

Aluminum Barrel Slim Cylinder

● Calculation of theoretical force of cylinder

$$F = P \times A - F_0$$

F: Theoretical force

P: Pressure

A: Piston area



● Aluminum barrel slim cylinder

It is made in aluminum barrel, light and small. The cylinder wall is treated with hard anodic oxidation. It uses new seal material and can automatically compensate the abrasion surface of seal, with good resistance to abrasion and long service life. There are different installing accessories to choose.

● Cylinder installation instructions

1. Before installation, be sure if the cylinder was not damaged during transportation. Check if connecting parts were loose, etc.
2. When installation, the cylinder piston rod shall not withstand eccentric or radial loads, the load must be consistent with the direction of piston rod axis.
3. When cylinder installation, especially for long stroke cylinder, it must use level instrument for three-point position calibration.
4. Before the pipe connects into air intake, it should clear pipe's burrs, pipeline without corrosion, after cleaning up and checked, can be installation.
5. Speed adjustment: firstly adjusting speed control valve (one-way throttle) in the middle, gradually adjusting the output pressure of regulator, when cylinder speed is close to pre-determine speed, it can ascertain working pressure, and then using speed control valve for fine tuning. Finally adjusting the buffer speed (usually adjustable needle is adjusted at the factory)
6. After cylinder installation, in working pressure range, to operate 2-3 times without load, checking the cylinder before if it is working normally.
7. At high temperature or corrosive conditions, it should use the appropriate temperature or corrosion resistance cylinders
8. In the occasions of humidity, dust or water drop, oil, dust, welding slag, the cylinder should be protected with devices.
9. In low-temperature environment, it should take antifreeze measure to prevent water freezing of the system.
10. If the cylinder is not used for a long time, pay attention to the surface oxidation, the intake and exhaust ports should be added plug dust protection.

■ Theoretical force sheet

Cylinder inside diamater		20			25			32			40		
External diameterof piston rad		8			10			12			16		
Action Type		Single action	Double action		Single action	Double action		Single action	Double action		Single action	Double action	
			Push	Pluk		Push	Pluk		Push	Pluk		Push	Pluk
Compression area cm²		3.14	3.14	2.64	4.90	4.90	4.12	8.04	8.04	6.90	12.56	12.56	10.55
Air pressure Kgf/cm²	1	—	03.14	02.64	—	04.90	04.12	—	08.04	06.90	03.75	12.56	10.55
	2	01.26	06.28	05.28	21.10	09.80	32.98	07.66	16.08	13.80	16.31	25.12	21.10
	3	04.40	09.42	07.92	31.65	14.70	12.36	15.70	24.12	20.70	28.87	37.68	31.65
	4	07.54	12.56	10.56	42.20	19.60	16.48	23.74	32.16	27.60	41.43	50.24	42.20
	5	10.68	15.70	13.20	52.75	24.50	20.60	31.78	40.20	34.50	53.99	62.80	52.75
	6	13.82	18.84	15.84	63.30	29.40	24.72	39.82	48.24	41.40	66.55	75.36	63.30
	7	16.96	21.98	18.48	73.85	34.30	28.84	47.86	56.28	48.30	79.11	87.92	73.85
	8	21.10	25.12	21.12	84.40	39.20	32.96	55.90	64.32	55.20	91.67	100.48	84.40
	9	23.24	28.26	23.76	94.95	44.10	37.08	63.94	72.36	62.10	104.23	113.04	94.95

Aluminum Barrel Slim Cylinder



● Aluminum barrel slim cylinder

Without lubricating: Needn't lubricating on piston rod for using oiled axletree.

