

TGL Series stainless steel cylinder

According : ISO6432



• 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.

● 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 calculation of the cylinder output

$$F = P \times A$$

F : cylinder theoretical output

P : Working pressure

A : Piston force area

■ Theoretical force sheet

Cylinder inside diameter	8		10		12		16		20		25		32		40		
External diameter of piston rod	4		4		6		6		8		10						
Action Type	Double action		Double action		Double action		Double action		Double action		Double action		Double action		Double action		
	Push	Pluk	Push	Pluk	Push	Pluk	Push	Pluk	Push	Pluk	Push	Pluk	Push	Pluk	Push	Pluk	
Compression area cm ²	0.5	0.37	0.78	0.65	1.13	0.85	2.01	1.73	3.14	2.64	4.90	4.12	8.04	6.90	12.56	10.55	
Air pressure Kgf/cm ²	1	-	-	-	-	-	2.01	1.73	3.14	2.64	4.90	0.12	08.04	06.90	12.56	10.55	
	2	-	-	0.16	0.13	2.26	1.7	4.02	3.46	6.28	5.28	9.80	8.24	16.08	13.80	25.12	21.10
	3	0.15	0.11	0.23	0.2	3.4	2.55	6.03	5.19	9.42	7.92	14.70	12.36	24.12	20.70	37.68	31.65
	4	0.2	0.15	0.31	0.26	4.52	3.4	8.04	6.92	12.56	10.56	19.60	16.48	32.16	27.60	50.24	42.20
	5	0.25	0.18	0.39	0.33	5.65	4.25	10.05	8.65	15.70	13.20	24.50	20.60	40.20	34.50	62.80	52.75
	6	0.3	0.22	0.47	0.39	6.78	5.1	12.06	10.39	18.84	15.84	29.40	24.72	48.24	41.40	75.36	63.30
	7	0.35	0.26	0.55	0.46	7.91	5.95	14.07	12.11	21.98	18.48	34.30	28.84	56.28	48.30	87.92	73.85
	8	0.4	0.3	0.62	0.52	9.04	6.8	16.08	13.84	25.12	21.12	39.20	32.96	64.32	55.20	100.48	84.40
	9	0.45	0.33	0.70	0.59	10.17	7.65	18.09	15.57	28.26	23.76	44.10	37.08	72.36	62.10	113.04	94.95

TGL Series stainless steel cylinder

According : ISO6432



• characteristic

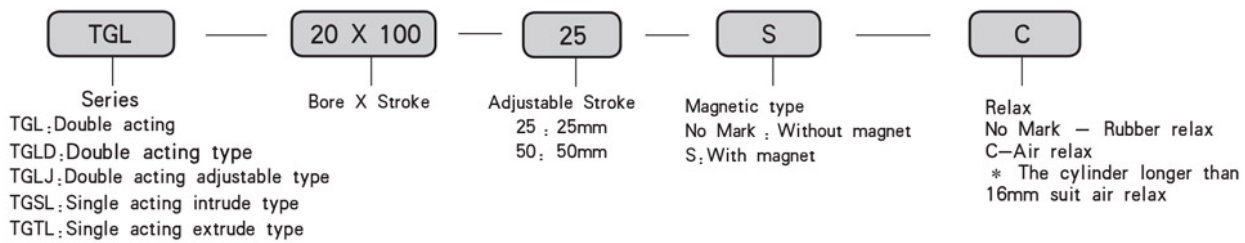
Without lubricating: Needn't lubricating on piston rod for using oiled axletree.

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.

● Ordering Code



Note : TGL/TGLD/TGSL/TGTL No Option for Adjustable Stroke type,
TGSL/TGTL No Option for Cushion type.

