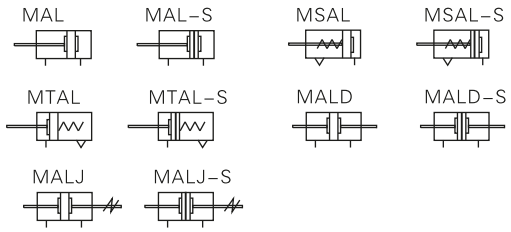
MAL Series
Aluminum Barrel Small Pneumatic Cylinder

Symbol



Product feature

1. Manufactured by out enterprise.
2. Front and back cover and cylinder tube are connected by threads.
3. Piston adopts hetergoeneous two-way seal structure. It has compact size.
4. Front cover adopts self-lubrication bearing guide that has good performance of lubrication.
5. There are several modes of back cover, which makes the installation of cylinder more convenient.
6. There are cylinders and mounting accessories with several specifications for your choice.

Specifications

Bore size(mm)		20	25	32	40
Acting type	MSAL, MTAL	Single acting			
	Others	Double acting			
Fluid		Air (to be filtered by 40μm 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		Stroke≤$100^{+1.0}_{0}$ Stroke>$100^{+1.5}_{0}$			
Cushion type		Bumper			
Port size Note)		1/8"			1/4"

Note: PT thread, G thread and NPT thread are available.

Stroke

Bore size (mm)		Standard stroke (mm)	Max. Std stroke	Max. stroke
MAL	20	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	1000
	25	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	1000
	32	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	1500
	40	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	1500
MALD MALJ	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	-
MSAL	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	-	-
MTAL	20	10 15 20 25 30 40 50 60 75 80 100	-	-
	25	10 15 20 25 30 40 50 60 75 80 100	-	-
	32	10 15 20 25 30 40 50 60 75 80 100	-	-
	40	10 15 20 25 30 40 50 60 75 80 100	-	-

Note: Consult us for non-standard stroke.

Ordering code

MAL 20 × 50 S CM □
MALD 20 × 50 S □
MALJ 20 × 50 - 20 S □

Model

MAL	Mini cylinder(Double acting)
MSAL	Mini cylinder(Single acting_push)
MTAL	Mini cylinder(Single acting_pull)
MALD	Mini cylinder(Double rod)
MALJ	Mini cylinder(Adjustable stroke)

Bore size

20	20mm
25	25mm
32	32mm
40	40mm

Stroke

Refer to stroke table for details

Adjustable stroke

MALJ	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
	100: 100mm
Others	No this code

Magnet code

Blank	Without magnet
S	With magnet

Back cover

CA	CA: Pivot type
U	U: Flat-end type
CM	CM: Round-end type
Others	No this code

Mounting type

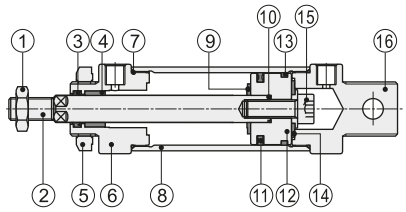
MAL MSAL MTAL	Blank: No accessories
	FA: FA type
	SDB: SDB type
	LB: LB type
MALD MALJ	Blank: No accessories
	FA: FA type
	LB: LB type

Thread type

Blank	PT
G	G
T	NPT

Inner structure and material of major parts

MAL-CA

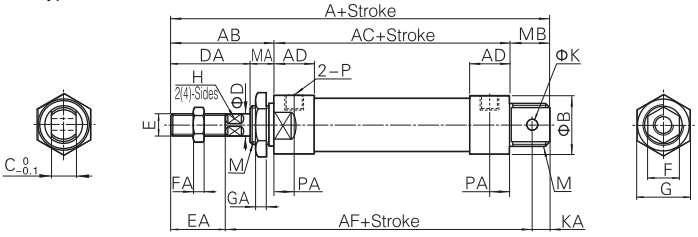


NO.	Item	Material	NO.	Item	Material
1	Rod nut	Carbon steel	9	Bumper	NBR
2	Piston rod	Carbon steel with 20μm chrome plated	10	O-ring	NBR
3	Front cover packing	NBR	11	Piston seal	NBR
4	Bushing	Wear resistant material	12	Piston	Aluminum alloy
5	Front cover nut	Carbon steel	13	Wear ring	Wear resistant material
6	Front cover	Aluminum alloy	14	Washer	Free cutting material
7	O-ring	NBR	15	Bolt	Carbon steel
8	Barrel	Aluminum alloy	16	Back cover	Aluminum alloy

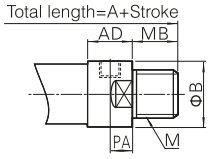
Dimensions

MAL

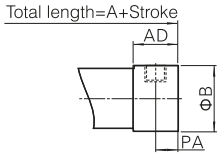
CA Type



CM Type



U Type

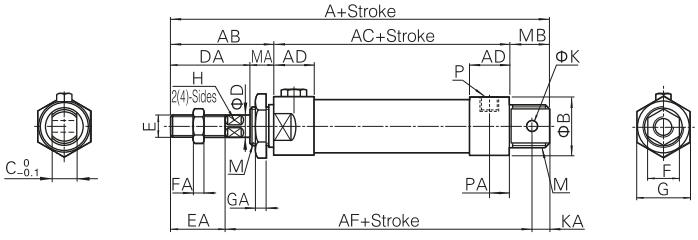


Bore size\Item	A			AB	AC	AD	AF	B	C	D	DA	E	EA	F	FA	G	GA	H	K	KA	M	MA	MB		P	PA
Back cover	CA	CM	U																				CA	CM		
20	131	122	110	40	70	16	102	29	16	8	28	M8×1.25	20	12	6	29	7	6	8	9	M22×1.5	12	21	12	1/8"	8
25	135	128	114	44	70	16	104	34	16	10	30	M10×1.25	22	17	6	29	7	8	8	9	M22×1.5	14	21	14	1/8"	8
32	141	128	114	44	70	16	107	39.5	16	12	30	M10×1.25	22	17	6	32	8	10	10	12	M24×2.0	14	27	14	1/8"	8
40	165	152	138	46	92	22	129	49.5	20	16	32	M12×1.25	24	17	7	41	9	14	12	12	M30×2.0	14	27	14	1/4"	11

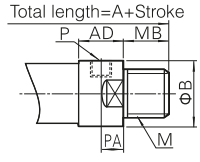
Note: The dimensions or magnet type cylinder are the same as non-magnet type cylinder.

MSAL

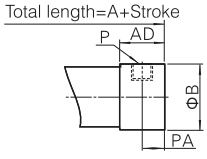
CA Type



CM Type



U Type



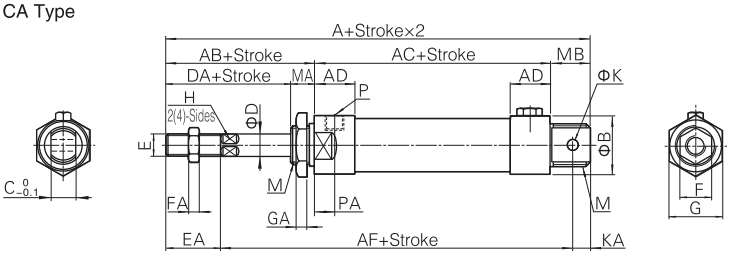
Item	A									AC ≥10−1			AF		
Back cover	CA			CM			U			–			–		
Bore size\Stroke	≤50	51~100	≥101	≤50	51~100	≥101	≤50	51~100	≥101	≤50	51~100	≥101	≤50	51~100	≥101
20	156	181	206	147	172	197	135	160	185	95	120	145	127	152	177
25	160	185	210	153	178	203	139	164	189	95	120	145	129	154	179
32	166	191	216	153	178	203	139	164	189	95	120	145	132	157	182
40	190	215	240	177	202	227	163	188	213	117	142	167	154	179	204

Bore size\Item	AB	AC	B	C	D	DA	E	EA	F	FA	G	GA	H	K	KA	M	MA	MB(CA)	MB(CM)	P	PA
20	40	16	29	16	8	28	M8×1.25	20	12	6	29	7	6	8	9	M22×1.5	12	21	12	1/8"	8
25	44	16	34	16	10	30	M10×1.25	22	17	6	29	7	8	8	9	M22×1.5	14	21	14	1/8"	8
32	44	16	39.5	16	12	30	M10×1.25	22	17	6	32	8	10	10	12	M24×2.0	14	27	14	1/8"	8
40	46	22	49.5	20	16	32	M12×1.25	24	17	7	41	9	14	12	12	M30×2.0	14	27	14	1/4"	11

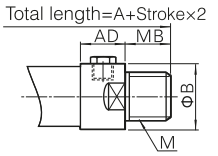
Note: The dimensions or magnet type cylinder are the same as non-magnet type cylinder.

MTAL

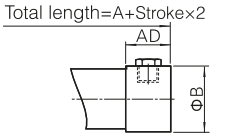
CA Type



CM Type



U Type

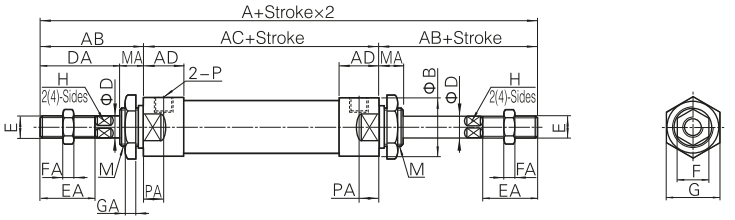


Item	A												AC				AF			
Back cover	CA				CM				U				–				–			
Bore size\Stroke	0~25	26~50	51~75	76~100	0~25	26~50	51~75	76~100	0~25	26~50	51~75	76~100	0~25	26~50	51~75	76~100	0~25	26~50	51~75	76~100
20	146	156	171	181	137	147	162	172	125	135	150	160	85	95	110	120	117	127	142	152
25	150	160	175	185	143	153	168	178	129	139	154	164	85	95	110	120	121	131	146	156
32	156	166	186	196	143	153	173	183	129	139	159	169	85	95	115	125	122	132	152	162
40	180	190	210	220	167	177	197	207	153	163	183	193	107	117	137	147	144	154	174	184

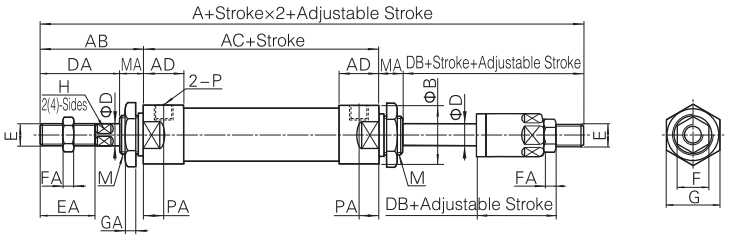
Bore size\Item / Back cover	AB	AC	B	C	D	DA	E	EA	F	FA	G	GA	H	K	KA	M	MA	MB CA	MB CM	P	PA
20	40	16	29	16	8	28	M8×1.25	20	12	6	29	7	6	8	9	M22×1.5	12	21	12	1/8"	8
25	44	16	34	16	10	30	M10×1.25	22	17	6	29	7	8	8	9	M22×1.5	14	21	14	1/8"	8
32	44	16	39.5	16	12	30	M10×1.25	22	17	6	32	8	10	10	12	M24×2.0	14	27	14	1/8"	8
40	46	22	49.5	20	16	32	M12×1.25	24	17	7	41	9	14	12	12	M30×2.0	14	27	14	1/4"	11

Note: The dimensions or magnet type cylinder are the same as non-magnet type cylinder.

MALD



MALJ



Bore size\Item	A		AB	AC	AD	B	D	DA	DB	E	EA	F	FA	G	GA	H	M	MA	P	PA
Model	MALD	MALJ																		
20	150	147	40	70	16	29	8	28	25	M8×1.25	20	12	6	29	7	6	M22×1.5	12	1/8"	8
25	158	155	44	70	16	34	10	30	27	M10×1.25	22	17	6	29	7	8	M22×1.5	14	1/8"	8
32	158	155	44	70	16	39.5	12	30	27	M10×1.25	22	17	6	32	8	10	M24×2.0	14	1/8"	8
40	184	180	46	92	22	49.5	16	32	28	M12×1.25	24	17	7	41	9	14	M30×2.0	14	1/4"	11

Note: The dimensions or magnet type cylinder are the same as non-magnet type cylinder.

List for ordering code of accessories

Accessories	Mounting accessory			Knuckle				Sensor switch	
Bore size	LB	FA	SDB	I: I Knuckle	Y: Y Knuckle	F: F Knuckle	U: U Knuckle	CS1-M□	DS1-M□
20	F-MA20LB	F-MA20FA	F-MA20SDB	F-MA20I	F-MA20Y	F-M8×125F	F-M8×125U	CS1-M-A20	DS1-M-A20
25				F-MA25I	F-MA25Y	F-M10×125F	F-M10×125U	CS1-M-A25	DS1-M-A25
32	F-MA32LB	F-MA32FA	F-MA20SDB					CS1-M-A32	DS1-M-A32
40	F-MA40LB	F-MA40FA	F-MA20SDB	F-MA40I	F-MA40Y	F-M12×125F	F-M12×125U	CS1-M-A40	DS1-M-A40

Accessory selection

Accessories		Mounting accessory			Knuckle			Sensor switch		
Cylinder model		LB	FA	SDB	I	Y	U	F	CS1-M	DS1-M
MAL	Standard	●	●	●	●	●	●	●	×	×
	With magnet	●	●	●	●	●	●	●	●	●
MSAL MTAL	Standard	●	●	●	●	●	●	●	×	×
	With magnet	●	●	●	●	●	●	●	●	●
MALD MALJ	Standard	●	●	×	●	●	●	●	×	×
	With magnet	●	●	×	●	●	●	●	●	●

Material of accessories selection

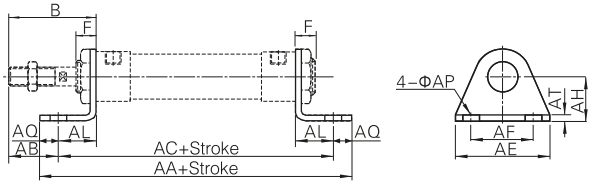
Accessories	Mounting accessory			Knuckle			
Bore size	LB	FA	SDB	I	Y	F	U
20~40	○	○	□	□	□	□	□

○——Low carbon steel, □——Carbon steel

Note: Floating joint (F) and fisheye joint (U) are common parts.

Dimensions

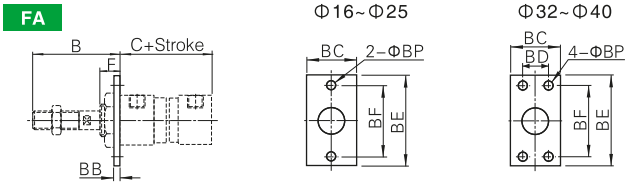
LB



Bore size\Item	AA (MAL)	AA(MSAL)			AC (MAL)	AC(MSAL)		
Stroke		0~50	51~100	101~150		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

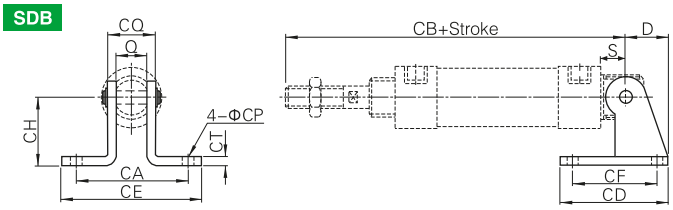
Bore size\Item	B	F	AB	AE	AF	AL	AQ	AP	AT	AH
20	40	12	25	54	40	15	8	6.5	3	25
25	44	14	29	54	40	15	8	6.5	3	25
32	44	14	19	59	45	25	8	7	3.5	32
40	46	14	21	64	50	25	8	7	3.5	36

FA



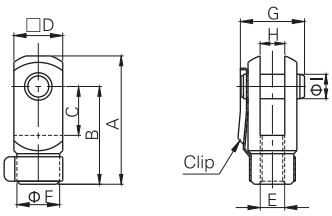
Bore size\Item	B	C (MAL)	C(MSAL)			BB	BC	BD	BE	BF	BP	F
Stroke			0~50	51~100	101~150							
20	40	70	95	120	145	4	38	-	64	50	6.5	12
25	44	70	95	120	145	4	38	-	64	50	6.5	14
32	44	70	95	120	145	4	47	33	72	58	6.5	14
40	46	92	117	142	167	4	50	36	84	70	6.5	14

SDB



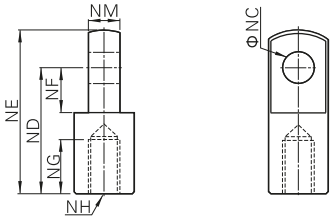
Bore size\Item	D	S	Q	CA	CB (MAL)	CB(MSAL)			CD	CE	CF	CH	CT	CP	CQ
Stroke						0~50	51~100	101~150							
20	21	12	16	51	122	147	172	197	48	67	32	32	2.5	7	22
25	21	12	16	51	126	151	176	201	48	67	32	32	2.5	7	22
32	27	15	16	51	129	154	179	204	52	67	36	36	3	7	24
40	27	15	20	55	153	178	203	228	56	71	40	40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

Y Knuckle

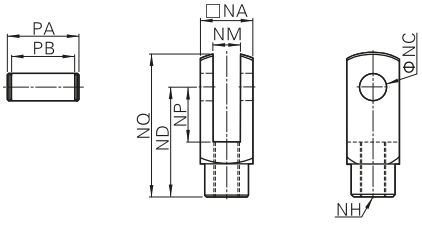


Type\Item	A	B	C	D	E	F	G	H	I
F-MA20Y	42	32	16	16	M8×1.25	14	21	8	8
F-MA25Y	52	40	20	19	M10×1.25	18	25	10	10

I Knuckle

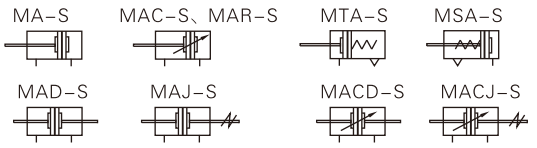


Type\Item	NC	ND	NE	NF	NG	NH	NM
F-MA20I	8	30	40	11	15	M8×1.25	8
F-MA25I	10	40	50	15	20	M10×1.25	10
F-MA40I	10	45	57	16	23	M12×1.25	14



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

Symbol



Product feature

1. Standard cylinder manufactured by our enterprise.
2. Piston adopts heterogeneous two-way seal structure. It has compact size and has the function of grease reservation.
3. Front cover has fixed bumper 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. There are cylinders and mounting accessories with several specifications for your choice.
8. All cylinders of this series have magnet.

