



For High-Pressure Water

Pilot Operated 2-Port Solenoid Valve

Can be used at up to 10 MPa

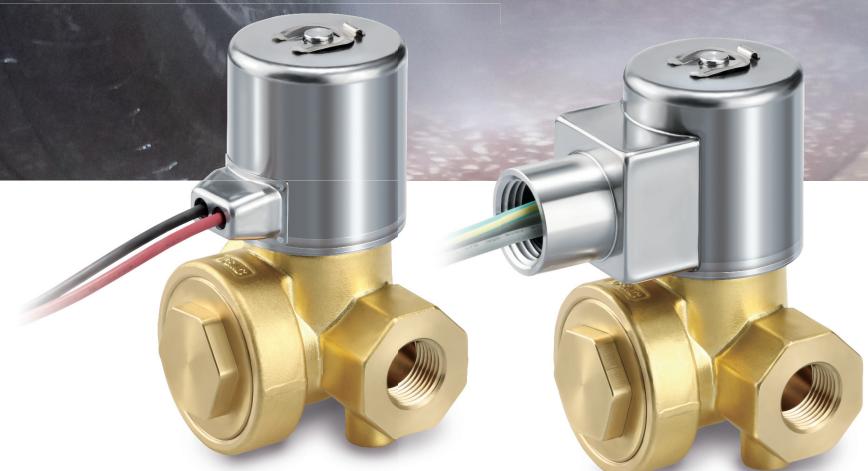
For high-pressure washing

For water spraying

For misting



An **IP67^{*1}** structure
with improved
environmental resistance



*1 The DIN terminal is IP65.

JSXH-X2

P-EU22-38-UK

Orifice diameter [mm Ø]

12

Flow Rate Characteristics [Kv]

1.7 (Port size 3/8)

1.9 (Port size 1/2)

Power consumption

8 W

Weight

960 g (Port size: 3/8)

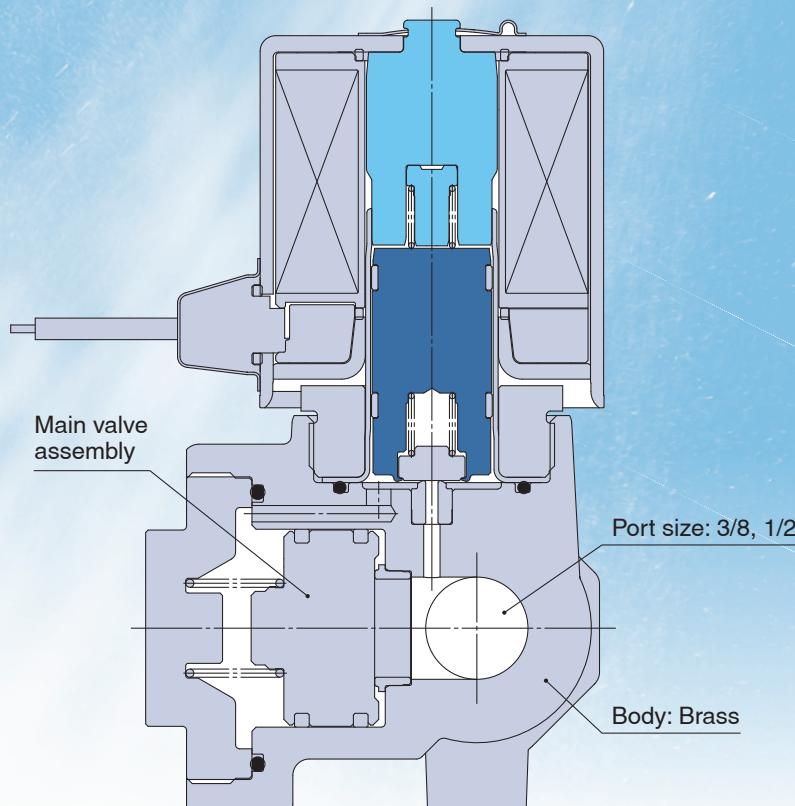
920 g (Port size: 1/2)

Easy maintenance

The coil can be replaced by simply removing the clip.



The main valve can be cleaned and replaced by simply removing the cover.



