

# Vacuum Gripper System

(**New** Suction Cup Type/Foam Type)



RoHS

**IO-Link**

## Suitable for the palletizing and depalletizing of corrugated cardboard, etc.

### Ejector unit

Combines all functions required for adsorption

Ejector

Silencer

Supply valve

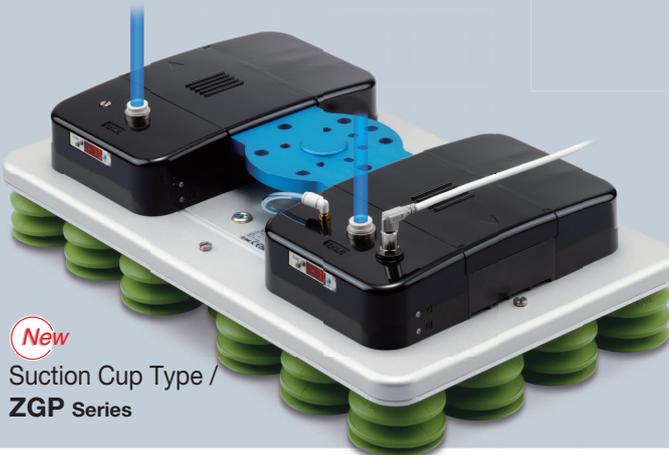
- 3 types of supply valve
- New** 2-position double
- N.O. (2-position single)
- N.C. (2-position single)

Pressure switch

Release valve

All sizes IO-Link compatible

Can be used immediately by simply connecting 1 electrical cable and air piping



**New**

Suction Cup Type / ZGP Series



Foam Type / ZGS Series

Compatible with the collaborative robots of 4 companies

- UNIVERSAL ROBOTS
- OMRON/TECHMAN ROBOT
- FANUC
- YASKAWA Electric

**CO<sub>2</sub> emissions**  
(Air consumption)

**Max. 15 % reduction**  
(SMC comparison)

Ejector with new design  
227 l/min (ANR) ← 270 l/min (ANR)  
Compared to ZL6H (Supply pressure: 0.6 MPa)

**Lifting force**

- 440 N** (200 x 120) (At -63 kPa)
- 880 N** (300 x 180) (At -63 kPa)
- 2144 N** (400 x 240) (At -75 kPa)

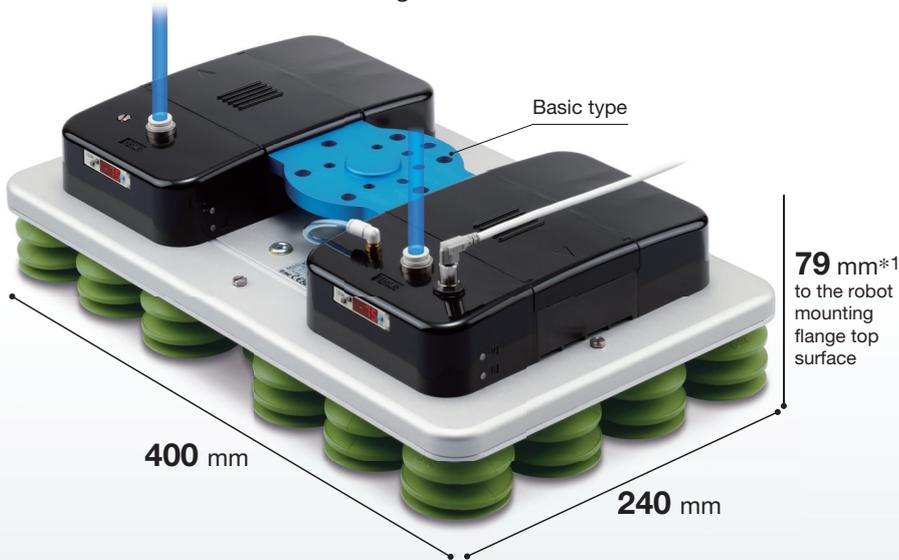
## ZGP/ZGS Series



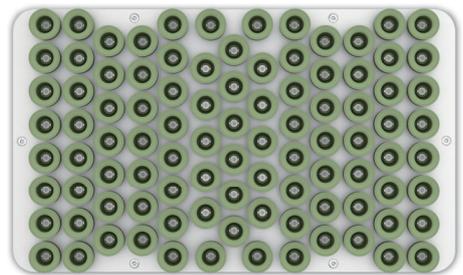
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**Suction Cup Type/ZGP Series**

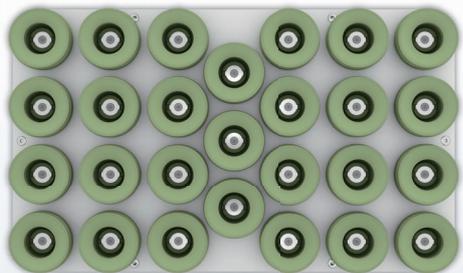
■ Size 400 mm x 240 mm/4.3 kg\*1



Cup diameter: Ø 25 x 96 pcs.

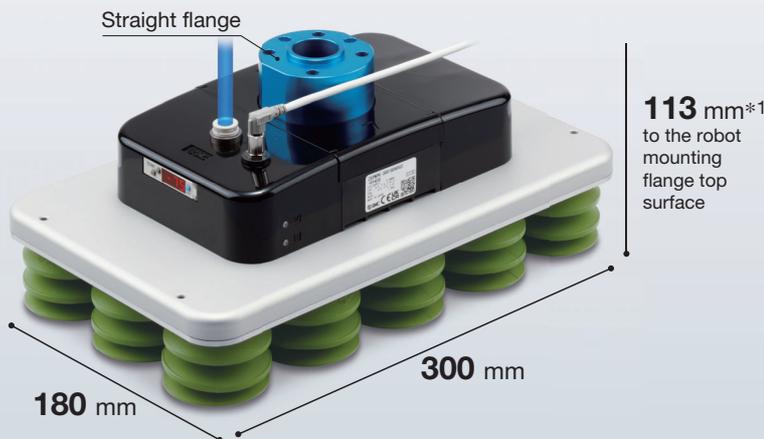


Cup diameter: Ø 50 x 27 pcs.