Specifications

Bore size(mm)		16	20	25	32	40	50	63
Acting type	MSA/MTA	Single acting					-	
	MA/MAD/MAJ	Double acting					-	
	MAR	-	Double acting					
	MAC/MACD/MACJ	-	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		$0\sim150^{+1.0}_{0}$ $>150^{+1.0}_{0}$						
Cushion type		MAC/MACD/ MACJ Series: Variable cushion; Other series: Bumper						
Port size Note)		M5×0.8	1/8"				1/4"	

Note: PT thread, G thread and NPT thread are available.

Stroke

Bore size (mm)		Standard stroke (mm)	Max. Std stroke	Max. stroke
MA	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
MA MAC MAR	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
MAC MAR	50	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	800
	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
MAD\MAJ	16	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300	300	-
MAD MAJ MACD MACJ	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	-
MACD MACJ	50	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	-
	63	10 15 20 25 30 40 50 60 75 80 100 125 150 160 175 200 250 300 350 400 450 500	500	-
MSA	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	-	-
MTA	16	10 15 20 25 30 40 50 60 75 80 100	-	-
	20	10 15 20 25 30 40 50 60 75 80 100	-	-
	25	10 15 20 25 30 40 50 60 75 80 100	-	-
	32	10 15 20 25 30 40 50 60 75 80 100	-	-
	40	10 15 20 25 30 40 50 60 75 80 100	-	-

Note: Consult us for non-standard stroke.

Ordering code

MA		20	×	50		S	CM	□	□
MAD		20	×	50		S		□	□
MAJ		20	×	50	- 20	S		□	□
MAR	U	20	×	50		S			□

Model

MA	Mini cylinder(Double acting)
MSA	Mini cylinder(Single acting_push)
MTA	Mini cylinder(Single acting_pull)
MAD	Mini cylinder(Double rod)
MAJ	Mini cylinder(Adjustable stroke)
MAR	Min cylinder(Double acting with cushion)
MAC	Min cylinder(Double acting with cushion)
MACD	Mini cylinder(Double rod with cushion)
MACJ	Mini cylinder(Adjustable stroke with cushion)

Front cover

MAR	F: Front mounting type
	U: Up mounting type
Others	No this code

Bore size

MA, MSA, MTA, MAD, MAJ	16 20 25 32 40
MAC, MAR, MACD, MACJ	20 25 32 40 50 63

Stroke

Refer to stroke table for details

Adjustable stroke

MAJ MACJ	10: 10mm
	20: 20mm
	30: 30mm
	40: 40mm
	50: 50mm
	75: 75mm
	100: 100mm
Others	No this code

Magnet code

S	With magnet

Back cover

MA, MAC MSA MTA	CA: Pivot type
	U: Flat-end type
	CM: Round-end type
Others	No this code

Mounting type

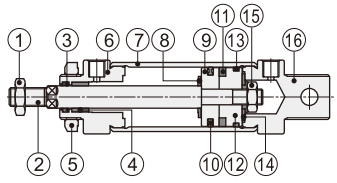
MA MAC MSA MTA	Blank: No accessories
	FA: FA type
	SDB: SDB type
	LB: LB type
MAD MACD MAJ MACJ	Blank: No accessories
	FA: FA type
	LB: LB type
MAR	No this code

Thread type

Blank	PT
G	G
T	NPT

Inner structure and material of major parts

MA-CA



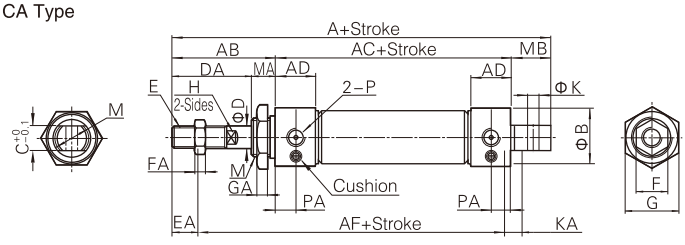
NO.	Item	Material	NO.	Item	Material
1	Rod nut	Carbon steel	9	Piston	Aluminum alloy
2	Piston rod	Carbon steel with 20μm chrome plated	10	Piston seal	NBR
3	Front cover packing	NBR	11	Magnet	Plastic
4	Bushing	Wear resistant material	12	Magnet holder	Aluminum alloy
5	Front cover nut	Carbon steel	13	Wear ring	Wear resistant material
6	Front cover	Aluminum alloy	14	Washer	Free cutting material
7	Barrel	Stainless steel	15	Nut	Carbon steel
8	Bumper	NBR	16	Back cover	Aluminum alloy

Dimensions

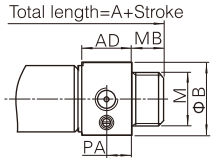
MA Φ16~Φ40

MAC Φ20~Φ40

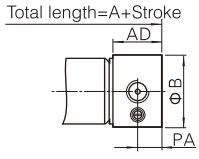
CA Type



CM Type



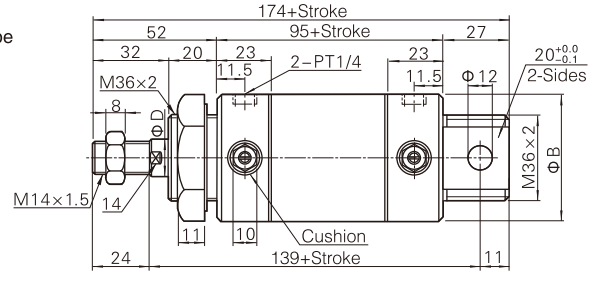
U Type

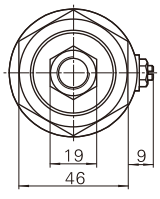


Bore size\Item	A			AB	AC	AD	AF	B	C	D	DA	E	EA	F	FA	G	GA	H	K	KA	M	MA	MB		P	PA
Back cover	CA	CM	U																				CA	CM		
16	114	114	98	38	60	10	91	21	12	6	22	M6×1.0	16	10	5	22	6	5	6	7	M16×1.5	16	16	16	M5×0.8	5
20	137	128	116	40	76	16	108	27	16	8	28	M8×1.25	20	12	6	29	7	6	8	9	M22×1.5	12	21	12	1/8"	8
25	141	134	120	44	76	16	110	30	16	10	30	M10×1.25	22	17	6	29	7	8	8	9	M22×1.5	14	21	14	1/8"	8
32	147	134	120	44	76	16	113	35	16	12	30	M10×1.25	22	17	6	32	8	10	10	12	M24×2.0	14	27	14	1/8"	8
40	149	136	122	46	76	16.5	113	41.5	20	16	32	M12×1.25	24	17	7	41	9	14	12	12	M30×2.0	14	27	14	1/8"	8

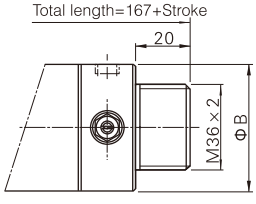
MAC Φ50\Φ63

CA Type

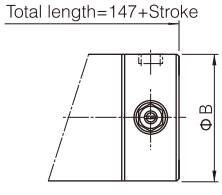




CM Type



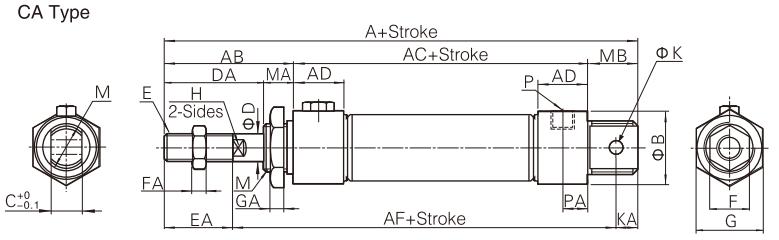
U Type



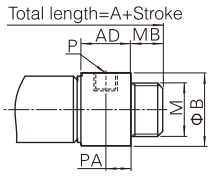
Bore size\Item	B	D
50	53	16
63	67	16

MSA Φ16~Φ40

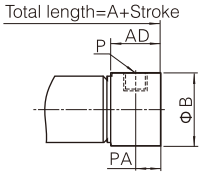
CA Type



CM Type



U Type

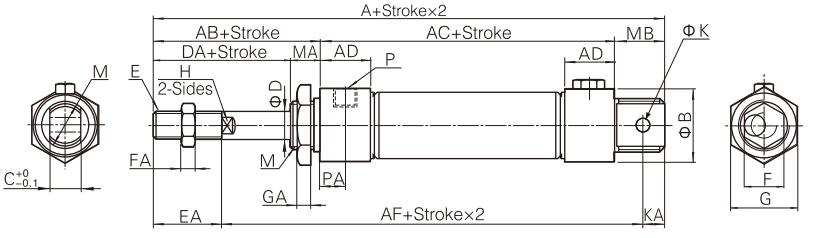


Item	A									AB	AC			AD	AF		
Back cover	CA			CM			U			–	–			–	–		
Bore size\Stroke	≤50	51~100	≤101	≤50	51~100	≤101	≤50	51~100	≤101	–	≤50	51~100	≤101	–	≤50	51~100	≤101
16	139	164	-	139	164	-	123	148	-	38	85	110	-	10	116	141	-
20	162	187	212	153	178	203	141	166	191	40	101	126	151	16	133	158	183
25	166	191	216	159	184	209	145	170	195	44	101	126	151	16	135	160	185
32	172	197	222	159	184	209	145	170	195	44	101	126	151	16	138	163	188
40	174	199	224	161	186	211	147	172	197	46	101	126	151	16.5	138	163	188

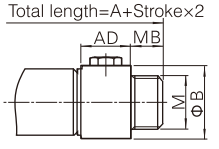
Bore size\Item	B	C	D	DA	E	EA	F	FA	G	GA	H	K	KA	M	MA	MB		P	PA
Back cover																CA	CM		
16	21	12	6	22	M6×1.0	16	10	5	22	6	5	6	7	M16×1.5	16	16	16	M5×0.8	5
20	27	16	8	28	M8×1.25	20	12	6	29	7	6	8	9	M22×1.5	12	21	12	1/8"	8
25	30	16	10	30	M10×1.25	22	17	6	29	7	8	8	9	M22×1.5	14	21	14	1/8"	8
32	35	16	12	30	M10×1.25	22	17	6	32	8	10	10	12	M24×2.0	14	27	14	1/8"	8
40	41.5	20	16	32	M12×1.25	24	17	7	41	9	14	12	12	M30×2.0	14	27	14	1/8"	8

MTA Φ16~Φ40

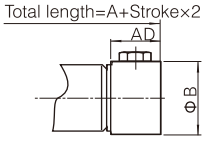
CA Type



CM Type



U Type

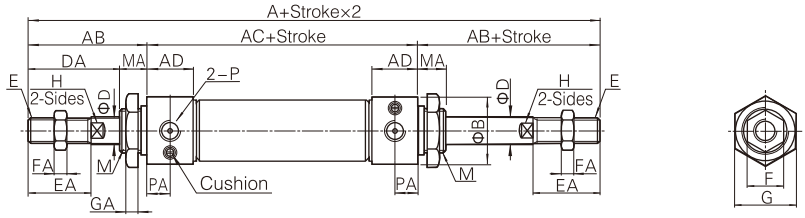


Item	A												AC				AF			
Back cover	CA				CM				U				–				–			
Bore size\Stroke	≤25	≤50	≤75	≤100	≤25	≤50	≤75	≤100	≤25	≤50	≤75	≤100	≤25	≤50	≤75	≤100	≤25	≤50	≤75	≤100
16	129	139	154	164	129	139	154	164	113	123	138	148	75	85	100	110	106	116	131	141
20	152	162	177	187	143	153	168	178	131	141	156	166	91	101	116	126	123	133	148	158
25	156	166	181	191	149	159	174	184	135	145	160	170	91	101	116	126	125	135	150	160
32	162	172	192	202	149	159	179	189	135	145	165	175	91	101	121	131	128	138	158	168
40	164	174	194	204	151	161	181	191	137	147	167	177	91	101	121	131	128	138	158	168

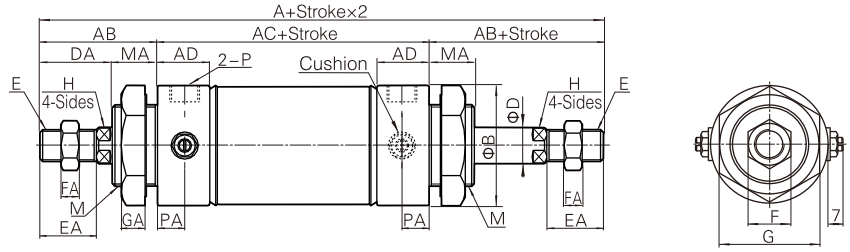
Bore size\Item	AB	AC	B	C	D	DA	E	EA	F	FA	G	GA	H	K	KA	M	MA	MB		P	PA
Back cover																		CA	CM		
16	38	10	21	12	6	22	M6×1.0	16	10	5	22	6	5	6	7	M16×1.5	16	16	16	M5×0.8	5
20	40	16	27	16	8	28	M8×1.25	20	12	6	29	7	6	8	9	M22×1.5	12	21	12	1/8"	8
25	44	16	30	16	10	30	M10×1.25	22	17	6	29	7	8	8	9	M22×1.5	14	21	14	1/8"	8
32	44	16	35	16	12	30	M10×1.25	22	17	6	32	8	10	10	12	M24×2.0	14	27	14	1/8"	8
40	46	16.5	41.5	20	16	32	M12×1.25	24	17	7	41	9	14	12	12	M30×2.0	14	27	14	1/8"	8

MAD/MACD

Φ16~Φ40



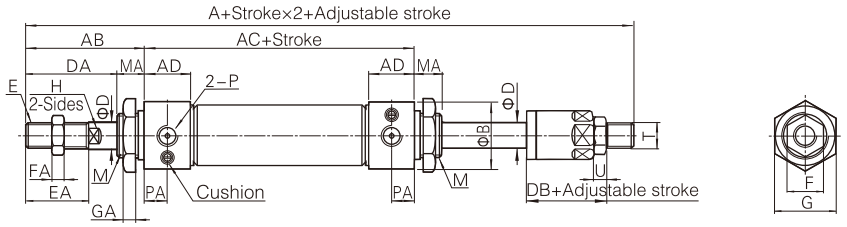
Φ50/Φ63



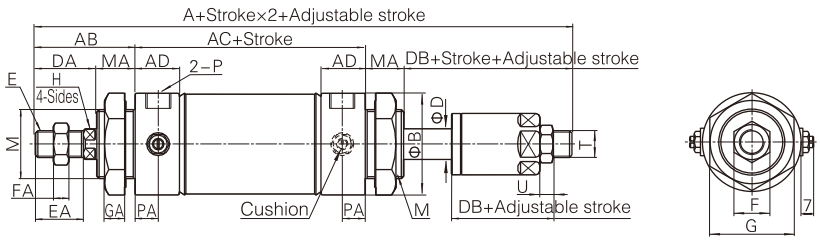
Bore size\Item	A	AB	AC	AD	B	D	DA	E	EA	F	FA	G	GA	H	M	MA	P	PA
16	136	38	60	10	21	6	22	M6×1.0	16	10	5	22	6	5	M16×1.5	16	M5×0.8	5
20	156	40	76	16	27	8	28	M8×1.25	20	12	6	29	7	6	M22×1.5	12	1/8"	8
25	164	44	76	16	30	10	30	M10×1.25	22	17	6	29	7	8	M22×1.5	14	1/8"	8
32	164	44	76	16	35	12	30	M10×1.25	22	17	6	32	8	10	M24×2.0	14	1/8"	8
40	168	46	76	16.5	41.5	16	32	M12×1.25	24	17	7	41	9	14	M30×2.0	14	1/8"	8
50	199	52	95	23	53	16	32	M14×1.5	24	19	8	46	11	14	M36×2.0	20	1/4"	11.5
63	199	52	95	23	67	16	32	M14×1.5	24	19	8	46	11	14	M36×2.0	20	1/4"	11.5

MAJ/MACJ

Φ16~Φ40

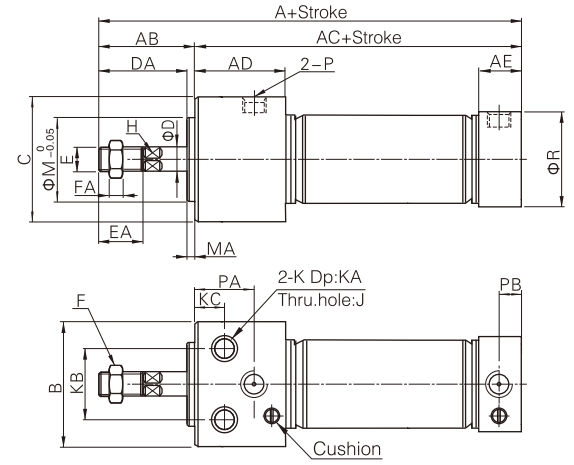


Φ50/Φ63

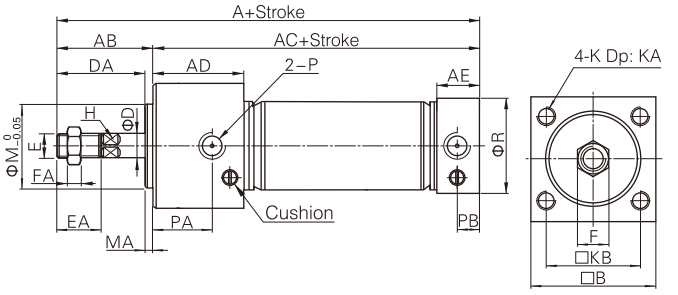


Bore size\Item	A	AB	AC	AD	B	D	DA	DB	E	EA	F	FA	H	M	MA	P	PA	G	GA	T	U
16	135	38	60	10	21	6	22	21	M6×1.0	16	10	5	5	M16×1.5	16	M5×0.8	5	22	6	M6×1.0	5
20	153	40	76	16	27	8	28	25	M8×1.25	20	12	6	6	M22×1.5	12	1/8"	8	29	7	M8×1.25	6
25	161	44	76	16	30	10	30	27	M10×1.25	22	17	6	8	M22×1.5	14	1/8"	8	29	7	M10×1.25	6
32	161	44	76	16	35	12	30	27	M10×1.25	22	17	6	10	M24×2.0	14	1/8"	8	32	8	M10×1.25	6
40	164	46	76	16.5	41.5	16	32	28	M12×1.25	24	17	7	14	M30×2.0	14	1/8"	8	41	9	M12×1.25	7
50	195	52	95	23	53	16	32	28	M14×1.5	24	19	8	14	M36×2.0	20	1/4"	11.5	46	11	M12×1.5	7
63	195	52	95	23	67	16	32	28	M14×1.5	24	19	8	14	M36×2.0	20	1/4"	11.5	46	11	M12×1.5	7

