Mini cylinder(Stainless steel)——MI Series

In accordance with ISO6432 standard

Product series

Series name	Mounting type	Acting type	Bore size	Collocation of sensor switch	Meno
	Basic LB FA SDB TC			CS1-M DS1-M CS1-F DS1-F CS1-U DS1-U	
Double acting type: MI Double acting with adj. cushion: MIC	● ● ● ● ●	Double acting Double acting(with adj; cushion)	8 10 12 16 20 25 32 40	● ● ● ● ● ●	The bore size of double acting with cushion type is Φ16~Φ40
Double rod type: MID, MICD	● ● ● ● ●			● ● ● ● ● ●	
Adjustable stroke type: MIJ, MICJ	● ● ● ● ●			● ● ● ● ● ●	
Single acting type: MSI, MTI	● ● ● ● ●	Single acting		● ● ● ● ● ●	
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MI

Installation and application

Please Click Page Code

1. When load changes in the work, the cylinder with abundant output capacity shall be selected.
2. Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion.
3. Necessary protection measure shall be taken in the environment with higher humidity, much dust or water drops, oil dust and welding dregs.
4. Dirty substances in the pipe must be eliminated before cylinder is connected with pipeline to prevent the entrance of particles into the cylinder.
5. The medium used by cylinder shall be filtered to 40 μ m or below.
6. Anti-freezing measure shall be adopted under low temperature environment to prevent moisture freezing.
7. The cylinder shall be carried out test run without load before application. Prior to run, buffer shall be turned to the minimum and gradually released to avoid the damage on cylinder caused by excessive impact.
8. The cylinder shall avoid the influence of side load in operation to maintain the normal work of cylinder and extend the service life.
9. If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface. Anti-dust caps shall be added in air inlet and outlet ports. The front and back cover can not be dismantled, which shall be especially noticed.

Criteria for selection: Cylinder thrust

Unit：Newton(N)

Bore size (mm)	Rod size (mm)	Acting type		Pressure area (mm^2)	Operating pressure(MPa) 0.1	0.2	0.3	0.4	0.5	0.6	0.7
8	4	Single acting	Push side	50.2	-	3.6	8.6	13.6	18.6	23.6	28.7
			Pull side	37.7	-	1.0	4.8	8.6	12.3	16.1	19.9
		Double acting	Push side	50.2	5.0	10.1	15.1	20.1	25.1	30.1	35.2
			Pull side	37.7	3.7	7.5	11.3	15.1	18.8	22.6	26.4
10	4	Single acting	Push side	78.5	-	5.9	13.8	21.6	29.5	37.3	45.2
			Pull side	65.9	-	3.4	10.0	16.6	23.2	29.8	36.4
		Double acting	Push side	78.5	7.9	15.7	23.6	31.4	39.3	47.1	55.0
			Pull side	65.9	6.6	13.2	19.8	26.4	33.0	39.5	46.1
12	6	Single acting	Push side	113.0	-	10.1	21.4	32.7	44.0	55.3	66.6
			Pull side	84.8	-	4.5	12.9	21.4	29.9	38.4	46.9
		Double acting	Push side	113.0	11.3	22.6	33.9	45.2	56.5	67.8	79.1
			Pull side	84.8	8.5	17.0	25.4	33.9	42.4	50.9	59.4
16	6	Single acting	Push side	201.0	-	14.6	34.7	54.8	74.9	95.0	115.1
			Pull side	172.7	-	8.9	26.2	43..5	60.8	78.0	95.3
		Double acting	Push side	201.0	20.1	40.2	60.3	80.4	100.5	120.6	140.7
			Pull side	172.7	17.3	34.5	51.8	69.1	86.4	103.6	120.9
20	8	Single acting	Push side	314.0	-	25.3	56.7	88.1	119.5	150.9	182.3
			Pull side	263.8	-	15.3	41.6	68.0	94.4	120.8	147.1
		Double acting	Push side	314.0	31.4	62.8	94.2	125.6	157.0	188.4	219.8
			Pull side	263.8	26.4	52.8	79.1	105.5	131.9	158.3	184.7
25	10	Single acting	Push side	490.6	-	43.1	92.2	141.3	190.3	239.3	288.4
			Pull side	412.1	-	27.4	68.6	109.8	151.1	192.3	233.5
		Double acting	Push side	490.6	49.1	98.1	147.2	196.2	245.3	294.4	343.4
			Pull side	412.1	41.2	82.4	123.6	164.8	206.1	247.3	288.5
32	12	Single acting	Push side	804.3	30.2	110.9	191.3	277.1	352.1	432.6	513.0
			Pull side	691.2	19.1	88.2	157.4	226.5	295.6	364.7	388.8
		Double acting	Push side	804.3	80.4	160.9	241.3	321.7	402.2	482.6	563.0
			Pull side	691.2	69.1	138.2	207.4	276.5	345.6	414.7	483.8
40	16	Single acting	Push side	1256.6	64.7	190.3	316.0	441.7	567.3	693.0	818.7
			Pull side	1055.6	44.6	150.1	255.7	361.2	466.8	572.4	677.9
		Double acting	Push side	1256.6	125.7	251.3	377.0	502.6	628.3	754.0	879.6
			Pull side	1055.6	105.6	211.1	316.7	422.2	527.8	633.4	738.9

