

## 50MPa Threaded-body single acting supporting cylinder

### TSP

Threaded-body Single Acting Supporting Cylinder  
(Contact By Spring Force)



### TSW

Threaded-body Single Acting Supporting Cylinder  
(Contact By Oil Pressure)

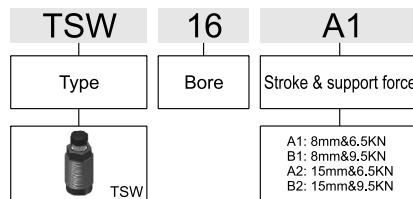
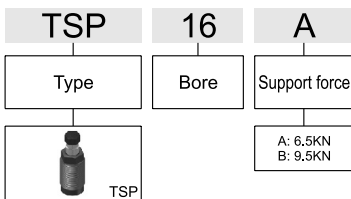


- Threaded-body single acting supporting cylinder is normally applied for machining, which may reduce vibration, prevent deformation, absorb cutting force while upgrading machining accuracy and quality.
- Threaded-body single acting supporting cylinder is small in size and can be applied to a clamping device, especially in small-size machinery or confined space.
- Light, beautiful and firm in design.

## Specification

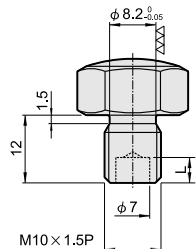
Type	TSP-16A	TSP-16B	TSW-16A1	TSW-16B1	TSW-16A2	TSW-16B2
Stroke	8	8	8		15	
Power fluid	Filtered oil					
Material	Carbon steel					
The range of pressure (MPa)	10~50(100~500kgf/cm <sup>2</sup> )					
The range of temperature (°C)	-10 ~ +60					

## How to order



## Theoretic force

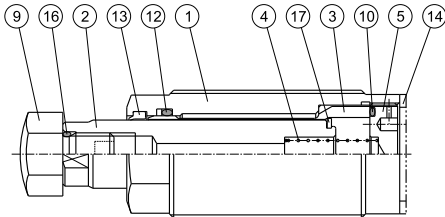
Item	Type	TSP-16A	TSP-16B	TSW-16A1	TSW-16B1	TSW-16A2	TSW-16B2
	Plunger-φ D (mm)		16	16	16	16	16
Stroke (mm)		8	8	8	8	15	15
Support force (50MPa)		6.5KN	9.5KN	6.5KN	9.5KN	6.5KN	9.5KN
Min.pressure (MPa)		10	10	10	10	10	10
Spring force Min./Max.(N)		8/13	8/13	10/23	10/23	10/23	10/23
Max. oil flow rate (cm <sup>3</sup> /s)		—	—	25	25	25	25
Seating torque (N · m)		60	60	60	60	60	60
Weight (kg)		0.25	0.27	0.26	0.30	0.28	0.32
L (mm)		4.5	4.5	4.5	4.5	9	9



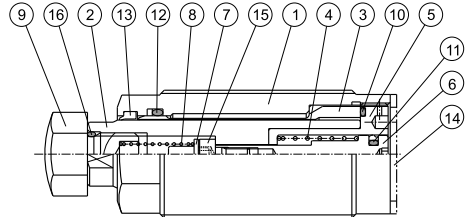
Supporting nut

Note: The stopper pillar(supporting nut) on the TS-16 can be replaced as show on the figure. An O-ring provided on the neck is used for sealing the center hole of Support rod. The O-ring must be fitted, which should not be thrown away.

