

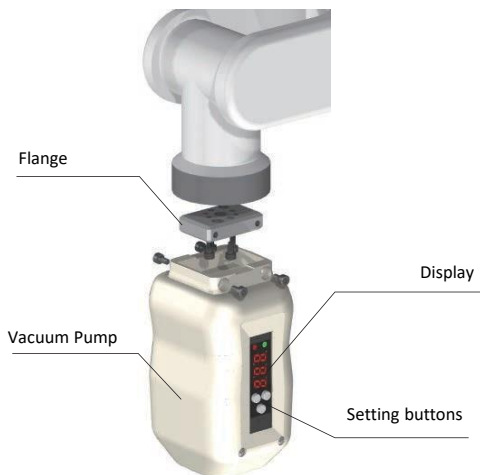
e-Hand SGE series



Built-in vacuum pump Allows suction without a compressor

Power is supplied by one M8 cable

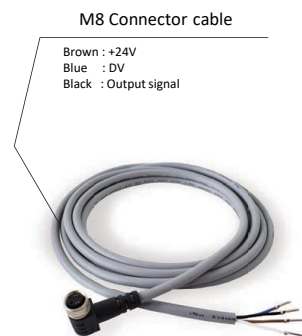
Vacuum ON/OFF switching and suction confirmation



Can be connected directly to collaborative robot using the flange attached to the top.

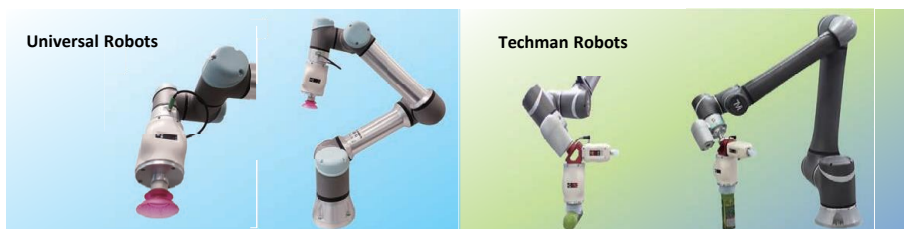


Adjusting the settings can change the threshold of the adsorption confirmation signal. Switch between sink/source input, NPN/PNP.



Can easily be connected with basic equipment.

Compatible with robot manufacturer plug in software



Plug-in software can be downloaded From or product page website Convum.co.jp

Energy saving and airless system

~ 1kWh – 0.11 USD
10 hours operation

Adsorption time – 5 hours

Small type

- Power consumption during adsorption : 4W
- Power consumption when not adsorbed : 1.1W

Electric bill per day

0.0028 USD

(Power consumption 25.5W/hr)

Electric bill per year

0.67 USD

Medium type

- Power consumption during adsorption : 7.5W
- Power consumption when not adsorbed : 1.1W

0.0047 USD

(Power consumption 25.5W/hr)

165.12 USD

SGE Series

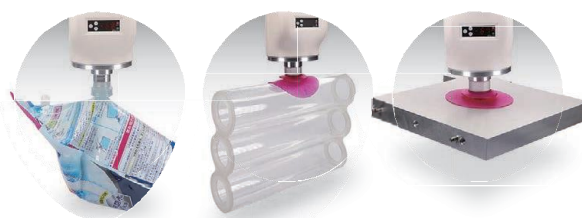
Available in small and medium sizes, mediums size compatible with balloon hand.

Small electric suction hand

- Built in small vacuum pump (suction flow rate 0.3L/min)
- Lightweight 260g
- Installed on collaborative robots with
Optional flange (P.C.D.15.5, 25,31.5, 50)
- A variety of suction pads can be attached using
The pad connection vacuum port (M5)



- Built in vacuum pump (suction flow rate 2.0/min)
- M10 and G1/8 vacuum ports for pad connection
- Can be attached to various types of our suction pads
(M10, G1/8)



- The balloon hand can pick up a wide variety of
Irregular shaped objects
- Medium sized suction parts can be replaced



Our new adaptor allows multiple pads to be attached to one device.