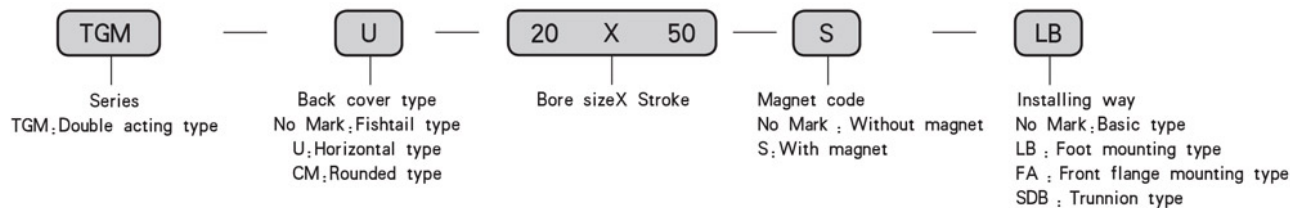
Durability: With oxidative steel tube, cover deal with electrophoresis, it is not only anticorrosive, durable and wear-resistant, but also has compact shape.

Kinds of mounting: Have kinds of installing accessories to choose.

■ Graphics Sign



● Ordering Code



■ Example

- 1) Bore: 20mm, Stroke: 50mm, Fishtail type back cover installation, SDB pattern, Code: TGM-CA-20×50-SDB
- 2) Bore: 32mm, Stroke: 100mm, Horizontal back cover and is aluminium slim cylinder, Code: TGM-U-32×100

■ Standard Specification

Bore (mm)	20	25	32	40
Action	Double action type			
Applicable medium	Air			
Pressure range	0.1~0.9MPa			
Proof pressure	1.35MPa			
Temperature range	-10~60°C			
Speed range	30~800 mm/s			
Prot Size	G1/8			G1/4

Aluminum Barrel Slim Cylinder

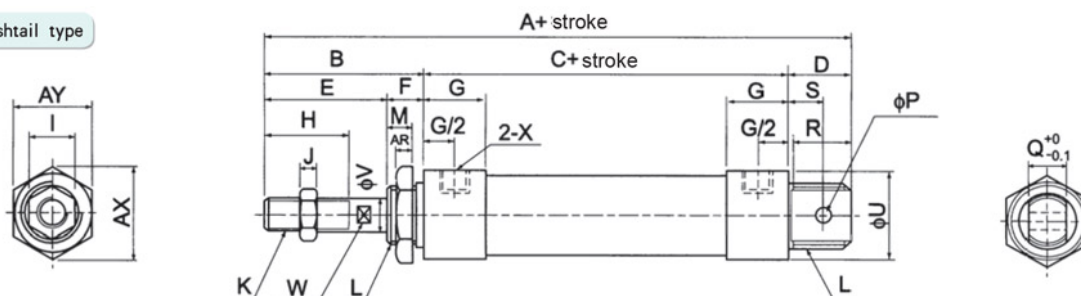
Stroke

Bore (mm)	Standard Stroke																Max. Stroke	Permissible. Stroke
20	25	50	75	80	100	125	150	160	175	200	250	300					500	800
25	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	800	1200
32	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	800	1200
40	25	50	75	80	100	125	150	160	175	200	250	300	350	400	450	500	1200	1500

