

MA Series Stainless Steel Cylinder

MA Stainless Steel Cylinder



Ordering Code

- MA - U - 20 X 50 - S - 25**
- MA** - Double Acting Cylinder
 - MAD** - Double Acting Thru Rod Cylinder
 - MAJ** - Double Acting with Adjustable Stroke Cylinder
 - MAS** - Single Acting Cylinder Normally Retracted
 - MASE** - Single Acting Cylinder Normally Extended

 - U** - Flat End Mounting
 - CM** - Round End Mounting
 - Blank** - Standard Mounting

 - 20** - Bore Diameter (mm)
 - 50** - Stroke (mm)

 - S** - Magnetic Piston
 - Blank** - Non-Magnetic Piston

 - 25** - Stroke Adjustment for MAJ (mm)

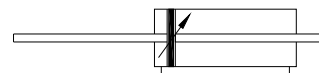
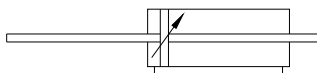
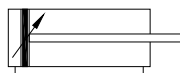
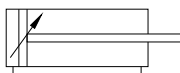
MA Pneumatic Cylinder head, piston and barrel made of aluminum alloy; piston rod made of chromed plated high carbon steel; seals are made of NBR for standard working temperature; for higher working temperature seals are made of viton or teflon.

With Cushioning

W/ Cushioning & Magnet

Thru Rod w/ Cushioning

Thru Rod w/ Cushioning & Magnet

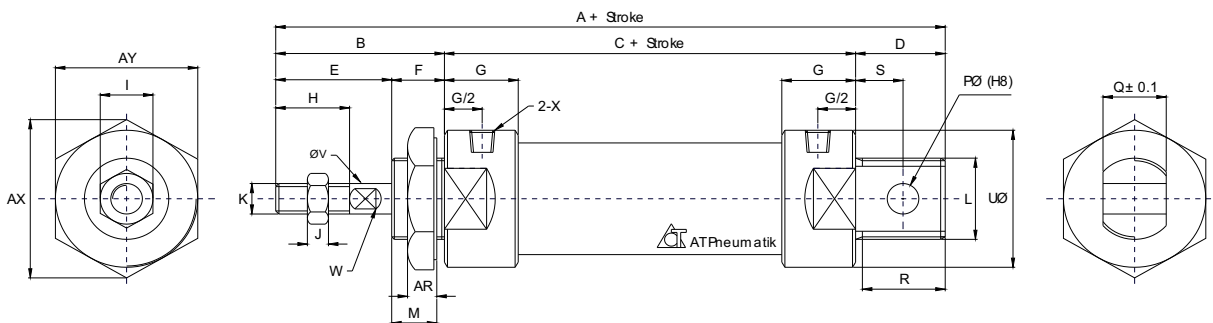


MA Pneumatic Cylinder Specification					
Bore Diameter (mm)	16	20	25	32	40
Type	Double Acting / Single Acting				
Working Medium	Air				
Working Pressure	10 kg/cm ²				
Test Pressure	13 Kg/cm ²				
Working Temperature	0 - 70 °C				
Working Speed Range	50~800 mm/sec				
Cushioning	Rubber Bumper				
Port Size	M05	G 1/8"			G 1/4"

