Installation and application

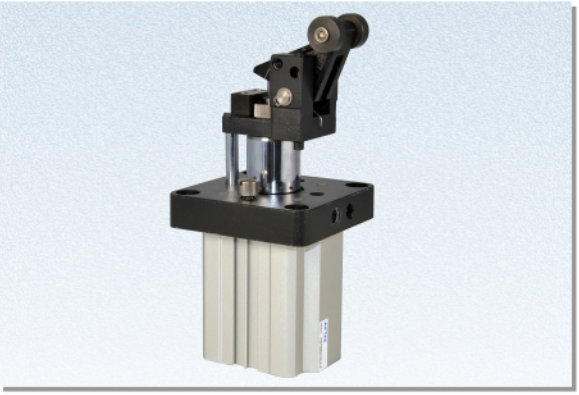
1、When load changes in the work, the cylinder with abundant output capacity shall be selected;
2、Relative cylinder with high temperature resistance or corrosion resistance shall be chosen under the condition of high temperature or corrosion;
3、Necessary protection measure shall be taken in the environment with larger humidity, much dust or water drops, oil dust and welding dregs;
4、Dirty substances in the pipe must be cleared away before cylinder is connected with pipeline. Sundries must be prevented from entering the cylinder;
5、The medium used by cylinder shall be filtered by the filter core of above 40um;
6、The lateral load of the cylinder shall not exceed the allowable value in operation so as to maintain its normal operation and extend its service life;
7、Anti-freezing measure shall be adopted under low temperature environment to prevent the water freezing in cylinder;
8、If the cylinder is dismantled and stored for a long time, please conduct anti-rust treatment to the surface. Anti-dust cap shall be added in air intake and outlet orifices.

Product series

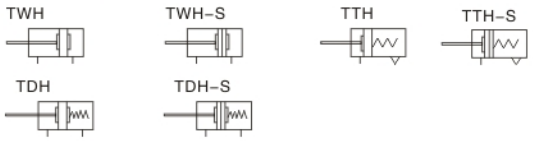
Series	Acting type	Bore size	Collocation of sensor switch
 TWH	Double acting Single acting –Pull type	20 25 32 40 50 63 80	CS1-J CS1-JX CS1-JN CS1-JP CS1-G CS1-GX CS1-GN CS1-GP
 TWG	Double acting Single acting –Pull type	32 40 50	CS1-T CS1-TX CS1-TN CS1-TP
 TWQ	Double acting Single acting –Pull type	20 25 32 40 50	CS1-J CS1-JX CS1-JN CS1-JP CS1-G CS1-GX CS1-GN CS1-GP
 TWM	Double acting Single acting –Pull type	50	
Page	Ⅳ-24	Ⅳ-26	Ⅳ-28	Ⅳ-31	Ⅳ-39

Stopper cylinder

TWH Series



Symbol

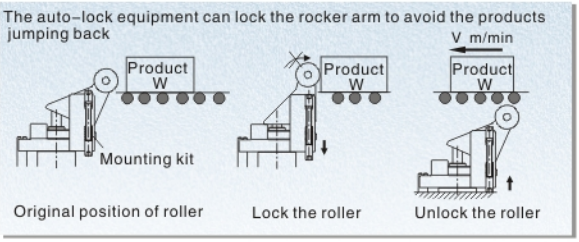


Product feature

1. JIS standard is implemented;
2. Widening the piston rod can effectively improve the impact resistance ability of the cylinder;
3. Heavy type stopper cylinder has shock absorber adjustable shock absorber, which can reliably absorb the impact energy;
4. Shockless stopper cylinder is equipped with self-lock device, which can prevent the returning of rocker caused by bar objects;
5. Several series and specifications for stopper cylinders can be selected.

