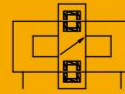


# ESWT Series Guide Rod Type Rodless Cylinder



## ESWT

### Guide Rod Type Rodless Cylinder



### Specifications

Bore(mm)	16	20	25	32
Acting Type	Double Acting			
Working Medium	Clean Air(40 μm filtration )			
Pressure Range	0.18~0.7			
Guaranteed Pressure ( Mpa)	1.05			
Working Temperature(°C )	-20~70 ( No freezing)			
Piston Speed(mm/s)	50~400			
Stroke Tolerance	0~250 <sup>+1.0</sup> <sub>0</sub>	251~1000 <sup>+1.4</sup> <sub>0</sub>	1001~ <sup>+1.8</sup> <sub>0</sub>	
Cushion Type	Rubber cushion/Shock absorber			
Magnetic Retention	140	200	360	550
Port Size	M5x0.8		G1/8 ①	

① PT、NPT port size is optional.

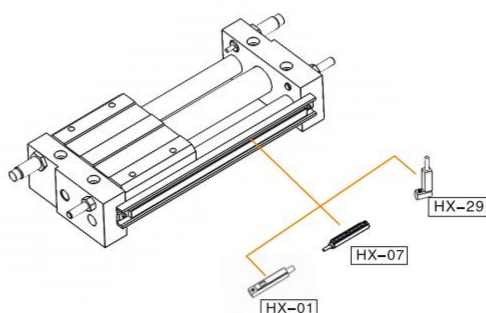
### How to Order?

Series	Type	Bore × Stroke	Magnet.No	Cushion Type	Thread Type	
ESWT(Slide bearing)	Blank: Both sides tubing	16	50	Blank: No magnet	Blank: Both sides adjustable screw cushion	Blank:G P:PT T:NPT
	G:Centralized piping type	20	100	S: With magnet	B: Both sides shock absorber and adjustable nut	
		25	150		BS: Plate A shock absorber and adjusted nut	
		32	200		Plate B or C adjusted screw	
		250	250	.....		
Blank	Both sides tubing			Both sides adjustable screw cushion	 Adjusted screw (Across the same)	
G	Centralized piping type			Both sides shock absorber and adjustable nut	 Adjusted bolt (Across the same) Shock absorber	
BS				Plate shock absorber and adjusted nut Plate B or C adjusted screw	 Adjusted screw Plate B or C Adjusted bolt Plate A Shock absorber (Across the same)	

#### Order Example

ESWT Series Guide Rod Type Rodless Cylinder, Bore 32,Stroke 50,No magnet, Both sides shock absorber and adjustable nut,G thread, the ERP code is:ESWT32X50-B

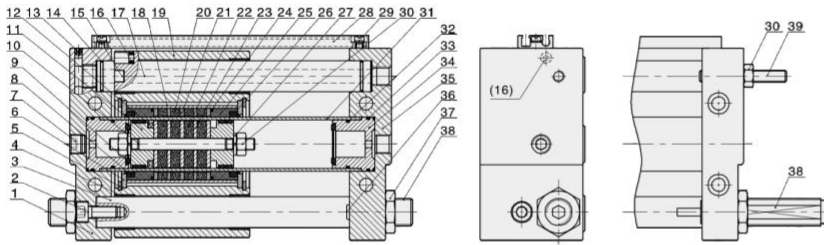
### Optional Accessories



### Stroke

Bore (mm)	Standard Stroke (mm)												Max. Stroke (mm)	
16	50	100	150	200	250	300	350	400	450	500			750	
20	50	100	150	200	250	300	350	400	450	500	600	700	800	1000
25	50	100	150	200	250	300	350	400	450	500	600	700	800	1500
32	50	100	150	200	250	300	350	400	450	500	600	700	800	1500

