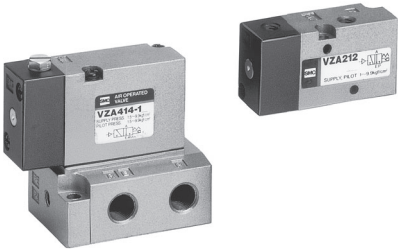


# 3 Port Air Operated Valve

# VZA200/400 Series



Fluid	Air	
Operating pressure range (MPa)	VZA2 $\frac{1}{2}$ 2, 2 $\frac{1}{2}$ 4	0.1 to 1.0
	VZA4 $\frac{1}{2}$ 2, 4 $\frac{1}{2}$ 4	0.15 to 1.0
Pilot pressure range (MPa)	VZA2 $\frac{1}{2}$ 2, 2 $\frac{1}{2}$ 4	0.1 to 1.0
	VZA4 $\frac{1}{2}$ 2, 4 $\frac{1}{2}$ 4	0.15 to 1.0
Ambient and fluid temperature (°C)	-10 to 60 (No freezing)	
Impact/Vibration resistance (m/s <sup>2</sup> ) (Note)	150/50	

Operating pressure ≤ Pilot pressure

Note) Impact resistance: No malfunction from test using drop impact tester, to axis and right angle directions of main valve, each one time when pilot signal ON and OFF.  
(Value in the initial stage)

Vibration resistance: No malfunction from test with 45 to 2000 Hz one sweep, to axis and right angle direction of main valve, each one time when pilot signal ON and OFF.  
(Value in the initial stage)

## Model

Valve model	Type of actuation	Pilot	Port size	Flow rate characteristics <sup>(2)</sup>									Pilot port size
				1 → 4/2(P → A/B)					4/2 → 5/3(A/B → EA/EB)				
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	Q [l/min (ANR)]*1	C [dm <sup>3</sup> /(s·bar)]	b	Cv	Q [l/min (ANR)]*1		
Body ported	VZA212-P-M5	N.C.	Body side	M5 x 0.8	0.60	0.43	0.15	167	0.52	0.35	0.13	167	M5 x 0.8
	VZA222-P-M5	N.O.	Body side	M5 x 0.8	0.60	0.43	0.15	167	0.52	0.35	0.13	167	M5 x 0.8
Base mounted (With sub-plate)	VZA214-1P-01	N.C.	Sub-plate side	Rc 1/8	1.0	0.30	0.25	254	0.85	0.35	0.22	254	M5 x 0.8
	VZA214-2P-01	N.C.	Body side	Rc 1/8	1.0	0.30	0.25	254	0.85	0.35	0.22	254	M5 x 0.8
	VZA224-1P-01	N.O.	Sub-plate side	Rc 1/8	0.90	0.25	0.21	222	0.85	0.35	0.22	222	M5 x 0.8
	VZA224-2P-01	N.O.	Body side	Rc 1/8	0.90	0.25	0.21	222	0.85	0.35	0.22	222	M5 x 0.8
Body ported	VZA412-P-01	N.C.	Body side	Rc 1/8	2.0	0.14	0.49	464	2.2	0.17	0.53	464	M5 x 0.8
	VZA422-P-01	N.O.	Body side	Rc 1/8	2.0	0.17	0.49	471	2.2	0.17	0.53	471	M5 x 0.8
Base mounted	VZA414-1P-01	N.C.	Sub-plate side	Rc 1/8	2.4	0.19	0.57	572	2.2	0.11	0.49	572	M5 x 0.8
	Rc 1/4												
	VZA414-2P-01	N.C.	Body side	Rc 1/8	2.4	0.19	0.57	572	2.2	0.11	0.49	572	M5 x 0.8
	Rc 1/4												
	VZA424-1P-01	N.O.	Sub-plate side	Rc 1/8	2.4	0.19	0.57	572	1.9	0.32	0.45	572	M5 x 0.8
	Rc 1/4												
VZA424-2P-01	N.O.	Body side	Rc 1/8	2.4	0.19	0.57	572	1.9	0.32	0.45	572	M5 x 0.8	
Rc 1/4													

Note 1) Base mounted type model no. without sub-plate are VZA2 $\frac{1}{2}$ 4- $\frac{1}{2}$ P, VZA4 $\frac{1}{2}$ 4- $\frac{1}{2}$ P.

