

Suction Cup / Oval Bellows Type

New
RoHS

2.5-stage 15 x 35, 25 x 60, 35 x 80

Allows for the transfer of long, thin packaged workpieces containing liquids, powders, etc.



The cup and attachment are made of materials that comply with the FDA (U.S. Food and Drug Administration) dissolution test, the Japan Food Sanitation Act standards, and Regulation (EC) No. 1935/2004.

Blue colored cup

Easy to distinguish the suction cup by color during contamination inspection

HF3A- Series compatible

- Uses materials that comply with food contact surface laws and regulations and does not use lubricants or rust proof agents

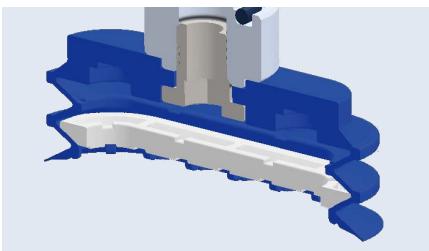
* The specifications are the same as the "HF3A-" even though there is no "HF3A-" part number prefix.

ZP3P-WJT Series

Attachment Variations

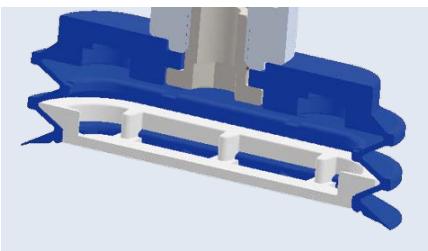
Attachment

Prevents deformation of the cups during adsorption
Greater adsorption force than when used without an attachment



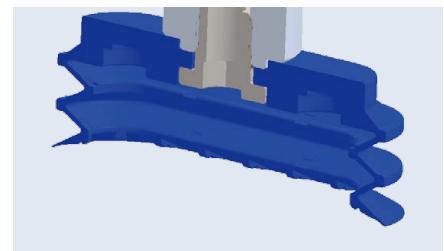
Flat attachment

Reduces instances of adsorption marks (wrinkles) being left on workpieces



Without attachment

Allows for the adsorption of cylindrical workpieces



For reducing wrinkles (Flat attachment)

Flat attachment



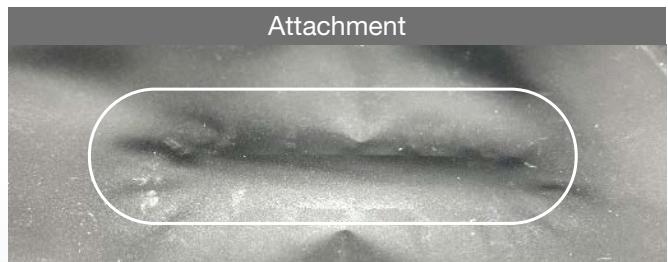
- The suction port is sealed with a flat surface to suppress workpiece suction.

Adsorption mark comparison

Flat attachment



Attachment



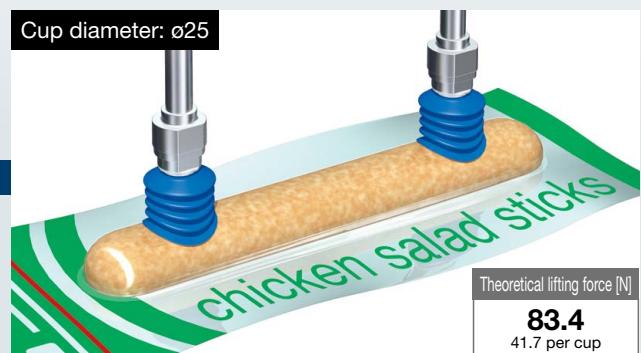
Cup size: 25 x 60 [mm]

Aluminum metallized film (Thickness: 0.11 [mm])

Set vacuum pressure: -85 [kPa]

