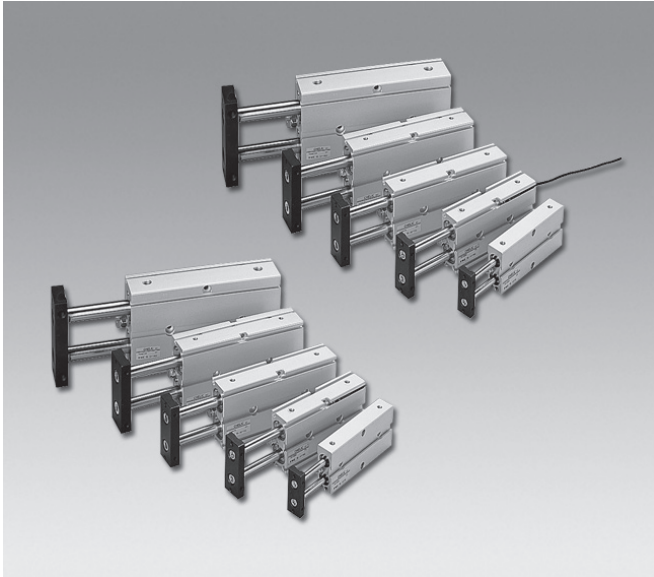


## TD series

Dual Rod Cylinder

CHELIC PNEUMATIC



TD series provide  
**CAD** external dimension

**TD**  
Dual Rod  
Cylinder

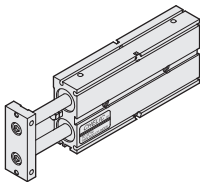
**TDX**  
Dual Rod  
Cylinder

**TDXU**  
Dual Rod  
Cylinder

**STU**  
Dual Rod  
Cylinder

**STM**  
Dual Rod  
Cylinder

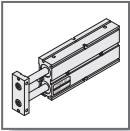
**STX**  
Dual Rod  
Cylinder



**TD series**----- **Dual Rod Cylinder** ----- **Ø6 ~ Ø40** ----- **P.14-1.1**

Dual Rod Cylinder, double force, rods made of hard chrome shaft with finished surface, and the anodized cylinder body with 0.3mm hard surface, complete with magnet and imported O-Ring



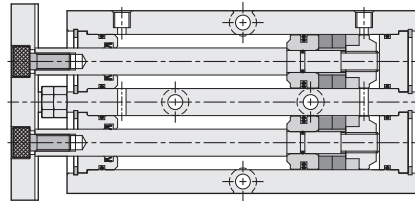


# TD series - DUAL ROD CYLINDER

Operating specification and Ordering expression

CHELIC PNEUMATIC

## Internal structure



## Theoretical force

Unit : kgf

Bore size (mm)	Piston Rod Dia (mm)	Action	Piston area cm <sup>2</sup>	Air pressure ( kgf/cm <sup>2</sup> )						
				1	2	3	4	5	6	7
6	4	Push	0.5	—	1.0	1.5	2.0	2.5	3.0	3.5
		Pull	0.3	—	0.6	0.9	1.2	1.5	1.8	2.1
10	6	Push	1.5	—	3.1	4.7	6.2	7.8	9.3	10.9
		Pull	1.0	—	2.0	3.0	4.0	5.0	6.0	7.0
16	8	Push	4.0	4.0	8.0	12.0	16.0	20.1	24.1	28.1
		Pull	3.0	3.0	6.0	9.0	12.0	15.0	18.0	21.0
20	10	Push	6.2	6.2	12.5	18.8	25.1	31.4	37.6	43.9
		Pull	4.7	4.7	9.4	14.1	18.8	23.5	28.2	32.9
25	12	Push	9.8	9.8	19.6	29.4	39.2	49.1	58.8	68.5
		Pull	7.5	7.5	15.1	22.6	30.2	37.7	45.3	52.8
32	16	Push	16.0	16.0	32.1	48.2	64.3	80.4	96.4	112.5
		Pull	12.0	12.1	24.1	36.2	48.2	60.3	72.4	84.4
40	20	Push	25.1	25.1	50.3	76.5	100.5	125.7	150.8	175.9
		Pull	18.8	18.8	37.7	56.5	75.4	94.2	131.1	131.9

Note : Above are theoretical data : please take into consideration the frictional resistance and the mechanical efficiency of value should be added calculation before using. ( About 70%~80%)

## Specification

New

New

Item	Bore size (mm)	Ø6	Ø10	Ø16	Ø20	Ø25	Ø32	Ø40
Operation		Double acting						
Fluid		Air						
Pressure range	kgf / cm <sup>2</sup> (kpa)	1 ~ 8.5 (100 ~ 850)						
Max. service pressure	kgf / cm <sup>2</sup> (kpa)	9 (900)						
Operating ambient temperature range	°C	0 ~ 60						
Range of service speed	mm/sec	50 ~ 700						
Stroke adjusting range		-5 ~ 0						
Port size		M3×0.5p	M5×0.8p				Rc 1/8"	
Sensor device		With magnet						