Specification

Bore size(mm)		8	10	12	16	20	25	32	40
Acting type		Double acting, Single acting_push, Single acting_pull							
		–			Double acting with cushion				
Fluid		Air(to be filtered by 40 μ m filter element)							
Operating pressure	Double acting	0.1~1.0MPa(15~145psi)(1.0~10.0bar)							
	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		$0\sim150\ ^{+1.0}_{0}$ $>150\ ^{+1.4}_{0}$							
Cushion type		MIC Series: Variable cushion Other series: Bumper							
Port size ①		M5 × 0.8				1/8"		1/4"	

① G thread is available. Add) Refer to P397~420 for detail of sensor switch.

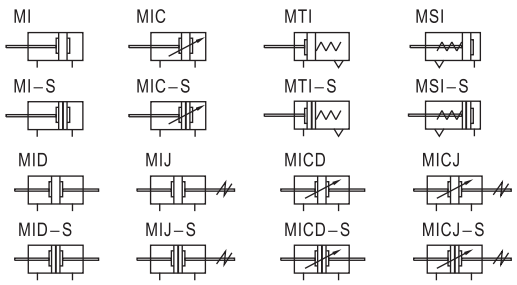
Stroke

Bore size (mm)			Standard stroke (mm)	Max. std stroke	Max. stroke
MI	–	8	10 15 20 25 30 40 50 60 75 80 100 125 150	150	200
		10	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200	200	200
		12	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250	250	500
	MIC	16	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	600
		20		500	800
		25		500	800
		32		500	800
		40		500	800
MID MIJ	–	8	10 15 20 25 30 40 50 60 75 80 100	100	–
		10	10 15 20 25 30 40 50 60 75 80 100	100	–
		12	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200	200	–
	MICD MICJ	16	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300	300	–
		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	500	–
		40	350 400 450 500	500	–

Bore size (mm)		Standard stroke (mm)
MSI MTI	8	10 15 20 25 30 40 50
	10	10 15 20 25 30 40 50
	12	10 15 20 25 30 40 50
	16	10 15 20 25 30 40 50 60 75 80 100
	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.

Symbol



Product feature

1. In accordance with ISO6432 standard(Φ8~Φ25).
2. Front and back cover owns fixed bumper pad which can reduce the impact of direction-change of the cylinder.
3. There are several mode of back cover, which makes the installation of cylinder more convenient.
4. Front and back cover and stainless steel block adopt riveted rolling packed structure to form a reliable connection.
5. Piston rod and cylinder body with the material of stainless steel make the cylinder adapt general working environment with corrosivity.
6. There are cylinders and accessories with several specifications for installation for your choice.

Ordering code

MI 10 × 40 S CA □ G

MID 10 × 40 S □ G

MIJ 10 × 40–30 S □ G

Model

MI: Mini cylinder(Double acting)
MSI: Mini cylinder(Single acting_push)
MTI: Mini cylinder(Single acting_pull)
MID: Mini cylinder(Double rod)
MIJ: Mini cylinder(Adjustable stroke)
MIC: Mini cylinder (Double acting with cushion)
MICD: Mini cylinder (Double rod with cushion)
MICJ: Mini cylinder (Adjustable stroke with cushion)

Bore size

Model	Bore size
MIC, MICD, MICJ	16 20 25 32 40
Others	8 10 12 16 20 25 32 40

Stroke

Refer to stroke table for details

Adjustable stroke

Model	Adjustable stroke
MIJ MICJ	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
	100: 100mm
Others	No this code

Thread type

G: G ②

Mounting type ①

Model	Mounting type
MI MIC MSI MTI	Blank: No accessories
	FA: FA type
	SDB: SDB type
	LB: LB type
	TC: TC type
MID MICD MIJ MICJ	Blank: No accessories
	FA: FA type
	LB: LB type
	TC: TC type