Allows for multiple cups to be replaced by a single oval-shaped cup

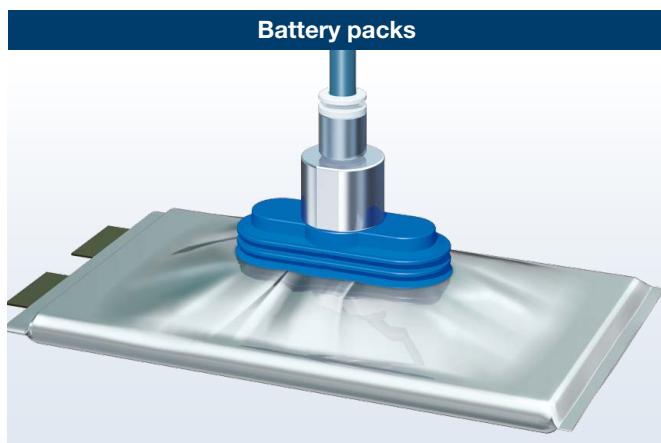
Comparison of the theoretical lifting force (when the pressure is -85 kPa)



Oval Bellows Type Variations

Form	Type	Vacuum inlet direction	Connection			Vacuum inlet		
			Type	Size		Type	Size	
				Cup size: 15 x 35	Cup size: 25 x 60, 35 x 80		Cup size: 15 x 35	Cup size: 25 x 60, 35 x 80
With adapter 	Direct mounting	Vertical	Male thread	G1/8	G1/4	—	Use the connection thread.	
			Female thread	G1/8	G1/4			
				M5 x 0.8	M8 x 1.25			
	Plate mounting		Male thread	M10 x 1.0	M14 x 1.0	Female thread	M6 x 1.0	Rc1/8

Application Examples



C O N T E N T S

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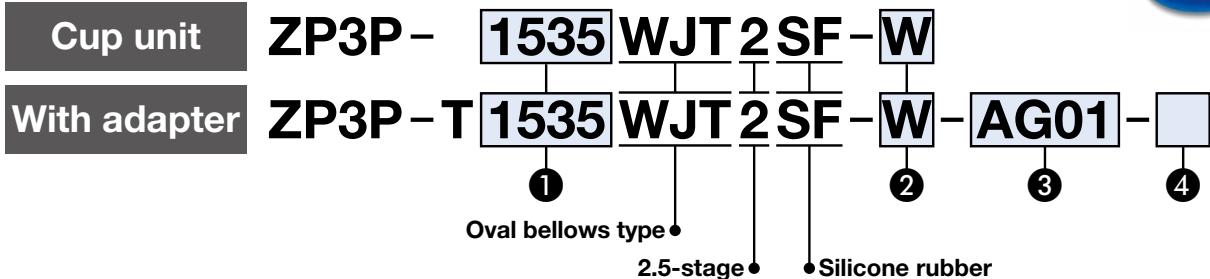


Suction Cup / Oval Bellows Type

2.5-Stage Oval Bellows Type

ZP3P-WJT Series

How to Order



① Cup diameter

1535	15 x 35
2560	25 x 60
3580	35 x 80

② Attachment

Nil	Without attachment
W	With attachment
WF	With flat attachment

③ Connection thread/④ Vacuum inlet

Type	③ Connection thread			④ Vacuum inlet			Cup size [mm]	
	Thread	Symbol	Connection thread	Thread	Symbol	Connection thread	15 x 35	25 x 60, 35 x 80
Direct mounting	Male thread	AG01	G1/8	—	Nil	Use the connection thread.	●	—
		AG02	G1/4				—	●
	Female thread	BG01	G1/8				●	—
		BG02	G1/4				—	●
		B5	M5 x 0.8				●	—
		B8	M8 x 1.25				—	●
Plate mounting	Male thread	A10	M10 x 1	Female thread	B6	M6 x 1.0	●	—
		A14	M14 x 1		B01	Rc1/8	—	●

Mounting nuts and flat attachment are included but do not come assembled.

Specifications

Ambient temperature range	-30 to 90°C	
Cup	Material	Silicone rubber*1, *2, *5
	Color	Blue
	Rubber hardness (Shore A: ±5°)	60
Attachment	Material	Synthetic resin*3, *4, *5
	Color	White

*1 Uses a material compliant with a dissolution test of the FDA (U.S. Food and Drug Administration) regulation 21CFR§177.2600 for "Rubber articles intended for repeated use."