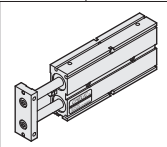
## Standard stroke

Unit : mm

Bore size	Stroke	Adjusting range
Ø6	10、20、25、30、40、50	-5 ~ 0
Ø10	10、20、25、30、40、50、75、100	
Ø16	10、20、25、30、40、50、75、100、125、150、175、200、250	
Ø20	10、20、25、30、40、50、75、100、125、150、175、200、250	
Ø25	10、20、25、30、40、50、75、100、125、150、175、200、250	
Ø32	10、20、25、30、40、50、75、100、125、150、175、200、250	
Ø40	10、20、30、40、50、75、100、125、150	

## How to order

**TD** (Model) × **10** (Bore size) × **50** (Stroke) - **SD 2** (Sensor switch)



Model

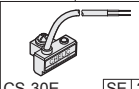
Bore size

6 - Ø 6 mm  
10 - Ø 10 mm  
16 - Ø 16 mm  
20 - Ø 20 mm  
25 - Ø 25 mm  
32 - Ø 32 mm  
40 - Ø 40 mm

Stroke

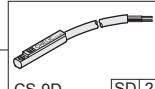
Ø 6 - 10 ~ 50 mm  
Ø 10 - 10 ~ 100 mm  
Ø 16 - 10 ~ 250 mm  
Ø 20 - 10 ~ 250 mm  
Ø 25 - 10 ~ 250 mm  
Ø 32 - 10 ~ 250 mm  
Ø 40 - 10 ~ 150 mm

Sensor switch



CS-30E [SE] [2]

[SE]: Sensor code (CS-30E)  
[2]: Number of sensor  
1 = 1 PCS  
2 = 2 PCS



CS-9D [SD] [2]

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

※ Ø6, Ø40 are not suitable

**TD**  
Dual Rod Cylinder

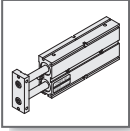
**TDX**  
Dual Rod Cylinder

**TDXU**  
Dual Rod Cylinder

**STU**  
Dual Rod Cylinder

**STM**  
Dual Rod Cylinder

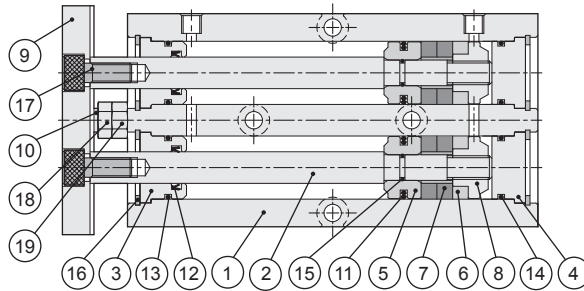
**STX**  
Dual Rod Cylinder



# TD series - DUAL ROD CYLINDER

## Components and Material list

CHELIC PNEUMATIC



### Components and Material list

No.	Item	Material	No.	Item	Material
01	Body	Aluminum alloy	11	Piston packing	NBR
02	Rod	Medium carbon steel	12	Rod packing	NBR
03	Front cover	Aluminum alloy	13	Front cover O-Ring	NBR
04	End cover	Aluminum alloy	14	End cover O-Ring	NBR
05	Piston	Copper	15	Piston O-Ring	NBR
06	Wear ring	Teflon	16	Snap	Spring steel
07	Magnet	Rare earth metals/Plastic magnet	17	Screw	Alloy steel
08	Magnet	Copper	18	Screw	Alloy steel
09	Sliding block	Iron / Aluminum alloy	19	Nut	Medium carbon steel
10	Stopper	Rubber / Bearing steel			

Note : TD Ø6,Ø10,Ø16,Ø20 Plate Material is Iron ; TD Ø25,Ø32,Ø40 Plate Material is Aluminum alloy.

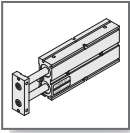
### Packing and O-Ring list

Unit : mm

Item	Piston packin	Rod packing	End cover O-ring	Front cover O-ring	Piston O-ring
<b>Bore size</b>	<b>No.</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
Ø6	MYA-3 (4 PCS)	MYA-3	0.5 × 1.0	5 × 1.0	—
Ø10	DYP-10 (4 PCS)	EM0609	8 × 1.0	8 × 1.0	2.9 × 1.0
Ø16	PSD-16	EM0811	13.2 × 1.5	13.2 × 1.5	8 × 1.0
Ø20	COP-20	EM1014	17.5 × 1.5	17.5 × 1.5	10 × 1.0
Ø25	COP-25	EM1214	20.8 × 2.0	20.8 × 2.0	12 × 1.0
Ø32	COP-32	EM1620	28.5 × 2.0	28.5 × 2.0	16 × 1.5
Ø40	COP-40	EM2025	36 × 2.0	36 × 2.0	20 × 1.5