Back cover

Model	Back cover	Bore size
MI MSI MTI	CA: Pivot type	Φ8~Φ25
	U: Perpendicular 90°	Φ8~Φ40
	R: Axial air-in	Φ16~Φ40
	CM: Round-end type	Φ16~Φ40
MIC	CA: Pivot type	Φ16~Φ25
	U: Perpendicular 90°	Φ16~Φ40
	CM: Round-end type	Φ16~Φ40
Others	No this code	

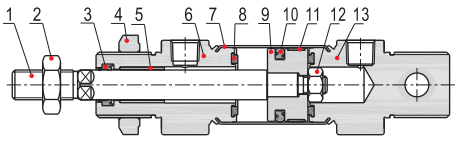
Magnet

Blank: Without magnet
S: With magnet

① Please refer to page 211~212 for accessory parts.
② MI Series are all G thread. PT thread, NPT thread are unavailable.

Inner structure and material of major parts

MI

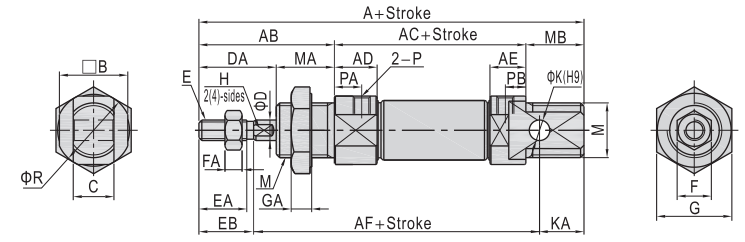


NO.	Item		Material
1	Rod		SUS304
2	Rod nut		Carbon steel
3	Front cover packing		NBR
4	Front cover nut		Carbon steel
5	Bushing		Wear resistant material
6	Front cover		Aluminum alloy
7	Barrel		SUS304
8	Bumper		TPU
9	Piston	Φ8~Φ12	SUS304
		Others	Aluminum alloy
10	Piston seal		NBR
11	Wear ring		Wear resistant material
12	Nut		Carbon steel
13	Back cover		Aluminum alloy

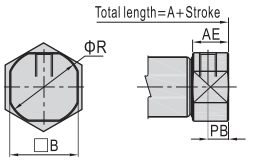
Dimensions

MI

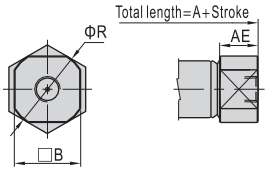
CA Type



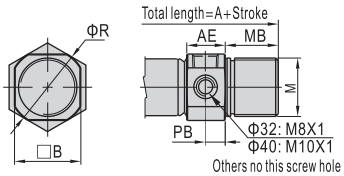
U Type



R Type



CM Type



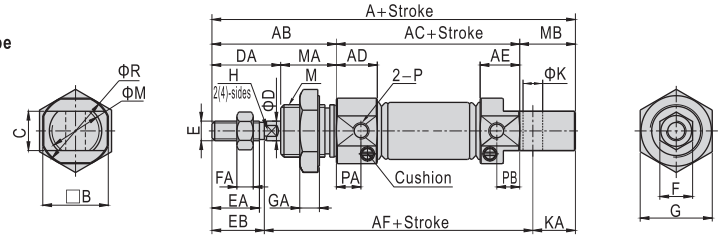
Bore size\Item	A				AB	AC	AD	AE		AF	P	PA	PB		R
Back cover	CA	U	R	CM				CA	U/R/CM				CA	U/CM	
8	86	74	-	-	28	46	11.5	9.5	9.5	64	M5×0.8	7	5	5	17
10	86	74	-	-	28	46	11.5	9.5	9.5	64	M5×0.8	7	5	5	17
12	105	88	-	-	38	50	12.5	10.5	10.5	75	M5×0.8	8	6	6	20
16	111	94	94	111	38	56	12.5	10.5	10.5	82	M5×0.8	8	6	6	22
20	126	106	106	126	44	62	14.5	14.5	14.5	95	1/8"	7.5	7.5	7.5	29
25	137	114.5	115	137	50	65	16	16	16	104	1/8"	8	8	8	33.5
32	-	125	126	140	58	-	16.5	-	16.5	-	1/8"	9	-	9	37.5
40	-	158	158	174	69	-	22	-	22	-	1/4"	12	-	12	46.5