Electrical entry variations



DIN terminal



M12 connector



Grommet



Conduit

Improved environmental resistance

- Dustproof/waterproof IP67 structure
- With a stainless steel coil cover

**Passed
1000 hours**

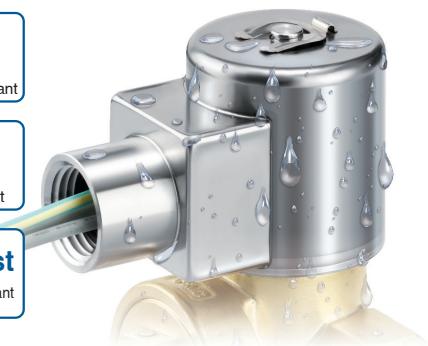
**Accelerated
weathering test**
ISO 4892-3 (JIS K 7350-3) compliant

**Passed
1000 hours**

**Ozone-proof
exposure test**
ISO 1431 (JIS K 6259) compliant

**Passed
960 hours**

Combined cycle test
ISO 14993 (JIS H 8502: 1999) compliant

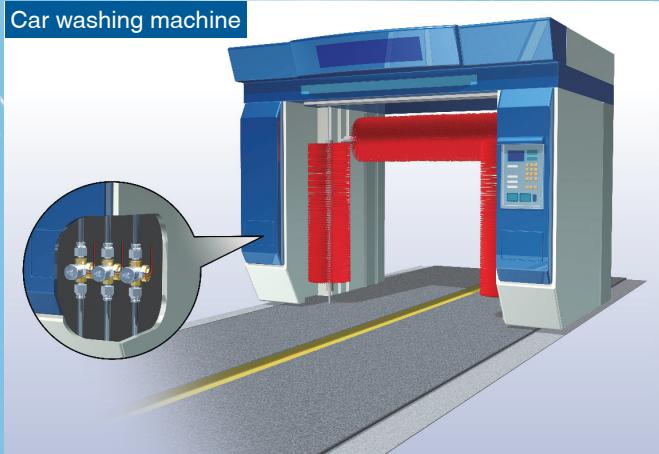


* Please contact your local sales representative for more details.

Application Examples

For high-pressure washing

Car washing machine



High-pressure cleaning equipment



For water spraying

Irrigation



For misting

Dry fog



For misting

Mist cooling systems



Static electricity prevention



For High-Pressure Water Pilot Operated 2-Port Solenoid Valve

JSXH-X2



Differs depending on the voltage and electrical entry. For details, refer to table ⑩ below.



How to Order

JSXH31P-CP04F-5G-A-X2



① Series

Symbol	Series
H	High-pressure/ Pilot operated

② Size

Symbol	Size
3	30

③ Valve type

Symbol	Valve type
1	N.C.

④ Main valve construction

Symbol	Main valve construction
P	Piston

⑤ Body material

Symbol	Body material
C	Brass*1

*1 The orifice material is stainless steel.

⑥ Seal material

Symbol	Seal material	
	Main valve	Pilot valve
P	PPS	PPS

⑨ Rated voltage

AC

Symbol	Rated voltage	Symbol	Rated voltage
1	100 VAC	4	220 VAC
2	200 VAC	7	240 VAC
3	120 (110) VAC	8	48 VAC
		B	24 VAC
		J	230 VAC

DC

Symbol	Rated voltage
5	24 VDC
6	12 VDC

⑪ Option

Symbol	Option
—	None
A	Port facing the opposite direction

⑫ Pressure type

Symbol	Specifications
X2	Operating pressure: 0.1 to 10 MPa Fluid: Water

⑩ Electrical entry

Symbol	Electrical entry	CE/UKCA-compliant
G	Grommet*2	24 VDC
		12 VDC
GS	Grommet with PCB (With surge voltage suppressor)	100 VAC
		24 VDC
		12 VDC
		48 VAC
		24 VAC
CS	Conduit (With surge voltage suppressor)	All voltages
DS	DIN terminal (With surge voltage suppressor)	All voltages
DZ	DIN terminal with light (With surge voltage suppressor)	All voltages
DN	Without DIN connector (With surge voltage suppressor)	All voltages
WN	M12 connector/Without connector cable (With surge voltage suppressor)*3	All voltages

*2 DC voltage only

*3 A cable for the M12 connector is not included with the product.

