

# MA Series Stainless Steel Mini Cylinder



## ● Ordering code

<b>MA</b>	-	<b>CA</b>	<b>50</b>	<b>X</b>	<b>50</b>	-	<b>25</b>	-	<b>S</b>	-	<b>LB</b>
Type MA:Double acting MSA:Single acting MAD:Double-shaft double acting MAJ:Double-shaft and adjustable stroke		Back cover type CA: Fishtail type CM: Rounded type U: Horizontal type	Bore		Stroke		MAJ adjustable stroke type		Magnet Code S: With magnet Blank: Without magnet		Mounting Blank:Basic type LB:Front and back fixed type FA:Front flange type SDB:Back cover swinging type

## ● Specifications

Bore (mm)	16	20	25	32	40
Operation	Double acting or single acting				
Fluid	Air				
Mounting	Basic FA LB SDB				
Operating pressure	1.0~9.0 Kg/cm <sup>2</sup>				
Proof pressure	13.5 Kg/cm <sup>2</sup>				
Operating temperature	0~70°C				
Operating piston speed	50~800 mm/s				
Cushioning	Rubber bumper				
Port size	M5×0.8			G1/8"	

## ***Stainless Steel, Aluminum Alloy Mini Cylinder***

## ● Stroke

Bore (mm)	Standard stroke													Max. stroke	Allowable stroke
16	25 50 75 80 100 125 150 160 175 200													300	500
20	25 50 75 80 100 125 150 160 175 200 250 300													500	650
25	25 50 75 80 100 125 150 160 175 200 250 300 350													400 450 500	500 650
32	25 50 75 80 100 125 150 160 175 200 250 300 350													400 450 500	500 650
40	25 50 75 80 100 125 150 160 175 200 250 300 350													400 450 500	500 650

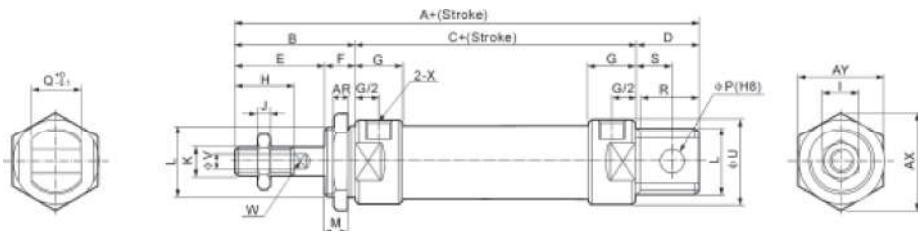
## ● Theoretical force

Bore size		16			20			25			32			40		
Rod diameter		6			8			10			12			16		
Operation		Single-acting	Double acting		Single-acting	Double acting		Single-action	Double acting		Single-acting	Double acting		Single-acting	Double acting	
			Extrusion side	Pull side												
Piston area(cm <sup>2</sup> )	2.01	2.01	1.81	3.14	3.14	2.64	4.90	4.90	4.12	8.04	8.04	6.90	12.56	12.56	10.55	
Operating pressure (Kgf/cm <sup>2</sup> )	1	-	2.01	1.81	-	3.14	2.64	-	4.90	4.12	-	8.04	6.90	-	12.56	10.55
	2	-	4.02	3.62	1.57	6.28	5.28	2.45	9.80	8.24	4.02	16.08	13.80	6.28	25.12	21.10
	3	2.01	6.03	5.43	4.71	9.42	7.92	7.35	14.70	12.36	12.06	24.12	20.70	18.84	37.68	31.65
	4	4.02	8.04	7.24	7.85	12.56	10.56	12.25	19.60	16.48	20.10	32.16	27.60	31.40	50.24	42.20
	5	6.03	10.05	9.05	10.99	15.70	13.20	17.15	24.50	20.60	28.14	40.20	34.50	43.96	62.80	52.75
	6	8.04	12.06	10.86	14.13	18.84	25.84	22.05	29.40	24.72	36.18	48.24	41.40	56.52	75.36	63.30
	7	10.04	14.07	12.67	17.27	21.98	18.48	26.95	34.30	28.84	44.22	56.28	48.30	69.08	87.92	73.85
	8	-	-	-	20.41	25.12	21.12	31.85	39.20	32.96	52.26	64.32	55.20	81.64	100.48	84.40
	9	-	-	-	23.55	28.26	23.76	36.75	44.10	37.08	60.30	72.36	62.10	94.20	113.04	94.95

