



ORIGINAL INSTRUCTIONS



Refer to Declaration of Conformity for relevant Directives

Instruction Manual

2 Port Solenoid Valve

Direct Operated Poppet Type

Series XSA1/2/3



The intended use of this product is the control of compressed air or vacuum in pneumatic industrial automation systems.

Refer to product catalogues for additional information.

1 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.

⁽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.

This manual contains essential information for the protection of users and others from possible injury and/or equipment damage.

- Read this manual before using the product, to ensure correct handling, and read the manuals of related apparatus before use.

- Keep this manual in a safe place for future reference.

- To ensure safety of personnel and equipment the safety instructions in this manual and the product catalogue must be observed, along with other relevant safety practices.

	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.

Warning

- **The compatibility of pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications.**

- Since the products specified here can be used in various operating conditions, their compatibility with the specific pneumatic system 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.

- **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.

1 Safety Instructions (Continued)

The product is to be installed in restricted and maintenance areas where the likelihood of accidental access is limited and intentional access to the connector (by professionals) is infrequent.

- **Do not service machinery/equipment 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 equipment is to be removed, confirm 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 re-started, take measures to prevent unexpected operation and malfunction.

- **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 beyond the given specifications, or use outdoors or in a place exposed to direct sunlight.

2) Installations on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustions 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 specification 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.

- **Always ensure compliance with relevant safety laws and standards.**

All electrical work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.

Caution

- **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.

2 Specifications

2.1 General Specifications

Valve specifications	Valve construction	Direct operated poppet		
	Fluid	Air, Inert gas		
	Withstand pressure	1.5 MPa		
	Max. operating pressure	1.0 MPa		
	Min. operating pressure	1 x 10 ⁻⁶ Pa		
	Fluid and ambient temperature range (°C)	5 to 60		
	Body material	Stainless steel		
	Seal material	FKM		
	Environment	Location without corrosive or explosive gases		
	Duty cycle	Continuous ^{Note 1)}		
	B ₁₀	2.9 million cycles		
	Air quality required	5 μm or smaller		
	Impact and vibration resistance	See section 3.2		
	Maximum operating frequency	0.5 cycles / sec		
Minimum operating frequency	See section 6.1			
Valve response time	ON: 50ms or less OFF: 150ms or less			
Leakage Pa m ³ /s ^{Note 2)}	Internal	1.3 x 10 ⁻⁹		
	External	1.3 x 10 ⁻¹¹		
Coil specifications	Rated voltage ^{Note 3)}	AC	100 VAC, 200VAC, 110VAC, 230VAC, 220VAC, 240VAC, 48VAC, 24VAC	
		DC	24 VDC, 12VDC	
	Allowable voltage fluctuation	±10% of rated voltage		
	Allowable leakage voltage	AC	5% or less of rated voltage	
		DC	2% or less of rated voltage	
Coil insulation type	Class B			

2 Specifications (continued)

Note 1) In case of fluid / ambient temperature of 40°C or less. For 40 to 60°C, contact SMC.

Note 2) Leakage when the ambient temperature is at 20°C and there is 0.1MPa of differential pressure. Gas permeation is not included.

Note 3) AC type is equipped with full-wave rectifier.

2.2 Coil Specifications

DC Specification

Model	Power consumption (W) ^{Note 1)}	Temperature rise (°C) ^{Note 3)}
XSA1	4.5	50
XSA2	7	55
XSA3	10.5	65

AC Specification (Built-in Full-wave Rectifier Type)

Model	Apparent Power (VA) ^{Note 1,2)}	Temperature rise (°C) ^{Note 3)}
XSA1	7	60
XSA2	9.5	70
XSA3	12	70

Note 1) Power consumption, apparent power: The value at an ambient temperature of 20°C and when the rated voltage is applied. (Variation: ±10%)

Note 2) There is no difference in the frequency, inrush or energized apparent power, since a rectifying circuit is used for AC.

Note 3) The value at an ambient temperature of 20°C and when the rated voltage is applied. The value depends on the ambient environment. This is a reference value.