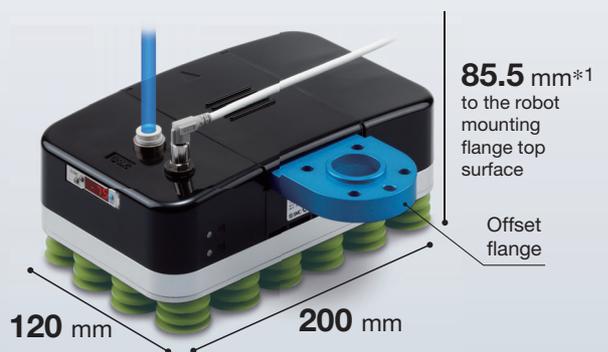


Refer to pages 11 and 12 for cup diameters, quantities, and selection guidelines for other sizes.

■ Size 300 mm x 180 mm/2.2 kg\*1



■ Size 200 mm x 120 mm/1.5 kg\*1



\*1 When the cup diameter is Ø 25. This may vary depending on the compatible robot.  
\* Refer to the dimension drawings for the other dimensions.

**A wide variety of robot mounting flanges suitable for different robots and applications**

For Size 400 mm x 240 mm

Symbol	Robot mounting flange
1	Basic type (Conforming to ISO 9409-1-50-4-M6)
2	Basic type (Conforming to ISO 9409-1-50-4-M6) + Offset flange

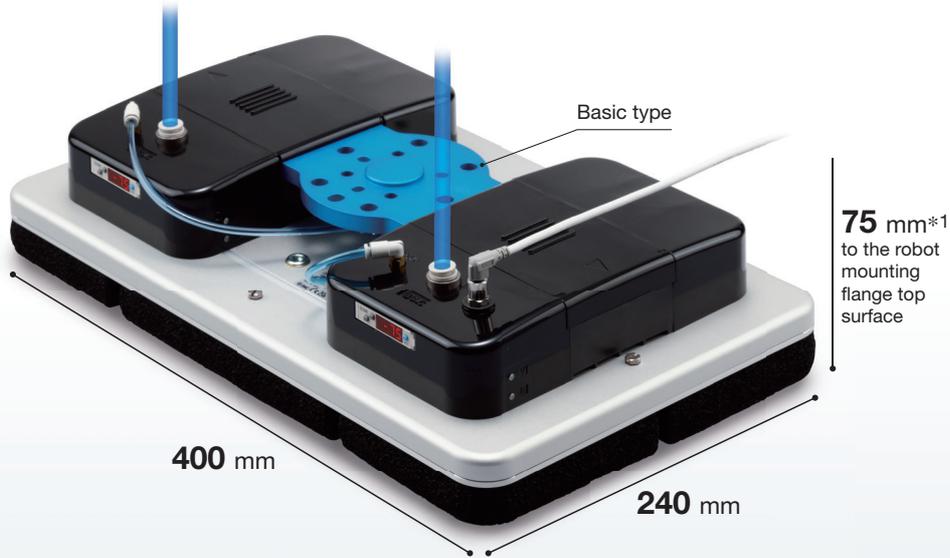
For Sizes 300 mm x 180 mm, 200 mm x 120 mm

Symbol	Robot mounting flange
1	Tool plate + Main plate
2	Offset flange
3	Tool plate only
4	Straight flange

Refer to the following for details.  
· How to Order → p. 18  
· Robot mounting flange → p. 61 to 66

**Foam Type/ZGS Series**

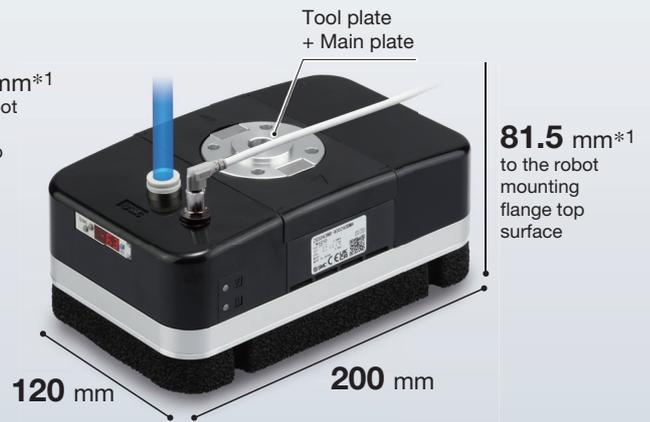
■ Size 400 mm x 240 mm/3.9 kg\*1



■ Size 300 mm x 180 mm/1.8 kg\*1



■ Size 200 mm x 120 mm/1.3 kg\*1



\*1 When the foam thickness is 20 mm. This may vary depending on the compatible robot.  
\* Refer to the dimension drawings for the other dimensions.

