

MA Series

Stainless Steel Mini Cylinder



Cylinder
Calculation
SI
SI A.
SIB
SQ
DNT
SC/SU
SCT
SC A.
DN
DSN
DN/DSN A.
MA
MAC
MA/MAC A.
MAL
MALC
MAL/MALC A.
SDA
CQ2
TCQ2
ADN
TADN
PPRM
JHL2
JHF2
JHZ2
JHY2
JHC2
JXH
JXQ
JXS
TN
JGP
JSQB
Sensor

Features

1. Improving for adapting wide range applications, using precise polishing of piston rod, more sense of products quality and longer life of front seal.
2. Optima design and improve the production efficiency.
3. Combined with enterprise color planning and new structure design, stainless steel series cylinder integrated as the semicircular groove cramping.
4. Using embedded gasket, increase the pressured area of pistons after collision.



MA16X100

Ordering Code

MA	32	x 50	10	S	U	E	LB
Series	Bore	Stroke	Adjustable Stroke	Magnet	Back Form	Piston Rod Material	Mountings
MA: Double Acting 	12 16 20		10: 10mm 20: 20mm 30: 30mm	S: With magnet Blank: Without magnet	Blank: Standard with eye mounting CM: Standard with round back cover U: Standard with flat back cover 	Blank: Carbon steel E: Stainless steel	Blank: Basic mountings LB: Front and back mounting FA: Front mounting flange FB: Back mounting flange SDB: Back hinge
MSA: Single Acting Spring-Return 	25 32 40		50: 50mm 75: 75mm 100: 100mm				
MTA: Single Acting Spring-Extend 							
MAD: Double-shaft 							
MAJ: Double-shaft with adjustable stroke 							

*Sensor model JEL-01, Strap type "SKB-Bore", please refer to P173 for the specific ordering code.

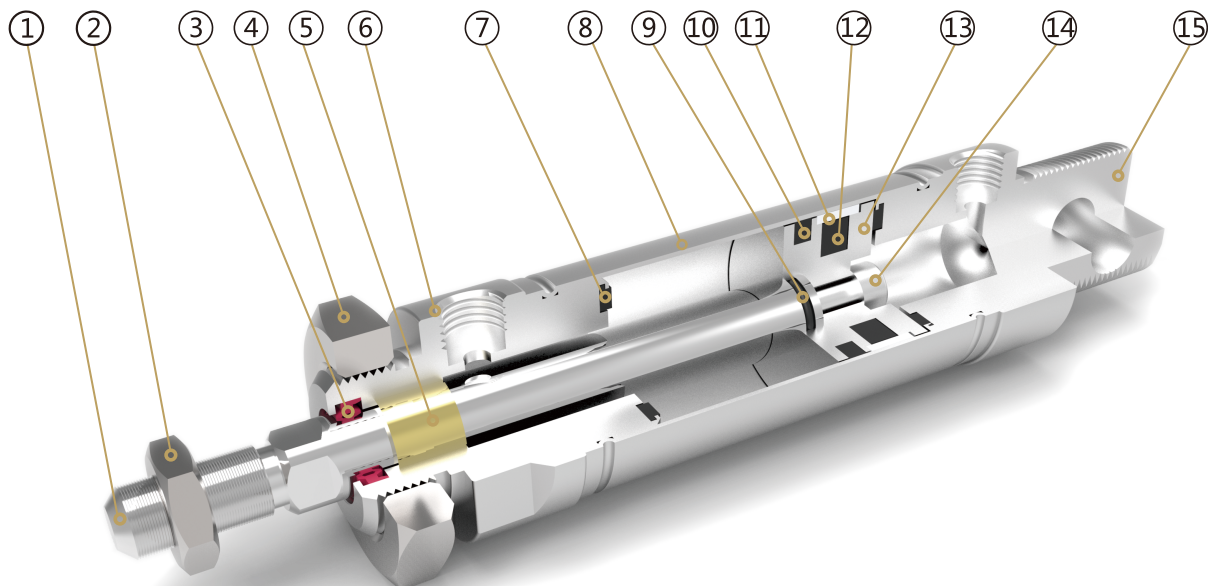
Specification

Bore (mm)	12	16	20	25	32	40
Operation	Double Acting or Single Acting					
Working Medium	Air					
Mountings	Basic LB FA FB SDB					
Operating Pressure Range	0.1 ~ 1.0MPa					
Proof Pressure	1.5 MPa					
Operating Temperature Range	-20 ~ 80°C					
Operating Speed Range	50 ~ 800mm/s					
Cushion	Gasket Cushion					
Port Size	M5×0.8			G1/8"		

