

Non Plug-in

Body Ported

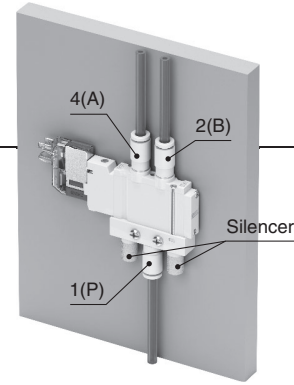
Single Unit (For Mounting P.E Plate)

# Compact 5-Port Solenoid Valve



RoHS

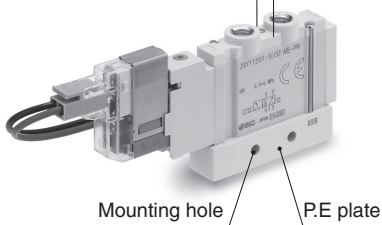
A body ported type  
(single unit) has been added.



Can drive  $\varnothing 32^{*1}$  bore cylinders

JSY1000

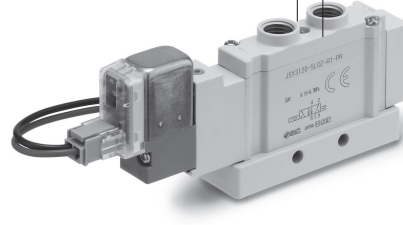
6.4 mm



Can drive  $\varnothing 50^{*1}$  bore cylinders

JSY3000

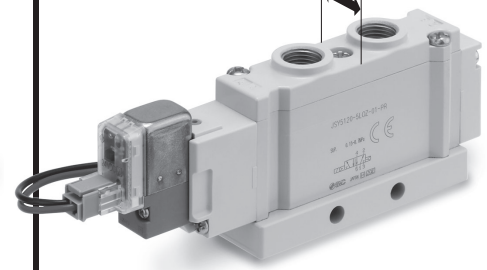
10 mm



Can drive  $\varnothing 80^{*1}$  bore cylinders

JSY5000

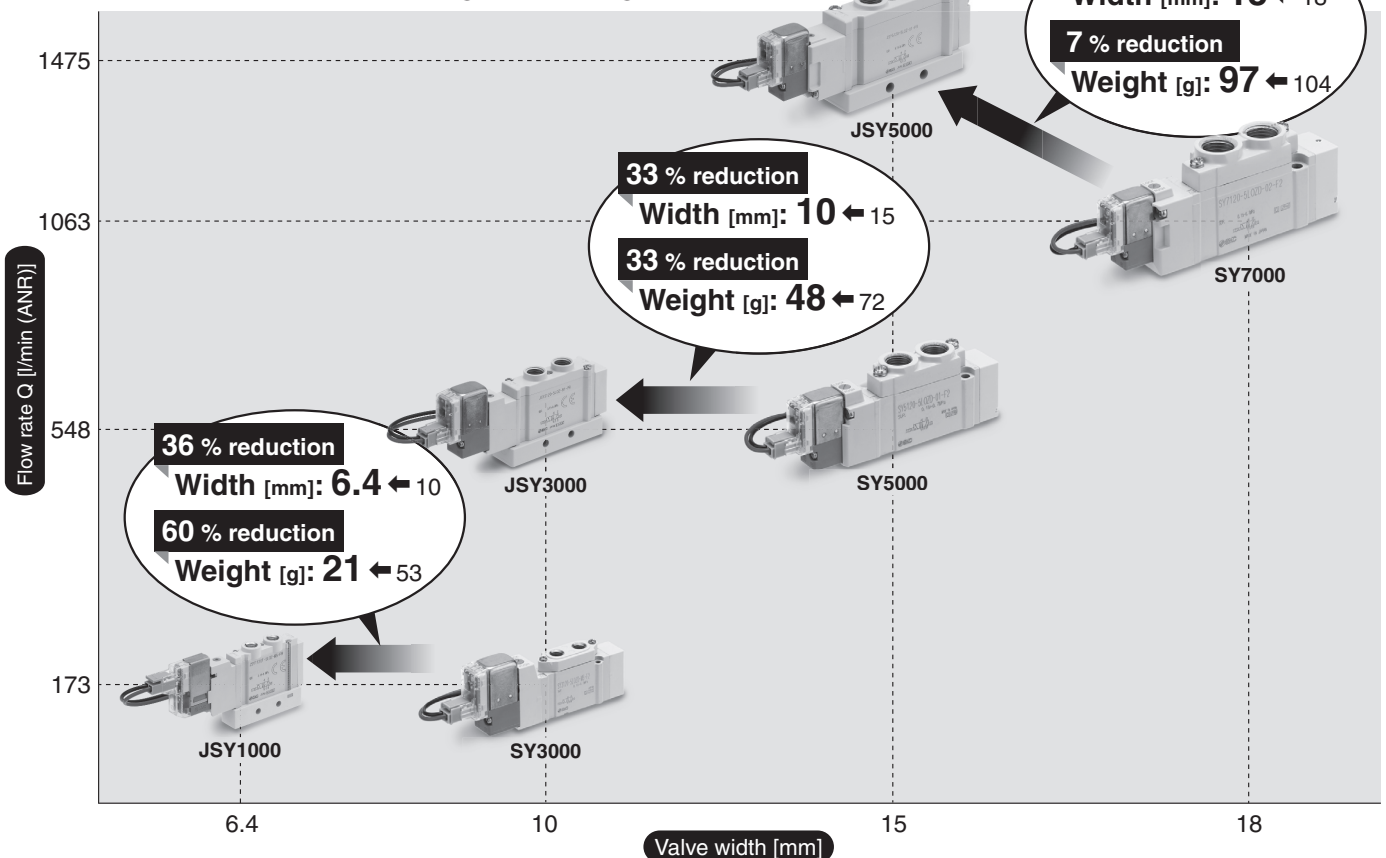
15 mm



\*1 The cylinder speed is 300 mm/s.

The valve size can be reduced.

This allows for space saving and weight reduction.



**JSY1000/3000/5000 Series**



21-EU771-UK

# JSY1000/3000/5000 Series Valve Specifications

## Valve Specifications

Valve type				Rubber seal
Fluid				Air
Internal pilot operating pressure range [MPa]		2-position single		0.15 to 0.7
		2-position double		0.1 to 0.7
Ambient and fluid temperatures [°C]				-10 to 50 (No freezing)
Max. operating frequency [Hz]	JSY1000 JSY3000	2-position single/double		5
	JSY5000	2-position single/double		5
Manual override				Non-locking push type
				Push-turn locking slotted type
				Push-turn locking lever type
Pilot exhaust type	Internal pilot			Individual exhaust
Lubrication				Not required
Mounting orientation*1				Unrestricted
Impact/Vibration resistance*1 [m/s²]				150/30
Enclosure				IP40
Electrical entry				L plug connector (L), M plug connector (M)
Coil rated voltage [V]				24 VDC
Allowable voltage fluctuation		JSY1000		-7 % to +10 % of the rated voltage (24 VDC)
		JSY3000/5000		±10 % of rated voltage
Power consumption [W]	DC	Standard	JSY3000/5000	0.4
			JSY1000	0.2*2 [Inrush: 0.5, Holding: 0.2]
		With power-saving circuit	JSY3000/5000 (Made to Order)	0.1 [Inrush: 0.4, Holding: 0.1]
Surge voltage suppressor				Diode