**A wide variety of robot mounting flanges suitable for different robots and applications**

For Size 400 mm x 240 mm

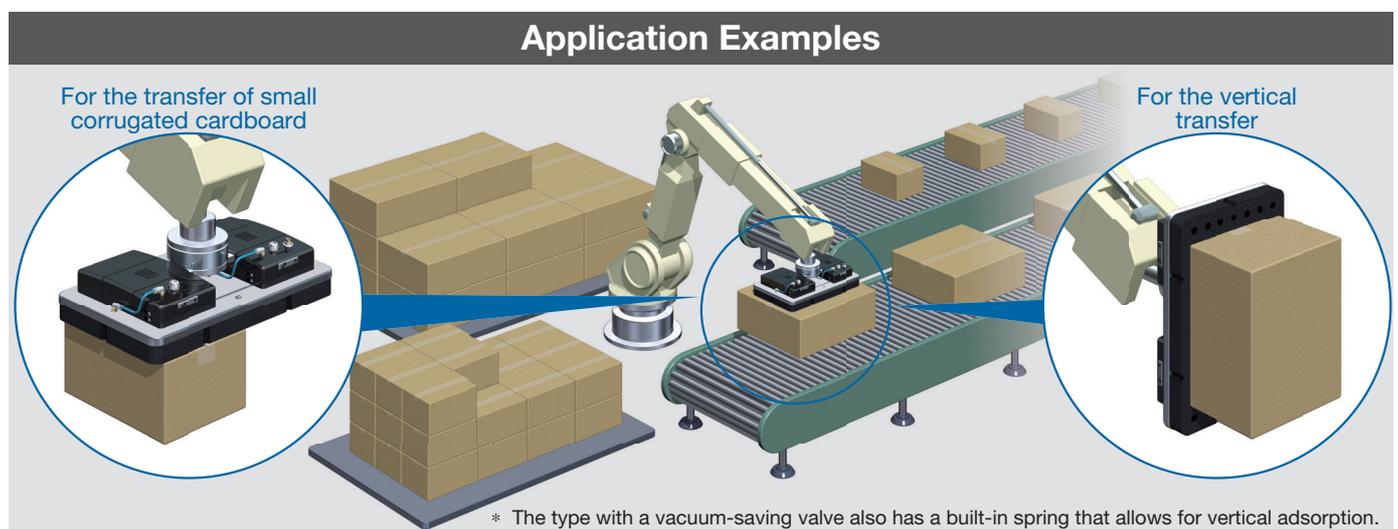
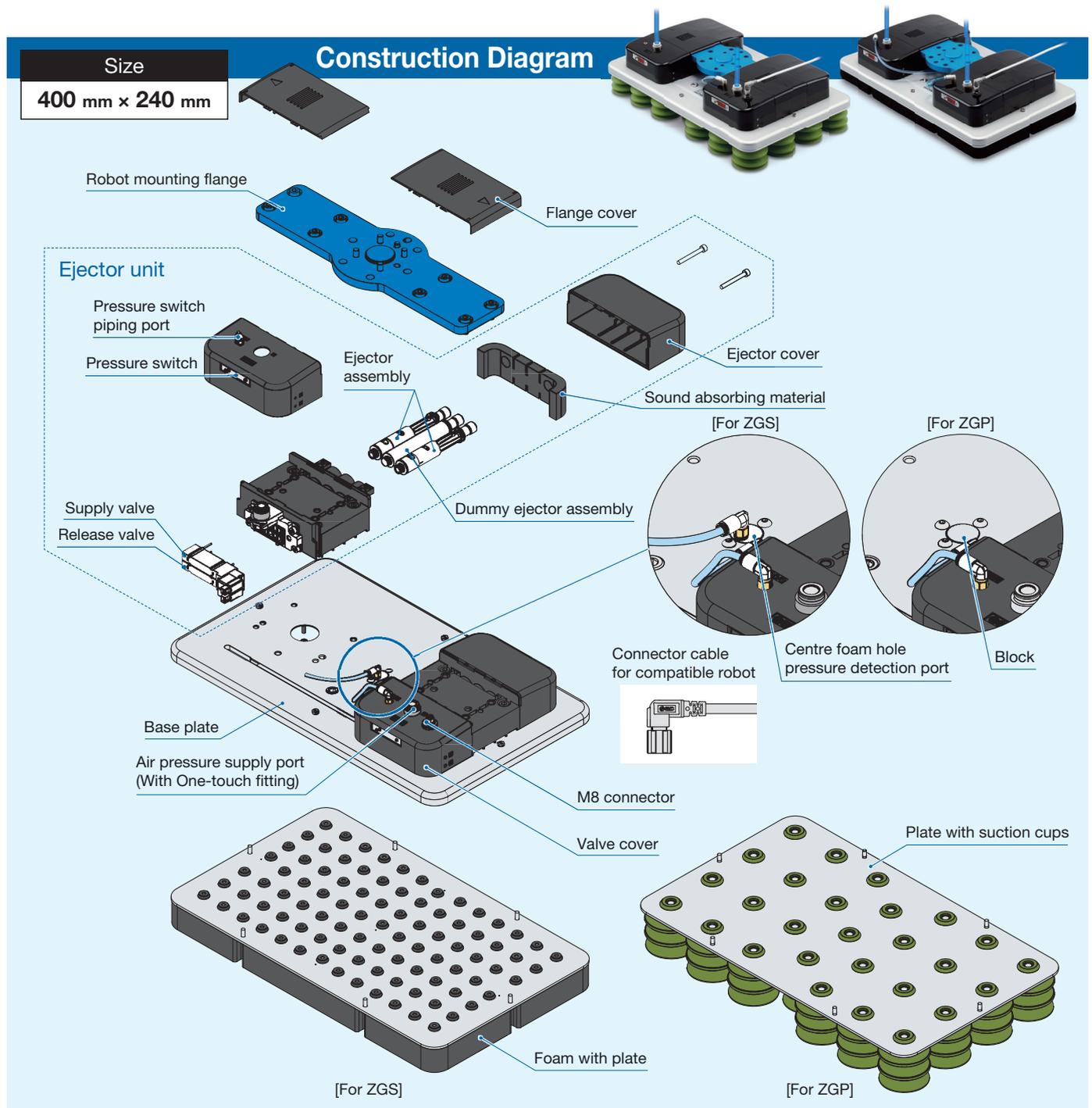
Symbol	Robot mounting flange
1	Basic type (Conforming to ISO 9409-1-50-4-M6)
2	Basic type (Conforming to ISO 9409-1-50-4-M6) + Offset flange

