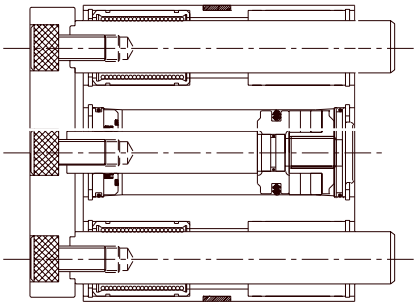
Twin Guide Jig Cylinder Serie TG (U)

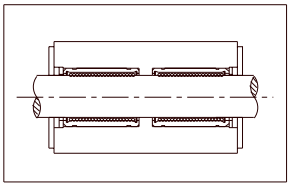
■Inner structure



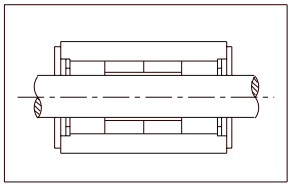
■Specificaiton

Item \ Bore size (mm)	10	16	20	25	32	40	50	63
Operation	Double acting							
Fluid	Air							
Pressure range Kgf/cm² (kpa)	1.5~7(150~700)							
Max.service pressure Kgf/cm² (kpa)	9.5(950)							
Range of service temperature ℃	0~60							
Range of service speed mm/sec	30~500						30~350	
Lubrication	Free of lubrication							
Bore size	M5×0.8				Rc 1/8		Rc 1/4	
Magnet	With magnet							

■Guide type

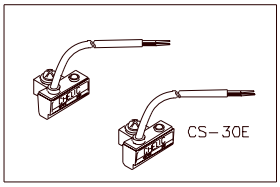


Linear bearing guide TGU

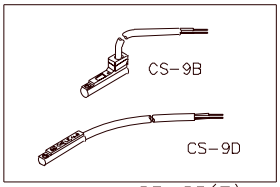


Bush guide TG

■Sensor



Sensor type CS-30E Refer



Sensor type CS-9D(B)

■Cylinder bore size and stroke

Unit: mm

Bore size(mm)	Standard stroke
ø10	25,50,75,100
ø16	25,50,75,100,125,150,175,200
ø20	25,50,75,100,125,150,175,200
ø25	25,50,75,100,125,150,175,200
ø32	30,50,75,100,125,150,175,200,250
ø40	30,50,75,100,125,150,175,200,250
ø50	30,50,75,100,125,150
ø63	30,50,75,100,125,150

■How to select

Force: Select different load required.(Please refer to P.230.)
Due to trust areas are different, the pushing and pulling will also be different.

Guide type:
- Selection based on the load and its direction. (Please refer to P.231 load table.)
- Linear guide bearing, guide rod is made of hard chrome shaft (SUJ2), suitable for fast moving lower load.
- Bush guide bearing, guide rod is made of hard chrome shaft (S45C),suitable for slow moving heavy load.

Mounting type: There are vertical,lift,top,bottom and slide mounting type, etc...(Please refer to P.232)

Stroke adjustable: (TA-)Adjustable stroke cylinder (Extension adjustable)0~40mm.
(TR-)Adjustable stroke cylinder (Retraction adjustable)0~10mm.

Sensor: There are two type, CS-30E for ø32~ø63.
CS-9D(B) for ø10~ø63.

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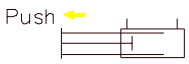
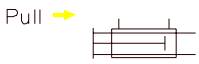
Theorectical force



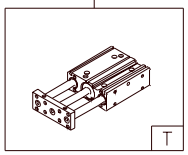


Cylinder bore mm	Piston rod diameter mm	Action	Piston Area cm²	Air pressure (kgf/cm²) 1	2	3	4	5	6	7
10	6	Push	0.79	—	1.6	2.4	3.2	4	4.7	5.5
		Pull	0.32	—	0.6	1	1.3	1.6	1.9	2.2
16	8	Push	2.01	—	4	6	8	10.1	12.1	14
		Pull	1.51	—	3	4.5	6	7.6	9.1	10.6
20	10	Push	3.14	—	6	9	12	15	18	21
		Pull	2.35	—	4.7	7.1	9.4	11.8	14.1	16.5
25	12	Push	4.90	—	9	14	19	24	29	34
		Pull	3.77	—	7.5	11.3	15.1	18.9	22.6	26.3
32	16	Push	8.04	—	16	24	32	40	48	55
		Pull	6.03	—	12.1	18.1	24.2	30.2	36.2	42.2
40	16	Push	12.56	12	25	37	50	62	75	87
		Pull	10.55	10	21	31	42	52	63	73
50	20	Push	19.63	19	39	58	78	98	117	137
		Pull	16.49	16	32	49	65	82	98	115
63	20	Push	31.17	31	62	93	124	155	187	218
		Pull	28.03	28	56	84	112	140	168	196

Note: The above data are for reference only. When come to actual practice, frictional force and the mechanical effeciency have to be taken into consideration.