MARU(Up mounting type) Φ20~Φ40



MARF(Up mounting type) Φ20~Φ40



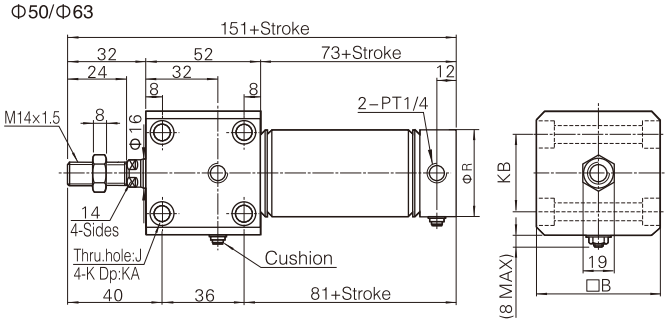
Bore size\Item	A	AB	AC	AD	AE	B	C	D	DA	E	EA	F	FA
20	120	31	89	29	16	33.5	30.5	8	28	M8×1.25	20	13	5
25	122	33	89	29	16	39	36.5	10	30	M10×1.25	22	17	6
32	122	33	89	29	16	47	42.5	12	30	M10×1.25	22	17	6
40	132.5	35	97.5	37.5	16.5	58.5	52.5	16	32	M14×1.5	24	19	8

Bore size\Item	H	J	K	KA	KB	KC	M	MA	P	PA	PB	R
20	6	Φ5.5	Φ9.5	6.5	21	12	20	3	1/8'	22	8	27
25	8	Φ6.5	Φ11.5	7.5	25	12	26	3	1/8"	22	8	30
32	10	Φ9.0	Φ14.0	10	30	12	26	3	1/8"	22	8	35
40	14	Φ11	Φ17.5	12.5	38	15	32	3	1/8"	27	8	41.5

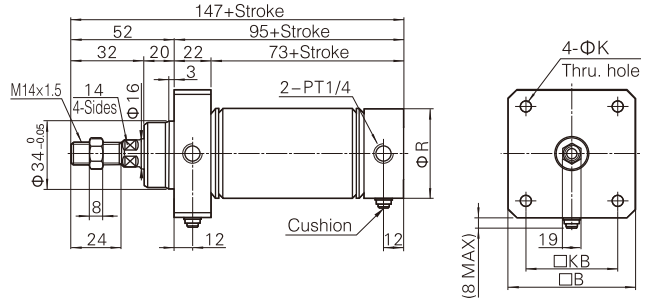
Bore size\Item	A	AB	AC	AD	AE	B	D	DA	E	EA
20	120	31	89	29	16	30.5	8	28	M8×1.25	20
25	122	33	89	29	16	36.5	10	30	M10×1.25	22
32	122	33	89	29	16	42.5	12	30	M10×1.25	22
40	132.5	35	97.5	37.5	16.5	52.5	16	32	M14×1.5	24

Bore size\Item	F	FA	H	K	KA	KB	M	MA	P	PA	PB	R
20	13	5	6	M5×0.8	9	22	20	3	1/8"	22	8	27
25	17	6	8	M6×1.0	10	26	26	3	1/8"	22	8	30
32	17	6	10	M6×1.0	11	30	26	3	1/8"	22	8	35
40	19	8	14	M8×1.25	14	36	32	3	1/8"	27	8	41.5

Φ50/Φ63



Φ50/Φ63



Bore size\Item	B	J	K	KA	KB	R
50	62	Φ6.5	2-Sides:Φ11.0	6.5	44	53
63	74	Φ9.0	2-Sides:Φ14.0	8.5	48	67

Bore size\Item	B	K	KB	R
50	62	6.5	44	53
63	74	9.0	48	67

List for ordering code of accessories

Accessories	Mounting accessory			Knuckle				Sensor switch					
Bore size	LB	FA	SDB	I: I Knuckle	Y: Y Knuckle	F: F Knuckle	U: U Knuckle	CS1-M□	DS1-M□	CS1-F	DS1-F	CS1-U	DS1-U
16	F-MA16LB	F-MA16FA	F-MA16SDB	F-MA16I	F-MA16Y	F-M6×100F	F-M6×100U	CS1-M-S16	DS1-M-S16	–	–	–	–
20	F-MA20LB	F-MA20FA	F-MA20SDB	F-MA20I	F-MA20Y	F-M8×125F	F-M8×125U	CS1-M-S20	DS1-M-S20				
25				F-MA25I	F-MA25Y	F-M10×125F	F-M10×125U	CS1-M-S25	DS1-M-S25				
32	F-MA32LB	F-MA32FA	F-MA32SDB					CS1-M-S32	DS1-M-S32				
40	F-MA40LB	F-MA40FA	F-MA40SDB	F-MA40I	F-MA40Y	F-M12×125F	F-M12×125U	CS1-M-S40	DS1-M-S40				
50	F-MA50LB	F-MA50FA		F-MA50I	F-MA50Y	F-M14×150F	F-M14×150U	CS1-M-S50	DS1-M-S50	CS1-F	DS1-F	CS1-U	DS1-U
63	F-MA63LB							CS1-M-S63	DS1-M-S63				

Accessory selection

Accessories	Mounting accessory			Knuckle				Sensor switch					
Cylinder model	LB	FA	SDB	I	Y	U	F	CS1-M	DS1-M	CS1-F	DS1-F	CS1-U	DS1-U
MA\MAC	●	●	●	●	●	●	●	●	●	●	●	●	●
MSA\MTA	●	●	●	●	●	●	●	●	●	●	●	●	●
MAD\MACD	●	●	×	●	●	●	●	●	●	●	●	●	●
MAJ\MACJ	●	●	×	●	●	●	●	●	●	●	●	●	●
MARF\MARU	×	×	×	●	●	●	●	●	●	●	●	●	●

Material of accessories selection

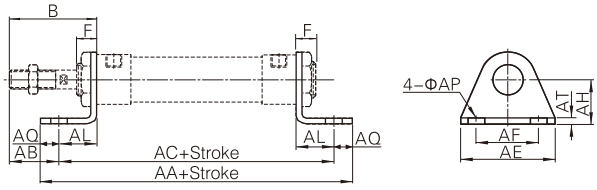
Accessories	Mounting accessory			Knuckle			
Bore size	LB	FA	SDB	I	Y	F	U
16~63	○	○	○	□	□	□	□

○——Low carbon steel, □——Carbon steel

Note: Floating joint (F) and fisheye joint (U) are common parts.

Dimensions

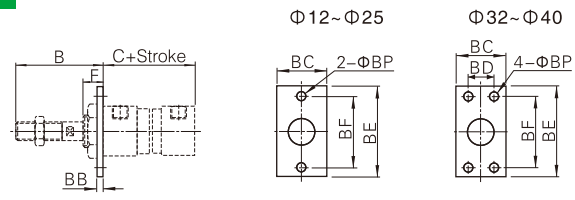
LB



Bore size\Item / Stroke	AA (MA\MAC)	AA(MSA) 0~50	AA(MSA) 51~100	AA(MSA) 101~150	AC (MA\MAC)	AC(MSA) 0~50	AC(MSA) 51~100	AC(MSA) 101~150
16	98	123	148	-	86	111	136	-
20	122	147	172	197	106	131	156	181
25	122	147	172	197	106	131	156	181
32	142	167	192	217	126	151	176	201
40	142	167	192	217	126	151	176	201
50	175	-	-	-	151	-	-	-
63	183	-	-	-	157	-	-	-

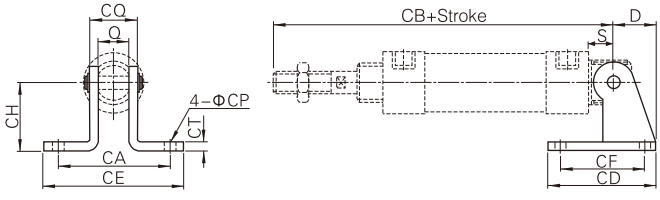
Bore size\Item	B	F	AB	AE	AF	AL	AQ	AP	AT	AH
16	38	16	25	44	32	13	6	5.5	2.5	20
20	40	12	25	54	40	15	8	6.5	3	25
25	44	14	29	54	40	15	8	6.5	3	25
32	44	14	19	59	45	25	8	7	3.5	32
40	46	14	21	64	50	25	8	7	3.5	36
50	52	20	24	86	66	28	12	11	4.5	40
63	52	20	21	106	82	31	13	11	4.5	45

FA



Bore size\Item / Stroke	B	C (MA/MAC)	C(MSA) 0~50	C(MSA) 51~100	C(MSA) 101~150	BB	BC	BD	BE	BF	BP	F
16	38	60	85	110	-	3	26	-	52	40	5.5	16
20	40	76	101	126	151	3.5	38	-	64	50	7	12
25	44	76	101	126	151	3.5	38	-	64	50	7	14
32	44	76	101	126	151	4	47	33	72	58	6.5	14
40	46	76	101	126	151	4	50	36	84	70	6.5	14
50	54	147				4.5	65	47	104	86	9	22
63	54	147				4.5	65	47	104	86	9	22

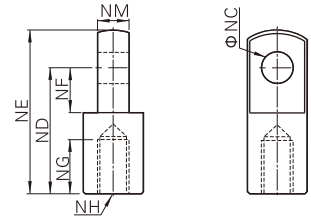
SDB



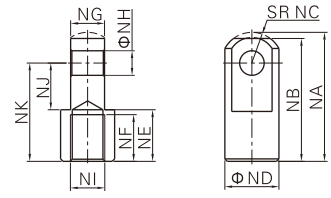
Bore size\Item / Stroke	D	S	Q	CA	CB (MA)	CB(MSA) 0~50	CB(MSA) 51~100	CB(MSA) 101~150	CD	CE	CF	CH	CT	CP	CQ
16	16	9	12	-	107	132	157	-	23	-	12	20	2	5.5	16
20	21	12	16	51	128	153	178	203	48	67	32	32	2.5	7	22
25	21	12	16	51	132	157	182	207	48	67	32	32	2.5	7	22
32	27	15	16	51	135	160	185	210	52	67	36	36	3	7	24
40	27	15	20	55	137	162	187	212	56	71	40	40	3	7	28

Note: SDB is attached with relevant PIN.

I Knuckle

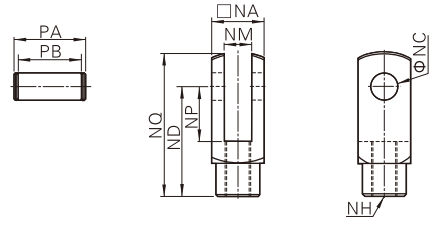


Type\Item	NC	ND	NE	NF	NG	NH	NM
F-MA16I	5	21	28	8.5	8	M6×1.0	6
F-MA20I	8	30	40	11	15	M8×1.0	8
F-MA25I	10	40	50	15	20	M10×1.0	10
F-MA40I	10	45	57	16	23	M12×1.0	14

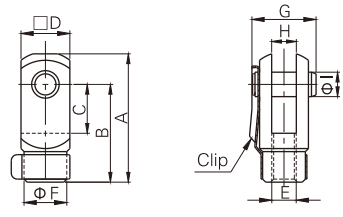


Type\Item	NA	NB	NC	ND	NE	NF	NG	NH	NJ	NK	NI
F-MAC50I	52.5	50	12.5	22	21	19	13.8	10	19	40	M14×1.5

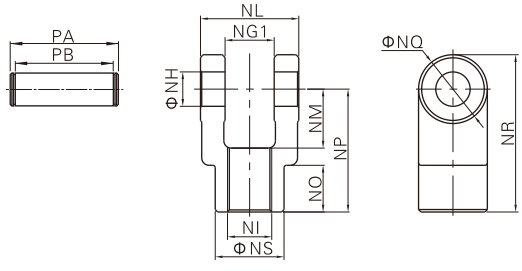
Y Knuckle



Type\Item	NA	NC	ND	NP	NQ	NM	NH	PA	PB
F-MA16Y	12	5	21	8.5	27.4	6	M6×1.0	16.8	12.4
F-MA40Y	25.4	10	45	20	57	14	M12×1.25	32	26.2

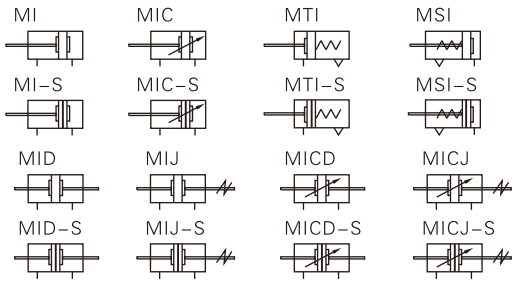


Type\Item	A	B	C	D	E	F	G	H	I
F-MA20Y	42	32	16	16	M8×1.25	14	21	8	8
F-MA25Y	52	40	20	19	M10×1.25	18	25	10	10



Type\Item	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

Symbol



Product feature

1. Inaccordance with ISO6432 standard (Φ8~Φ25).
2. Front and back cover owns fixed bumper and which can reduce the impact of direction-change of the cylinder.
3. There are seveval mode of back cover, which makes the installtion 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 choise.

Specifications

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 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		$0\sim150^{+1.0}_{0}$ $>150^{+1.5}_{0}$							
Cushion type		MIC Series: Variable cushion Other series: Bumper							
Port size Note)		M5×0.8					1/8"		1/4"

Note: PT thread, G thread and NPT thread are available.

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
MI 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\25\32\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	-
MID MIJ MICD MICJ	16\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		500	-
MSI MTI	8\10\12	10 15 20 25 30 40 50	-	-
	16	10 15 20 25 30 40 50 60 75 80 100	-	-
	20\25\32\40	10 15 20 25 30 40 50 60 75 80 100 125 150	-	-

Note: Consult us for non-standard stroke.

Ordering code

MI 10 × 40 S CA □ □
MID 10 × 40 S □ □
MIJ 10 × 40 - 30 S □ □

Model

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

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

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

Magnet code

Blank	Without magnet
S	With magnet

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

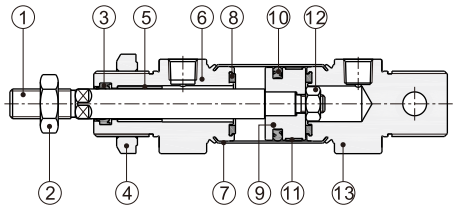
MI MSI MTI	CA: Pivot type	Φ8~Φ25
	U: Perpendicular 90°	Φ8~Φ40
	R: Axial air-in	Φ16~Φ40
	CM: Round-end type	Φ16~Φ40
MIC	CA: Pivot type	Φ16~Φ25
	U: Perpendicular	Φ16~Φ40
	CM: Round-end type	Φ16~Φ40
Others	No this code	

Thread type

Blank	PT
G	G

Inner structure and material of major parts

MI-CA

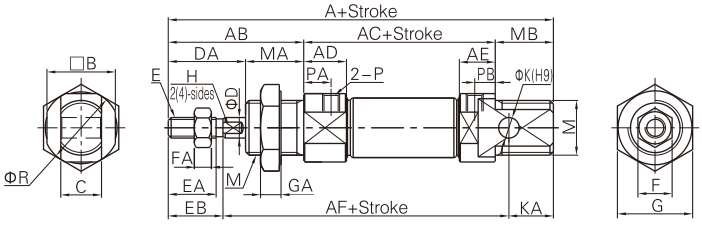


NO.	Item	Material
1	Rod	SUS 304
2	Rod nut	Carbon steel
3	Front cover packing	NBR
4	Front cover nut	Carbon steel
5	Bushing	Wear resistant material
6	Front cover	Aluminum alloy
7	Barrel	SUS304(Φ8~Φ12)\SUS316L(Others)
8	Bumper	TPU
9	Piston	SUS304(Φ8~Φ12)\Aluminum alloy(Others)
10	Piston seal	NBR
11	Wear ring	Wear resistant material
12	Nut	Carbon steel
13	Back cover	Aluminum alloy

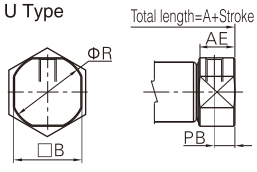
Dimensions

MI

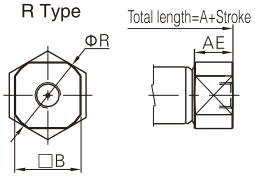
CA Type



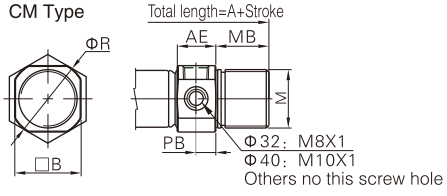
U Type



R Type



CM Type

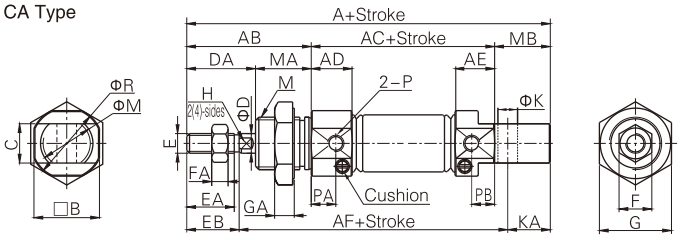


Bore size\Item	A				AB	AC	AD	AE		AF	B	C	D	DA	E	EA	EB	F	FA	G	GA	H	K	KA	M	MA	MB	P	PA	PB		R
Back cover	CA	U	R	CM				CA	UR/CM																					CA	U/CM	
8	86	74	-	-	28	46	11.5	9.5	9.5	64	15	8	4	16	M4×0.7	10.5	12	7	2.2	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
10	86	74	-	-	28	46	11.5	9.5	9.5	64	15	8	4	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	105	88	-	-	38	50	12.5	10.5	10.5	75	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	111	94	94	111	38	56	12.5	10.5	10.5	82	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	126	106	106	126	44	62	14.5	14.5	14.5	95	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	137	114.5	115	137	50	65	16	16	16	104	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	-	125	126	140	58	-	16.5	-	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	-	158	158	174	69	-	22	-	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

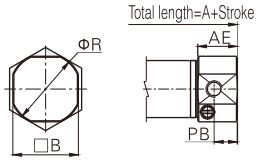
Note: The dimensions of magnet type cylinder are the same as non-magnet type cylinder.

