

Compact Cylinder

● Characteristic

It is a kind of compact cylinder type, with small axial size, less space, light structure and handsome shape. All kinds of fixture and special machinery can be compactly designed with it. It can bear large transverse load and can be installed directly without accessories.

■ Theoretical Force Sheet

Cylinder inside diameter	External diameter of piston rod	Action Type	Compression area cm ²	Air pressure Kgf/cm ²						
				1.0	2.0	3.0	4.0	5.0	6.0	7.0
12	6	Extrusion Single action	1.13	—	0.70	1.83	2.96	4.09	5.22	6.35
		Single action drawing-in	0.85	—	0.14	0.99	1.84	2.69	3.54	4.39
		Double action	Push	—	2.26	3.39	4.52	5.65	6.78	7.91
			Pluk	—	1.70	2.55	3.40	4.25	5.10	5.95
16	6	Extrusion Single action	2.01	—	1.36	3.37	5.38	7.39	9.40	11.41
		Single action drawing-in	1.73	—	0.80	2.53	4.26	5.99	7.72	9.45
		Double action	Push	—	4.02	6.03	8.04	10.05	12.06	14.07
			Pluk	—	3.46	5.19	6.92	8.65	10.38	12.11
20	8	Extrusion Single action	3.14	—	2.87	6.01	9.15	12.29	15.43	18.57
		Single action drawing-in	2.64	—	1.87	4.51	7.15	9.79	12.43	15.07
		Double action	Push	—	6.28	9.42	12.56	15.70	18.84	21.98
			Pluk	—	5.28	7.92	10.56	13.20	15.84	18.48
25	10	Extrusion Single action	4.90	—	5.80	10.70	15.60	20.50	25.40	30.30
		Single action drawing-in	4.12	—	4.24	8.36	12.48	16.60	20.72	24.84
		Double action	Push	—	9.80	14.70	19.60	24.50	29.40	34.30
			Pluk	—	8.24	12.36	16.48	20.60	24.72	28.84
32	12	Extrusion Single action	8.04	—	11.21	19.25	27.29	35.33	43.37	51.41
		Single action drawing-in	6.90	—	8.93	15.83	22.73	29.63	36.53	43.43
		Double action	Push	—	16.08	24.12	32.16	40.20	48.24	56.28
			Pluk	—	13.80	20.70	27.60	34.50	41.40	48.30
40	16	Extrusion Single action	12.56	—	20.08	32.64	45.20	57.76	70.32	82.88
		Single action drawing-in	10.55	—	16.06	26.61	37.16	47.71	58.26	68.81
		Double action	Push	12.56	25.12	37.68	50.24	62.80	75.36	87.92
			Pluk	10.55	21.10	31.65	42.20	52.75	63.30	73.85
50	20	Double action	Push	19.63	39.26	58.89	78.52	98.15	117.78	137.41
			Pluk	16.49	32.98	49.47	65.96	82.45	98.94	115.43
63	20	Double action	Push	31.17	62.34	93.51	124.68	155.85	187.02	218.19
			Pluk	28.03	56.06	84.09	112.12	140.15	168.18	196.21
80	25	Double action	Push	50.26	100.52	150.78	201.04	251.30	301.56	351.82
			Pluk	45.36	90.72	136.08	181.44	226.80	272.16	317.52
100	32	Double action	Push	78.53	157.06	235.59	314.12	392.65	471.18	549.71
			Pluk	70.49	140.98	211.47	281.96	352.45	422.94	493.43

● Calculation of cylinder's theoretic force

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

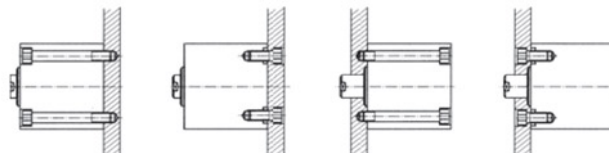
F: Theoretical force

P: Pressure

A: Piston area

F₀: Regain power of spring

● Mounting Type





● Characteristic

Thin and light: In possession of the precision of action and service life, the length is only 1/2 ~ 1/3 of normal cylinder.

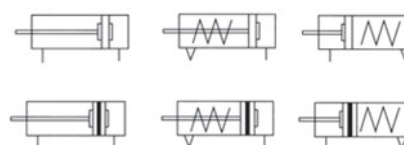
Easy to install: With the embedding type of mounting, need nothing and save room.

Easy to maintain: With simple design to assemble, install and repair easily.

Magnet switch: Around the body, leave room for the magnet switch in advance to install and adjust the magnet position more easily.

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

■ Graphics Sign



● Ordering Code

TGN	—	S	—	20 X 30	—	B
Series		Magnetic type		Bore size X Stroke		Installing way
TGN; Double acting type		No Mark : Without magnet				No Mark : Female thread
TGTN; Extrusion type		S; With magnet				B; Male thread
TGSN; Drawing in type						N; Non-thread

■ Example

- 1) Bore: 20mm, stroke: 30mm, With magnet, Code : TGN-S-20×30-B
- 2) Bore: 32mm, stroke: 10mm, no thread, Code : TGN-32×10-N

■ Specification

Bore(mm)		12	16	20	25	32	40	50	63	80	100
Action		Double acting type									
		Extrusion Single acting type		Single acting drawing-in type				—			
Applicable medium		Air									
Pressure range	Double acting type	0.1～0.9 MPa									
	Single acting type	0.2～0.9 MPa						—			
Proof pressure		1.35 MPa									
Temperature range		－10～60℃ (No Freeze)									
Speed range	Double acting type	30～500 mm/s						30～350 mm/s		30～250 mm/s	
	Single acting type	100～500 mm/s						—			
Cushion type		Mounted Cushion									
Port size		M5x0.8				G1/8		G1/4		G3/8	

Stroke

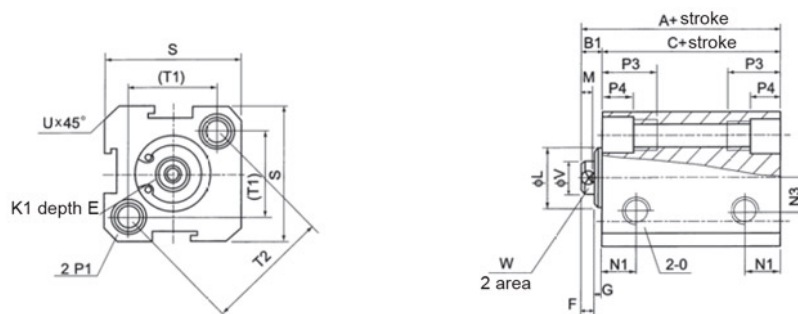
Bore (mm)		12	16	20	25		32	40	50	63	80	100
Double acting type	Without magnet	5 ~ 60mm 5mm /grade	5 ~ 85mm 5mm /grade	5 ~ 90mm 5mm /grade	100 ~ 110mm 10mm /grade	5 ~ 90mm 5mm /grade	100 ~ 130mm 10mm /grade					
	With magnet	5 ~ 50mm 5mm /grade	5 ~ 75mm 5mm /grade	5 ~ 90mm 5mm /grade	100mm	5 ~ 90mm 5mm /grade	100 ~ 120mm 10mm /grade					
Single acting type	Without magnet	5 ~ 30mm 5mm /grade	5 ~ 30mm 5mm /grade	5 ~ 30mm 5mm /grade		5 ~ 30mm 5mm /grade	—					
	With magnet	5 ~ 30mm 5mm /grade	5 ~ 30mm 5mm /grade	5 ~ 30mm 5mm /grade		5 ~ 30mm 5mm /grade	—					
Max .stroke		60mm	100mm	120mm		130mm						

