

Actuator Unit – TCR/ TCF series

Triple-guide cylinder

CHELIC



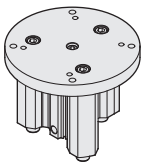
TCR • TCF series
Provide CAD external dimension.

TB(U)2

TA(R)

TSB(U)2

TXB(U)2

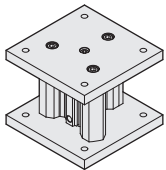


TCR series ----- Triple-guide cylinder ----- Ø40, Ø63, Ø80 ----- P.6-11.46

TMB(U)

GCB(U)

GHB(U)



TCF series ----- Triple-guide cylinder ----- Ø40, Ø63, Ø80 ----- P.6-11.51
(FlangeType)

TCR

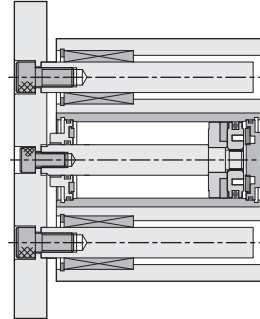
TCF

TCR(F) series Triple-Guide Cylinder

Product features

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Internal structure



Specification

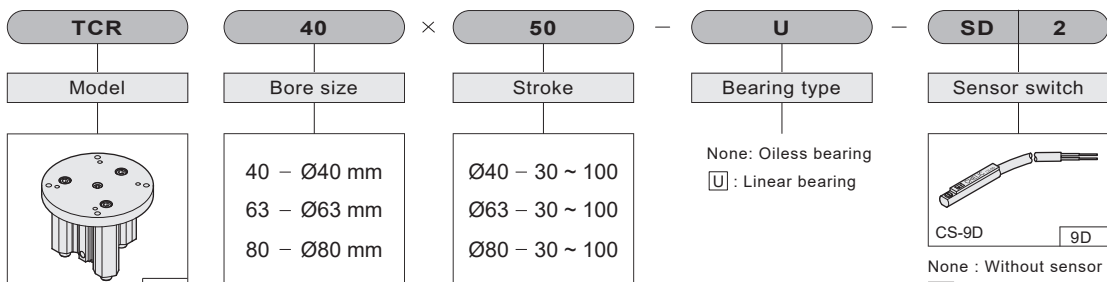
Item	Bore size (mm)	Ø40	Ø63	Ø80
Action		Double acting		
Fluid		Air		
Pressure range	kgf/cm ² (kPa)	1~8 (100~800)		
Max. operating pressure	kgf/cm ² (kPa)	9 (900)		
Ambient and fluid temperature	°C	0~60		
Piston speed	mm/s	50~300		
Cushion		Rubber cushion		
Port size		PT 1/8		
Sensing device		With magnet		

Standard stroke

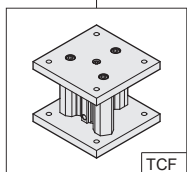
Unit: mm

Bore size	Stroke
40	30,50,75,100
63	30,50,75,100
80	30,50,75,100

Code of order



TCR :
Triple-guide cylinder



TCF :
Triple-guide cylinder

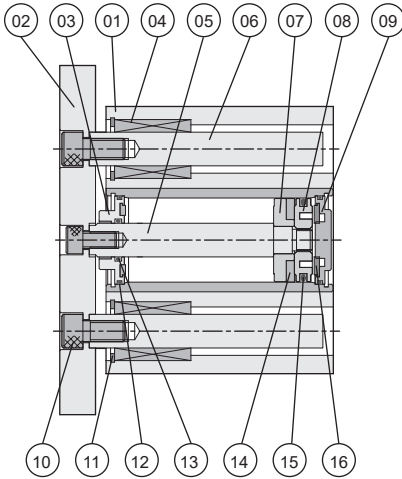
None : Without sensor switch
[SD] : Sensor switch mark (CS-9D)
[SB] : Sensor switch mark (CS-9B)
[2] : Quantity of sensor switch
 1 = 1 PCS
 2 = 2 PCS