*2 Uses a material compliant with the standards for "Rubber apparatus (excluding baby drinking apparatus) and containers/packaging" (D3) (Partial revision: Japanese Ministry of Health, Labour, and Welfare Notification No. 595, 2012) in Section 3 "Apparatus and Containers/Packaging" of the Japan Food Sanitation Act, Article 18 "Specifications and Standards for Food and Food Additives, etc." (Japanese Ministry of Health and Welfare Notification No. 370, 1959)

*3 Uses materials compliant with FDA (U.S. Food and Drug Administration) 21CFR§177

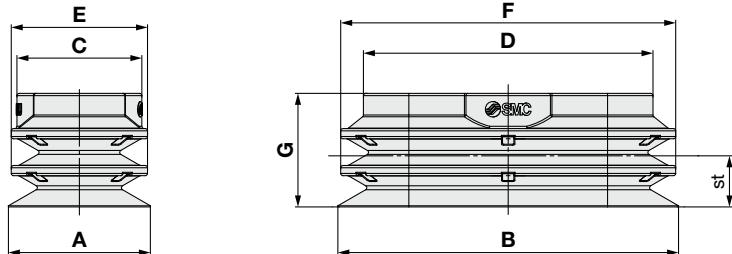
*4 Uses materials compliant with the standards for "Synthetic resin apparatus and containers/packaging" (D2) in Section 3 "Apparatus and Containers/Packaging" of the Japan Food Sanitation Act, Article 18 "Specifications and Standards for Food and Food Additives, etc." (Japanese Ministry of Health and Welfare Notification No. 370, 1959)

*5 Uses materials compliant with Regulation (EC) No. 1935/2004 (regulation on materials and articles intended to come into contact with food)

Dimensions/Models

Cup unit

ZP3P - 1535 WJT 2 SF - W
① ② ③



Model						A	B	C	D	E	F	G	st*1		Weight [g]
① Cup size	Form	Number of bellows stages	② Material	③ Attachment	Attachment								Attachment: Without	Attachment: W, WF	
ZP3P	WJT	2	SF	Nil	15	35	14.6	31	14.6	34.6	12		4	3	2.9
				W	25	60	22	51	24	59	20		9	6	11.4
				WF	35	80	24	69	34	79	24		11	8	25.7

*1 (st) indicates achieved vacuum pressure: Reference at -90 [kPa]

*2 The attachment weight is not included. For the type with an attachment, add the attachment weight to the part weight.

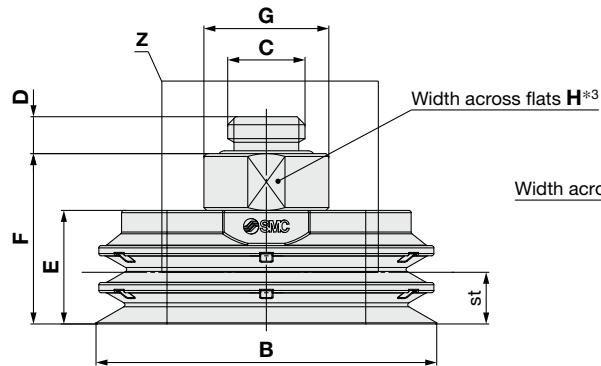
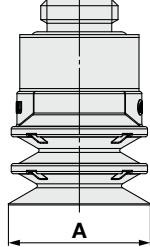
With adapter Direct mounting type (Male thread)

ZP3P - T 1535 WJT 2 SF - W - AG01
① ② ③

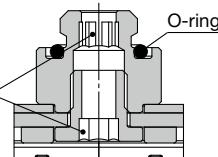


Cup size	
15 x 35	25 x 60, 35 x 80
AG01 G1/8	—

Cup size	
AG01 G1/8	—
AG02 G1/4	●



Section Z



Vacuum inlet direction	① Cup size	Model						A	B	C	D	E	F	G	H	J	st*1		Min. opening hole size of the adapter	Weight [g]
		Form	Number of bellows stages	② Material	③ Attachment	④ Connection thread	Attachment										Attachment: Without	Attachment: W, WF		
ZP3P	T	WJT	2	SF	Nil	AG01	15	35	G1/8	5.5	12	19	14.5	14	4	4	3	ø3.6	7.8	
					W	AG02	25	60		20	30	22				9	6	ø6	26.2	
					WF	AG02	35	80	G1/4	6.5	24	34	21	6		11	8	ø6	38.2	

*1 (st) indicates achieved vacuum pressure: Reference at -90 [kPa]