### Weight

Bore size (mm)	Weight (Kg)										
	Stroke (mm)										
	10	20	30	40	50	75	100	125	150	175	200
Ø6	0.1	0.1	0.1	0.1	0.1	—	—	—	—	—	—
Ø10	0.10	0.11	0.13	0.14	0.15	0.19	0.22	—	—	—	—
Ø16	0.31	0.34	0.36	0.39	0.42	0.49	0.56	0.62	0.69	0.76	0.83
Ø20	0.46	0.49	0.53	0.56	0.60	0.69	0.78	0.87	0.96	1.04	1.13
Ø25	0.77	0.82	0.87	0.92	0.97	1.09	1.15	1.34	1.46	1.61	1.76
Ø32	1.51	1.56	1.68	1.78	1.87	2.08	2.32	2.55	2.77	3.00	3.25
Ø40	2	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.8	—	—

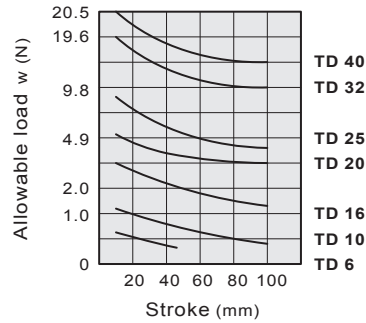
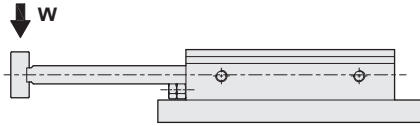


# TD series - DUAL ROD CYLINDER

Design and Installation reference

CHELIC PNEUMATIC

## Allowable load

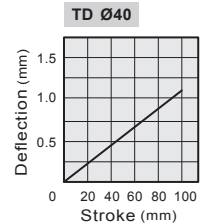
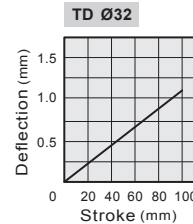
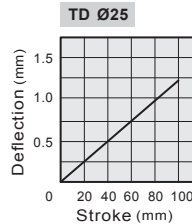
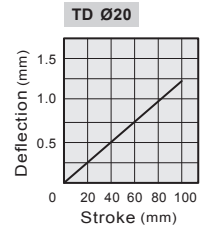
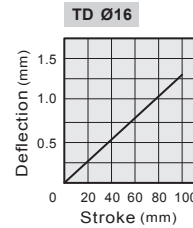
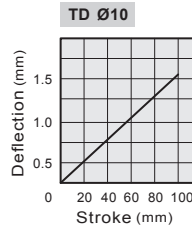
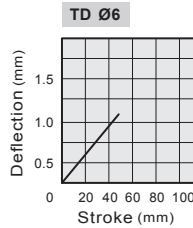
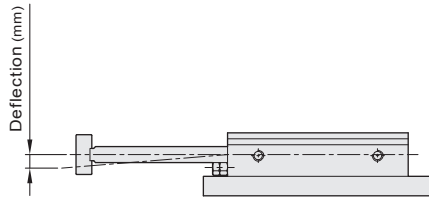


**TD**  
Dual Rod  
Cylinder

**TDX**  
Dual Rod  
Cylinder

**TDXU**  
Dual Rod  
Cylinder

## Allowable deflection

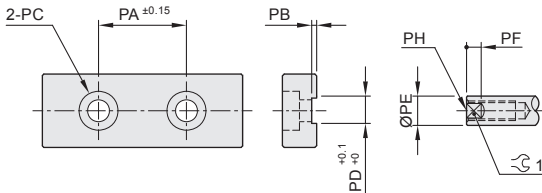


**STU**  
Dual Rod  
Cylinder

**STM**  
Dual Rod  
Cylinder

**STX**  
Dual Rod  
Cylinder

## Dimension for end rod



Symbol Bore size	PA	PB	PC	PD	PE	PF	PH
Ø6	13	1	Thru-hole Ø2.8, Hole Ø5 dp 2.7	3.5	4	2	3.5 M2.5×0.4 dp 5
Ø10	18	1	Thru-hole Ø4.5, Hole Ø8 dp 4.3	5.2	6	3	5.2 M4×0.7 dp 10
Ø16	24	1	Thru-hole Ø5.5, Hole Ø9 dp 5.5	6.2	8	3	6.2 M5×0.8 dp 12
Ø20	28	1	Thru-hole Ø6.5, Hole Ø11 dp 6.8	8.2	10	3	8.2 M6×1.0 dp 15
Ø25	34	1	Thru-hole Ø8.5, Hole Ø14 dp 8.5	10.2	12	3	10.2 M8×1.25 dp 15
Ø32	44	1	Thru-hole Ø8.5, Hole Ø17 dp 11	14	16	3	14 M10×1.5 dp 20
Ø40	55	2.5	Thru-hole Ø10.5, Hole Ø17 dp 11	18	20	4	18 M10×1.5 dp 15