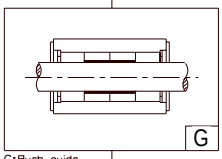
How to order

T — Model

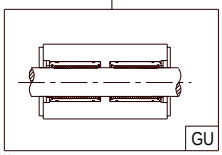


T: Twin- guide JIG cylinder

G — Guide type



G: Bush guide



GU: Linear bearing guide

32 — Bore size

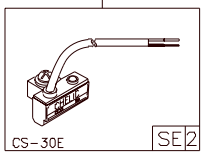
10 −ø10mm
16 −ø16mm
20 −ø20mm
25 −ø25mm
32 −ø32mm
40 −ø40mm
50 −ø50mm
63 −ø63mm

× 100 — Stroke

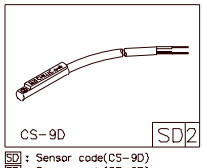
25 −25mm
30 −30mm
50 −50mm
75 −75mm
100 −100mm
125 −125mm
150 −150mm
175 −175mm
200 −200mm
250 −250mm

(Please refer to P.3-13.2)

− SE 2 — Sensor



SE : Sensor code(CS-30E)
Z : Number of sensor
1: 1 PC Sensor
2: 2 PCS Sensors



SD : Sensor code(CS-9D)
SB : Sensor code(CS-9B)
Z : Number of sensor
1: 1 PC Sensor
2: 2 PCS Sensors

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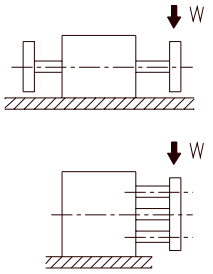
■Allowable transverse load

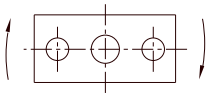


Kgf

Bore size mm	Guide type	Stroke mm						
		25	30	50	75	100	125	150
ø10	TB-10	8	6	4	8	6	4	3
	TU-10	1.5	1.2	1	4	3.5	3	2.5
ø16	TB-16	8	6	4	8	6	4	3
	TU-16	1.5	1.2	1	4	3.5	3	2.5
ø20	TB-20	14	12	10	12	10	8	5
	TU-20	2.5	2.1	2	8	6	4	3
ø25	TB-25	20	18	16	20	18	15	12
	TU-25	7	6	5	20	16	13	10
ø32	TB-32	27	24	22	24	22	20	18
	TU-32	9	8	7	25	22	27	18
ø40	TB-40	27	24	22	24	22	20	18
	TU-40	9	8	9	25	22	20	18
ø50	TB-50	45	42	40	45	40	35	30
	TU-50	12	11	9.5	40	32	28	25
ø63	TB-63	45	42	40	45	40	35	30
	TU-63	12	11	9.5	40	32	28	25

Note: Double busher bearing at guide-rod for stroke length of 75mm & above.

■Max. rotating torque

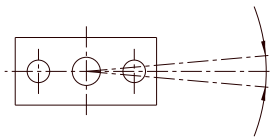


Kgf

Bore size mm	Guide type	Stroke mm						
		25	30	50	75	100	125	150
ø10	TB-10	25	20	15	25	20	15	10
	TU-10	3	2.5	2	4	3	2	1.5
ø16	TB-16	25	20	15	25	20	15	10
	TU-16	3	2.5	2	4	3	2	1.5
ø20	TB-20	40	35	30	40	35	30	25
	TU-20	4	3	2	15	12	10	8
ø25	TB-25	65	55	50	65	55	50	40
	TU-25	12	10	8	30	25	20	16
ø32	TB-32	90	80	70	90	75	60	45
	TU-32	18	16	14	50	45	40	35
ø40	TB-40	90	80	70	90	75	60	45
	TU-40	18	16	14	50	45	40	35
ø50	TB-50	150	130	110	150	120	100	80
	TU-50	35	30	25	100	85	70	55
ø63	TB-63	150	130	110	150	120	100	80
	TU-63	35	30	25	120	85	70	55

Note: Double busher bearing at guide-rod for stroke length of 75mm & above.

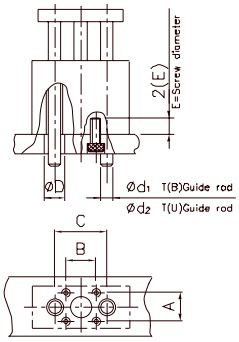
■Non-rotating accuracy



Bore size mm	Non-rotating accuracy c
ø10	±0.18
ø16	
ø20	±0.17
ø25	
ø32	±0.16
ø40	
ø50	±0.15
ø63	

■Life mounting type conditions

Bore size mm	A	B	C	D	d_1	d_2	Hexagonal socket screw
ø10	14	25	42	14	10	8	M4×0.7P x12L
ø16	16	30	46	14	10	8	M5×0.8P x15L
ø20	20	40	60	16	12	10	M5×0.8P x15L
ø25	24	44	66	20	16	12	M6×1.0P x20L
ø32	32	52	80	24	20	16	M6×1.0P x20L
ø40	36	68	90	24	20	16	M8×1.25P×20L
ø50	40	84	110	29	25	20	M10×1.5P x20L
ø63	46	100	120	29	25	20	M10×1.5P x20L