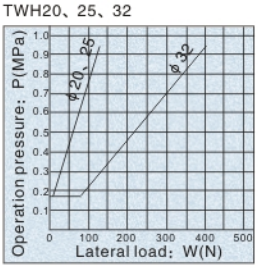
Auto-lock equipment

The auto-lock equipment can lock the rocker arm to avoid the products jumping back

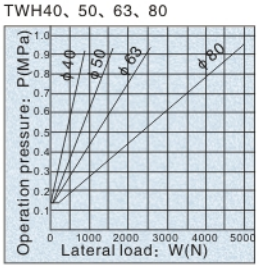


Lateral Load and Operation pressure

TWH20、25、32



TWH40、50、63、80



Specification

Bore size (mm)		20	25	32	40	50	63	80
Action		Double acting type、Single acting-pull type						
Fluid		Air						
Operating pressure	Double acting type	0.15~1.0MPa(23~145Psi)						
	Single acting-pull type	20：0.25~1.0MPa(35~145Psi) Other：0.2~1.0MPa(28~145Psi)						
Proof pressure		1.5MPa(215Psi)						
Temperature ℃		-20~80						
Range of stroke tolerance		+1.0 0						
Cushion type		Bumper						
Lubrication		Non required						
Mounting type		Flange						
Stopper type		Shock less stopper (With non adjustable absorber)		Shock less stopper (With adjustable absorber)				
Port size ①		M5 x 0.8		1/8"			1/4"	
Sensor's thread		M5 x 0.5				M8 x 1.0		

① PT thread、NPT thread and G thread are available;
Add：Refer to PⅥ-39~Ⅵ-50 for detail of sensor switch.

Stroke

Bore size (mm)	20	25	32	40	50	63	80
Standard stroke (mm)	15	15	20	30	30	30	40

Ordering code

TWH — S — 50 x 30 — K □ — 1 — P

Model
- TWH：Double acting type
- TDH：Built-in spring double acting type
- TTH：Single acting-Pull type

Magnet
- S：With magnet
- Blank：Without magnet

Bore size

Stroke

Stopper
- L：Shockless stopper(Non-adjustable absorber)
- K：Shockless stopper(adjustble absorber)

Self-lock function
- Blank：Without self-lock
- F：With self-lock

Sensor switch
- Blank：Without sensor switch
- 1：With sensor switch

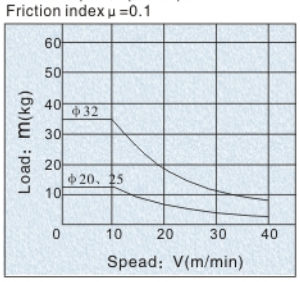
① Thread type
- P：PT
- T：NPT
- G：G

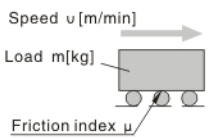
① When it is M5 thread, it is blank here.
Note: The buffer is not adjustable if the bore size is 20 and 25. It is adjustable if the bore is over 32.

How to select

Drawing I

Bore size φ20、φ25、φ32
Friction index μ=0.1

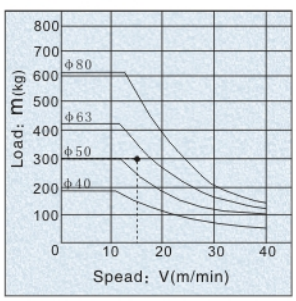




Note:
When the speed is the same, the friction index more higher, the Load more lighter. so the rubbing surface is smoother is better.

Drawing II

Bore size φ40、φ50、φ63、φ80
Friction index μ=0.1

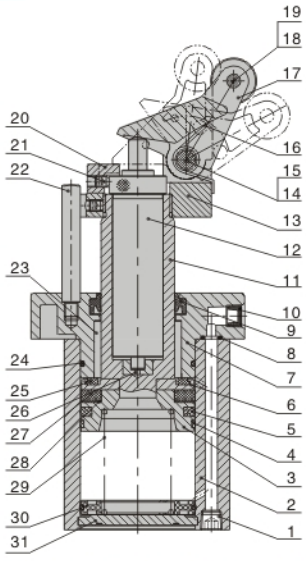


Selection way：

When load is 300kg, speed is 15m/min, and friction factor is 0.1, draw a horizontal line in the 300 position of Y axis in Table 3 to join with X axis' .15m/min φ63 cylinder used in this application will be selected.

