Modular Connection Type

Residual Pressure Relief 3 Port Solenoid Valve

CE UKCA RoHS

For connecting to F.R.L. units

	AC25-A	AC30-A	AC40-A
VP500	●	●	
VP700			●

Allows for space saving and reduced piping labour.

Power consumption: 0.35 W (Without light)

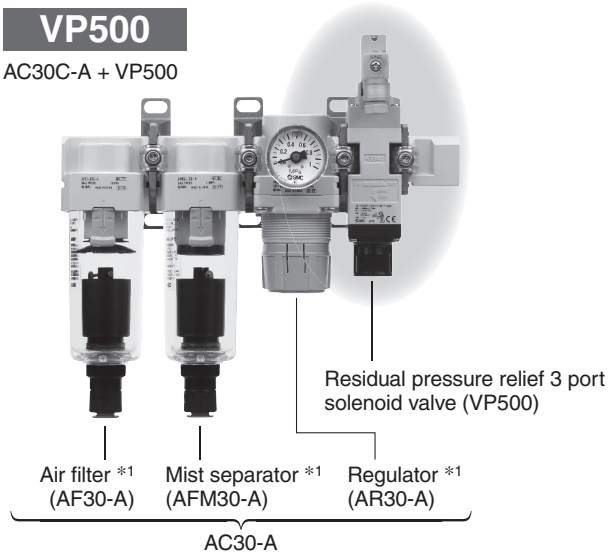
Example of F.R.L. unit connections

Simple Specials System

This system enables us to respond to your special needs (additional machining, accessory assembly, or the designing of a modular unit) and deliver your personalised products as quickly as standard products.
Please contact your local sales representative for more details.

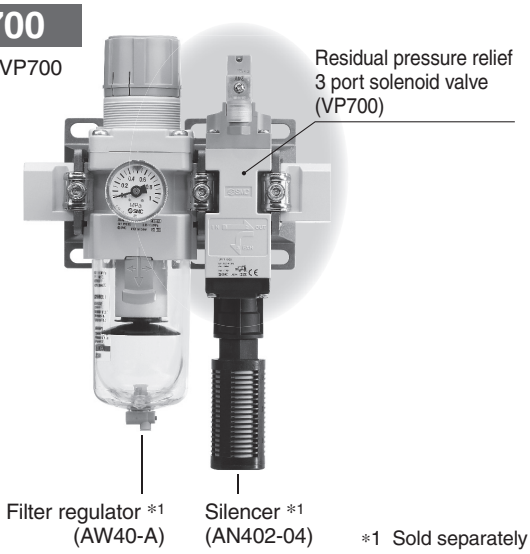
VP500

AC30C-A + VP500



VP700

AW40-A + VP700



*1 Sold separately

VP500/700 Series

SMC

15-EU664-UK

How to Order

Modular connection type

VP 5 1 7 □ Y − 5 D □ □ 1 − □ □

Series

5	VP500
7	VP700

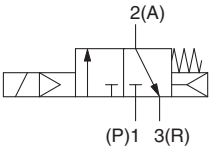
Pressure specification

—	Standard (0.7 MPa)
K	High-pressure type (1.0 MPa)

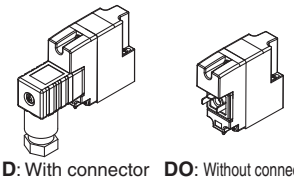
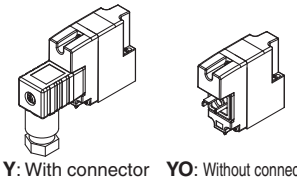
Rated voltage

DC		AC (50/60 Hz)	
5	24 V DC	1	100 V AC
6	12 V DC	2	200 V AC
		3	110 V AC [115 V AC]
		4	220 V AC [230 V AC]

Symbol



Electrical entry

DIN terminal	DIN (EN175301-803(C)) terminal
	
D: With connector **DO**: Without connector	**Y**: With connector **YO**: Without connector

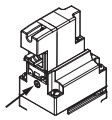
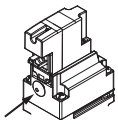
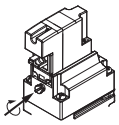
∗ Refer to our website **www.smc.eu** (VP300/500 Low wattage specification) for details of the DIN terminal.