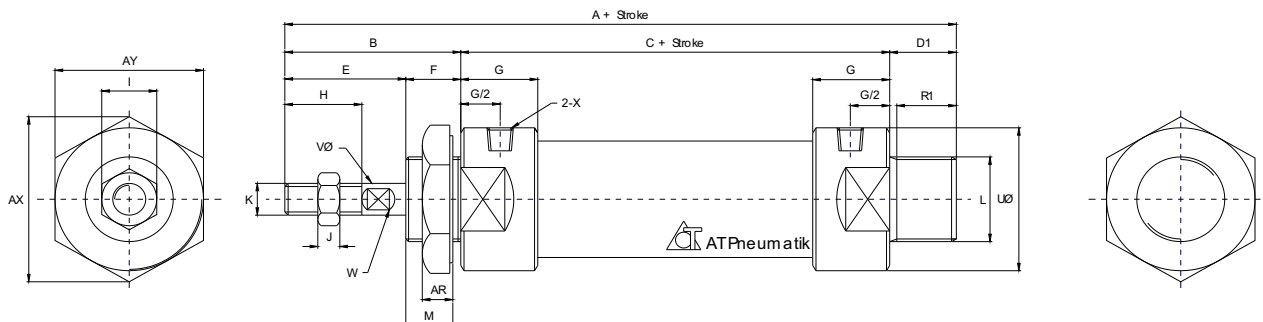
Theoretical Force Table Nm																		
Bore Diameter (mm)	16				20				25				32				40	
Piston Rod Diameter	6				8				10				12				16	
Motion Pattern	Single Acting	Double Acting		Single Acting	Double Acting		Single Acting	Double Acting		Single Acting	Double Acting		Single Acting	Double Acting				
		Push Side	Pull Side		Push Side	Pull Side		Push Side	Pull Side		Push Side	Pull Side		Push Side	Pull Side			
Air Pressure (Kgf/cm ²)	1	-	2	1.8	-	3.1	2.6	-	4.9	4.1	-	8	6.9	-	12.6	10.6		
	2	-	4	3.6	1.6	6.3	5.3	2.5	9.8	8.2	4	16.1	13.8	6.3	25.1	21.1		
	3	2	6	5.4	4.7	9.4	7.9	7.4	14.7	12.4	12.1	24.1	20.7	18.8	37.7	31.7		
	4	4	8	7.2	7.9	12.6	10.6	12.3	19.6	16.5	20.1	32.2	27.6	31.4	50.2	42.2		
	5	6	10.1	9.1	11	15.7	13.2	17.2	24.5	20.6	28.1	40.2	34.5	44	62.8	52.8		
	6	8	12.1	10.9	14.1	18.8	15.8	22.1	29.4	24.7	36.2	48.2	41.4	56.5	75.4	63.3		
	7	10	14.1	12.7	17.3	22	18.5	27	34.3	28.8	44.2	56.3	48.3	69.1	87.9	73.9		
	8	-	-	-	20.4	25.1	21.1	31.9	39.2	33	52.3	64.3	55.2	81.6	100.5	84.4		
	9	-	-	-	23.6	28.3	23.8	36.8	44.1	37.1	60.3	72.4	62.1	94.2	113	95		