MIC Φ16~Φ25

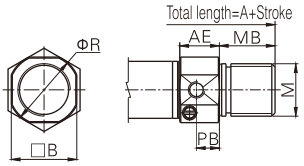
CA Type



U Type



CM Type

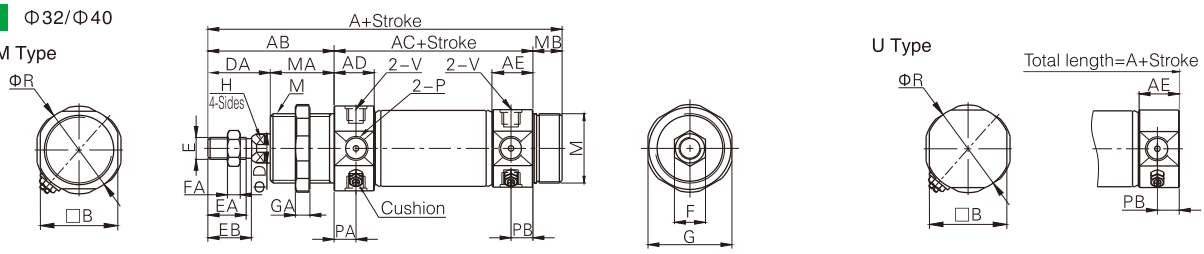


Bore size\Item	A		AB	AC	AD	AE		AF	B	C	D	DA	E	EA	EB	F	FA	G	GA	H	K	KA	M	MA	MB	P	PA	PB	R
Back cover	CA/CM	U				CA/CM	U																						
16	111	94	38	56	12.5	12	12	82	20	12	6	21	M6×1.0	14.5	16	10	5	22	6	5(2-Sides)	6	13	M16×1.5	17	17	M5×1.5	7.5	7	22
20	126	106	44	62	14.5	14.5	14.5	95	25	16	8	24	M8×1.25	18	20	12	6	29	7	6(2-Sides)	8	11	M22×1.5	20	20	1/8"	7.5	7.5	29
25	137	113.5	50	65	16	16	14.5	104	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	33.5

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

MIC Φ32/Φ40

CM Type

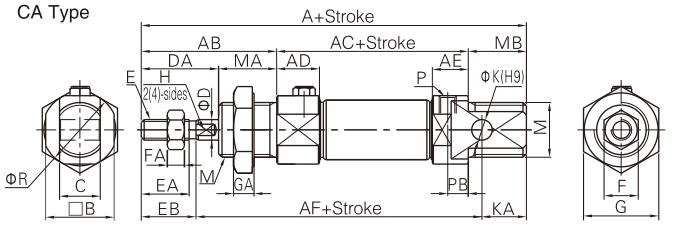


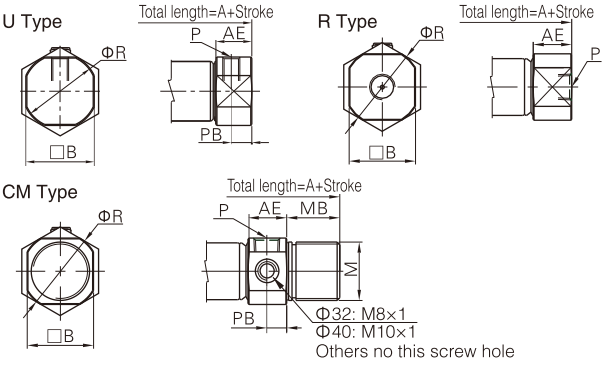
Bore size\Item	A		AB	AC	AD	AE		B	D	DA	E	EA	EB	F	FA	G	GA	H	M	MA	MB	P	PA	PB		R	V
Back cover	U	CM				U	CM																	U	CM		
32	124	140	58	68	16.5	14.5	16.5	34.5	12	28	M10×1.25	17.5	20	17	6	36	7	10(4-Sides)	M30×1.5	30	14	1/8"	9	7.5	9	37.5	M8×1
40	157.5	174	69	89	22	21.5	22	42.5	16	32	M12×1.25	21	24	17	7	46	8	24(4-Sides)	M38×1.5	35	16	1/4"	12	11.5	12	46.5	M10×1

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

MSI

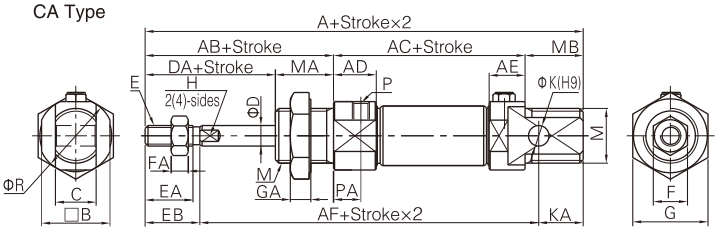
CA Type

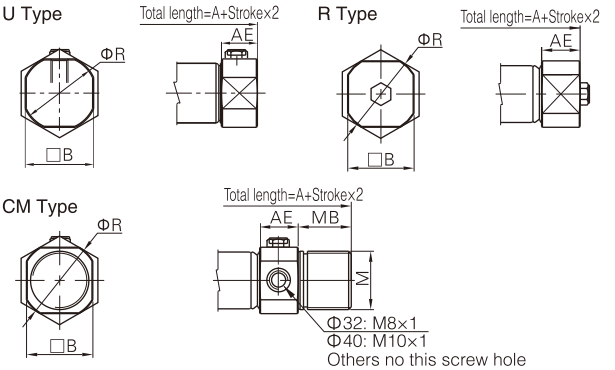




MTI

CA Type



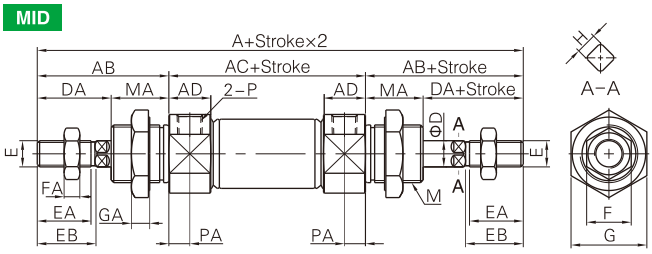


Item	A												AB	AC			AD	AF		
Back cover	CA			U			R			CM			-	–			-	–		
Bore size\Stroke	0~50	50~100	101~150	0~50	50~100	101~150	0~50	50~100	101~150	0~50	50~100	101~150	-	0~50	50~100	101~150	-	0~50	50~100	101~150
8	111	-	-	99	-	-	-	-	-	-	-	-	28	71	-	-	11.5	89	-	-
10	111	-	-	99	-	-	-	-	-	-	-	-	28	71	-	-	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	-	-	-

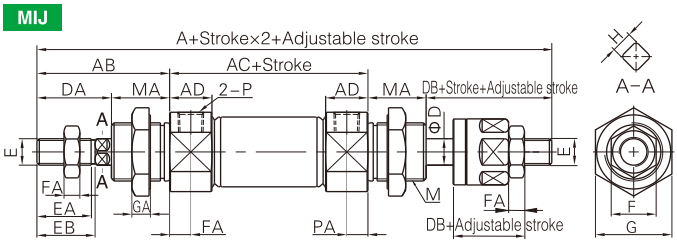
Bore size\Item	AE		B	C	D	DA	E	EA	EB	F	FA	G	GA	H	K	KA	M	MA	MB	P	PA	PB		R
Back cover	CA	U/R/CM																				CA	U/CM	
8	9.5	9.5	15	8	4	16	M4×0.7	10.5	12	7	2.2	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
10	9.5	9.5	15	8	4	16	M4×0.7	10.5	12	7	2.2	17	6	-	4	10	M12×1.25	12	12	M5×0.8	7	5	5	17
12	10.5	10.5	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

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

MID



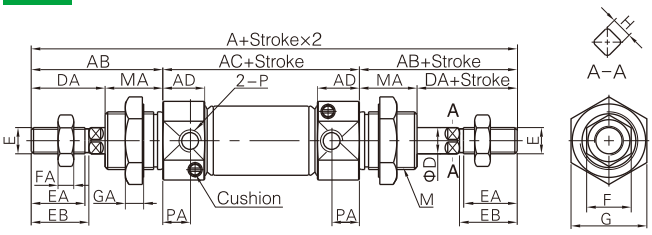
MIJ



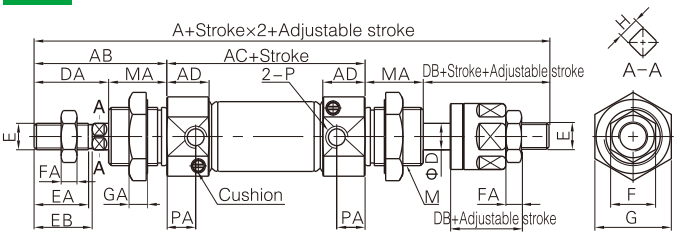
Bore size\Item	A(MID)	A(MIJ)	AB	AC	AD	D	DA	DB	E	EA	EB	F	FA	G	GA	H	M	MA	P	PA
8	104	103	28	48	11.5	4	16	15	M4×0.7	10.5	12	7	2.2	17	6	-	M12×1.25	12	M5×0.8	7
10	104	103	28	48	11.5	4	16	15	M4×0.7	10.5	12	7	2.2	17	6	-	M12×1.25	112	M5×0.8	7
12	128	128	38	52	12.5	6	21	21	M6×1.0	14	16	10	5	22	6	5(2-Sides)	M16×1.5	17	M5×0.8	8
16	134	134	38	58	12.5	6	21	21	M6×1.0	14.5	16	10	5	22	6	5(2-Sides)	M16×1.5	17	M5×0.8	8
20	150	151	44	62	14.5	8	24	25	M8×1.25	18	20	12	6	29	7	6(2-Sides)	M22×1.5	20	1/8"	7.5
25	165	164	50	65	16	10	28	27	M10×1.25	20	22	17	6	29	7	8(4-Sides)	M22×1.5	22	1/8"	8
32	184	183	58	68	16.5	12	28	27	M10×1.25	17.5	20	17	6	36	7	10(4-Sides)	M30×1.5	30	1/8"	9
40	227	222	69	89	22	16	34	29	M12×1.25	21	24	17	7	46	8	14(4-Sides)	M38×1.5	35	1/4"	12

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

MICD Φ16~Φ40



MICJ Φ16~Φ40



Bore size\Item	A(MICD)	A(MICJ)	AB	AC	AD	D	DA	DB	E	EA	EB	F	FA	G	GA	H	M	MA	P	PA
16	132.5	132.5	38	56.5	12.5	6	21	21	M6×1.0	14.5	16	10	5	22	6	5(2-Sides)	M16×1.5	17	M5×0.8	7.5
20	150	151	44	62	14.5	8	24	25	M8×1.25	18	20	12	6	29	7	6(2-Sides)	M22×1.5	20	1/8"	7.5
25	165	164	50	65	16	10	28	27	M10×1.25	20.5	22	17	6	29	7	8(4-Sides)	M22×1.5	22	1/8"	8
32	184	183	58	68	16.5	12	28	27	M10×1.25	17.5	20	17	6	36	7	10(4-Sides)	M30×1.5	30	1/8"	9
40	227	221	69	89	22	16	34	28	M12×1.25	21	24	17	7	46	8	14(4-Sides)	M38×1.5	35	1/4"	12

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

List for ordering code of accessories

Accessories	Mounting accessories				Knuckle				Sensor switch					
Bore size	LB	FA	SDB	TC	I	Y	F	U	CS1-M□	DS1-M□	CS1-F	DS1-F	CS1-U	DS1-U
8	F-MI10LB	F-MI8FA	F-MI8SDB	F-MI10TC	F-M4×070I	F-M4×070Y	F-M4×070F	F-M4×070U	CS1-M-S08	DS1-M-S08	CS1-F	DS1-F	CS1-U	DS1-U
10									CS1-M-S10	DS1-M-S10				
12	F-MI12LB	F-MI12FA	F-MI12SDB	F-MI12TC	F-M6×100I	F-M6×100Y	F-M6×100F	F-M6×100U	CS1-M-S12	DS1-M-S12				
16									CS1-M-S16	DS1-M-S16				
20	F-MI20LB	F-MI20FA	F-MI20SDB	F-MI20TC	F-M8×125I	F-M8×125Y	F-M8×125F	F-M8×125U	CS1-M-S20	DS1-M-S20				
25					F-M10×125I	F-M10×125Y	F-M10×125F	F-M10×125U	CS1-M-S25	DS1-M-S25				
32	F-MI32LB	-	F-MI32SDB	F-MI32TC					CS1-M-S32	DS1-M-S32				
40	F-MI40LB	-	F-MI40SDB	F-MI40TC	F-M12×125I	F-M12×125Y	F-M12×125F	F-M12×125U	CS1-M-S40	DS1-M-S40				

Accessory selection

Accessories		Mounting accessory				Knuckle				Sensor switch		
Cylinder model		LB	FA	SDB	TC	I	Y	U	F	C(D)S1-M	C(D)S1-F	C(D)S1-U
MI MIC	Standard	●	●	●	●	●	●	●	●	×	×	×
	With magnet	●	●	●	●	●	●	●	●	●	●	●
MSI MTI	Standard	●	●	●	●	●	●	●	●	×	×	×
	With magnet	●	●	●	●	●	●	●	●	●	●	●
MID MICD	Standard	●	●	●	×	●	●	●	●	×	×	×
	With magnet	●	●	●	×	●	●	●	●	●	●	●
MIJ MICJ	Standard	●	●	●	×	●	●	●	●	×	×	×
	With magnet	●	●	●	×	●	●	●	●	●	●	●

Material of accessories

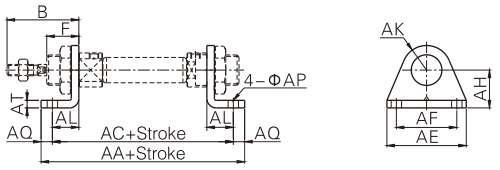
Accessories	Mounting accessory				Knuckle			
Bore size	LB	FA	SDB	TC	I	Y	F	U
8~40	△	△	△	▲	□	□	□	□

▲——SUS304; △——SPCC; □——Carbon stee;

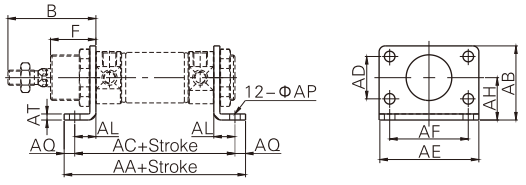
Dimensions

LB

Φ8~Φ25



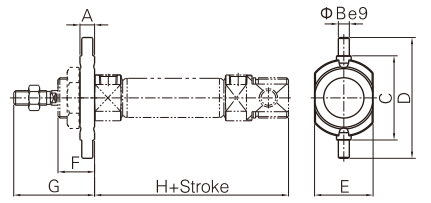
Φ32、Φ40



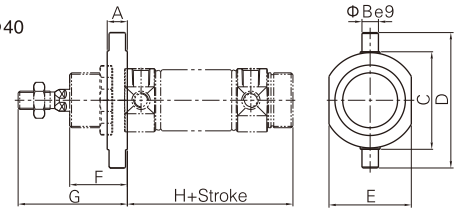
Bore size\Item	AA	AB	AC	AD	AE	AF	AH	AK	AL	AP	AQ	AT	B	F
8	78	-	68	-	35	25	16	10	11	4.5	5	2	28	12
10	78	-	68	-	35	25	16	10	11	4.5	5	2	28	12
12	90	-	78	-	42	32	20	13	14	5.5	6	2.5	38	17
16	96	-	84	-	42	32	20	13	14	5.5	6	2.5	38	17
20	112	-	96	-	54	40	25	20	17	7	8	3	44	20
25	115	-	99	-	54	40	25	20	17	7	8	3	50	22
32	110	49	96	28	66	52	28	-	14	7	7	3.5	58	30
40	149	58	129	30	80	60	33	-	20	9	10	3.5	69	35

TC

Φ8~Φ25



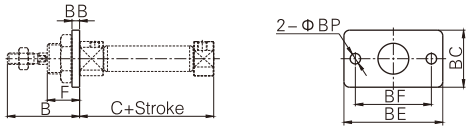
Φ32、Φ40



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

FA

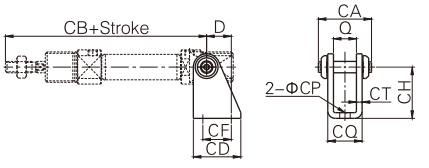
Φ8~Φ25



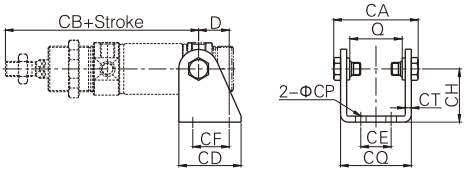
Bore size\Item	B	C	BB	BC	BE	BF	BP	F
8	28	46	2	22	40	30	4.5	12
10	28	46	2	22	40	30	4.5	12
12	38	50	3	26	52	40	5.5	17
16	38	56	3	26	52	40	5.5	17
20	44	62	3.5	38	64	50	7	20
25	50	65	3.5	38	64	50	7	22

SDB

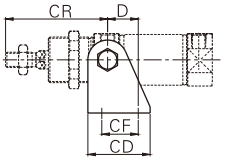
Φ8~Φ25



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	-
10	11	8.1	18.4	76	20	-	12.5	24	4.5	13.1	2	-
12	13	12.1	28	91	25	-	15	27	5.5	18.1	2	-
16	13	12.1	28	98	25	-	15	27	5.5	18.1	2	-
20	16	16.1	38	115	32	-	20	30	7	24.1	2.5	-
25	16	16.1	38	126	32	-	20	30	7	24.1	2.5	-
32	20	34.6	55.5	117	41	20	24	35	7	46.6	3	67
40	27	42.6	69.6	146	52	28	30	40	9	58.6	3	81

Note: SDB is attached with relevant PIN.