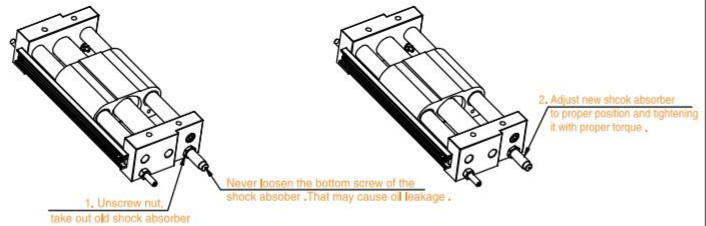
## Internal Structure



No.	Part Name	Material	No.	Part Name	Material
1	Plate B	Aluminum alloy	21	Sliding block partition	Fast cutting steel
2	Hex fix screw	Carbon steel	22	Magnet	Sintered NdFeB
3	Guide rod A	Carbon steel	23	Barrel plate	Fast cutting steel
4	Bearing	Copper	24	O-ring	NBR
5	C type retainer ring	Spring steel	25	Wear ring	PTFE
6	Ontology baffle	Aluminum alloy	26	Wear ring	PTFE
7	Hex fix plug	Carbon steel	27	Spring washer	Carbon steel
8	Blowing dust ring	TPU	28	Switch base	Aluminum alloy
9	Anti-bump cushion	TPU	29	Screw	Carbon steel
10	Connecting rod	Stainless steel	30	Hexagonal nut	Carbon steel
11	Piston	Aluminum alloy	31	Barrel	Stainless steel
12	Piston rod seal	NBR	32	O-ring	NBR
13	Steel ball	Stainless steel	33	O-ring	NBR
14	O-ring	NBR	34	Anti-bump base	Aluminum alloy
15	Soft dust scraping ring	Stainless steel	35	Plate A	Aluminum alloy
16	Magnet	Sintered NdFeB	36	Anti-bump cushion	TPU
17	Guide rod C	Carbon steel	37	Hexagonal nut	Carbon steel
18	Sleeve	Aluminum alloy	38	Adjustable screw	Carbon steel
19	Body	Aluminum alloy		Oil shock absorber	Components
20	Magnet	Sintered NdFeB	39	Adjustable nut	Carbon steel

## About Shock Absorber

- Shock absorbers are consumable parts. When a decrease in energy absorption capacity is noticed, it must be replaced. Refer to the table below for the absorber type. Please order corresponding shock absorber according to the table and replace the old ones according to the procedure.
- Never loosen the bottom screw of the shock absorber. (It is not an adjustment screw.) That may cause oil leakage.
- Refer to the table below for tightening torques of the shock absorber setting nut.

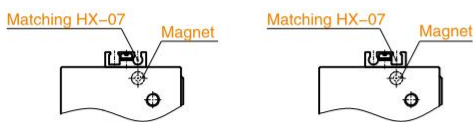


Model	ESWT16	ESWT20	ESWT25	ESWT32
Shock absorber type	AC0806-WY	AC1008-WY	AC1416-WY	AC2030-WY
Tightening torque(Nm)	1.67	3.14	10.8	10.8

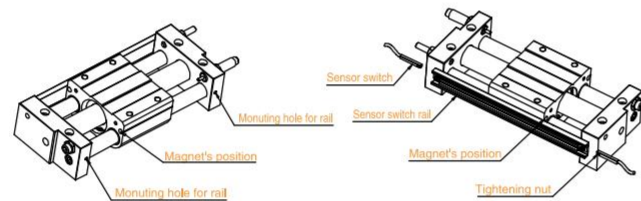
## About Sensor Switch

- Sensor switch only can be used for the cylinder with magnet. The magnet located the four corner of body's (refer below). The cylinder with magnet have both group mounting hole for mounting rail. Please refer to below to order sensor switch, mounting it into the rail's groove, adjusting it to proper position, tightening it with proper torque.

### 2. How to choose the magnet switch ?



If the customer needs to be equipped with HX-01 switch, the magnet switch base must be rotated 180° to install



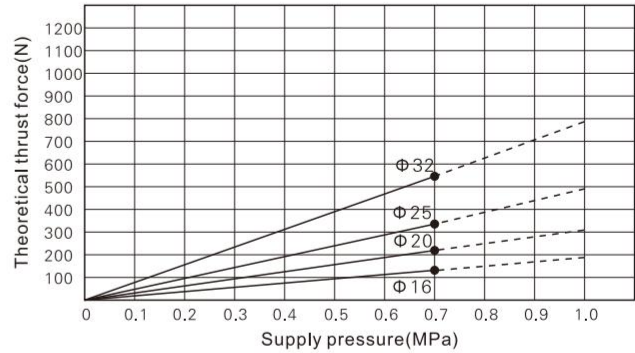
Model	ESWT16-S	ESWT20-S	ESWT25-S	ESWT32-S
Sensor switch type	HX-01, HX-07			