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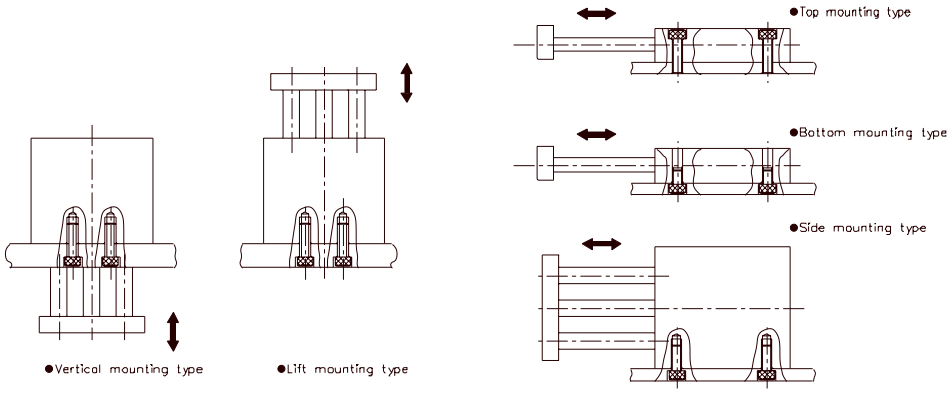
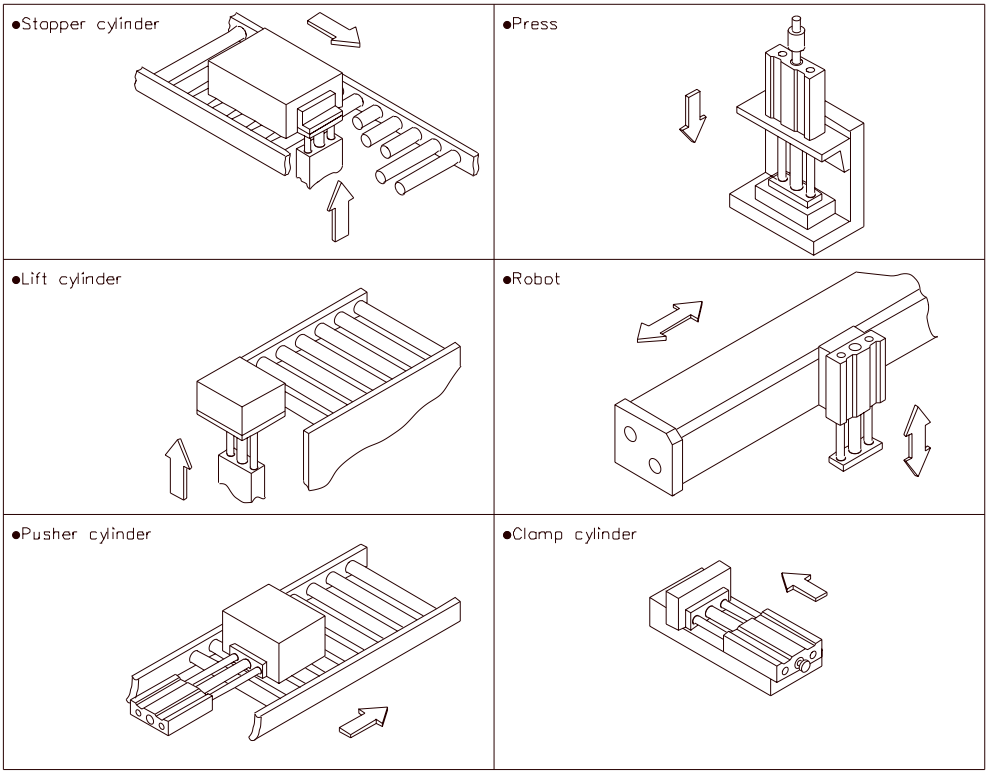
■Mounting type



■Multi purpose



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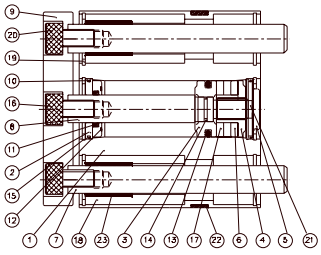
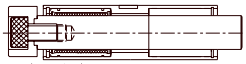
■Internal structure

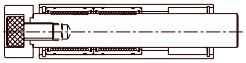


TB(Bush) below stroke 50mm.(single)

TB(Bush) stroke above 75mm.
(Double bush)



TU(Bearing) stroke below 50mm.
(Single bearing)



TU(Bearing) stroke above 75mm.
(Double bearing)

■Materials of major parts

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	14	Piston O-Ring	Synthetic rubber (NBR)
02	Rod cover	Brass	15	Snap ring	Spring steel
03	Piston	Brass	16	Rod-fix bolt	Alloy steel
04	Wear holder	Brass	17	Magnet	Plastic magnet
05	End rod cover	Brass	18	Bearing holder	Brass
06	Wear ring	Telflon	19	Holder snap ring	Alloy steel
07	Rod	Carbon steel	20	Plate bolt	Alloy steel
08	Piston rod	Carbon steel	21	Lining	Synthetic rubber (NBR)
09	Front plate	Aluminum alloy	22	Magnet	Plastic magnet
10	Cover O-Ring	Synthetic rubber (NBR)	23	Drymet(LFB)	Telflon
11	Rod packing	Synthetic rubber (NBR)	24	Linear bearing	Bearing steel
12	Cushion O-Ring	Synthetic rubber (NBR)	25	Guide	Bearing steel
13	Piston packing	Synthetic rubber (NBR)			