■ Ordering example

1) Bore: 20mm, Stroke: 100mm, single clevis air cushion, Code: TGL-20X100-C

■ Specification

Bore (mm)	8	10	12	16	20	25	32	40
Medium	Air							
Action way	Double Acting Type							
Ensure operatin pressure MPa[kgf/cm2]	1.5{1.53}							
Max pressure MPa[kgf/cm2]	1.0{10.2}							
Min pressure MPa[kgf/cm2]	0.1{1}				0.05{0.5}			
Environment and fluid emperature	-10 ~ 60°C(No Freeze)							
Piston speed	Rubber Cushion (Standard)				Air Cushion (By Yourself)			
Relax	50 ~ 750mm/s							
* Lubricate	No							
Power allonned(J)	0.02	0.03	0.04	0.09	0.27	0.4		
Pipe Size	M5 x 0.8				G1/8			

* If Lubrication, please use ISOVG32 No1

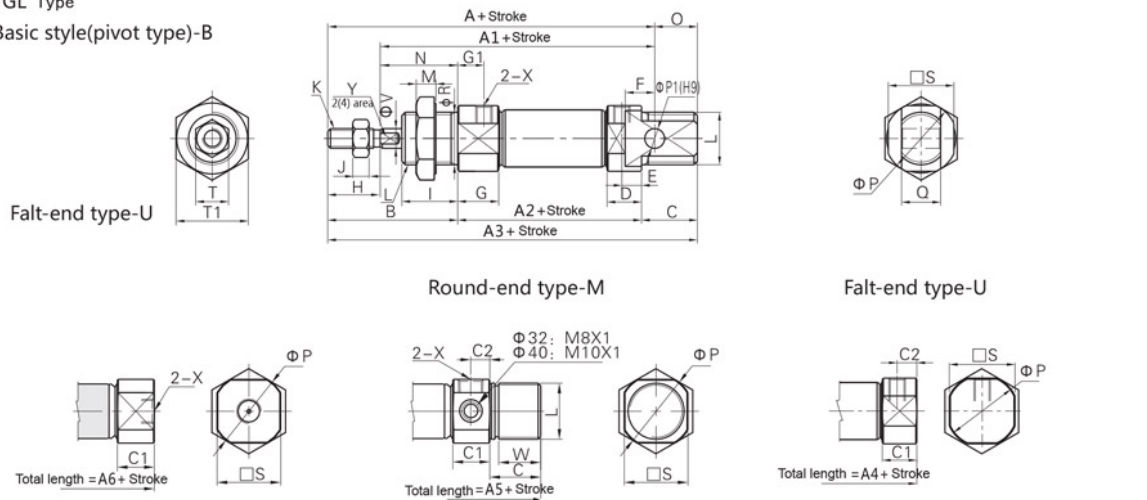
■ Stroke

Bore (mm)	Standard stroke (mm)		Max. Stroke (mm)
	Single acting	Double acting	
8	10, 15, 20, 25, 40, 50	10, 15, 20, 25, 40, 50, 75, 80, 100, 125, 150	150
10	10, 15, 20, 25, 40, 50	10, 15, 20, 25, 40, 50, 75, 80, 100, 125, 150, 160, 175, 200	200
12	10, 15, 20, 25, 40, 50	10, 15, 20, 25, 40, 50, 75, 80, 100, 125, 150, 160, 175, 200, 250	250
16	10, 15, 20, 25, 40, 50, 75, 80, 100	10, 15, 20, 25, 40, 50, 75, 80, 100, 125, 150, 160, 175, 200, 250, 300	300
20			500
25			600
32	10, 15, 20, 25, 40, 50, 75, 80, 100	10, 15, 20, 25, 40, 50, 75, 80, 100, 125, 150, 160, 175, 200, 250, 300, 350, 400, 450, 500, 600	600
40			600