Indicator light				LED

\*1 Impact resistance: No malfunction occurred when tested in the axial direction and at a right angle to the main valve and armature in both an energised and a de-energised state, once in each condition. (Value in the initial state)

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both an energised and a de-energised state in the axial direction and at a right angle to the main valve and armature. (Value in the initial state)

\*2 JSY1000 series available as power-saving type only. Standard type (without power-saving circuit) cannot be selected.

## Response Time/Valve Weight

### Body Ported

Series	Seal type	Model	Type of actuation	Response time [ms] (at 0.5 MPa)*1		Valve weight [g]
				Standard		
				With light/surge voltage suppressor		
				Z type		
JSY1000	Rubber seal	JSY1120T	2-position single	15	21	
		JSY1220T	2-position double	5	28	
JSY3000		JSY3120	2-position single	27	48	
		JSY3220	2-position double	10	63	
JSY5000		JSY5120	2-position single	42	97	
		JSY5220	2-position double	13	113	

\*1 Based on the JIS B 8419: 2010 dynamic performance test (Coil temperature 20 °C, at rated voltage)

# JSY1000/3000/5000 Series Type 20

## Non Plug-in Body Ported Single Unit (For Mounting P.E Plate)

### Single Unit Specifications



Model			Non plug-in, For mounting P.E plate
Port size	1(P), 3/5(E) port	JSY1000	M5 x 0.8
		JSY3000	1/16
		JSY5000	1/8
	4(A), 2(B) port	JSY1000	M3 x 0.5, M5 x 0.8
		JSY3000	1/16
		JSY5000	1/8

### Flow Rate Characteristics

Model	Port size		Valve flow rate characteristics					
	1, 5, 3 (P, EA, EB)	4, 2 (A, B)	1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → E)		
			C [dm <sup>3</sup> /(s·bar)]	b	Q [l/min (ANR)]*	C [dm <sup>3</sup> /(s·bar)]	b	Q [l/min (ANR)]*
JSY1000	M5	M5	0.6	0.48	173	0.6	0.39	162
JSY3000	1/16	1/16	2.0	0.41	548	2.1	0.35	552
JSY5000	1/8	1/8	5.5	0.38	1475	5.4	0.36	1428

