

Stainless Steel Barrel Slim Cylinder



● Calculation of theoretical force of cylinder

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

F: Theoretical force

P: Pressure

A: Piston area

F₀: Regain power of spring

● 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 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 diameter		16			20			25			32			40		
External diameter of piston rod		6			8			10			12			16		
Action Type		Single action	Double action		Single action	Double action		Single action	Double action		Single action	Double action		Single action	Double action	
			Push	Pluk		Push	Pluk		Push	Pluk		Push	Pluk		Push	Pluk
Compression area cm ²		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
Air pressure Kgf/cm ²	1	—	02.01	01.81	—	03.14	02.64	—	04.90	04.12	—	08.04	06.90	—	12.56	10.55
	2	—	04.02	03.62	01.57	06.28	05.28	02.45	09.80	08.24	04.02	16.08	13.80	06.28	25.12	21.10
	3	02.01	06.03	05.43	04.71	09.42	07.92	07.35	14.70	12.36	12.06	24.12	20.70	18.84	37.68	31.65
	4	04.02	08.04	07.24	07.85	12.56	10.56	12.25	19.60	16.48	20.10	32.16	27.60	31.40	50.24	42.20
	5	06.03	10.05	09.05	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	08.04	12.06	10.86	14.13	18.84	15.84	22.05	29.40	24.72	36.18	48.24	41.40	41.40	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

Stainless Steel Barrel Slim Cylinder



• characteristic

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

Durability: With high-class stainless steel, it is more anticorrosive and durable.

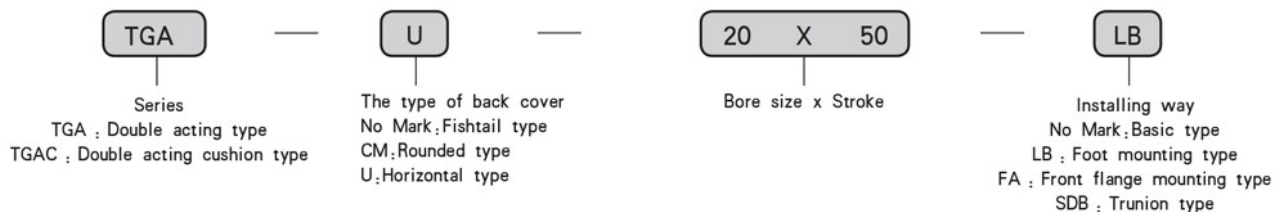
Kinds of mounting: Have kinds of auxiliary components to be chosen.

With magnet: With permanent magnet on piston, it can touch the magnet switch to track cylinder's action.

■ Graphics Sign



● Ordering Code



■ Example

- 1) Bore:20mm, stroke:50mm, the back cover is fishtail type, with SDB pattern, Code : TGA20×50—SDB
- 2) Bore:32mm, stroke:100mm, Horizontal type back cover, Code : TGM—U—32×100

■ Standard Specification

Bore (mm)	16	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 (No Freeze)				
Speed range	50 ~ 800 mm/s				
Cushion type	Standard type	Mounted Cushion			
Cushion stroke(mm)	Cushion type	Adjustable cushion			
Prot Size	M5x0.8	G1/8			

Stainless Steel Barrel Slim Cylinder

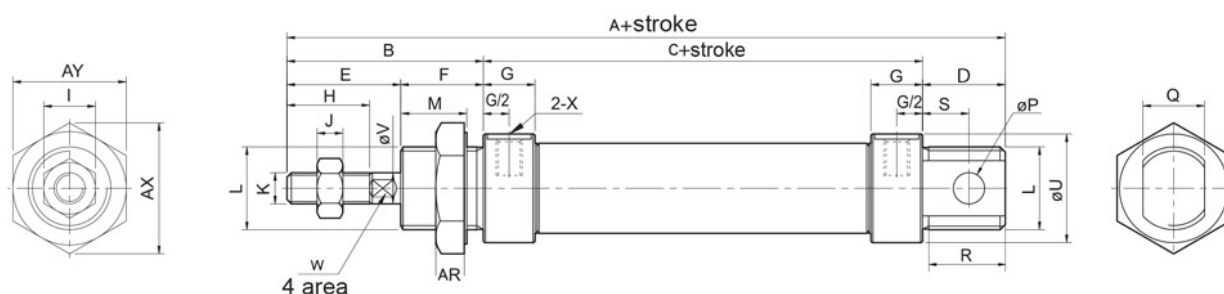
Stroke

Bore (mm)	Standard Stroke																Max. Stroke	Permissible. 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