Note 2) Value at the maximum port size

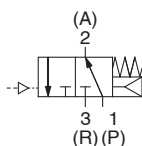
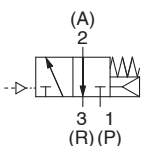
\*1) These values have been calculated according to ISO 6358 and indicate the flow rate under standard conditions with an inlet pressure of 0.6 MPa (relative pressure) and a pressure drop of 0.1 MPa.

Cannot be used as universal porting.

## Symbol

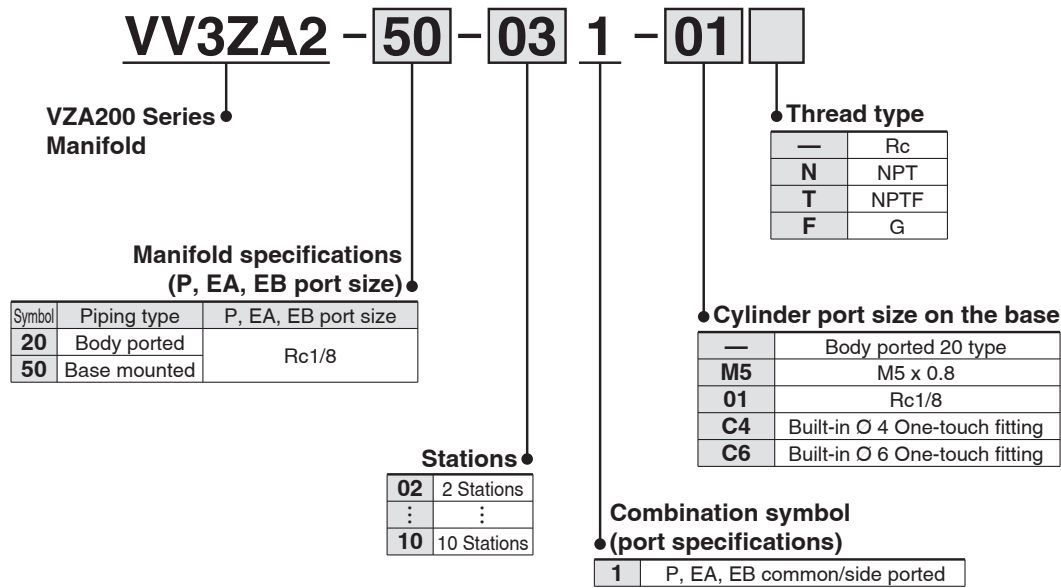
VZA21 $\frac{2}{4}$   
VZA41 $\frac{2}{4}$