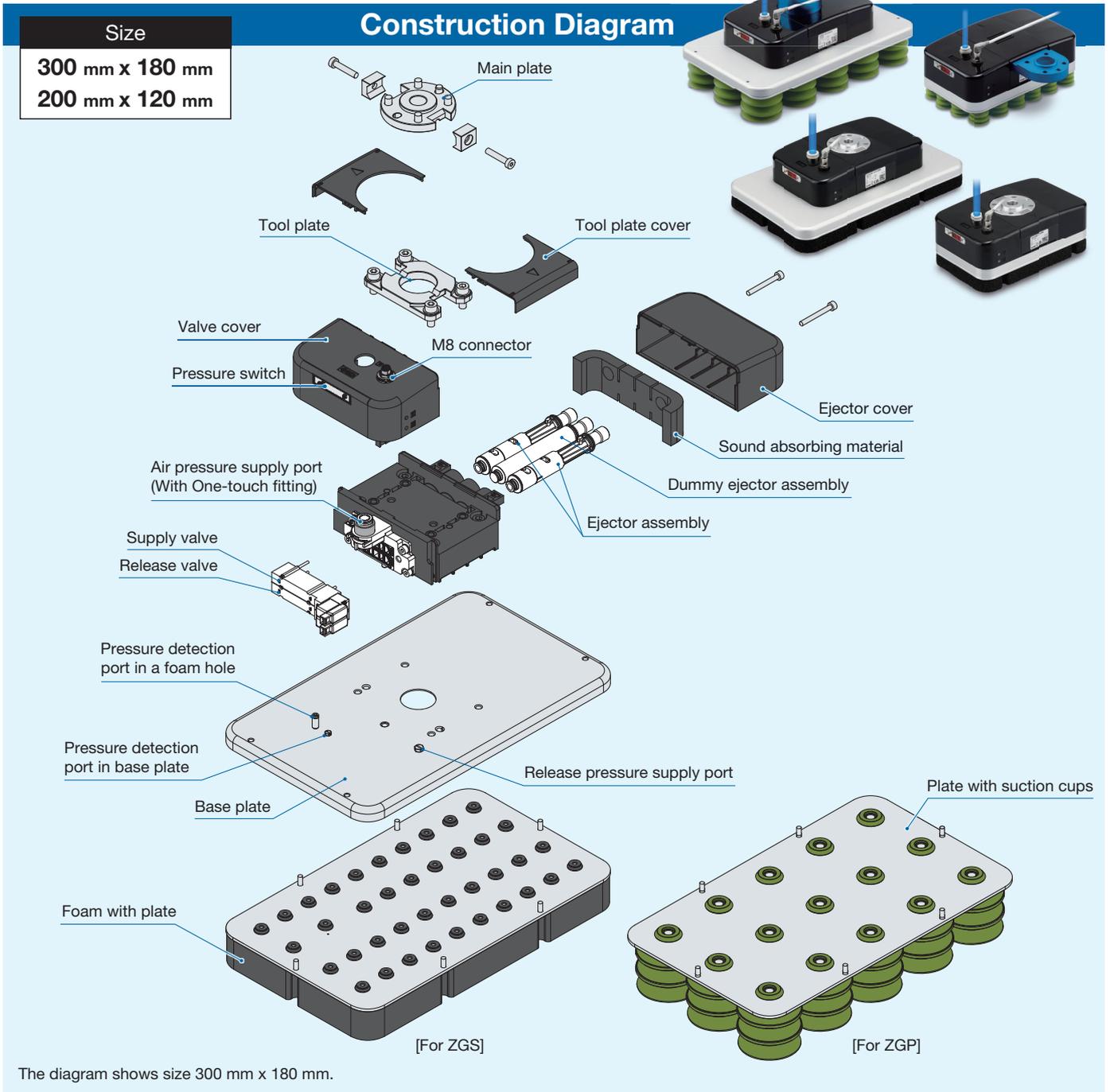
For Sizes 300 mm x 180 mm, 200 mm x 120 mm

Symbol	Robot mounting flange
1	Tool plate + Main plate
2	Offset flange
3	Tool plate only
4	Straight flange

Refer to the following for details.  
· How to Order → p. 36  
· Robot mounting flange → p. 61 to 66

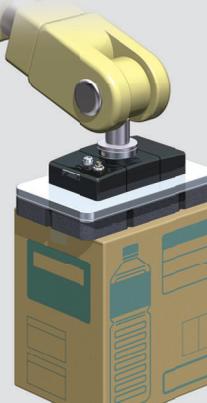
# Vacuum Gripper System (Suction Cup Type/Foam Type) ZGP/ZGS Series



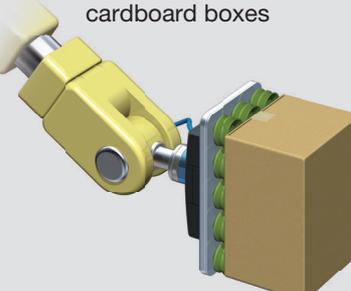


## Application Examples

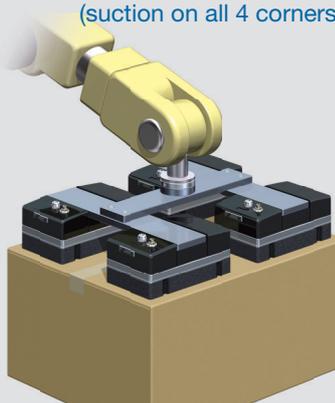
For the transfer of 6 L PET bottles



For the vertical transfer of cardboard boxes



For the transfer of large cardboard boxes (suction on all 4 corners)



\* The type with a vacuum-saving valve also has a built-in spring that allows for vertical adsorption.