Bore size\Item	B	C	D	DA	E	EA	EB	F	FA	G	GA	H	K	KA	M	MA	MB
8	15	8	4	16	M4×0.7	10.5	12	7	2.2	17	6	-	4	10	M12×1.25	12	12
10	15	8	4	16	M4×0.7	10.5	12	7	2.2	17	6	-	4	10	M12×1.25	12	12
12	18	12	6	21	M6×1.0	14	16	10	5	22	6	5(2-sides)	6	14	M16×1.5	17	17
16	20	12	6	21	M6×1.0	14.5	16	10	5	22	6	5(2-sides)	6	13	M16×1.5	17	17
20	25	16	8	24	M8×1.25	18	20	12	6	29	7	6(2-sides)	8	11	M22×1.5	20	20
25	30	16	10	28	M10×1.25	20.5	22	17	6	29	7	8(4-sides)	8	11	M22×1.5	22	22
32	34.5	-	12	28	M10×1.25	17.5	20	17	6	36	7	10(4-sides)	-	-	M30×1.5	30	14
40	42.5	-	16	34	M12×1.25	21	24	17	7	46	8	14(4-sides)	-	-	M38×1.5	35	16

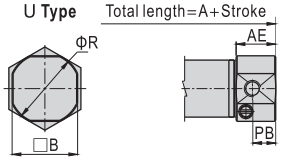
Remark: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

MIC Φ16~Φ25

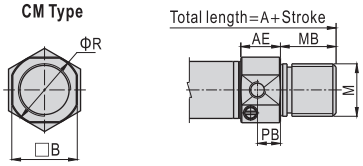
CA Type



U Type



CM Type



Bore size\Item	A		AB	AC	AD	AE		AF	B	C	D	DA	E	EA	EB
Back cover	CA/CM	U				CA/CM	U								
16	111	94	38	56	12.5	12	12	82	20	12	6	21	M6×1.0	14.5	16
20	126	106	44	62	14.5	14.5	14.5	95	25	16	8	24	M8×1.25	18	20
25	137	113.5	50	65	16	16	14.5	104	30	16	10	28	M10×1.25	20.5	22

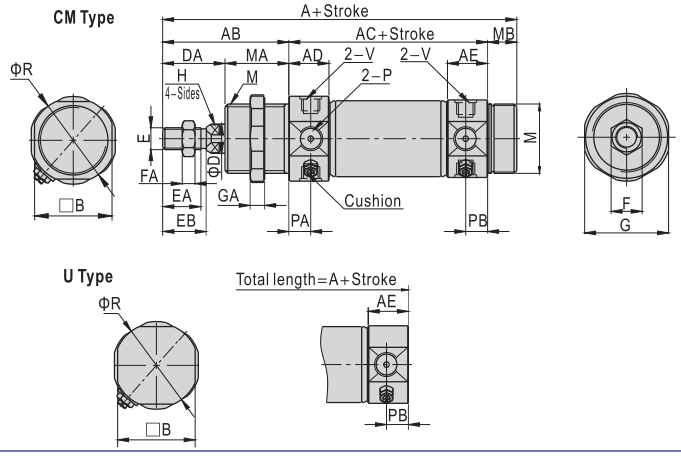
Bore size\Item	F	FA	G	GA	H	K	KA	M	MA	MB	P	PA	PB	R
16	10	5	22	6	5(2-sides)	6	13	M16×1.5	17	17	M5×0.8	7.5	7	22
20	12	6	29	7	6(2-sides)	8	11	M22×1.5	20	20	1/8"	7.5	7.5	29
25	17	6	29	7	8(4-sides)	8	11	M22×1.5	22	22	1/8"	8	8	33.5

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

Back
MI

MIC

Φ32, Φ40



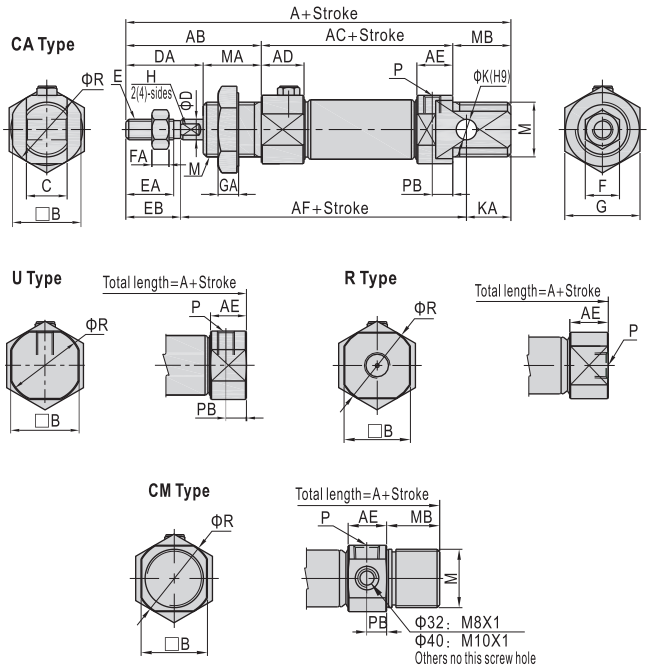
Bore size\Item	A		AB	AC	AD	AE		B	D	DA
Back cover	U	CM				U	CM			
32	124	140	58	68	16.5	14.5	16.5	34.5	12	28
40	157.5	174	69	89	22	21.5	22	42.5	16	32