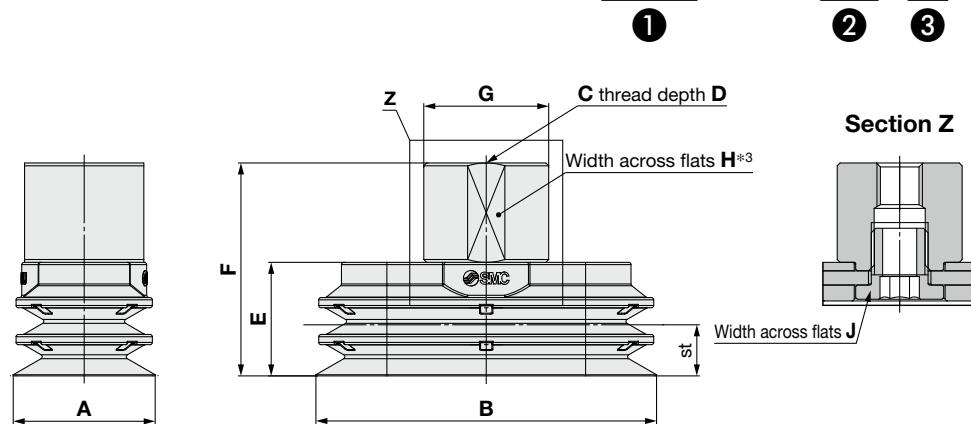
*2 The attachment weight is not included. For the type with an attachment, add the attachment weight to the part weight.

*3 The direction of the width across flats H varies depending on the product.

Dimensions/Models

With adapter Direct mounting type (Female thread)

ZP3P - T 1535 WJT 2 SF - W - BG01



Cup size	
15 x 35	25 x 60, 35 x 80
BG01	G1/8
B5	M5 x 0.8
BG02	G1/4
B8	M8 x 1.25

Model										st*1	Attachment: Without	Attachment: W, WF	Min. opening hole size of the adapter	*2 Weight [g]				
Vacuum inlet direction	① Cup size	Form	Number of bellows stages	② Material	③ Attachment	④ Connection thread	A	B	C	D	E	F	G	H	J			
ZP3P	T	1535	WJT	SF	Nil W WF	BG01 B5 BG02 B8 BG02 B8	15	35	G1/8 M5 x 0.8 G1/4 M8 x 1.25 G1/4 M8 x 1.25	7.4 6.5 11 8.5 11 8.5	12	27 25 40 37.5 44 41.5	14.5 14 22 21 6	4	3	ø3.6	9.3 9.6	
							25	60			20				9	6	ø6	31.6 31.8
							35	80			24				11	8		43.6 43.8
	T	2560	WJT	SF	Nil W WF	BG01 B5 BG02 B8 BG02 B8	25	60			20							
							35	80			24							

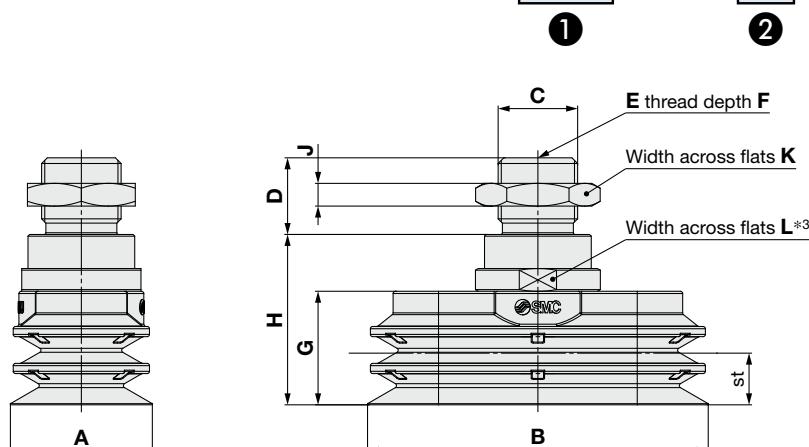
*1 (st) indicates achieved vacuum pressure: Reference at -90 [kPa]

*2 The attachment weight is not included. For the type with an attachment, add the attachment weight to the part weight.

*3 The direction of the width across flats H varies depending on the product.