Stroke

Bore		Standard Stroke															Max. Stroke			
MA	12	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	200		
MA/MAC	16/20/25/32/40	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	275	300	500
MAD/MAJ	12	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	250		
MAD/MAJ MACD/MACJ	16/20/25/32/40	15	20	25	30	40	50	60	75	80	100	125	150	160	175	200	250	275	300	300
MSA/MTA	12	15	20	25	30	40	50											50		
	16	15	20	25	30	40	50	60	75	80	100								100	
	25/32/40	15	20	25	30	40	50	60	75	80	100	125	150						150	

Internal Structure



Parts

Number	Name	Number	Name
1	Piston rod	9	O ring
2	Hexagon nut	10	Piston seal
3	Shaft seal	11	Anti-friction seal
4	Hexagon nut	12	Magnet
5	DU bearing	13	Piston
6	Front cover	14	Socket head cap screw
7	Anti-collision gasket	15	Back cover
8	Barrel		

MA Series

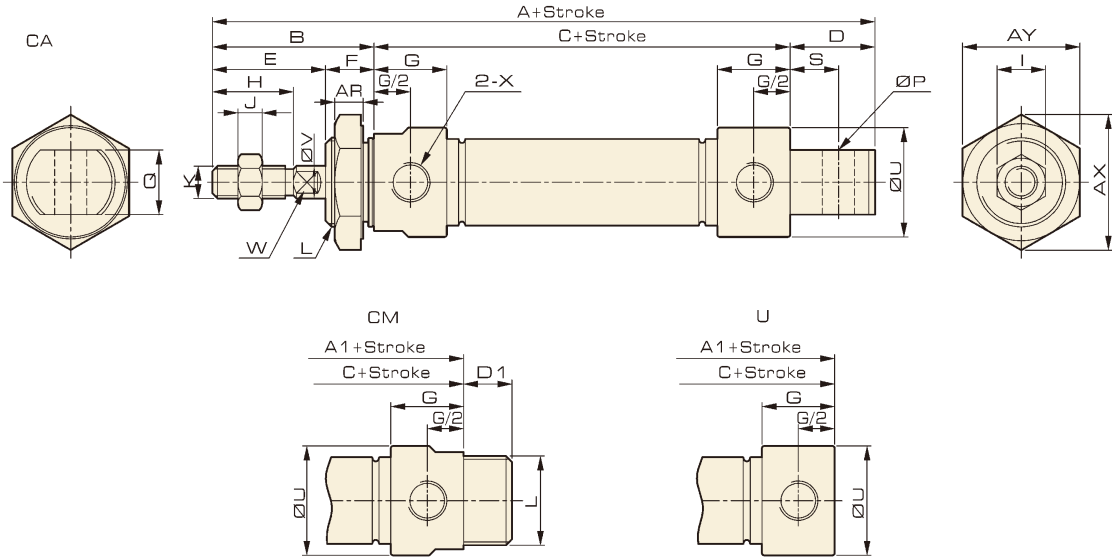
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Overall Dimension