VZA22 $\frac{2}{4}$   
VZA42 $\frac{2}{4}$

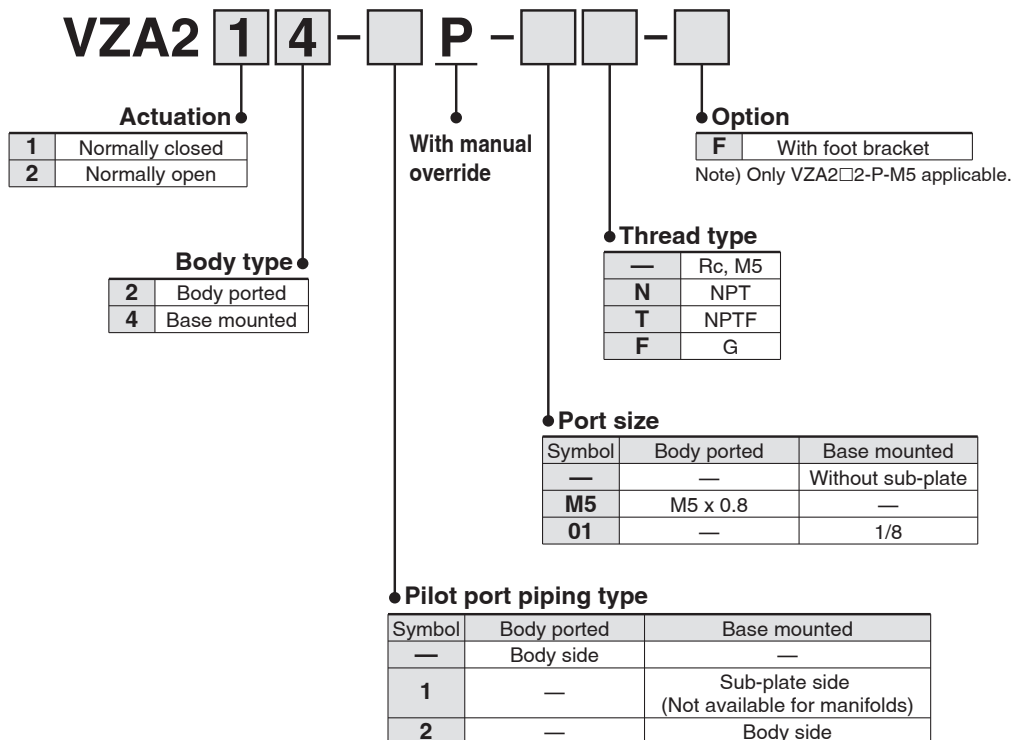


# VZA200/400 Series

## How to Order Manifold



## How to Order Valve



## With Bracket

VZA200	Air operated valve model	VZA2□2-P-M5-F
	Bracket assembly part no.	VZ2000-37A-2

\* To order valves and blanking plate assembly mounted onto the manifold, list valves and blanking plate assembly with manifold base part number.

<Example: VZA200 Body ported>

VV3ZA2-20-031 .....1 pc.  
VZA212-P-M5 .....2 pcs.  
VVZ200-32A-1 .....1 pc.

<Example: VZA200 Base mounted>

VV3ZA2-50-031-01 .....1 pc.  
VZA214-2P .....2 pcs.  
VVZ200-31A-1 .....1 pc.

## How to Order Manifold

**VV3ZA4 - 50 - 03 1 - 02**   

**VZA400 Series Manifold**

**Manifold specifications (P, EA, EB port size)**

Symbol	Piping type	P, EA, EB port size
20	Body ported	Rc1/4
50	Base mounted	Rc1/4

**Thread type**

—	Rc
N	NPT
T	NPTF
F	G

**Stations**

02	2 Stations
⋮	⋮
10	10 Stations

**Combination symbol (port specifications)**

1	P, EA, EB common/side ported