■Packing and O-Ring list

Item / Bore size mm \ Number	Piston packing	Rod O-Ring	Cushion O-Ring	Rod packing	Front and end O-Ring
	1	1	1	1	2
ø10	DYP-10			DYR-6	ø8 xø1.5
ø16	PSD-16	ø6.3xø0.8		DYR-8K	ø15.5xø1.45
ø20	COP-20	ø8 xø1	ø11.8xø2.4	DYR-10SK	ø17.5xø1.5
ø25	COP-25	ø10 xø1	ø13.8xø2.4	DYR-12	ø24.5xø2
ø32	COP-32	ø13.5xø1.5	ø20.8xø2.4	DYR-16	ø30 xø2
ø40	COP-40	ø13.5xø1.5	ø20.8xø2.4	DYR-16	ø38.5xø2
ø50	COP-50	ø17.5xø1.5	RP-50	DYR-20	ø48 xø2
ø63	COP-63	ø17.5xø1.5	RP-50	DYR-20	ø59.5xø2.5

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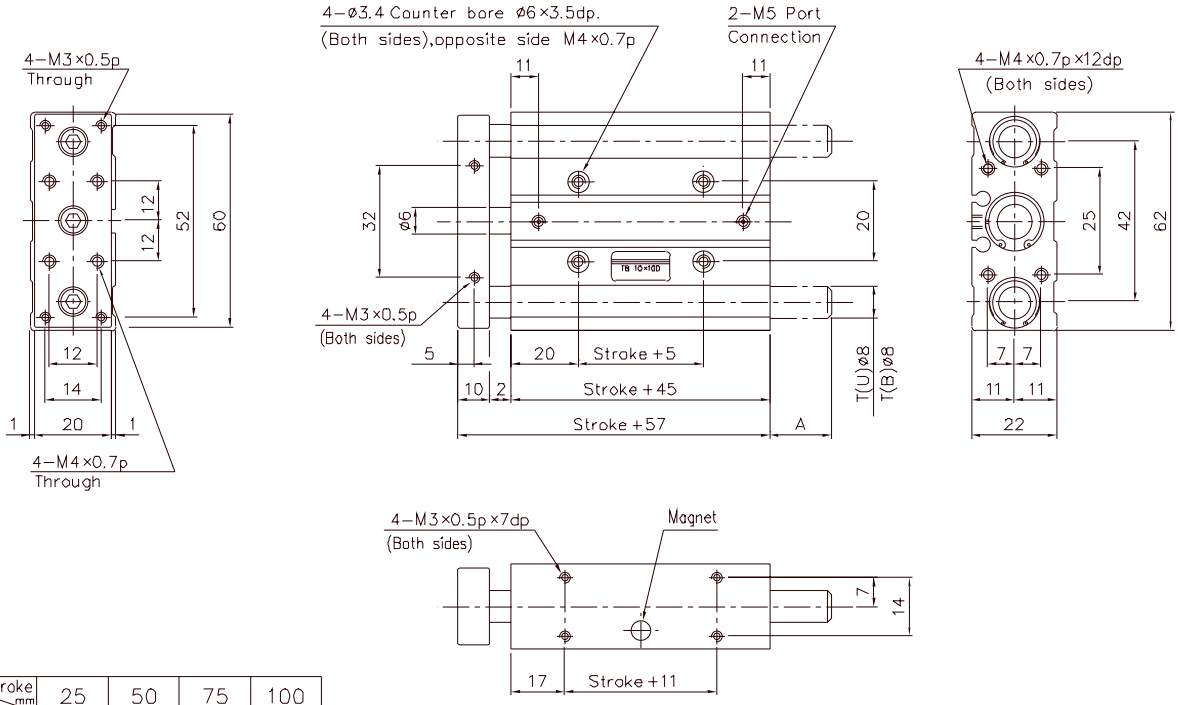
● ø10 × □