NCM2 Series
Stainless Steel Small Pneumatic Cylinder (Double Acting)

Specifications

Bore size(mm)	20	25	32	40
Fluid	Air			
Acting type	Double acting, Single rod			
Maximum operating pressure	1.0MPa			
Minimum operating pressure	0.05MPa			
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C			
Piston speed (mm/s)	50~750			
Buffer	Rubber bumper, Air cushion			
Stroke length tolerance	$^{+1.4}_{0}$			
Lubrication Note)	Not required (Non-lube)			
Pipe size	1/8"			1/4"

Note: 1. For oil supply, please use Turbine No.1 Oil ISO VG32.
2. PT thread, G thread and NPT thread are available.

Ordering code

N C D M 2 — L — 40 — F — 150 — A — J — M9B □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic(Double-side bossed)
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
U	Rod trunnion
T	Head trunnion
E	Integrated clevis
BZ	Boss-cut/Basic
FZ	Boss-cut/Rod flange
UZ	Boss-cut/Rod trunnion

Bore size

20	20mm
25	25mm
32	32mm
40	40mm

Piping mode

Blank	Thread piping
F	Built-in quick-change connector

*Gas-liquid hybrid formula only thread piping

Buffer

Blank	Rubber cushion
A	Air cushion

*Gas-liquid hybrid formula only rubber cushion

Stroke

Protective sleeve

Blank	Unprotected sleeve
J	Nylon Canvas
K	Heat resistant canvas

Magnetic switch type

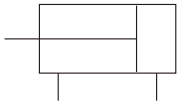
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
3	3 pcs.
n	"n" pcs.

Symbol



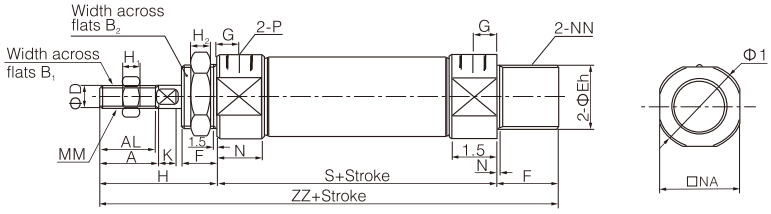
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke (mm) Note 1	Magnetic switch type Note 2	Installation parts type Note 3	Ring belt type
20	25,50,75,100, 125,150,200, 250,300	M9B M9P M9N	BJ3-1	BM2-020
25				BM2-025
32				BM2-032
40				BM2-040

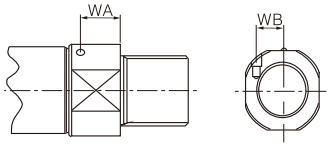
Note: 1. There are non-standard stroke to choose from.
2. The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches. Wire Length Representation Mark: Unmarked-0.5m, L-3m, Z-5m Example: M9N, M9NL.
3. Installation type and ring type must be combined for ordering.

Dimensions

Basic

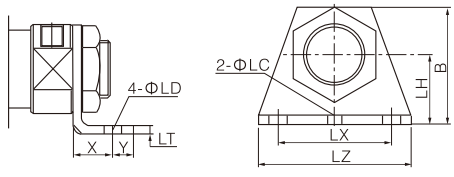


Air cushion

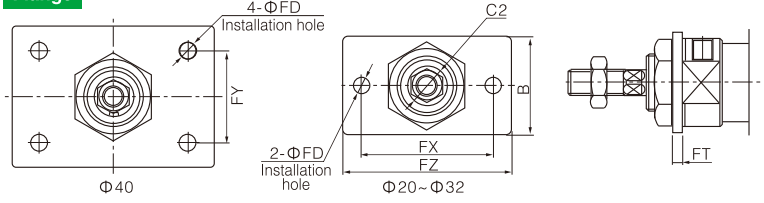


Bore size	Stroke range	A	AL	B1	B2	D	E	F	G	H	H1	H2	I	K	MM	N	NA	NN	P	S	ZZ	WA	WB
20	~300	18	15.5	13	26	8	$20_{-0.033}^{0}$	13	8	41	5	8	28	5	M8×1.25	15	24	M20×1.5	1/8"	62	116	13	8.5
25	~300	22	19.5	17	32	10	$26_{-0.033}^{0}$	13	8	45	6	8	33.5	5.5	M10×1.25	15	30	M26×1.5	1/8"	62	120	13	10.5
32	~300	22	19.5	17	32	12	$26_{-0.033}^{0}$	13	8	45	6	8	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8"	64	122	13	11.5
40	~300	24	21	22	41	14	$32_{-0.039}^{0}$	16	11	50	6	10	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4"	88	154	16	15

Foot seat

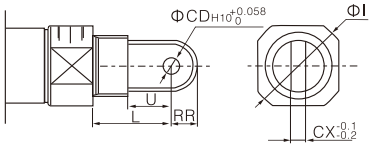


Flange

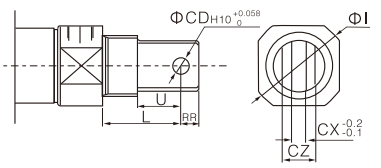


Bore size (mm)	Foot seat										Flange							
	Part No.	X	Y	ΦLD	ΦLC	LX	LZ	LH	LT	B	Part No.	FD	FY	FX	FZ	C2	B	FT
20	CM-L020B	20	8	6.8	4	40	55	25	3.2	40	CM-F020B	7	-	60	75	30	34	4
25	CM-L025B	20	8	6.8	4	40	55	28	3.2	47	CM-F025B	7	-	60	75	37	40	4
32	CM-L032B	20	8	6.8	4	40	55	28	3.2	47	CM-F032B	7	-	60	75	37	40	4
40	CM-L040B	23	10	7	4	55	75	30	3.2	54	CM-F040B	7	36	66	82	47.3	52	5

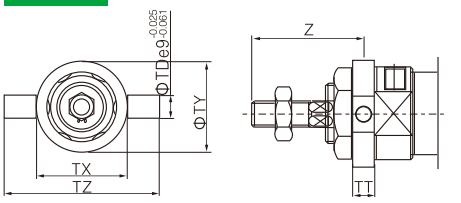
Single earrings



Double earrings



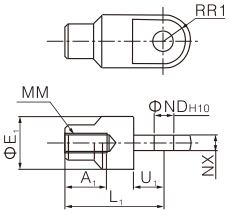
Trunnion



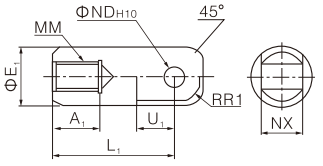
Bore size (mm)	Single earrings							Double earrings								Trunnion						
	Part No.	L	U	RR	ΦI	ΦCD	CX	Part No.	L	U	RR	ΦCD	CX	CZ	ΦI	Part No.	TX	TZ	TD	TY	Z	TT
20	CM-C020B	30	14	9	28	9	10	CM-D020B	30	14	9	9	10	19	28	CM-T020B	32	52	8	32	36	10
25	CM-C025B	30	14	9	33.5	9	10	CM-D025B	30	14	9	9	10	19	33.5	CM-T025B	40	60	9	40	40	10
32	CM-C032B	30	14	9	37.5	9	10	CM-D032B	30	14	9	9	10	19	37.5	CM-T032B	40	60	9	40	40	10
40	CM-C040B	39	18	11	46.5	10	15	CM-D040B	39	18	11	10	15	30	46.5	CM-T040B	53	77	10	53	44.5	11

I Type single elbow joint

I-020B,032B

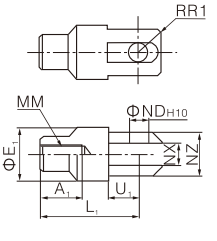


I-040B

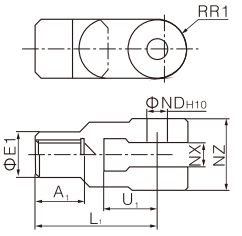


Y Type double elbow joint

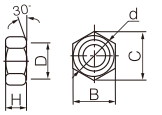
Y-020B,032B



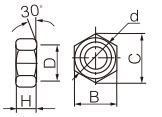
Y-040B



Rod end nut

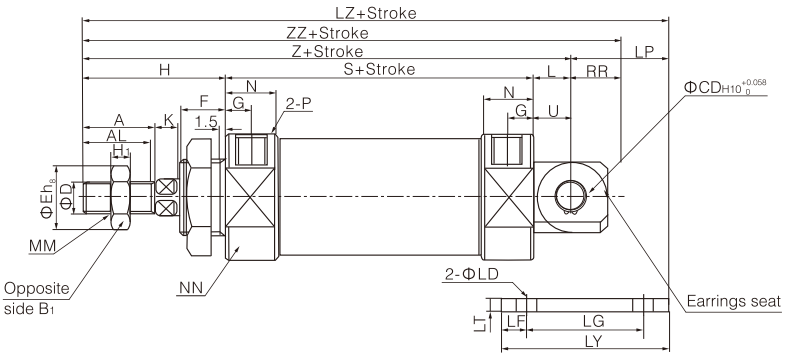


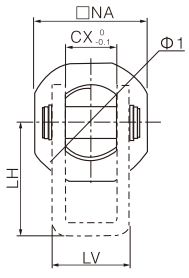
Mounting nut

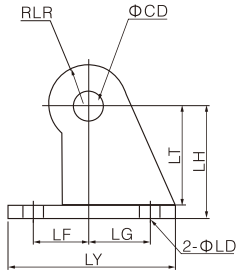


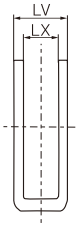
Bore size (mm)	I Type single elbow joint									Y Type double elbow joint										Rod end nut					Mounting nut					
	Part No.	A1	E1	L1	MM	ΦND H10	NX	R1	U1	Part No.	A1	E1	L1	MM	ΦND	NX	NZ	R1	U1	Part No.	B	C	d	H	Part No.	B	C	D	H	D
20	I-020B	16	20	36	M8x1.25	9 +0.058 0	9 -0.1 -0.2	10	14	Y-020B	16	20	36	M8x1.25	9	9 -0.1 -0.2	18	12	14	NT-02	13	15	M8x1.25	5	SN-020B	26	30	M20x1.5	8	25.5
25-30	I-032B	18	20	38	M10x1.25	9 +0.058 0	9 -0.1 -0.2	10	14	Y-032B	18	20	38	M10x1.25	9	9 -0.1 -0.2	18	12	14	NT-03	17	19.6	M10x1.25	6	SN-032B	32	37	M26x1.5	8	31.5
40	I-040B	22	24	55	M14x1.5	12 +0.070 0	16 -0.1 -0.3	15.5	20	Y-040B	22	24	55	M14x1.25	12	16 -0.1 -0.3	38	13	25	NT-04	22	25.4	M14x1.5	8	SN-040B	41	47.3	M32x2.0	10	40.5

Basic type





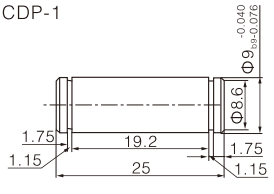




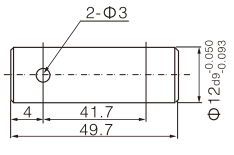
Bore size(mm)	Stroke range	A	AL	B1	CD	CX	D	E	F	G	H	H1	I	K	L	MM	N	NA	NN	P	RR	S	U	Z	ZZ
20	~300	18	15.5	13	8	12	8	20 0 -0.033	13	8	41	5	28	5	12	M8×1.25	15	24	M20×1.5	1/8"	9	62	11.5	115	124
25	~300	22	19.5	17	8	12	10	26 0 -0.033	13	8	45	6	33.5	5.5	12	M10×1.25	15	30	M26×1.5	1/8"	9	62	11.5	119	128
32	~300	22	19.5	17	10	20	12	26 0 -0.033	13	8	45	6	37.5	5.5	15	M10×1.25	15	34.5	M26×1.5	1/8"	12	64	14.5	124	136
40	~300	24	21	22	10	20	14	32 0 -0.039	16	11	50	8	46.5	7	15	M14×1.5	21.5	42.5	M32×2	1/4"	12	88	14.5	153	165

Pin for elbow joint

Applicable bore size
Φ20, Φ25, Φ32
CDP-1



Applicable bore size
Φ40
CDP-3



Earrings seat

Bore size(mm)	Part No.	LD	LF	LG	LH	LP	LT	LV	LY	LZ
20	CM-E020B	6.8	15	30	30	37	3.2	18.4	59	152
25		6.8	15	30	30	37	3.2	18.4	59	156
32	CM-E032B	9	15	40	40	50	4	28	75	174
40		9	15	40	40	50	4	28	75	203

NCM2 Series
Stainless Steel Small Pneumatic Cylinder (Single Acting)

Specifications

Bore size(mm)	20	25	32	40
Fluid	Air			
Acting type	Single action			
Maximum operating pressure	1.0MPa			
Minimum operating pressure	0.18MPa(Spring return)0.23MPa(Spring extend)			
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C			
Piston speed (mm/s)	50~750			
Buffer	Rubber bumper, Air cushion			
Stroke length tolerance	$^{+1.4}_{0}$			
Lubrication Note)	Not required (Non-lube)			
Pipe size	1/8"			1/4"

Note: 1. For oil supply, please use Turbine No.1 Oil ISO VG32.
2. PT thread, G thread and NPT thread are available.

Ordering code

N C D M 2 B 32 F - 150 T - M9B □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic(Double-side bossed)
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
U	Rod trunnion
T	Head trunnion
E	Integrated clevis
BZ	Boss-cut/Basic
FZ	Boss-cut/Rod flange
UZ	Boss-cut/Rod trunnion

Bore size

20	20mm
25	25mm
32	32mm
40	40mm

Stroke

Piping mode

Blank	Thread piping
F	Built-in quick-change connector

Action mode

S	Spring return
T	Spring rxtend

Magnetic switch type

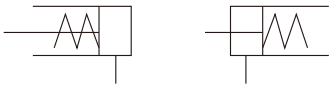
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
3	3 pcs.
n	"n" pcs.

Symbol



Spring return Spring extend

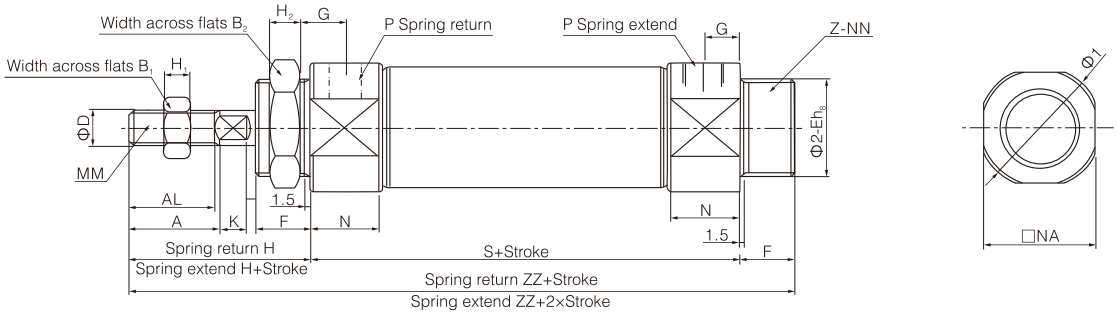
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke (mm)	Magnetic switch type Note 1	Installation parts type Note 2	Ring belt type
20	25,50,75,100,125,150	M9B M9P M9N	BJ3-1	BM2-020
25				BM2-025
32	25,50,75,100,125,150,200			BM2-032
40	25,50,75,100,125,150,200,250			BM2-040

Note: 1. The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches. Wire Length Representation Mark: Unmarked-0.5m, L-3m, Z-5m example: M9N, M9NL.
2. Installation type and ring type must be combined for ordering.