---	------------------------------

**Cylinder port size on the base**

—	Body ported 20 type
01	Rc1/8
02	Rc1/4
C6	Built-in O 6 One-touch fitting
C8	Built-in O 8 One-touch fitting

## How to Order Valve

**VZA4 1 4 - 2 P -**         

**Actuation**

1	Normally closed
2	Normally open

**With manual override**

**Option**

F	With foot bracket
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Note) Only VZA4□2-P-01 applicable.

**Body type**

2	Body ported
4	Base mounted

**Thread type**

—	Rc
N	NPT
T	NPTF
F	G

**Port size**

Symbol	Body ported	Base mounted
—	—	Without sub-plate
01	1/8	1/8
02	—	1/4

**Pilot port piping type**

Symbol	Body ported	Base mounted
—	Body side	—
1	—	Sub-plate side (Not available for manifolds)
2	—	Body side

## With Bracket

<b>VZA400</b>	Air operated valve model	VZA4□2-P-01-F
	Bracket assembly part no.	VZ4000-22A

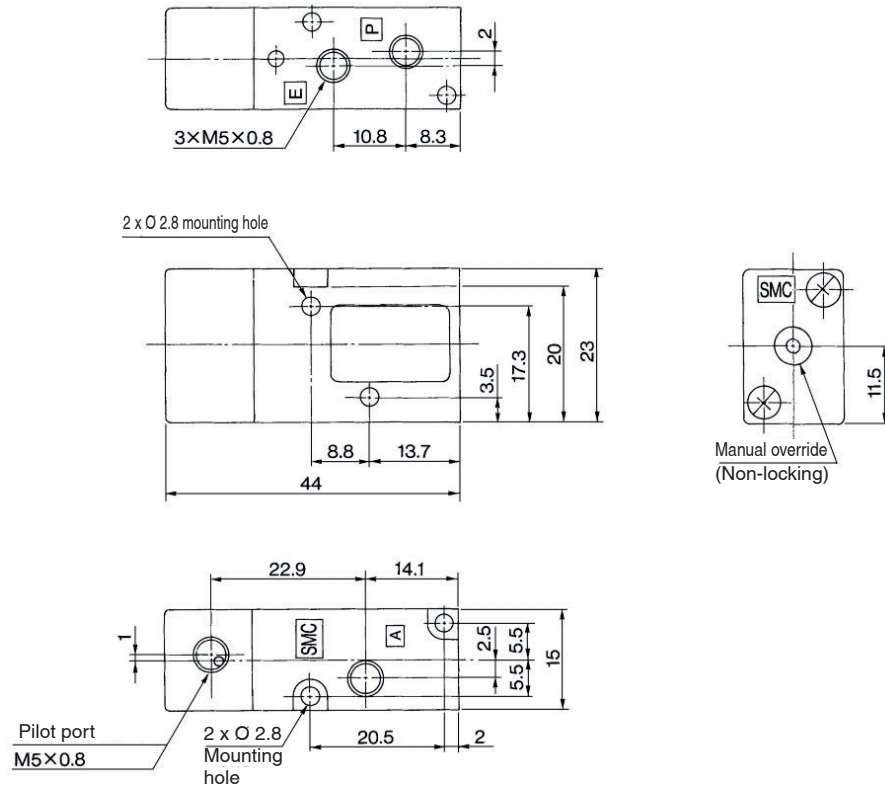
\* To order valves and blanking plate assembly mounted onto the manifold, list valves and blanking plate assembly with manifold base part number.