Please refer to the detailed information of sensor switch on page 3.166-3.174

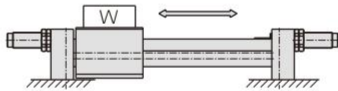
## Installation and Use

### 1、Theoretical retention force.

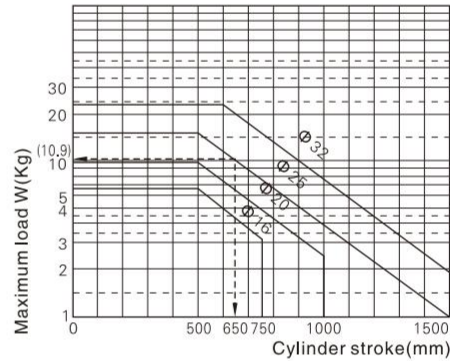
1.1、The following table shows the theoretical retention force of the cylinder.



1.2、If the load coincides with the center of gravity of the slider, the relationship between the load and the stroke is as follows.



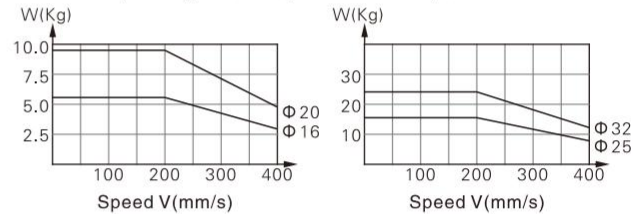
Inside diameter	Maximum load W(Kg)	Maximum load corresponding to the travel range
16	5.6	~300mm
20	9.6	~500mm
25	16	~500mm
32	24	~600mm



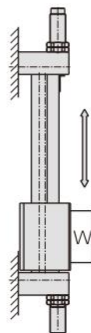
When running horizontally, select the appropriate cylinder bore according to the relationship curve between load and speed.

- When the load is moving horizontally, the load W(Kg).
- Find the slider running speed V.
- Select cylinder bore according to allowable driving force  $F_n$  and speed relationship diagram.

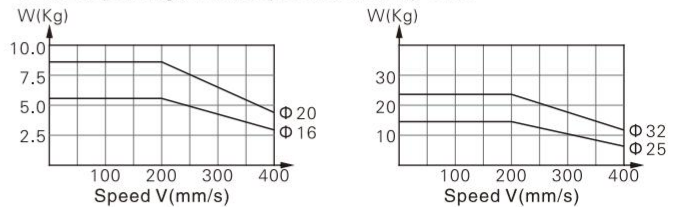
Horizontal operating load and speed relationship curve



1.3、Vertical operation, the relationship between load and speed curve is as follows.

