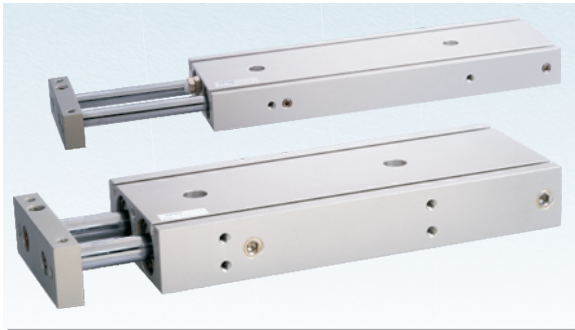
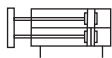


# Twin-rod cylinder

## TR Series



### Symbol



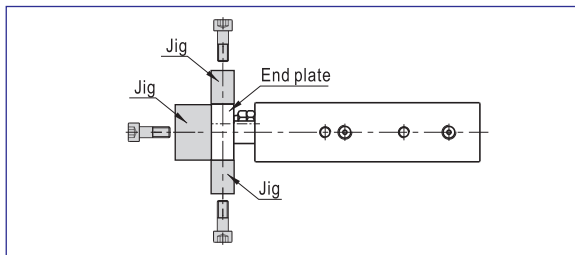
### Product feature

1. JIS standard is implemented.
2. The non-rotating precision is high and deflection of the end of piston rod is low, which is suitable for precise guide.
3. It adopts lengthening type sliding supporting guide. No additional lubricant is needed and it has good performance of guide.
4. Mounting holes on three sides facilitates multi-position mounting.
5. It is good resistance to bending and twisting moments.
6. Except for the axial, each side of the cylinder has installation orifices to provide several installation and fixation ways for the customers.
7. There are two groups of air intake and outlet at two sides of the cylinder for the actual selection.
8. Bumper in front of the barrel can adjust the stroke of cylinder and relieve impact.
9. Standard configuration of this series has magnet and the type without magnet is not available.



TN,TR

### How to mount



### Specification

Bore size (mm)	6	10	16	20	25	32
Acting type	Double acting					
Fluid	Air(to be filtered by 40 μ m filter element)					
Operating pressure	0.1~1.0MPa(14~145psi)					
Proof pressure	1.5MPa(215psi)					
Temperature °C	-20~70					
Speed range mm/s	30~500					
Adjustable stroke mm	-5~0					
Stroke tolerance	+1.0 0					
Cushion type	Bumper					
Non-rotating tolerance ①	± 0.2°	± 0.15°			± 0.1°	
Port size ②	M5 × 0.8			1/8"		

① Retract position.

② PT thread, NPT thread and G thread are available. Add) Refer to P419~442 for detail of sensor switch.

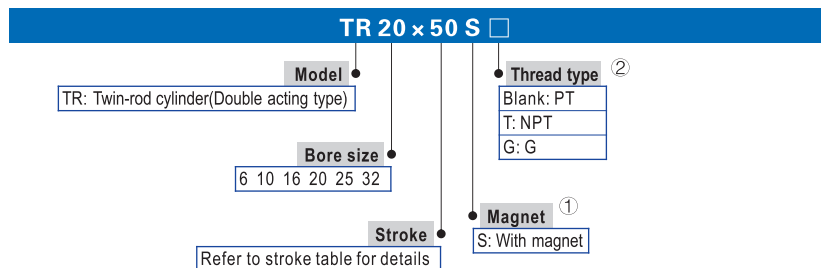
### Stroke

Bore size (mm)	Standard stroke (mm)															Max. stroke			
6	10	20	25	30	40	50											50		
10	10	20	25	30	40	50	60	70	75	80	90	100						100	
16	10	20	25	30	40	50	60	70	75	80	90	100	125	150	175	200			200
20	10	20	25	30	40	50	60	70	75	80	90	100	125	150	175	200			200
25	10	20	25	30	40	50	60	70	75	80	90	100	125	150	175	200			200
32	10	20	25	30	40	50	60	70	75	80	90	100	125	150	175	200			200

Note) 1. Please contact the company for other special strokes.

2. The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 23mm stroke cylinder has the same dimensions of 25 std. stroke cylinder.

### Ordering code



① TR Series are all with magnet.

② When the thread is standard, the code is blank.