<Example: VZA400 Body ported>		<Example: VZA400 Base mounted>	
VV3ZA4-20-031	..... 1 pc.	VV3ZA4-50-031-02	..... 1 pc.
VZA412-P-01	..... 2 pcs.	VZA414-2P	..... 2 pcs.
VVZ400-32A-1	..... 1 pc.	VVZ400-32A-2	..... 1 pc.

# VZA200/400 Series

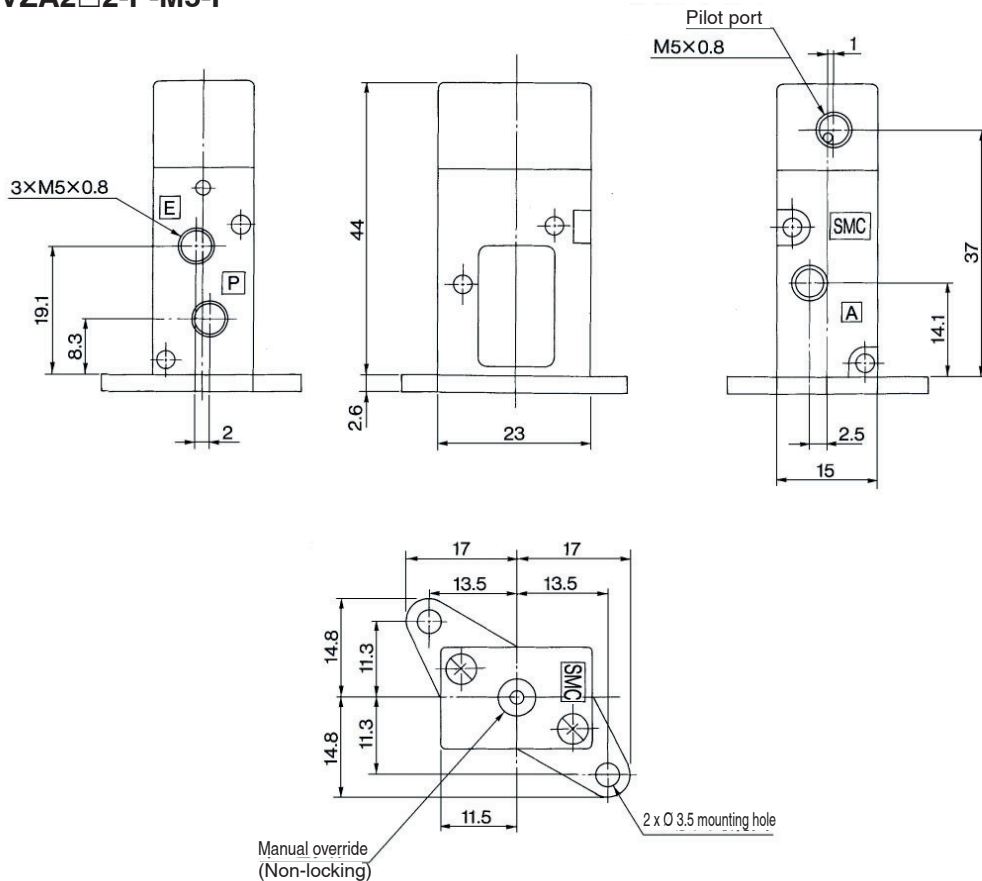
## Dimensions

Body ported: VZA2□2-P-M5



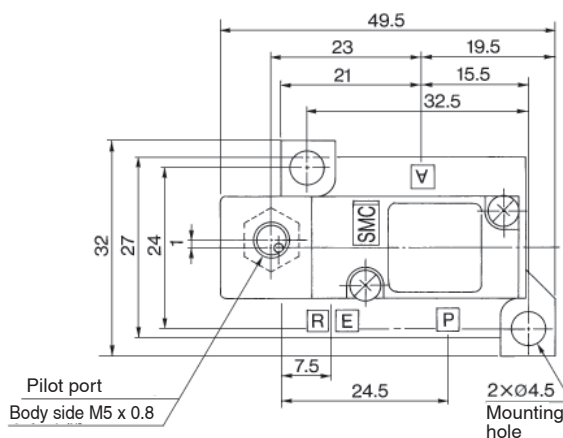
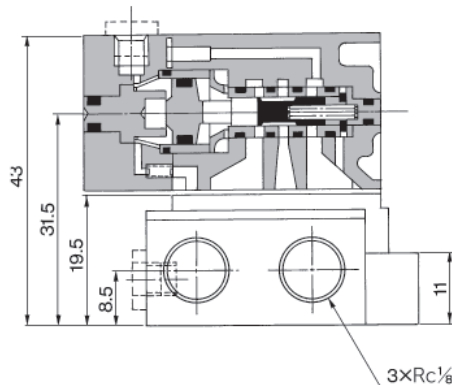
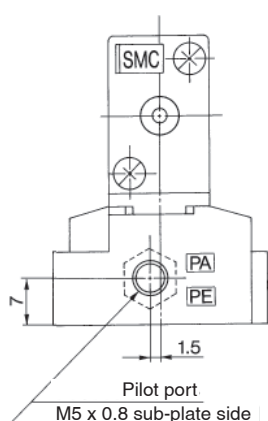
## Foot bracket

Body ported: VZA2□2-P-M5-F



## Dimensions

Base mounted: VZA2□4-□-01



### International Thread Standards Other than Rc

Rc specifications are standard for all ports, however, NPT, NPTF and G are available for international markets. Add the appropriate symbol following the port size in the standard part number.

#### <How to Order Valve>

VZA412 - P - 01

VZA414 - 1P - 01

Thread type

—	Rc
N	NPT
T	NPTF
F	G

#### <How to Order Manifold>

VV3ZA2 - 50 - 031 - 01

Thread type

—	Rc
N	NPT
T	NPTF
F	G

### Sub-plate Assembly Part No.

Model	Part no.
VZA200	VZA200-S-01
VZA400	VZA400-S- $\frac{01}{02}$

\* Mounting bolt and gasket are not included.

