

# SP 油壓支撐缸

## Hydraulic Supporting Cylinder

**SP高壓支撐缸**  
High pressure supporting cylinder  
Rod:  $\phi 16$ - $\phi 25$ mm  
Pmax: 500kg/cm<sup>2</sup>



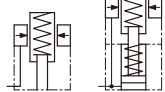
**LSP低油壓支撐缸**  
Low pressure supporting cylinder  
Rod:  $\phi 16$ mm  
Pmax: 70kg/cm<sup>2</sup>



**SP-AH空油壓兩用型支撐缸**  
Air-hydraulic supporting cylinder  
Rod:  $\phi 18$ mm  
Pmax: 70kg/cm<sup>2</sup>



Type A Type B



### 產品簡介

- 油壓支撐缸使用於機械加工時，減少振動，防止變形，以及吸收切削力，提升加工精度與品質。
- 油壓缸採用進口油封及零件，耐高壓，確保品質與使用壽命。
- 操作時充油速度不可太快，以避免接觸工件時，頂桿撞擊工件。
- SP-16螺柱式體積小，使用於夾具上，可在最小空間中排列使用。
- LSP-16低壓支撐缸，使用於低油壓系統，操作壓力 50kg/cm<sup>2</sup> 以內即可獲得高壓之頂持力量。
- SP-AH空油兩用型支撐缸，適用於純空壓系統或低油壓之夾治具低壓動力源即可獲得支撐力量。

### Product Introduction

- The hydraulic supporting cylinder is normally applied for machining, which may reduce vibration, prevent deformation, absorb cutting force while upgrading machining accuracy and quality.
- The hydraulic cylinder employs imported oil seal and parts to resist high pressure, and ensure quality dependability and long service life.
- When operating the supporting cylinder, make sure do not exceed the normal oil feeding speed to avoid the supporting bar bumping against workpiece when it contacts workpiece.
- The SP-16 screw type cylinder compact construction permits several units operated for clamping in a small space.
- The LSP-16 low pressure supporting cylinder achieves a high pressure supporting capability, hydraulic system and with in 50kg/cm<sup>2</sup> of operation pressure.
- The SP-AH series air/hydraulic supporting cylinder is designed for jig and fixture operated by air system or low pressure hydraulic system. It provides proper support capability.

### 型式簡介

A型: 彈簧頂出型，頂桿伸出於最高頂出位置，工件接觸頂桿時由彈簧控制接觸力量，油壓操作充油將心軸鎖緊，而產生支撐力。

B型: 油壓頂出型，頂桿於最低位置，由油壓操作充油時頂出，並以彈簧控制接觸工件力量，油壓持續加壓將心軸鎖緊而產生支撐力。

### Model Identification

- A Type: A spring ejecting type. The supporting bar is located at the highest position. The spring controls contact force when the workpiece is contacting the supporting bar. The hydraulic power actuates oil feeding for tightening the shaft, producing a supporting force.
- B Type: A hydraulic ejecting type. The supporting bar is 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 tighten the shaft to produce a supporting force.

### 注意事項

- SP-16及LSP-16頂桿螺帽，可依實際需要製作更換，頸部有一O型環為頂桿中心孔密封用，仍需加工裝配O型環，不得隨意丟棄。
- LSP-16如與其他治具用單動油壓缸，使用於同一套治具時，支撐缸迴路需單獨控制。

### Notice

- The supporting nut on the SP-16 and LSP-16 can be replaced as shown on the figure right. An O-ring provided on the neck is used for sealing the center hole of supporting bar. The O-ring must be fitted, which should not be thrown away.
- When the LSP-16 uses the same single acting hydraulic cylinder with other jigs, the circuit for the supporting bar should be controlled individually when applying for the same jig.