Figure Dimension

TGL Type

Basic style(pivot type)-B

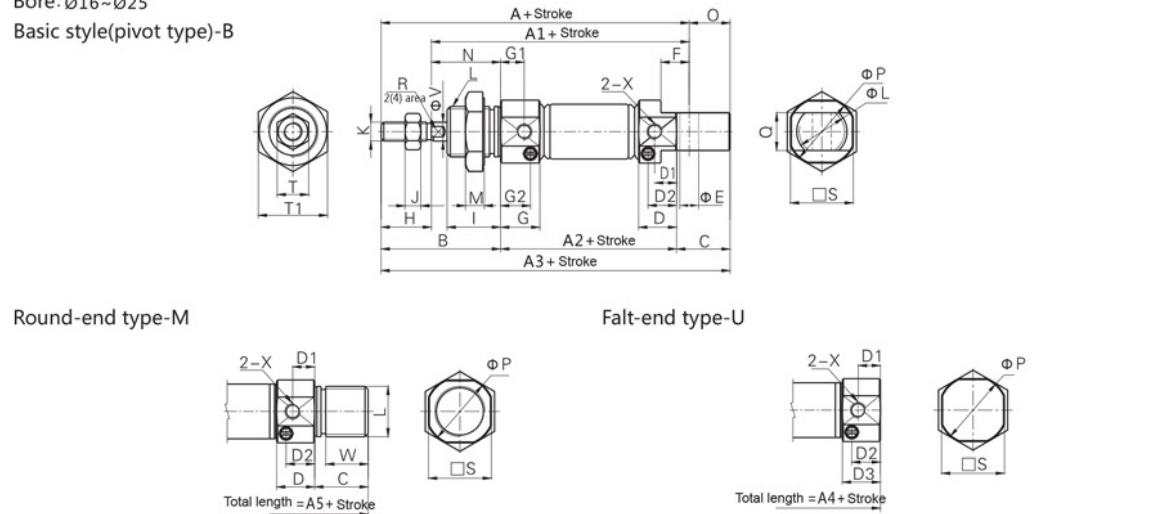


Bore	A	A1	A2	A3	A4	A5	A6	B	C	C1	C2	D	E	F	G	G1	H	I	J	K	L	M	N	O	P	P1	Q	R	S	T	T1	X	V	W	Y
8	76	64	46	86	74	—	—	28	12	1.0	6	10	4	6	1.0	6	12	12	3	M4x0.7	M12x1.25	6	16	10	14	4	10	12	15	7	17	M5x0.8	4	—	—
10	76	64	46	86	74	—	—	28	12	1.0	6	10	4	6	1.0	6	12	12	3	M4x0.7	M12x1.25	6	16	10	14	4	10	12	15	7	17	M5x0.8	4	—	—
12	91	75	50	105	88	—	—	38	17	1.0	6	10.5	6	9	1.0	6	16	17	5	M6x1.0	M16x1.5	6	23	14	18	6	12	16	18	10	23	M5x0.8	6	—	5
16	98	82	56	111	94	111	94	38	17	1.0	6	10.5	6	9	1.0	6	16	17	5	M6x1.0	M16x1.5	6	23	13	21	6	12	16	20	10	23	M5x0.8	6	13.5	5
20	115	95	62	126	106	126	106	44	20	1.4	7.5	14.5	7.5	12	1.4	7.5	20	20	5	M8x1.25	M22x1.5	7	24	11	27	8	16	22	25	13	32	Rc1/8	8	16.5	6
25	126	104	65	137	114.5	137	115	50	22	1.5	8	16	8	12	1.5	8	22	22	6	M10x1.25	M22x1.5	7	28	11	30	8	16	22	30	17	32	Rc1/8	10	18.5	8
32	—	—	—	—	125	140	126	58	14	1.6	9	—	—	—	1.6	9	20	30	6	M10x1.25	M30x1.5	7	38	—	38.5	—	—	30	34.5	17	45	Rc1/8	12	10.5	10
40	—	—	—	—	158	174	158	59	16	2.2	11	—	—	—	2.2	11	24	35	7	M12x1.25	M38x1.5	8	45	—	4.7	—	—	38	42.5	17	46	Rc1/4	16	12.5	14

TGL-C Type

Bore: Ø16~Ø25

Basic style(pivot type)-B



Bore (mm)	A	A1	A2	A3	A4	A5	B	C	D	D1	D2	D3	E	F	G	G1	G2	H	I	J
16	98	82	56	111	94	111	38	17	12.1	6	6	10	6	9	10	7.5	6.8	16	17	5
20	115	95	62	126	106	126	44	20	14.5	7.6	10.5	14	8	12	14	7.5	10.3	20	20	6
25	126	104	65	137	113.5	137	50	22	14.5	8	8	15	8	12	15	8	11.1	22	22	6

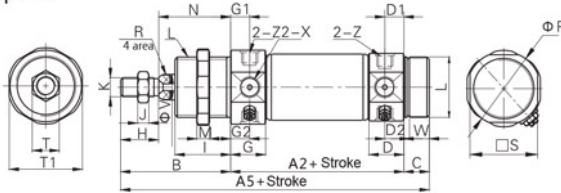
Bore (mm)	K	L	M	N	O	P	Q	R	S	T	T1	X	V	W
16	M6x1.0	M16x1.5	6	23	13	21	12	5	20	10	23	M5x0.8	6	13.5
20	M8x1.25	M22x1.5	7	24	11	27	16	6	25	13	32	Rc1/8	8	16.5
25	M10x1.25	M22x1.5	7	28	11	30	16	8	30	17	32	Rc1/8	10	18.5