\* These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

# Non Plug-in Body Ported

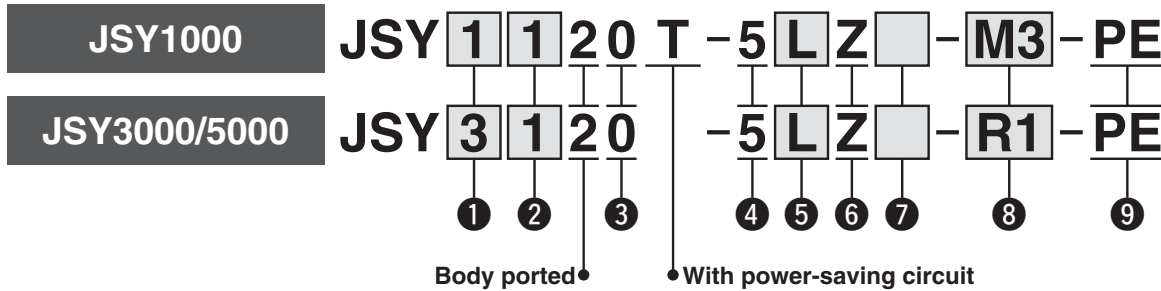
Single Unit (For Mounting P.E Plate)

Type 20  
Top Ported

# JSY1000/3000/5000 Series



## How to Order Valves



### 1 Series

1	JSY1000
3	JSY3000
5	JSY5000

### 2 Type of actuation

1	2-position single
2	2-position double

### 3 Body option

0	Pilot valve exhaust method
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### 4 Rated voltage

5	24 VDC
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### 5 Electrical entry

	L plug connector		M plug connector	
	L	LO	M	MO
JSY1000	L: With lead wire (300 mm) 	LO: Without connector 	M: With lead wire (300 mm) 	MO: Without connector 
JSY3000 JSY5000	L: With lead wire (300 mm) 	LO: Without connector 	M: With lead wire (300 mm) 	MO: Without connector 

\* Refer to the **catalogue** at [www.smc.eu](http://www.smc.eu) for the lead wire lengths of "L" and "M" plug connectors.

### 6 Light/surge voltage suppressor and common specifications

Z	With light/surge voltage suppressor
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### 7 Manual override

JSY1000	—: Non-locking push type 	D: Push-turn locking slotted type 	E: Push-turn locking lever type 
	JSY3000 JSY5000	D: Push-turn locking slotted type 	E: Push-turn locking lever type 

### 8 4(A)/2(B) port size thread piping

Symbol	Thread piping	JSY1000	JSY3000	JSY5000
M3	M3 x 0.5	●	—	—
M5	M5 x 0.8	●	—	—
R1	Rc1/16	—	●	—
01	Rc1/8	—	—	●

### 9 With P.E plate

Symbol	Port size	JSY1000	JSY3000	JSY5000
PE	M5	●	—	—
	Rc1/16	—	●	—
	Rc1/8	—	—	●

### Caution

If the JSY3000/5000 series is to be continuously energised, please be sure to select the power-saving circuit (continuous duty type) specification. Refer to "Made to Order" on the page 11. Additionally, if it is to be used at an energising rate of over 50 %, please select the product with a power-saving circuit. For the JSY1000 series, only the power-saving circuit specification is available.



**Made to Order**  
(Refer to the page 11 for details.)

#### Specification

With power-saving circuit  
(Continuous duty type):  
0.1 W (JSY3000/5000)

### Caution

Refer to the following to order the fitting/silencer for the 1/16 thread piping of the JSY3000 separately.

Description	Part number	Port size Piping/Type
One-touch fittings (Applicable tubing O.D.: Ø 6)	KQ2S06-R1AS-X1517*1	Rc1/16
One-touch fittings (Applicable tubing O.D.: Ø 8)	KQSY-S08R1S*1	
Silencer	INA-25-98	

\*1 The part number is for 1 piece. (Sales unit: 10 pcs.)

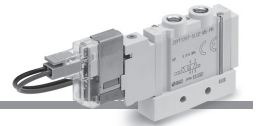
\*1 Tightening torque: 2 to 3 N·m (One-touch fitting)

