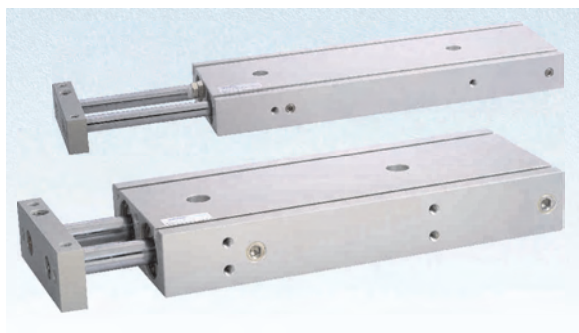


Twin-rod cylinder

TR Series



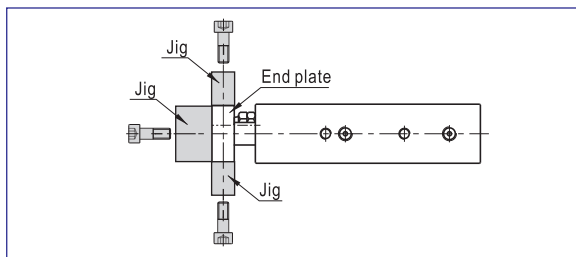
Symbol



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.

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 ℃	-20~70					
Speed range mm/s	30~500					
Adjustable stroke mm	-5~0					
Stroke tolerance	0~100 ^{+1.0} ₀ >100 ^{+1.5} 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, G thread and NPT thread are available. Add) Refer to P457~480 for detail of sensor switch.

Stroke

Bore size (mm)	Standard stroke (mm)																Max. stroke
6	10	20	25	30	40	50	60	70	75	80	90	100					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

TR 20 × 50 S

Model
TR: Twin-rod cylinder(Double acting type)

Thread type ②
Blank: PT
G: G
T: NPT

Bore size
6 10 16 20 25 32

Stroke
Refer to stroke table for details

Magnet ①
S: With magnet

① TR Series are all with magnet.

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

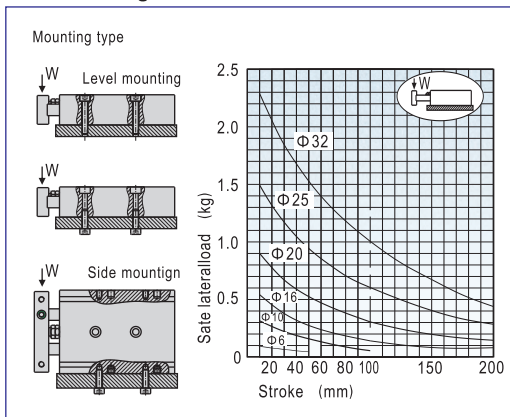
Inner structure and material of major parts

NO.	Item	Material		NO.	Item	Material	
1	Screw	Carbon steel		10	Piston	Φ 6,10 Other	SUS304 Aluminum alloy
2	Fixing plate	Aluminum alloy		11	Wear ring	Nylon 6	
3	Bumper	POM		12	Back cover	Aluminum alloy	
4	Screw	Free cutting steel		13	Bumper	TPU	
5	Nut	Carbon steel		14	Piston seal	NBR	
6	Piston rod	Φ 25,32 Other	SUS304 Carbon steel	15	Magnet holder	Φ 6,10 Other	SUS304 Aluminum alloy
7	C clip	Spring steel		16	Screw	Carbon steel	
8	Front cover	Aluminum alloy		17	Body	Aluminum alloy	
9	Magnet	Φ 32 Other	Plastic Sintered metal(Neodymium-iron-boron)	18	Back cover O-ring	NBR	
				19	Wiper seal	NBR	