* Special stroke please contact with as

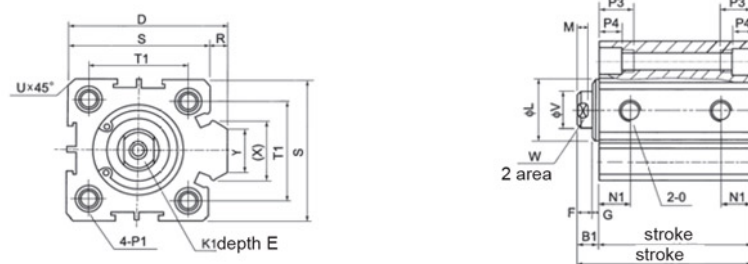
Figure Dimension

TGN, TGNS

● $\phi 12 \sim \phi 16$



● $\phi 20 \sim \phi 100$



Type	Without magnet			With magnet			D	E		F	G	K1	L	M	N1
Bore	A	B1	C	A	B1	C		Stroke ≤ 10	Stroke > 10						
12	22	5	17	32	5	27	—	6		4	1	M3x0.5	10	2.8	6.3
16	24	5.5	18.5	34	5.5	28.5	—	6		4	1.5	M3x0.5	11	2.8	7.3
20	25	5.5	19.5	35	5.5	29.5	36	8		4	1.5	M4x0.7	13	2.8	7.5
25	27	6	21	37	6	31	42	10		4	2	M5x0.8	17	2.8	8
32	31.5	7	24.5	41.5	7	34.5	50	12		4	3	M6x1	20	2.8	9
40	33	7	26	43	7	36	58.5	12		4	3	M8x1.25	28	2.8	10
50	37	9	28	47	9	38	71.5	15		5	4	M10x1.5	38	2.8	10.5
63	41	9	32	51	9	42	84.5	15		5	4	M10x1.5	40	2.8	11.8
80	52	11	41	62	11	51	104	15	20	6	5	M14x1.5	45	4	14.5
100	63	12	51	73	12	61	124	18	20	7	5	M18x1.5	55	4	20.5

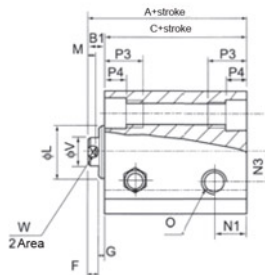
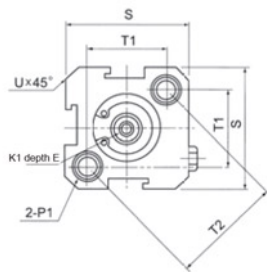
* Note : for stroke more than 30, parameter A above adds 10 additionally

Compact Cylinder

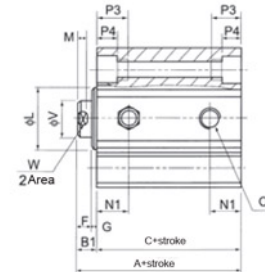
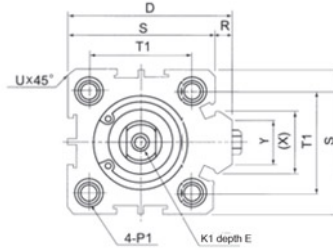
Bore	N3	O	P1	P3	P4	R	S	T1	T2	U	V	W	X	Y
12	6	M5x0.8	Double side; $\Phi 6.5$ Cog M5x0.8 Through hole; $\Phi 4.2$	12	4.5	—	25	16.2	23	1.6	6	5	—	—
16	6.5	M5x0.8	Double side; $\Phi 6.5$ Cog M5x0.8 Through hole; $\Phi 4.2$	12	4.5	—	29	19.8	28	1.6	6	5	—	—
20	—	M5x0.8	Double side; $\Phi 6.5$ Cog M5x0.8 Through hole; $\Phi 4.2$	14	4.5	2	34	24	—	2.1	8	6	11.3	10
25	—	M5x0.8	Double side; $\Phi 8.2$ Cog M5x1.0 Through hole; $\Phi 4.6$	15	5.5	2	40	28	—	3.1	10	8	12	10
32	—	G1/8	Double side; $\Phi 8.2$ Cog M5x1.0 Through hole; $\Phi 4.6$	16	5.5	6	44	34	—	2.15	12	10	18.3	15
40	—	G1/8	Double side; $\Phi 10$ Cog M8x1.25 Through hole; $\Phi 6.5$	20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
50	—	G1/4	Double side; $\Phi 11$ Cog M8x1.25 Through hole; $\Phi 6.5$	25	8.5	9.5	62	48	—	4.15	20	17	30	20
63	—	G1/4	Double side; $\Phi 11$ Cog M8x1.25 Through hole; $\Phi 6.5$	25	8.5	9.5	75	60	—	3.15	20	17	28.7	20
80	—	G3/8	Double side; $\Phi 14$ Cog M12x1.75 Through hole; $\Phi 9.2$	25	10.5	10	94	74	—	3.65	25	22	36	26
100	—	G3/8	Double side; $\Phi 17.5$ Cog M14x2 Through hole; $\Phi 11.3$	30	13	10	114	90	—	3.65	32	27	35	26