Light/surge voltage suppressor

		DC	AC
—	Without light/surge voltage suppressor	○	○
S	With surge voltage suppressor	○	—∗1
Z	With light/surge voltage suppressor	○	○

∗1 For AC voltage valves there is no "S" option. It is already built into the rectifier circuit.
∗ In the DIN terminal type, since a light is installed in the connector, DOZ and YOZ are not available.

Manual override

—: Non-locking push type	**A**: Non-locking push type (Manual)	**E**: Push-turn locking type (Manual)
		

Bracket

—	Without bracket
B	With bracket∗1

∗1 Brackets are supplied loose, not assembled, at time of shipment. Includes 2 mounting screws.

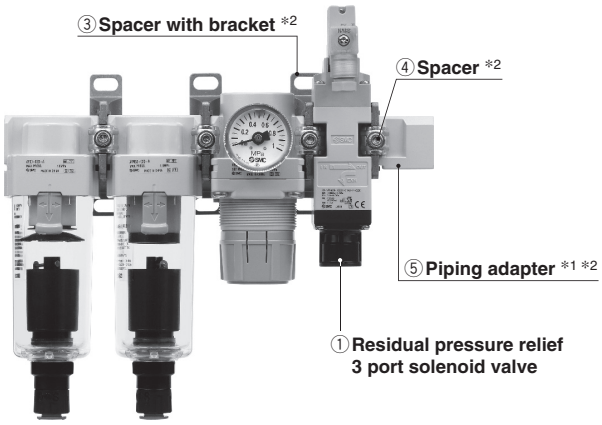
Flow direction

—	Left to right
R	Right to left

⚠ Caution

When using the surge voltage suppressor type, residual voltage will remain. For details, refer to our website **www.smc.eu** (VP300/500 Low wattage specification).

Assembly Example



② AC30-A
Air filter + Mist separator + Regulator
(AF30-A) (AFM30-A) (AR30-A)

∗1 Connection threads are not available for the residual pressure relief 3 port solenoid valve. Order a piping adapter separately.
∗2 Refer to page 3 for details of the spacer and piping adapter.

Products do not come assembled. They should be ordered separately and assembled by the customer.

∗ The Simple Specials System deals with product unification. Please contact your local sales representative for more details.

Assembly example

① **Residual pressure relief 3 port solenoid valve VP517Y-5DZ1** ····· **1 pc.**
② **Air combination AC30C-03DG** ····· **1 pc.**
③ **Spacer with bracket Y300T-A** ····· **1 pc.**
④ **Spacer Y300-A** ····· **1 pc.**
⑤ **Piping adapter E300-03-A** ····· **1 pc.**

Applicable Combinations/Attachment Part Nos.

Residual pressure relief 3 port solenoid valve	Air combination	Spacer	Spacer with bracket	Piping adapter	Silencer
VP517	AC25 AC30	Y300-A	Y300T-A	E300-□03-A	AN30-03 AN302-03
VP717	AC40	Y400-A	Y400T-A	E400-□04-A	AN40-04 AN402-04

∗ Refer to page 3 for details of the spacer.

Specifications

Fluid		Air
Type of actuation		N.C.
Internal pilot Operating pressure range [MPa]	**Standard**	0.2 to 0.7
	High-pressure type	0.2 to 1
Ambient and fluid temperature [°C]		-10 to 50 (No freezing)
Maximum operating frequency [Hz]		5
Manual override (Manual operation)		Non-locking push type Push-turn locking type (Manual) Non-locking push type (Manual)
Pilot exhaust method		Individual exhaust
Lubrication		Not required
Mounting orientation		Unrestricted
Impact/Vibration resistance [m/s²] *1		150/30
Enclosure		IP65

*1 Impact resistance: No malfunction occurred when it was tested in the axial direction and at right angles to the main valve and armature in both energised and de-energised states. Each condition was tested once. (Default settings)
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed in both energised and de-energised states in the axial direction and at right angles to the main valve and armature. (Default settings)

Solenoid Specifications

Electrical entry			DIN terminal (D) DIN terminal (Y) <EN175301-803 (C)>
			D, Y
Coil rated voltage [V]	**DC**		24, 12
	AC (50/60 Hz)		100, 110, 200, 220
Allowable voltage fluctuation			±10 % of rated voltage*2
Power consumption [W]	**DC**	**Standard**	0.35 (With light: 0.45)
Apparent power [VA]*1	**AC**	**100 V**	0.78 (With light: 0.87)
		110 V [115 V]	0.86 (With light: 0.97) [0.94 (With light: 1.07)]
		200 V	1.15 (With light: 1.30)
		220 V [230 V]	1.27 (With light: 1.46) [1.39 (With light: 1.60)]
Surge voltage suppressor			Varistor (DC)
Indicator light			LED (DC), Neon bulb (AC)

*1 The 110 V AC and 115 V AC are interchangeable. The 220 V AC and 230 V AC are interchangeable as well.
*2 The allowable voltage fluctuation is -15 % to +5 % of the rated voltage for the 115 V AC or 230 V AC.