Dimensions

Basic type



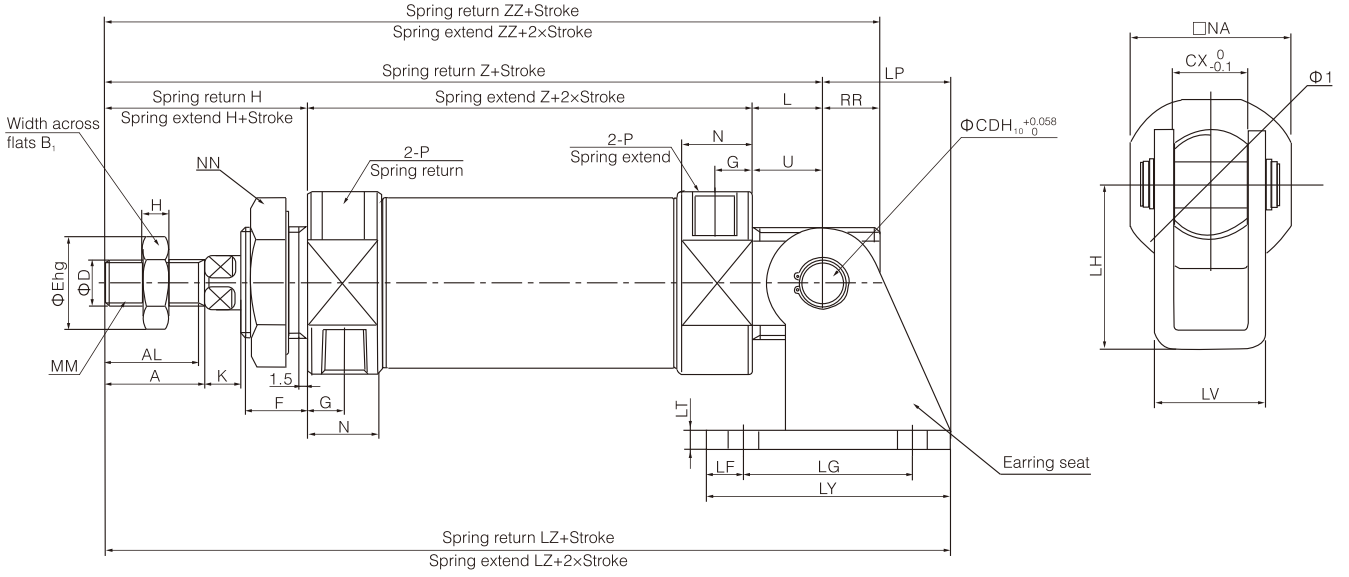
* This figure is a single-acting spring return.

Bore size(mm)	A	AL	B1	B2	D	E	F	G	H	H1	H2	I	K	MM	N	NA	NN	P
20	18	15.5	13	26	8	$20^{0}_{-0.033}$	13	8	41	5	8	28	5	M8×1.25	15	24	M20×1.5	1/8"
25	22	19.5	17	32	10	$26^{0}_{-0.033}$	13	8	45	6	8	33.5	5.5	M10×1.25	15	30	M26×1.5	1/8"
32	22	19.5	17	32	12	$26^{0}_{-0.033}$	13	8	45	6	8	37.5	5.5	M10×1.25	15	34.5	M26×1.5	1/8"
40	24	21	22	41	14	$32^{0}_{-0.039}$	16	11	50	8	10	46.5	7	M14×1.5	21.5	42.5	M32×2	1/4"

Bore size \ Stroke / Symbol	1~50		51~100		101~150		151~200		201~250	
	S	ZZ	S	ZZ	S	ZZ	S	ZZ	S	ZZ
20	87	141	112	166	137	191	-	-	-	-
25	87	145	112	170	137	195	-	-	-	-
32	89	147	114	172	139	197	164	222	-	-
40	113	179	138	204	163	229	188	254	213	279

Single earring one body type

NCM2E · NCDM2E



*This figure is a single-acting spring return.

Bore size(mm)	A	AL	B1	CD	CX	D	E	F	G	H	H1	I	K	L	MM	N	NA	NN	P	PR	U
20	18	15.5	13	8	12	8	$20^{0}_{-0.033}$	13	8	41	5	28	5	12	M8×1.25	15	24	M20×1.5	1/8"	9	11.5
25	22	19.5	17	8	12	10	$26^{0}_{-0.033}$	13	8	45	6	33.5	5.5	12	M10×1.25	15	30	M26×1.5	1/8"	9	11.5
32	22	19.5	17	10	20	12	$26^{0}_{-0.033}$	13	8	45	6	37.5	5.5	15	M10×1.25	15	34.5	M26×1.5	1/8"	12	14.5
40	24	21	22	10	20	14	$32^{0}_{-0.039}$	16	11	50	8	46.5	7	15	M14×1.5	21.5	42.5	M32×2	1/4"	12	14.5

Bore size \ Stroke / Symbol	1~50			51~100			101~150			151~200			201~250		
	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ	S	Z	ZZ
20	87	140	149	112	165	174	137	190	199	-	-	-	-	-	-
25	87	144	153	112	169	178	137	194	203	-	-	-	-	-	-
32	89	149	161	114	174	186	139	199	211	164	224	236	-	-	-
40	113	178	190	138	203	215	163	228	240	188	253	265	213	278	290

Part No.	Bore size(mm)	LD	LF	LG	LH	LP	LT	LV	LY	1~50	51~100	101~150	151~200	201~250
										LZ	LZ	LZ	LZ	LZ
CM-E020B	20	6.8	15	30	30	37	3.2	18.4	59	177	202	227	-	-
	25	6.8	15	30	30	37	3.2	18.4	59	181	206	231	-	-
CM-E032B	32	9	15	40	40	50	4	28	75	199	224	249	274	-
	40	9	15	40	40	50	4	28	75	228	253	278	303	328

NCJ2 Series
Stainless Steel Small Pneumatic Cylinder (Double Acting)

Specifications

Bore size(mm)	6	10	16
Fluid	Air		
Acting type	Double acting, Single rod		
Maximum operating pressure	1.0MPa		
Minimum operating pressure	0.12MPa	0.06MPa	
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C		
Piston speed (mm/s)	50~750		
Buffer	Rubber bumper, Air cushion		
Stroke length tolerance	$^{+1.0}_{0}$		
Lubrication Note)	Not required (Non-lube)		
Pipe size	M5×0.8		

Note: For oil supply, please use Turbine No.1 Oil ISO VG32.

Ordering code

N C D J 2 B 6 - 15 A R - M9B □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic(Double-side bossed)
L	Axial foot
F	Rod flange
D	Double clevis

Bore size

6	6mm
10	10mm
16	16mm

Stroke

Buffer

Blank	Rubber cushion
A	Air cushion

*Gas-liquid hybrid formula only rubber cushion

Head cover port location

Bore size / Symbol	Φ6	Φ10, Φ16
Blank	-	Perpendicular to axis
R	Axial	Axial

*Double earrings have only radial shape

Magnetic switch type

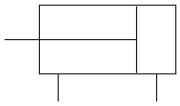
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Symbol



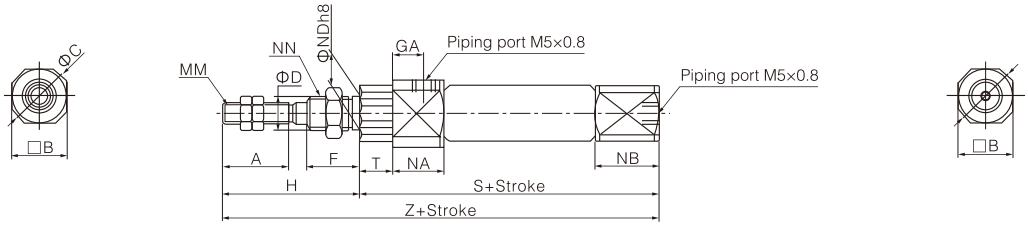
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke	Magnetic switch type	Installation parts type	Ring belt type
6	15,30,45,60	M9B M9P M9N	BJ3-1	BJ2-006
10	15,30,45,60,75, 100,125,150			BJ2-010
16	15,30,45,60,75,100, 125,150,175,200			BJ2-016

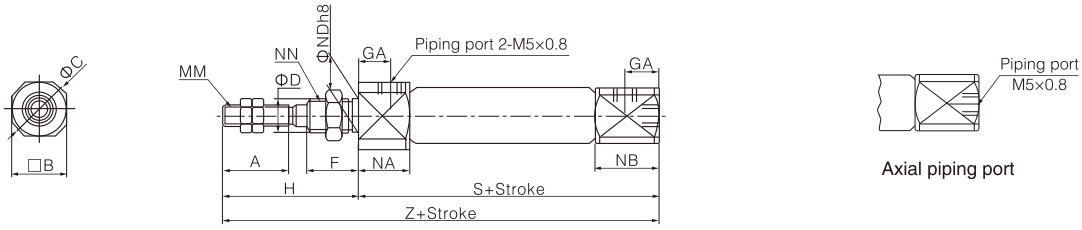
1. The specifications and characteristics of magnetic switches an be referred to the series of magnetic switches.
2. The length of conductor is denoted as mark : No mark -0.5m, L-3m. Example: M9N, M9NL.
3. No installation is required for track installation.
4. Installation type and ring type must be combined for ordering.

Dimensions

Basic type NCJ2B6



NCJ2B10,16

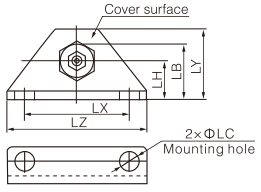


Axial piping port

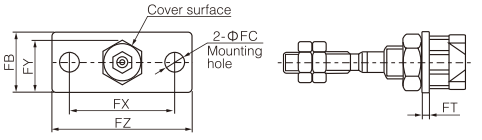
Bore size(mm)	A	B	C	D	F	GA	GB	H	MM	NA	NB	ND h8	NN	S	T	Z
6	15	12	14	3	8	14.5	-	28	M3×0.5	16	7	6	M6×1.0	49	3	77
10	15	12	14	4	8	8	5	28	M4×0.7	12.5	9.5	8	M8×1.0	46	-	74
16	15	18.3	20	5	8	8	5	28	M5×0.8	12.5	9.5	10	M10×1.0	47	-	75

Dimensions

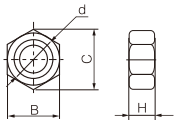
Foot type



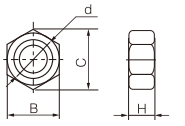
Flange type



Mounting nut



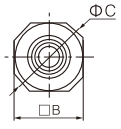
Rod end nut

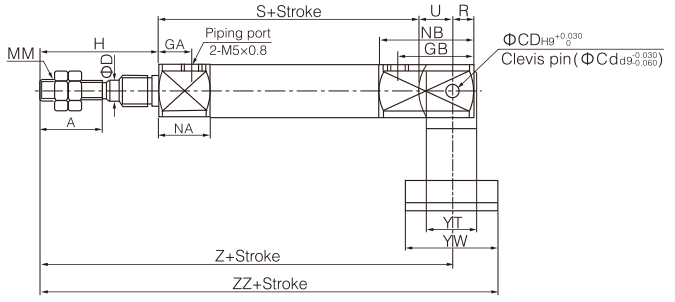


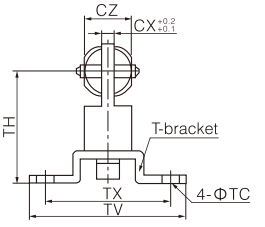
Bore size (mm)	Foot type							Flange type							Mounting nut					Rod end nut				
	Part No.	LB	ΦLC	LH	LX	LY	LZ	Part No.	FB	ΦFC	FX	FY	FZ	FT	Part No.	B	C	D	H	Part No.	B	C	D	H
6	CJ-L006B	13	4.5	9	24	16.5	32	CJ-F006B	11	4.5	24	14	32	1.6	SNJ-006B	8	9.2	M6×1	4	NTJ-006A	5.5	6.4	M3×0.5	2.4
10	CJ-L010B	15	4.5	9	24	16.5	32	CJ-F010B	13	4.5	24	14	32	1.6	SNJ-010B	11	12.7	M8×1	4	NTJ-010A	7	8.1	M4×0.7	3.2
16	CJ-L016B	23	5.5	14	33	25	40	CJ-F016B	19	5.5	33	20	42	2.3	SNJ-016B	14	16.2	M10×1	4	NTJ-016A	8	9.2	M5×0.8	4

Double earrings

NCJ2D10,16
NCDJ2D10,16

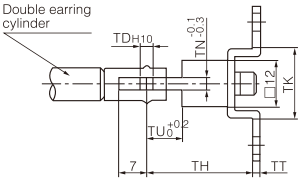


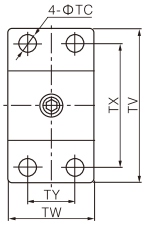




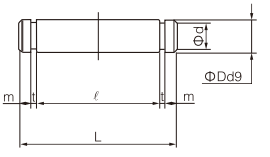
Bore size (mm)	A	B	C	CD(cd)	CX	CZ	D	GA	GB	H	MM	NA	NB	R	S	U	Z	ZZ
10	15	12	14	3.3	3.2	12	4	8	18	28	M4×0.7	12.5	22.5	5	46	8	82	93
16	15	18	20	5	6.5	18	5	8	23	28	M5×0.8	12.5	27.5	8	47	10	85	99

T-bracket



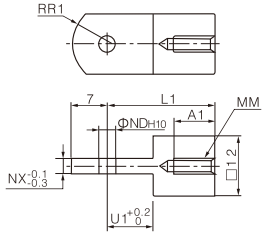


Clevis pin

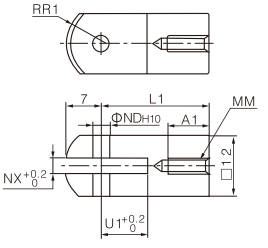


Bore size (mm)	T-bracket												Clevis pin						
	Part No.	TC	TC H10	TH	TK	TN	TT	TU	TV	TW	TX	TY	Part No.	ΦDd9	Φd	L	ℓ	m	t
10	CJ-T010B	4.5	3.3 +0.048 0	29	18	3.1	2	9	40	22	32	12	CD-J010	5 -0.03 -0.06	3	15.2	12.2	1.2	0.3
16	CJ-T016B	5.5	5 +0.048 0	35	20	6.4	2.3	14	48	28	38	16	CD-Z015	3.3 -0.03 -0.06	4.8	22.7	18.3	1.5	0.7

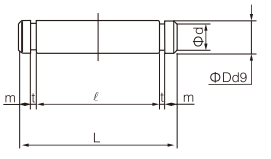
I Type single knuckle joint



Y Type double knuckle joint



Knuckle pin



Bore size (mm)	I Type single knuckle joint								Y Type double knuckle joint								Knuckle pin						
	Part No.	A1	ΦND H10	L1	MM	U1	NX	R1	Part No.	A1	ΦND H10	L1	MM	U1	NX	R1	Part No.	ΦDd9	L	Φd	ℓ	m	t
10	I-J010B	8	3.3 +0.048 0	21	M4×0.7	9	3.1	8	Y-J010B	8	3.3 +0.048 0	21	M4×0.7	10	3.2	8	CD-J010	3.3 -0.03 -0.06	3	15.2	12.2	1.2	0.3
16	I-J016B	8	5 +0.048 0	25	M5×0.8	14	6.4	12	Y-J016B	11	5 +0.048 0	21	M5×0.8	10	6.5	12	IY-J015	5 -0.03 -0.06	16.6	4.8	12.2	1.5	0.7

NCJ2 Series
Stainless Steel Small Pneumatic Cylinder (Single Acting)

Specifications

Bore size(mm)	6	10	16
Fluid	Air		
Acting type	Single action: spring return/spring extend		
Maximum operating pressure	0.7MPa		
Minimum operating pressure	0.25MPa	0.15MPa	
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C		
Piston speed (mm/s)	50~750		
Buffer	Rubber bumper		
Stroke length tolerance	$^{+1.0}_{0}$		
Lubrication Note)	Not required (Non-lube)		
Pipe size	M5×0.8		

Note: For oil supply, please use Turbine No.1 Oil ISO VG32.

Ordering code

N C D J 2 B 16 - 45 S R - M9B □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic(Double-side bossed)
F	Rod flange
L	Axial foot
D	Double clevis (Except Φ6)

Bore size

6	6mm
10	10mm
16	16mm

Stroke

Action mode

S	Spring return
T	Spring extend

Head cover port location

Symbol \ Bore size	Φ6	Φ10, Φ16
Blank	-	Perpendicular to axis
R	Axial	Axial

*Double earrings have only radial shape

Magnetic switch type

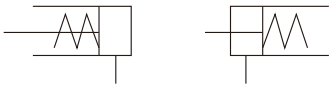
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Symbol



Spring return Spring extend

Stroke/magnetic switch model table

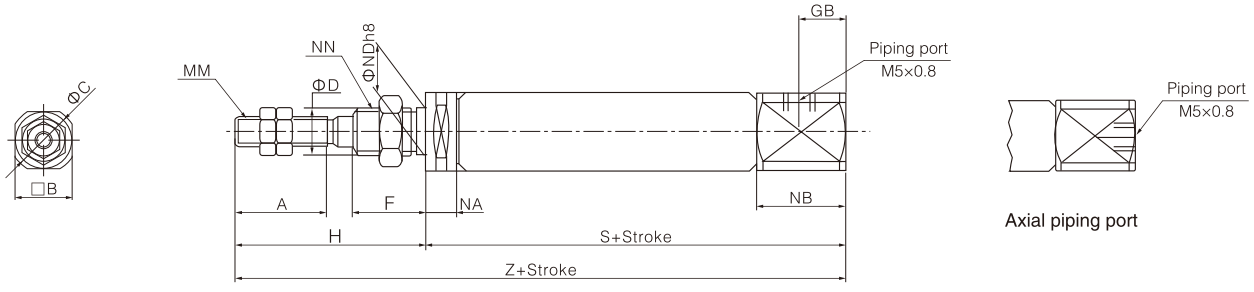
Bore size (mm)	Standard stroke	Magnetic switch type	Installation parts type	Ring belt type
6	15,30,45,60	M9B M9P M9N	BJ3-1	BJ2-006
10	15,30,45,60,75,100,125,150			BJ2-010
16	15,30,45,60,75,100,125,150,175,200			BJ2-016

1. The specifications and characteristics of magnetic switches an be referred to the series of magnetic switches.
2. The length of conductor is denoted as mark : No mark -0.5m, L-3m. Example: M9N, M9NL.
3. No installation is required for track installation.
4. Installation type and ring type must be combined for ordering.