● **TSP TYPE** Bore φ 16



● **TSW TYPE** Bore φ 16

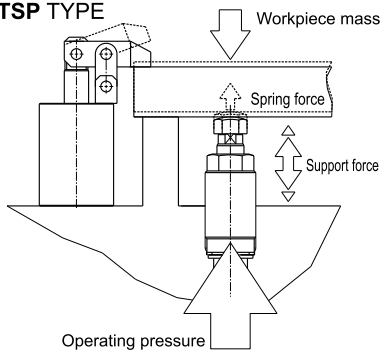


**Parts List**

No.	Part name	Quantity	No.	Part name	Quantity	No.	Part name	Quantity
1	Cylinder body	1	7	Spring holder	1	13	Dust wiper	1
2	Support rod	1	8	Spring	1	14	Gasket	1
3	Pressure bush	1	9	Supporting nut	1	15	Screws	1
4	Spring	1	10	O-ring	1	16	O-ring	1
5	End cover	1	11	Piston packing	1	17	Retaining ring	1
6	Piston	1	12	O-ring+Backup ring	1			

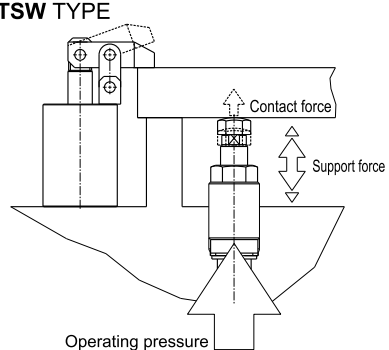
**Product Features**

● **TSP TYPE**



**TSP Type:** A spring ejecting type. The rod is normally located at the highest position. The spring controls contact force when the workpiece is contacting the supporting rod. The hydraulic power actuates oil feeding for tightening the support rod, producing a supporting force.

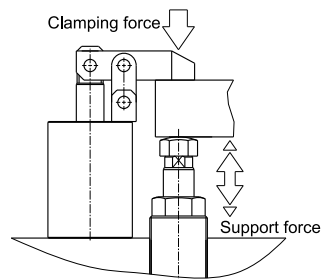
● **TSW TYPE**



**TSW Type:** A hydraulic ejecting type. The rod is normally located at the lowest position. The hydraulic power actuates oil feeding for ejecting. The spring controls contact force against the workpiece. The hydraulic power then tightens the shaft to produce a supporting force.

**Points in usage**

1. When operating the supporting cylinder, make sure do not exceed the normal oil feeding speed to avoid the supporting rod bumping against workpiece when it contacts workpiece.
2. A leak-proof gasket is required to place under the bottom of cylinder barrel.
3. Support and clamping forces have to be adapted to each other, when the hydraulic supporting cylinders combined with the hydraulic clamping cylinders. So that there will be sufficient support force reserve available to absorb the machining forces. Thumb rule: Support force  $\geq 2 \times$  Clamping force.



- TC
- TS
- RP
- HC
- HC\_M
- HCK
- TH
- DO
- DX
- DW
- DM
- DH
- DK

## Dimensional features

● **TSP TYPE** φ 16

TSP-16A  
 TSP-16B

**Dimensional Table**

Type	A	B	C
TSP-16A	80.5	35	44
TSP-16B	90.5	35	54

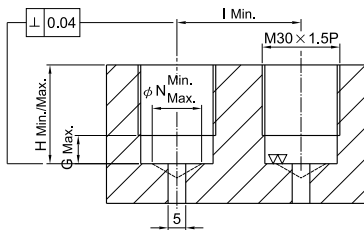
● **TSW TYPE** φ 16

TSW-16A  
 TSW-16B

**Dimensional Table**

Type	AA	BB	CC
TSW-16A1	72.5	71	54
TSW-16B1	82.5	81	64
TSW-16A2	79.5	78	61
TSW-16B2	89.5	88	71

## Mounting Dimension



Type	G Max.	H Min./Max.	N Min./Max.	I Min.
TSP-16A	9	24/45	14/20	35
TSP-16B	9	24/55	14/20	35
TSW-16A1	9	24/45	14/20	35
TSW-16B1	9	24/55	14/20	35
TSW-16A2	9	24/52	14/20	35
TSW-16B2	9	24/62	14/20	35

## Admissible load force table