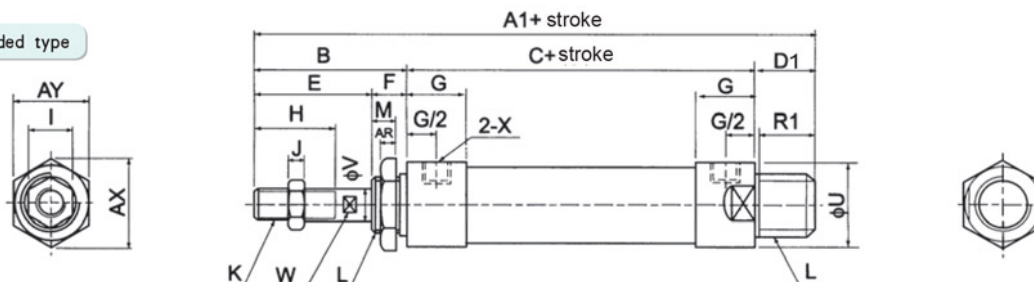
* Special stroke please contact with us

Figure Dimension ● $\phi 20 \sim \phi 40$

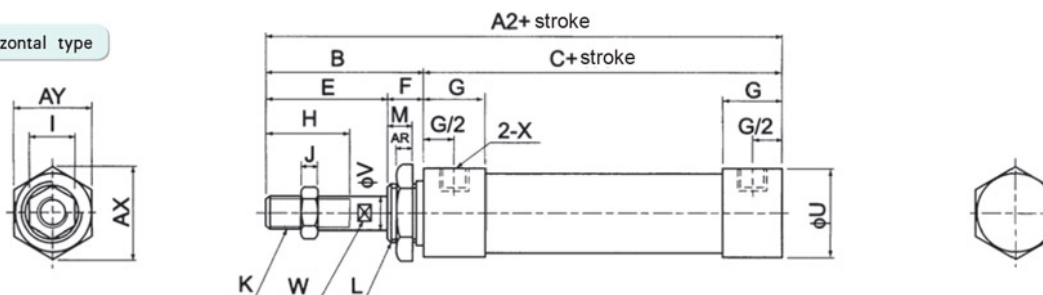
● Fishtail type



● Rounded type



● Horizontal type



Bore	A	A1	A2	B	C	D	D1	E	F	G	H	I	J	K
20	131	122	110	40	70	21	12	28	12	16	20	12	6	M8x1.25
25	135	128	114	44	70	21	14	30	14	16	22	17	6	M10x1.25
32	141	128	114	44	70	27	14	30	14	16	22	17	6	M10x1.25
40	165	152	138	46	92	27	14	32	14	22	24	17	7	M12x1.25

Bore	L	M	P	Q	R	R1	S	U	V	W	X	AR	AX	AY
20	M22x1.5	10	8	16	19	10	12	27	8	6	G1/8	7	33	29
25	M22x1.5	12	8	16	19	12	12	31.5	10	8	G1/8	7	33	29
32	M24x2.0	12	10	16	25	12	15	38.5	12	10	G1/8	8	37	32
40	M30x2.0	12	12	20	25	12	15	47	16	14	G1/4	9	47	41

Aluminium Compact Cylinder Double Axis Type



● Product characteristic

Without lubricating: Needn' t lubricating on piston rod for using oiled axletree.

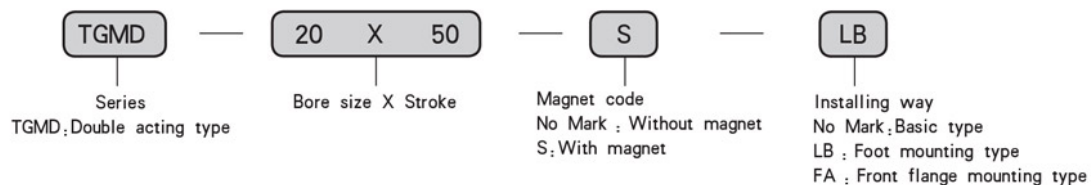
Durability: With oxidative steel tube, cover deal with electrophoresis, it is not only anticorrosive, durable and wear-resistant, but also has compact shape.

Kinds of mounting: Have kinds of installing accessories to choose.

■ Graphics Sign



● Ordering Code



■ Example

1) Bore:20mm, stroke:50mm, LB installation, Code : TGMD20×50—LB

■ Standard Specification

Bore (mm)	20	25	32	40
Action	Double action type			
Applicable medium	Air			
Pressure range	0.1~0.9MPa			
Proof pressure	1.35MPa			
Temperature range	-10~60℃			
Speed range	50~800 mm/s			
Prot Size	G1/8			G1/4