#### <How to Order Sub-plate>

VZA200 - S - 01

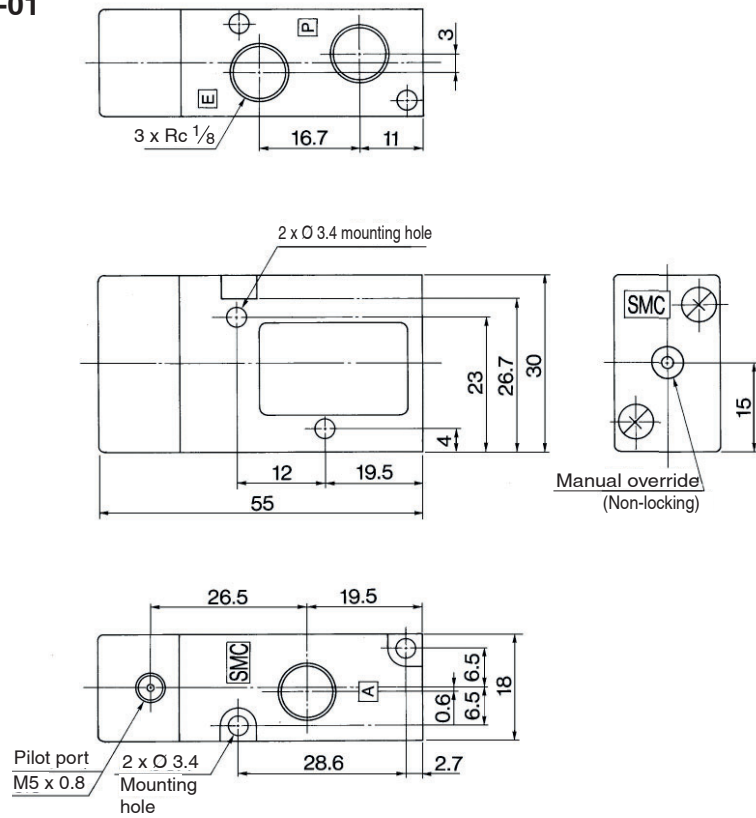
Thread type

—	Rc
N	NPT
T	NPTF
F	G

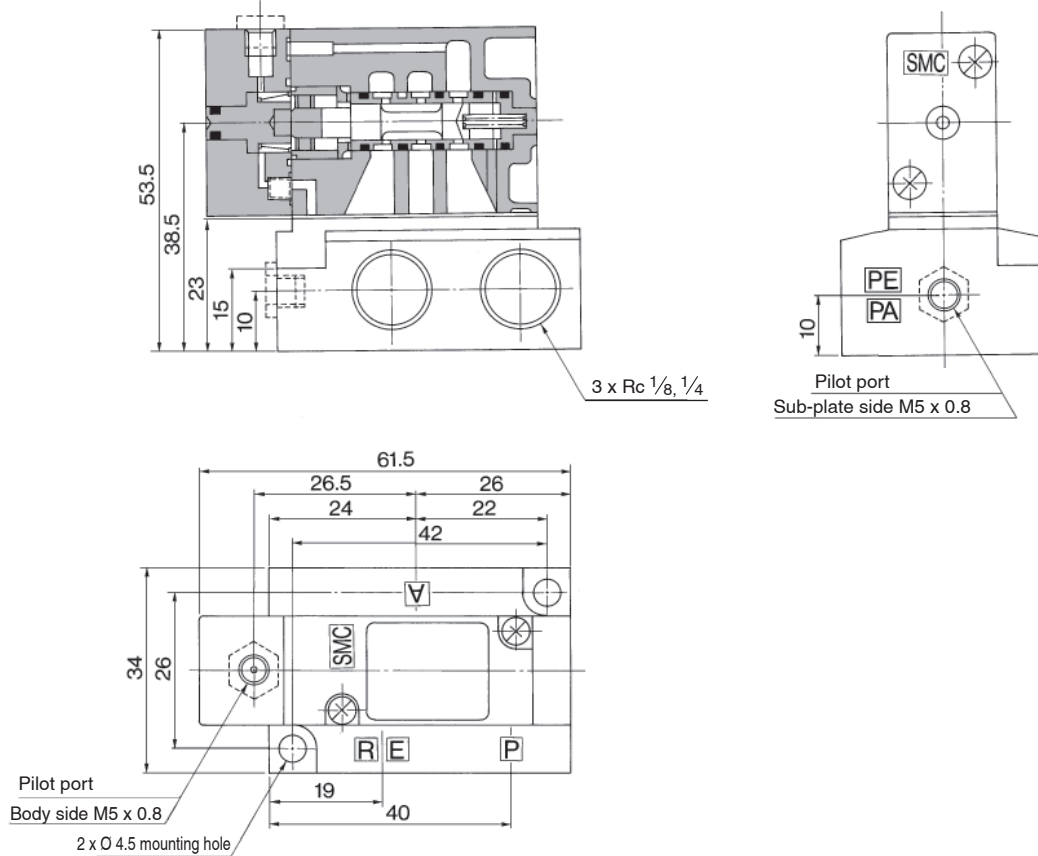
# VZA200/400 Series

## Dimensions

Body ported: VZA4□2-P-01






Base mounted: VZA4□4-□-01-02



## 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

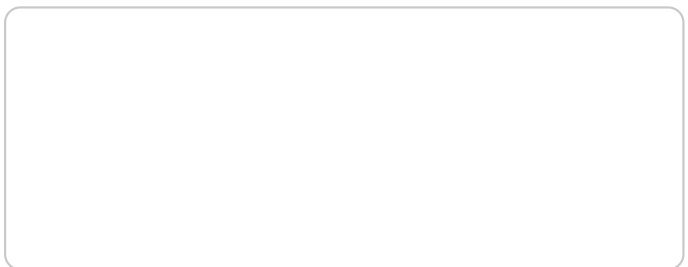
1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries 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.

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