## Mounting type

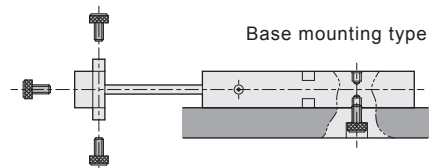
- Two types of mounting for body

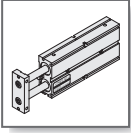
Upper mounting type



Mounting housing from three directions

Base mounting type





# TD series - DUAL ROD CYLINDER

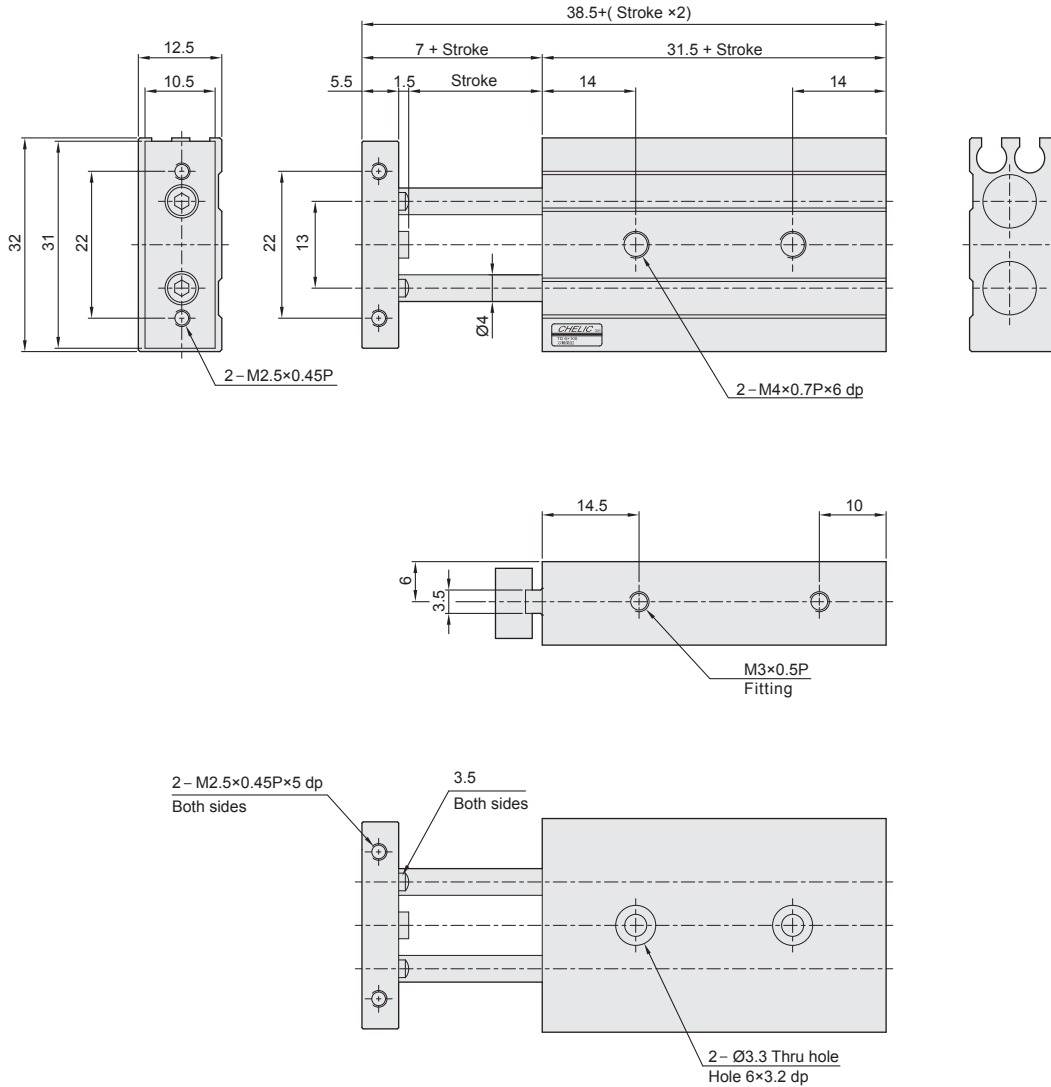
External dimension - Ø6

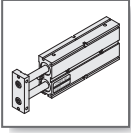
New

CHELIC PNEUMATIC

TD Ø6 ×

 TD 6 ×  ST



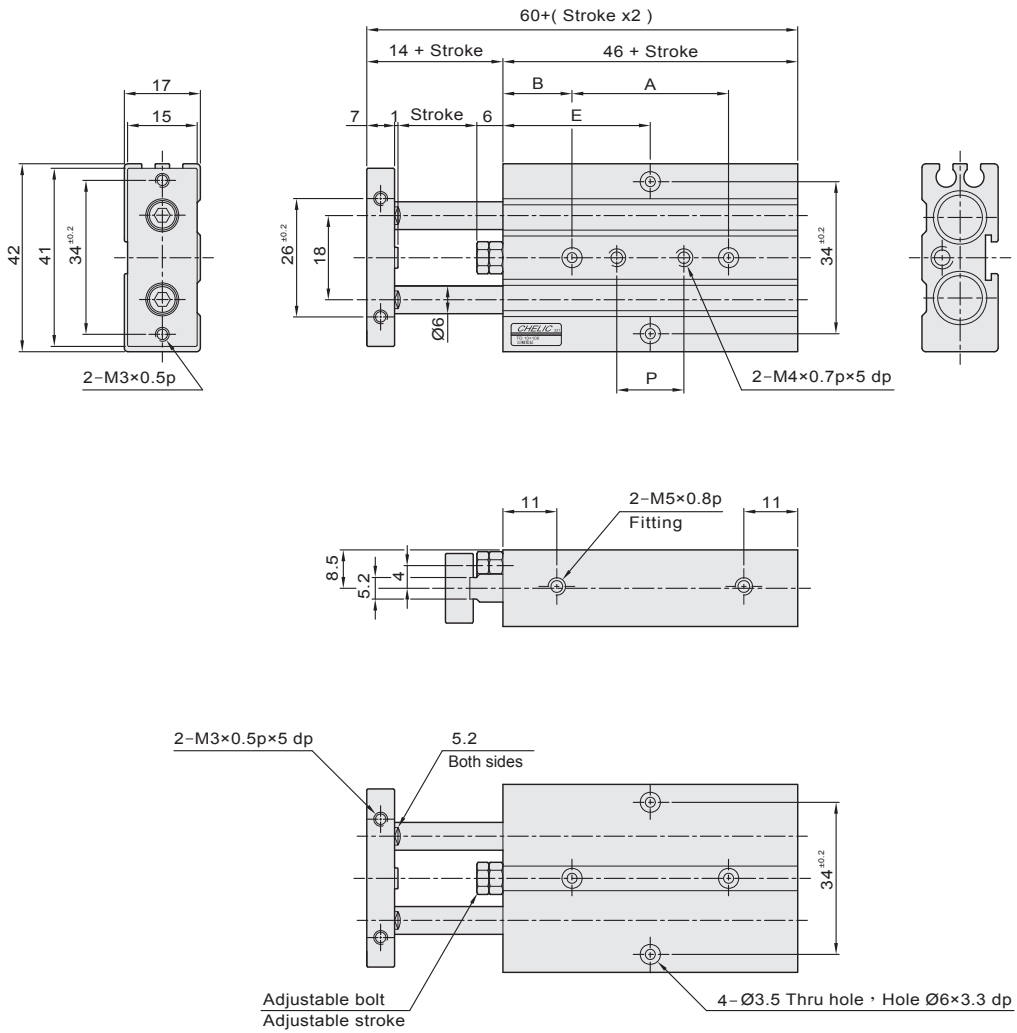


# TD series - DUAL ROD CYLINDER

External dimension - Ø10

CHELIC PNEUMATIC

TD Ø10 ×



**TD**  
Dual Rod  
Cylinder

**TDX**  
Dual Rod  
Cylinder

**TDXU**  
Dual Rod  
Cylinder

**STU**  
Dual Rod  
Cylinder

**STM**  
Dual Rod  
Cylinder

**STX**  
Dual Rod  
Cylinder

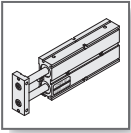
## Dimension

Unit : mm

Stroke Code	10	20	25	30	40	50	75	100
A	20	30	35	40	50	60	85	110
B	18	18	18	18	18	18	18	18
E	28	33	35.5	38	43	48	60.5	73
P	—	—	15	20	30	40	65	90