MA



Cylinder with or without magnet is the same size

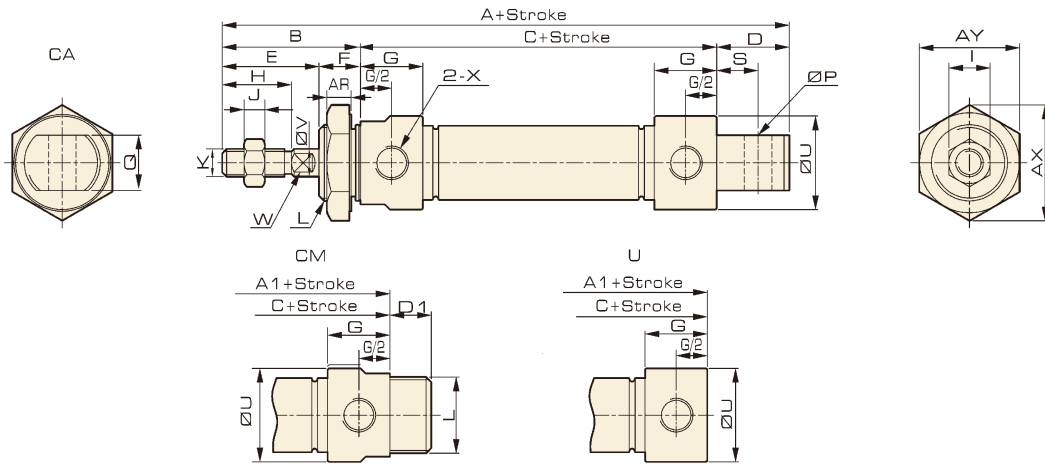
Dimension

Bore / Stroke	A	A1	B	C	D	D1	E	F	G	H	I	J	K
12	113	97	38	59	16	12	22	16	12	16	10	5	M6×1
16	114	98	38	60	16	12	22	16	12	16	10	5	M6×1
20	137	116	40	76	21	12	28	12	18	20	12	6	M8×1.25
25	141	120	44	76	21	14	30	14	16	22	17	6	M10×1.25
32	147	120	44	76	27	14	30	14	16	22	17	6	M10×1.25
40	150	123	46	77	27	14	32	14	16.7	24	19	7	M12×1.25

Bore / Stroke	L	P	Q	S	U	V	W	X	AR	AX	AY
12	M16×1.5	6	12	9.5	21	6	5	M5×0.8	6	27.8	24
16	M16×1.5	6	12	9	21	6	5	M5×0.8	6	27.8	24
20	M22×1.5	8	16	12	27	8	6	G1/8	7	33.5	29
25	M22×1.5	8	16	12	30	10	8	G1/8	7	33.5	29
32	M24×2	10	16	15	35	12	10	G1/8	9	37	32
40	M30×2	12	20	15	42	16	14	G1/8	9	46	40