●Adsorption of cylindrical objects (canned goods)



◎Adsorption of long items (pasta)

e-Hand (Electric suction hand)



Small type

SGE - **M5** -N

Vacuum port screw size

M5 M5x0.8 Female Thread

Set content

N e-hand and cable included

Target robot

No symbol	Collaborative robots, Techman plug and play
ASSISTA	Mitsubishi ASSISTA only

Please download the plug-in from the product page of our website Convum.co.jp

ASSISTA exclusive flange for suction pads – PN134B-M5-S4-F, PLG-20-S4, PBG-20-N

Female screw – TN-PF, 20-M5

Cable will be replaced to optional cable SGE-MS128



Medium type

SGE - **M10** -N

Vacuum port screw size

M10 M10x1.5 Female Thread

MG1 G1/8 Female Thread

Set content

N e-hand and cable included

Target robot

No symbol	Collaborative robots, Techman plug and play
-UR	Universal Robots URcap

Please download the plug-in from the product page of our website Convum.co.jp

UR plus certified format is only for SGE-G1-N-UR

Included cable will be changed to optional cable SGE-FS088



Note) The upper part of the main body is the same as the medium-sized balloon type. It is possible to change to the balloon type by installing the optional replacement balloon base.

Balloon hand type

SGE - **B3** **S** -N

Balloon size

B3 Caliber 30mm Diameter 71mm

B4 Caliber 40mm Diameter 84mm

Vacuum port screw size

S Silicon rubber, A40/S, Light blue

M Silicon rubber Metal detection, A55/S, Gray

N NBR A40/S, Black

Set content

N e-Hand body and cable included

Target robot

No symbol	Collaborative robots, Techman plug and play
-UR	Universal Robots URcap

Please download the plug-in from the product page of our website Convum.co.jp



Note 5) The upper part of the main body is the same as the medium-sized type. It is possible to change to a suction pad by installing an optional replacement pad base.

Model number

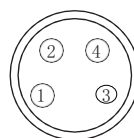
type	CODE	Model number	mass
small size	503000001	SGE - M5 - N	260g
	503000002	SGE - M5 - N - ASSISTA	433g
	503000006	SGE - M10 - N	
medium size	503000007	SGE - G1 - N	890g
	503000022	SGE - G1 - N - UR	
	503000003	SGE - B3S - N	
	503000004	SGE - B3M - N	
	503000005	SGE - B3N - N	970g
medium sized balloon	503000020	SGE - B3S - N - UR	
	503000008	SGE - B4S - N	
	503000009	SGE - B4N - N	
	503000010	SGE - B4M - N	1010g
	503000021	SGE - B4S - N - UR	

Specification

	Unit	Small size	Medium / medium balloon
Ultimate vacuum pressure	kPa	-57	-70
Suction flow rate	L / min	0.3	2.0
Power - supply voltage	V	DC24	
power consumption	W	4	7.5
Flange P.C.D.	mm	P.C.D. 15.5 Note 1)	P.C.D.31.5 / 50
Operating environment temperature	° C	10-40	15-40
Protection class	-	IP30	IP40
Noise value	dB (A)	56	60
inrush current	A	0.34	0.6
motor	-	coreless motor	brush motor
Adsorption command signal	-	Sink / source input Note 2	
OUT output (adsorption confirmation signal)	-	NPN / PNP output Note 2) Load current : MAX125mA	
Cable (accessories)	-	M84 pin angled connector cable 2m	



Accessories: M84 pin connector cable 2m



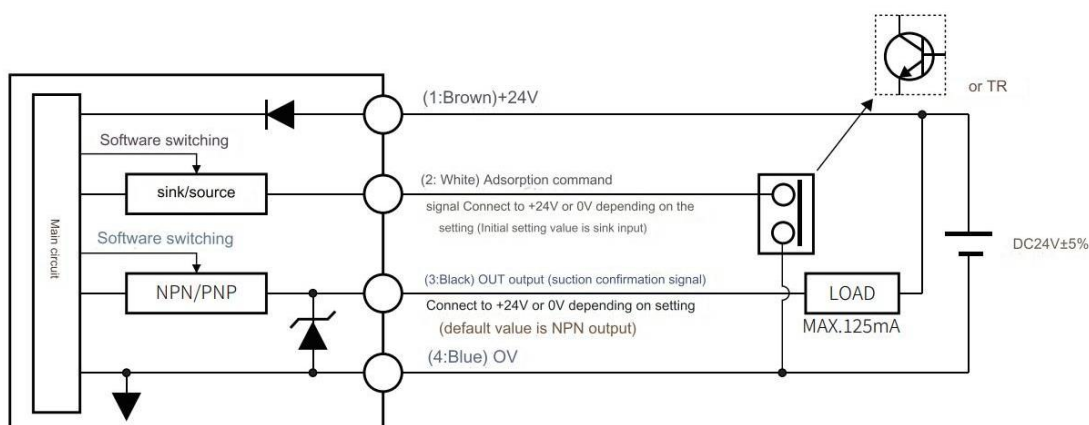
M84 pin number

	First place	Medium	balloon type
Lifting capacity Note 4)	N	SGB - B3 43.3	SGB - B4 3 64.9