## Ejector Unit

### Newly designed ejector for the Vacuum Gripper System

• Number of ejector assemblies (2 pcs, 4 pcs, 6 pcs) can be selected.

• Energy-saving (Air consumption reduced by up to 15 % compared to ZL6H)  
Flow rate characteristics improvement in the practical range below -50 kPa

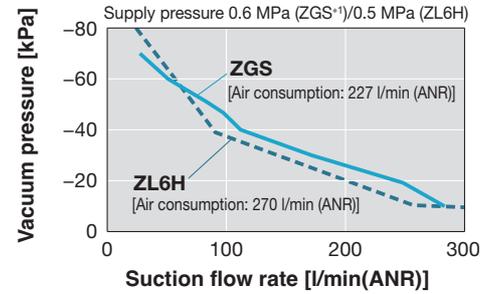
For size 400 x 240

Number of ejector assemblies	Suction flow rate [l/min (ANR)]
2	<b>322</b>
4	<b>646</b>
6	<b>1022</b>

\* For details, refer to the ejector flow rate characteristics.  
\* The values are for reference only.



#### Flow Rate Characteristics Comparison



\*1 The flow rate characteristics for the single ejector unit when the ejector assembly is 4 pcs.

### LED indicator for supply and release valve operation.

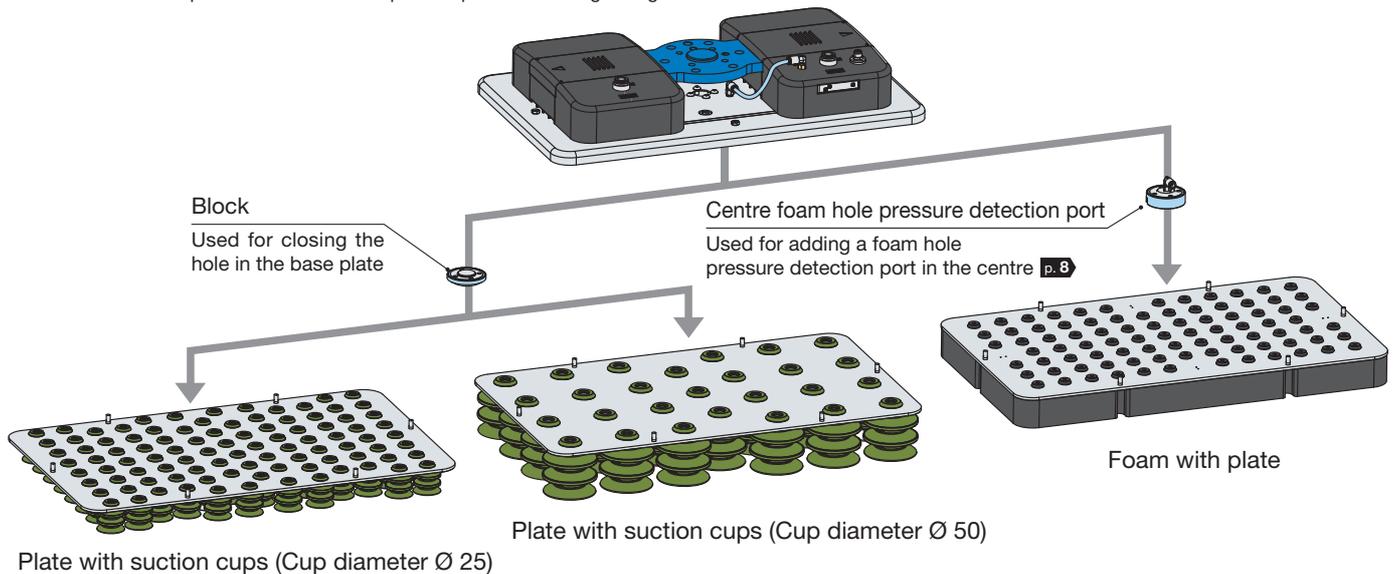


### 3 types of supply valve

**New** 2-position double • N.O. (2-position single) • N.C. (2-position single)

### The cup diameter, type, and foam type can be changed.

\* Refer to the operation manual for the parts required for making changes.