TCR(F) series Triple-Guide Cylinder

Product Features

CHELIC

Internal structure



Components and material list

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	09	Rear cover	Aluminum alloy
02	Slider	Aluminum alloy	10	set screw	Alloy steel
03	Front cover	Aluminum alloy	11	C clip	Alloy steel
04	Linear bearing	Alloy steel	12	Front cover O-ring	NBR
05	Shaft	Medium carbon steel	13	Shaft packing	NBR
06	Rod	Bearing steel	14	Sensing magnet	Plastic
07	Magnet cover	Aluminum alloy	15	Piston Packing	NBR
08	Piston	Aluminum alloy	16	Cushion gasket	NBR

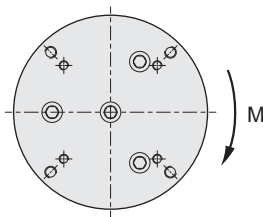
TB(U)2

TA(R)

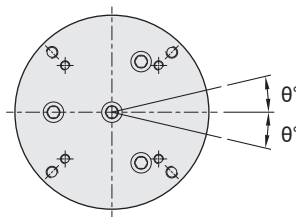
TSB(U)2

TXB(U)2

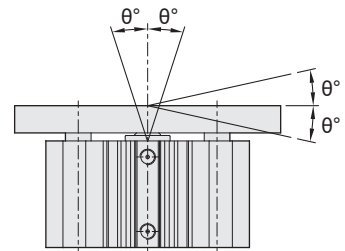
Allowable rotational torque



Stroke Bore size	M (N·m)			
	30	50	75	100
40	7	5	4	3
63	22	16	12	10
80	30	37	17	13



Bore size	Non-rotating accuracy
40	$\pm 0.08^\circ$
63	$\pm 0.06^\circ$
80	$\pm 0.05^\circ$



Bore size	Deflection angle
40	$\pm 0.35^\circ$
63	$\pm 0.3^\circ$
80	

TMB(U)

GCB(U)

GHB(U)

TCR

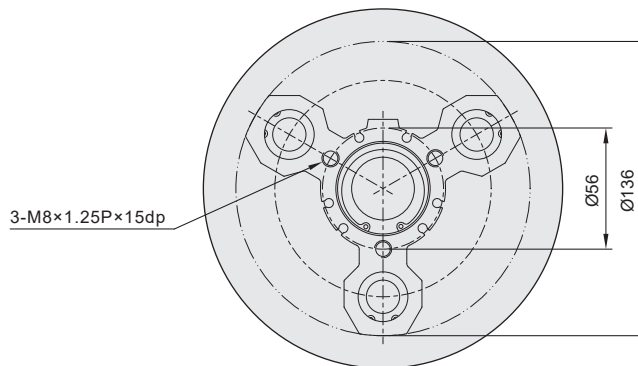
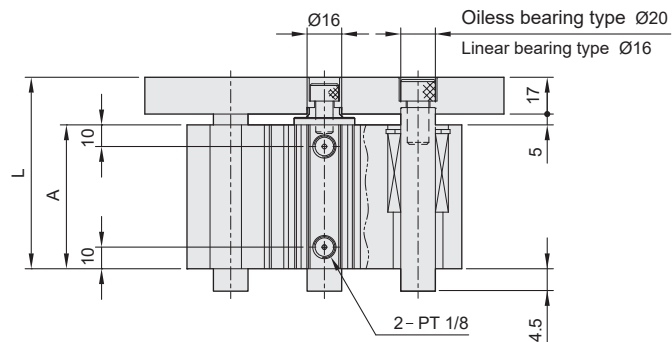
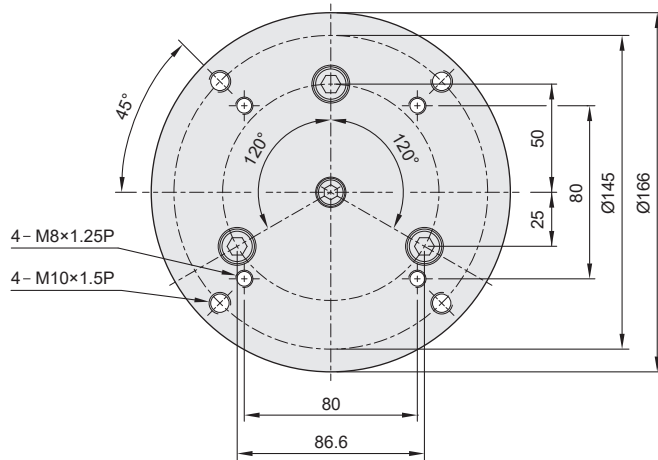
TCF