2.3 Flow specifications

2.3.1 Face seal fitting/ Compression fitting

Model	Port Size	Orifice Dia. (mm)	Flow characteristics		Max. operating pressure difference (MPa)	Reverse pressure potential (MPa) ^{Note 1)}	Wt. (kg) ^{Note 2)}
			C [dm ³ / (s.bar)]	b			
XSA1	1/4	2	0.55	0.41	0.8	0.5	0.28
XSA1	1/4	3	1.07	0.36	0.3	0.25	0.28
XSA2	1/4	3	1.07	0.34	1.0	0.4	0.41
		4.5	1.51	0.24	0.3	0.2	
XSA2	3/8	6	2.78	0.21	0.1	0.05	0.42

XSA3	1/4	4.5	1.54	0.24	0.8	0.2	0.53
	3/8	6	2.89	0.21	0.3	0.15	0.55 (0.62)

Note 1) The reverse pressure potential indicates the pressure which can be applied from Port 2 when Port 1 is at atmospheric pressure.

Note 2) Weight of compression seal fitting/Grommet type. Add 10g for Conduit type, 30g for DIN terminal type, 60g for Conduit terminal type respectively.

Weight in (brackets) is for face seal fitting type.

2.3.2 Female Thread

Model	Port Size	Orifice Dia. (mm)	Flow characteristics		Max. operating pressure difference (MPa)	Reverse pressure potential (MPa) ^{Note 2)}	Wt. (kg) ^{Note 1)}
			C [dm ³ / (s.bar)]	b			
XSA1	1/8	2	0.54	0.36	0.8	0.5	0.33
		3	1.14	0.39	0.3	0.25	
XSA2	1/4	3	1.14	0.42	1.0	0.4	0.53
		4.5	2.23	0.38	0.3	0.2	
XSA3	3/8	4.5	2.37	0.40	0.8	0.2	0.74
		6	3.50	0.15	0.3	0.15	

Note 1) Weight of Grommet type. Add 10g for Conduit type, 30g for DIN terminal type, 60g for Conduit terminal type respectively.

Note 2) The reverse pressure potential indicates the pressure which can be applied from Port 2 when Port 1 is at atmospheric pressure.

3 Installation

Warning

- Do not install the product unless the safety instructions have been read and understood.

3.1 Selection

- **Type of fluid**

Before using a fluid, check whether it is compatible with the materials of component parts of each model shown in Table 1, by referring to the fluids listed in the specification table.

3 Installation (continued)

No.	Description	Material
1	Solenoid coil	Cu + Fe + Resin
2	Core	FE
3	Tube	Stainless steel
4	Seat	PET
5	Armature assembly	FKM, Stainless Steel, Resin (PPS)
6	Spring	Stainless steel
7	Body	Stainless steel
8	O-ring	FKM
9	Spacer	Al

Table 1

: Parts in contact with gas

- **Fluid quality**

<Air>

- 1) **Use clean air.**

Do not use compressed air that contains chemicals, synthetic oils that include organic solvents, salt, corrosive gases, etc., as it can cause damage or malfunction.

- 2) **Install an air filter, if necessary.**

Install an air filter close to the valve on the upstream side.

- 3) **Install an aftercooler or air dryer, if necessary.**

Compressed air that contains excessive drainage may cause the malfunction of the valve or other pneumatic equipment. To prevent this, install an aftercooler, air dryer, etc.

- 4) **If excessive carbon powder is generated, eliminate it by installing a mist separator on the upstream side of the valve.**

If excessive carbon powder is generated by the compressor, it may adhere to the inside of the valve and cause a malfunction.

<Vacuum>

Vacuum piping direction: Connect the piping so that the pressure in the secondary side is lower. Avoid the entry of foreign matter.

- **Ambient environment**

Use within the operable ambient temperature range. Check the

compatibility between the product's materials and any fluid contained in the ambient atmosphere. Ensure that any harmful fluid used does not touch the external surface of the product.

- **Countermeasures against static electricity**

Take measures to prevent static electricity since some fluids can cause static electricity.

Caution

- **Leakage voltage**

Particularly when using a resistor in parallel with a switching element and when using a C-R element (surge voltage suppressor) to protect the switching element, take note that leakage current will flow through the resistor, C-R element, etc., which may prevent the valve from turning off.

Ensure that any leakage current, when the switching element is OFF, meets the following limits:

AC coil: 5% or less of the rated voltage
DC coil: 2% or less of the rated voltage

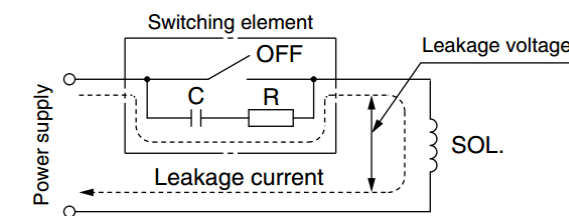


Figure 1

3.2 Valve Mounting

Warning

- **If air leakage increases or equipment does not operate properly, stop operation.**

After mounting is completed, confirm that it has been done correctly by performing a suitable function test.

