25	10	15	20	25	30	40	50	60	75	80	100	125	150											-	-
	32/40	10	15	20	25	30	40	50	60	75	80	100	125	150											-	-
MTBL	20/25	10	15	20	25	30	40	50	60	75	80	100													-	-
	32/40	10	15	20	25	30	40	50	60	75	80	100													-	-

[Note] Consult us for non-standard stroke.

Mini cylinder(Aluminum barrel)

MBL Series

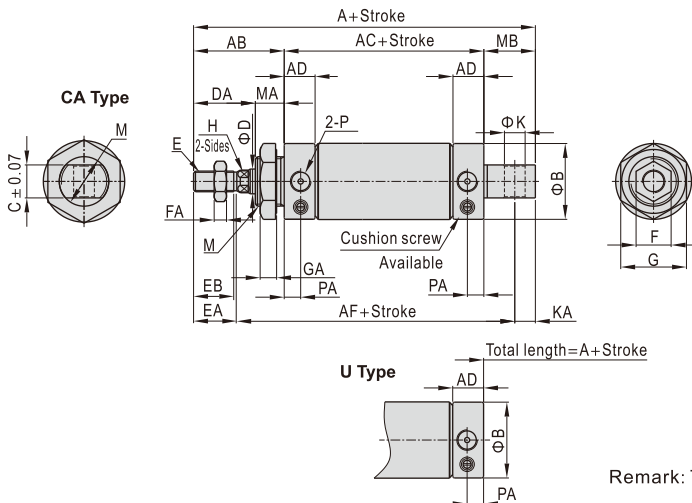
Inner structure and material of major parts



NO.	Item	Material
1	Rod nut	Carbon steel
2	Piston rod	Carbon steel with 20 μ m chrome plated
3	Front cover packing	NBR
4	Front cover nut	Carbon steel
5	Front cover	Aluminum alloy
6	Bumper	TPU
7	Barrel	Aluminum alloy
8	O- ring	NBR
9	Piston	Aluminum alloy
10	Piston seal	NBR
11	Magnet	Plastic
12	Wear ring	Wear resistant material
13	Bolt	Carbon steel
14	Back cover	Aluminum alloy

Dimensions

MBL/MBLC

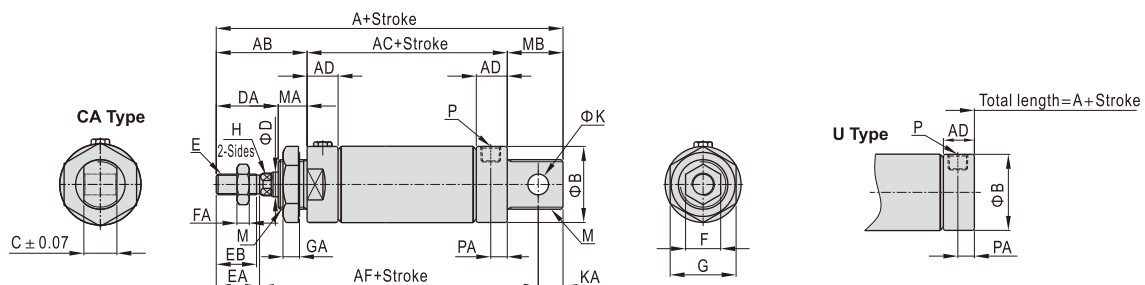


Bore size\Item	A		AB	AC	AD	AF	B	C	D	DA	M	MA	MB
	CA	U											
20	131	110	40	70	15.5	102	27	16	8	26	M22 × 1.5	14	21
25	135	114	44	70	15.5	105	30	16	10	30	M22 × 1.5	14	21
32	141	114	44	70	15.5	108	37	16	12	28	M24 × 2.0	16	27
40	165	138	46	92	22	130.5	45	20	16	30	M30 × 2.0	16	27
50	173	146	54	92	22	138	55	20	16	32	M36 × 2.0	22	27
63	173	146	54	92	22	138	68	20	16	32	M36 × 2.0	22	27

Bore size\Item	E	EA	EB	F	FA	G	GA	H	P	K	KA	PA
20	M8 × 1.25	20	18.5	12	6	29	7	6	1/8"	8	9	7.5
25	M10 × 1.25	21	19.5	17	6	29	7	8	1/8"	8	9	7.5
32	M10 × 1.25	21	19.5	17	6	32	8	10	1/8"	10	12	7.5
40	M12 × 1.25	22.5	21	17	7	41	9	14	1/4"	12	12	11
50	M14 × 1.5	24	22.5	19	8	46	11	14	1/4"	12	11	11
63	M14 × 1.5	24	22.5	19	8	46	11	14	1/4"	12	11	11