## Dimensions: JSY1000 Series

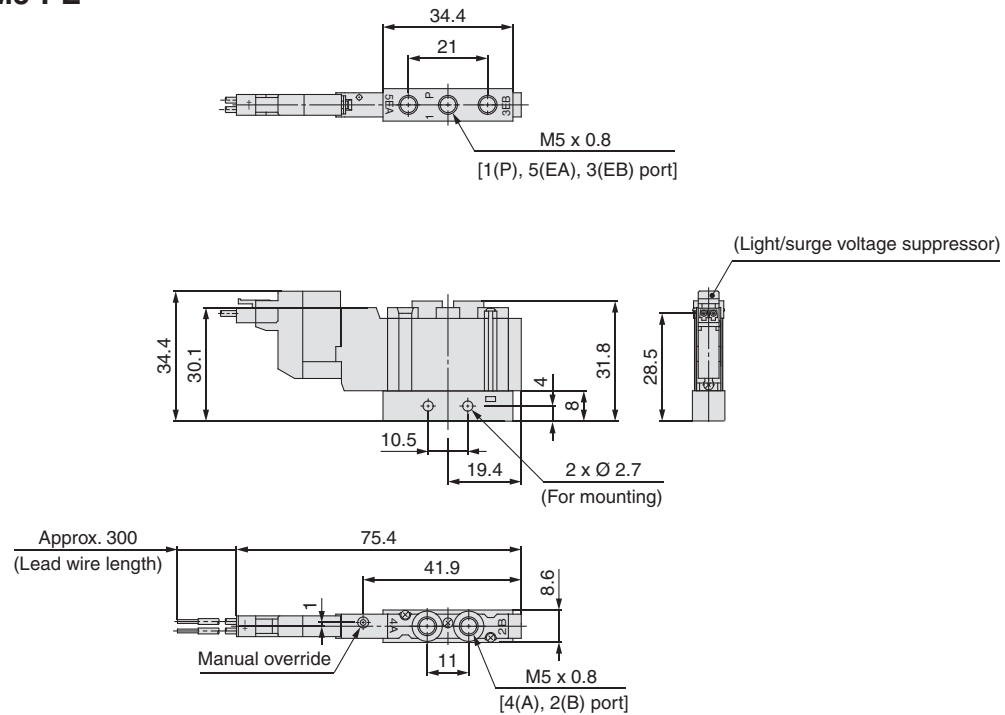
Body Ported  
Single Unit

Type 20/Top Ported

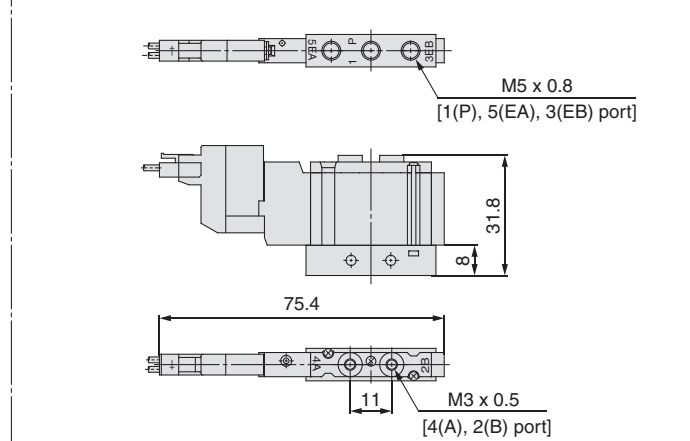
Port Size: M3, M5



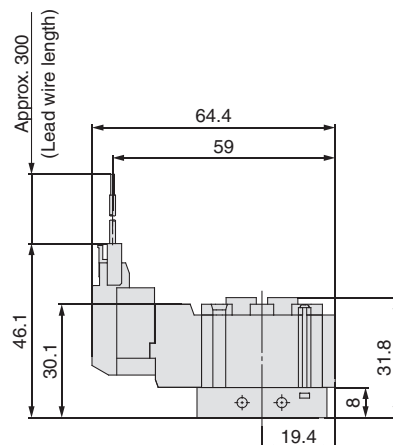
### 2-position single/L plug connector (L) JSY1120T-5LZ□-M5-PE



### JSY1120T-5LZ□-M3-PE



### M plug connector (M) JSY1120T-5MZ□-M5-PE

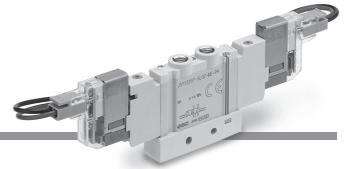


# JSY1000/3000/5000 Series

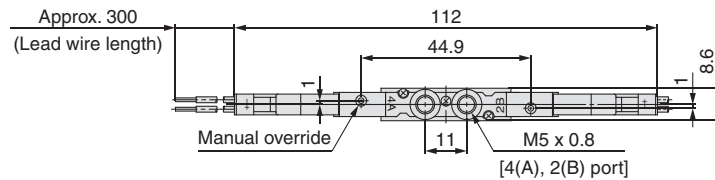
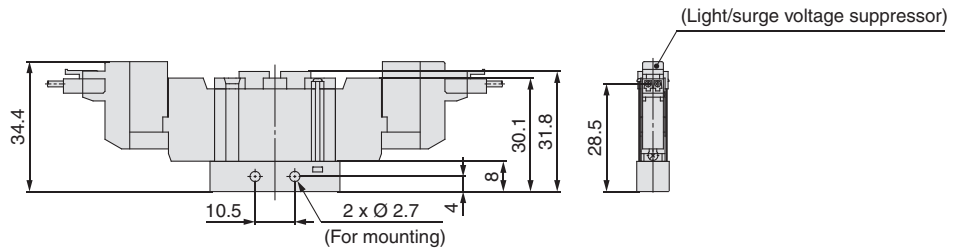
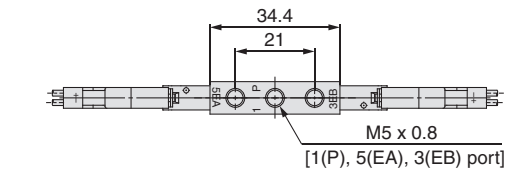
## Dimensions: JSY1000 Series