With adapter Plate mounting type (Male thread)

ZP3P - T 1535 WJT 2 SF - W - A10 - B6



Cup size	
15 x 35	25 x 60, 35 x 80
B6	M6 x 1.0
B01	Rc1/8

Cup size	
15 x 35	25 x 60, 35 x 80
A10	M10 x 1
A14	M14 x 1

Model										st*1	Attachment: Without	Attachment: W, WF	Min. opening hole size of the adapter	*2 Weight [g]								
Vacuum inlet direction	① Cup size	Form	Number of bellows stages	② Material	③ Attachment	④ Connection thread	⑤ Vacuum inlet	A	B	C	D	E	F	G	H	J	K	L				
ZP3P	T	1535	WJT	SF	Nil W WF	A10 A14 B6 B01	M10 x 1.0 M14 x 1.0 M6 x 1.0 Rc1/8	15	35	M10 x 1.0	10	M6 x 1.0	6	12	19	3	14	14	4	3	ø3.6	11.0
								25	60	M14 x 1.0	13.5	Rc1/8	—	20	30	4	19	21	9	6	ø6	32.6
								35	80				24	34					11	8		44.6

*1 (st) indicates achieved vacuum pressure: Reference at -90 [kPa]

*2 The attachment weight is not included. For the type with an attachment, add the attachment weight to the part weight.

*3 The direction of the width across flats L varies depending on the product.

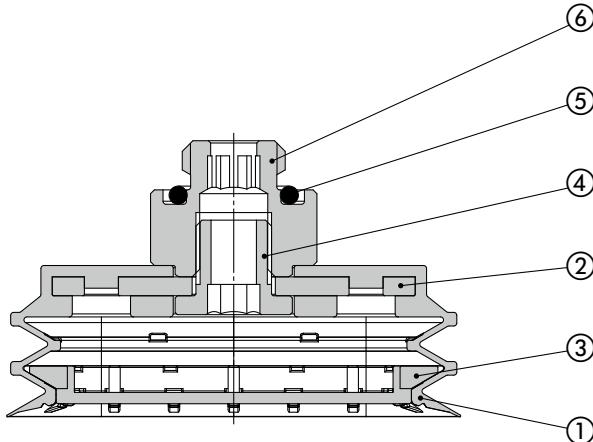
Suction Cup / Oval Bellows Type **ZP3P-WJT** Series

2.5-Stage Oval Bellows Type

Construction

Direct mounting type (Male thread)

ZP3P-T□WJT2SF-A□



Direct mounting type (Female thread)

ZP3P-T□WJT2SF-B□

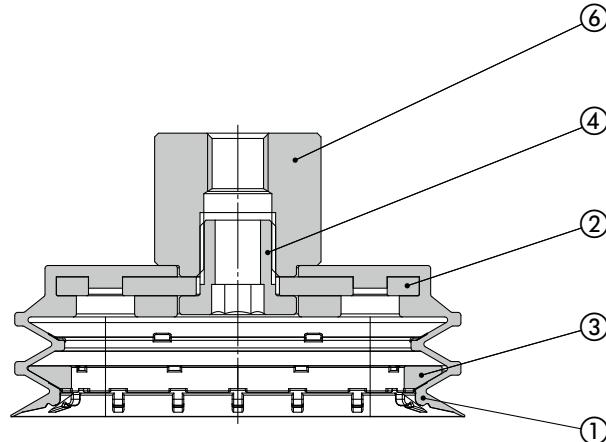
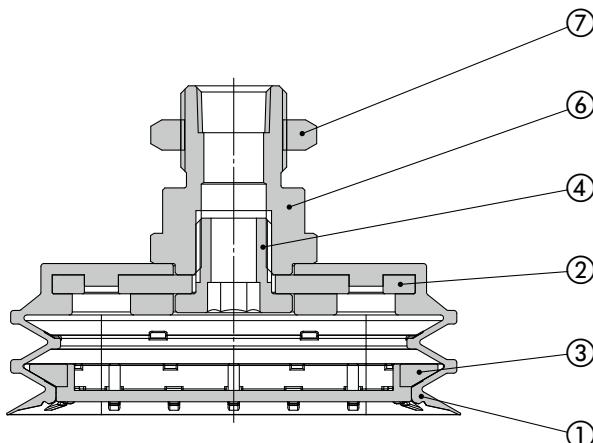


Plate mounting type (Male thread)

ZP3P-T□WJT2SF-A□-B□



Component Parts

No.	Description	Material	Note
1	Cup	Silicone rubber*1, *2, *5	—
2	Insert plate	Aluminum alloy (Anodized)	—
3	Resin attachment	Synthetic resin*3, *4, *5	—
4	Set screw	Stainless steel	—
5	O-ring	Silicone rubber	For ZP3P-T□WJT2SF-A□
6	Adapter	Aluminum alloy (Anodized)	—
7	Nut	Steel (Zinc chromated)	For ZP3P-T□WJT2SF-A□-B□