MA Series Stainless Steel Double Acting Cylinder

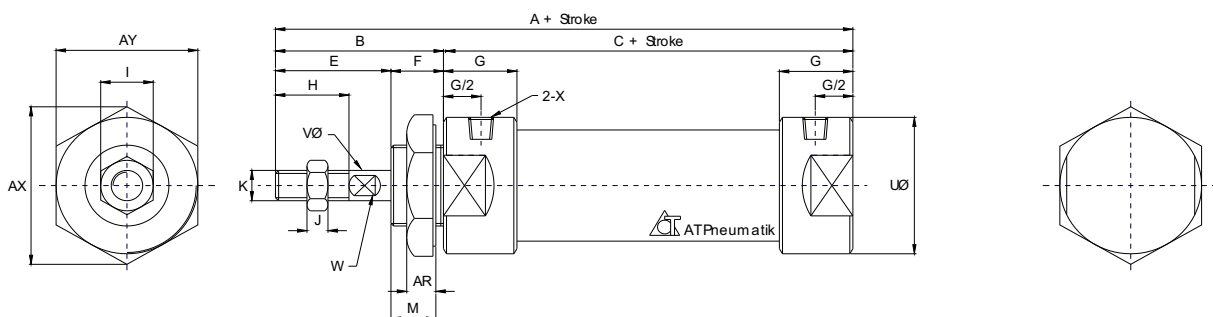
MA - CA Double Acting Cylinder



MA - CM Double Acting Cylinder



MA - U Double Acting Cylinder



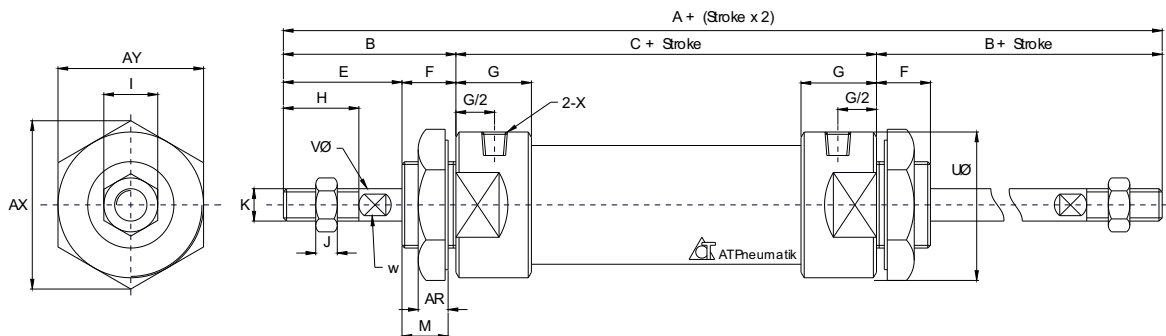
MA Pneumatic Cylinder Dimension															
Bore Diameter	A	A1	A2	B	C	D	D1	E	F	G	H	I	J	K	L
16	114	114	98	38	60	15	15	22	16	10	16	10	5	M06 X 1.0	M16 X 1.5
20	137	128	116	40	76	21	12	28	12	16	20	12	6	M08 X 1.25	M22 X 1.5
25	141	134	120	44	76	21	14	30	14	16	22	17	6	M10 X 1.25	M22 X 1.5
32	147	134	120	44	76	27	14	30	14	16	22	17	6	M10 X 1.25	M24 X 2.0
40	149	136	122	46	76	27	14	32	14	16.7	24	17	7	M12 X 1.25	M30 X 2.0

MA Pneumatic Cylinder Dimension														
Bore Diameter	M	P	Q	R	R1	S	U	V	W	X	AR	AX	AY	
16	8	6	12	13	13	6	20	6	/	M05	7	24	27.5	
20	10	8	16	19	12	12	29	8	6	G 1/8"	7	33	29	
25	12	8	16	19	14	12	34	10	8	G 1/8"	7	33	29	
32	12	10	16	25	14	15	39.5	12	10	G 1/8"	8	37	32	
40	12	23	20	25	14	15	39.5	16	14	G 1/4"	9	47	41	