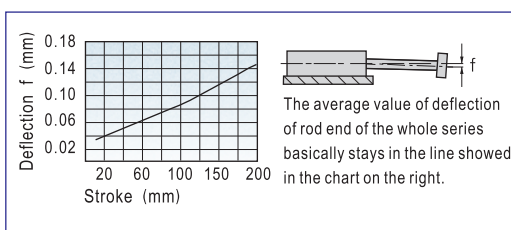
Twin-rod cylinder

TR Series

Max. weight of allowable side-load

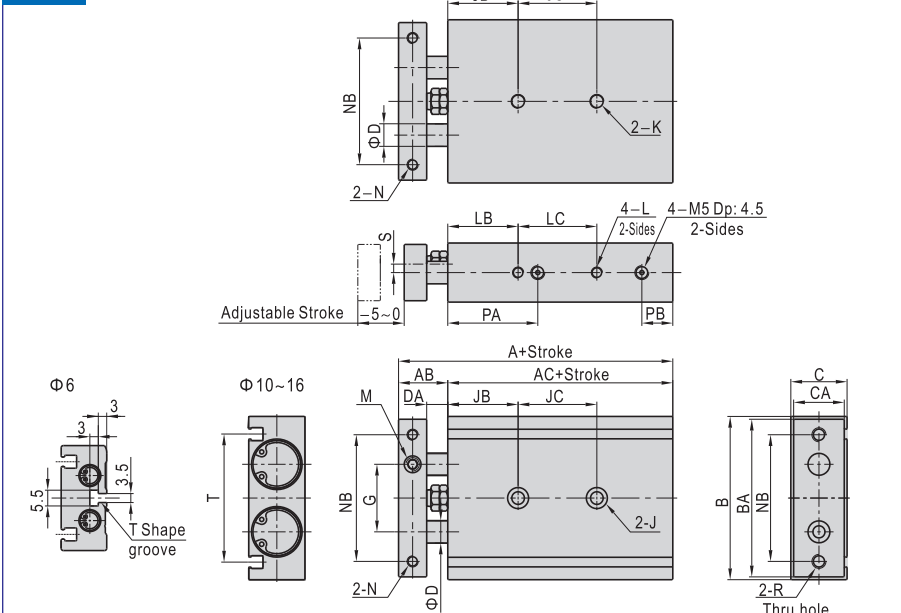


Safe deflection



Dimensions

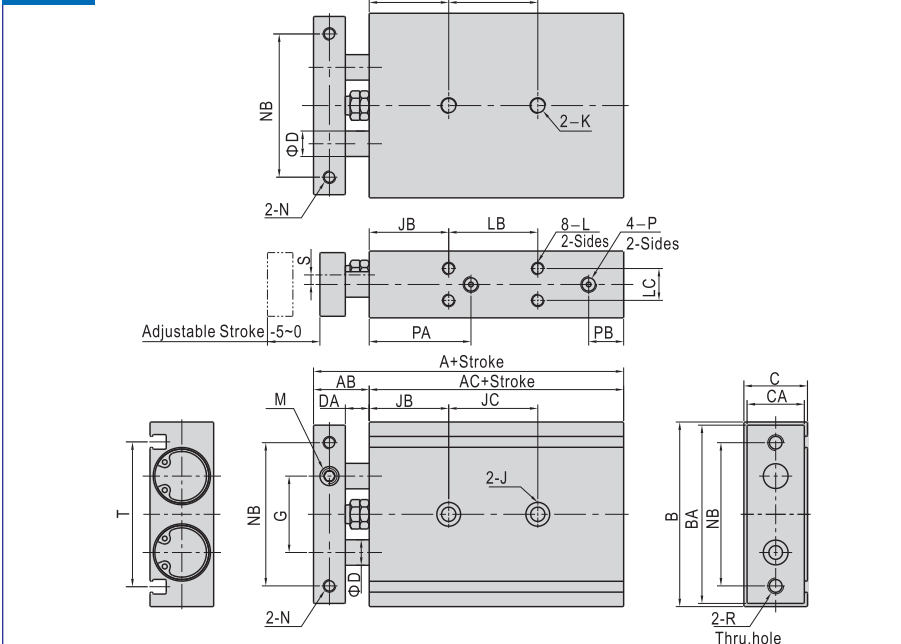
Φ6~Φ16



Bore size\Item Stroke	A	AB	AC	B	BA	C	CA	D	DA	G	JC LC										PA	PB	S	T
											10~25	30~50	60~80	90~100	125	150	175	200						
6	58.5	13.5	45	37	35	16	14	4	8	16	JC=10+Stroke/2										24.5	6.5	4.5	26
10	72	17	55	46	44	17	15	6	9	20	LC=13+Stroke										30	8	3.5	36.5
16	79	19	60	58	56	20	18	8	9	25	25	35	45	55	65	75	145	145	38	8	5	46.5		

Bore size\Item	J	K	L	M	N	NB	R	T		
6	One-side: Φ 6.5 Dp: 3.5 Thru.hole : Φ 3.5		13	-	M3×0.5 Dp: 4.5	10	M3×0.5	M3×0.5 Thru.hole	28	M3×0.5
10	One-side: Φ 6.5 Dp: 3.5 Thru.hole : Φ 3.5		20	M4×0.7 Dp: 7	M3×0.5 Dp: 5	20	M5×0.8	M3×0.5 Thru.hole	35	M4×0.7
16	One-side: Φ 8.0 Dp: 4.5 Thru.hole : Φ 4.5		30	M5×0.8 Dp: 8	M4×0.7 Dp: 5	30	M6×1.0	M4×0.7 Thru.hole	45	M5×0.8

Φ20~Φ32



Bore size\Item Stroke	A	AB	AC	B	BA	C	CA	D	DA	G	JB	JC LB								P			PA	PB	S
												10~25	30~50	60~100	125	150	175	200							
20	94	24	70	64	62	25	23	10	12	28	30	30	40	60	80	80	100	100	M5×0.8	46	9	6.5			
25	96	24	72	80	78	30	28	12	12	35	30	30	40	60	80	80	100	100	1/8"	43	9	9			
32	112	30	82	98	96	38	36	16	14	44	30	40	50	70	90	90	110	110	1/8"	53	10	11.5			
Bore size\Item	J	K										L		LC	M	N			NB		R	T			
20	One-side: Φ 9.5 Dp: 5.5 Thru.hole : Φ 5.5											M6×1.0 Dp: 10		M4×0.7 Dp: 7		9.5	M8×1.25	M4×0.7 Dp: 6			50	M5×0.8	52		
25	One-side: Φ 11 Dp: 6.5 Thru.hole : Φ 7											M8×1.25 Dp: 12		M5×0.8 Dp: 7		13	M8×1.25	M5×0.8 Dp: 7.5			60	M6×1.0	61		
32	One-side: Φ 11 Dp: 6.5 Thru.hole : Φ 7											M8×1.25 Dp: 12		M5×0.8 Dp: 7		20	M10×1.5	M5×0.8 Dp: 8			75	M6×1.0	73		