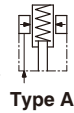
- 頂桿螺帽
- Nut on supporting arm

# HSP 高壓支撐缸

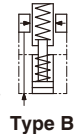
High Pressure Supporting Cylinder

• Rod:  $\phi 16$  mm • Pmax: 500kg/cm<sup>2</sup>

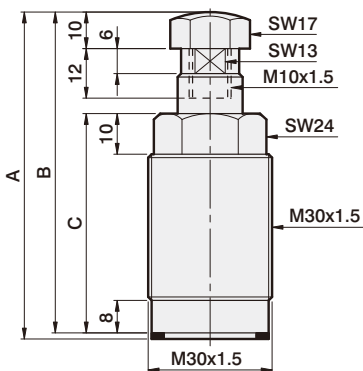
彈簧頂出型 HSP-16A  
Spring ejecting type



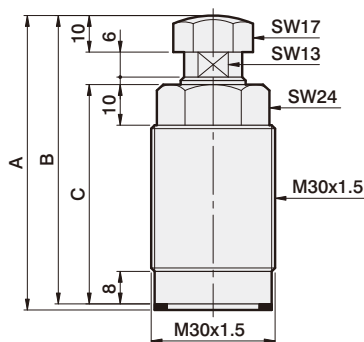
油壓頂出型 HSP-16B  
Hydraulic ejecting type



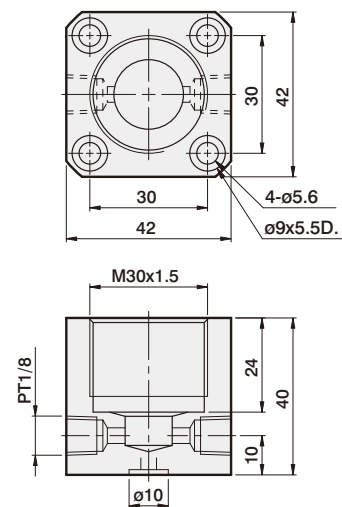
HSP-16A



HSP-16B



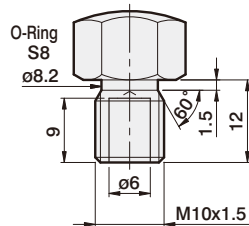
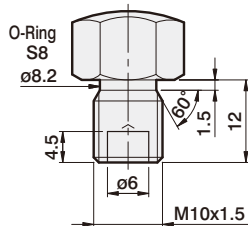
HSP-16Base



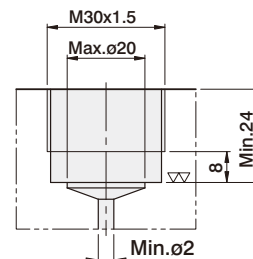
頂桿螺帽尺寸與適用型號  
Rod nut sizes and applicable models

HSP-16A1 HSP-16B1  
HSP-16A2 HSP-16B2

HSP-16B3  
HSP-16B4



安裝底座示意圖  
Mounting base diagram



Dimensional table

ITEM	MODEL	HSP-16A1	HSP-16A2	HSP-16B1	HSP-16B2	HSP-16B3	HSP-16B4	
頂桿直徑 Rod size	mm	$\phi 16$		$\phi 16$		$\phi 16$		
頂桿行程 Rod stroke	mm	8		8		15		
最小操作壓力 Min. pressure		100Kg/cm <sup>2</sup>						
頂桿接觸工件力量 Rod force of touching work-piece		Min=0.8Kg Max=1.3Kg		Min=1Kg Max=2.3Kg		Min=1Kg Max=2.3Kg		
理論支撐力 Supporting force	500Kg/cm <sup>2</sup>	650Kg	950Kg	650Kg	950Kg	650Kg	950Kg	
	A	mm	80.5	90.5	72.5	82.5	79.5	89.5
	B	mm	79	89	71	81	78	88
	C	mm	54	64	54	64	61	71