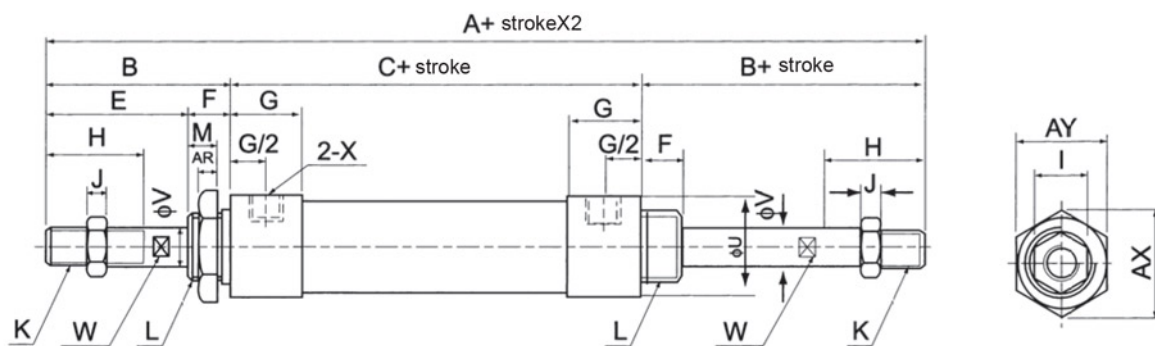
Aluminium Compact Cylinder Double Axis Type

Stroke

Bore (mm)	Standard Stroke											Max. Stroke	Permissible. Stroke
20	25	50	75	80	100	125	150	160	175	200		200	300
25	25	50	75	80	100	125	150	160	175	200	250	250	300
32	25	50	75	80	100	125	150	160	175	200	250	250	300
40	25	50	75	80	100	125	150	160	175	200	250	250	300

Figure Dimension

● $\varnothing 20 \sim \varnothing 40$



Bore (mm)	A	B	C	E	F	G	H	I	J	K	L	M	U	V	W	X	AR	AX	AY
20	150	40	70	28	12	16	20	12	6	M8x1.25	M22x1.5	10	29	8	6	G1/8	7	33	29
25	158	44	70	30	14	16	22	17	6	M10x1.25	M22x1.5	12	34	10	8	G1/8	7	33	29
32	158	44	70	30	14	16	22	17	6	M10x1.25	M24x2.0	12	39.5	12	10	G1/8	8	37	32
40	184	46	92	32	14	22	24	17	7	M12x1.25	M30x2.0	12	49.5	16	14	G1/4	9	47	41

Aluminium Mini Cylinder Double Axis Adjustable Type



● Product characteristic

Without lubricating: Needn't lubricating on piston rod for using oiled axletree.

Durability: With oxidative steel tube, cover deal with electrophoresis, it is not only anticorrosive, durable and wear-resistant, but also has compact shape.

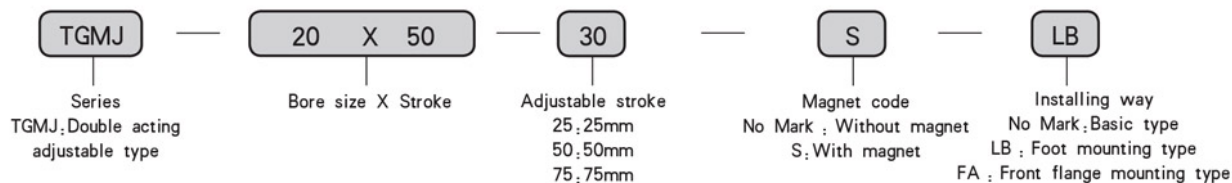
Kinds of mounting: Have kinds of accessories to choose.

Adjustable stroke: Attached with adjustable nut, the operator can adjust the stroke within its stroke range.

■ Graphics Sign



● Ordering Code



■ Example

1) Bore: 20mm, stroke: 50mm, adjustable stroke: 25, LB installation, Code : TGMJ20×50—LB

■ Standard Specification

Bore (mm)	20	25	32	40
Action	Double action type			
Applicable medium	Air			
Pressure range	0.1~0.9 MPa			
Proof pressure	1.35 MPa			
Temperature range	-10~60°C			
Speed range	50~800 mm/s			
Port Size	G1/8			G1/4