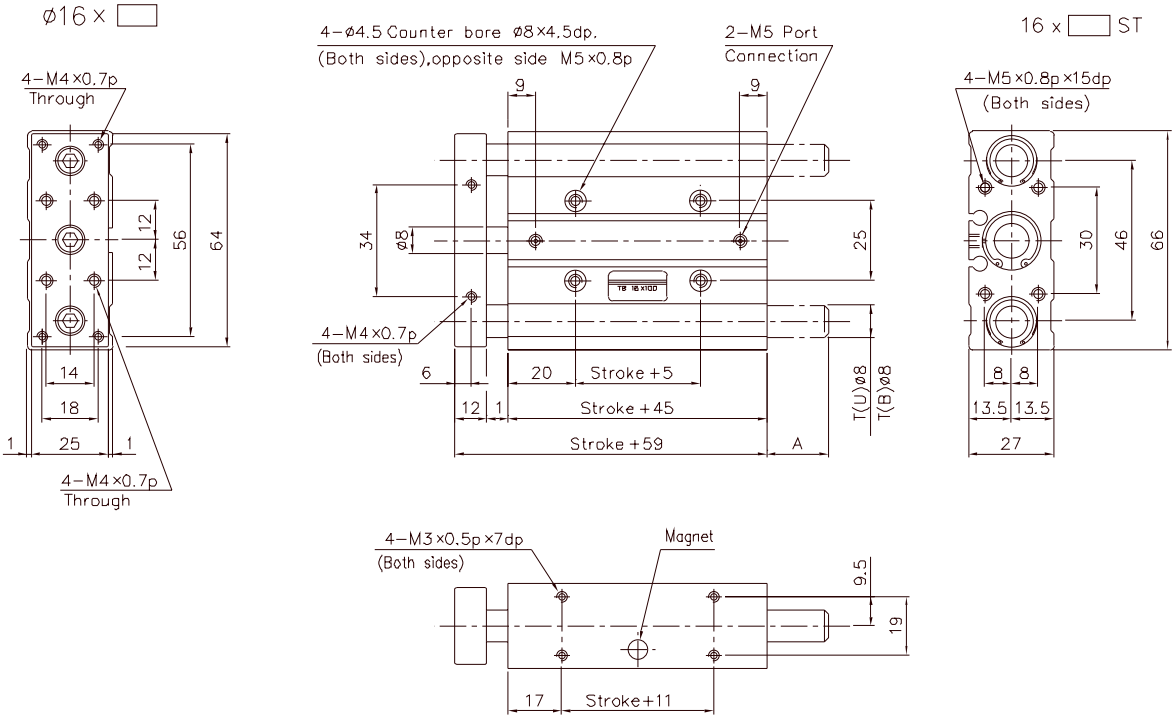
10 x □ ST



Code \ Stroke mm	25	50	75	100
A	0	0	10.4	10.4

● ø16 × □

16 x □ ST



Code \ Stroke mm	25	50	75	100	125	150	175	200
A	0	0	11.5	11.5	11.5	11.5	11.5	11.5

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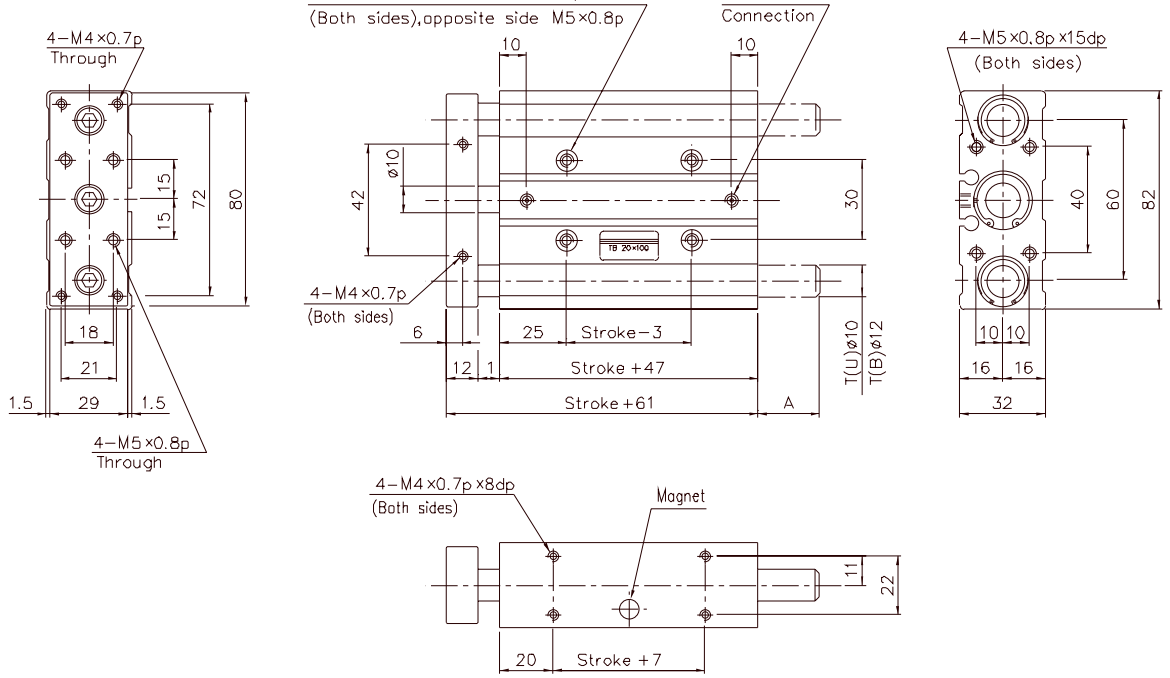
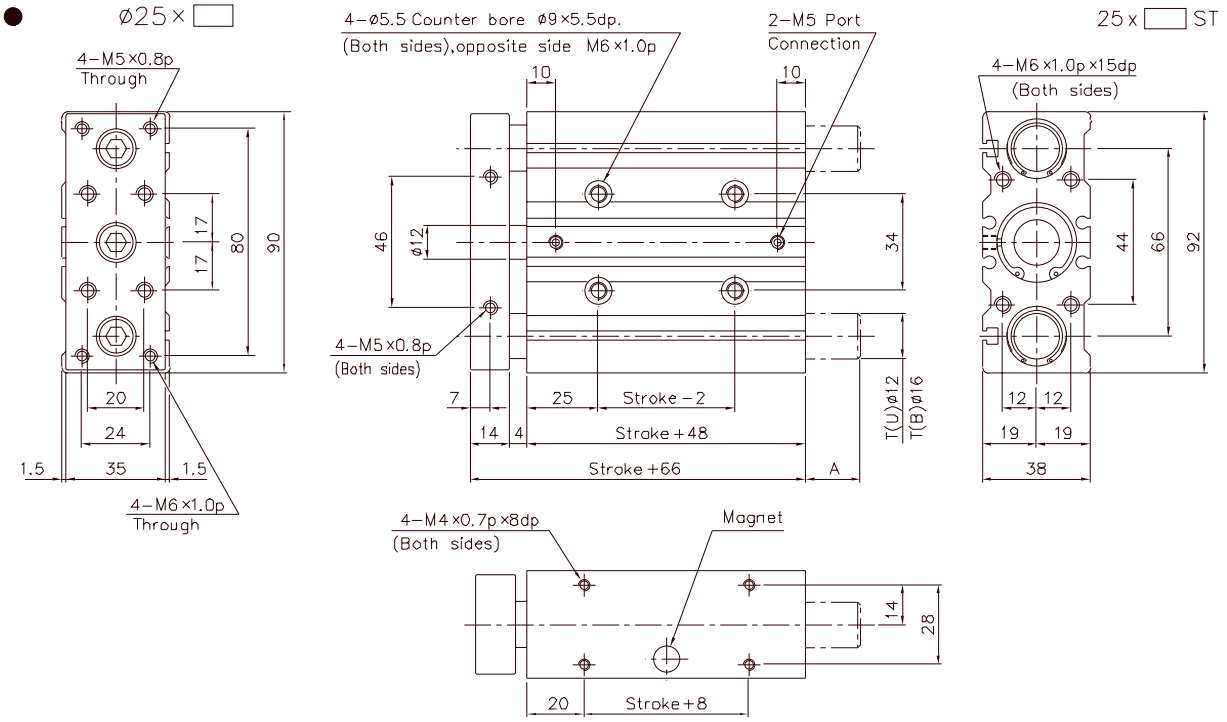
● ø20 × □