### Inner structure and material of major parts

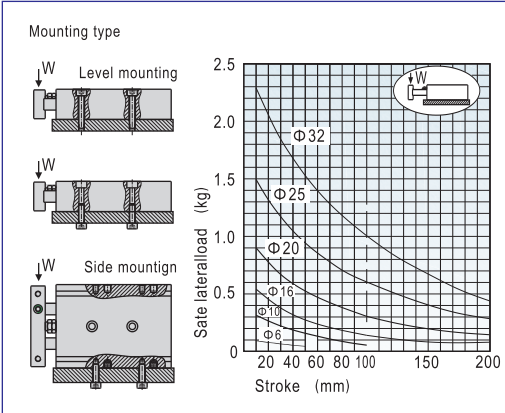
NO.	Item	Material	NO.	Item	Material
1	Screw	Carbon steel	10	Piston	Φ6,10 SUS304
2	Fixing plate	Aluminum alloy		Other	Aluminum alloy
3	Bumper	POM	11	Wear ring	Nylon 6
4	Screw	Free cutting steel	12	Back cover	Aluminum alloy
5	Nut	Carbon steel	13	Bumper	TPU
6	Piston rod	Φ25,32 Carbon steel Other SUS304	14	Piston seal	NBR
7	C clip	Spring steel	15	Magnet holder	Φ6,10 SUS304 Other Aluminum alloy
8	Front cover	Aluminum alloy	16	Screw	Carbon steel
9	Magnet	Φ32 Plastic Other Sintered metal(Neodymium-iron-boron)	17	Body	Aluminum alloy
			18	Back cover O-ring	NBR
			19	Wiper seal	NBR