Aluminium Mini Cylinder Double Axis Adjustable Type

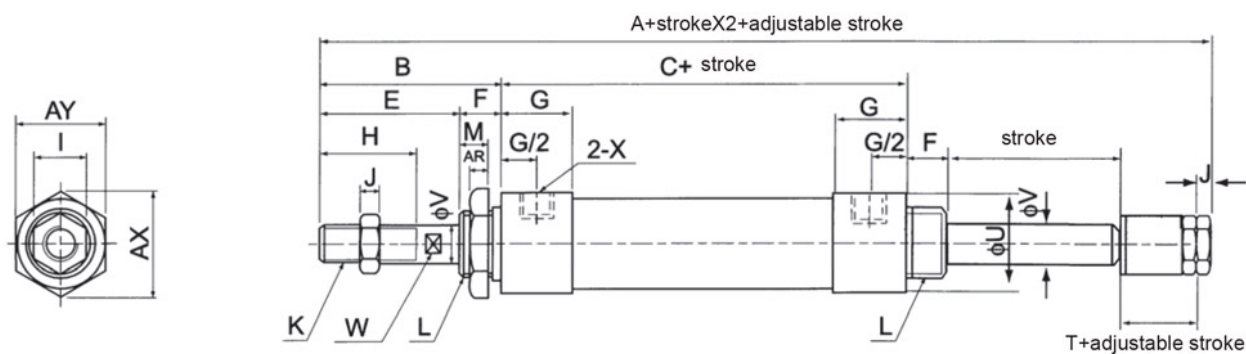
Stroke

Bore (mm)	Standard Stroke											Max. Stroke	Permissible. Stroke
20	25	50	75	80	100	125	150	160	175	200		200	300
25	25	50	75	80	100	125	150	160	175	200	250	250	300
32	25	50	75	80	100	125	150	160	175	200	250	250	300
40	25	50	75	80	100	125	150	160	175	200	250	250	300

* Special stroke please contact with us

Figure Dimension

● $\varnothing 20 \sim \varnothing 40$



Bore (mm)	A	B	C	E	F	G	H	I	J	K	L	M	T	U	V	W	X	AR	AX	AY
20	147	40	70	28	12	16	20	12	6	M8x1.25	M22x1.5	10	19	29	8	6	G1/8	7	33	29
25	155	44	70	30	14	16	22	17	6	M10x1.25	M22x1.5	12	21	34	10	8	G1/8	7	33	29
32	155	44	70	30	14	16	22	17	6	M10x1.25	M24x2.0	12	21	39.5	12	10	G1/8	8	37	32
40	180	46	92	32	14	22	24	17	7	M12x1.25	M30x2.0	12	21	49.5	16	14	G1/4	9	47	41



● Product characteristic

Without lubricating: Needn' t lubricating on piston rod for using oiled axletree.

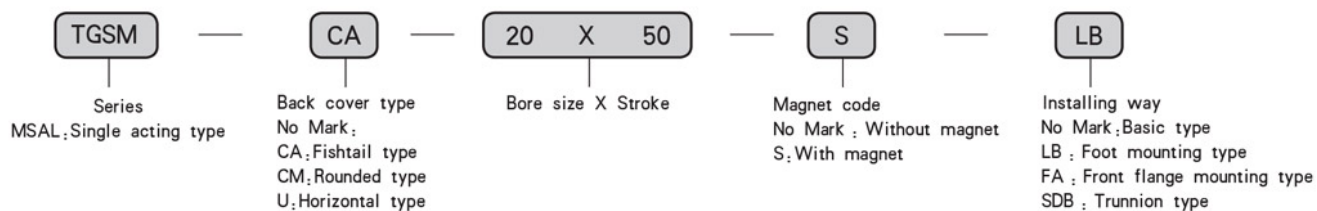
Durability: With oxidative steel tube, cover deal with electrophoresis, it is not only anticorrosive, durable and wear-resistant, but also has compact shape.

Kinds of mounting: Have kinds of installing accessories to choose.