● TGSN, TGSNS

● $\phi 12 \sim \phi 16$



● $\phi 20 \sim \phi 63$



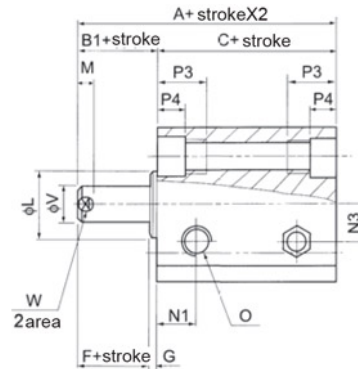
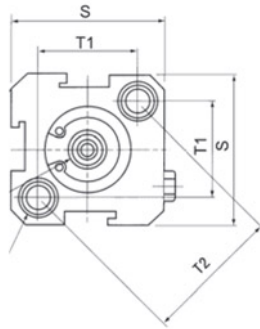
Type	without magnet type				within magnet type						D	E	F	G	K1	L	M	N1	N3
Bore Stroke	A		B1	C		A		B1	C										
	≤10	>10		≤10	>10	≤10	>10		≤10	>10									
12	32	42	5	27	37	42	52	5	37	47	—	6	4	1	M3x0.5	10	2.8	6.3	6
16	34	44	5.5	28.5	38.5	44	54	5.5	38.5	48.5	—	6	4	1.5	M3x0.5	11	2.8	7.3	6.5
20	35	45	5.5	29.5	39.5	45	55	5.5	39.5	49.5	36	8	4	1.5	M4x0.7	13	2.8	7.5	—
25	37	47	6	31	41	47	57	6	41	51	42	10	4	2	M5x0.8	17	2.8	8	—
32	41.5	51.5	7	34.5	44.5	51.5	61.5	7	44.5	54.5	50	12	4	3	M6x1	20	2.8	9	—
40	43	53	7	36	46	53	63	7	46	56	58.5	12	4	3	M8x1.25	28	2.8	10	—
50	47	57	9	38	48	57	67	9	48	58	71.5	15	5	4	M10X1.5	38	2.8	10.5	—
63	51	61	9	42	52	61	71	9	52	62	84.5	15	5	4	M10X1.5	40	2.8	11.8	—

Bore	O	P1	P3	P4	R	S	T1	T2	U	V	W	X	Y
12	M5x0.8	double side : $\phi 6.5$ tooth: M5x0.8 through hole : $\phi 4.2$	12	4.5	—	25	16.2	23	1.6	6	5	—	—
16	M5x0.8	double side : $\phi 6.5$ tooth: M5x0.8 through hole : $\phi 4.2$	12	4.5	—	29	19.8	28	1.6	6	5	—	—
20	M5x0.8	double side : $\phi 6.5$ tooth: M5x0.8 through hole : $\phi 4.2$	14	4.5	2	34	24	—	2.1	8	6	11.3	10
25	M5x0.8	double side : $\phi 8.2$ tooth: M6x1.0 through hole : $\phi 4.6$	15	5.5	2	40	28	—	3.1	10	8	12	10
32	G1/8	double side : $\phi 8.2$ tooth: M6x1.0 through hole : $\phi 4.6$	16	5.5	6	44	34	—	2.15	12	10	18.3	15
40	G1/8	double side : $\phi 10$ tooth: M8x1.25 through hole : $\phi 6.5$	20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
50	G1/4	double side : $\phi 11$ tooth: M8x1.25 through hole : $\phi 6.5$	25	8.5	9.5	62	48	—	4.15	20	17	30	20
63	G1/4	double side : $\phi 11$ tooth: M8x1.25 through hole : $\phi 6.5$	25	8.5	9.5	75	60	—	3.15	20	17	28.7	20

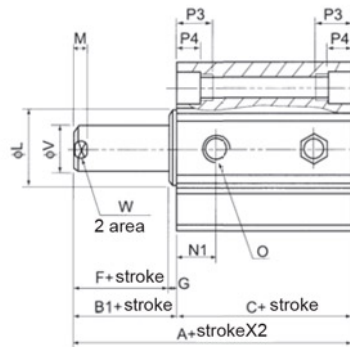
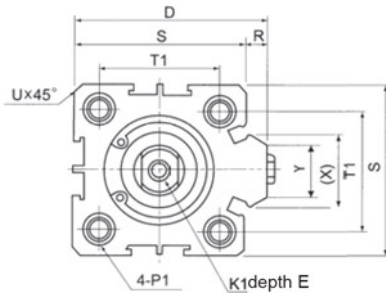
* Note : for stroke more than 30, parameter A above adds 10 additionally

● TGTN, TGTNS

● $\phi 12 \sim \phi 16$



● $\phi 20 \sim \phi 63$

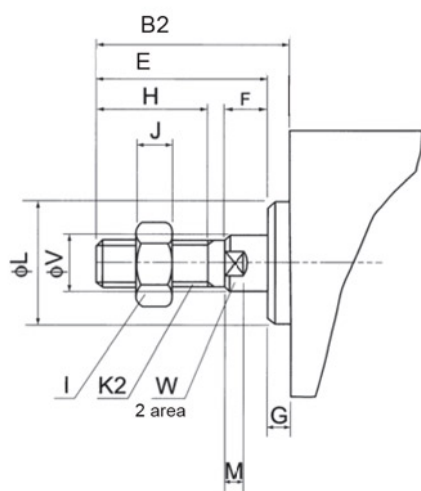
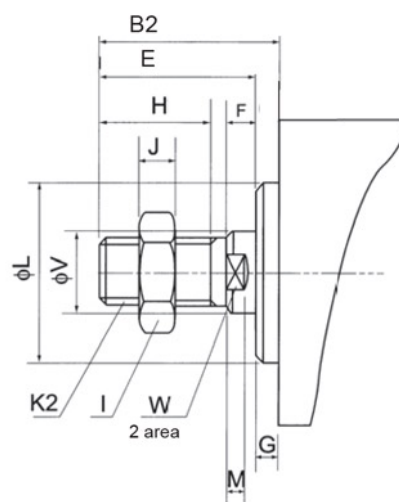


Type	without magnet type						within magnet type				D	E	F	G	K1	L	M	N1	N3
Bore Stroke	A		B1	C		A		B1	C										
	≤10	>10		≤10	>10	≤10	>10		≤10	>10									
12	32	42	5	27	37	42	52	5	37	47	—	6	4	1	M3x0.5	10	2.8	6.3	6
16	34	44	5.5	28.5	38.5	44	54	5.5	38.5	48.5	—	6	4	1.5	M3x0.5	11	2.8	7.3	6.5
20	35	45	5.5	29.5	39.5	45	55	5.5	39.5	49.5	36	8	4	1.5	M4x0.7	13	2.8	7.5	—
25	37	47	6	31	41	47	57	6	41	51	42	10	4	2	M5x0.8	17	2.8	8	—
32	41.5	51.5	7	34.5	44.5	51.5	61.5	7	44.5	54.5	50	12	4	3	M6x1	20	2.8	9	—
40	43	53	7	36	46	53	63	7	46	56	58.5	12	4	3	M8x1.25	28	2.8	10	—
50	47	57	9	38	48	57	67	9	48	58	71.5	15	5	4	M10X1.5	38	2.8	10.5	—
63	51	61	9	42	52	61	71	9	52	62	84.5	15	5	4	M10X1.5	40	2.8	11.8	—