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

MSBL



Item	A						AB	AC			AD	AF			B	C
Back cover	CA			U												
Bore size\Stroke	≤50	51~100	≥101	≤50	51~100	≥101		≤50	51~100	≥101		≤50	51~100	≥101		
20	156	181	206	135	160	185	40	95	120	145	15.5	127	152	177	27	16
25	160	185	210	139	164	189	44	95	120	145	15.5	130	155	180	30	16
32	166	191	216	139	164	189	44	95	120	145	15.5	133	158	183	37	16
40	190	215	240	163	188	213	46	117	142	167	22	155.5	180.5	205.5	45	20

Bore size\Item	D	DA	E	EA	EB	F	FA	G	GA	H	K	KA	M	MA	MB	P	PA
20	8	26	M8×1.25	20	18.5	12	6	29	7	6	8	9	M22×1.5	14	21	1/8"	7.5
25	10	30	M10×1.25	21	19.5	17	6	29	7	8	8	9	M22×1.5	14	21	1/8"	7.5
32	12	28	M10×1.25	21	19.5	17	6	32	8	10	10	12	M24×2.0	16	27	1/8"	7.5
40	16	30	M12×1.25	22.5	21	17	7	41	9	14	12	12	M30×2.0	16	27	1/4"	11

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

AirTAC

Mini cylinder(Aluminum barrel)

MBL Series—Accessories

List for ordering code of accessories

Accessories	Mounting accessories			Knuckle				Sensor switch	
Bore size	LB	FA	SDB	I	Y	F	U	CMSG	DMSG(S)
20	F-MA20LB	F-MA20FA	F-MA20SDB	F-MA20I	F-MA20Y	F-M8X125F	F-M8X125U	CMSG	DMSG(S)
25				F-MA25I	F-MA25Y	F-M10X125F	F-M10X125U		
32	F-MA32LB	F-MA32FA	F-MA32SDB	F-MA40I	F-MA40Y	F-M12X125F	F-M12X125U		
40	F-MA40LB	F-MA40FA	F-MA40SDB						
50	F-MA50LB	F-MA50FA							
63	F-MA63LB		F-MAC50I	F-MAC50Y	F-M14X150F	F-M14X150U			

Accessory selection

Accessories		Mounting accessories			Knuckle[Note1]				Sensor switch	
Cylinder model		LB	FA	SDB	I	Y	U	F	CMSG	DMSG(S)
MBL	Standard	●	●	●	●	●	●	●	×	×
MBLC	With magnet	●	●	●	●	●	●	●	●	●
MSBL	Standard	●	●	●	●	●	●	●	×	×
MTBL	With magnet	●	●	●	●	●	●	●	●	●
MBLD	Standard	●	●	×	●	●	●	●	×	×
MBLCD	With magnet	●	●	×	●	●	●	●	●	●
MBLJ	Standard	●	●	×	●	●	●	●	×	×
MBLCJ	With magnet	●	●	×	●	●	●	●	●	●

Material of accessories

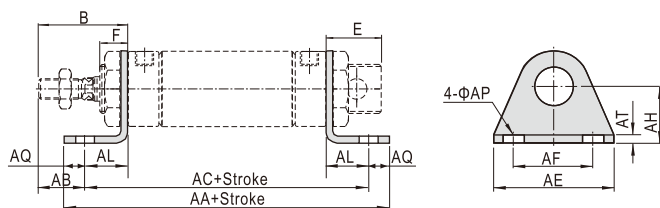
Accessories		Mounting accessories			Knuckle			
Bore size		LB	FA	SDB	I	Y	F	U
20~63		○	○	○	□	□	□	□

○—Lower carbon steel; □—Carbon steel;

[Note1] Please refer to P334~337 for knuckle detail.

Dimensions

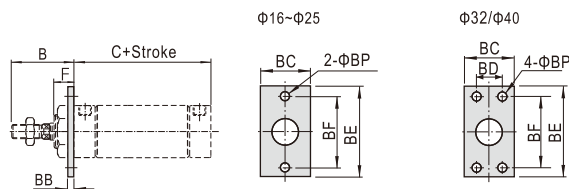
LB



Bore size\Item	Stroke	AA	AA(MSBL)			AC	AC(MSBL)		
		(MBL)	0~50	51~100	101~150	(MBL)	0~50	51~100	101~150
20		116	141	166	191	100	125	150	175
25		116	141	166	191	100	125	150	175
32		136	161	186	211	120	145	170	195
40		158	183	208	233	142	167	192	217
50		172	-	-	-	148	-	-	-
63		180	-	-	-	154	-	-	-