Double axis double acting type

According : ISO6432

Figure Dimension

TGL-C Type
Bore: $\varnothing 32 \sim \varnothing 40$
Round-end type-M

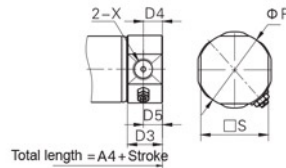


Bore(mm)	A2	A4	A5	B	C	D	D1	D2	D3	D4	D5
32	68	124	140	58	14	16.5	9	11.5	11.1	7.5	11
40	89	157.5	174	69	16	22	12	12	21.5	11.5	14

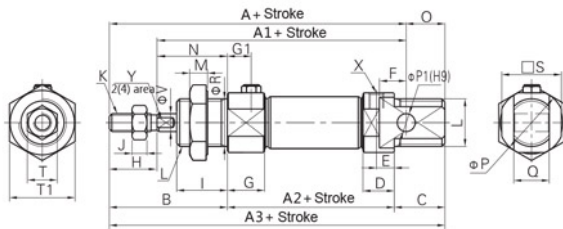
Bore(mm)	G	G1	G2	H	I	J	K	L	M
32	16	9	11.1	20	30	6	M10 \times 1.25	M30 \times 1.5	7
40	22	11	12	24	35	7	M12 \times 1.25	M38 \times 1.5	8

Bore(mm)	N	P	S	T	T1	V	W	X
32	38	38.5	34.5	17	45	12	10.5	Rc1/8
40	45	47	42.5	17	46	16	12.5	Rc1/4

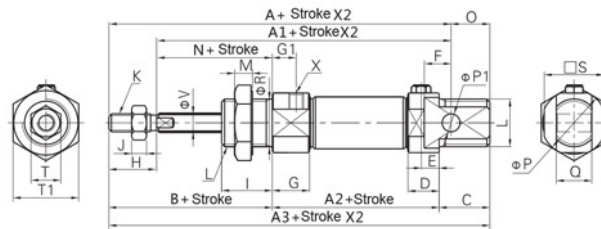
Falt-end type-U



TGSL Type
Basic style(pivot type)-B



TGTL Type
Basic style(pivot type)-B

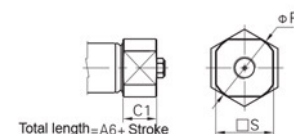
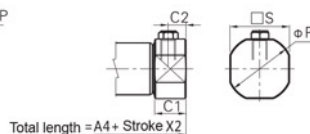
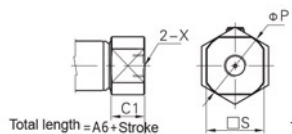
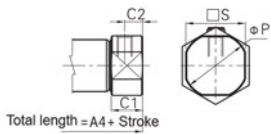


Falt-end type-U

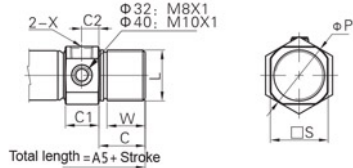
Axial Air-in-R

Falt-end type-U

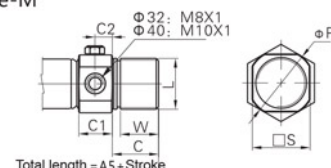
Axial Air-in-R



Round-end type-M



Round-end type-M



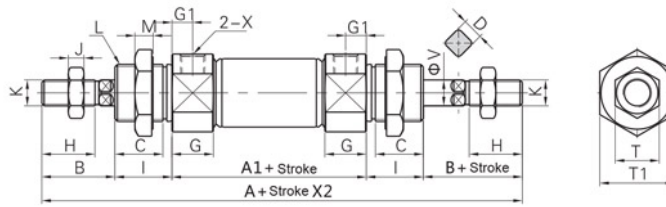
Symbol	A		A1		A2		A3		A4		A5		A6	
	0-50	51-100	0-50	51-100	0-50	51-100	0-50	51-100	0-50	51-100	0-50	51-100	0-50	51-100
Bore	8	10	12	16	20	25	32	40	8	10	12	16	20	25
	101	116	123	140	140	151	150	183	99	113	136	162	176	208
	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Acting adjustable double acting type