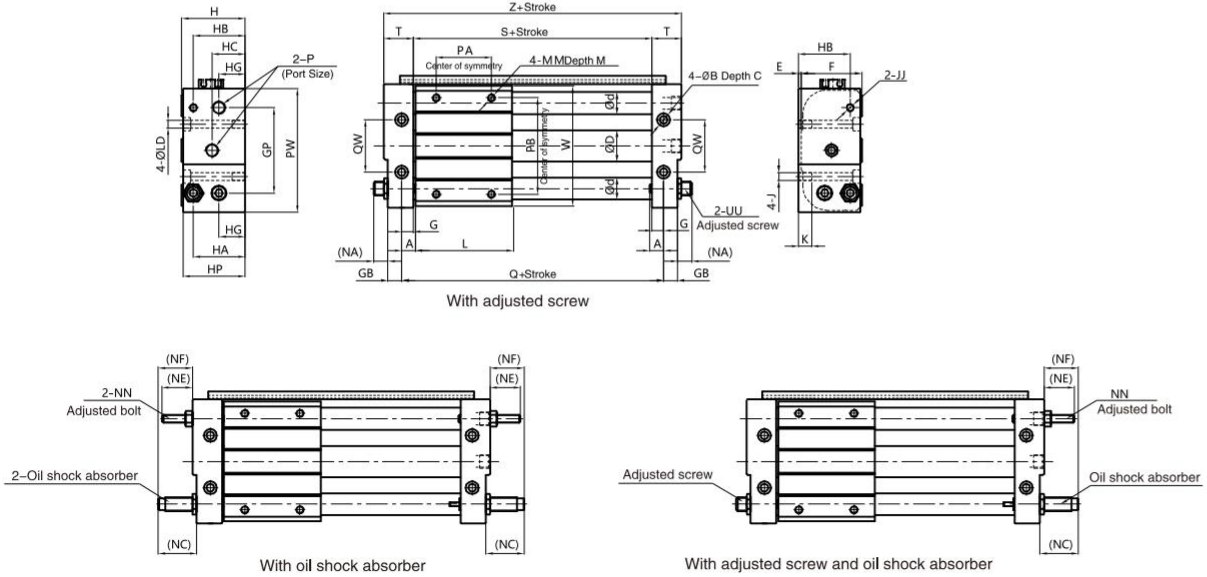


Vertical operating load and speed relationship curve

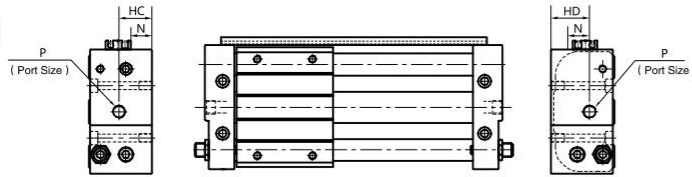


## Main Dimension

### ESWTG(Central tubing)

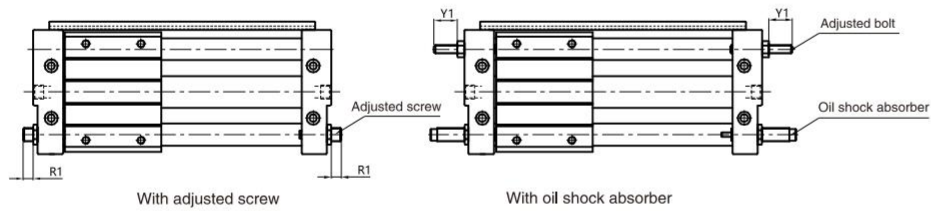


### ESWT(Both sides tubing)



Note: Other dimensions of both sides tubing and central tubing are same.

### Stroke adjustment



Note: Both sides tubing and central tubing have the same stroke adjustment.

Bore/Sign	A	B	C	D	d	E	F	G	GB	GP	H	HA	HB	HC	HD	HG	HP
16	7.5	9.5	5.5	18	12	2	38	6.5	8.5	52	40	29.5	29.5	20.5	20.5	15	39
20	10	9.5	5.5	22.8	16	2	44	8.5	10	62	46	37.5	37.5	24	28	19	45
25	10	11	6.5	27.8	16	2	52	8.5	10	70	54	40.5	40.5	27.5	31.5	21.5	53
32	12.5	14	9	35	20	2	64	9.5	11	86	66	50	50	33	37	26	64
Bore/Sign	J	K	JJ	L	LD	M	MM	N	NA	NC	NE	NF	NN	P	PA	PB	
16	M6X1.0	9.5	M6X1.0	60	5.5	8	M5X0.8	10.5	11.5	25.3	26.5	22.8	M6X1.0	M5X0.8	30	50	
20	M6X1.0	9.5	M6X1.0	70	5.5	10	M6X1.0	15.6	10.5	27.7	22	24.7	M6X1.0	1/8"	40	70	
25	M8X1.25	10	M6X1.0	70	7	10	M6X1.0	19.6	14	47.7	22	44.7	M6X1.0	1/8"	40	70	
32	M10X1.5	15	M6X1.0	85	8.5	12	M8X1.25	25.6	14	50.5	17.5	46.5	M6X1.0	1/8"	40	75	
Bore/Sign	PW	Q	QW	R1	Adjust the bolt adjustment (Two sides R1X2)		S	T	UU	W	Y1	Adjust the bolt adjustment (Two sides Y1X2)		Z			
16	76	75	30	8.5	17		62	17.5	M8X1.0	73	21.5	43		97			
20	90	90	38	7.5	15		73	21.5	M10X1.0	87	17	34		116			
25	99	90	42	9	18		73	21.5	M14X1.5	96	17	34		116			
32	119	110	50	7	14		91	24.5	M20X1.5	116	12.5	25		140			