Code \ Stroke mm	25	50	75	100	125	150	175	200
A	0	0	14.9	14.9	14.9	14.9	14.9	14.9

● ø25 × □



Code \ Stroke mm	25	50	75	100	125	150	175	200
A	0	0	11	11	11	11	11	11

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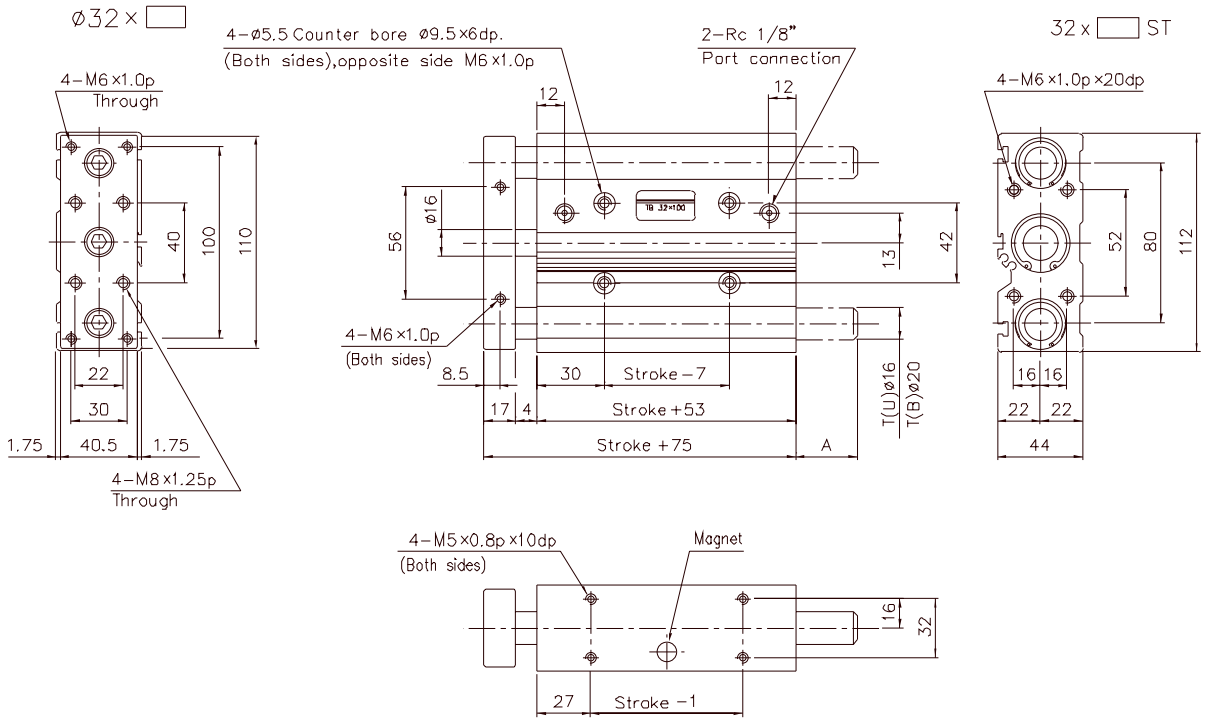
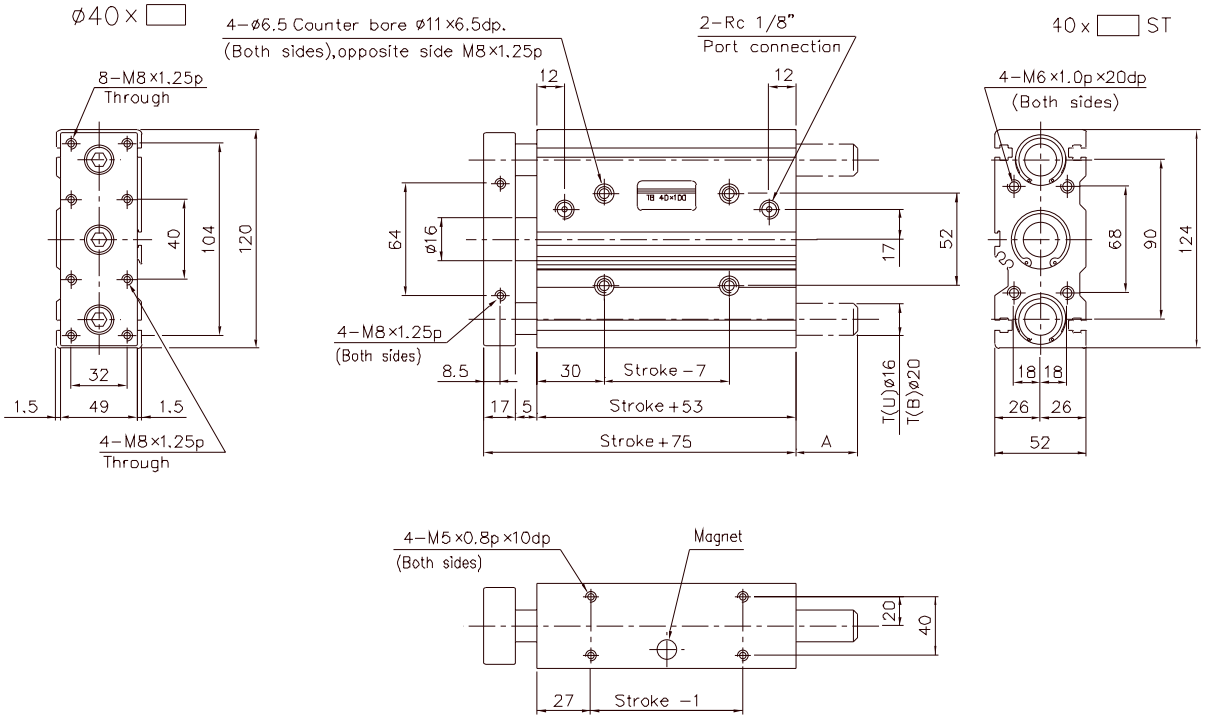
ø32 × □