# SP 高壓支撐缸

## High Pressure Supporting Cylinder

• Rod:  $\phi 25$ mm

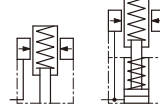
• Pmax: 500kg/cm<sup>2</sup>

### 特性資料 Specification

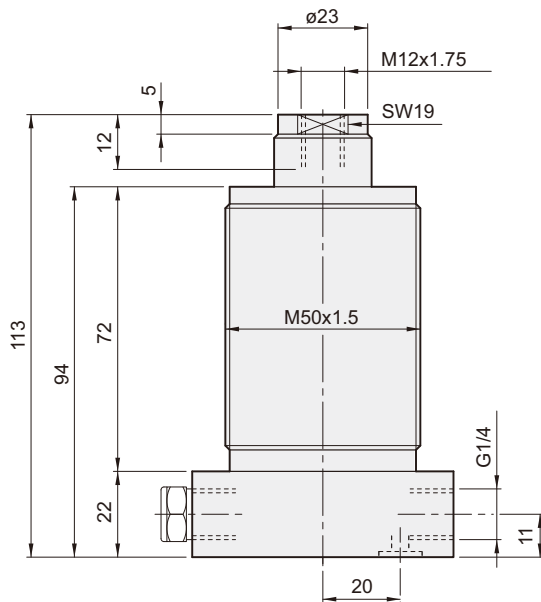
型號	Model	SP-25A	SP-25B
頂桿直徑	Rod size	mm $\phi 25$	
頂桿行程	Rod stroke	mm 12	
最小操作壓力	Min. pressure	100Kg/cm <sup>2</sup>	
頂桿接觸工作力量	Rod force of touching work-piece	Min=3Kg Max=5kg	
理論支撐力	Supporting force	500Kg/cm <sup>2</sup>	2000Kg



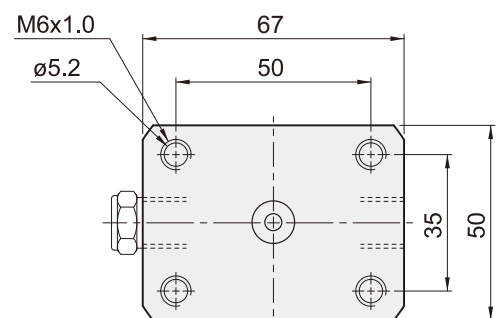
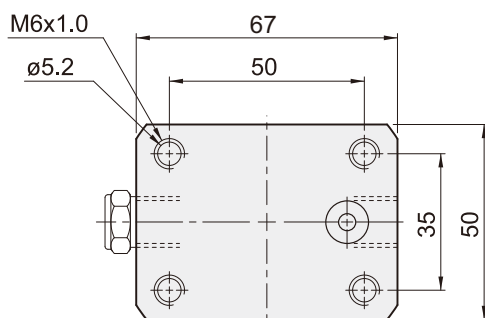
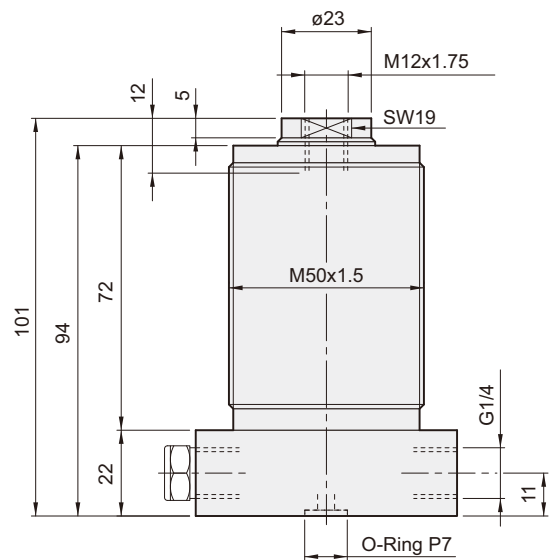
Type A Type B