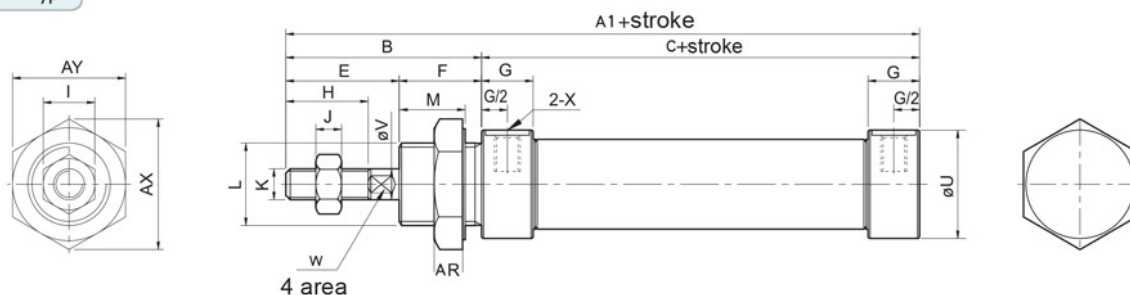
■ Figure Dimension

● $\phi 16 \sim \phi 40$

- Fishtail type



- Horizontal type



Bore	A	A1	B	C	D	E	F	G	H	I	J	K
16 ※	114	98	38	60	16	22	16	11.5	16	10	5	M6x1
20	137	116	40	76	21	28	12	16	20	12	6	M8x1.25
25	141	120	44	76	21	30	14	16	22	17	6	M10x1.25
32	147	120	44	76	27	30	14	16	22	17	6	M10x1.25
40	149	122	46	76	27	32	14	16	24	17	7	M12x1.25

Bore	L	M	P	Q	R	S	U	V	W	X	AR	AX	AY
16 ※	M16x1,5	14	6	12	14	9	21	6	5	M5	6	25	22
20	M22x1,5	10	8	16	19	12	27	8	6	G1/8	7	33	29
25	M22x1,5	12	8	16	19	12	30	10	8	G1/8	7	33	29
32	M24x2,0	12	10	16	25	15	38.5	12	10	G1/8	8	37	32
40	M30x2,0	12	12	20	25	15	47	16	14	G1/8	9	47	41

Stainless Steel Barrel Slim Cylinder



• characteristic

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

Durability: With high-class stainless steel, it is more anticorrosive and durable.

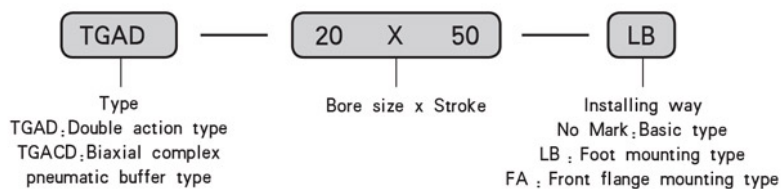
Kinds of mounting: Have kinds of auxiliary components to be chosen.

With magnet: With permanent magnet on piston, it can touch the magnet switch to track cylinder's action.

■ Graphics Sign



● Ordering Code



■ Example

- 1) Bore: 20mm, Stroke: 50mm, LB installation, Code : TGAD20×50—LB
- 2) Bore: 32mm, Stroke: 100mm, FA installation, Code : TGAD32×100—FA

■ Standard Specification

Bore (mm)		16	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		30 ~ 800 mm/s				
Cushion type	Standard type	Bumper				
Cushion stroke(mm)	cushion type	—	Adjustable cushion			
Prot Size		M5x0.8		G1/8		

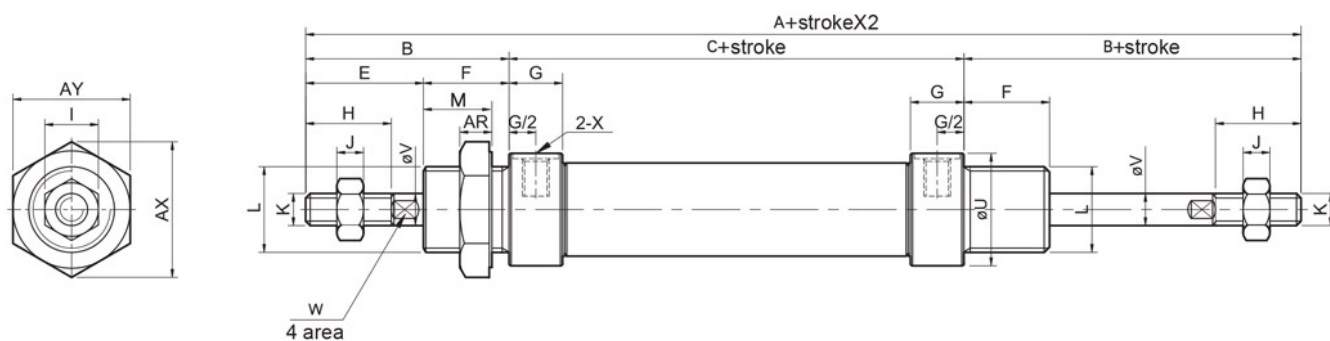
Stainless Steel Barrel Slim Cylinder Double Axis Type