- **Do not apply external force to the coil section.**

When tightening is performed, apply a wrench or other tool to the outside of the piping connection ports.

3 Installation (continued)

- The solenoid valve can be mounted in any direction, but the recommended mounting direction of the coil is upward.

When mounting a valve with its coil positioned downward, foreign matter in the fluid will adhere to the iron core, leading to a malfunction. Especially for strict leakage control, the coil must be positioned upward.

- Do not warm the coil assembly with a heat insulator, etc. Use tape, heaters, etc., for freeze prevention on the piping and body only. Warming the coil can cause it to burn out.
- Avoid sources of vibration, or adjust the arm from the body to the minimum length so that resonance will not occur.
- Painting and coating

Warnings or specifications printed or labelled on the product should not be erased, removed, or covered up.

- Additional mounting information/dimensions:

Face seal/ Compression fitting Female thread

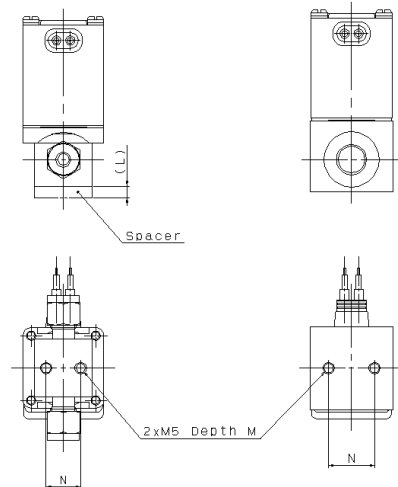


Figure 2

Model	L (mm)	M (mm)	N (mm)
XSA1	3	8	20
XSA2	5	10	20
XSA3	5	10	22

Table 2

3.3 Environment

Warning

- Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.
- Do not use in an explosive atmosphere.
- Do not expose to direct sunlight. Use a suitable protective cover.
- Do not install in a location subject to vibration or impact. Check the product specifications.
- Do not mount in a location exposed to radiant heat from nearby sources.
- Employ suitable protective measures in locations where there is contact with water droplets, oil or welding splatter, etc.

3.4 Piping

Caution

- Before piping make sure to clean out chips, cutting oil, dust etc.
- Prepare piping by cleaning the sealing surface with ethanol etc.
- Avoid connecting ground lines to piping, as this may cause the electric corrosion of the system.
- Tighten fittings to the specified tightening torque. After tightening, confirm that there is no leakage from the fitting.

Fitting	Tightening
Compression seal fitting	1 1/4 turns after tightening by hand
Face seal fitting	1/8 turns after tightening by hand
NPT, Rc1/8	7 to 9 Nm
NPT, Rc1/4	12 to 14 Nm
NPT, Rc3/8	22 to 24 Nm

Table 3

3 Installation (continued)

- Install piping so that it does not apply pulling, pressing, bending or other forces on the valve body.
- In applications such as vacuum and non-leak specifications, use caution against contamination of foreign objects and air tightness of fittings.
- When connecting piping to a product, avoid mistakes regarding the supply port, etc. (For port sizes, see section 5.1 Dimensions).

3.5 Precautions on Design

Caution

- Not suitable for use as an emergency shut-off valve, etc.

These valves are not designed for safety applications such as an emergency shutoff valve.

If the valves are used for the mentioned applications, additional safety measures should be adopted.

- Extended periods of continuous energization.

Caution hot surface

* Be aware that the valve surface may get hot.

The solenoid coil will generate heat when continuously energized, so avoid installing in an enclosed space. Install in a well-ventilated area.

Do not touch the coil while it is being energized or immediately after energization.

Be especially careful when using three or more adjacent valves with manifolds and keeping them continuously energized for extended periods, as this may result in dramatic increases in temperature.

3.6 Wiring

Caution

- When DC power is connected to a solenoid valve equipped with light and/or surge voltage suppressor, check for polarity indications.
- Avoid miswiring, as this can cause malfunction and damage the product.
- To prevent noise and surge in signal lines, keep all wiring separate from power lines and high voltage lines. Otherwise this can cause

malfunction.