TCR series Triple-Guide Cylinder

Dimensions

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TCR Ø40



Stroke mm	30	50	75	100
A	66.5	86.5	111.5	136.5
L	88.5	108.5	133.5	158.5

TCR series Triple-Guide Cylinder

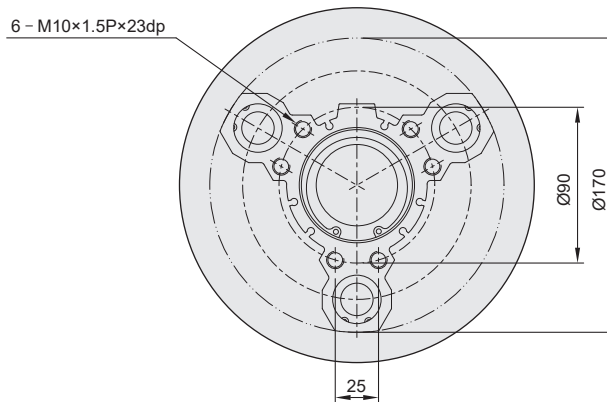
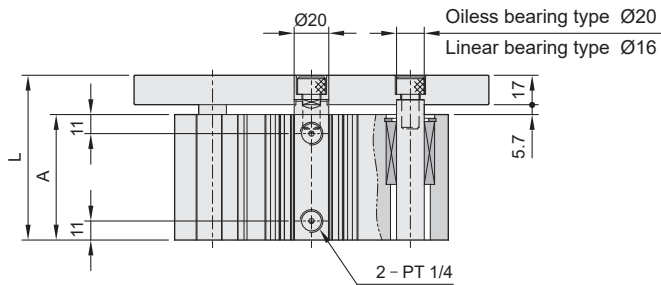
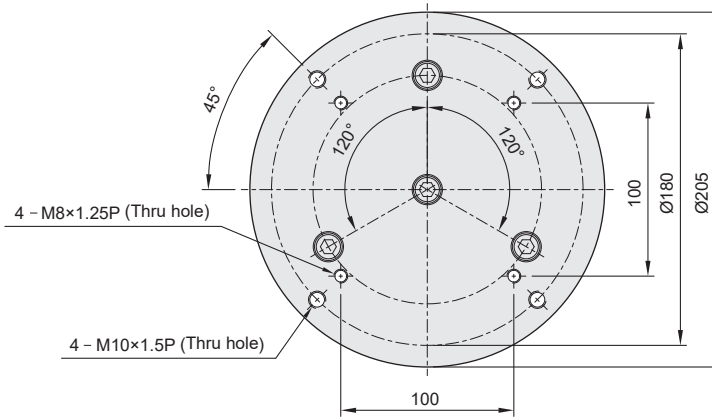
Dimensions

CHELIC

TCR Ø63



TCR Ø63 × □ ST



Stroke mm	30	50	75	100
Mark				
A	72.5	92.5	117.5	142.5
L	95.2	115.2	140.2	165.2

TB(U)2

TA(R)

TSB(U)2

TXB(U)2

TMB(U)

GCB(U)

GHB(U)