Response Time/Weight

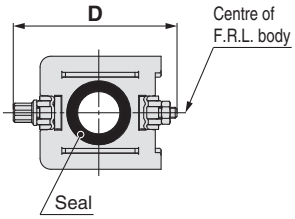
Model	Pressure specifications	Response time [ms](at 0.5 MPa)			Weight [g]
		Without light/surge voltage suppressor	With light/surge voltage suppressor	AC	
VP517Y	Standard (0.2 to 0.7 MPa)	27	32	44	222 (With bracket: 257)
	High-pressure type (0.2 to 1.0 MPa)	41	48	44	
VP717Y	Standard (0.2 to 0.7 MPa)	41	48	50	413 (With bracket: 468)
	High-pressure type (0.2 to 1.0 MPa)	67	76	50	

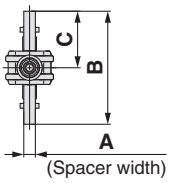
Flow Rate Characteristics

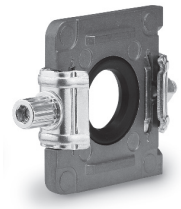
Model	Port size EXH.	Flow rate characteristics							
		1⊠2 (P⊠A)				2⊠3 (A⊠R)			
		C [dm³/(s·bar)]	b	Cv	Q [l/min (ANR)]*1	C [dm³/(s·bar)]	b	Cv	Q [l/min (ANR)]*1
VP517Y	G 3/8	8.8	0.14	2	2040	8.2	0.15	1.8	1911
VP717Y	G 1/2	13.8	0.11	2.9	3149	12.9	0.18	2.9	3056

*1 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.

Spacer





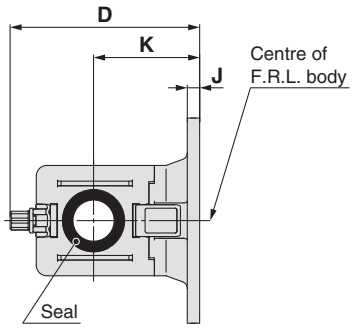


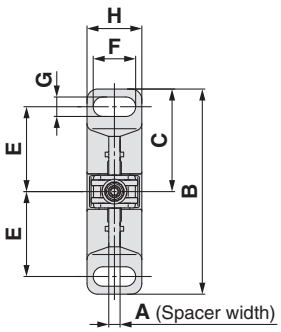
Y400-A

[mm]

Model	A	B	C	D
Y300-A	4.2	43.4	21.7	57.9
Y400-A	5.2	53	26.5	68.5

Spacer with Bracket





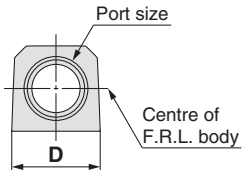
Y400T-A

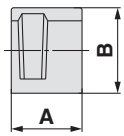
[mm]

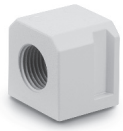
Model	A	B	C	D	E	F	G	H	J	K
Y300T-A	4.2	82	41	71.5	35	14	7	19	4	41
Y400T-A	5.2	96	48	86.1	40	18	9	26	5	50

Piping Adapter: 3/8, 1/2

A piping adapter allows installation/removal of the component without removing the piping and thus makes maintenance easier.







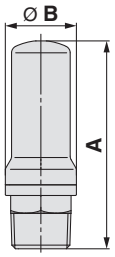
[mm]

Model *1	Port size	A	B	D
E300-□03-A	3/8	31.8	30	30
E400-□04-A	1/2	31.8	36	36

*1 □ in model numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.
* Separate spacers are required for modular units.