Bore size\Item	E	EA	EB	F	FA	G	GA	H
32	M10×1.25	17.5	20	17	6	36	7	10(4-sides)
40	M12×1.25	21	24	17	7	46	8	24(4-sides)

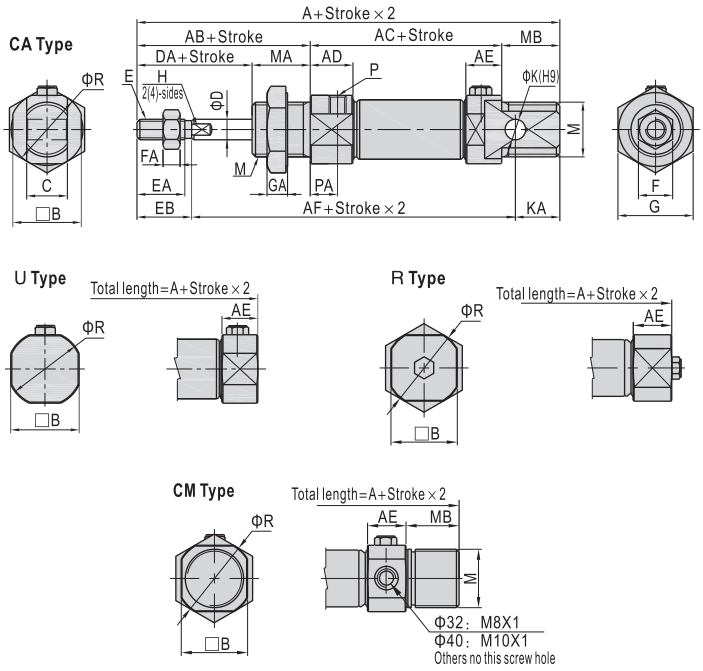
Bore size\Item	M	MA	MB	P	PA	PB		R	V
Back cover						U	CM		
32	M30×1.5	30	14	1/8"	9	7.5	9	37.5	M8X1
40	M38×1.5	35	16	1/4"	12	11.5	12	46.5	M10X1

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

MSI



MTI

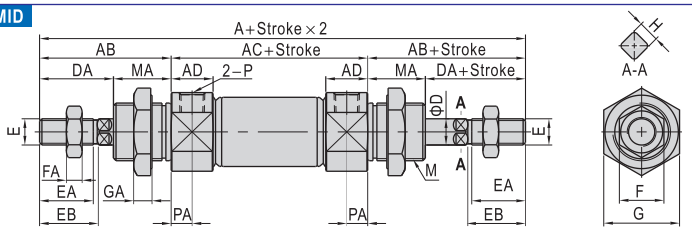


Item	A												AB	AC			AD	AF		
Back cover	CA			U			R			CM										
Bore size\Stroke	0~50	51~100	101~150	0~50	51~100	101~150	0~50	51~100	101~150	0~50	51~100	101~150		0~50	51~100	101~150		0~50	51~100	101~150
8	111	-	-	99	-	-	-	-	-	-	-	-	28	71	-	-	11.5	89	-	-
10	111	-	-	99	-	-	-	-	-	-	-	-	28	71	-	-	11.5	89	-	-
12	130	-	-	113	-	-	-	-	-	-	-	-	38	75	-	-	12.5	100	-	-
16	136	161	-	119	144	-	119	144	-	136	161	-	38	81	106	-	12.5	107	132	-
20	151	176	201	131	156	181	131	156	181	151	176	201	44	87	112	137	14.5	120	145	170
25	162	187	212	139.5	164.5	189.5	140	165	190	162	187	212	50	90	115	140	16	129	154	179
32	-	-	-	150	175	200	151	176	201	165	190	215	58	-	-	-	16.5	-	-	-
40	-	-	-	183	208	233	183	208	233	199	224	249	69	-	-	-	22	-	-	-