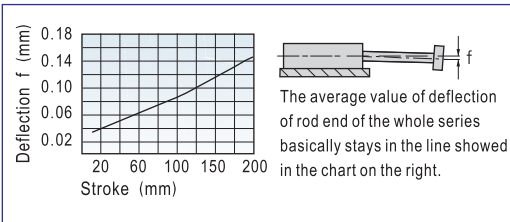
# Twin-rod cylinder

## TR Series

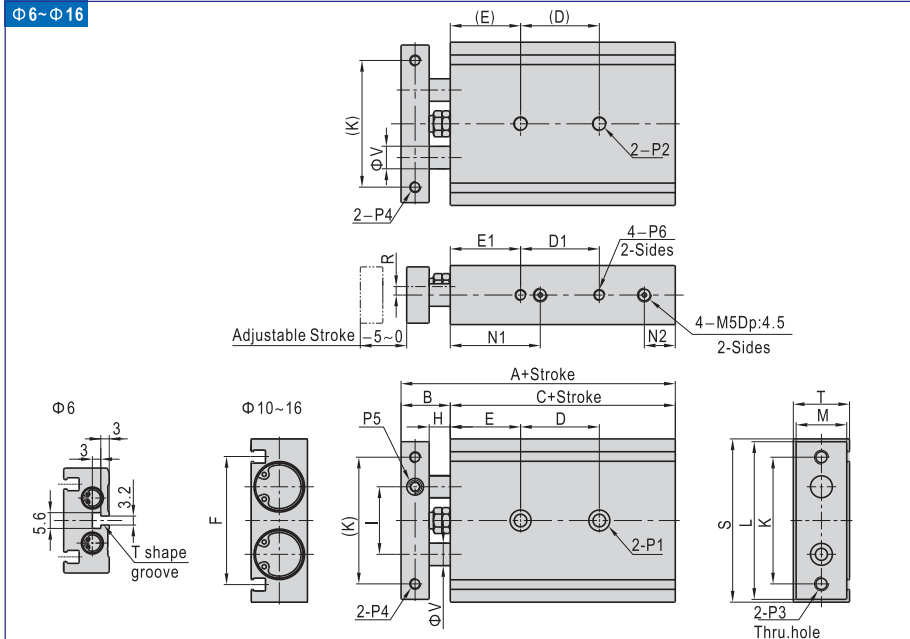
### Max. weight of allowable side-load



### Safe deflection



### Dimensions

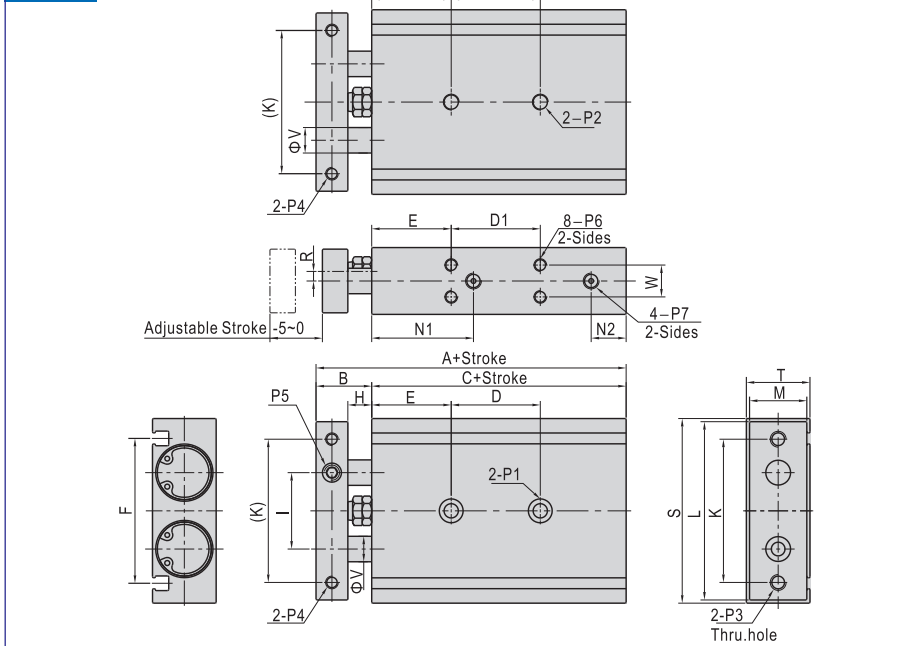


Bore size\Item Stroke	A B C			D D1							E	E1	F	H	I	K	L	M	N1	N2		
	10~25	30~50	60~80	90~100	125	150	175	200														
6	58.5	13.5	45	D=10+Stroke/2 D1=13+Stroke				-	-	-	-	-	13	10	25.8	8	16	28	35	14	24.5	6.5
10	72	17	55	30	40	50	60	-	-	-	-	20	20	36.5	9	20	35	44	15	30	8	
16	79	19	60	25	35	45	55	65	75	145	145	30	30	46.5	9	25	45	56	18	38	8	

Bore size\Item Stroke	R	S	T	V	P1	P2		P3	P4	P5	P6
						One-side	Thru.hole				
6	4.5	37	16	4	One-side: Φ 6.5Dp:3.3Thru.hole: Φ 3.4	-	-	M3×0.5	M3×0.5Thru.hole	M3×0.5	M3×0.5Dp:4.5
10	3.5	46	17	6	One-side: Φ 6.5Dp:3.3Thru.hole: Φ 3.4	M4×0.7Dp:7	-	M4×0.7	M3×0.5Thru.hole	M5×0.8	M3×0.5Dp:5
16	5	58	20	8	One-side: Φ 8.0Dp:4.4Thru.hole: Φ 4.3	M5×0.8Dp:8	-	M5×0.8	M4×0.7Thru.hole	M6×1.0	M4×0.7Dp:5

### Φ20-Φ32



Bore size\Item Stroke	A B C			D D1							E	F	H	I	K	L	M	N1	N2	R	S	T	V
	10~25	30~50	60~100	125	150	175	200																
20	94	24	70	30	40	60	80	80	100	100	30	52	12	28	50	62	23	46	9	6.5	64	25	10
25	96	24	72	30	40	60	80	80	100	100	30	61	12	35	60	78	28	43	9	9	80	30	12
32	112	30	82	40	50	70	90	90	110	110	30	73	14	44	75	96	36	53	10	11.5	98	38	16

Bore size\Item Stroke	W	P1	P2		P3	P4	P5	P6	P7
			One-side	Thru.hole					
20	9.5	One-side: Φ 9.5Dp:5.3Thru.hole: Φ 5.2	M6×1.0Dp:10	M5×0.8	M4×0.7Dp:6	M8×1.25	M4×0.7Dp:7	M5×0.8	
25	13	One-side: Φ 11Dp:6.3Thru.hole: Φ 6.8	M8×1.25Dp:12	M6×1.0	M5×0.8Dp:7.5	M8×1.25	M5×0.8Dp:7	1/8"	
32	20	One-side: Φ 11Dp:6.3Thru.hole: Φ 6.8	M8×1.25Dp:12	M6×1.0	M5×0.8Dp:8	M10×1.5	M5×0.8Dp:7	1/8"	



TN,TR