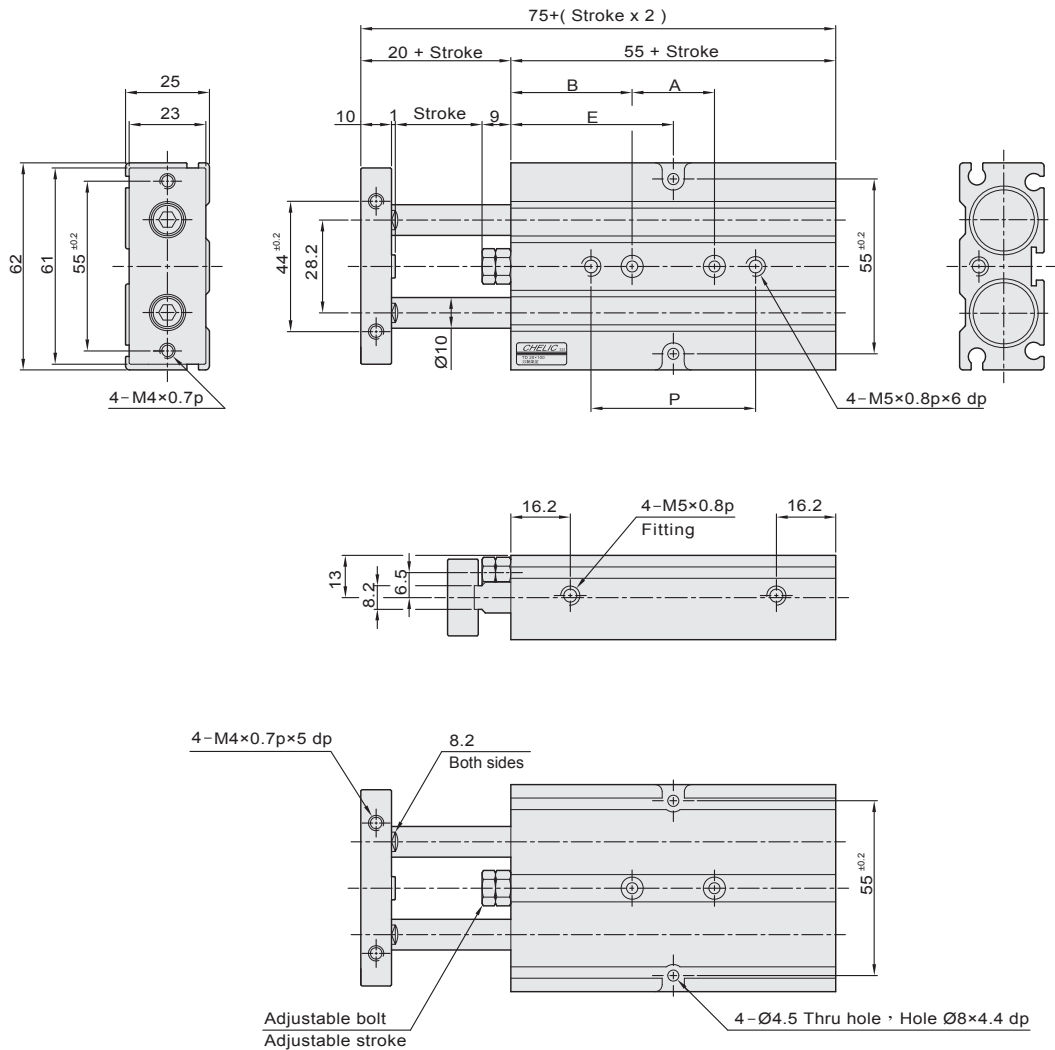
# TD series - DUAL ROD CYLINDER

External dimension - Ø20

CHELIC PNEUMATIC

TD Ø20 ×

TD 20 ×  ST



**TD**  
Dual Rod  
Cylinder

**TDX**  
Dual Rod  
Cylinder

**TDXU**  
Dual Rod  
Cylinder

**STU**  
Dual Rod  
Cylinder

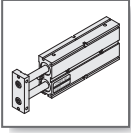
**STM**  
Dual Rod  
Cylinder

**STX**  
Dual Rod  
Cylinder

## Dimension

Unit : mm

Stroke Code	10	20	25	30	40	50	75	100	125	150	175	200	250
<b>A</b>	20	20	20	20	30	40	60	80	100	100	100	100	120
<b>B</b>	22.5	27.5	30	32.5	32.5	32.5	35	37.5	40	52.5	65	77.5	92.5
<b>E</b>	32.5	37.5	40	42.5	47.5	52.5	65	77.5	90	102.5	115	127.5	152.5
<b>P</b>	—	—	40	40	50	60	80	100	120	120	120	120	150