Body Ported  
Single Unit

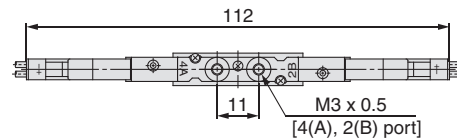
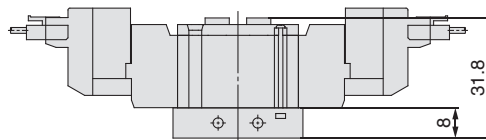
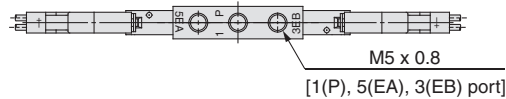
Type 20/Top Ported  
Port Size: M3, M5



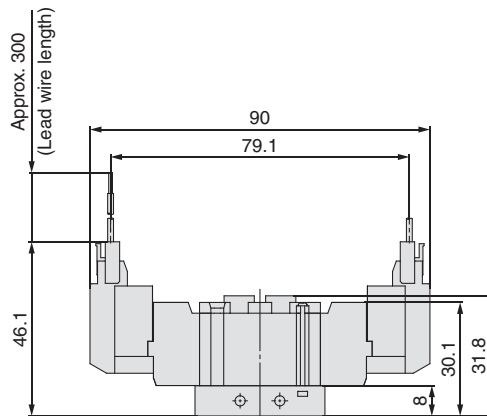
### 2-position double/L plug connector (L) JSY1220T-5LZ□-M5-PE



### JSY1220T-5LZ□-M3-PE



### M plug connector (M) JSY1220T-5MZ□-M5-PE



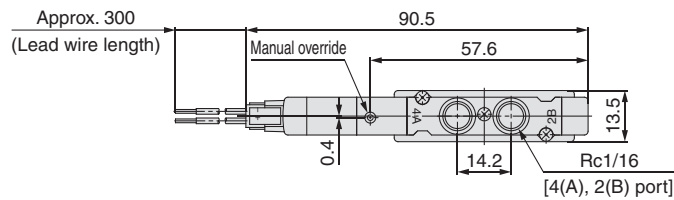
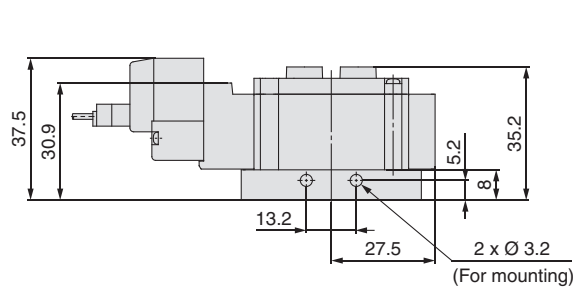
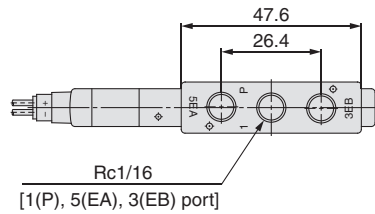
## Dimensions: JSY3000 Series