Specifications

Size		30	
Valve construction		Internal pilot type piston	
Valve type		Normally closed (N.C.)	
Fluid		Water	
Fluid temperature		1 to 60 °C (No freezing)	
Ambient temperature		-20 to 60 °C	
Max. operating pressure		10.0 MPa	
Operating pressure differential		0.1 to 10.0 MPa	
Withstand pressure		15.0 MPa	
Port size		3/8	1/2
Orifice diameter		12 mm Ø	
Flow rate characteristics	Kv	1.7	1.9
	Conversion Cv	2.0	2.2
Leakage^{*1}	Valve leakage	30 cm ³ /min or less	
	External leakage	0.1 cm ³ /min or less	
Mounting orientation		Unrestricted	
Enclosure^{*2}		IP67 (IP65 for the DIN terminal)	
Body material		Brass, Stainless steel	
Seal material		PPS, NBR	
Weight^{*3}	3/8, Grommet	960 g	
	1/2, Grommet	920 g	
Coil specifications	Rated voltage	AC	24 V, 48 V, 100 V, 110 V, 120 V, 200 V, 220 V, 230 V, 240 V
		DC^{*4}	12 V, 24 V
Allowable voltage fluctuation		±10 % of the rated voltage	
Allowable leakage voltage	AC	5 % or less of the rated voltage	
	DC	2 % or less of the rated voltage	
Apparent power^{*5, 6}	AC	9.5 VA	
	DC	8 W	
Power consumption^{*5}	AC	70 °C	
	DC	65 °C	
Temperature rise^{*7}			

*1 The value for water at a differential pressure of 0.1 MPa or higher and an ambient temperature of 20 °C

*2 This product has an IP67 enclosure, but if water enters the product, it may result in malfunction or breakage.

Therefore, take appropriate measures to prevent water from entering the product when using in an environment where it is constantly exposed to water.

*3 Add 20 g for the grommet type with PCB, 70 g for the conduit type, 50 g for the DIN terminal type, and 15 g for the type without a DIN connector and the M12 connector type.

*4 Only DC is available for the grommet type.

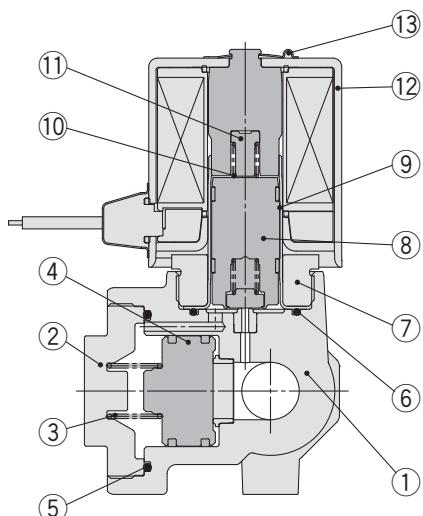
*5 Power consumption/Apparent power: The value at an ambient temperature of 20 °C and when the rated voltage is applied (Variation: ±10 %)

*6 There is no difference in the frequency and the inrush and energised apparent power, since a rectifying circuit is used in the AC.

*7 Temperature rise: The value at an ambient temperature of 20 °C and when the rated voltage is applied. Use this value as a reference as the actual value varies depending on the ambient environment.

Be sure to read the "Specific Product Precautions" before handling the product.