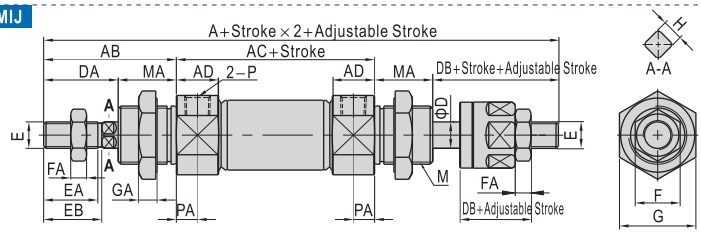
Bore size\Item	AE		B	C	D	DA	E	EA	EB	F	FA	G	GA	H	K	KA	M	MA	MB	P	PA	PB		R
Back cover	CA	U/R/CM																				CA	U/CM	
8	9.5	9.5	15	8	4	16	M4×0.7	10.5	12	7	2.2	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
10	9.5	9.5	15	8	4	16	M4×0.7	10.5	12	7	2.2	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
12	10.5	10.5	18	12	6	21	M6×1.0	14	16	10	5	22	6	5(2-sides)	6	14	M16×1.5	17	17	M5×0.8	8	6	6	20
16	10.5	10.5	20	12	6	21	M6×1.0	14.5	16	10	5	22	6	5(2-sides)	6	13	M16×1.5	17	17	M5×0.8	8	6	6	22
20	14.5	14.5	25	16	8	24	M8×1.25	18	20	12	6	29	7	6(2-sides)	8	11	M22×1.5	20	20	1/8"	7.5	7.5	7.5	29
25	16	16	30	16	10	28	M10×1.25	20.5	22	17	6	29	7	8(4-sides)	8	11	M22×1.5	22	22	1/8"	8	8	8	33.5
32	-	16.5	34.5	-	12	28	M10×1.25	17.5	20	17	6	36	7	10(4-sides)	-	-	M30×1.5	30	14	1/8"	9	-	9	37.5
40	-	22	42.5	-	16	34	M12×1.25	21	24	17	7	46	8	14(4-sides)	-	-	M38×1.5	35	16	1/4"	12	-	12	46.5

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

MID



MIJ

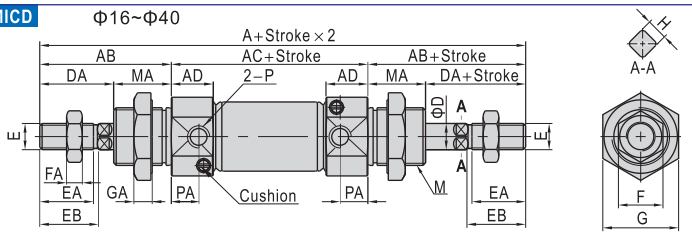


Bore size\Item / Model	A MID	A MIJ	AB	AC	AD	D	DA	DB	E	EA	EB
8	104	103	28	48	11.5	4	16	15	M4×0.7	10.5	12
10	104	103	28	48	11.5	4	16	15	M4×0.7	10.5	12
12	128	128	38	52	12.5	6	21	21	M6×1.0	14	16
16	134	134	38	58	12.5	6	21	21	M6×1.0	14.5	16
20	150	151	44	62	14.5	8	24	25	M8×1.25	18	20
25	165	164	50	65	16	10	28	27	M10×1.25	20	22
32	184	183	58	68	16.5	12	28	27	M10×1.25	17.5	20
40	227	221	69	89	22	16	34	28	M12×1.25	21	24

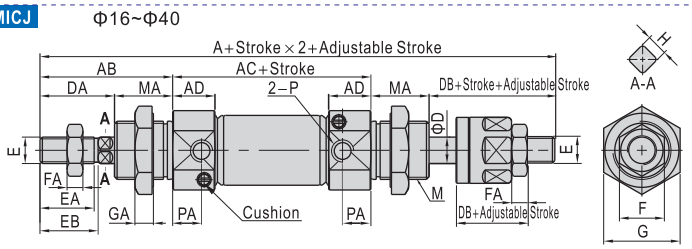
Bore size\Item	F	FA	G	GA	H	M	MA	P	PA
8	7	2.2	17	6	-	M12×1.25	12	M5×0.8	7
10	7	2.2	17	6	-	M12×1.25	12	M5×0.8	7
12	10	5	22	6	5(2-Sides)	M16×1.5	17	M5×0.8	8
16	10	5	22	6	5(2-Sides)	M16×1.5	17	M5×0.8	8
20	12	6	29	7	6(2-Sides)	M22×1.5	20	1/8"	7.5
25	17	6	29	7	8(4-Sides)	M22×1.5	22	1/8"	8
32	17	6	36	7	10(4-Sides)	M30×1.5	30	1/8"	9
40	17	7	46	8	14(4-Sides)	M38×1.5	35	1/4"	12