Inner structure and material of major parts

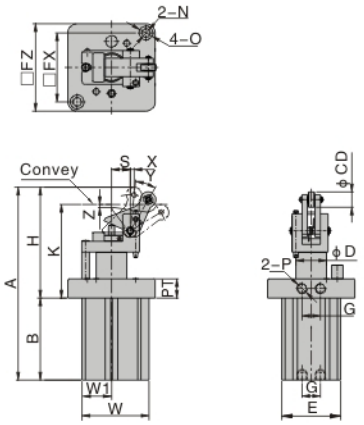
TTH-K



NO.	Item	Material
1	Countersink screw	Carbon steel
2	Body	Aluminum alloy
3	Piston	Aluminum alloy
4	Wear ring	Wear resistant material
5	Piston O-ring	NBR
6	Magnet washer	Aluminum alloy
7	Front cover	Aluminum alloy
8	O-ring	NBR
9	Packing	NBR
10	Silencer	Sintered bronze particle
11	Piston rod	Carbon steel with 20um chrome plated
12	Shock absorber	
13	Fixed seat	Nodular Cast iron
14	PIN	S45C grinding rod
15	Clip	Spring steel
16	Torsion spring	Spring steel
17	Rocker	Cast steel
18	PIN	S45C grinding rod
19	PIN gasket	S45C grinding rod
20	Obstruct block	Powder metallurgy
21	Countersink screw	Carbon steel
22	Leader	Carbon steel with 20um chrome plated
23	Sliding bushing	Wear resistant material
24	O-ring	NBR
25	Bumper	TPU
26	Absorber fix and adjust seat	POM
27	Magnet	Plastic
28	Magnet washer	NBR
29	Spring	Spring steel
30	Cushion	POM
31	Back cover	Aluminum alloy

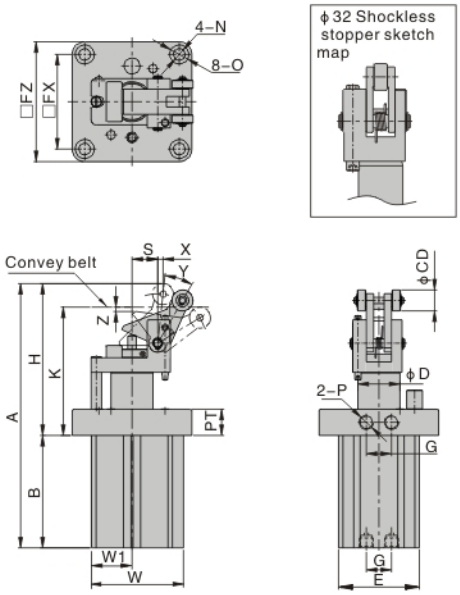
Dimensions

Non-adjustable absorber (TWH-L(F)、TDH-L(F)、TTH-L(F))



Item\Bore size	20	25	Item\Bore size	20	25
A	129	135.5	K	59.8	63.8
B	55	57.5	N	4.5	6.6
CD	12	12	O	–	–
D	16	16	P	M5	M5
E	36	40	S	12	12
PT	8	12	X	4	4
FX	40	47	Y	28	28
FZ	48	58	W	40	45
G	12	16	Z	2.4	2.4
H	74	78	W1	18	20

Adjustable absorber (TWH-K(F)、TDH-K(F)、TTH-K(F))



Item\Bore size	32	40	50	63	80
A	152.5	191	211	245.5	299.5
B	65.5	79	83	101	128
CD	12	20	20	20	25
D	20	25	32	40	50
E	46	53	64	77	98
PT	16	16	20	25	25
FX	53	65	73	90	110
FZ	67	82	93	114	138
G	16	16	18	24	30
H	87	112	128	144.5	171.5
K	73.4	92.3	107.4	122	145.4
N	6.6	6.6	9	11	13
O	11	11	14	18	20
p	1/8"	1/8"	1/8"	1/4"	1/4"
S	12	16	21	25	31
X	3.5	5	5	5	6
Y	28	26	24	24	23
W	51.5	62	72	87.5	109
Z	1.7	3.7	2.2	3.2	3.6
W1	23	26.5	32	38.5	49

Note: The type with magnet and the type without magnet have the same dimension;
The type with self-lock and the type without selflock have the same dimension.