Silencer

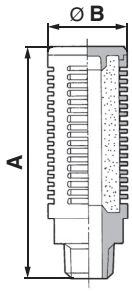
Compact resin type



Dimensions [mm]

Model	Port size R	A	B
AN30-03	3/8	58.5	20
AN40-04	1/2	68	24

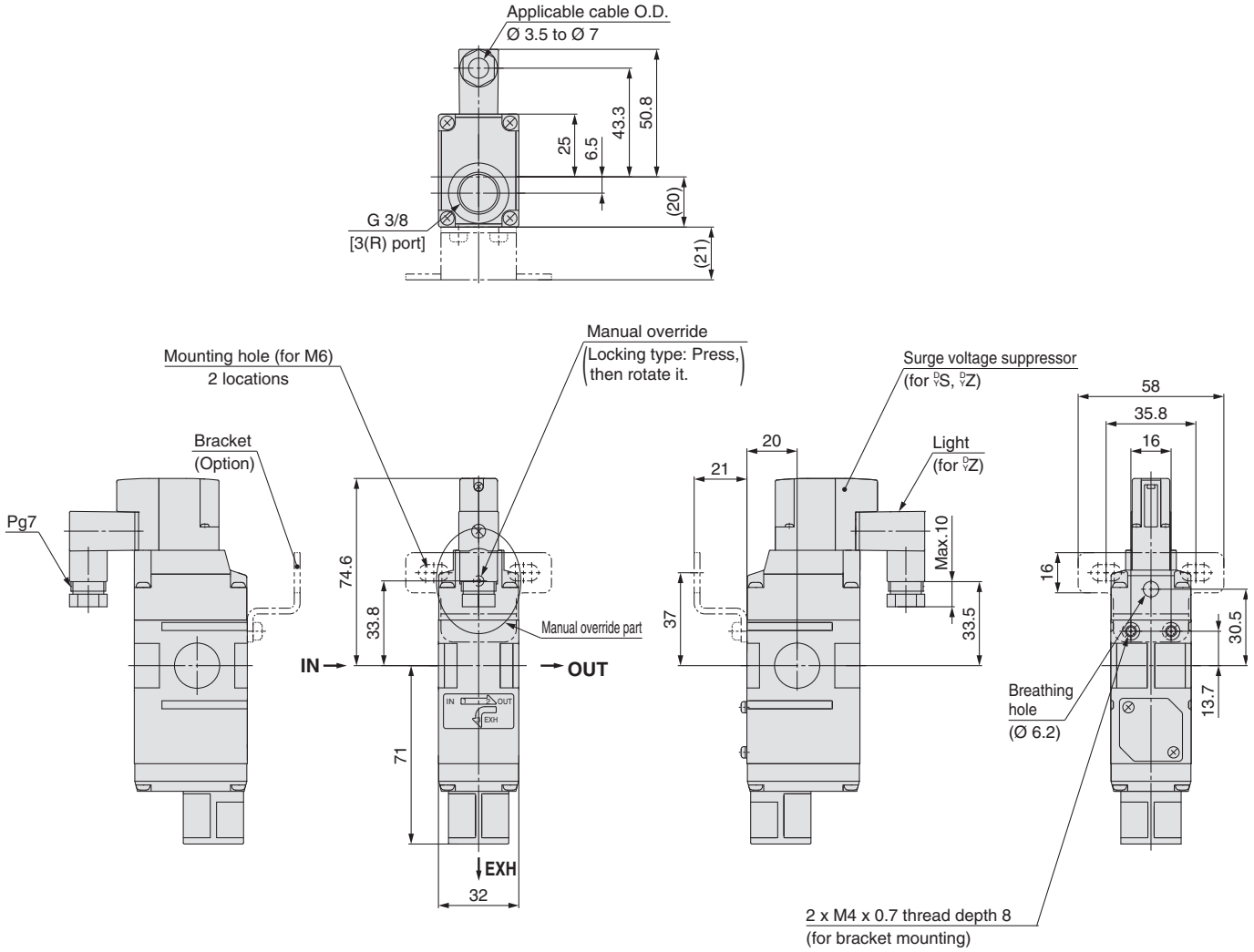
High noise reduction type



Model	Port size R	Dimensions [mm]	
		A	B
AN302-03	3/8	84	28
AN402-04	1/2	95	34

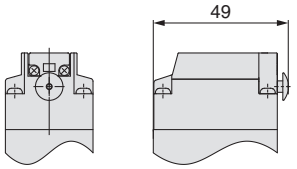
Dimensions

VP517

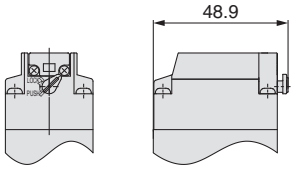


Details of manual override part (for manual operation)