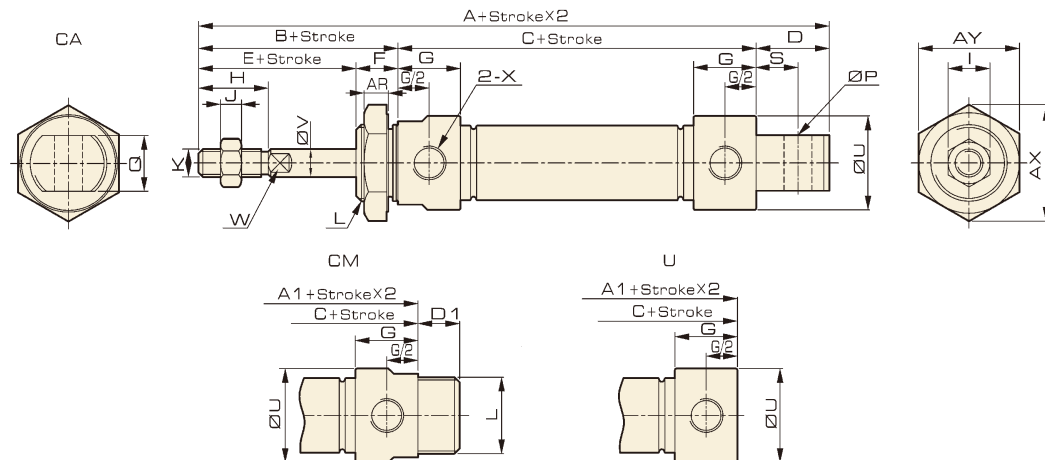
Overall Dimension

MSA



Cylinder with or without magnet is the same size

MTA



Cylinder with or without magnet is the same size

Dimension

Symbol	A			A1			B	C			D	D1	E	F	G
	Bore/Stroke	0-50	50-100	100-150	0-50	50-100		100-150	0-50	50-100					
12	138	-	-	122	-	-	38	84	-	-	16	12	22	16	12
16	139	164	-	123	148	-	38	85	110	-	16	12	22	16	12
20	162	187	212	141	166	191	40	101	126	151	21	12	28	12	18
25	166	191	216	145	170	195	44	101	126	151	21	14	30	14	16
32	172	197	222	145	170	195	44	101	126	151	27	14	30	14	16
40	175	200	225	148	173	198	46	102	127	152	27	14	32	14	16.7

Bore/Symbol	H	I	J	K	L	P	Q	S	U	V	W	X	AR	AX	AY
12	16	10	5	M6×1	M16×1.5	6	12	9.5	21	6	5	M5×0.8	6	27.8	24
16	16	10	5	M6×1	M16×1.5	6	12	9	21	6	5	M5×0.8	6	27.8	24
20	20	12	6	M8×1.25	M22×1.5	8	16	12	27	8	6	G1/8	7	33.5	29
25	22	17	6	M10×1.25	M22×1.5	8	16	12	30	10	8	G1/8	7	33.5	29
32	22	17	6	M10×1.25	M24×2	10	16	15	35	12	10	G1/8	9	37	32
40	24	19	7	M12×1.25	M30×2	12	20	15	42	16	14	G1/8	9	46	40

Cylinder

Calculation

SI

SI A.

SIB

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SC A.

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MA/MAC A.

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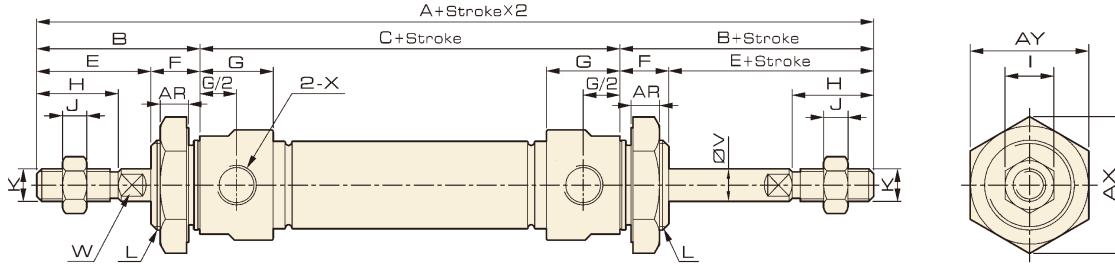
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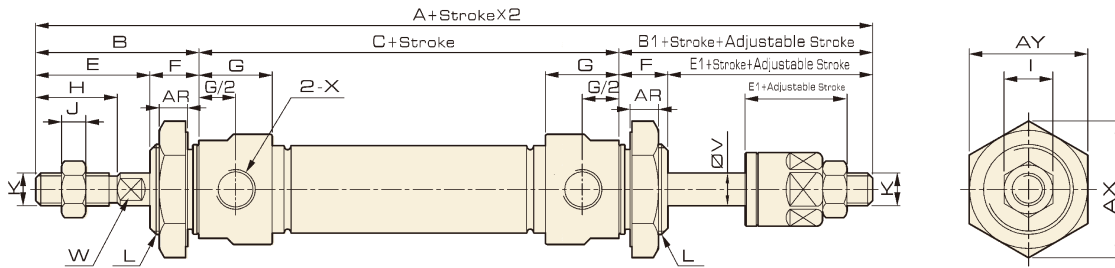
Overall Dimension