Bore	O	P1				P3	P4	R	S	T1	T2	U	V	W	X	Y
12	M5x0.8	double side : $\phi 6.5$	tooth: M5x0.8	through hole : $\phi 4.2$		12	4.5	—	25	16.2	23	1.6	6	5	—	—
16	M5x0.8	double side : $\phi 6.5$	tooth: M5x0.8	through hole : $\phi 4.2$		12	4.5	—	29	19.8	28	1.6	6	5	—	—
20	M5x0.8	double side : $\phi 6.5$	tooth: M5x0.8	through hole : $\phi 4.2$		14	4.5	2	34	24	—	2.1	8	6	11.3	10
25	M5x0.8	double side : $\phi 8.2$	tooth: M6x1.0	through hole : $\phi 4.6$		15	5.5	2	40	28	—	3.1	10	8	12	10
32	G1/8	double side : $\phi 8.2$	tooth: M6x1.0	through hole : $\phi 4.6$		16	5.5	6	44	34	—	2.15	12	10	18.3	15
40	G1/8	double side : $\phi 10$	tooth: M8x1.25	through hole : $\phi 6.5$		20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
50	G1/4	double side : $\phi 11$	tooth: M8x1.25	through hole : $\phi 6.5$		25	8.5	9.5	62	48	—	4.15	20	17	30	20
63	G1/4	double side : $\phi 11$	tooth: M8x1.25	through hole : $\phi 6.5$		25	8.5	9.5	75	60	—	3.15	20	17	28.7	20

* Note : for stroke more than 30, parameter A above adds 10 additionally

Figure Dimension

● $\phi 12 \sim \phi 16$

● $\phi 20 \sim \phi 100$


Bore (mm)	B2	E	F	G	H	I	J	K2	L	M	V	W
12	17	16	4	1	10	8	4	M5x0.8	10	2.8	6	5
16	17.5	16	4	1.5	10	8	4	M5x0.8	11	2.8	6	5
20	20.5	19	4	1.5	13	10	5	M6x1.0	13	2.8	8	6
25	23	21	4	2	15	12	6	M8x1.25	17	2.8	10	8
32	25	22	4	3	15	17	6	M10x1.25	20	2.8	12	10
40	35	32	4	3	25	19	8	M14x1.5	28	2.8	16	14
50	37	33	5	4	25	27	11	M18x1.5	38	2.8	20	17
63	37	33	5	4	25	27	11	M18x1.5	40	2.8	20	17
80	44	39	6	5	30	32	13	M22x1.5	45	4	25	22
100	50	45	7	5	35	36	13	M26x1.5	55	4	32	27

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● Characteristic

Thin and light: In possession of the precision of action and service life, the length is only $1/2 \sim 1/3$ of normal cylinder.

Easy to install: With the embedding type of mounting, need nothing and save room.

Easy to maintain: With simple design to assemble, install and repair easily.

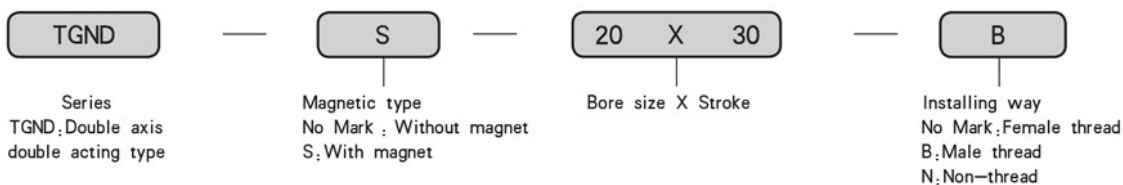
Magnet switch: Around the body, leave room for the magnet switch in advance to install and adjust the magnet position more easily.

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

■ Graphics Sign



● Ordering Code



■ Standard Specification

Bore(mm)	12	16	20	25	32	40	50	63	80	100
Action	Double Action Type									
Applicable	Air									
Pressure Range	0.1~0.9Mpa									
Proof Pressure	1.35Mpa									
Temperature Range	-10~60℃									
Speed Range	30~500mm/s						30~350mm/s		30~250mm/s	
Cushion Type	Mounted Cushion									
Prot Size	M5x0.8				G1/8		G1/4		G3/8	

■ Stroke

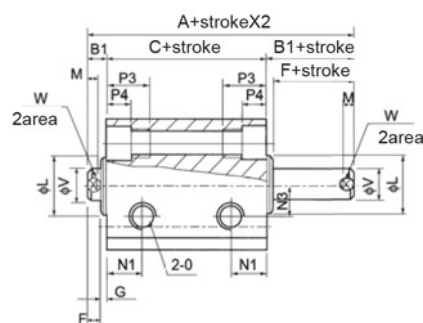
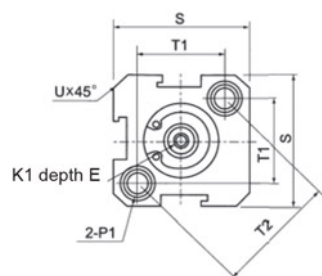
Bore mm	12	16	20	25	32	40	50	63	80	100
Without magnet	5~60 mm 5 mm/grade	5~85 mm 5 mm/grade	5~90 mm 5 mm/grade	100~110 mm 5 mm/grade	5~90 mm 5 mm/grade	5~90 mm 5 mm/grade	100~130 mm 10 mm/grade			
With magnet	5~50 mm 5 mm/grade	5~75 mm 5 mm/grade	5~90 mm 5 mm/grade	100 mm	5~90mm 5 mm/grade	5~90mm 5 mm/grade	100~120 mm 10 mm/grade			
Max. stroke	60 mm	100 mm	120 mm	130 mm						

* special stroke, please contact with us

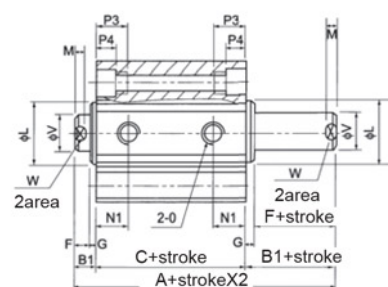
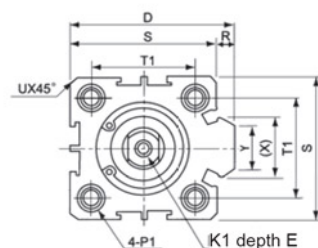
Figure Dimension

● TGND、TGNS

● $\phi 12 \sim \phi 16$



● $\phi 20 \sim \phi 100$



Type	Without magnet			With magnet			D	Stroke ≤10	Stroke >10	F	G	K1	L	M	N1
Bore	A	B1	C	A	B1	C		E							
12	27	5	17	37	5	27	—	6		4	1	M3x0.5	10	2.8	6.3
16	29.5	5.5	18.5	39.5	5.5	28.5	—	6		4	1.5	M3x0.5	11	2.8	7.3
20	30.5	5.5	19.5	40.5	5.5	29.5	36	8(when stroke is 5, the value is 6.5)		4	1.5	M4x0.7	14	2.8	7.5
25	33	6	21	43	6	31	42	10(when stroke is 5, the value is 6.5)		4	2	M5x0.8	16	2.8	8
32	38.5	7	24.5	48.5	7	34.5	50	8	12	4	3	M6x1	20	2.8	9
40	40	7	26	50	7	36	58.5	9	12	4	3	M8x1.25	26	2.8	10
50	46	9	28	56	9	38	71.5	11	15	5	4	M10x1.5	33	2.8	10.5
63	50	9	32	60	9	42	84.5	11	15	5	4	M10x1.5	35	2.8	11.8
80	63	11	41	73	11	51	104	14	20	6	5	M14x1.5	45	4	14.5
100	75	12	51	85	12	61	124	18	20	7	5	M18x1.5	55	4	20.5