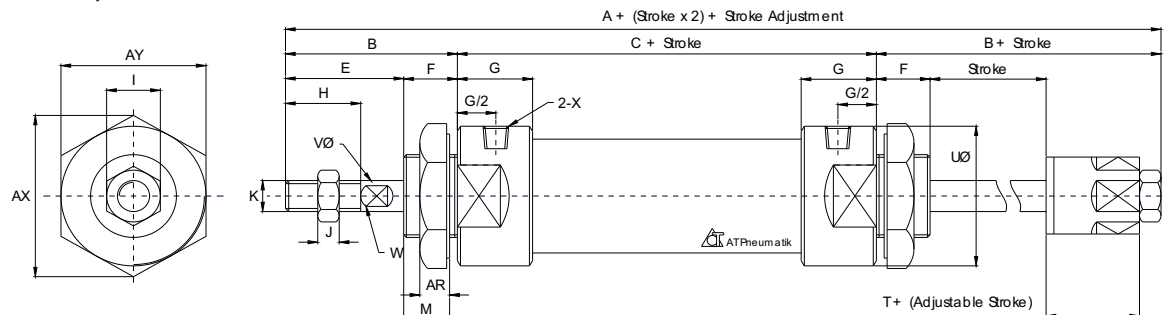
Dimensions are in mm

MA Series Stainless Steel Double Acting Cylinder

MAD Thru Rod Cylinder



MAJ Adjustable Stroke Cylinder



MA Pneumatic Cylinder Dimension

Bore Diameter	A	A1	B	C	E	F	G	H	I	J	K	L
20	156	153	40	70	28	12	16	20	12	6	M08 X 1.25	M22 X 1.5
25	164	161	44	70	30	14	16	22	17	6	M10 X 1.25	M22 X 1.5
32	164	161	44	70	30	14	16	22	17	6	M10 X 1.25	M24 X 1.5
40	168	164	46	92	32	14	22	24	17	7	M12 X 1.25	M30 X 2.0

MA Pneumatic Cylinder Dimension

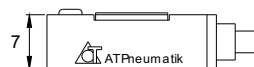
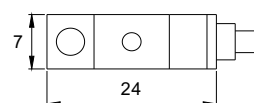
Bore Diameter	M	U	V	W	X	AR	AX	AY	T
20	10	29	8	6	G 1/8"	7	33	29	19
25	12	34	10	8	G 1/8"	7	33	29	21
32	12	39.5	12	10	G 1/8"	8	37	32	21
40	12	49.5	16	14	G 1/4"	9	47	41	21

MA/MAL Magnetic Switch and Holder



AL-03 Magnetic Switch

Dimension



BK Magnetic Switch Holder
20 to 40mm bore diameter cylinder

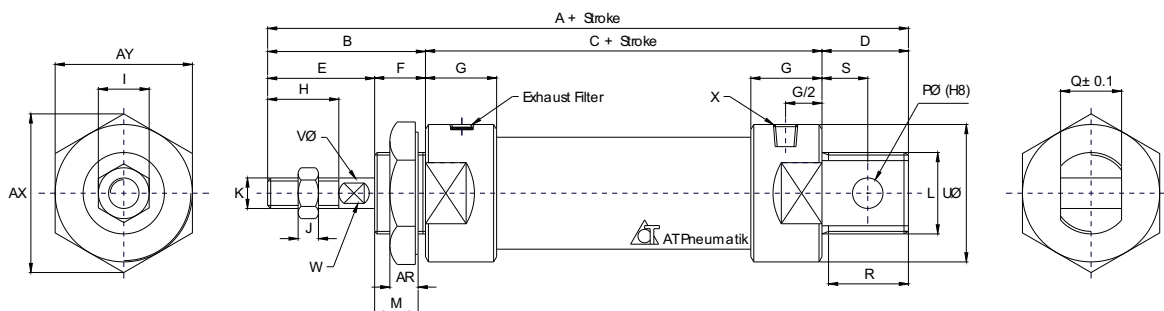
Reed Switch Specification

Model	Output	Current	Response	Indicator	Wire
AL-03-R	Contact	5-240Vac	1msec max.	LED	2M
		5-110Vdc			
AL-03-NPN	NPN	5-60mA			
AL-03-PNP	PNP				