- PCD can be changed with replacement flange for robot mounting
- The factory setting "sink input" setting, can be changed to "source input" setting.
- The factory setting is NPN output, it can be changed to PNP output

pin number	line color	Content
1	brown	+ 24V
2	white	Adsorption signal
3	blue	O.V.
4	black	OUT output

Circuit Diagram



Replacement pad model number

SGE - **M10** - B

1 2

1 – Vacuum port

M10	M10x1.5 Female Thread
G1	Female Thread

2 - Pad base only (excluding main body)



Model number list/mass

Mass	Model Number	Mass
518000134	SGE-M10-B	100g
518000135	SGE-G1-B	

Replacement Balloon hand

SGE - **B3** **S** -B

1 2 3

1 – Balloon size

B3	Caliber 30mm Diameter 71mm
B4	Caliber 40mm Diameter 84mm

2 – Balloon material

S	Silicon rubber, A40/S, Light blue
M	Silicon rubber Metal detection, A55/S, Gray
N	NBR A40/S, Black

3 – Balloon base only (excluding main body)



Model number list/mass

Code	Model number	Mass
518000131	SGE-B3S-B	250g
518000132	SGE-B3M-B	
518000133	SGE-B3N-B	
518000171	SGE-B4S-B	290g
518000173	SGE-B4M-B	
518000172	SGE-B4N-B	

Adapter model No

SGE - **M5I** - B

1 2



1. Vacuum port and pad mounting arrangement

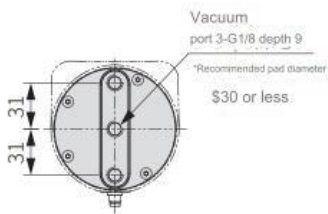
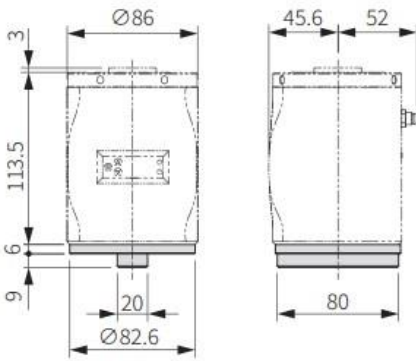
Symbol	Vacuum port, pad mounting arrangement	Target SGE
G1I	3 G/18 Female threads, I shaped	Medium SGE
G1T	3 G/18 Female threads, Triangular shaped	
G1X	5 G/18 Female threads, X - shaped	
A25	4 M5 Female threads, PCD.25 Flange	Small SGE
M5I	3 M5 Female threads, I shaped	

Note) The pad adapter is sold separately

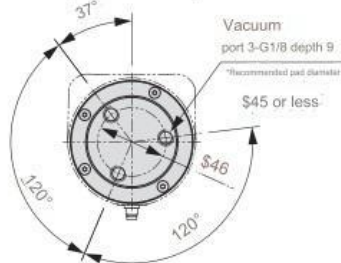
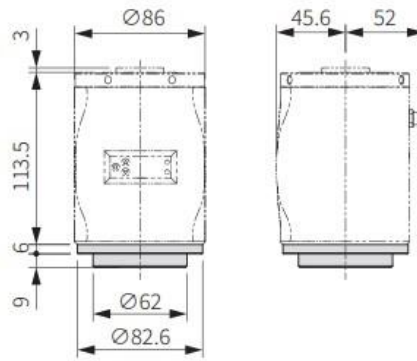
Code	Model number	Mass
518000180	SGE-G1I-B	114g
518000183	SGE-G1T-B	152g
518000181	SGE-G1X-B	145g
518000182	SGE-A25-B	127g
518000184	SGE-M5I-B	66g