Body Ported  
Single Unit

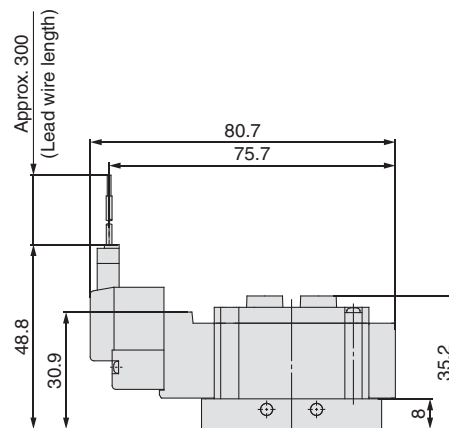
Type 20/Top Ported  
Port Size: Rc1/16



2-position single/L plug connector (L)  
JSY3120-5LZ□-R1-PE



M plug connector (M)  
JSY3120-5MZ□-R1-PE



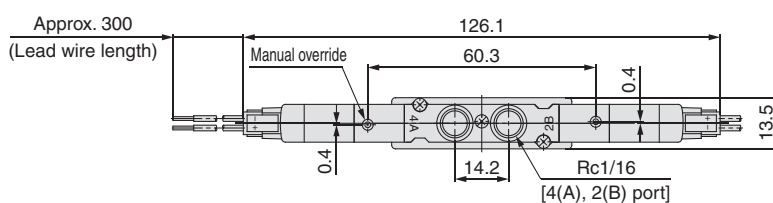
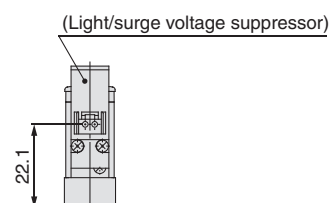
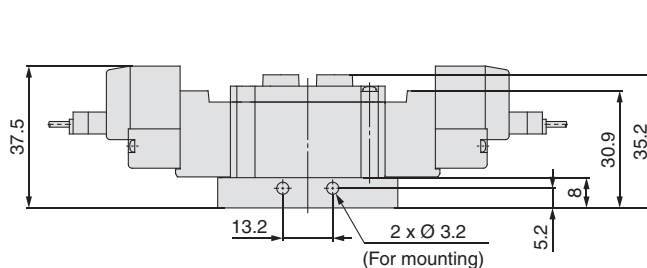
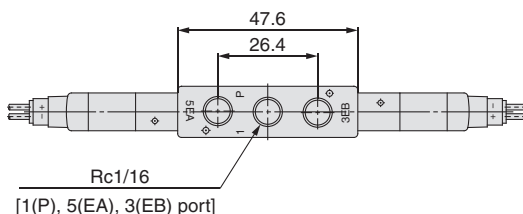
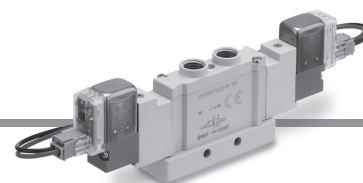
# JSY1000/3000/5000 Series

## Dimensions: JSY3000 Series

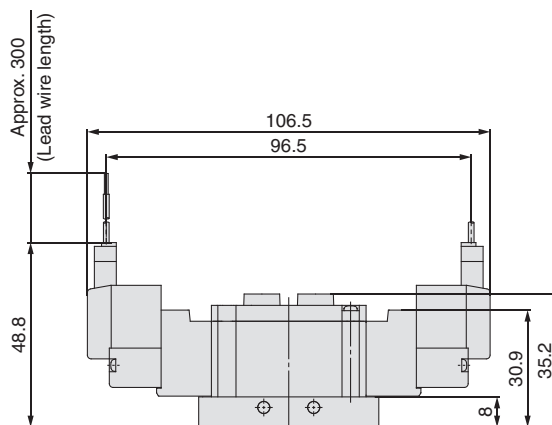
Body Ported  
Single Unit

Type 20/Top Ported  
Port Size: Rc1/16

2-position double/L plug connector (L)  
JSY3220-5LZ□-R1-PE



M plug connector (M)  
JSY3220-5MZ□-R1-PE

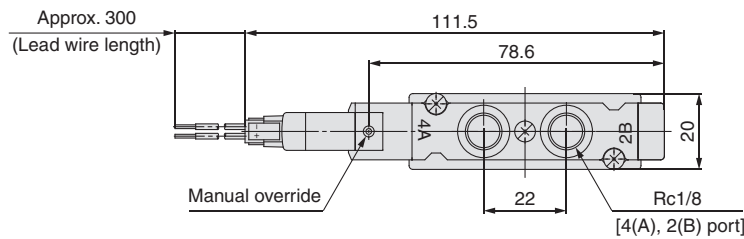
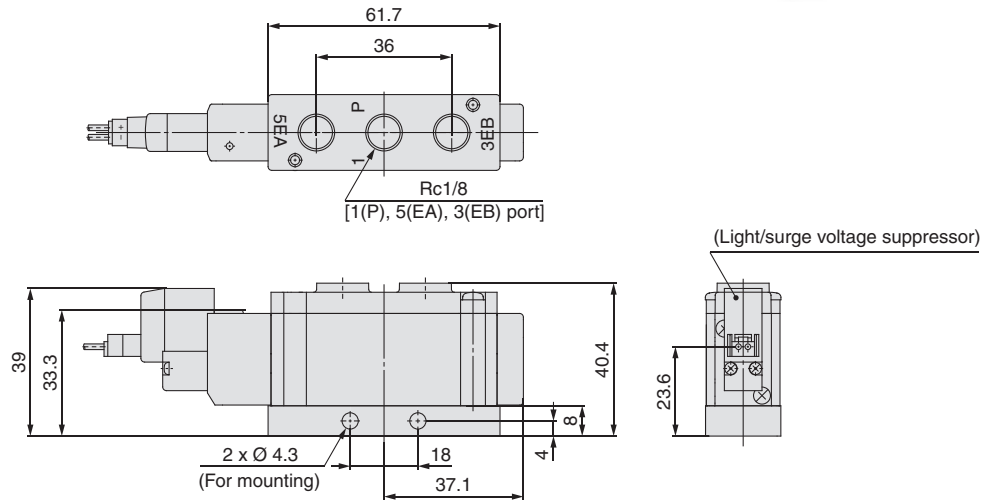
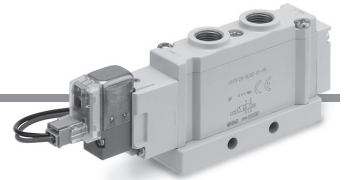