Code \ Stroke mm	30	50	75	100	125	150	175	200	250
A	0	0	34	34	34	34	34	34	34

ø40 × □



Code \ Stroke mm	30	50	75	100	125	150	175	200	250
A	0	0	33	33	33	33	33	33	33

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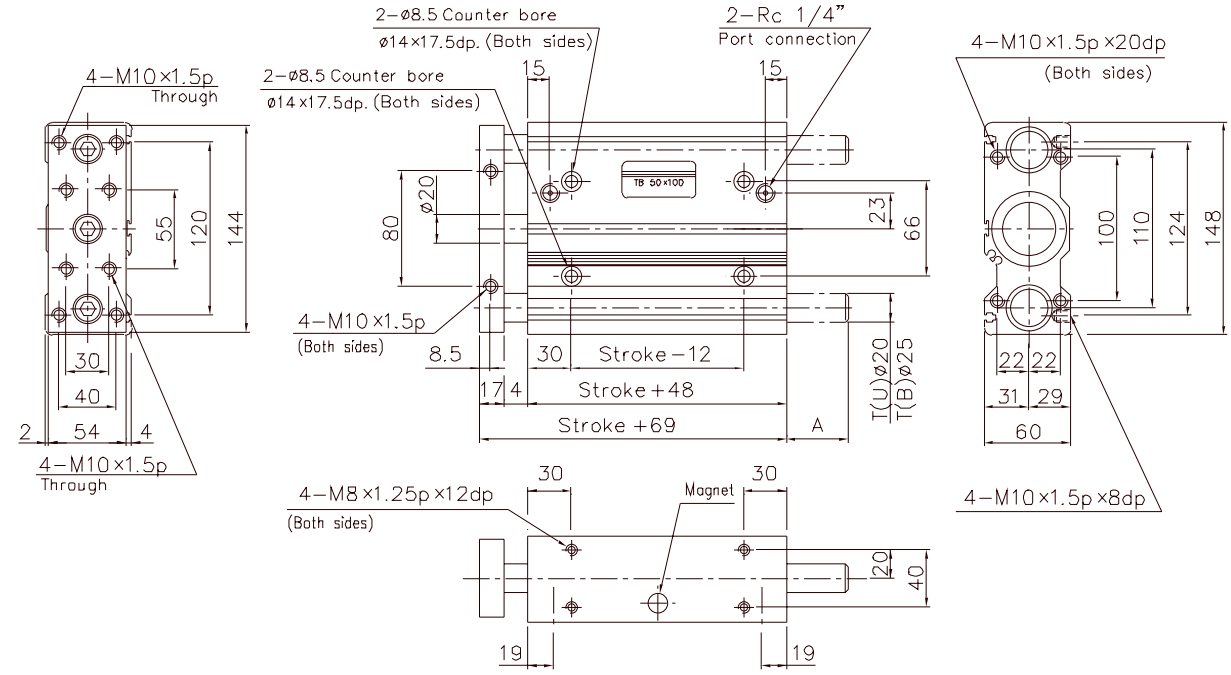
● ø50 × □