2. Pad adapter only (excluding main body)

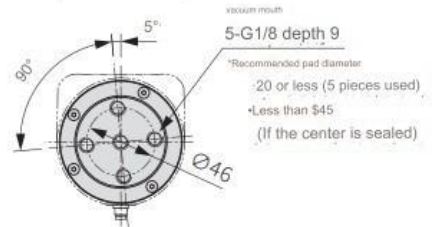
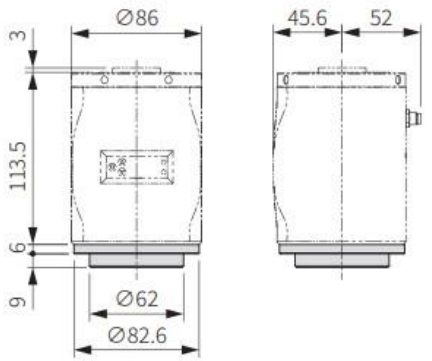
SGE-G1I-B



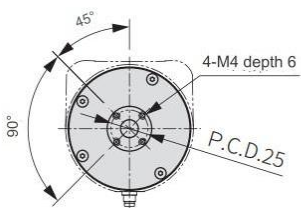
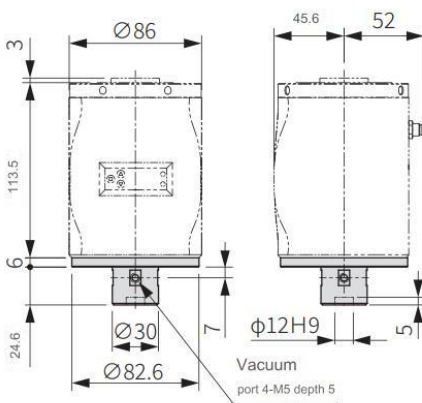
SGE-G1T-B



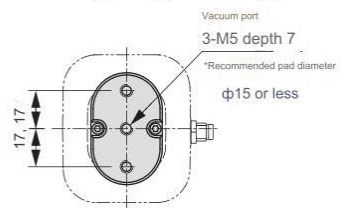
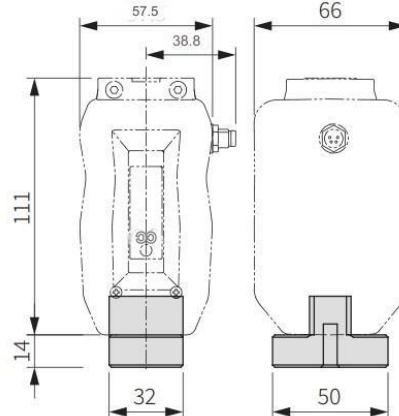
SGE-G1X-B