■ Stroke

Bore (mm)	Standard Stroke										Max. Stroke	Permissible Stroke
16	25	50	75	80	125	150	160				150	200
20	25	50	75	80	125	150	160	175	200		200	300
25	25	50	75	80	125	150	160	175	200	250	250	300
32	25	50	75	80	125	150	160	175	200	250	250	300
40	25	50	75	80	125	150	160	175	200	250	250	300

■ Figure Dimension

● $\phi 16 \sim \phi 40$



Bore	A	B	C	E	F	G	H	I	J	K	L
16	136	38	60	22	16	11.5	16	10	5	M6x1	M16x1.5
20	156	40	76	28	12	16	20	12	6	M8x1.25	M22x1.5
25	164	44	76	30	14	16	22	17	6	M10x1.25	M22x1.5
32	164	44	76	30	14	16	22	17	6	M10x1.25	M24x2.0
40	168	46	76	32	14	16	24	17	7	M12x1.25	M30x2.0

Bore	M	U	V	W	X	AR	AX	AY
16	14	21	6	5	M5	6	25	22
20	10	27	8	6	G1/8	7	33	29
25	12	30	10	8	G1/8	7	33	29
32	12	38.5	12	10	G1/8	8	37	32
40	12	47	16	14	G1/8	9	47	41

Stainless Steel Slim Cylinder Double Axis Adjustable Type



● characteristic

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

Durability: With high-class stainless steel, it is more anticorrosive and durable.

Kinds of mounting: Have kinds of auxiliary components to choose.

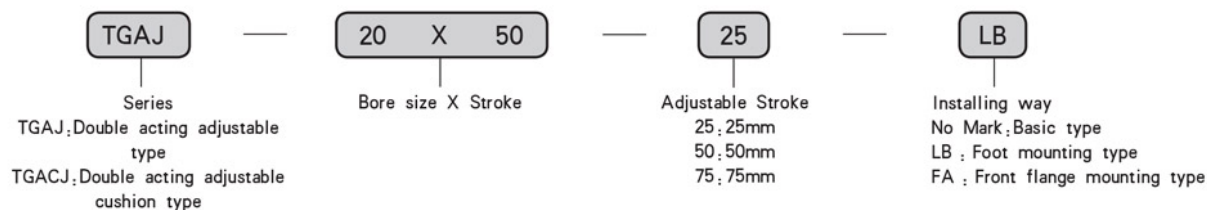
With magnet: With permanent magnet on piston, it can touch the magnet switch to track cylinder's action.

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: TGAJ20 X 50-25-LB
- 2) Bore: 32mm, Stroke: 100mm, adjustable Stroke: 25, FA installation, Code: TGACJ32 X 100-25-FA

■ Standard Specification

Bore (mm)	16	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	30~800 mm/s				
Cushion type	Standard type		Bumper		
	cushion type		Adjustable cushion		
Prot Size	M5x0.8		G1/8		

TGSA Series Single Action cylinder



● Product characteristic

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

Durability: With high-class stainless steel, it is more anticorrosive and durable.

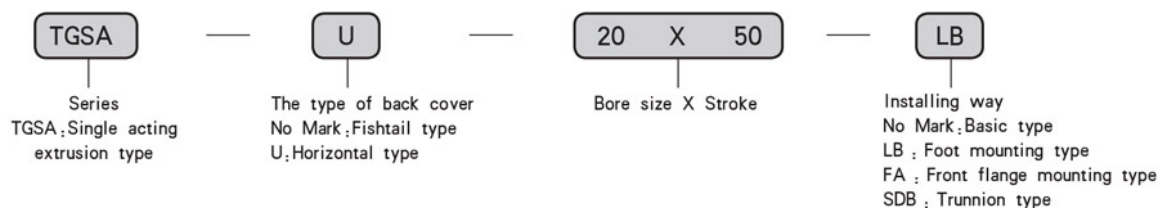
Kinds of mounting: Have kinds of auxiliary components to choose.

With magnet: With permanent magnet on piston, it can touch the magnet switch to track cylinder's action.