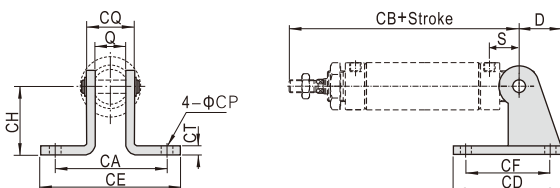
Bore size\Item	B	E	F	AB	AE	AF	AL	AQ	AP	AT	AH
20	40	21	14	25	54	40	15	8	6.5	3	25
25	44	21	14	29	54	40	15	8	6.5	3	25
32	44	27	16	19	59	45	25	8	7	3.5	32
40	46	27	16	21	64	50	25	8	7	3.5	36
50	54	27	22	26	86	66	28	12	11	4.5	40
63	54	27	22	23	106	82	31	13	11	4.5	45

FA



Bore size\Item	Stroke	B	C	C(MSBL)			BB	BC	BD	BE	BF	BP	F
		(MBL)	0~50	51~100	101~150								
20		40	70	95	120	145	3.5	38	-	64	50	7	14
25		44	70	95	120	145	3.5	38	-	64	50	7	14
32		44	70	95	120	145	4	47	33	72	58	6.5	16
40		46	92	117	142	167	4	50	36	84	70	6.5	16
50		54	92	-	-	-	4.5	65	47	104	86	9	22
63		54	92	-	-	-	4.5	65	47	104	86	9	22

SDB



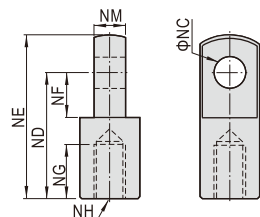
Bore size\Item	Stroke	D	S	Q	CA	CB	CB(MSBL)			CD	CE	CF	CH	CT	CP	CQ
		(MBL)	0~50	51~100	101~150											
20		21	12	16	51	122	147	172	197	48	67	32	32	2.5	7	22
25		21	12	16	51	126	151	176	201	48	67	32	32	2.5	7	22
32		27	15	16	51	129	154	179	204	52	67	36	36	3	7	24
40		27	15	20	55	153	178	203	228	56	71	40	40	3	7	28

[Note] SDB is attached with relevant PIN.

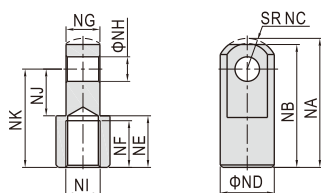
Mini cylinder(Aluminum barrel)

MBL Series—Accessories

I Knuckle

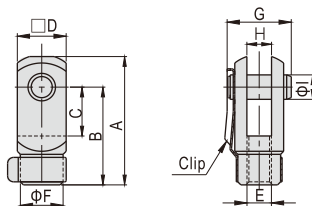


Type\Item	NC	ND	NE	NF	NH	NG	NM
F-MA20I	8	30	40	11	M8×1.25	15	8
F-MA25I	10	40	50	15	M10×1.25	20	10
F-MA40I	10	45	57	16	M12×1.25	23	14

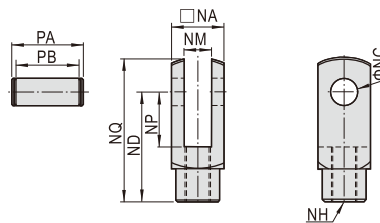


Type\Item	NA	NB	NC	ND	NE	NF	NG	NH	NJ	NK	NI
F-MAC50I	52.5	50	12.5	22	21	19	13.8	10	19	40	M14×1.5

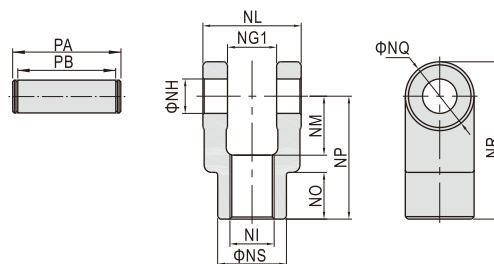
Y Knuckle



Type\Item	A	B	C	D	E	F	G	H	I
F-MA20Y	42	32	16	16	M8×1.25	14	21	8	8
F-MA25Y	52	40	20	19	M10×1.25	18	25	10	10



Type\Item	NA	NC	ND	NP	NQ	NM	NH	PA	PB
F-MA40Y	25.4	10	45	20	57	14	M12×1.25	32	26.2



Type\Item	Ng1	NH	NI	NL	NM	NO	NP	NQ	NR	NS	PA	PB
F-MAC50Y	14.2	10	M14×1.5	27.8	19	17	40	22	51	22	34.6	28.8