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

MICD Φ16~Φ40



MICJ Φ16~Φ40



Bore size\Item / Model	A MICD	A MICJ	AB	AC	AD	D	DA	DB	E	EA	EB
16	132.5	132.5	38	56.5	12.5	6	21	21	M6×1.0	14.5	16
20	150	151	44	62	14.5	8	24	25	M8×1.25	18	20
25	165	164	50	65	16	10	28	27	M10×1.25	20.5	22
32	184	183	58	68	16.5	12	28	27	M10×1.25	17.5	20
40	227	221	69	89	22	16	34	28	M12×1.25	21	24

Bore size\Item	F	FA	G	GA	H	M	MA	P	PA
16	10	5	22	6	5(2-Sides)	M16×1.5	17	M5×0.8	7.5
20	12	6	29	7	6(2-Sides)	M22×1.5	20	1/8"	7.5
25	17	6	29	7	8(4-Sides)	M22×1.5	22	1/8"	8
32	17	6	36	7	10(4-Sides)	M30×1.5	30	1/8"	9
40	17	7	46	8	14(4-Sides)	M38×1.5	35	1/4"	12

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

Ordering code

F-MI 10 LB

- Accessory
- Model
- Bore size
- Accessory type ①

Mounting accessory	LB: LB type
	FA: FA type
	SDB: SDB type ②
	TC: TC type

① Please refer to accessory list for selection and ordering information.
② SDB is attached with relevant PIN.

Accessory selection

Cylinder model / Accessories		MI, MIC Standard	MI, MIC With magnet	MSI, MTI Standard	MSI, MTI With magnet	MID, MICD, MIJ, MICJ Standard	MID, MICD, MIJ, MICJ With magnet
Mounting accessory	LB	●	●	●	●	●	●
	FA	●	●	●	●	●	●
	SDB	●	●	●	●	×	×
	TC	●	●	●	●	●	●
Knuckle ①	I	●	●	●	●	●	●
	Y	●	●	●	●	●	●
	U	●	●	●	●	●	●
	F	●	●	●	●	●	●
Sensor switch ②	CS1-M	×	●	×	●	×	●
	DS1-M	×	●	×	●	×	●
	CS1-F	×	●	×	●	×	●
	DS1-F	×	●	×	●	×	●
	CS1-U	×	●	×	●	×	●
	DS1-U	×	●	×	●	×	●

① Please refer to P393~396 for knuckle detail,
② Please refer to P397~420 for detail of sensor switch.

Material of accessories

Accessories / Bore size	Mounting accessories LB	FA	SDB	TC	Knuckle I	Y	F	U
8~40	△	△	△	▲	□	□	□	□

▲——SUS304, △——SPCC, □——Carbon steel.

List for ordering code of accessories

Accessories / Bore size	Mounting accessory LB	FA	SDB	TC
8	F-MI10LB	F-MI8FA	F-MI8SDB	F-MI10TC
10				
12	F-MI12LB	F-MI12FA	F-MI12SDB	F-MI12TC
16				
20	F-MI20LB	F-MI20FA	F-MI20SDB	F-MI20TC
25				
32	F-MI32LB	-	F-MI32SDB	F-MI32TC
40	F-MI40LB	-	F-MI40SDB	F-MI40TC

Accessories / Bore size	Knuckle I: I Knuckle	Y: Y Knuckle	F: F Knuckle	U: U Knuckle
8	F-M4X070I	F-M4X070Y	F-M4X070F	F-M4X070U
10				
12	F-M6X100I	F-M6X100Y	F-M6X100F	F-M6X100U
16				
20	F-M8X125I	F-M8X125Y	F-M8X125F	F-M8X125U
25	F-M10X125I	F-M10X125Y	F-M10X125F	F-M10X125U
32				
40	F-M12X125I	F-M12X125Y	F-M12X125F	F-M12X125U

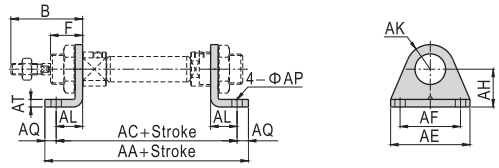
Accessories / Bore size	Sensor switch CS1-M□	DS1-M□	CS1-F	DS1-F	CS1-U	DS1-U
8	CS1-M-S08	DS1-M-S08	CS1-F	DS1-F	CS1-U	DS1-U
10	CS1-M-S10	DS1-M-S10				
12	CS1-M-S12	DS1-M-S12				
16	CS1-M-S16	DS1-M-S16				
20	CS1-M-S20	DS1-M-S20				
25	CS1-M-S25	DS1-M-S25				
32	CS1-M-S32	DS1-M-S32				
40	CS1-M-S40	DS1-M-S40				