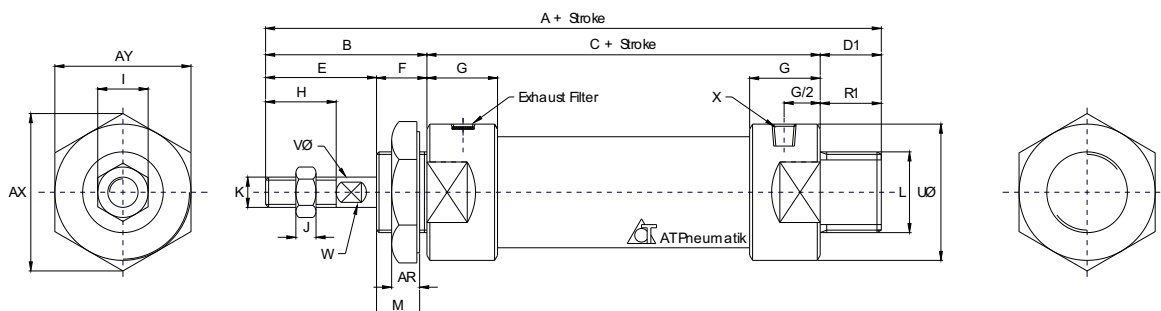
Dimensions are in mm

MAS Series Stainless Steel Single Acting Cylinder

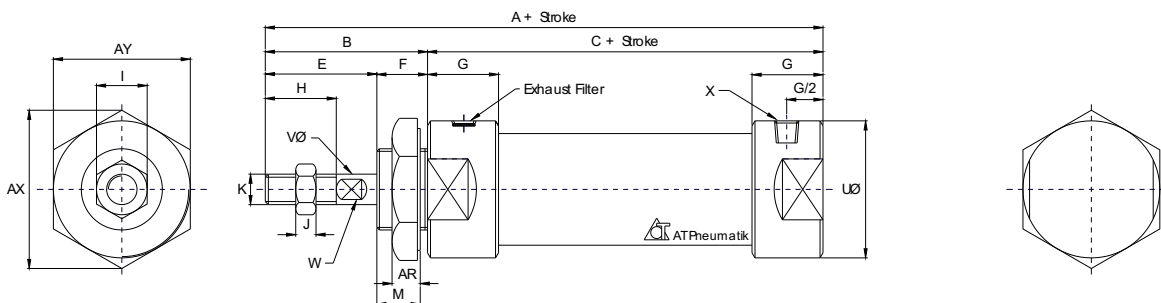
MAS - CA Single Acting Cylinder Normally Retracted



MAS - CM Single Acting Cylinder Normally Retracted



MAS - U Single Acting Cylinder Normally Retracted



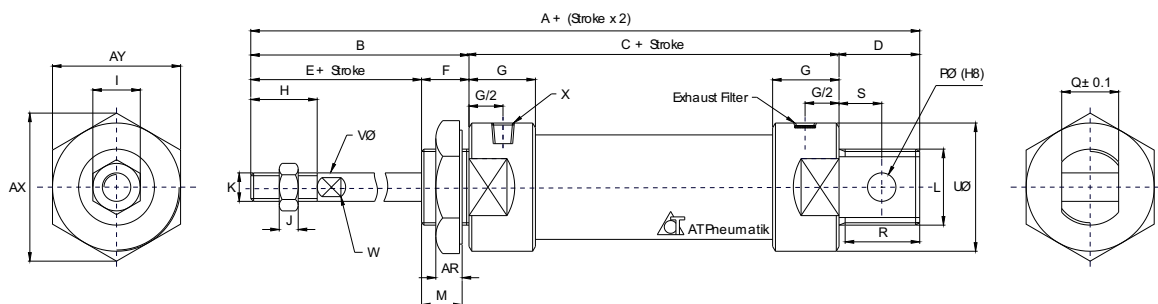
MAS Pneumatic Cylinder Dimension																	
Bore Diameter	A		A1		A2		B	C		D	D1	E	F	G	H	I	J
	0~50	51~100	0~50	51~100	0~50	51~100		0~50	51~100								
20	137	162	128	153	116	141	40	76	101	21	12	28	12	16	20	12	6
25	141	166	134	159	120	145	44	76	101	21	14	30	14	16	22	17	6
32	147	172	134	159	120	145	44	76	101	27	14	30	14	16	22	17	6
40	149	174	136	1611	122	147	46	76	101	27	14	32	14	22	24	17	7