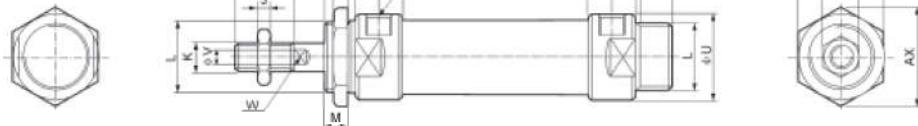
# MA Series Stainless Steel Mini Cylinder

## Dimensions

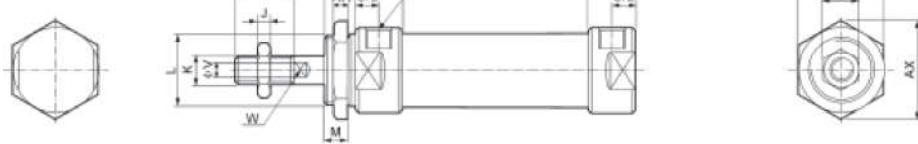
**MA-CA**



**MA-CM**



**MA-U**

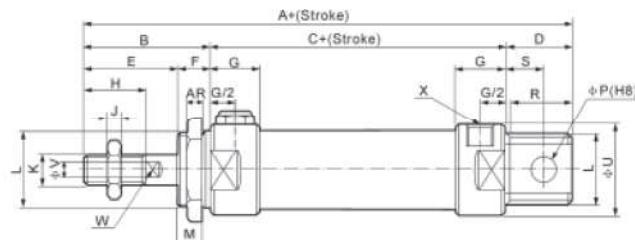


Bore size / Symbol	A	A1	A2	B	C	D	D1	E	F	G	H	I	J	K
16	114	114	98	38	60	15	15	22	16	10	16	10	5	M6×1
20	137	128	116	40	76	21	12	28	12	16	20	12	6	M8×1.25
25	141	134	120	44	76	21	14	30	14	16	22	17	6	M10×1.25
32	147	134	120	44	76	27	14	30	14	16	22	17	6	M10×1.25
40	149	136	122	46	76	27	14	32	14	16.7	24	17	7	M12×1.25
Bore size / Symbol	L	M	P	Q	R	R1	S	U	V	W	X	AR	AX	AY
16	M16×1.5	14	6	12	14	14	9	21	6	5	M5	6	24	27.5
20	M22×1.5	10	8	16	19	12	12	27	8	6	G1/8	7	33	29
25	M22×1.5	12	8	16	19	14	12	30	10	8	G1/8	7	33	29
32	M24×2.0	12	10	16	25	14	15	35	12	10	G1/8	8	37	32
40	M30×2.0	12	12	20	25	14	15	41.6	16	14	G1/8	9	47	41

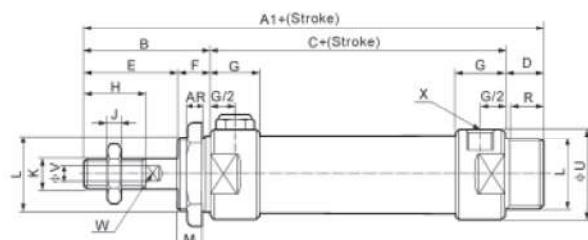
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## Dimensions

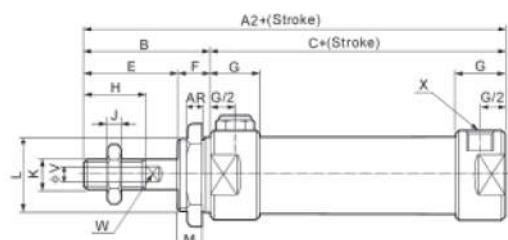
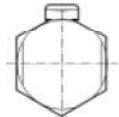
**MSA-CA**