Bore	N3	O	P1				P3	P4	R	S	T1	T2	U	V	W	X	Y
12	6	M5x0.8	Double side: $\Phi 6.5$ Cog M5x0.8 Through hole: $\Phi 4.2$				12	4.5	—	25	16.2	23	1.6	6	5	—	—
16	6.5	M5x0.8	Double side: $\Phi 6.5$ Cog M5x0.8 Through hole: $\Phi 4.2$				12	4.5	—	29	19.8	28	1.6	6	5	—	—
20	—	M5x0.8	Double side: $\Phi 6.5$ Cog M5x0.8 Through hole: $\Phi 4.2$				14	4.5	2	34	24	—	2.1	8	6	11.3	10
25	—	M5x0.8	Double side: $\Phi 8.2$ Cog M5x1.0 Through hole: $\Phi 4.6$				15	5.5	2	40	28	—	3.1	10	8	12	10
32	—	G1/8	Double side: $\Phi 8.2$ Cog M5x1.0 Through hole: $\Phi 4.6$				16	5.5	6	44	34	—	2.15	12	10	18.3	15
40	—	G1/8	Double side: $\Phi 10$ Cog M8x1.25 Through hole: $\Phi 6.5$				20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
50	—	G1/4	Double side: $\Phi 11$ Cog M8x1.25 Through hole: $\Phi 6.5$				25	8.5	9.5	62	48	—	4.15	20	17	30	20
63	—	G1/4	Double side: $\Phi 11$ Cog M8x1.25 Through hole: $\Phi 6.5$				25	8.5	9.5	75	60	—	3.15	20	17	28.7	20
80	—	G3/8	Double side: $\Phi 14$ Cog M12x1.75 Through hole: $\Phi 9.2$				25	10.5	10	94	74	—	3.65	25	22	36	26
100	—	G3/8	Double side: $\Phi 17.5$ Cog M14x2 Through hole: $\Phi 11.3$				30	13	10	114	90	—	3.65	32	27	35	26

* Note : for stroke more than 30, parameter A above adds 10 additionally

* Special stroke please contact with us

Compact Cylinder



● Characteristic

Thin and light: In possession of the precision of action and service life, the length is only $1/2 \sim 1/3$ of normal cylinder.

Easy to install: With the embedding type of mounting, need nothing and save room.

Easy to maintain: With simple design to assemble, install and repair easily.

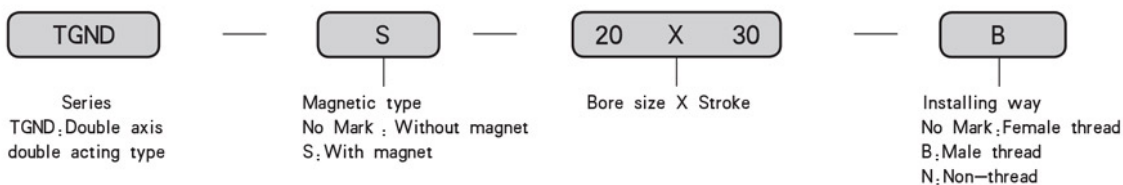
Magnet switch: Around the body, leave room for the magnet switch in advance to install and adjust the magnet position more easily.

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

■ Graphics Sign



● Ordering Code



■ Standard Specification

Bore(mm)	12	16	20	25	32	40	50	63	80	100
Action	Double Action Type									
Applicable	Air									
Pressure Range	0.1~0.9Mpa									
Proof Pressure	1.35Mpa									
Temperature Range	-10~60℃									
Speed Range	30~500mm/s						30~350mm/s		30~250mm/s	
Cushion Type	Mounted Cushion									
Prot Size	M5x0.8				G1/8		G1/4		G3/8	

■ Stroke

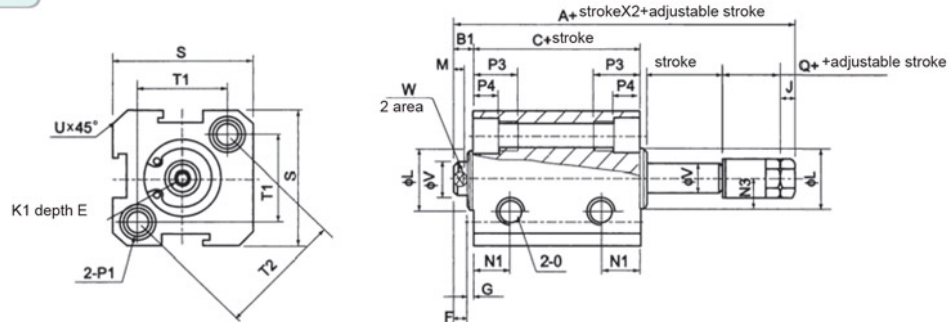
Bore mm	12	16	20	25	32	40	50	63	80	100
Without magnet	5~60 mm 5 mm/grade	5~85 mm 5 mm/grade	5~90 mm 5 mm/grade	100~110 mm 5 mm/grade	5~90 mm 5 mm/grade	5~90 mm 5 mm/grade	100~130 mm 10 mm/grade			
With magnet	5~50 mm 5 mm/grade	5~75 mm 5 mm/grade	5~90 mm 5 mm/grade	100 mm	5~90mm 5 mm/grade	5~90mm 5 mm/grade	100~120 mm 10 mm/grade			
Max. stroke	60 mm	100 mm	120 mm	130 mm						