SGE-A25-B



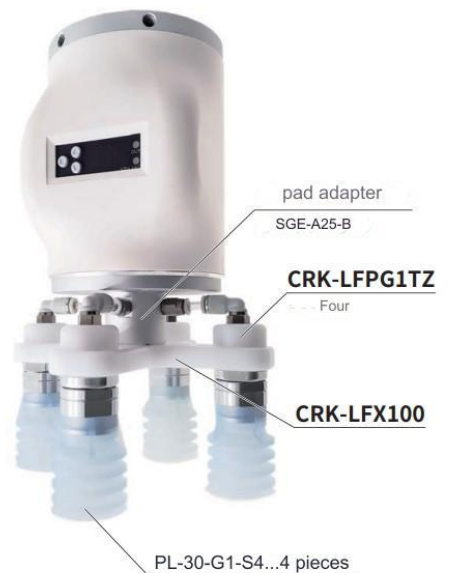
SGE-M5I-B



pad adapter
SGE-G1T-B



pad adapter
SGE-A25-B

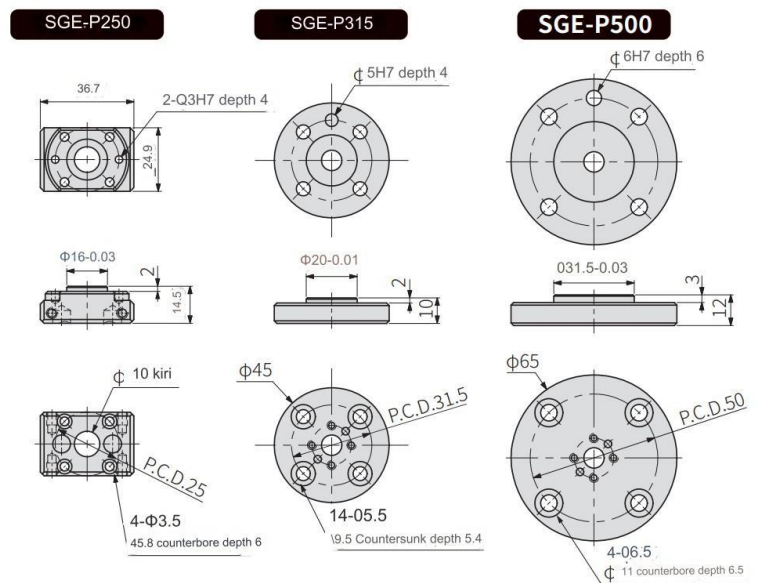


Small time, replacement flange

SGE- P250

1 – Mounting PCD

P250	PCD 25
P315	PCD 31.5
P500	PCD 50



CODE	Model number	Mass
518000095	SGE-P250	22g
518000096	SGE-P315	28g
518000097	SGE-P350	76g

Note 1) SGE-P250 is used in place of the standard flange.

SGE-P315/P500 is used by connecting the standard flange with the included bolts.

Optional Cable, Small - Medium

SGE- FS088

① Cable specifications

FS088	M8 female 8 pin straight
MS088	M8 male 8 pin angle
MS128	M12 male 8 pin male angle

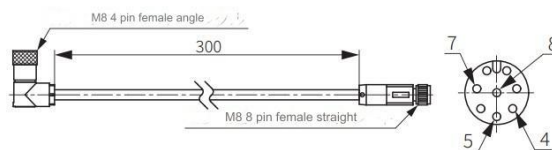
Optional cable
SGE-FS088



Optional cable
SGE-MS128

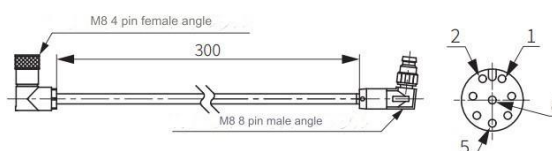


SGE-FS088



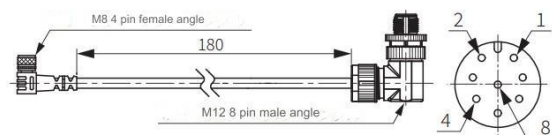
PIN	Content
5	+24V
7	Absorption signal
8	O.V.
4	Output signal

SGE-MS088



PIN	Content
1	+24V
5	Absorption signal
8	O.V.
2	Output signal

SGE-MS128



PIN	Content
2	+24V
4	Absorption signal
1	O.V.
8	Output signal

CODE	Model number	Mass
518000098	SGE-FS088	24g
518000099	SGE-MS088	25g
518000100	SGE-MS128	295g

Model number	Robot	Model
SGE-FS088	Universal Robots	UR
	Fanuc	CRX
	Dobot	CR
SGE-MS088	Techman Robots	TM
	Jaka	ZU
SGE-MS128	Mitsubishi Electric	ASSISTA

Maintenance parts type

SGBG- 30 S4

1. Balloon size (compatible formats)

30	SGE - B3
40	SGE - B4

2. Material (compatible models)

S4	SGE - B	S -
SM	SGE - B	M -
N4	SGE - B	N -

Model number list/mass

CODE	Model number	Mass
518000068	SGBG-30-S4	30g
518000069	SGBG-30-N4	30g
518000070	SGBG-30-SM	30g
518000066	SGBG-40-S4	51g
518000067	SGBG-40-N4	51g
518000068	SGBG-40-SM	51g



SGB - SB - 30

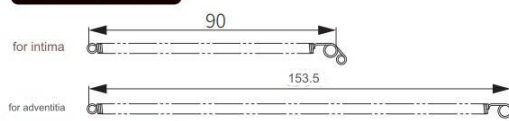
Spring band (for adventitia)
SGBG-SB-30

30	SGE - B3	-
40	SGE - B4	-

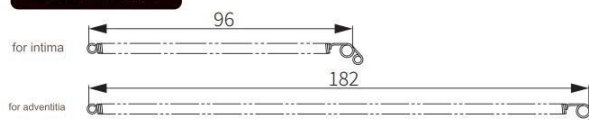
Spring band (for endometrium)
SGBG-SB-30

CODE	Model number	Mass
518000072	SGB-SB-30	3.7g
518000169	SGB-SB-40	4.5g

SGB-SB-30



SGB-SB-40



SGB - CR - 30

1. Balloon size

30	SGE-B3/B4-
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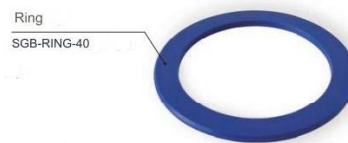
Model number list/mass