**MSA-CM**



**MSA-U**

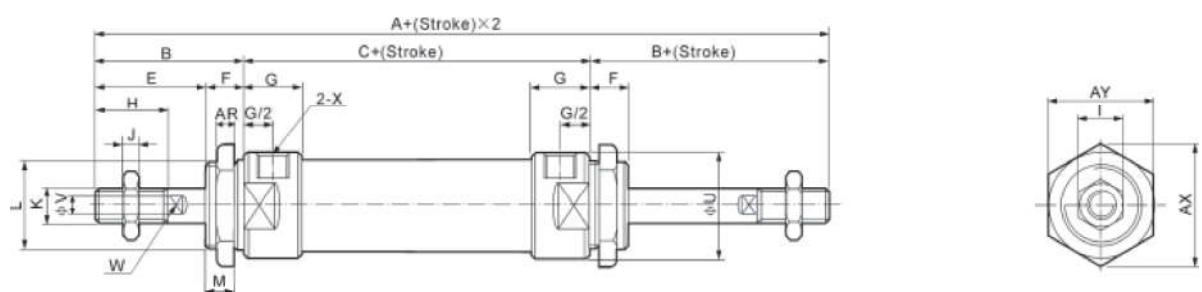


Symbol	A		A1		A2		B	C		D	D1	E	F	G	H	I	J	
	Bore / Stroke	0~50	51~100	0~50	51~100	0~50	51~100	0~50	51~100									
20	137	162	128	153	116	141	40	76	101	21	12	28	12	16	20	12	6	
25	141	166	134	159	120	145	44	76	101	21	14	30	14	16	22	17	6	
32	147	172	134	159	120	145	44	76	101	27	14	30	14	16	22	17	6	
40	149	174	136	161	122	147	46	76	101	27	14	32	14	22	24	17	7	
Bore / Symbol	K		L		M		P	Q	R	R1	S	U	V	W	X	AR	AX	AY
20	M8×1.25		M22×1.5		10		8	16	19	12	12	27	8	6	G1/8	7	33	29
25	M10×1.25		M22×1.5		12		8	16	19	14	12	30	10	8	G1/8	7	33	29
32	M10×1.25		M24×2.0		12		10	16	25	14	15	35	12	10	G1/8	8	37	32
40	M12×1.25		M30×2.0		12		12	20	25	14	15	41.6	16	14	G1/8	9	47	41

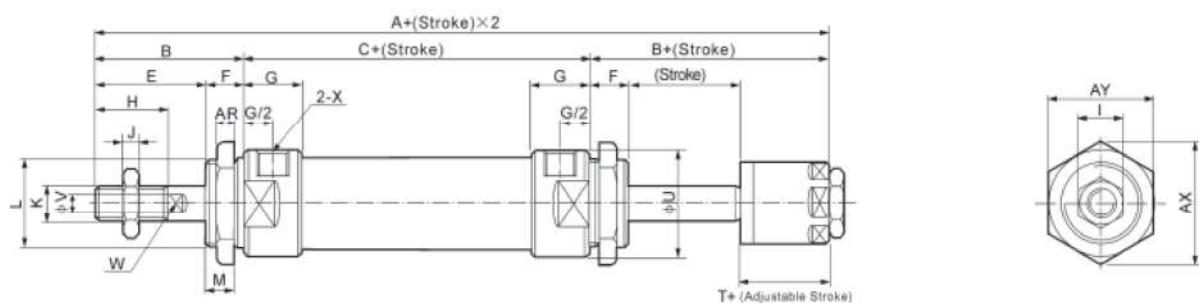
# MA Series Stainless Steel Mini Cylinder

## Dimensions

**MAD**



**MAJ**



Bore/Symbol	A	A1	B	C	E	F	G	H	I	I	K
20	156	153	40	70	28	12	16	20	12	6	M8×1.25
25	164	161	44	70	30	14	16	22	17	6	M10×1.25
32	164	161	44	70	30	14	16	22	17	6	M10×1.25
40	168	164	46	92	32	14	22	24	17	7	M12×1.25
Bore/Symbol	L	M	U	V	W	X	AR	AX	AY	T	
20	M22×1.5	10	29	8	6	G1/8	7	33	29	19	
25	M22×1.5	12	34	10	8	G1/8	7	33	29	21	
32	M24×1.5	12	39.5	12	10	G1/8	8	37	32	21	
40	M30×2.0	12	49.5	16	14	G1/4	9	47	41	21	