Construction



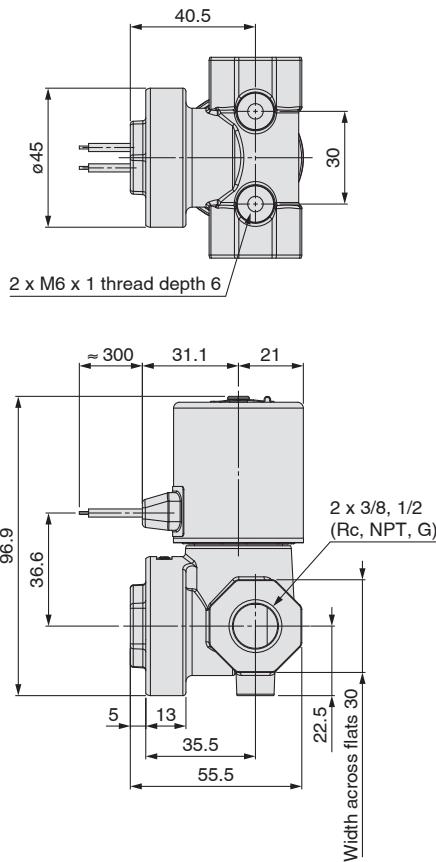
Component Parts

No.	Description	Material	Qty.	Note
1	Body	Brass, Stainless steel	1	
2	Bonnet	Brass	1	
3	Spring	Stainless steel 304	1	
4	Main valve assembly	PPS, POM, Stainless steel	1	
5	O-ring	NBR	1	
6	O-ring	NBR	1	
7	Set nut	Brass	1	
8	Armature assembly	Stainless steel, PPS, NBR	1	
9	Tube assembly	Stainless steel	1	High corrosion-resistant electromagnetic stainless steel + Stainless steel 305
10	Spring	Stainless steel 304	1	
11	Stopper	PPS	1	
12	Solenoid coil assembly	Stainless steel, Cu, Resin	1	High corrosion-resistant electromagnetic stainless steel
13	Clip	Stainless steel 304	1	

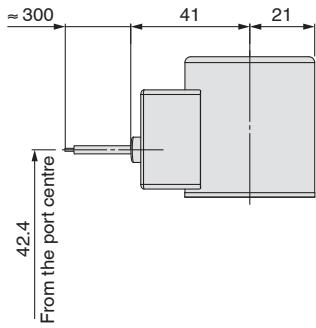
JSXH-X2

Dimensions

G: Grommet

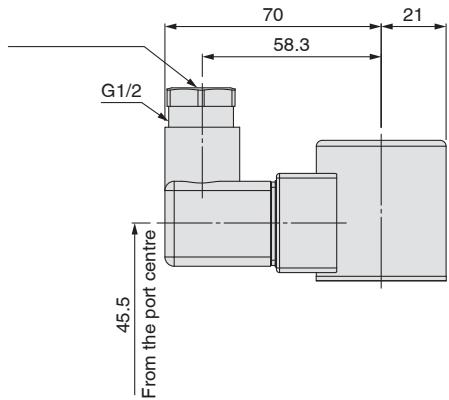


GS: Grommet with PCB

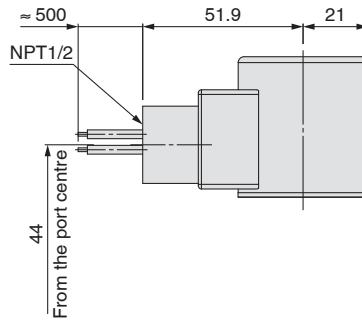


DS: DIN terminal

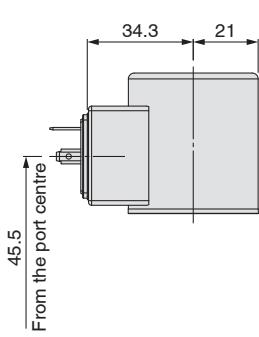
DZ: DIN terminal with light



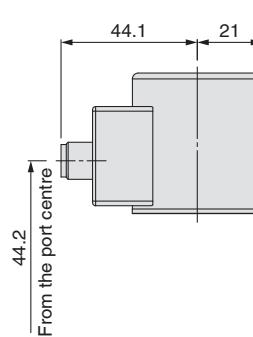
CS: Conduit



DN: Without DIN connector



WN: M12 connector





JSXH-X2

Specific Product Precautions

Be sure to read this before handling the products. For safety instructions and 2 -port solenoid valve for fluid control precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: <https://www.smc.eu>

Design

⚠ Warning

1. Water hammer

When an impact, such as water hammer, etc., caused by rapid pressure fluctuation is applied, the valve may be damaged, so be sure to install a water hammer relief device such as an accumulator.

2. Leakage when supplying fluid

Be aware that when the valve is closed, sudden pressure resulting from the startup of the fluid supply source may cause the valve to open momentarily and leakage to occur.

Fluid

⚠ Warning

1. Fluid selection

This product can only be used with water as the fluid. Do not use the product with the fluids shown below.

- 1) Fluids that are harmful to humans
- 2) Combustion-supporting or flammable fluids
- 3) Corrosive gases
- 4) Sea water, Saline solutions
- 5) Oils, Air

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)¹⁾, and other safety regulations.

- Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
- Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
- Danger:** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

- 1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots - Safety.
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. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalogue.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

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.²⁾ 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.

Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Safety Instructions

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

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