- When a surge from the solenoid affects the electrical circuitry, install a surge absorber, etc., in parallel with the solenoid. Or, use an option that comes with surge voltage protection circuit. (However, a surge voltage occurs even if the surge voltage protection circuit is used. For details, please consult with SMC.)
- Use electrical circuits that do not generate chattering in their contacts.
- Use voltages that are within $\pm 10\%$ of the rated voltage. In cases with a DC power supply where responsiveness is important, stay within $\pm 5\%$ of the rated value. (The voltage drop is the value in the lead wire section connecting to the coil).
- As a rule, use electrical wire with cross sectional area 0.5 to 1.25 mm² for wiring.
- Do not bend or pull cables repeatedly.
- Connect the wires so that an external force greater than 10 N is not applied to the lead wire, otherwise the coil will burn.

3.7 Electrical Connections

3.7.1 Grommet

Class B coil : AWG20 Outside insulator diameter of 2.5 mm.

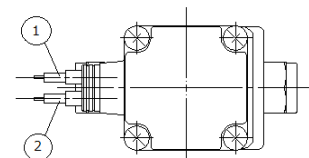


Figure 3

Rated Voltage	Lead wire colour	
	1	2
DC	Black	Red
100 VAC	Blue	Blue
200 VAC	Red	Red
Other AC	Grey	Grey

Note) There is no polarity

Table 4

3 Installation (continued)

3.7.2 DIN Terminal (Class B coil only)

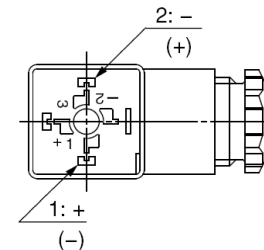


Figure 4

Terminal no.	1	2
DIN Terminal	+(-)	-(+)

Note) There is no polarity

Table 5

- Use a heavy-duty cord with an outside cable diameter of $\varnothing 6$ to 12 mm.
- Tighten screws and fittings according to Figure 5.

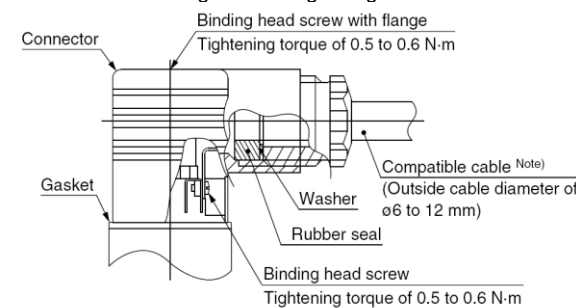


Figure 5

Note) For cables with an O.D. of $\varnothing 9$ to $\varnothing 12$ mm, remove the internal parts of the rubber seal before using.

3.7.3 Conduit Terminal

- Make connections according to the marking shown in Figure 6.
- Tighten screws and fittings according to Figure 6.
- Properly seal the terminal connection (G1/2) with special wiring conduit, etc.

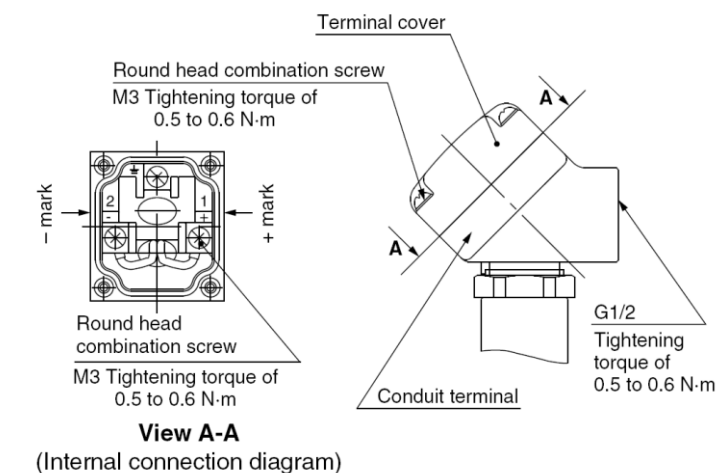


Figure 6

3 Installation (continued)

3.7.4 Conduit

- When used as an IP65 equivalent use seal (part number VCW20-15-6 ordered separately) to install the wiring conduit.
- Tighten conduit to torque shown in Figure 7.