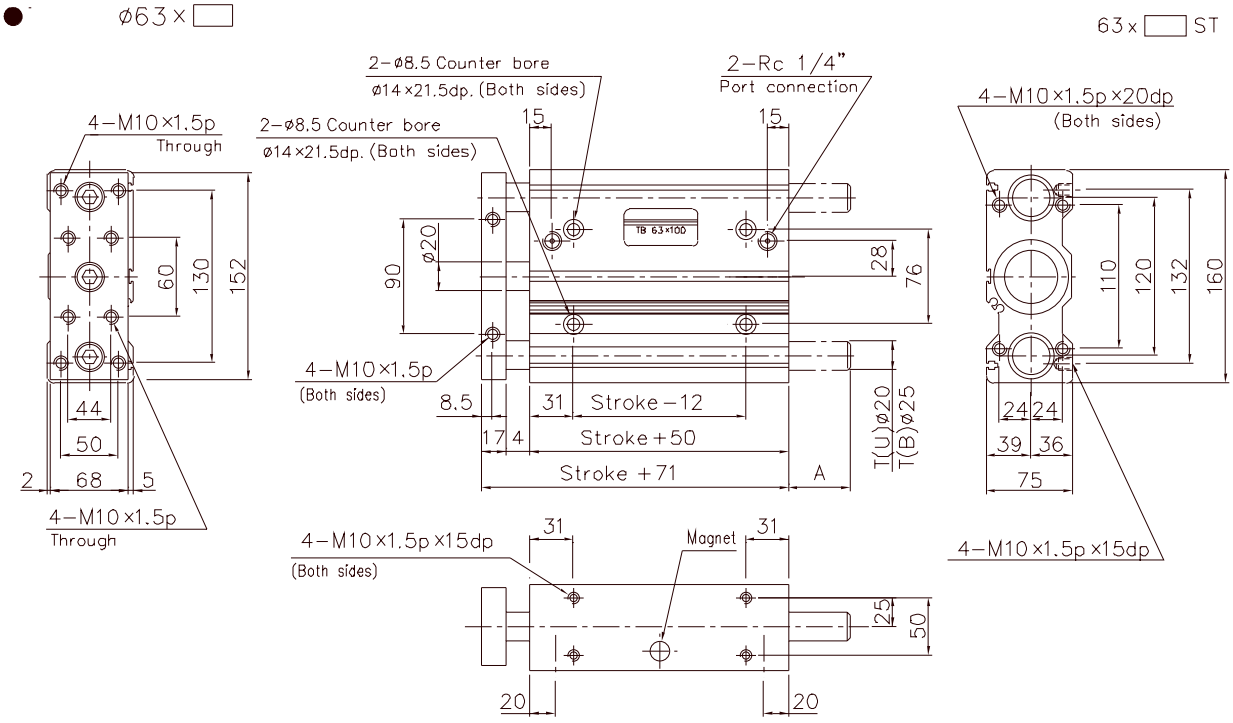
50 × □ ST



Code \ Stroke mm	30	50	75	100	125	150
A	0	0	0	49	49	49

● ø63 × □

63 × □ ST



Code \ Stroke mm	30	50	75	100	125	150
A	0	0	0	47	47	47

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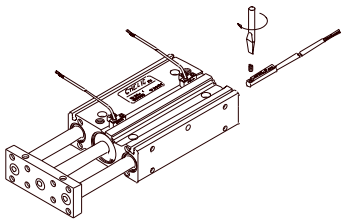
Box 120, SE-283 22 Osby, Sverige, Tel: +46 (0)479 - 126 00
Fax: +46 (0)479 - 127 19
E-post: mail@airtec.se

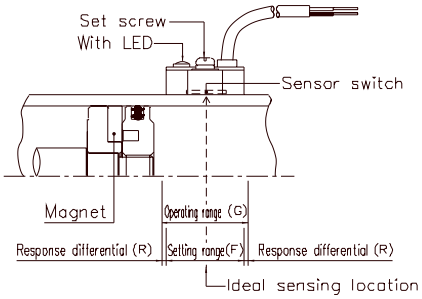
Twin Guide Jig Cylinder Serie TG(U)

■Sensor installation

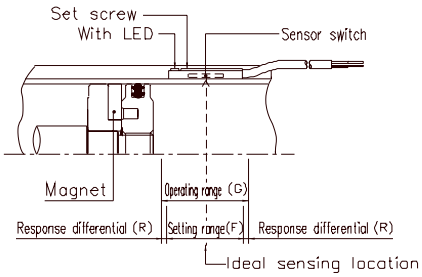


■Sensor operating range/Sensing location

●CS−30E



●CS−9D(B)



■Operating range

Sensor is fixed on the cylinder body. The magnetic piston head will activate the sensor when it enters the operating range.

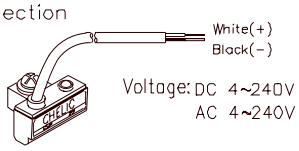
Unit: mm

Model	CS−30E		CS−9D(B)	
Bore size	Setting range(F)	Response differential(R)	Setting range(F)	Response differential(R)
ø12	10	1	–	–
ø16	7	1	–	–
ø20	8	1	–	–
ø25	12.5	1	–	–
ø32	11	1.2	–	–
ø40	13	1.2	13	1.2
ø50	12	1.4	10	1.3
ø63	13	1.4	13	1.4

■Setting range

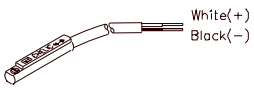
When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the right table.)

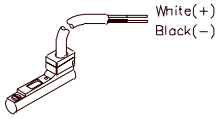
■ Connection



Voltage: DC 4~240V
AC 4~240V

CS−30E





Voltage: DC 4~120V
AC 4~120V

CS−9D CS−9B

AIRTEC Pneumatic Sweden AB
Box 120, SE-283 22 Osby, Sverige, Tel: +46 (0)479 - 126 00
Fax: +46 (0)479 - 127 19
E-post: mail@airtec.se