SP-25A



SP-25B



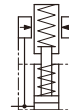
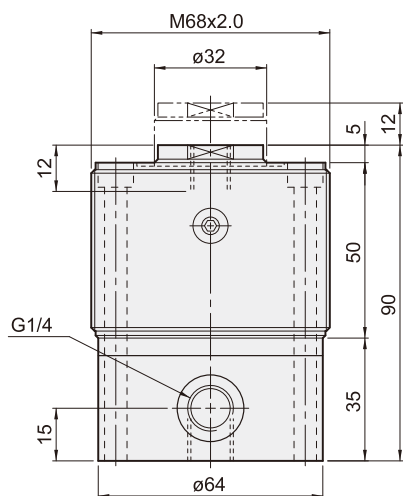
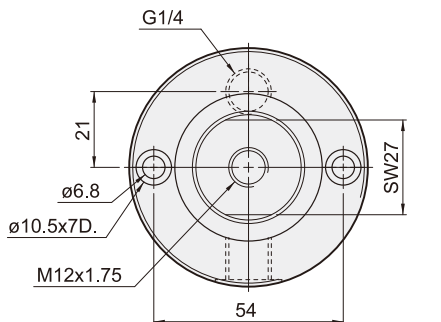
配管式 Line type	SP-25A
油路板型 Manifold	SP-M25A

配管式 Line type	SP-25B
油路板型 Manifold	SP-M25B

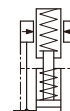
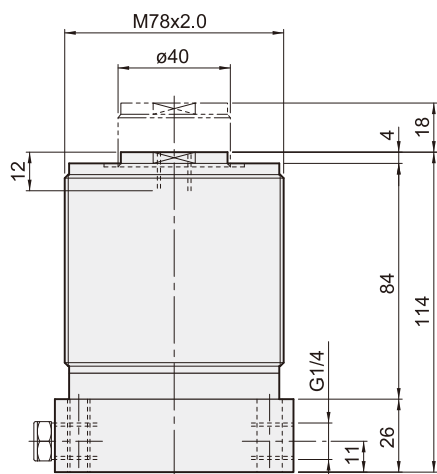
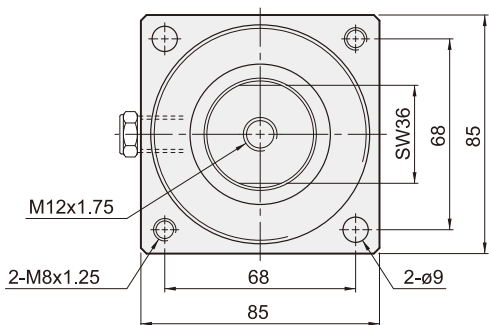
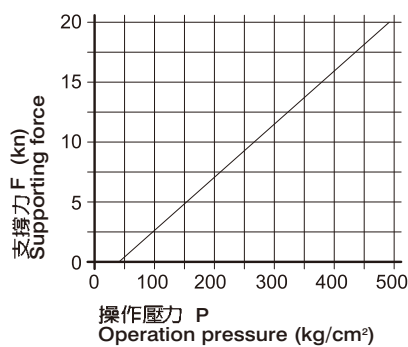
# SP 高壓支撐缸

## High Pressure Supporting Cylinder

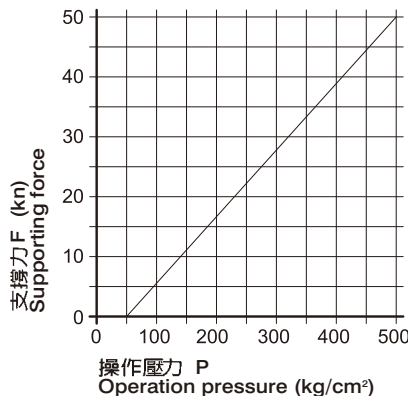
• Rod:  $\phi 32, \phi 40\text{mm}$  •  $P_{\text{max}}: 500\text{kg/cm}^2$