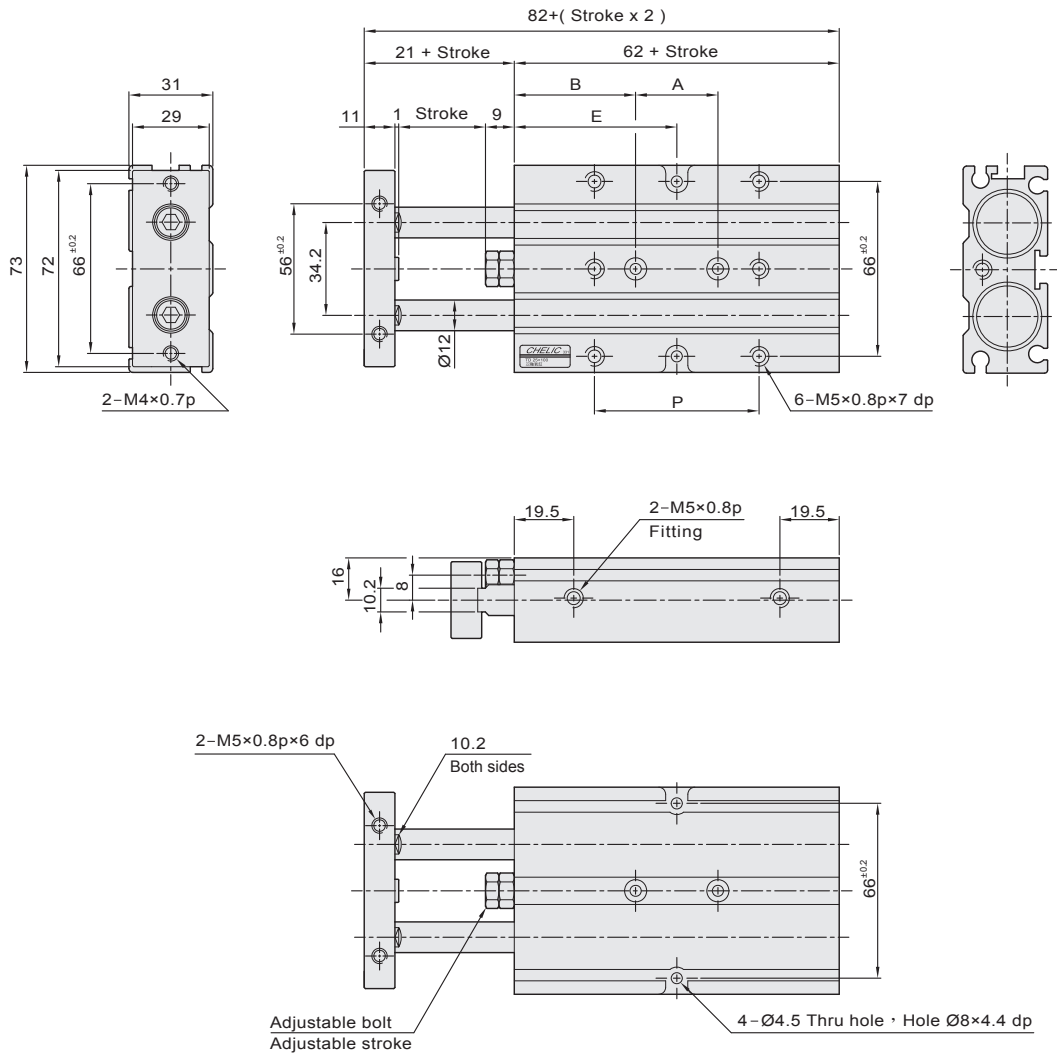


# TD series - DUAL ROD CYLINDER

External dimension - Ø25

CHELIC PNEUMATIC

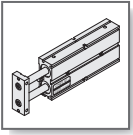
TD Ø25 x



## Dimension

Unit : mm

Stroke Code	10	20	25	30	40	50	75	100	125	150	175	200	250
A	20	20	20	20	30	40	60	80	100	100	100	100	120
B	26	31	33.5	36	36	36	38.5	41	43.5	56	68.5	81	96
E	36	41	43.5	46	51	56	68.5	81	93.5	106	118.5	131	156
P	-	-	40	40	50	60	80	100	120	120	120	120	150