## Dimensions: JSY5000 Series

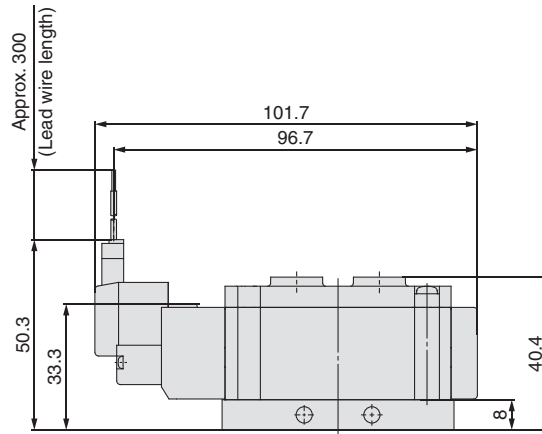
Body Ported  
Single Unit

Type 20/Top Ported  
Port Size: Rc1/8

2-position single/L plug connector (L)  
JSY5120-5LZ□-01-PE



M plug connector (M)  
JSY5120-5MZ□-01-PE



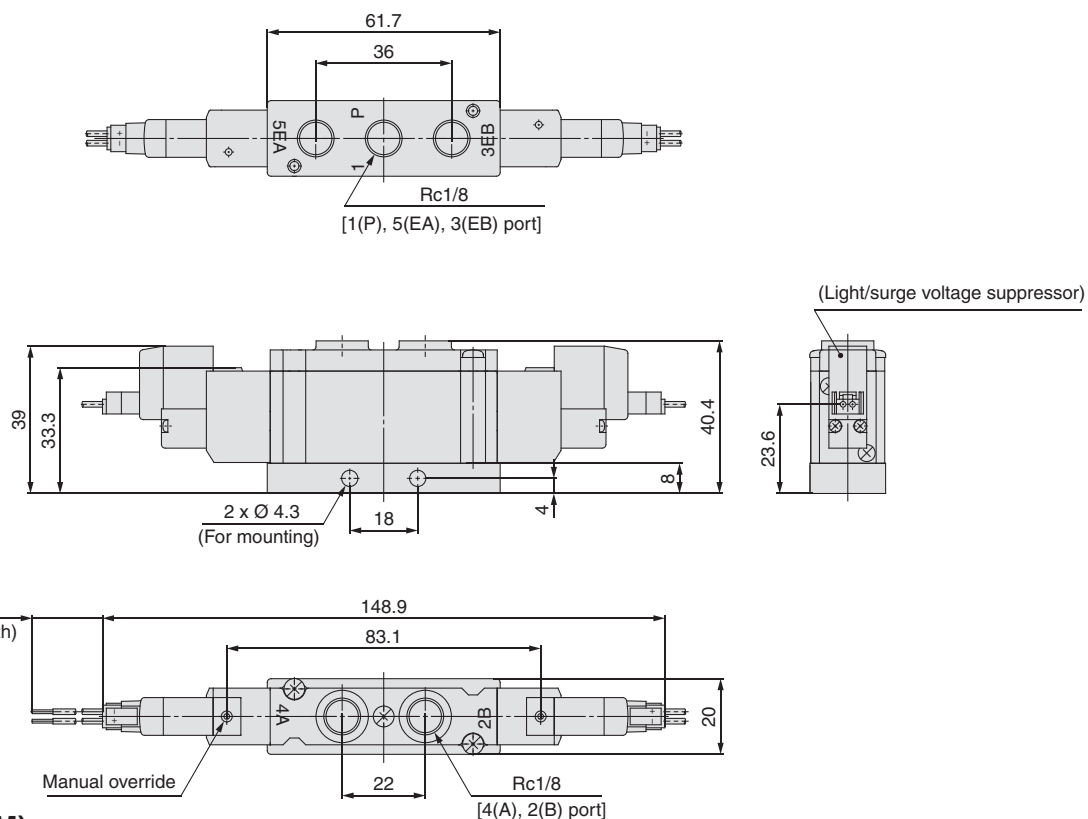
# JSY1000/3000/5000 Series

## Dimensions: JSY5000 Series

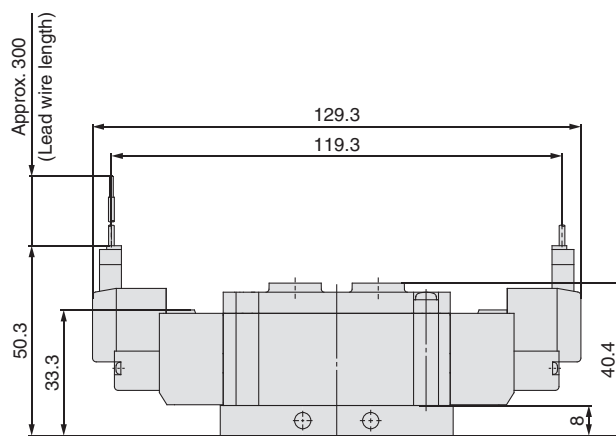
Body Ported  
Single Unit

Type 20/Top Ported  
Port Size: Rc1/8

2-position double/L plug connector (L)  
JSY5220-5LZ□-01-PE

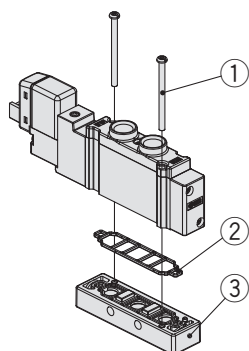


M plug connector (M)  
JSY5220-5MZ□-01-PE



# JSY1000/3000/5000 Series

## Non Plug-in Single Unit Parts Nos.



No.	Description	Part number			Note
		JSY1000	JSY3000	JSY5000	
①	Valve mounting screw	JSY11V-23-3A (M1.4 x 24.5)	JSY31V-23-7A (M2 x 27)	JSY51V-23-7A (M3 x 32)	Part numbers shown on the left are for 10 valves. (20 pcs.)
②	Base gasket	JSY11M-9P-1A	JSY31M-9P-1A	JSY51M-9P-1A	Part numbers shown on the left are for 10 valves. (10 pcs.)
③	P.E plate assembly	JSY11V-7A-M5	JSY31V-7A-R1	JSY51V-7A-01	With base gasket Available in units of 1 set For details, refer to the part numbers below.

### ■ P.E Plate

JSY **3** 1V-7A-**R1**

①

②

#### ① Series

1	JSY1000
3	JSY3000
5	JSY5000

#### ② Thread piping

Symbol	Thread piping	JSY1000	JSY3000	JSY5000
M5	M5 x 0.8	●	—	—
R1	Rc1/16	—	●	—
01	Rc1/8	—	—	●

# JSY1000/3000/5000 Series

## Made to Order

Please contact SMC for detailed dimensions, specifications, and delivery times.



### 1 Coil type: With power-saving circuit (Continuous duty type)

Be sure to select the power-saving circuit type when the JSY3000/5000 series is continuously energised for long periods of time.

Be careful of the energising time when the power-saving circuit is selected.

0.1 W: JSY3000/5000

#### How to Order Valves

JSY  $\frac{3}{5}$   20 T - 5  Z  -  - PE

• Coil type

T

With power-saving circuit (Continuous duty type)



# JSY1000/3000/5000 Series

## Specific Product Precautions

Be sure to read this before handling the products. For safety instructions and 3/4/5-port solenoid valve precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: <https://www.smc.eu>

### Plug Connector

#### <How to Order> L/M Plug Connector

##### ■ For JSY1000

V050-30-□ A-□

##### ● Rated voltage

Symbol	Rated voltage	Lead wire colour
4	DC	Red, Black
—	Without lead wire*1	

\*1 With connector and 2 of sockets only

##### ● Lead wire length

Symbol	Lead wire length
—	300 mm
6	600 mm
10	1000 mm
20	2000 mm
30	3000 mm