**SP-32B 油壓頂出型 Hydraulic extended piston rod**



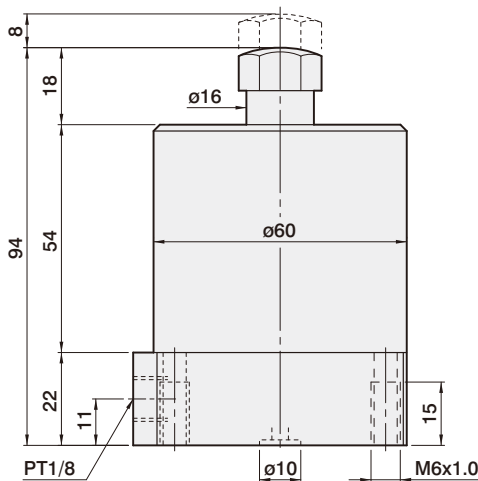
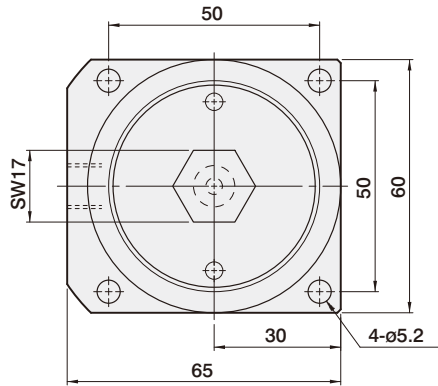
**SP-40B 油壓頂出型 Hydraulic extended piston rod**



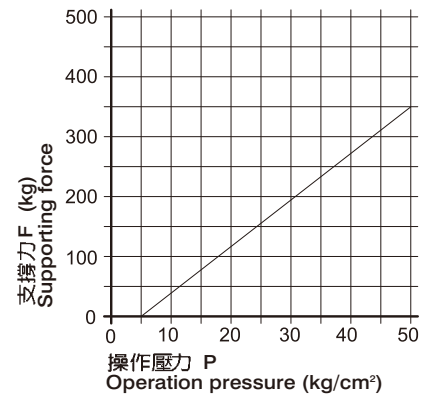
# LSP 低油壓支撐缸

Low Pressure Supporting Cylinder

• Rod:  $\phi 16\text{mm}$  • Pmax:  $70\text{kg/cm}^2$



**LSP-16B 油壓頂出型  
Hydraulic extended  
piston rod**



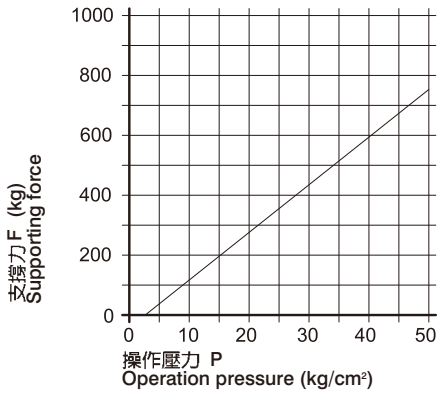
配管式 Line type	LSP-16B
油路板型 Manifold	LSP-M16B