TCR

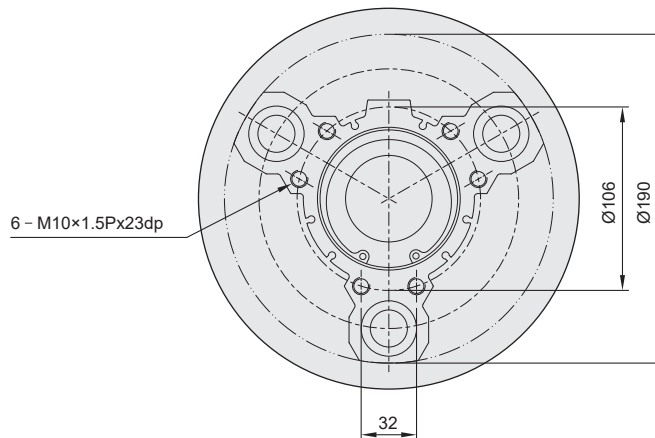
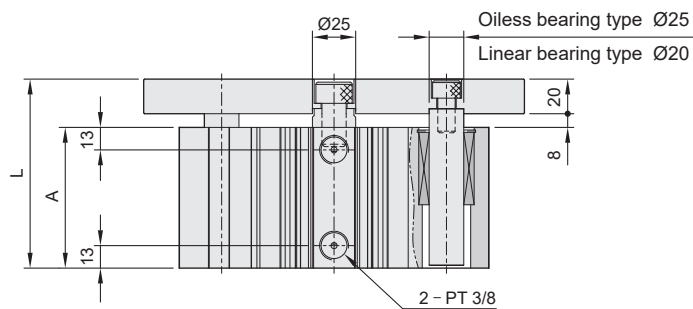
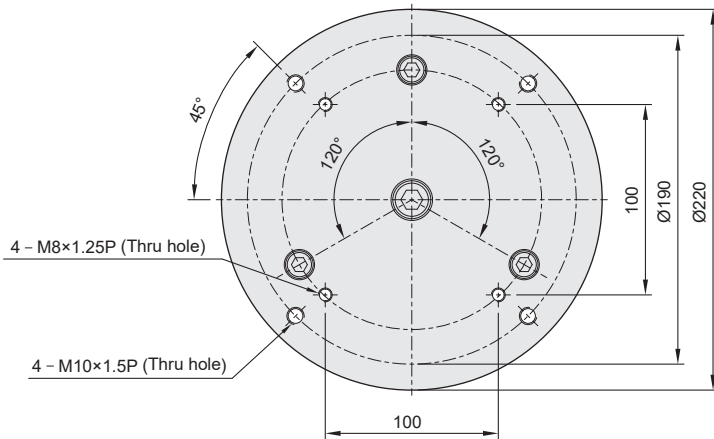
TCF

TCR series Triple-Guide Cylinder

Dimensions

CHELIC

TCR Ø80



Stroke mm	30	50	75	100
A	81.3	101.3	126.3	151.3
L	109.3	129.3	154.3	179.3

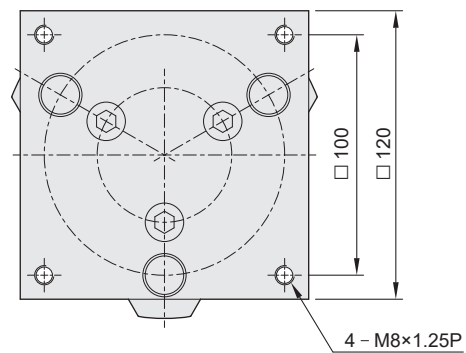
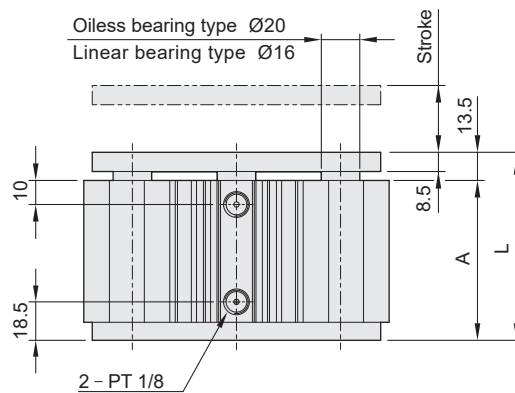
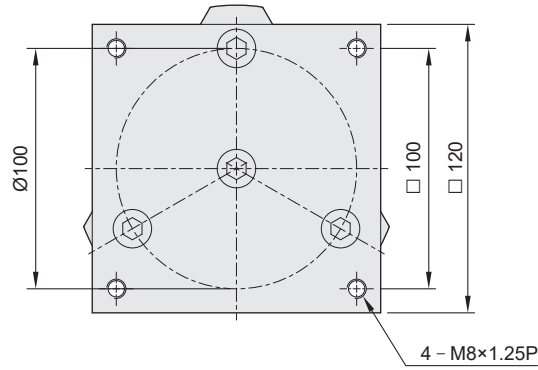
TCF series Triple-Guide Cylinder