Type A

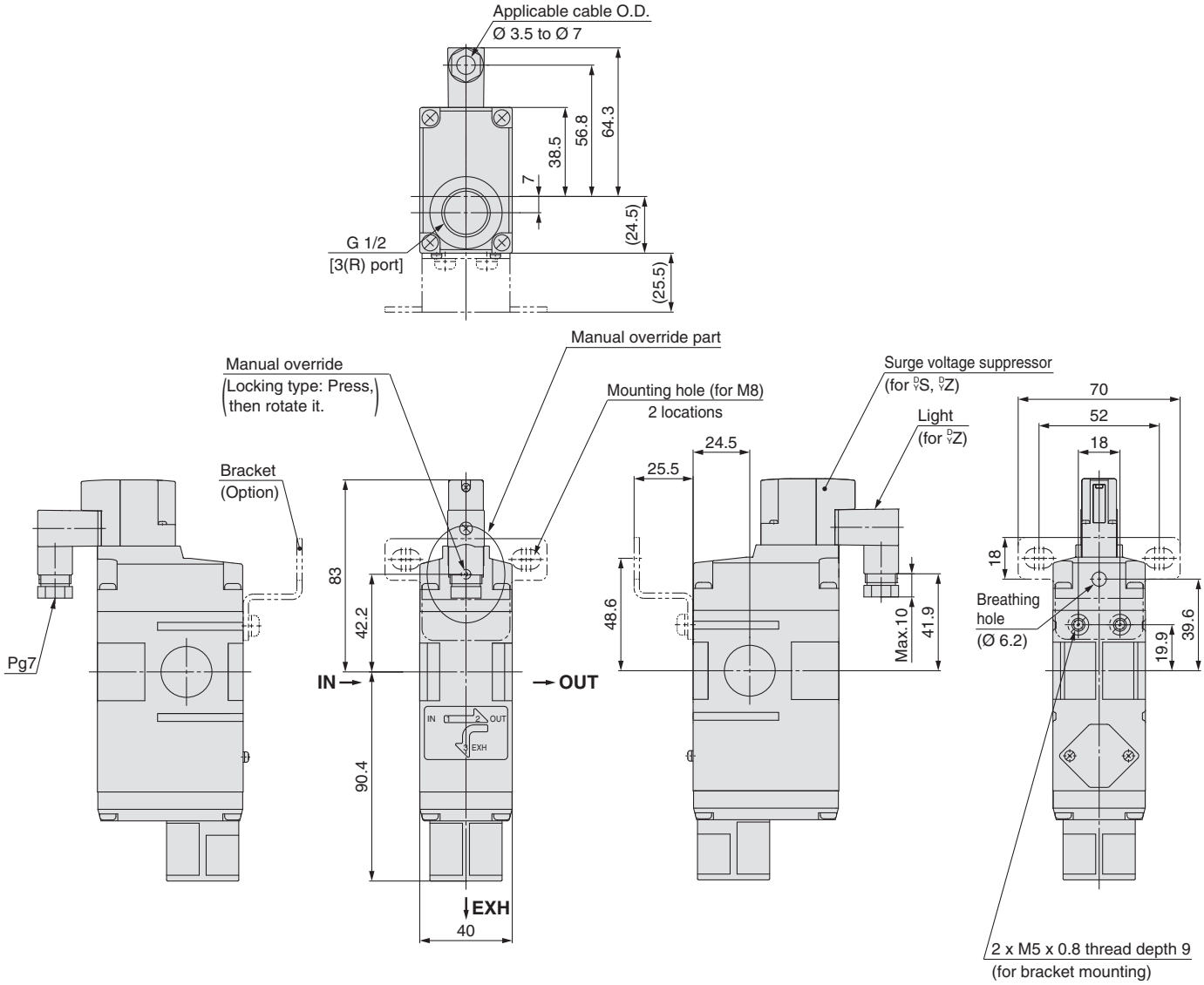


Type E



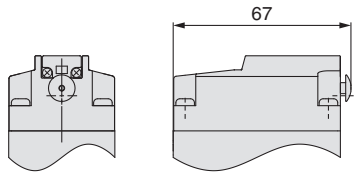
Dimensions

VP717

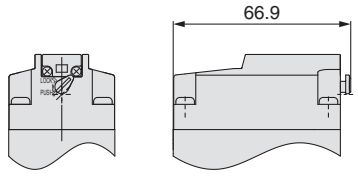


Details of manual override part (for manual operation)

Type A



Type E



⚠ 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.

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