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Replacement Parts



Attachment Unit

Part number	Applicable cup size	Weight [g]
ZP3PW-1535WJT2	15 x 35	0.3
ZP3PW-2560WJT2	25 x 60	1.8
ZP3PW-3580WJT2	35 x 80	3.1

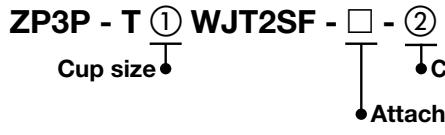
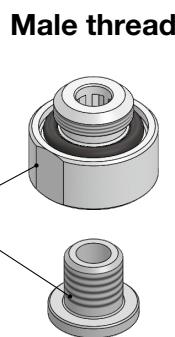
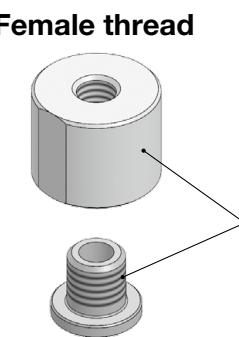


Flat Attachment Unit

Part number	Applicable cup size	Weight [g]
ZP3PWF-1535WJT2	15 x 35	0.5
ZP3PWF-2560WJT2	25 x 60	2.1
ZP3PWF-3580WJT2	35 x 80	4.8

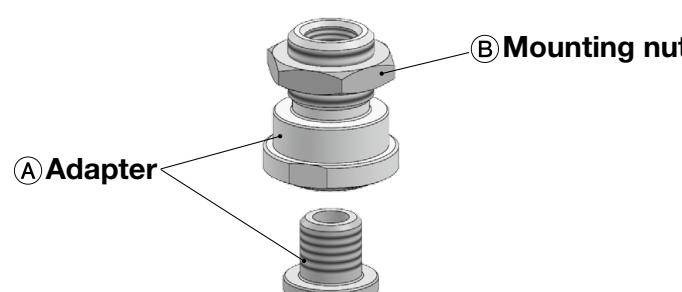
Suction Cup ZP3P-WJT Series Mounting Bracket Assembly

Adapter Assembly: Direct Mounting Type

Product part number	ZP3P - T ① WJT2SF - □ - ② Cup size 	
Component parts	 ① Adapter (With O-ring)	 ① Adapter

① Adapter	② Connection thread	Type	Size	Symbol	① Cup size symbol		
					1535	2560	3580
Male thread	G1/8	AG01			ZP3PA-T1WJT-AG01	—	—
		AG02			—	ZP3PA-T2WJT-AG02	—
	G1/4	BG01			ZP3PA-T1WJT-BG01	—	—
		BG02			—	ZP3PA-T2WJT-BG02	—
Female thread	M5 x 0.8	B5			ZP3PA-T1WJT-B5	—	—
	M8 x 1.25	B8			—	ZP3PA-T2WJT-B8	—

Adapter Assembly: Plate Mounting Type

Product part number	ZP3P - T ① WJT2SF - □ - ② - ③ Cup size 							
Component parts								

① Adapter	② Connection thread	Type	Size	Symbol	③ Vacuum inlet	Type	Size	Symbol	① Cup size symbol		
									15 x 35	25 x 60	35 x 80
Male thread	A10 x 1.0	A10			Female thread	M6 x 1.0	B6		ZP3PA-T1WJT-A10-B6	—	—
		A14				Rc1/8	B01		—	ZP3PA-T2WJT-A14-B01	—
② Mounting nut (Single unit)						ZPNA-M10			ZPNA-M14		

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.

⚠ 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 catalog 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. SMC products cannot be used beyond their specifications. They are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not allowed.

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, combustion 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 catalogs 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

SMC develops, designs, and manufactures products to be used for automatic control equipment, and provides them for peaceful use in manufacturing industries.

Use in non-manufacturing industries is not allowed.

Products SMC manufactures and sells cannot be used for the purpose of transactions or certification specified in the Measurement Act of each country. 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.*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 catalog for the particular products.

*2) **Suction cups (Vacuum pads) are excluded from this 1 year warranty.**

A suction cup (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 suction cup (vacuum pad) or failure due to the deterioration of rubber material are not allowed 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 the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.