Back
MI

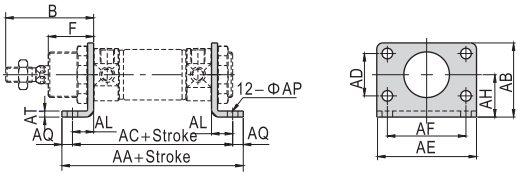
Dimensions

LB

Φ8~Φ25



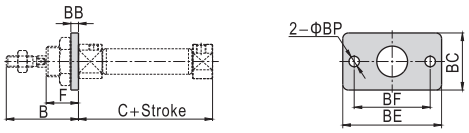
Φ32、Φ40



Bore size\Item	AA	AB	AC	AD	AE	AF	AH	AK	AL	AP	AQ	AT	B	F
8	78	-	68	-	35	25	16	10	11	4.5	5	3	28	12
10	78	-	68	-	35	25	16	10	11	4.5	5	3	28	12
12	90	-	78	-	42	32	20	13	14	5.5	6	4	38	17
16	96	-	84	-	42	32	20	13	14	5.5	6	4	38	17
20	112	-	96	-	54	40	25	20	17	6.6	8	5	44	20
25	115	-	99	-	54	40	25	20	17	6.6	8	5	50	22
32	110	49	96	28	66	52	28	-	14	7	7	4	58	30
40	149	58	129	30	80	60	33	-	20	9	10	5	69	35

FA

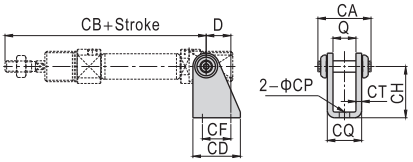
Φ8~Φ25



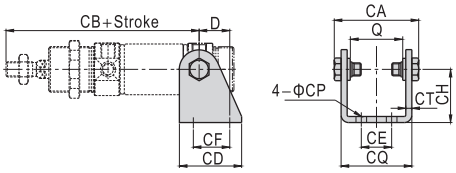
Bore size\Item	B	C	BB	BC	BE	BF	BP	F
8	28	46	3	22	40	30	4.5	12
10	28	46	3	22	40	30	4.5	12
12	38	50	4	30	52	40	5.5	17
16	38	56	4	30	52	40	5.5	17
20	44	62	5	40	66	50	6.6	20
25	50	65	5	40	66	50	6.6	22

SDB

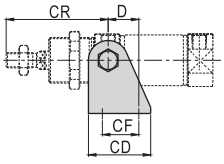
Φ8~Φ25



Φ32, Φ40



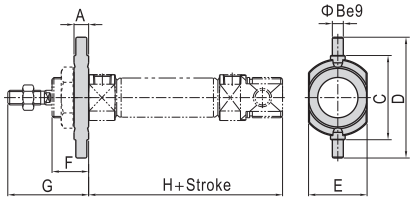
Φ32, Φ40



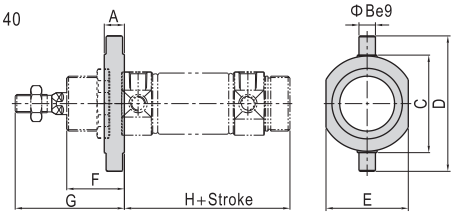
Bore size\Item	D	Q	CA	CB	CD	CE	CF	CH	CP	CQ	CT	CR
8	11	8.1	18.4	76	20	-	12.5	24	4.5	13.1	2.5	-
10	11	8.1	18.4	76	20	-	12.5	24	4.5	13.1	2.5	-
12	13	12.1	28	91	25	-	15	27	5.5	18.1	3	-
16	13	12.1	28	98	25	-	15	27	5.5	18.1	3	-
20	16	16.1	38	115	32	-	20	30	6.6	24.1	4	-
25	16	16.1	38	126	32	-	20	30	6.6	24.1	4	-
32	20	34.6	55.5	117	41	20	24	35	7	46.6	4	67
40	27	42.6	69.6	146	52	28	30	40	9	58.6	5	81

TC

Φ8~Φ25



Φ32, Φ40



Bore size\Item	A	B	C	D	E	F	G	H
8	6	4	26	38	20	12	28	58
10	6	4	26	38	20	12	28	58
12	8	6	38	58	25	17	38	67
16	8	6	38	58	25	17	38	73
20	8	6	46	66	32	20	44	82
25	8	6	46	66	32	22	50	87
32	11	9	54	74	45	30	58	82
40	12	10	64	84	55	35	69	101

Back
MI