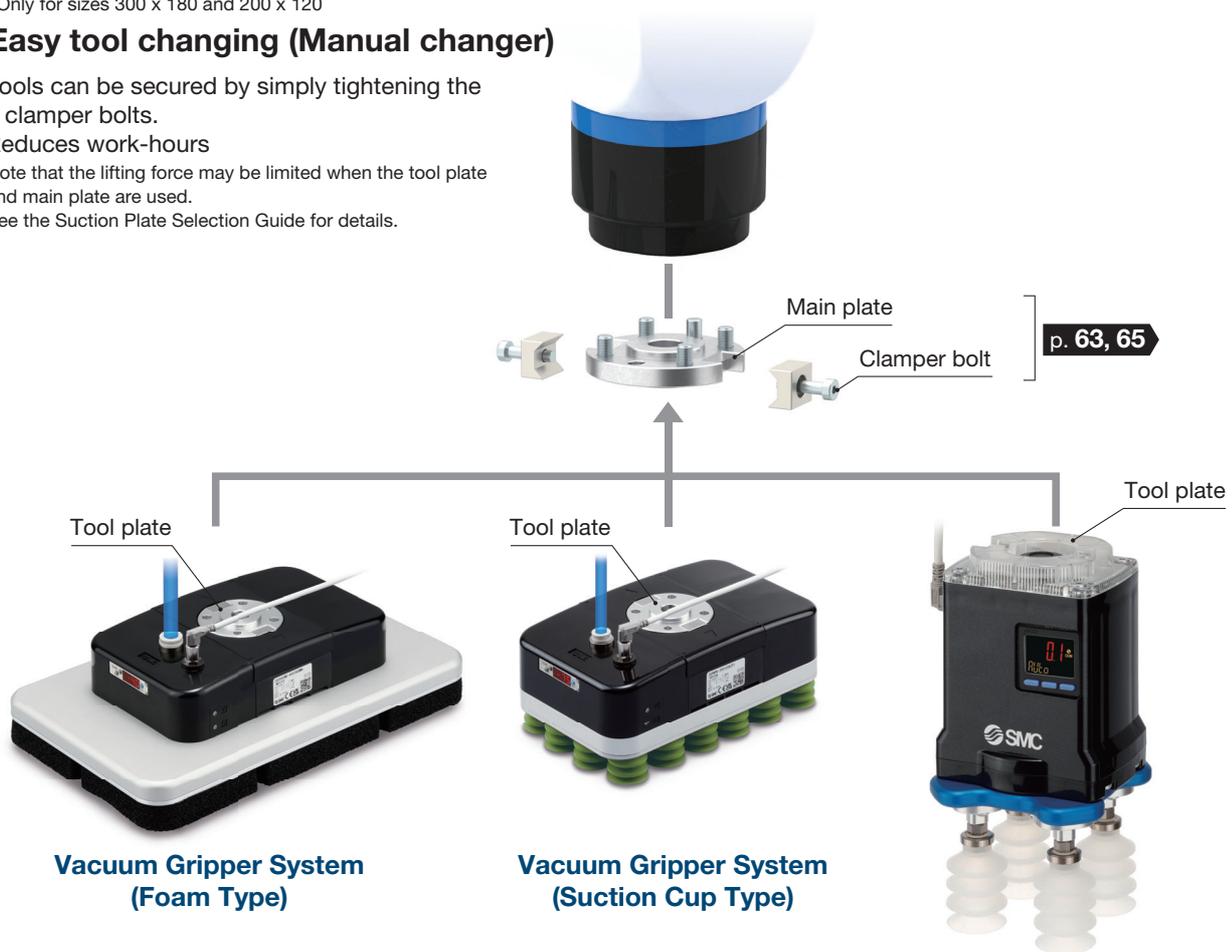
## Easy tool changing due to common tool changer\*1

\*1 Only for sizes 300 x 180 and 200 x 120

### • Easy tool changing (Manual changer)

- Tools can be secured by simply tightening the 2 clamber bolts.
- Reduces work-hours

\* Note that the lifting force may be limited when the tool plate and main plate are used.  
See the Suction Plate Selection Guide for details.



## Vacuum Gripper System (Suction Cup Type)

### Material: FS61 (Fluoro-based rubber) improves abrasion resistance

\* More than 4 times the abrasion resistance of SMC's urethane suction cups

### Reduced suction of foreign matter, such as paper particles, due to mesh filter

Can be replaced without tools

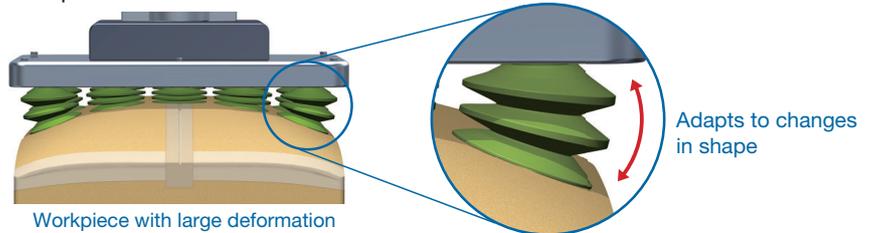
#### 2.5-stage bellows type

#### The large stroke is suitable for workpieces with:

- Differences in height
- Steps
- Inclined surfaces
- Soft workpieces requiring cushioning

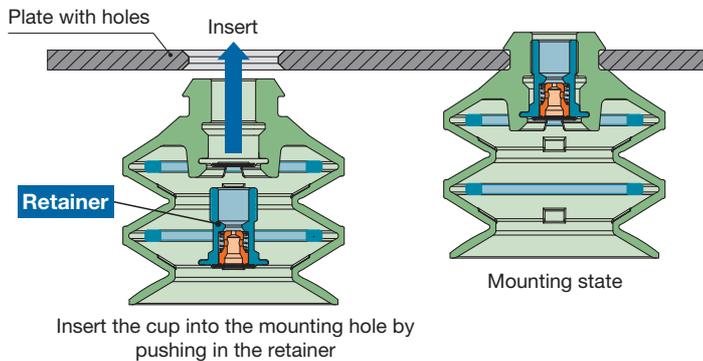
#### Adapts to changes in shape after adsorption

It is effective when adsorbing the corrugated cardboard that has low rigidity and experiences deformation.