MAD



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MAJ



Cylinder with or without magnet is the same size

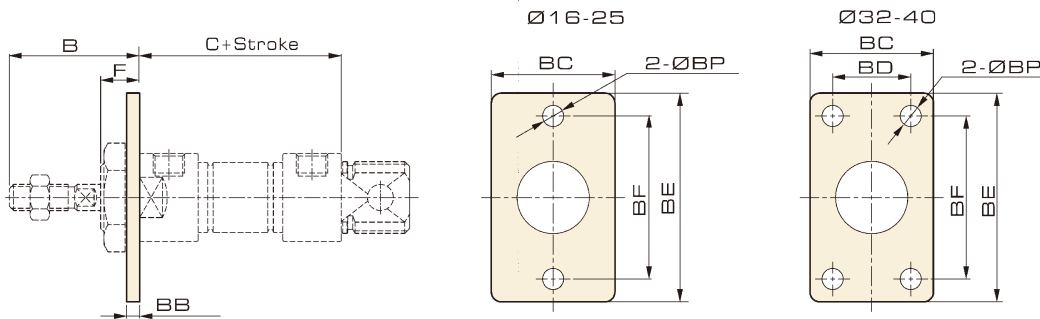
Dimension

Bore Symbol	A	A1	B	B1	C	E	E1	F	G	H	I	J	K	L	U	V	W	X	AR	AX	AY	Y
12	135	135	38	37	59	22	21	16	12	16	10	5	M6×1	M16×1.5	21	6	5	M5×0.8	6	27.8	24	6
16	136	135	38	37	60	22	21	16	12	16	10	5	M6×1	M16×1.5	21	6	5	M5×0.8	6	27.8	24	6
20	156	153	40	37	76	28	25	12	18	20	12	6	M8×1.25	M22×1.5	27	8	6	G1/8	7	33.5	29	8.5
25	164	161	44	41	76	30	27	14	16	22	17	6	M10×1.25	M22×1.5	30	10	8	G1/8	7	33.5	29	9.5
32	164	161	44	41	76	30	27	14	16	22	17	6	M10×1.25	M24×2	35	12	10	G1/8	9	37	32	11.5
40	169	166	46	42	77	32	28	14	16.7	24	19	7	M12×1.25	M30×2	42	16	14	G1/8	9	46	40	14

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Overall Dimension

FA

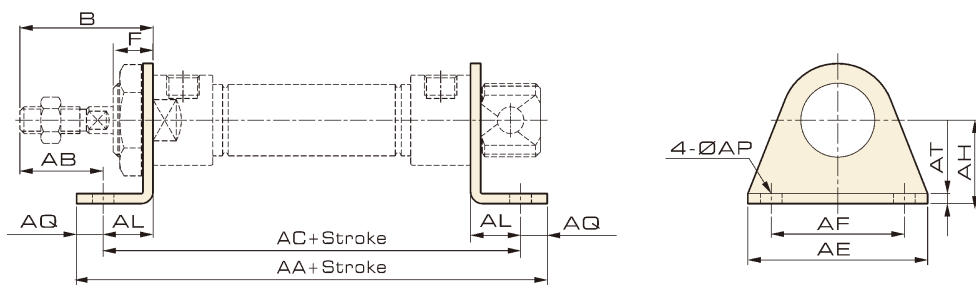


Dimension

Symbol Bore/ Stroke	B	C (MA Series)	C (MSA/MTA Series)			BB	BC	BD	BE	BF	BP	F
			0-50	50-100	100-150							
16	38	60	85	110	-	3	26	-	52	40	5.5	16
20	40	76	101	126	151	4	38	-	64	50	6.5	12
25	44	76	101	126	151	4	38	-	64	50	6.5	14
32	44	76	101	126	151	4	47	33	72	58	6.5	14
40	46	77	102	127	152	4	50	36	84	70	6.5	14