50	5000 mm

##### ■ For JSY3000/5000

SY100-30-□ A-□

##### ● Rated voltage

Symbol	Rated voltage	Lead wire colour
4	DC	Red, Black
—	Without lead wire*1	

\*1 With connector and 2 of sockets only

##### ● Lead wire length

Symbol	Lead wire length
—	300 mm
6	600 mm
10	1000 mm
20	2000 mm
30	3000 mm
50	5000 mm

#### How to Order

Specify the plug connector part number together with the part number for the plug connector type solenoid valve without connector.

<Example> Lead wire length 2000 mm

For DC

JSY3140-5LOZ

SY100-30-4A-20

## Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “Caution,” “Warning” or “Danger.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)<sup>1)</sup>, and other safety regulations.

### Danger:

**Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

### Warning:

**Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

### Caution:

**Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

- 1) ISO 4414: Pneumatic fluid power – General rules and safety requirements for systems and their components.  
ISO 4413: Hydraulic fluid power – General rules and safety requirements for systems and their components.  
IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)  
ISO 10218-1: Robots and robotic devices – Safety requirements for industrial robots – Part 1: Robots.  
etc.

## Warning

### 1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

### 2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

### 3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

### 4. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments.

**Use under such conditions or environments is not covered.**

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogues and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

## Caution

**We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.**

**Use in non-manufacturing industries is not covered.**

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

## Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”. Read and accept them before using the product.

### Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.<sup>2)</sup> Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.
- 2) Vacuum pads are excluded from this 1 year warranty.  
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

### Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

## Safety Instructions

Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

SMC Corporation (Europe)

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