Dimensions

CHELIC

TCF Ø40

TCF Ø40 × □ ST



- TB(U)2
- TA(R)
- TSB(U)2
- TXB(U)2

- TMB(U)
- GCB(U)
- GHB(U)

- TCR
- TCF

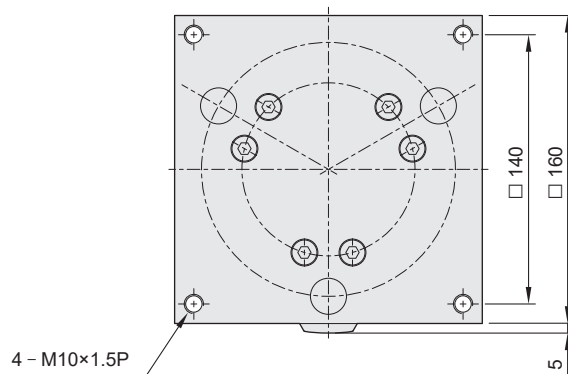
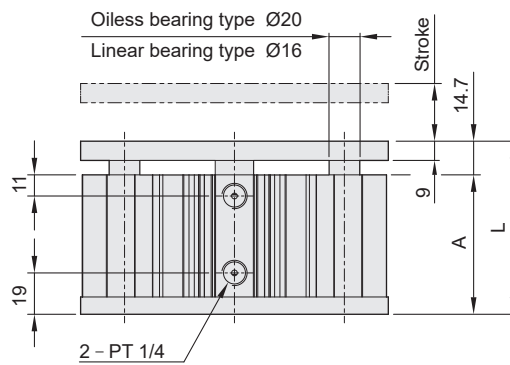
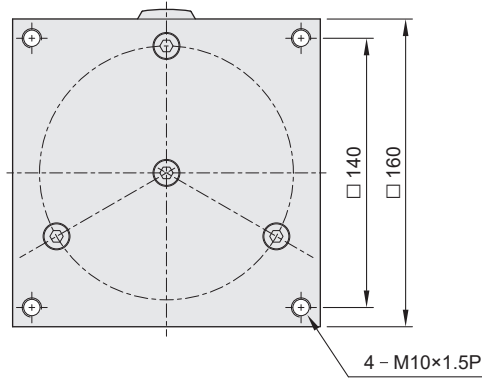
Stroke mm	30	50	75	100
Mark				
A	75	95	120	145
L	88.5	108.5	133.5	158.5

TCF series Triple-Guide Cylinder

Dimensions

CHELIC

TCF Ø63



Stroke mm	30	50	75	100
Mark				
A	80.5	100.5	125.5	150.5
L	95.2	115.2	140.2	165.2