Overall Dimension

LB



Dimension

Symbol Bore/ Stroke	B	AA (MA Series)	AA (MSA/MTA Series)			AB	AC (MAL Series)	AC (MSAL/MTAL Series)			AE	AF	AH	AL	AP	AQ	AT	F
			0-50	50-100	100-150			0-50	50-100	100-150								
			16	38	98			123	148	-								
20	40	122	147	172	197	25	106	131	156	181	54	40	25	15	6.5	8	3	12
25	44	122	147	172	197	29	106	131	156	181	54	40	25	15	6.5	8	3	14
32	44	142	167	192	217	19	126	151	176	201	59	45	32	25	6.5	8	4	14
40	46	143	168	193	218	21	127	152	177	202	64	50	36	25	6.5	8	4	14

MA / MAC

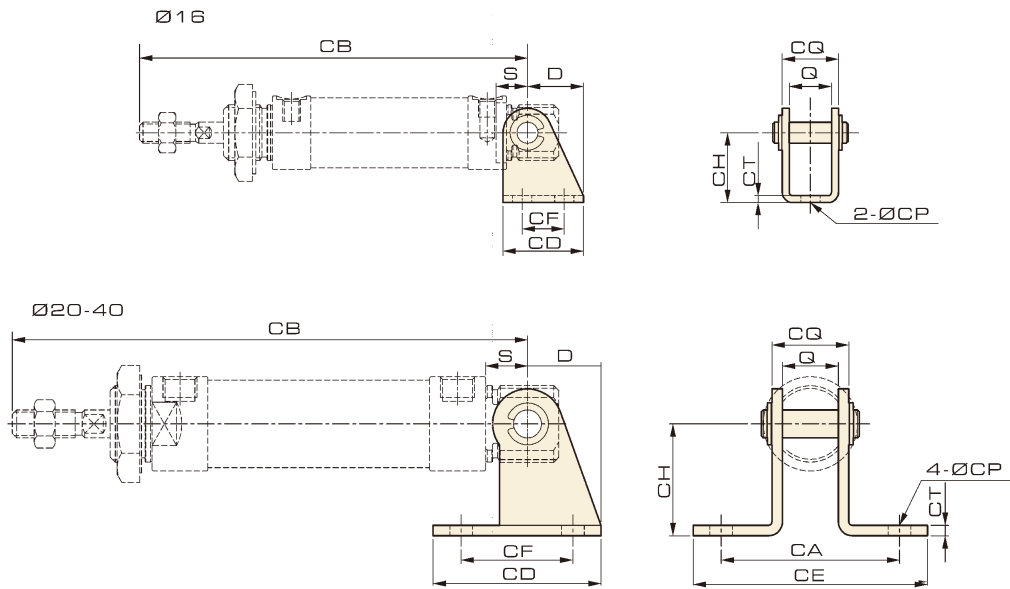
Mini Cylinder Accessory



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Overall Dimension

SDB

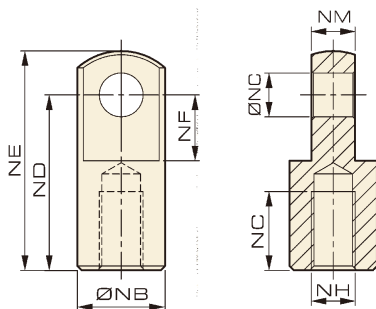


Dimension

Symbol Bore/ Stroke	D	S	Q	CA	CB Series)	CB (MSA/MTA Series)			CD	CE	CF	CH	CT	CP	CQ
						0-50	50-100	100-150							
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	3	6.5	22
25	21	12	16	51	132	157	182	207	48	67	32	32	3	6.5	22
32	27	15	16	51	135	160	185	210	52	67	36	36	4	6.5	24
40	27	15	20	55	138	163	188	213	56	71	40	40	4	6.5	28

Overall Dimension

I Knuckle



Dimension

Model	NB	NC	ND	NE	NF	NG	NH	NM	Bore	16	20	25	32	40	
F-M04070I	10	4	16	21	7	6	M4×0.7	4	Adapted fitting form						
F-M06100I	12	5	21	28	8.5	8	M6×1	6		√					
F-M08125I	16	8	30	40	11	15	M8×1.25	8			√				
F-M10125I	20	10	40	50	15	18	M10×1.25	10				√	√		
F-M12125I	24	12	48	62	24	18	M12×1.25	12						√	