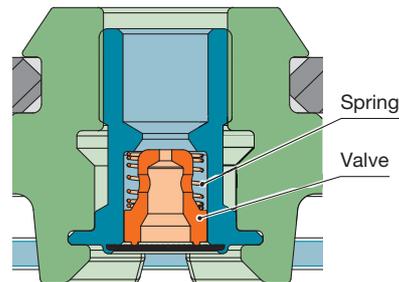
### With retainer

#### Allows for direct mounting with one push



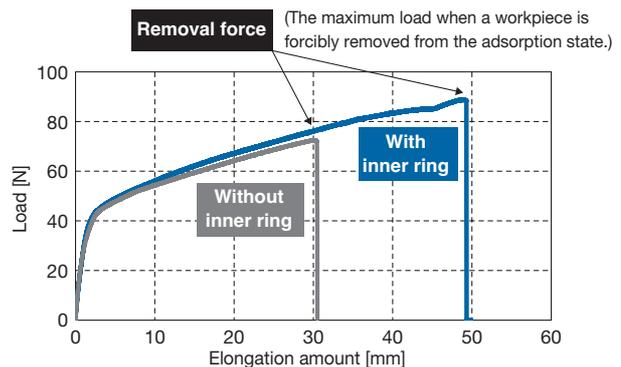
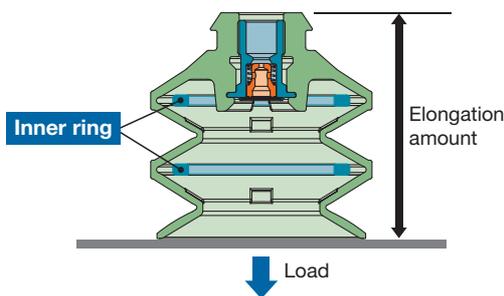
#### Built-in vacuum saving valve

- When multiple suction cups are operated by a single vacuum generator, this allows for reduced vacuum leakage from suction cups not adsorbing a workpiece, preventing drops in the overall vacuum pressure.
- No restrictions on orientation during adsorption



#### Inner ring

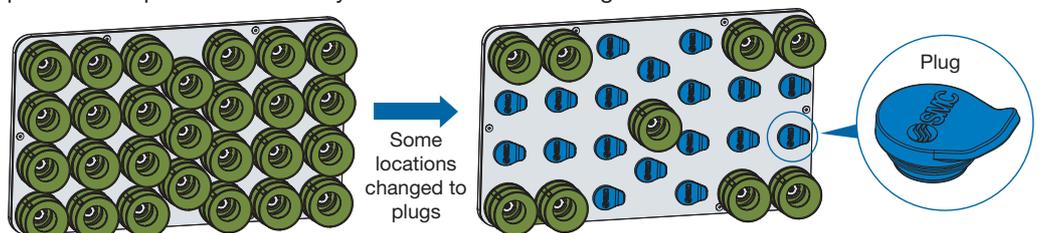
Adding the optional inner rings improves the removal force and adsorption performance on uneven surfaces.



When adsorbing on a dry, flat, and smooth plane surface at -60 kPa of vacuum pressure

#### Allows for suction cup arrangement to be changed according to the workpiece

If there are locations on the plate where adsorption is not required due to the workpiece size or locations where leakage occurs from the suction cup due to perforations or unevenness on the adsorption surface, replacing the cups with plugs in advance can prevent vacuum pressure drops more effectively than the vacuum-saving valve.



\* All plate locations must have either a suction cup or a plug mounted. Refer to "How to Order" on page 17 for details. Refer to page 60 for the individual part numbers of suction cups with retainers and plugs.

## Vacuum Gripper System (Foam Type)

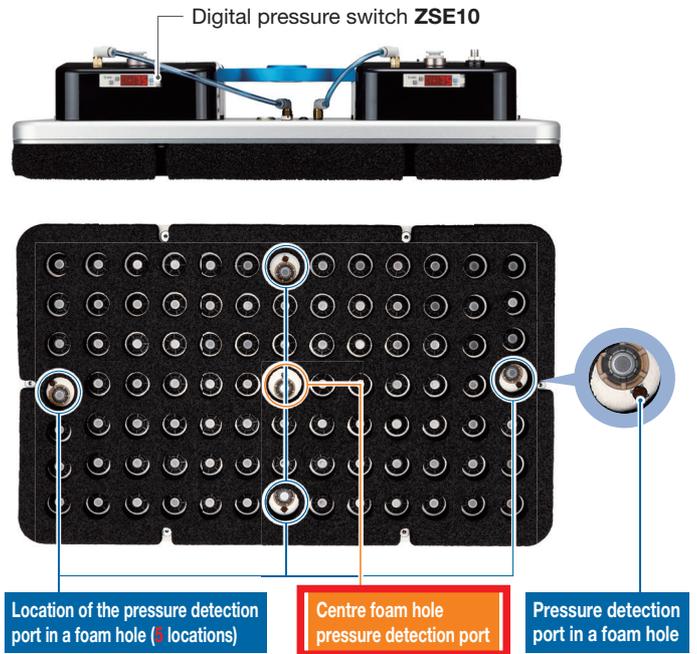
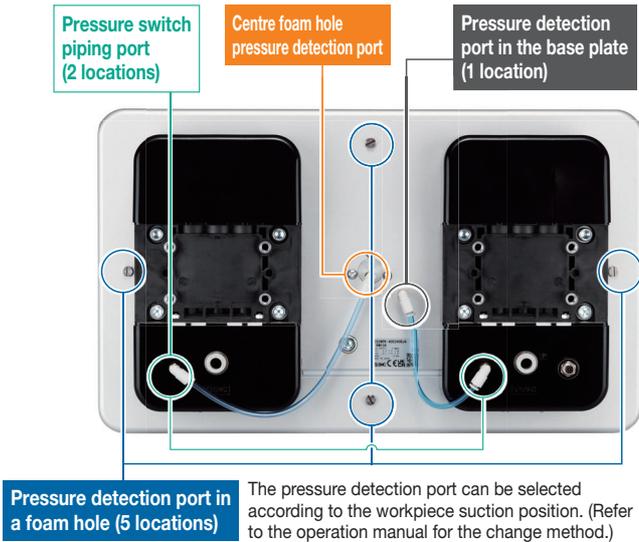
**New** A foam hole pressure detection port for the centre has been added.