CODE	Model number	Mass
518000071	SGB-CR-30	6.8g

SGB - RING - 40

1. Balloon size

30	SGE-B3/B4-
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Model number list/mass

CODE	Model number	Mass
518000170	SGB-RING-40	2.2g



Speeds

Small electric suction hand

Model number	Suction pad: When connected to PJG-25		Suction pad: When connected to PNG-134B	
	-50kPa reached	Atmospheric release	-50kPa reached	Atmospheric release
SGE-M5-N	0.46 seconds	0.08 seconds	0.85 seconds	0.15 seconds

Medium-sized electric suction hand

Model number	Suction pad: When connecting PK2B-80-T-M10		
	-50kPa reached	-60kPa reached	Atmospheric release
SGE-M10-N	1.5 seconds	1.6 seconds	0.6 seconds

Medium electric balloon hand

Model number	-50kPa reached	-60kPa reached	Atmospheric release	Balloon restoration time
SGE-B3S-N	0.34 seconds	0.43 seconds	0.2 seconds	0.8 seconds
SGE-B4S-N	0.35 seconds	0.47 seconds	0.2 seconds	2.0 seconds

e-Hand (SGE) Notes -1



Precautions for use



-Safety design for accidents caused by reduced vacuum pressure due to power outages.

When the vacuum pressure drops and the suction force of this machine is lost, The risk of workpiece falling during transport can cause damage to the people and mechanical equipment

Please take sufficient safety measures to prevent power outage.

• Do not use in places where there is a strong magnetic field or large currents. Ferromagnetic or where there is a large current (large magnet, spot welding machine, etc.) Use of this product may cause malfunction or malfunction of this product.

• Do not inhale exhaust air from the device. Do not consume water or other liquids, outdoor or corrosive gases, chemicals emitted from device. Do not use in seawater, water vapor, or places that adhere to these environments.

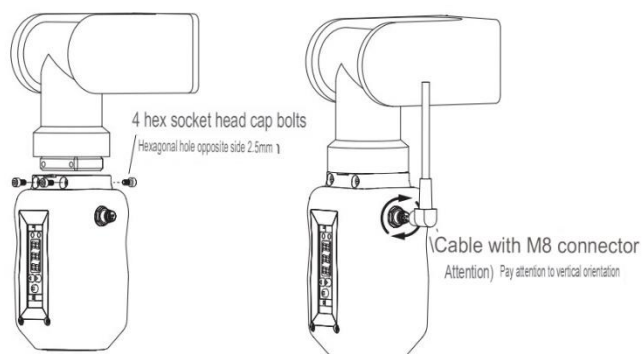
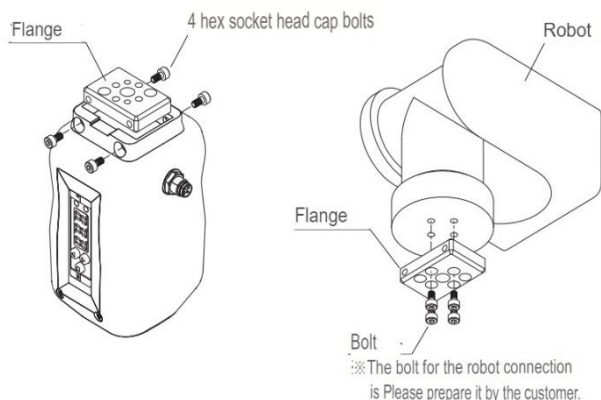
Please contact us if you have any questions.

- It is not recommended for continuous energization of this device. If this is required, the energization time should be less than 10 continuous minutes.

If you have any questions, please feel free to contact us.

The small type is a collaborative robot with a weight of 3kg or less, and the medium-sized type This program is intended for collaborative robots with a weight of 10kg or less.

This device is recommended to be used with a robot that has a higher ability. Please confirm the safety conditions are met before use. Carrying capacity, Various conditions such as acceleration and eccentric load, even if the amount of use is less than or equal to recommended levels, Please be sure to check your working environment for safety conditions as there is a risk of damage caused by the accident.



Maintenance and inspection



• Please do not disassemble. If it is disassembled by the customer, It is not covered by the warranty.

In the case of a request for maintenance, etc. Please contact us if you have any questions.