# SP-AH 空油壓兩用型支撐缸

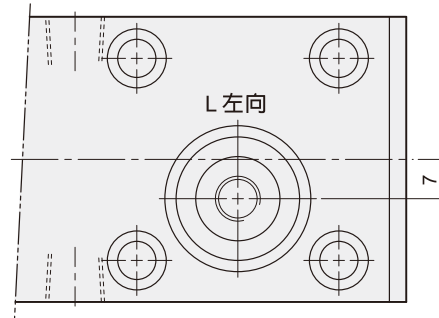
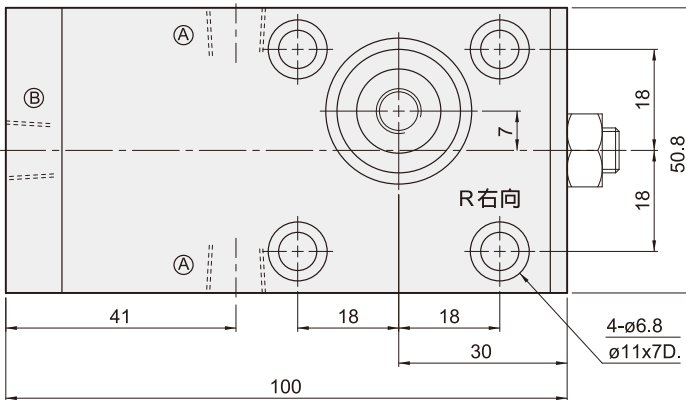
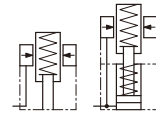
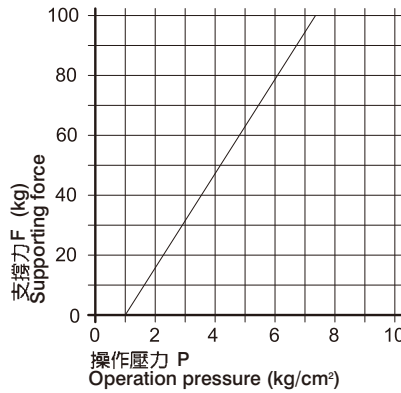
Air-Hydraulic Supporting Cylinder

• Rod:  $\phi 18\text{mm}$  • Pmax:  $70\text{kg/cm}^2$

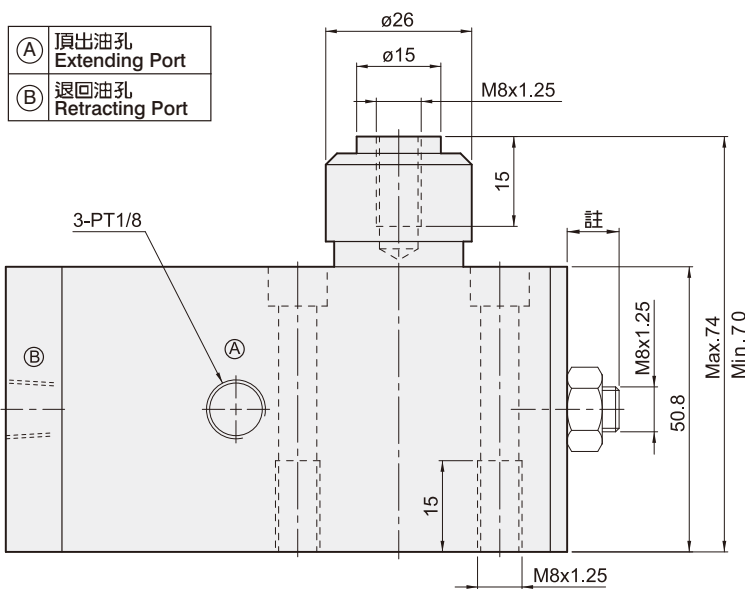
## 油壓 Hydraulic



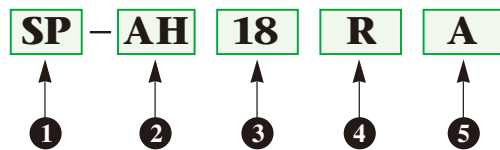
## 空壓 Air



(A)	頂出油孔 Extending Port
(B)	退回油孔 Retracting Port



## 訂購標示法 Ordering Code



1	系列別 Series
2	空油壓兩用型 Air-hydraulic type
3	頂桿軸徑 Diameter of the extended piston rod
4	R 右向; L 左向 Turn right R; Turn left L
5	A 彈簧頂出型 A: Spring extended piston B 油壓頂出型 B: Hydraulic extended piston

※註: 附A, B型式調整螺絲

A: 彈簧頂出型- 往內調整

B: 油壓頂出型- 往外調整

※ Note: With A, B type adjusting screw .

A: Spring extended piston rod-adjust inward.

B: Hydraulic extended piston rod-adjust outward.