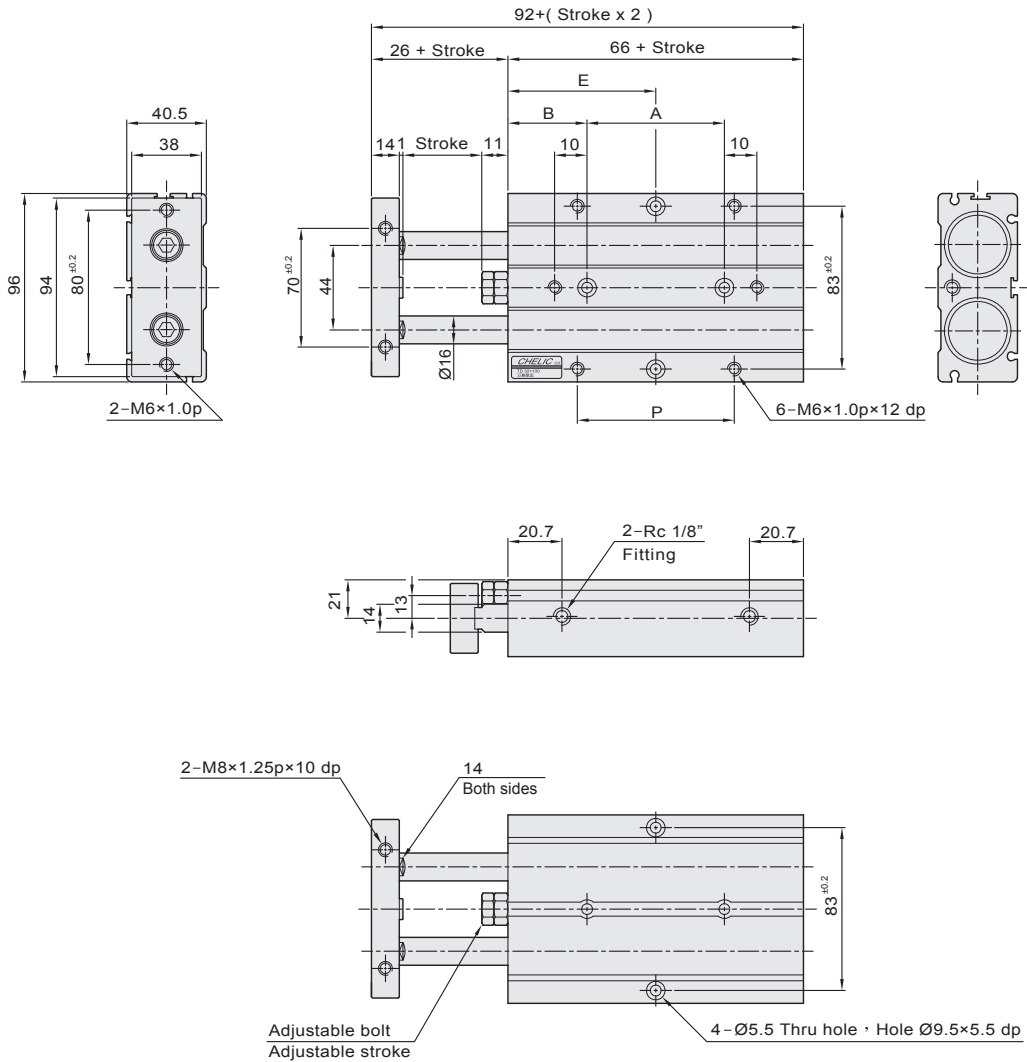


# TD series - DUAL ROD CYLINDER

External dimension - Ø32

CHELIC PNEUMATIC

TD Ø32 ×



**TD**  
Dual Rod  
Cylinder

**TDX**  
Dual Rod  
Cylinder

**TDXU**  
Dual Rod  
Cylinder

**STU**  
Dual Rod  
Cylinder

**STM**  
Dual Rod  
Cylinder

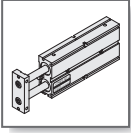
**STX**  
Dual Rod  
Cylinder

## Dimension

Unit : mm

Stroke Code	10	20	25	30	40	50	75	100	125	150	175	200	250
<b>A</b>	20	20	20	20	30	40	60	80	100	100	100	100	150
<b>B</b>	28	33	35.5	38	38	38	40.5	43	45.5	58	70.5	83	83
<b>E</b>	38	43	45.5	48	53	58	70.5	83	95.5	108	120.5	133	158
<b>P</b>	—	—	30	30	40	50	80	100	120	120	120	120	150





# TD series - DUAL ROD CYLINDER

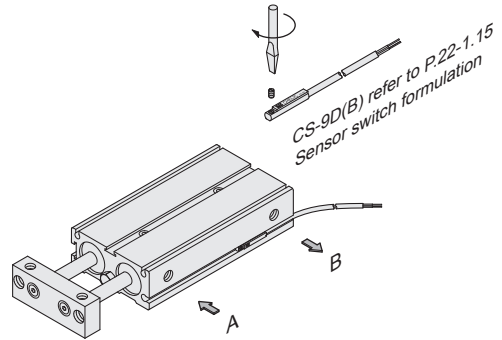
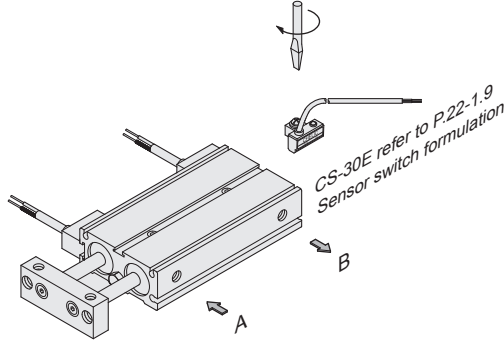
Sensor switch installation and Sensing setting

CHELIC PNEUMATIC

## ◉ Sensor switch installation and Sensing setting

● CS - 30E Sensor switch mounting type

● CS - 9D(B) Sensor switch mounting type