* special stroke, please contact with us

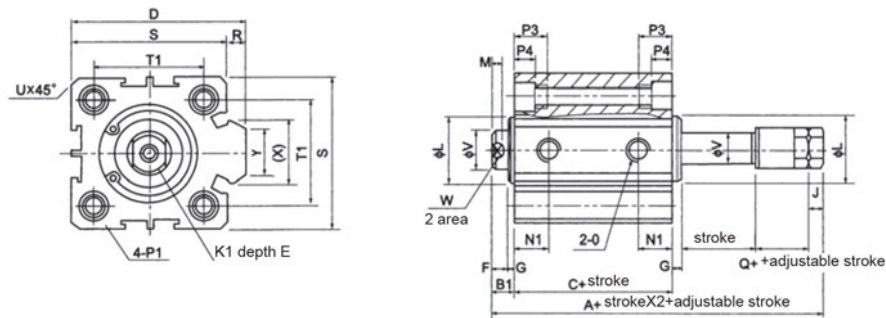
Figure Dimension

TGNJ, TGNJS

● $\phi 12 \sim \phi 16$



● $\phi 20 \sim \phi 100$

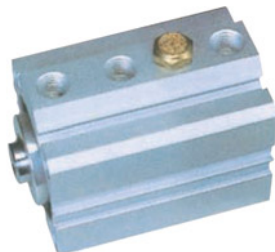


Type	Without magnet			With magnet			D	Stroke≤10	Stroke>10	F	G	K1	L	M	N1
Bore	A	B1	C	A	B1	C		E							
12	27	5	17	37	5	27	—	6		4	1	M3x0.5	10	2.8	6.3
16	29.5	5.5	18.5	39.5	5.5	28.5	—	6		4	1.5	M3x0.5	11	2.8	7.3
20	30.5	5.5	19.5	40.5	5.5	29.5	36	8(when stroke is 5, the value is 6.5)		4	1.5	M4x0.7	14	2.8	7.5
25	33	6	21	43	6	31	42	10(when stroke is 5, the value is 6.5)		4	2	M5x0.8	16	2.8	8
32	38.5	7	24.5	48.5	7	34.5	50	8	12	4	3	M6x1	20	2.8	9
40	40	7	26	50	7	36	58.5	9	12	4	3	M8x1.25	26	2.8	10
50	46	9	28	56	9	38	71.5	11	15	5	4	M10x1.5	33	2.8	10.5
63	50	9	32	60	9	42	84.5	11	15	5	4	M10x1.5	35	2.8	11.8
80	63	11	41	73	11	51	104	14	20	6	5	M14x1.5	45	4	14.5
100	75	12	51	85	12	61	124	18	20	7	5	M18x1.5	55	4	20.5

Bore	N3	O	P1		P3	P4	R	S	T1	T2	U	V	W	X	Y
12	6	M5x0.8	Double side; $\Phi 6.5$ Cog	M5x0.8 Through hole; $\Phi 4.2$	12	4.5	—	25	16.2	23	1.6	6	5	—	—
16	6.5	M5x0.8	Double side; $\Phi 6.5$ Cog	M5x0.8 Through hole; $\Phi 4.2$	12	4.5	—	29	19.8	28	1.6	6	5	—	—
20	—	M5x0.8	Double side; $\Phi 6.5$ Cog	M5x0.8 Through hole; $\Phi 4.2$	14	4.5	2	34	24	—	2.1	8	6	11.3	10
25	—	M5x0.8	Double side; $\Phi 8.2$ Cog	M5x1.0 Through hole; $\Phi 4.6$	15	5.5	2	40	28	—	3.1	10	8	12	10
32	—	G1/8	Double side; $\Phi 8.2$ Cog	M5x1.0 Through hole; $\Phi 4.6$	16	5.5	6	44	34	—	2.15	12	10	18.3	15
40	—	G1/8	Double side; $\Phi 10$ Cog	M8x1.25 Through hole; $\Phi 6.5$	20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
50	—	G1/4	Double side; $\Phi 11$ Cog	M8x1.25 Through hole; $\Phi 6.5$	25	8.5	9.5	62	48	—	4.15	20	17	30	20
63	—	G1/4	Double side; $\Phi 11$ Cog	M8x1.25 Through hole; $\Phi 6.5$	25	8.5	9.5	75	60	—	3.15	20	17	28.7	20
80	—	G3/8	Double side; $\Phi 14$ Cog	M12x1.75 Through hole; $\Phi 9.2$	25	10.5	10	94	74	—	3.65	25	22	36	26
100	—	G3/8	Double side; $\Phi 17.5$ Cog	M14x2 Through hole; $\Phi 11.3$	30	13	10	114	90	—	3.65	32	27	35	26

* Note : for stroke more than 30, parameter A above adds 10 additionally

Compact Cylinder



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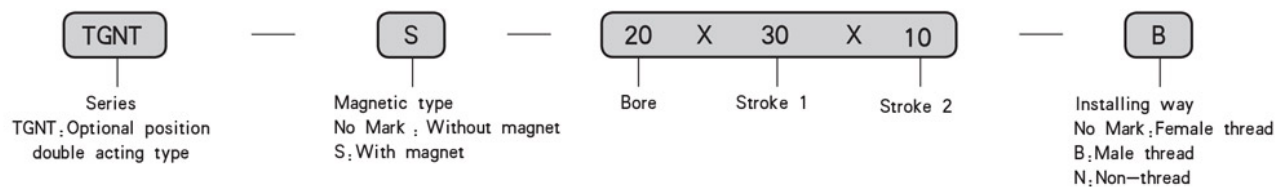
Magnet switch: Around the body, leave room for the magnet switch in advance to install and adjust the magnet position more easily.

Optional Position: With two cylinders linked and different valve to control, cylinder has optional working positions in the stroke.

■ Graphics Sign



● Ordering Code



■ Example

1) Bore: 20mm, stroke 1: 30mm, stroke 2: 10mm, with magnet the pistonrod with malescrew, high pressure cylinder,

Code : TGNT-S-20×30×10-B

Ordering the increased strength type, please mark it.

■ Standard Specification

Bore(mm)	12	16	20	25	32	40	50	63	80	100
Action	Double Action Type									
Applicable	Air									
Pressure Range	0.1~0.9Mpa									
Proof Pressure	1.35Mpa									
Temperature Range	-10~60℃									
Speed Range	30~500mm/s						30~350mm/s		30~250mm/s	
Cushion Type	Mounted Cushion									
Prot Size	M5x0.8				G1/8		G1/4		G3/8	

■ Stroke

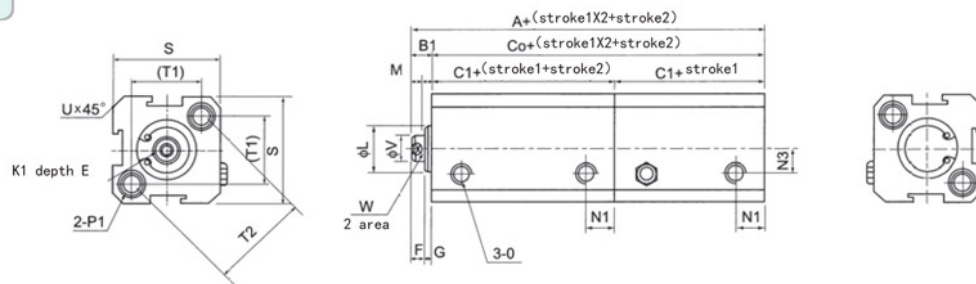
Bore mm	12	16	20	25	32	40	50	63	80	100
Without magnet	5~60 mm 5 mm/grade	5~85 mm 5 mm/grade	5~90 mm 5 mm/grade	100~110 mm 5 mm/grade	5~90 mm 5 mm/grade	5~90 mm 5 mm/grade	100~130 mm 10 mm/grade			
With magnet	5~50 mm 5 mm/grade	5~75 mm 5 mm/grade	5~90 mm 5 mm/grade	100 mm	5~90mm 5 mm/grade	5~90mm 5 mm/grade	100~120 mm 10 mm/grade			
Max. stroke	60 mm	100 mm	120 mm	130 mm						