Dimensions

Basic type: Spring return

NCJ2B · NCDJ2B

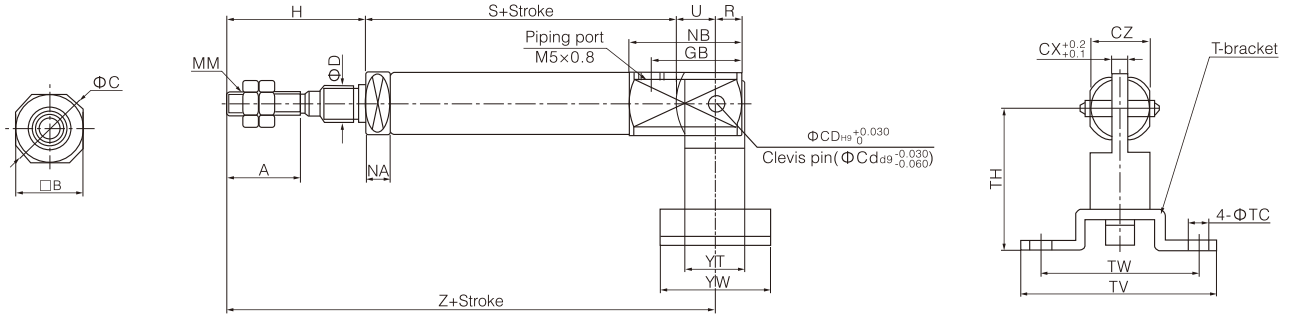


Bore size (mm)	A	B	C	D	F	GB	H	MM	NA	NB	NDh8	NN	*S 5~15	*S 16~30	*S 31~45	*S 46~60	*S 61~75	*S 76~100	*S 101~125	*S 126~150	*Z 5~15	*Z 16~30	*Z 31~45	*Z 46~60	*Z 61~75	*Z 76~100	*Z 101~125	*Z 126~150
6	15	8	19	3	8	-	28	M3×0.5	3	7	$6^{0}_{-0.018}$	M6×1	34.5 (39.5)	43.5 (48.5)	47.5 (52.5)	61.5 (66.5)	-	-	-	-	62.5 (67.5)	71.5 (76.5)	75.5 (80.5)	89.5 (94.5)	-	-	-	-
10	15	12	14	4	8	5	28	M4×0.7	5.5	9.5	$8^{0}_{-0.022}$	M8×1	45.5	53	65	77	-	-	-	-	73.5	81	93	105	-	-	-	-
16	15	18.3	20	5	8	5	28	M5×0.8	5.5	9.5	$10^{0}_{-0.022}$	M10×1	45.5	54	66	78	84	108	126	138	73.5	82	94	106	112	136	154	166

Note: ( )Size of built-in magnetic ring.

Double earrings: Spring return

NCJ2D · NCDJ2D

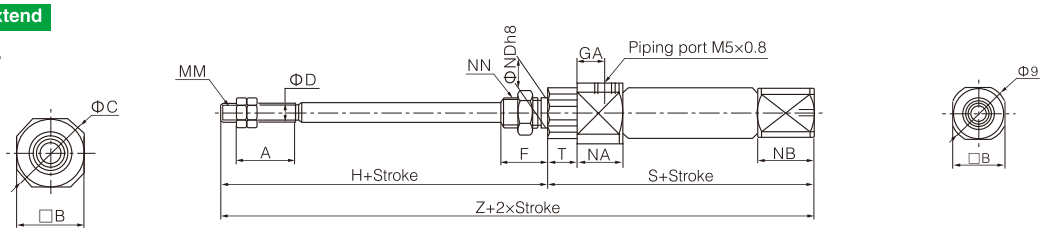


Bore size (mm)	A	B	C	CD (Cd)	CX	CZ	D	GB	H	MM	NA	NB	R	U	*S 5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	*Z 5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
10	15	12	14	3.3	3.2	12	4	18	20	M4×0.7	5.5	22.5	5	8	45.5	53	65	77	-	-	-	-	73.5	81	93	105	-	-	-	-
16	15	18.3	20	5	6.5	18.3	5	23	20	M5×0.8	5.5	27.5	8	10	45.5	54	66	78	84	108	126	138	75.5	84	96	108	114	138	156	168

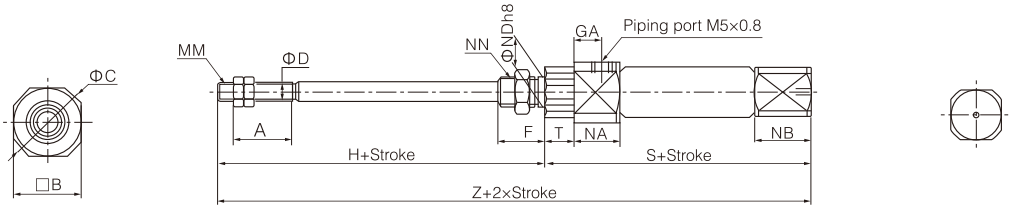
Basic type: Spring extend

NCJ2B · NCDJ2B

NCJ2B6



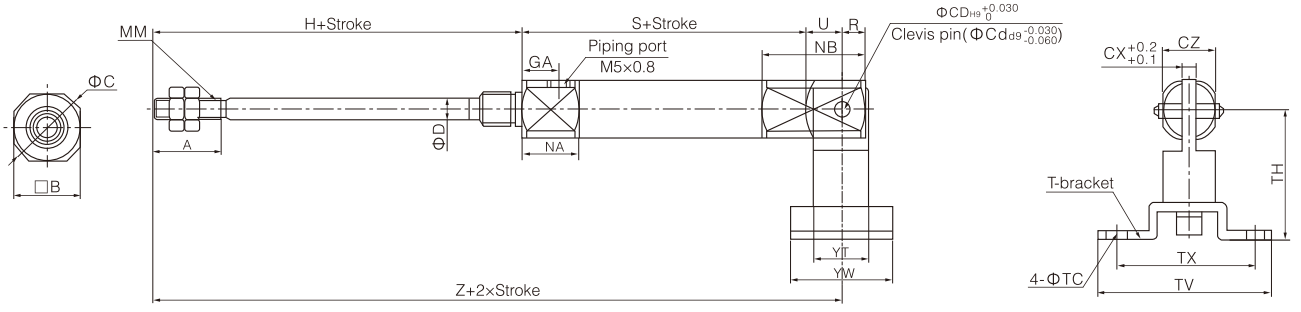
NCJ2B10, 16



Bore size (mm)	A	B	C	D	F	GA	H	MM	NN	NA	NB	NDh8	T	*S 5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	*Z 5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
6	15	8	14	3	8	14.5	28	M3×0.5	M6×1	16	3	$6^{0}_{-0.018}$	3	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	15	12	14	4	8	8	28	M4×0.7	M8×1	12.5	5.5	$8^{0}_{-0.022}$	-	48.5	56	68	80	-	-	-	-	76.5	84	96	108	-	-	-	-
16	15	18.3	20	5	8	8	28	M5×0.8	M10×1	12.5	5.5	$10^{0}_{-0.022}$	-	48.5	57	69	81	87	111	129	141	76.5	85	97	109	115	139	157	169

Double earrings: Spring extend

NCJ2B · NCDJ2B



Bore size (mm)	A	B	C	CD (Cd)	CX	CZ	D	GA	H	MM	NA	NB	R	U	S 5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150	Z 5~15	16~30	31~45	46~60	61~75	76~100	101~125	126~150
10	15	12	14	3.3	3.2	12	4	8	28	M4×0.7	12.5	18.5	5	8	48.5	56	68	80	-	-	-	-	84.5	92	104	116	-	-	-	-
16	15	18.3	20	5	6.5	18.3	5	8	28	M5×0.8	12.5	23.5	8	10	48.5	57	69	81	87	111	129	141	86.5	95	107	119	125	149	167	179

Specifications

Bore size(mm)	20	25	32	40	50	63	80	100
Fluid	Air							
Acting type	Double acting							
Maximum operating pressure	1.0MPa							
Minimum operating pressure	0.05MPa							
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C							
Piston speed (mm/s)	50~1000						50~700	
Buffer	Rubber bumper, Air cushion							
Stroke length tolerance	~1000: $^{+1.4}_{0}$ ~1200: $^{+1.8}_{0}$						~1000: $^{+1.4}_{0}$ ~1500: $^{+1.8}_{0}$	
Lubrication Note)	Not required (Non-lube)							
Pipe size	1/8"				1/4"		3/8"	1/2"

Note: 1. For oil supply, please use Turbine No.1 Oil ISO VG32.
2. PT thread, G thread and NPT thread are available.

Ordering code

N C D G 1 L N 25 - 100 □ - B54 □

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

B	Basic
L	Axial foot
F	Rod flange
G	Head flange
*U	Rod trunnion
*T	Head trunnion
D	Double clevis

* Not available for Φ80 and Φ100.

Buffer

N	Rubber bumper
A	Air cushion

Bore size

20	20mm
25	25mm
32	32mm
40	40mm
50	50mm
63	63mm
80	80mm
100	100mm

Stroke

Protective sheath (one side)

Blank	Without rod boot
J	Nylon tarpaulin
K	Heat resistant tarpaulin

Magnetic switch type

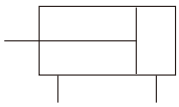
Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

Number of magnetic switches

Blank	2 pcs.
S	1 pc.
n	"n" pcs.

Symbol



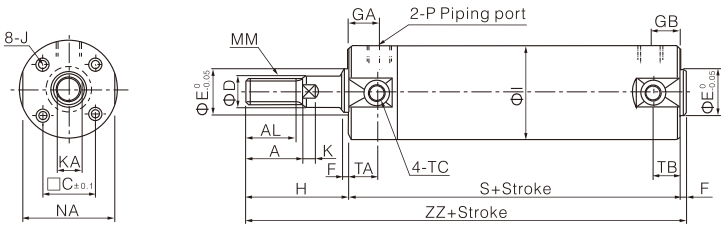
Stroke/magnetic switch model table

Bore size (mm)	Standard stroke	Long stroke	Magnetic switch type	
			Model	Installation
20	25, 50, 75, 100, 125, 150, 175, 200	201~350	B54	BA-01
25	25, 50, 75, 100, 125, 150, 175, 200, 250, 300	301~400		BA-02
32		301~450		BA-32
40		301~800		BA-04
50		301~1200		BA-05
63		301~1200		BA-06
80		301~1400		BA-08
100		301~1500		BA-10

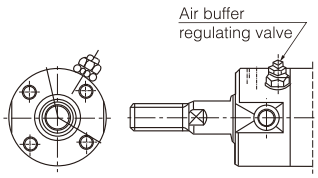
1. The specifications and characteristics of magnetic switches an be referred to the series of magnetic switches.
2. The length of conductor is denoted as mark :
No mark -0.5m, L-3m, Z-5m. Example: B54, B54L.

Dimensions

Basic type Rubber bumper



Air cushion

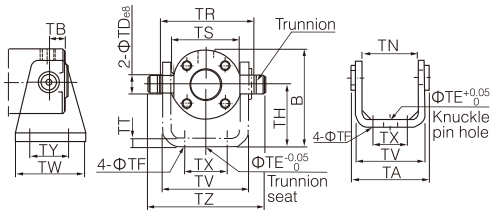


* In the case of air cushioning, the nozzle port P=M5×0.8 with cylinder diameters of 20mm and 25mm.

Bore size (mm)	Stroke range	A	AL	□C	ΦD	ΦE	F	GA	GB	ΦI	J	K	KA	MM	NA	P	S	TA	TB	TC	H	ZZ
20	~200	18	15.5	14	8	12	2	12	10	26	M4×0.7 depth 7	4	6	M8×1.25	24	1/8"	69	11	11	M5×0.8	35	106
25	~300	22	19.5	16.5	10	14	2	12	10	31	M5×0.8 depth 7.5	5.5	8	M10×1.25	29	1/8"	69	11	11	M6×0.75	40	111
32	~300	22	19.5	20	12	18	2	12	10	38	M5×0.8 depth 8	5.5	10	M10×1.25	35.5	1/8"	71	11	10	M8×1.0	40	113
40	~300	30	27	26	16	25	2	13	10	47	M6×1 depth 12	6	14	M14×1.5	44	1/8"	78	12	10	M10×1.25	50	130
50	~300	35	32	32	20	30	2	14	12	58	M8×1.25 depth 16	7	18	M18×1.5	55	1/4"	90	13	12	M12×1.25	58	150
63	~300	35	32	38	20	32	2	14	12	72	M10×1.5 depth 16	7	18	M18×1.5	69	1/4"	90	13	12	M14×1.5	58	150
80	~300	40	37	50	25	40	3	20	16	89	M10×1.5 depth 22	10	22	M22×1.5	80	3/8"	108	-	-	-	71	182
100	~300	40	37	60	30	50	3	20	16	110	M12×1.75 depth 22	10	26	M26×1.5	100	1/2"	108	-	-	-	71	182

Trunnion and trunnion seat

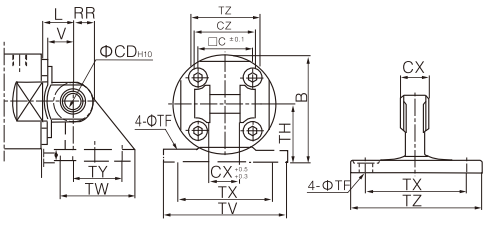
Φ20~Φ63



Bore size (mm)	Trunnion		Trunnion seat													
	Part No.	ΦTDeB	Part No.	B	TB	ΦTE	ΦTF	TH	TR	TS	TT	TV	TW	TX	TY	TZ
20	CG-T020	$8^{-0.025}_{-0.047}$	CG-020-24A	38	11	10	5.5	25	39	28	3.2	35.8	42	16	28	47.6
25	CG-T025	$10^{-0.025}_{-0.047}$	CG-025-24A	45.5	11	10	5.5	30	43	33	3.2	39.8	42	20	28	53
32	CG-T032	$12^{-0.032}_{-0.059}$	CG-032-24A	54	10	10	6.6	35	54.5	40	4.5	49.4	48	22	28	67.7
40	CG-T040	$14^{-0.032}_{-0.059}$	CG-040-24A	63.5	10	10	6.6	40	65.5	49	4.5	58.4	56	30	30	78.7
50	CG-T050	$16^{-0.032}_{-0.059}$	CG-050-24A	79	12	20	9	50	80	60	6	72.4	64	36	36	98.6
63	CG-T063	$18^{-0.032}_{-0.059}$	CG-063-24A	96	12	20	11	60	98	74	8	90.4	74	46	46	119.2

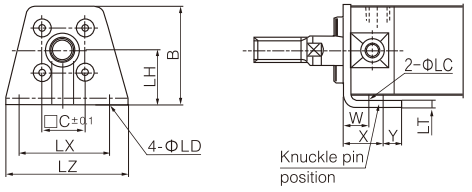
Double earrings and earrings seat

Φ80~Φ100

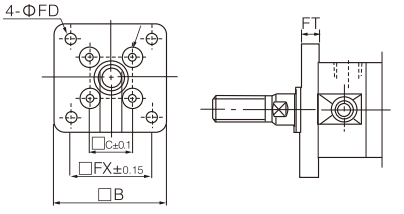


Bore size (mm)	Double earrings							Earrings seat								
	Part No.	ΦCDH10	CX	CZ	L	RR	V	Part No.	ΦTF	TH	TT	TV	TW	TX	TY	TZ
80	CG-D080	$18^{+0.070}_{0}$	28	56	35	18	25	CG-080-24A	11	55	11	110	72	85	45	64
100	CG-D100	$22^{+0.084}_{0}$	32	64	43	20	31	CG-100-24A	13.5	65	12	130	93	100	60	72

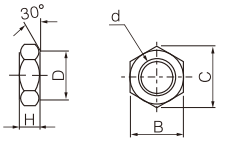
Axial foot



Flange



Rod end nut

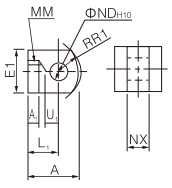


Bore size (mm)	Axial foot										Flange				
	Part No.	ΦLC	ΦLD	LH	LT	LX	LZ	B	W	X	Y	Part No.	□B	□FX	ΦFD	FT
20	CG-L020	4	5.5	20	3	32	44	34	10	15	7	CG-F020	40	28	5.5	6
25	CG-L025	4	5.5	22	3	36	49	38.5	10	15	7	CG-F025	44	32	5.5	7
32	CG-L032	4	6.6	25	3	44	58	45	10	16	8	CG-F032	53	38	6.6	7
40	CG-L040	4	6.6	30	3	54	71	54.5	10	16.5	9	CG-F040	61	46	6.6	8
50	CG-L050	5	9	40	4.5	66	86	70.5	17.5	22	11	CG-F050	76	58	9	9
63	CG-L063	5	11	45	4.5	82	106	82.5	17.5	22	13	CG-F063	92	70	11	9
80	CG-L080	6	11	55	4.5	100	125	101	20	28.5	14	CG-F080	104	82	11	11
100	CG-L100	6	14	65	6	120	150	121	20	30	16	CG-F100	128	100	14	14

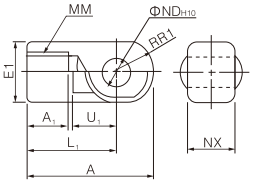
Bore size (mm)	Rod end nut					
	Part No.	d	H	B	C	D
20	NT-02	M8×1.25	5	13	15	12.5
25,32	NT-03	M10×1.25	6	17	19.6	16.5
40	NT-G04	M14×1.5	8	19	(21.9)	18
50,63	NT-G05	M18×1.5	11	24	(27.7)	23
80	NT-08	M22×1.5	13	32	(37.0)	31
100	NT-10	M26×1.5	16	41	(47.3)	39