Class B coil: AWG20 Outside insulator diameter of 2.5 mm

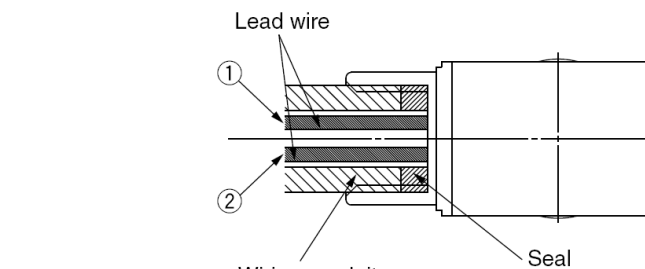


Figure 7

Rated Voltage	Lead wire colour	
	1	2
DC	Black	Red
100 VAC	Blue	Blue
200 VAC	Red	Red
Other AC	Grey	Grey

Note) There is no polarity.

Table 6

Description	Part no.
Seal	VCW20-15-6

Note) Please order separately.

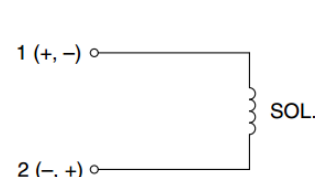
Table 7

3 Installation (continued)

3.8 Electrical circuits

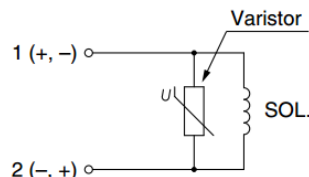
3.8.1 DC circuit

Grommet, Flat terminal



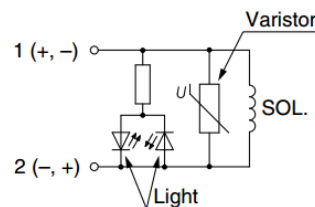
Without electrical option

Grommet, DIN terminal, Conduit terminal, Conduit



With surge voltage suppressor

DIN terminal, Conduit terminal



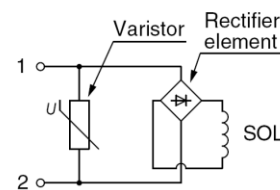
With light/surge voltage suppressor

Figure 8

3.8.2 AC circuit

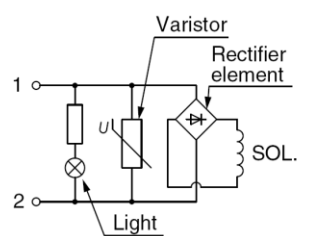
- For AC (Class B), the standard product is equipped with surge voltage suppressor.

Grommet, DIN terminal, Conduit terminal, Conduit



Without electrical option

DIN terminal, Conduit terminal



With light/surge voltage suppressor

Figure 9

4 How to Order

Face seal fitting
Compression fitting

XSA 1 - 1 2 S - 5 G 2 -

Female thread type

XSA 1 - 1 1 P - 5 G 2

Valve size	Orifice diameter	Fitting size
Face seal fitting / Compression fitting		
1 Size 1	1 Ø2	2 1/4
	2 Ø3	
2 Size 2	2 Ø3	2 1/4
	3 Ø4.5	
	4 Ø6	
3 Size 3	3 Ø4.5	2 1/4
	4 Ø6	
	3 3/8	
Female thread type		
1 Size 1	1 Ø2	1 1/8
	2 Ø3	
2 Size 2	2 Ø3	2 1/4
	3 Ø4.5	
	4 Ø6	
3 Size 3	3 Ø4.5	3 3/8
	4 Ø6	
	3 3/8	

Fitting type
Face seal fitting / Compression fitting

V	Face seal fitting
S	Compression fitting

Female thread type

P	Rc female thread
N	NPT female thread

Voltage

1	100 VAC
2	200 VAC
3	110 VAC
4	220 VAC
5	24 VDC
6	12 VDC
7	240 VAC
8	48 VAC
B	24 VAC
J	230 VAC

Spacer

Nil	None
A	With spacer

* The spacer is used to raise the body when fastening it onto a flat area. Refer to the table below if spacers are required separately.