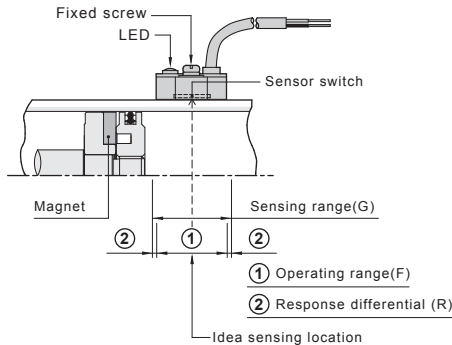
**TD**  
Dual Rod  
Cylinder

**TDX**  
Dual Rod  
Cylinder

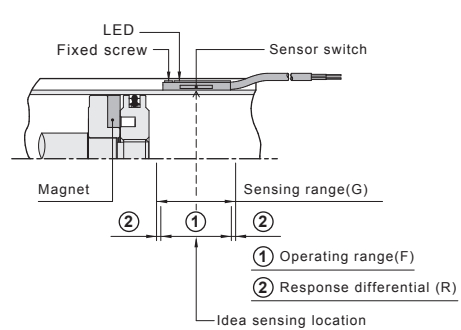
**TDXU**  
Dual Rod  
Cylinder

## ◉ Sensor setting and Operating range

● CS - 30E



● CS - 9D (B)



**STU**  
Dual Rod  
Cylinder

**STM**  
Dual Rod  
Cylinder

**STX**  
Dual Rod  
Cylinder

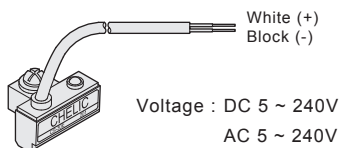
## ◉ Sensing range

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

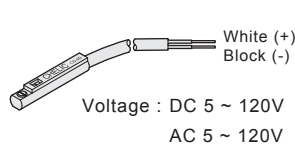
## ◉ Operating range

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 right table)

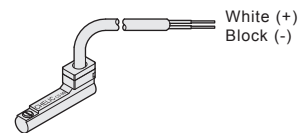
## ◉ Connection type



CS - 30E



CS - 9D



CS - 9B

Unit : mm

Model	CS-30E		CS-9D(B)	
	Operating range (F)	Response differential (R)	Operating range (F)	Response differential (R)
<b>Bore size</b>				
<b>6</b>	—	—	5	1
<b>10</b>	10 (8)	1	8	1
<b>16</b>	9 (5)	1.2	8	1.2
<b>20</b>	13 (11)	1.2	11	1.2
<b>25</b>	10.5 (9)	1.5	9	1.5
<b>32</b>	10.5 (9)	1.5	9	1.5
<b>40</b>	—	—	10	1.5