■ Graphics Sign



● Ordering Code



■ Example

- 1) Bore:20mm, stroke:50mm, Back cover type Fishtail type, with runnion SDB, Code : TGSM—CA—20×50—SDB
- 2) Bore:32mm, stroke:100mm, Back cover type is Horizontal type, Code : TGSM—U—32×100

■ Stroke

Bore (mm)	Standard Stroke					Max. Stroke
20	25	50	75	100		100
25	25	50	75	100		100
32	25	50	75	100		100
40	25	50	75	100		100

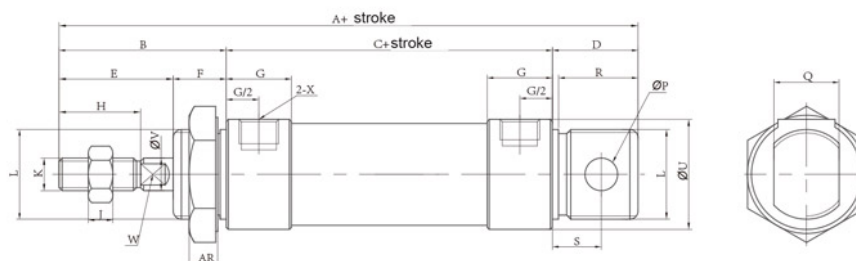
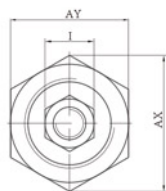
■ Standard Specification

Bore (mm)	20	25	32	40
Action	Double action type			
Applicable medium	Air			
Pressure range	0.2~0.9 MPa			
Proof pressure	1.35 MPa			
Temperature range	-10~60℃			
Speed range	50~800 mm/s			
Prot Size	G1/8 Adjustable cushion			G1/4

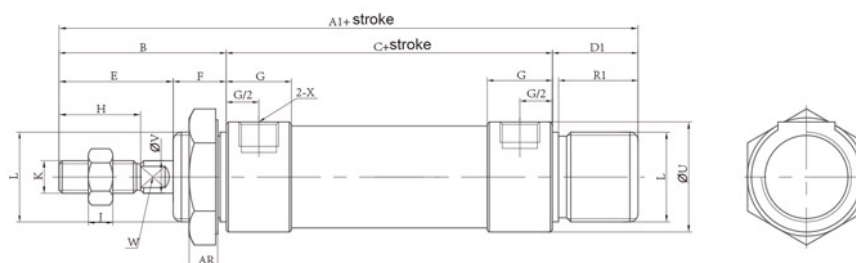
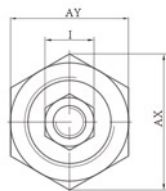
Figure Dimension

● $\phi 20 \sim \phi 40$

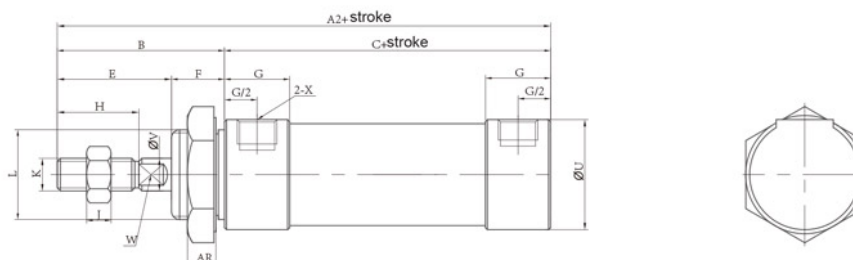
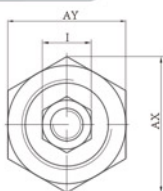
● Fishtail type



● Rounded type



● Horizontal type



Bore	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	131	156	122	147	110	135	40	70	95	21	12	28	12	16	20	12	6
25	135	160	128	153	114	139	44	70	95	21	14	30	14	16	22	17	6
32	141	166	128	153	114	139	44	70	95	27	14	30	14	16	22	17	6
40	165	190	152	177	138	163	46	92	117	27	14	32	14	22	24	17	7

Bore	K	L	M	P	Q	R	R1	S	U	V	W	X	AR	AX	AY
20	M8X1.25	M22X1.5	10	8	16	19	10	12	29	8	6	G1/8	7	33	29
25	M10X1.25	M22X1.5	12	8	16	19	12	12	34	10	8	G1/8	7	33	29
32	M10X1.25	M24X2.0	12	10	16	25	12	15	39.5	12	10	G1/8	8	37	32
40	M12X1.25	M30X2.0	12	12	20	25	12	15	49.5	16	14	G1/4	9	47	41