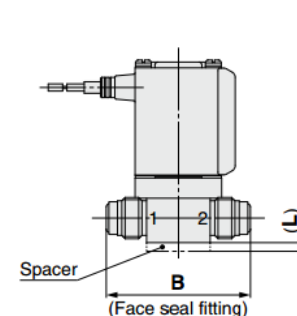
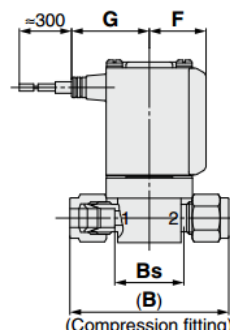
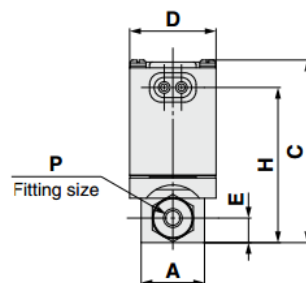
			DC	AC
G	Grommet		•	-
GS	Grommet (With surge voltage suppressor)		•	•*1
D	DIN terminal (With surge voltage suppressor)		•	•
DL	DIN terminal (With surge voltage suppressor)		•	•
DO	DIN terminal without connector (With surge voltage suppressor)		•	•
T	Terminal (With surge voltage suppressor)		•	•
TL	Terminal with light (With surge voltage suppressor)		•	•
C	Conduit (With surge voltage suppressor)		•	•
F	Flat terminal		•	-

*1 Not CE-compliant

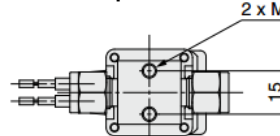
5 Outline Dimensions (mm)

5.1 Dimensions: Face Seal Fitting, Compression Fitting

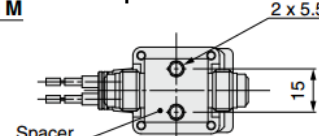
Grommet: G



Without spacer



With spacer



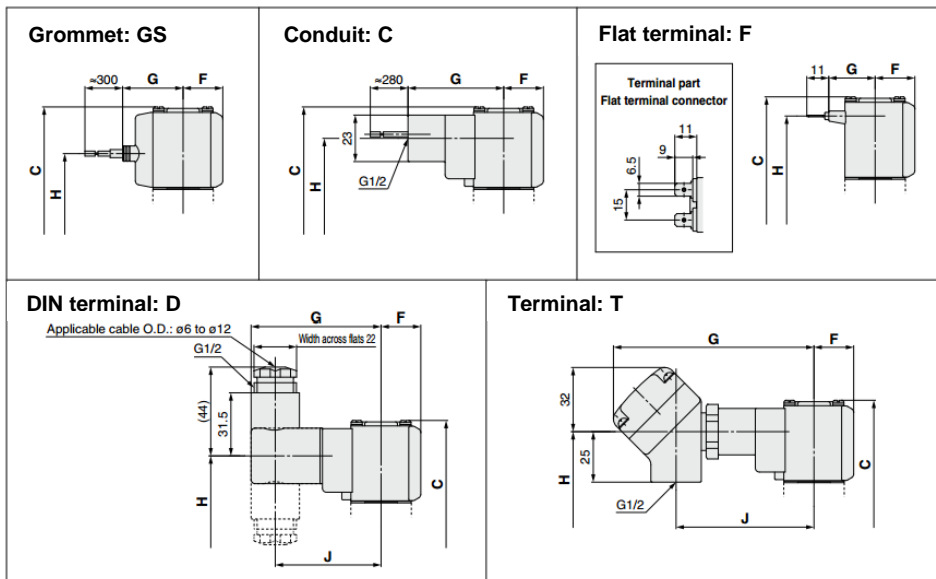
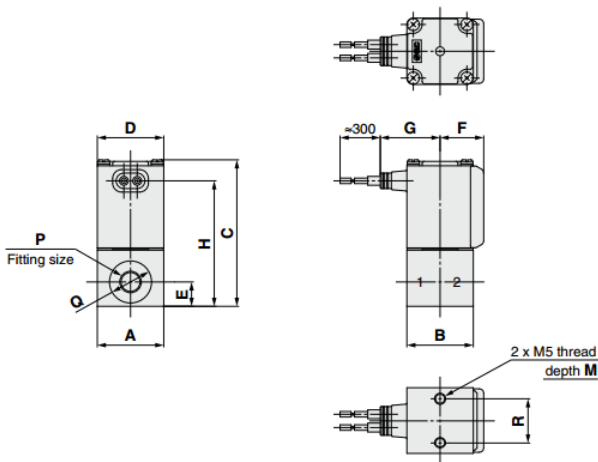
Dimensions [mm]