* special stroke, please contact with us

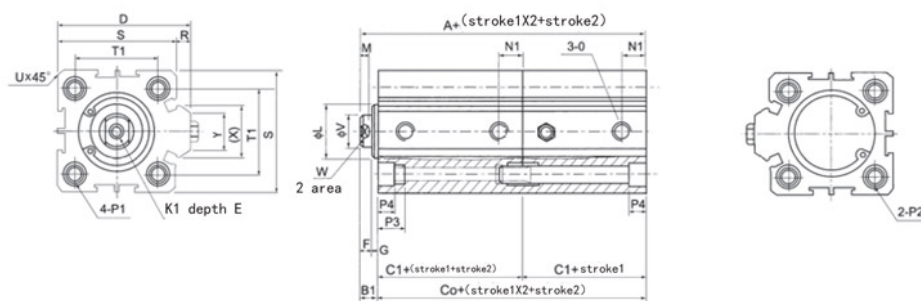
Figure Dimension

● TGNT、TGNTS

● $\phi 12 \sim \phi 16$



● $\phi 20 \sim \phi 100$



Type	Without magnet				With magnet				D	E		F	G	K1	L	M	N1	N3
Bore	A	B1	C0	C1	A	B1	C0	C1		Stroke ≤ 10	Stroke > 10							
12	39	5	34	17	59	5	54	27	—	6	—	4	1	M3x0.5	10	2.8	6.3	6
16	42.5	5.5	37	18.5	62.5	5.5	57	28.5	—	6	—	4	1.5	M3x0.5	11	2.8	7.3	6.5
20	44.5	5.5	39	19.5	64.5	5.5	59	29.5	36	8	—	4	1.5	M4x0.7	14	2.8	7.5	—
25	48	6	42	21	68	6	62	31	42	10	—	4	2	M5x0.8	16	2.8	8	—
32	56	7	49	24.5	76	7	69	34.5	50	12	—	4	3	M6x1	20	2.8	9	—
40	59	7	52	26	79	7	72	36	58.5	12	—	4	3	M8x1.25	26	2.8	10	—
50	65	9	5	28	85	9	76	38	71.5	15	—	5	4	M10x1.5	33	2.8	10.5	—
63	73	9	64	32	93	9	84	42	84.5	15	—	5	4	M10x1.5	35	2.8	11.8	—
80	93	11	82	41	113	11	102	51	104	15	20	6	5	M14x1.5	45	4	14.5	—
100	114	12	102	51	134	12	122	61	124	18	20	7	5	M18x1.5	55	4	20.5	—

Bore	O	P1		P2		P3	P4	R	S	T1	T2	U	V	W	X	Y
12	M5x0.8	$\phi 6.5$ Cog	M5x0.8 Through hole; $\phi 4.2$	—		12	4.5	—	25	16.2	23	1.6	6	5	—	—
16	M5x0.8	$\phi 6.5$ Cog	M5x0.8 Through hole; $\phi 4.2$	—		12	4.5	—	29	19.8	28	1.6	6	5	—	—
20	M5x0.8	Double side; $\phi 6.5$ Cog	M5x0.8 Through hole; $\phi 4.2$	Double side; $\phi 6.5$	Through hole; $\phi 5.2$	14	4.5	2	34	24	—	2.1	8	6	11.3	10
25	M5x0.8	Double side; $\phi 8.2$ Cog	M6x1.0 Through hole; $\phi 4.6$	Double side; $\phi 8.2$	Through hole; $\phi 6.2$	15	5.5	2	40	28	—	3.1	10	8	12	10
32	G1/8	Double side; $\phi 8.2$ Cog	M6x1.0 Through hole; $\phi 4.6$	Double side; $\phi 8.2$	Through hole; $\phi 6.2$	16	5.5	6	44	34	—	2.15	12	10	18.3	15
40	G1/8	Double side; $\phi 10$ Cog	M8x1.25 Through hole; $\phi 6.5$	Double side; $\phi 10$	Through hole; $\phi 8.2$	20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
50	G1/4	Double side; $\phi 11$ Cog	M8x1.25 Through hole; $\phi 6.5$	Double side; $\phi 11$	Through hole; $\phi 8.5$	25	8.5	9.5	62	48	—	4.15	20	17	30	20
63	G1/4	Double side; $\phi 11$ Cog	M8x1.25 Through hole; $\phi 6.5$	Double side; $\phi 11$	Through hole; $\phi 8.5$	25	8.5	9.5	75	60	—	3.15	20	17	28.7	20
80	G3/8	Double side; $\phi 14$ Cog	M12x1.75 Through hole; $\phi 9.2$	Double side; $\phi 14$	Through hole; $\phi 12.3$	25	10.5	10	94	74	—	3.65	25	22	36	26
100	G3/8	Double side; $\phi 17.5$ Cog	M14x2 Through hole; $\phi 11.3$	Double side; $\phi 17.5$	Through hole; $\phi 14.2$	30	13	10	114	90	—	3.65	32	27	35	26

* Note : for stroke more than 30, parameter A above adds 10 additionally

Compact Cylinder



● Characteristic

Thin and light: In possession of the precision of action and service life, the length is only $1/2 \sim 1/3$ of normal cylinder.

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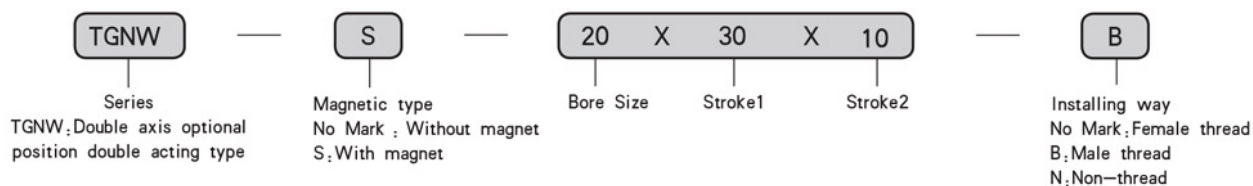
Magnet switch: Around the body, leave room for the magnet switch in advance to install and adjust the magnet position more easily.

Optional Position: With two cylinders linked and different valve to control, cylinder has optional working positions in the stroke.