Single knuckle joint

I-G02,G03

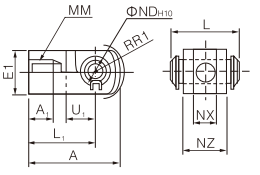


I-G04,G05,G08,G10

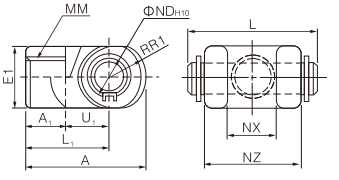


Double knuckle joint

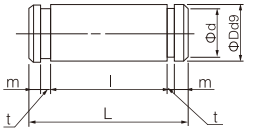
Y-G02,G03



Y-G04,G05,G08,G10



Clevis pin



Bore size (mm)	Single knuckle joint										Double knuckle joint												Clevis pin					
	Part No.	A	A1	E1	L1	MM	RR1	U1	NDH10	NX	Part No.	A	A1	E1	L1	MM	RR1	U1	NDH10	NX	NL	L	Part No.	ΦDd9	L	Φd	l	m	t
20	I-G02	34	8.5	□16	25	M8×1.25	10.3	11.5	$8^{+0.058}_{0}$	$8^{-0.2}_{-0.4}$	Y-G02	34	8.5	□16	25	M8×1.25	10.3	11.5	$8^{+0.058}_{0}$	$8^{+0.4}_{+0.2}$	16	21	IY-G02	$8^{+0.040}_{+0.076}$	21	7.6	16.2	1.5	0.9
25,32	I-G03	41	10.5	□20	30	M10×1.25	12.8	14	$10^{+0.058}_{0}$	$10^{-0.2}_{-0.4}$	Y-G03	41	10.5	□20	30	M10×1.25	12.8	14	$10^{+0.058}_{0}$	$10^{+0.4}_{+0.2}$	20	25.6	IY-G03	$10^{+0.040}_{+0.076}$	25.6	9.6	20.2	1.55	1.15
40	I-G04	42	14	Φ20	30	M14×1.5	12	14	$10^{+0.058}_{0}$	$18^{-0.3}_{-0.5}$	Y-G04	42	16	Φ20	30	M14×1.5	12	14	$10^{+0.058}_{0}$	$18^{+0.5}_{+0.3}$	36	41.6	IY-G04	$10^{+0.040}_{+0.076}$	41.6	9.6	36.2	1.55	1.15
50,53	I-G05	56	18	Φ28	40	M18×1.5	16	20	$14^{+0.070}_{0}$	$22^{-0.3}_{-0.5}$	Y-G05	56	20	Φ28	40	M18×1.5	16	20	$14^{+0.070}_{0}$	$22^{+0.5}_{+0.3}$	44	50.6	IY-G05	$14^{+0.050}_{+0.093}$	50.6	13.4	44.2	2.05	1.15
80	I-G08	71	21	Φ38	50	M22×1.5	21	27	$18^{+0.070}_{0}$	$28^{-0.3}_{-0.5}$	Y-G08	71	23	Φ38	50	M22×1.5	21	27	$18^{+0.070}_{0}$	$28^{+0.5}_{+0.3}$	56	64	IY-G08	$18^{+0.050}_{+0.093}$	64	17	56.2	2.55	1.35
100	I-G10	79	21	Φ44	55	M26×1.5	24	31	$22^{+0.084}_{0}$	$32^{-0.3}_{-0.5}$	Y-G10	79	24	Φ44	55	M26×1.5	24	31	$22^{+0.084}_{0}$	$32^{+0.5}_{+0.3}$	64	72	IY-G10	$22^{+0.055}_{+0.177}$	72	21	64.2	2.55	1.35

Note: Pins for elbow joints of Φ80 and Φ100 cylinders are the same as pins for double earrings.

Specifications

Bore size(mm)	6	10	15
Fluid	Air		
Acting type	Double acting, Spring return		
Guarantee pressure resistance	1.05MPa		
Maximum operating pressure	0.7MPa		
Minimum operating pressure	0.2MPa	0.15MPa	
Ambient and fluid temperature	-10°C to 70°C(No freezing)		
Buffer	Not required (Non-lube)		
Stroke length tolerance	$^{+1.0}_{0}$		
Lubrication Note)	Not required		
Pipe size	M5×0.8(Panel mounting type)		

Note: For oil supply, please use Turbine No.1 Oil ISO VG32.

Ordering code

NCJP B 10 - 15 H4 - B

Installation form

B	Panel mount type
S	Embedded type

Bore size

6	6mm
10	10mm
15	15mm

Stroke

Hose nipple

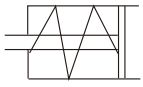
Blank	Without hose nipple*
H4	For Φ4/Φ2.5 tubing
H6	For Φ6/Φ4 tubing

* Embedded type without this joint

Rod end thread

Blank	With thread
B	Without thread

Symbol

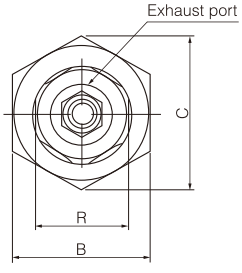


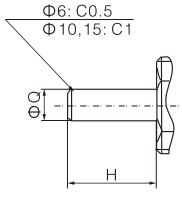
Stroke/Spring Force

Bore size(mm)	Standard stroke	Retracted position	Extended position
6	5,10,15	150	400
10	5,10,15	250	610
15	5,10,15	450	1100

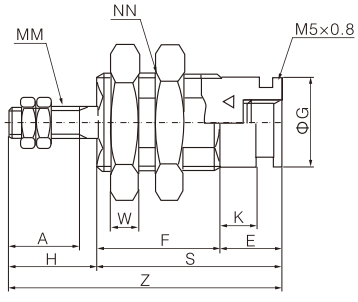
Dimensions

Panel mounting type CJPB



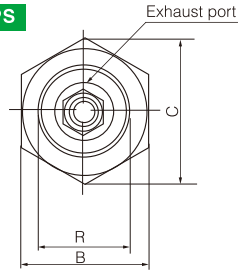


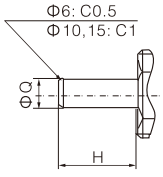
Without rod end thread



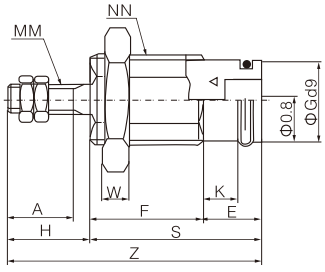
Bore size (mm)	A	B	C	E	F			ΦG	H	K	MM	NN	R	S			W	Z			Q
					5st	10st	15st							5st	10st	15st		5st	10st	15st	
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	3.5	M3×0.5	M10×1.0	9	18.5	22.5	32.5	3	27.5	34.5	41.5	3
10	10	19	22	6	14.5	21	28	12	12	3.5	M4×0.7	M15×1.5	13	20.5	27	34	4	32.5	39	46	5
15	12	27	31	7	16.5	22.5	29	19	14	4.2	M5×0.8	M22×1.5	20	23.5	29.5	36	5	37.5	43.5	50	6

Embedded type CJPS





Without rod end thread



Bore size (mm)	A	B	C	E	F			ΦG	H	K	MM	NN	R	S			W	Z			Q
					5st	10st	15st							5st	10st	15st		5st	10st	15st	
6	7	12	13.9	6	12.5	19.5	26.5	8.5	9	3.5	M3×0.5	M10×1.0	9	18.5	22.5	32.5	3	27.5	34.5	41.5	3
10	10	19	22	6	14.5	21	28	12	12	3.5	M4×0.7	M15×1.5	13	20.5	27	34	4	32.5	39	46	5
15	12	27	31	7	16.5	22.5	29	19	14	4.2	M5×0.8	M22×1.5	20	23.5	29.5	36	5	37.5	43.5	50	6

Specifications

Bore size(mm)	6	10	15
Fluid	Air		
Acting type	Double acting, Single rod		
Guarantee pressure resistance	1.0MPa		
Maximum operating pressure	0.7MPa		
Minimum operating pressure	0.12MPa	0.06MPa	
Ambient and fluid temperature	Without auto switch: -10°C to 70°C, With auto switch: -10°C to 60°C		
Buffer	Rubber bumper		
Use piston speed (mm/s)	50~500		
Stroke length tolerance	$^{+1.0}_{0}$		
Lubrication Note)	Not required (Non-lube)		
Pipe size	M5×0.8		

Note: For oil supply, please use Turbine No.1 Oil ISO VG32.

Ordering code

N C D J P B 15 - 20 D-B - 97 S

Built in magnetic ring

Blank	No built-in magnetic ring
D	Built in magnetic ring

Installation form

Symbol	Standard	Mounting	Built-in magnet
B	Basic	●	●
F	Flange	●	●
L	Foot	●	●
D	Clevis	●	-
T	Trunnion	●	-

Bore size

6	6mm
10	10mm
15	15mm

Stroke

Double acting

Magnetic switch type

Blank	Without magnetic switch

*Refer to tour/magnetic switch model list for magnetic switch model
*No built-in magnetic ring cylinder no such item

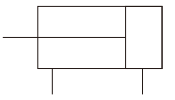
Number of magnetic switches

Blank	2 pcs.
S	1 pc.

Rod end thread

Blank	With thread
B	Without thread

Symbol



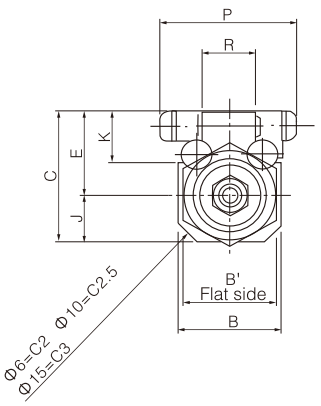
Stroke/magnetic switch model table

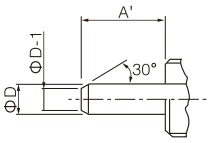
Bore size (mm)	Standard stroke	Magnetic switch model	Magnetic switch Installation
6	5,10,15,20	97	BP-1
10	5,10,15,20,25,30		
15	5,10,15,20,25,30		

* The specifications and characteristics of magnetic switches can be referred to the series of magnetic switches.
The length of the conductor is denoted as mark: no mark-0.5m, L-3m, Z-5m, Example: 97A, 97AL.

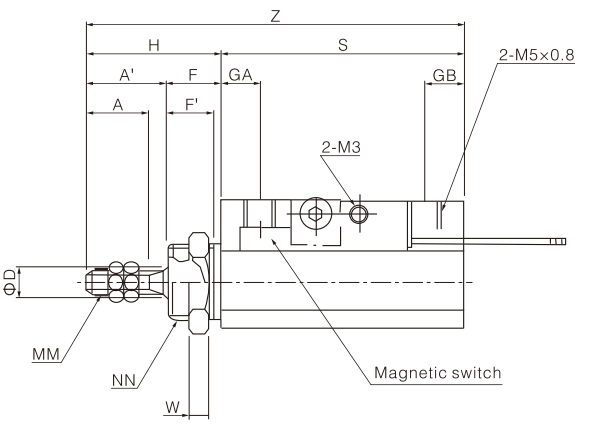
Dimensions

NCJPB • NCDJPB





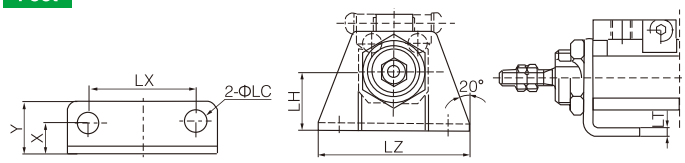
Without rod end thread



St: Cylinder stroke (mm)

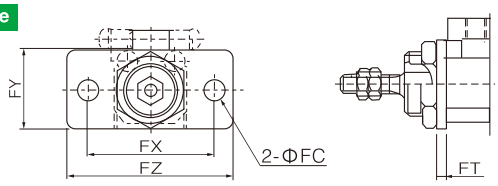
Bore size (mm)	A	A'	B	B'	ΦD	F	F'	GA	GB	H	J	K	MM	NN	R	S					W	Z							
																5st	10st	15st	20st	30st		5st	10st	15st	20st	30st	C	E	P
6	7	9	14	14	3	8	6.5	6	6	17	6	8	M3×0.5	M10×1.0	7	30.5	35.5	40.5	45.5	-	3	47.5	52.5	57.5	62.5	-	16.5	10.5	20
10	10	12	15	17	5	8	6.5	6	7	20	7	8	M4×0.7	M12×1.0	8	30.5	35.5	40.5	45.5	55.5	4	50.5	55.5	60.5	65.5	75.5	20	13	21
15	12	14	20	19	6	10	8.5	6	7	24	9	8	M5×0.8	M14×1.0	10	30.5	35.5	40.5	45.5	55.5	5	54.5	59.5	64.5	69.5	79.5	24.5	15.5	23

Foot



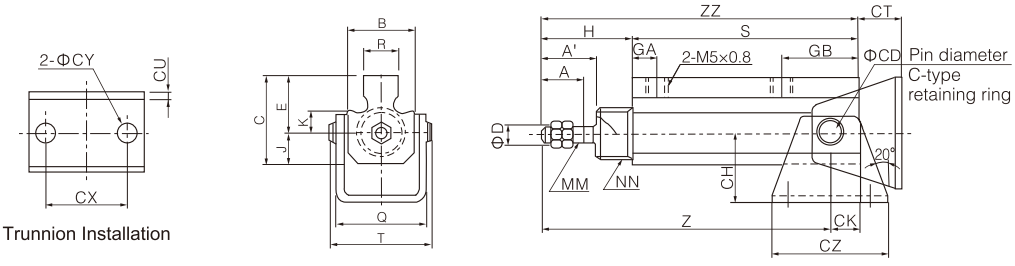
Bore size (mm)	Foot							
	Part No.	LH	LT	LZ	LX	X	Y	ΦLC
6	CP-L006	11	1.6	28	20	6.5	10.5	3.4
10	CP-L010	13	1.6	33	24	7	12	4.5
15	CP-L015	18	2.3	43	30	10	16.5	4.5

Flange



Bore size (mm)	Flange					
	Part No.	FT	FX	FY	FZ	ΦFC
6	CP-L006	1.6	24	16	32	3.4
10	CP-L010	1.6	28	18	37	4.5
15	CP-L015	2.3	36	22	49	5.5

Trunnion: CJPT/Without magnetic switch



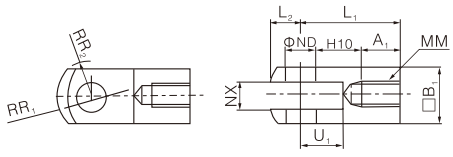
Trunnion Installation

St: Cylinder stroke (mm)

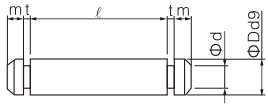
Bore size (mm)	Trunnion seat Part No.	S					Z					ZZ					R
		5st	10st	15st	20st	30st	5st	10st	15st	20st	30st	5st	10st	15st	20st	30st	
6	CP-T006	35.3	40.5	45.5	50.5	-	48.5	53.5	58.5	63.5	-	52.5	57.5	62.5	67.5	-	7
10	CP-T010	40.5	45.5	50.5	55.5	65.5	54	59	64	69	79	60.5	65.5	70.5	75.5	85.5	8
15	CP-T015	42	47	52	57	67	58	63	68	73	83	66	71	76	81	91	10

Bore size(mm)	A	A'	B	C	ΦD	E	GA	GB	H	J	K	MM	NN	Q	T	ΦCD	CH	CK	CT	CU	CX	ΦCY	CZ
6	7	9	14	16.5	3	10.5	6	11	17	6	8	M3×0.5	M10×1.0	18.5	20.4	3	16	4	12	1.6	18	3.4	26
10	10	12	15	20	5	13	6	17	20	7	8	M4×0.7	M12×1.0	20.5	23.9	5	20	6.5	13.5	1.6	24	4.5	33
15	12	14	20	24.5	6	15.5	6	18.5	24	9	8	M5×0.8	M14×1.0	28	31.7	6	25	8	17	2.9	29	5.5	42

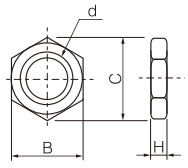
Y type double knuckle joint



Knuckle pin

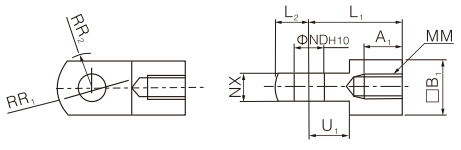


Mounting nut

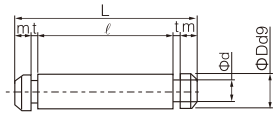


Bore size (mm)	Y type double knuckle joint											Knuckle pin							Mounting nut				
	Part No.	A1	B1	ΦND$_{H10}$	L1	L2	MM	U1	NX	R1	R2	Part No.	ΦDd9	L	Φd	ℓ	m	t	Part No.	d	H	B	C
6	Y-P006	5	6	$3^{+0.04}_{0}$	12	3.5	M3×0.5	5	3	5	4	IY-P006	$3^{-0.020}_{-0.045}$	9	2.85	6.2	0.75	0.65	SNP-006	M10×1	3	14	16.2
10	Y-P010	6.5	10	$5^{+0.048}_{0}$	16	5.5	M4×0.7	7	5	8	6.3	IY-P010	$5^{-0.030}_{-0.060}$	13.6	4.8	10.2	1	0.7	SNP-010	M12×1	3	17	19.6
15	Y-P015	7	12	$6^{+0.048}_{0}$	19	7	M5×0.8	9	6	10	7.8	IY-P015	$6^{-0.030}_{-0.060}$	15.8	5.7	12.2	1	0.8	SNP-015	M14×1	4	19	21.9

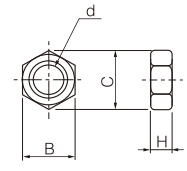
I type single knuckle joint



Trunnion pin



Mounting nut



Bore size (mm)	I type single knuckle joint											Trunnion pin							Mounting nut				
	Part No.	A1	B1	ΦND$_{H10}$	L1	L2	MM	U1	NX	R1	R2	Part No.	ΦDd9	L	Φd	ℓ	m	t	Part No.	d	H	B	C
6	I-P006	5	6	$3^{+0.04}_{0}$	12	3.5	M3×0.5	5	3	5	4	CT-P006	$3^{-0.020}_{-0.045}$	9	2.85	6.2	0.75	0.65	SNP-006	M3×0.5	1.8	5.5	6.4
10	I-P010	6.5	10	$5^{+0.048}_{0}$	16	5.5	M4×0.7	7	5	8	6.3	CT-P010	$5^{-0.030}_{-0.060}$	13.6	4.8	10.2	1	0.7	SNP-010	M4×0.7	2.4	7	8.1
15	I-P015	7	12	$6^{+0.048}_{0}$	19	7	M5×0.8	9	6	10	7.8	CT-P015	$6^{-0.030}_{-0.060}$	15.8	5.7	12.2	1	0.8	SNP-015	M5×0.8	3.2	8	9.2