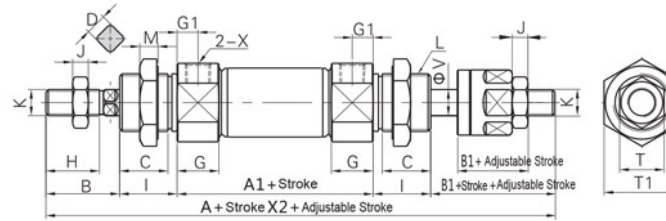
According : ISO6432

Figure Dimension

TGLD Type

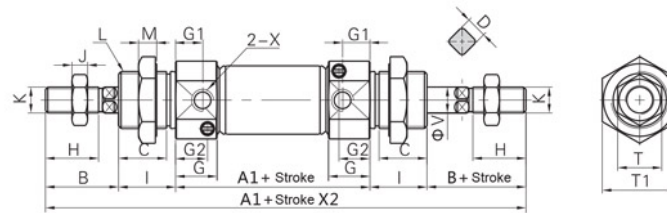


TGLJ Type

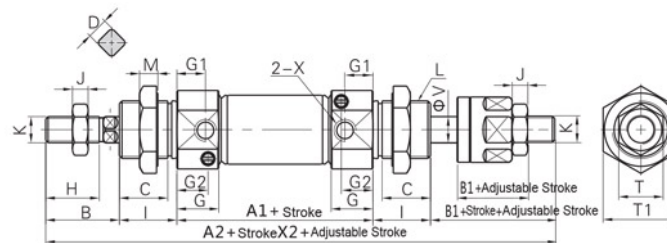


Bore	A	A1	A2	B	B1	C	D	G	G1	H	I	J	K	L	M	T	T1	X	V
8	102	46	101	16	15	9.5	—	10	6	10.5	12	3	M4×0.7	M12×1.25	6	7	17	M5×0.8	4
10	102	46	101	16	15	9.5	—	10	6	10.5	12	3	M4×0.7	M12×1.25	6	7	17	M5×0.8	4
12	126	50	126	21	21	14.5	5 (2 area)	10	6	14	17	5	M6×1.0	M16×1.5	6	10	23	M5×0.8	6
16	132	56	132	21	21	13.5	5 (2 area)	10	6	14.5	17	5	M6×1.0	M16×1.5	6	10	23	M5×0.8	6
20	150	62	156	24	25	16.5	6 (2 area)	14	7	18	20	5	M8×1.25	M22×1.5	7	13	32	Rc1/8	8
25	165	65	164	28	27	18.5	8 (4 area)	15	8	20.5	22	6	M10×1.25	M22×1.5	7	17	32	Rc1/8	10
32	184	68	183	28	27	26.5	10 (4 area)	16	9	17.5	30	6	M10×1.25	M30×1.5	7	17	45	Rc1/8	12
40	227	89	221	34	28	31.5	14 (4 area)	22	11	21	35	7	M12×1.25	M38×1.5	8	17	46	Rc1/4	16

TGLD-C Type



TGLJ-C Type



Bore	A	A1	A2	B	B1	C	D	G	G1	G2	H	I	J	K	L	M	T	T1	X	V
16	132	56	132	21	21	13.5	5 (2 area)	10	6	6.8	14.5	17	5	M6×1.0	M16×1.5	6	10	23	M5×0.8	6
20	150	62	151	24	24	16.5	6 (2 area)	14	7.5	10.3	18	20	5	M8×1.25	M22×1.5	7	13	32	Rc1/8	8
25	165	65	164	28	27	18.5	8 (4 area)	15	8	11.1	20.5	22	6	M10×1.25	M22×1.5	7	17	32	Rc1/8	10
32	184	68	183	28	27	26.5	10 (4 area)	16	9	11.1	17.5	30	6	M10×1.25	M30×1.5	7	17	45	Rc1/8	12
40	227	89	221	34	28	31.5	14 (4 area)	22	11	12	21	35	7	M12×1.25	M38×1.5	8	17	46	Rc1/4	16