Model	A	B	Bs	C	D	E	F	L	M	P [inch]	Grommet: G		Grommet: GS		Conduit: C		Flat terminal: F		DIN terminal: D			Terminal: T									
											G	H	G	H	G	H	G	H	G	H	J	G	H	J							
XSA1-□2S	22	55	24	63	30	8.5	20	3	8	1/4	27	53.5	30	40	47.5	47.5	23	53.5	64.5	45.5	52.5	99.5	47.5	68.5							
XSA1-□2V		50	-																												
XSA2-□2S	25	63	31.5	73.5	35	11.5	22	5	10	3/8	29.5	63	32.5	49.5	50	57	25.5	63	67	55	55	102	57	71							
XSA2-□2V		56	-																												
XSA2-43S		64.5	31																												
XSA2-43V		67	-																												
XSA3-32S		63	31.5	78	40	11.5	24.5	5	10	1/4	3/8	32	67.5	35	54	52.5	61.5	28	67.5	69.5	59.5	57.5	104.5	61.5	73.5						
XSA3-32V		56	-																												
XSA3-43S		64.5	31																												
XSA3-43V	67	-	82.5																												

5 Outline Dimensions (mm) (continued)

5.2 Dimensions: (Rc, NPT) Female Thread

Grommet: G



Dimensions [mm]

Model	A	B	C	D	E	F	M	P	Q	R	Grommet: G		Grommet: GS		Conduit: C		Flat terminal: F		DIN terminal: D			Terminal: T		
											G	H	G	H	G	H	G	H	G	H	J	G	H	J
XSA1-□1P(N)	30	30	66	30	11	20	8	1/8	∅19	20	27	56.5	30	43	47.5	50.5	23	56.5	64.5	48.5	52.5	99.5	50.5	68.5
XSA2-□2P(N)	36	36	79	35	14	22	10	1/4	∅24	20	29.5	68.5	32.5	55	50	62.5	25.5	68.5	67	60.5	55	102	62.5	71
XSA3-□3P(N)	40	40	88	40	16.5	24.5		3/8	∅29	22	32	77.5	35	64	52.5	71.5	28	77.5	69.5	69.5	57.5	104.5	71.5	73.5

6 Maintenance

6.1 General Maintenance

Caution

- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly, compressed air can be dangerous. Maintenance of pneumatic systems should be performed only by qualified personnel.
- Before performing maintenance, turn off the power supply and be sure to cut off the supply pressure. Confirm that the air is released to atmosphere.
- After installation and maintenance, apply operating pressure and power to the equipment and perform appropriate functional and leakage tests to make sure the equipment is installed correctly.
- If any electrical connections are disturbed during maintenance, ensure they are reconnected correctly and safety checks are carried out as required to ensure continued compliance with applicable national regulations.
- Do not make any modification to the product.
- Do not disassemble the product, unless required by installation or maintenance instructions.

Warning

Removing the product

Confirm that the valve temperature has dropped sufficiently before performing work. If touched inadvertently, there is a danger of being burned.

- Shut off the fluid supply and release the fluid pressure in the system.
- Shut off the power supply.
- Dismount the product.

Low frequency operation

Valves should be operated at least once every 30 days to prevent malfunction. (Use caution regarding the air supply). Also, in order to use them under the optimum state, conduct a regular inspection biannually.

7 Limitations of Use

7.1 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

Limited warranty and Disclaimer

- The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first⁽¹⁾. Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
- 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.

- Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.

⁽¹⁾ 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

- The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
- 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.

7 Limitations of use (continued)

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.

Warning

Do not exceed any of the specifications laid out in section 2 of this document or the specific product catalogue.

Warning

If a safe output from a safety relay or PLC is used to operate this valve, ensure that any output test pulse duration is shorter than 1 ms to avoid the valve solenoid responding.