■ Graphics Sign



● Ordering Code



■ Example

1) Bore: 20mm, stroke1: 30mm, stroke2: 10mm, male thread, magnet type

Code: TGNW-S-20 X 30 X 10-B

■ Specification

Bore(mm)	12	16	20	25	32	40	50	63	80	100
Action	Double acting type									
Applicable medium	Air									
Pressure range	0.1～0.9 MPa									
Proof pressure	1.35 MPa									
Temperature range	－10～60℃ (No Freeze)									
Speed range	30～500 mm/s						30～350 mm/s		30～250 mm/s	
Cushion type	Mounted Cushion									
Port size	M5x0.8				G1/8		G1/4		G3/8	

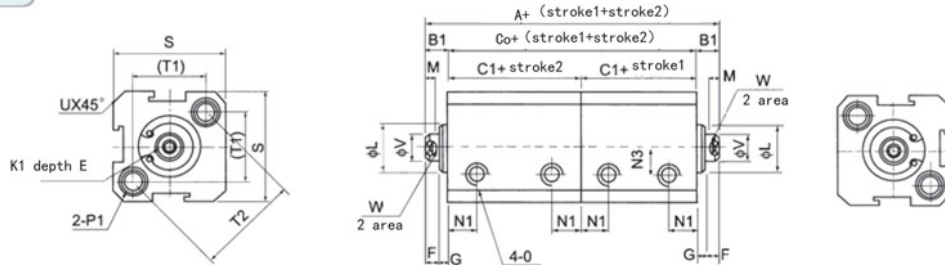
■ Stroke

Bore(mm)	12	16	20	25	32	40	50	63	80	100
Without magnet	5 ~ 60mm 5mm/grade	5 ~ 85mm 5mm/grade	5 ~ 90mm 5mm/grade	100 ~ 110mm 10mm/grade	5 ~ 90mm 5mm/grade	5 ~ 90mm 5mm/grade	5 ~ 90mm 5mm/grade	100 ~ 130mm 10mm/grade	100 ~ 130mm 10mm/grade	100 ~ 130mm 10mm/grade
With magnet	5 ~ 50mm 5mm/grade	5 ~ 75mm 5mm/grade	5 ~ 90mm 5mm/grade	100mm	5 ~ 90mm 5mm/grade	5 ~ 90mm 5mm/grade	5 ~ 90mm 5mm/grade	100 ~ 120mm 10mm/grade	100 ~ 120mm 10mm/grade	100 ~ 120mm 10mm/grade
Max. stroke	60mm	100mm	100mm	120mm	120mm	120mm	120mm	130mm	130mm	130mm

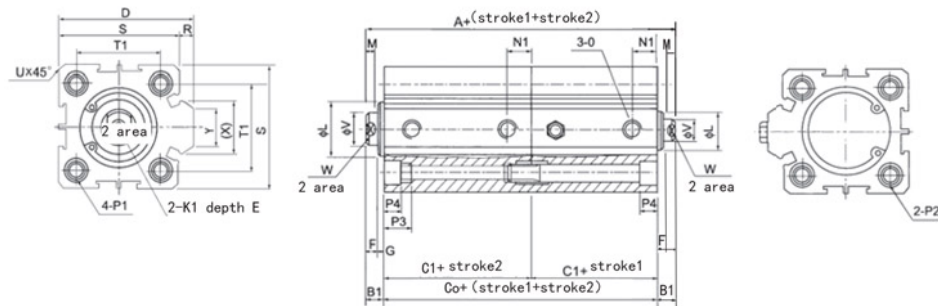
Figure Dimension

TGNW, TGNWS

● $\phi 12 \sim \phi 16$



● $\phi 20 \sim \phi 100$



Type	Without magnet				With magnet				D	E		F	G	K1	L	M	N1	N3
	A	B1	C0	C1	A	B1	C0	C1		Stroke ≤ 10	Stroke > 10							
12	44	5	34	17	64	5	54	27	—	6		4	1	M3x0.5	10	2.8	6.3	6
16	48	5.5	37	18.5	68	5.5	57	28.5	—	6		4	1.5	M3x0.5	11	2.8	7.3	6.5
20	50	5.5	39	19.5	70	5.5	59	29.5	36	8		4	1.5	M4x0.7	14	2.8	7.5	—
25	54	6	42	21	74	6	62	31	42	10		4	2	M5x0.8	16	2.8	8	—
32	63	7	49	24.5	83	7	69	34.5	50	12		4	3	M6x1	20	2.8	9	—
40	66	7	52	26	86	7	72	36	58.5	12		4	3	M8x1.25	26	2.8	10	—
50	74	9	56	28	94	9	76	38	71.5	15		5	4	M10x1.5	33	2.8	10.5	—
63	82	9	64	32	102	9	84	42	84.5	15		5	4	M10x1.5	35	2.8	11.8	—
80	104	11	82	41	124	11	102	51	104	15	20	6	5	M14x1.5	45	4	14.5	—
100	126	12	102	51	146	12	122	61	124	18	20	7	5	M18x1.5	55	4	20.5	—

Bore	O	P1		P2		P3	P4	R	S	T1	T2	U	V	W	X	Y
12	M5x0.8	$\phi 6.5$ Cog	M5x0.8 Through hole; $\phi 4.2$	—		12	4.5	—	25	16.2	23	1.6	6	5	—	—
16	M5x0.8	$\phi 6.5$ Cog	M5x0.8 Through hole; $\phi 4.2$	—		12	4.5	—	29	19.8	28	1.6	6	5	—	—
20	M5x0.8	Double side; $\phi 6.5$ Cog	M5x0.8 Through hole; $\phi 4.2$	Double side; $\phi 6.5$	Through hole; $\phi 5.2$	14	4.5	2	34	24	—	2.1	8	6	11.3	10
25	M5x0.8	Double side; $\phi 8.2$ Cog	M6x1.0 Through hole; $\phi 4.6$	Double side; $\phi 8.2$	Through hole; $\phi 6.2$	15	5.5	2	40	28	—	3.1	10	8	12	10
32	G1/8	Double side; $\phi 8.2$ Cog	M6x1.0 Through hole; $\phi 4.6$	Double side; $\phi 8.2$	Through hole; $\phi 6.2$	16	5.5	6	44	34	—	2.15	12	10	18.3	15
40	G1/8	Double side; $\phi 10$ Cog	M8x1.25 Through hole; $\phi 6.5$	Double side; $\phi 10$	Through hole; $\phi 8.2$	20	7.5	6.5	52	40	—	2.25	16	14	21.3	16
50	G1/4	Double side; $\phi 11$ Cog	M8x1.25 Through hole; $\phi 6.5$	Double side; $\phi 11$	Through hole; $\phi 8.5$	25	8.5	9.5	62	48	—	4.15	20	17	30	20
63	G1/4	Double side; $\phi 11$ Cog	M8x1.25 Through hole; $\phi 6.5$	Double side; $\phi 11$	Through hole; $\phi 8.5$	25	8.5	9.5	75	60	—	3.15	20	17	28.7	20
80	G3/8	Double side; $\phi 14$ Cog	M12x1.75 Through hole; $\phi 9.2$	Double side; $\phi 14$	Through hole; $\phi 12.3$	25	10.5	10	94	74	—	3.65	25	22	36	26
100	G3/8	Double side; $\phi 17.5$ Cog	M14x2 Through hole; $\phi 11.3$	Double side; $\phi 17.5$	Through hole; $\phi 14.2$	30	13	10	114	90	—	3.65	32	27	35	26

* Note : for stroke more than 30, parameter A above adds 10 additionally