MAS Pneumatic Cylinder Dimension															
Bore Diameter	K	L	M	P	Q	R	R1	S	U	V	W	X	AR	AX	AY
20	M08 X 1.25	M22 X 1.5	10	8	16	19	12	12	27	8	6	G 1/8"	7	33	29
25	M10 X 1.25	M22 X 1.5	12	8	16	19	14	12	30	10	8	G 1/8"	7	33	29
32	M10 X 1.25	M24 X 2.0	12	10	16	25	14	15	35	12	10	G 1/8"	8	37	32
40	M12 X 1.25	M30 X 2.0	12	12	20	25	14	15	41.6	16	14	G 1/8"	9	47	41

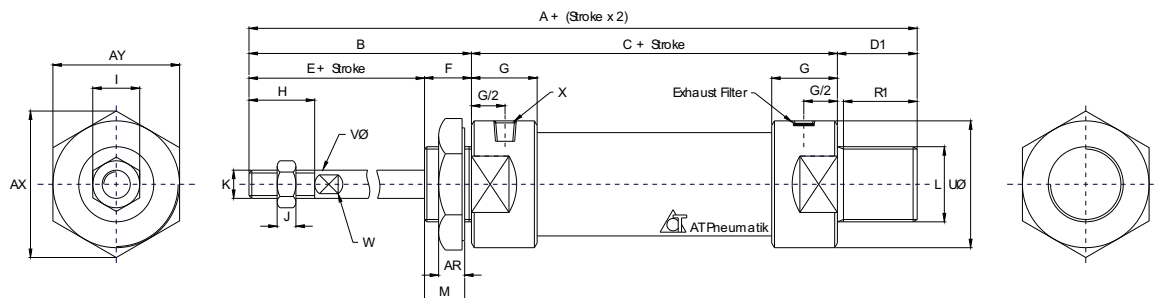
Dimensions are in mm

MAS Series Stainless Steel Single Acting Cylinder

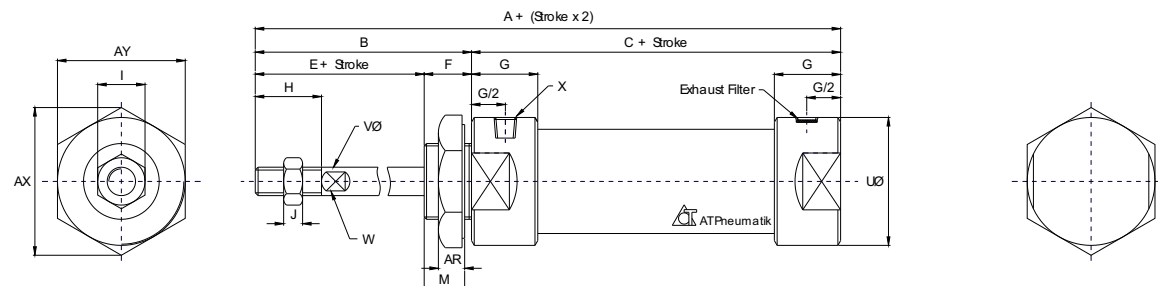
MASE - CA Single Acting Cylinder Normally Extended



MASE - CM Single Acting Cylinder Normally Extended



MASE - U Single Acting Cylinder Normally Extended



MASE Pneumatic Cylinder Dimension

Bore Diameter	A		A1		A2		B	C		D	D1	E	F	G	H	I	J
	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	1611	122	147	46	76	101	27	14	32	14	22	24	17	7

MASE Pneumatic Cylinder Dimension

Bore Diameter	K	L	M	P	Q	R	R1	S	U	V	W	X	AR	AX	AY
20	M08 X 1.25	M22 X 1.5	10	8	16	19	12	12	27	8	6	G 1/8"	7	33	29
25	M10 X 1.25	M22 X 1.5	12	8	16	19	14	12	30	10	8	G 1/8"	7	33	29
32	M10 X 1.25	M24 X 2.0	12	10	16	25	14	15	35	12	10	G 1/8"	8	37	32
40	M12 X 1.25	M30 X 2.0	12	12	20	25	14	15	41.6	16	14	G 1/8"	9	47	41

Dimensions are in mm