■ Graphics Sign



● Ordering Code



■ Example

- 1) Bore: 20mm, Stroke: 50mm, LB installation, Code: TGSA20×50—LB
- 2) Bore: 32mm, Stroke: 100mm, FA installation, Code: TGSA32×100—FA

■ Standard Specification

Bore (mm)	16	20	25	32	40
Action	Double action type				
Applicable medium	Air				
Pressure range	0.2~0.9MPa				
Proof pressure	1.35MPa				
Temperature range	-10~60°C				
Speed range	30~800 mm/s				
Cushion type	Adjustable cushion				
Prot Size	M5x0.8	G1/8			

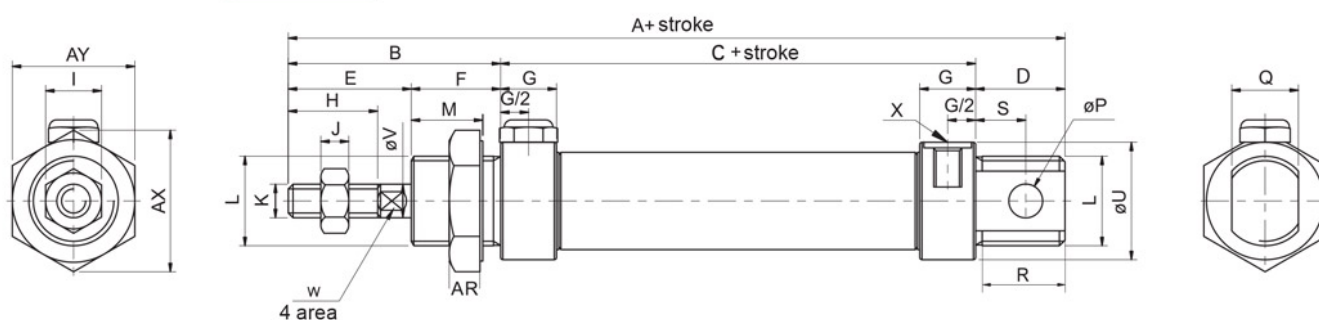
TGSA Series Single Action cylinder

Stroke

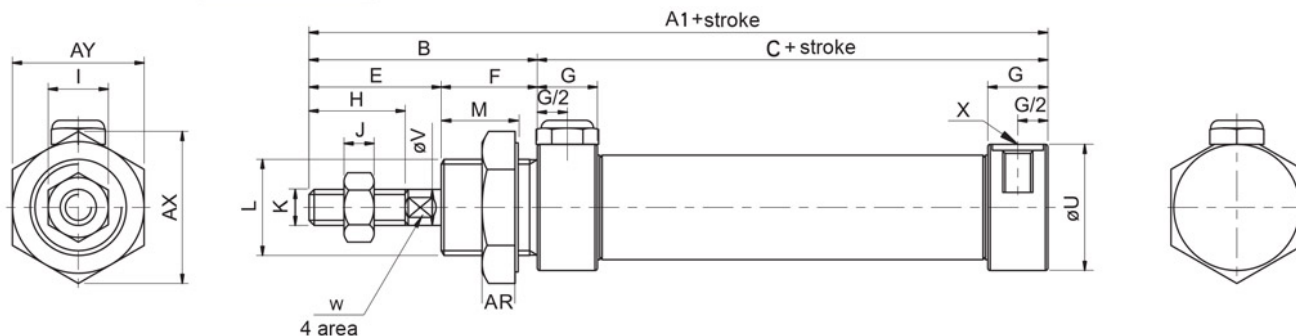
Bore (mm)	Standard Stroke				Max. Stroke
16	25	50	75		100
20	25	50	75	100	100
25	25	50	75	100	100
32	25	50	75	100	100
40	25	50	75	100	100

Figure Dimension

Fishtail type



Horizontal type



Type	A		A1		B	C		D	E	F	G	H	I	J	K
Bore	0-50	51-100	0-50	51-100		0-50	51-100								
16	114	139	98	123	38	60	85	16	22	16	15	16	10	5	M6x1
20	137	162	116	141	40	76	101	21	28	12	16	20	12	6	M8x1.25
25	141	166	120	145	44	76	101	21	30	14	16	22	17	6	M10x1.25
32	147	172	120	145	44	76	101	27	30	14	16	22	17	6	M10x1.25
40	149	174	122	147	46	76	101	27	32	14	16	24	17	7	M12x1.25

Bore	L	M	P	Q	S	R	U	V	W	X	AR	AX	AY
16	M16x1.5	14	6	12	9	14	21	6	5	M5x0.8	6	25	22
20	M22x1.5	10	8	16	12	19	27	8	6	G1/8	7	33	29
25	M22x1.5	12	8	16	12	19	30	10	8	G1/8	7	33	29
32	M24x2.0	12	10	16	15	25	38.5	12	10	G1/8	8	37	32
40	M30x2.0	12	12	20	15	25	47	16	14	G1/8	9	47	41