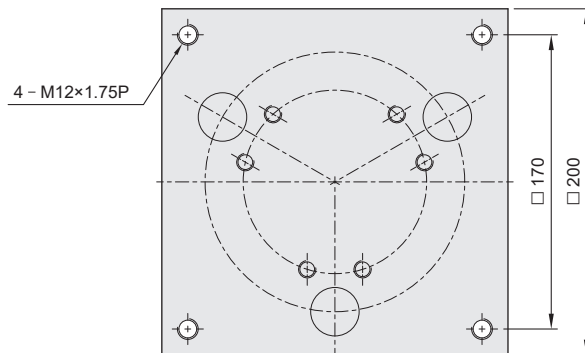
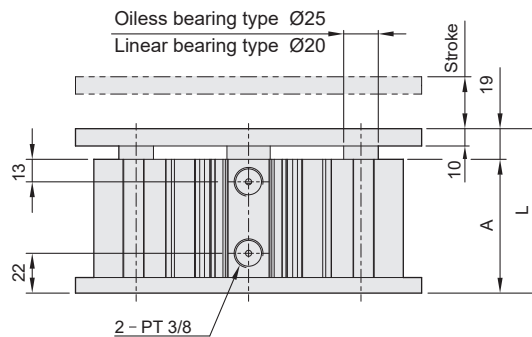
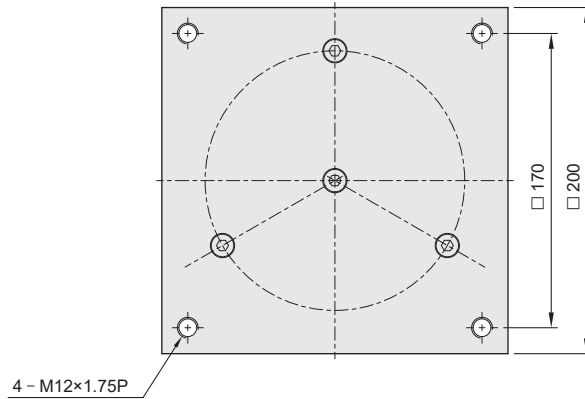
TCF series Triple-Guide Cylinder

Dimensions

CHELIC

TCF Ø80

 TCF Ø80 × □ ST



TB(U)2

TA(R)

TSB(U)2

TXB(U)2

TMB(U)

GCB(U)

GHB(U)

TCR

TCF

Stroke mm	30	50	75	100
Mark				
A	90.3	110.3	135.3	160.3
L	109.3	129.3	154.3	179.3

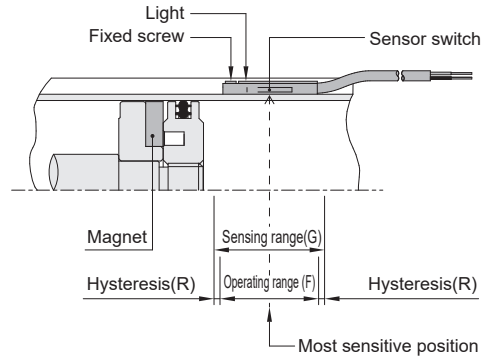
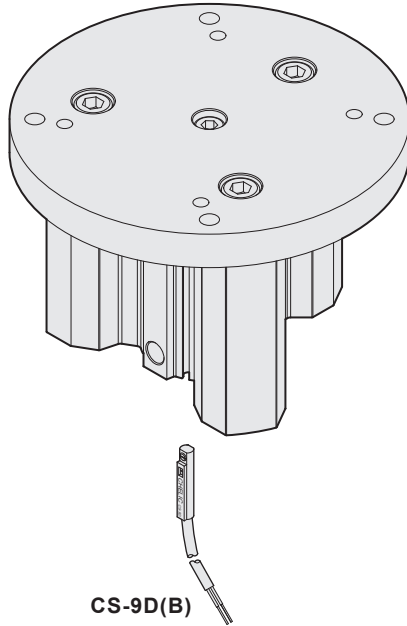
TCR(F) series Triple-Guide Cylinder

Mounting type and operation of sensor switch

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▶ Sensor switch setting and operating range

● CS-9D(B)



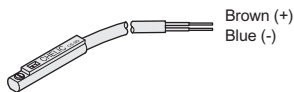
▶ Sensing range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

▶ Operating range

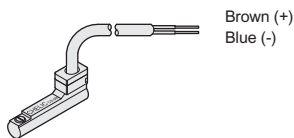
When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the below table)

▶ Sensor switch introduction



Voltage: DC 5 ~ 120V
AC 5 ~ 120V

CS - 9D



Voltage: DC 5 ~ 120V
AC 5 ~ 120V

CS - 9B

Unit: mm

Model	CS-9D(B)	
Bore size	Operating range (F)	Hysteresis(R)
Ø40	8	1
Ø63	10.5	1.2
Ø80	13.5	1.4