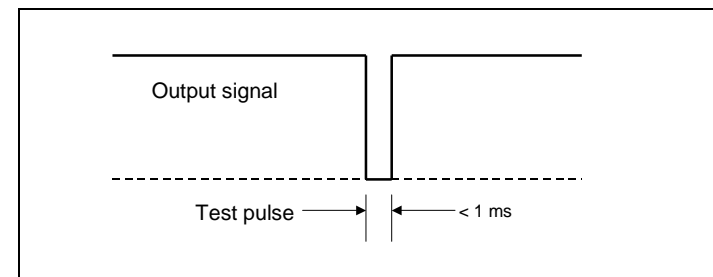


Figure 11

8 Contacts

AUSTRIA	SMC Pneumatik GmbH, Girakstrasse 8, AT-2100 Korneuburg, Austria
BELGIUM	SMC Pneumatics N.V./S.A. Nijverheidsstraat 20, B-2160 Wommelgem, Belgium
BULGARIA	SMC Industrial Automation Bulgaria EOOD, Business Park Sofia, Building 8-6th floor, BG-1715 Sofia, Bulgaria
CROATIA	SMC IndustrijskaAutomatikad.o.o. ZagrebačkaAvenija 104, 10 000 Zagreb
CZECH REP.	SMC Industrial Automation CZ s.r.o. Hudcova 78a, CZ-61200 Brno, Czech Republic
DENMARK	SMC Pneumatik A/S, Egeskovvej 1, DK-8700 Horsens, Denmark
ESTONIA	SMC Pneumatics Estonia Oü, Laki 12, EE-10621 Tallinn, Estonia
FINLAND	SMC Pneumatics Finland Oy, PL72, Tiistinniityntie 4, SF-02031 Espoo, Finland
FRANCE	SMC France, 1, Boulevard de Strasbourg, Parc Gustave Eiffel, Bussy Saint Georges, F-77607 Marne La Vallée Cedex 3, France
GERMANY	SMC Pneumatik GmbH, Boschring 13-15, 63329 Egelsbach, Germany
GREECE	SMC Italia Hellas Branch, Anagenniseos 7-9-P.C. 14342 N.Philadelphia, Athens, Greece
HUNGARY	SMC Hungary IpariAutomatizálásiKft. Torbágy u. 19, HU-2045 Törökbálint, Hungary
IRELAND	SMC Pneumatics (Ireland) Ltd. 2002 Citywest Business Campus, Naas Road, Saggart, Co. Dublin, Ireland

ITALY	SMC Italia S.p.A. Via Garibaldi 62, I-20061 Carugate, (Milano), Italy
LATVIA	SMC Pneumatics Latvia SIA, Dzelzavas str. 120g, Riga, LV-1021, Latvia
LITHUANIA	UAB "SMC Pneumatics", Oslo g. 1, LT-04123 Vilnius, Lithuania
NETHERLANDS	SMC Pneumatics B.V. De Ruyterkade 120, NL-1011 AB Amsterdam, the Netherlands
NORWAY	SMC Pneumatics Norway AS, Vollsvæien 13 C, GranfosNæringspark, N-1366 Lysaker, Norway
POLAND	SMC Industrial Automation, Polska Sp z o.o. 02-826 Warszawa, ul. Poloneza 89
PORTUGAL	SMC España S.A. Zuazobidea 14, 01015 Vitoria, Spain
ROMANIA	SMC Romania S.r.l. Str.Frunzei 29, Sector 2, Bucharest, Romania
RUSSIA	SMC Pneumatik LLC. Business centre, building 3, 15 Kondratjevskij prospect, St.Petersburg, Russia, 195197
SLOVAKIA	SMC PriemyselnáAutomatizáciaSpols.r.o. Fantranská 1223, Teplickanadvahom, 01301, Slovakia
SLOVENIA	SMC IndustrijskaAvtomatikad.o.o. Mirskacesta 7, SLO-8210 Trebnje, Slovenia
SPAIN	SMC España S.A. Zuazobidea 14, 01015 Vitoria, Spain
SWEDEN	SMC Pneumatics Sweden AB, Ekhagsvägen 29-31, SE-141 71 Segeltorp, Sweden
SWITZERLAND	SMC Pneumatik AG, Dorfstrasse 7, Postfach, 8484 Weisslingen, Switzerland
TURKEY	SMC PnömatikSanayiTicaretveServis A.Ş. GülbaharCaddesi, Aydin Plaza, No: 9/4 Güneşli – 34212, Istanbul
UK	SMC Pneumatics (U.K.) Ltd. Vincent Avenue, Crownhill, Milton Keynes, Buckinghamshire MK8 0AN, United Kingdom

SMC Corporation

URL : <http://www.smcworld.com> (Global) <http://www.smceu.com> (Europe)
 'SMC Corporation, Akihara UDX15F, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 100 0021
 Specifications are subject to change without prior notice from the manufacturer.
 © 2017 SMC Corporation All Rights Reserved.
 Template DKP50047-F-085E