-The product life time of the built-in vacuum pump is 1500h. The duration of use and Maintenance is recommended for more than 1500 hours.

Please contact our sales representative for maintenance.

※The product life is limited might be under the suggested time.

Actual product life is greatly affected by the operating environment and load.



For safe use

Please be sure to read this before use.

Please also check the common precautions, individual precautions for each series, and product instruction manual.

The precautions listed here are intended to help you use our products safely and correctly and to prevent personal injury or damage. Precautions are classified into three categories: [Danger], [Warning], and [Caution] to indicate the magnitude and severity of injury to persons or damage to property that may occur if handled incorrectly. All of these instructions are important regarding safety, so be sure to follow them..



Danger If handled incorrectly, there is an imminent danger of death or serious injury.



Warning If handled incorrectly, there is a risk of death or serious injury.



Caution In cases where incorrect handling may pose a risk of injury to persons or only damage to property.

Be sure to comply with JIS B83701 or ISO 4414*2, the Industrial Safety and Health Act, the High Pressure Gas Safety Act, and other safety regulations.

1 - JIS B8370: General rules for pneumatic systems

2 - ISO 4414: Pneumatic fluid power recommendations for the application of equipment to transmission and control systems

Note that even the items listed under "Caution" may lead to serious consequences depending on the situation.
All of them contain important information, so please be sure to follow them.

● Please select vacuum and pneumatic equipment correctly.

The suitability of vacuum and pneumatic equipment should be determined by the pneumatic system designer or the person responsible for deciding these specifications.

Since the products listed here are used under a variety of conditions, the suitability of the products for the system must be determined by the vacuum and pneumatic system designer or the person responsible for determining specifications, and analysis and testing as necessary.

Ensuring the intended performance and safety of this system is the responsibility of the person who determined the suitability of the system.
Please continue to review all specifications using the latest product catalogs and documents, and consider the possibility of equipment failure when configuring your system.

● Please handle it only if you have sufficient knowledge and experience.

Compressed air can cause personal injury and property damage if mishandled.
In addition, vacuum and pneumatic equipment are designed as parts for industrial machinery, and the assembly, operation, and maintenance of machines and equipment that use them should be performed by people with sufficient knowledge and experience.

● Never handle machinery or remove equipment until safety has been confirmed.

- When inspecting or servicing equipment or equipment, make sure that measures are taken to prevent the actuator from falling or running out of control.

- When removing equipment, make sure that measures have been taken to prevent it from falling or running out of control, turn off the power to the system, and exhaust the compressed air in the system.

- When restarting a machine or equipment, be sure to check that measures are in place to prevent it from popping out, and do so with caution.

● The products listed here are mainly used for general industrial purposes. If you intend to use this product under the following conditions or environments, please take safety measures into consideration and consult with us in advance.

- Used outdoors or under conditions other than those specified in the specifications.

- Use in safety equipment such as nuclear power, railways, aircraft, vehicles, ships, medical equipment, equipment that comes into contact with beverages and food, entertainment equipment, emergency shutoff circuits, press clutch/brake circuits, etc.

- Use in applications where safety is particularly required and where a major impact on people or property is expected. In cases where there is an imminent danger of death or serious injury to people if the product is handled incorrectly.

1, Warranty

① If a failure occurs during the warranty period due to our responsibility, we will provide a replacement product or necessary replacement parts free of charge, or we will repair the product free of charge.

② The warranty period for our products is one year from the start of use or one year and six months after delivery, whichever comes first. However, depending on the product, there may be limits on durability, sliding distance, etc., so please contact our Customer Support Center for details.

③ Since the vacuum pad is a consumable part, the warranty period of one year from the start of use does not apply, and the warranty period is one year from the date of delivery. However, even within the warranty period, if the cause is deterioration of the rubber material or wear due to the use of the vacuum pad, the warranty will not apply.

2, Disclaimer

① The following items will be excluded from the scope of warranty.

- If the product is used outside the specifications listed in the catalog or specifications.

- If the cause of the failure is due to reasons other than the product.

- If the cause is due to modification or repair that our company is not involved in.

- When the problem is caused by an event that cannot be foreseen based on the technical knowledge available at the time of delivery.

- In the event of a cause for which our company is not responsible, such as a natural disaster, a disaster, an act by a third party, or the customer's intention or negligence.

② Warranty refers to the warranty for the individual product, and excludes damage caused by product failure.

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