This allows for the detection of small workpiece adsorption when the workpiece is adsorbed only in the centre, which would not be possible using only the foam pressure detectors on the four sides.

### ■ Built-in pressure switch.

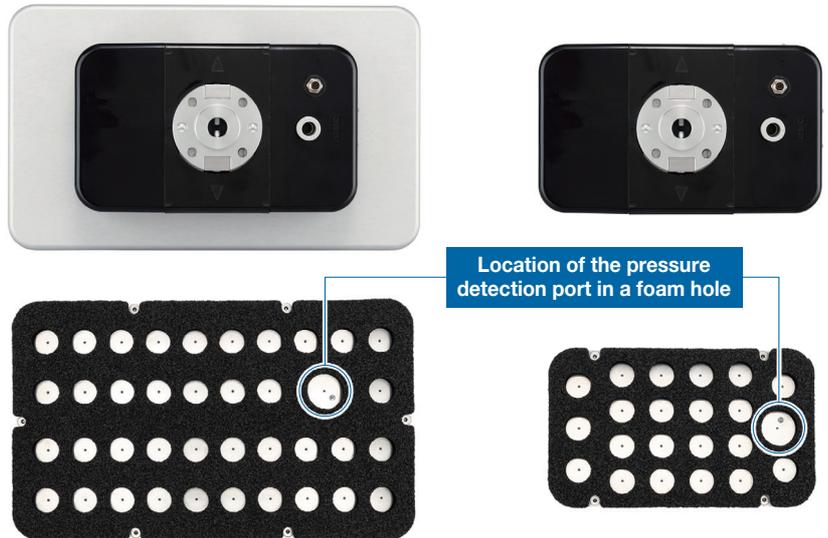
#### Pressure in a foam can be detected.

With Ø 4 One-touch fittings and polyurethane tubing



### ■ Selectable pressure detection locations (300 mm x 180 mm, 200 x 120 mm)

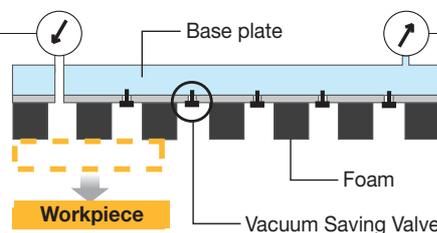
- Select from base plate pressure detection or foam hole pressure detection via the part number.
- Having the pressure detection ports within the ejector unit allows for a sleek appearance without any visible piping. This also eliminates the risk of piping getting pulled out.
- The pressure detection locations can be changed by the customer later.



#### Usage example of the pressure detection port in a foam hole

##### Pressure detection port in a foam hole

**Example** Pressure in a foam hole: 0 kPa  
Detects the workpiece drop



##### Pressure detection port in base plate

**Example** Pressure in base plate: -50 kPa

This port can be used to check that the workpiece is gripped. Note, however, that if a workpiece is dropped, the vacuum saving valves will be closed, which will increase the vacuum pressure in the base plate and may prevent detection of the drop of the workpiece.

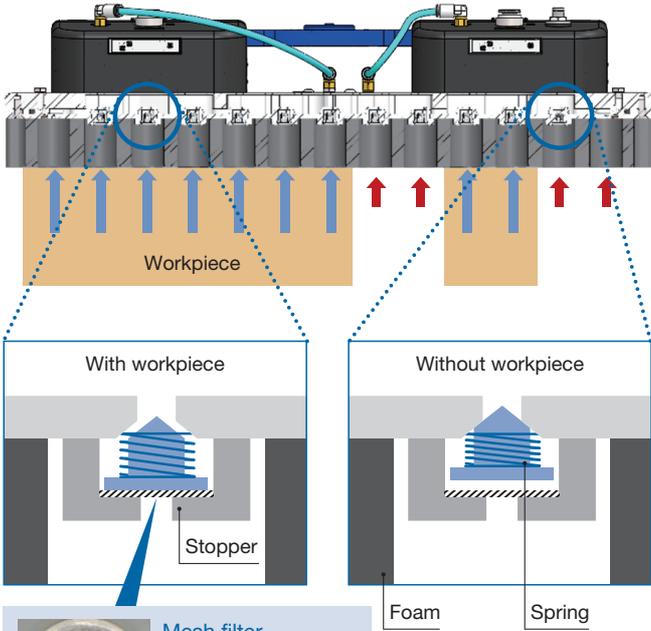
## Suction Plate

■ **2 suction plates can be selected according to the workpiece size.**

### Vacuum saving valve type



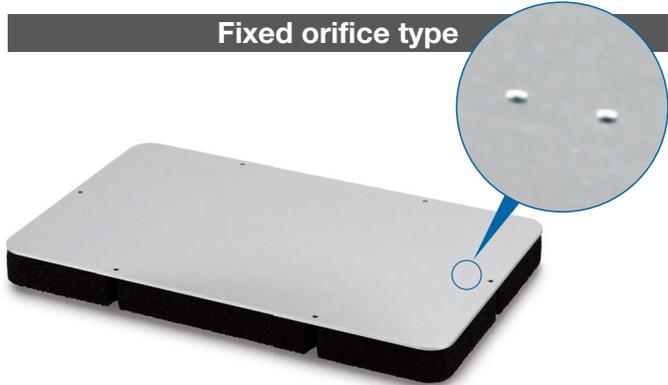
Significantly suppresses vacuum pressure drop when used with multiple workpieces or when workpiece is smaller than the suction plate.  
 → Various-sized workpieces can be adsorbed by 1 unit.



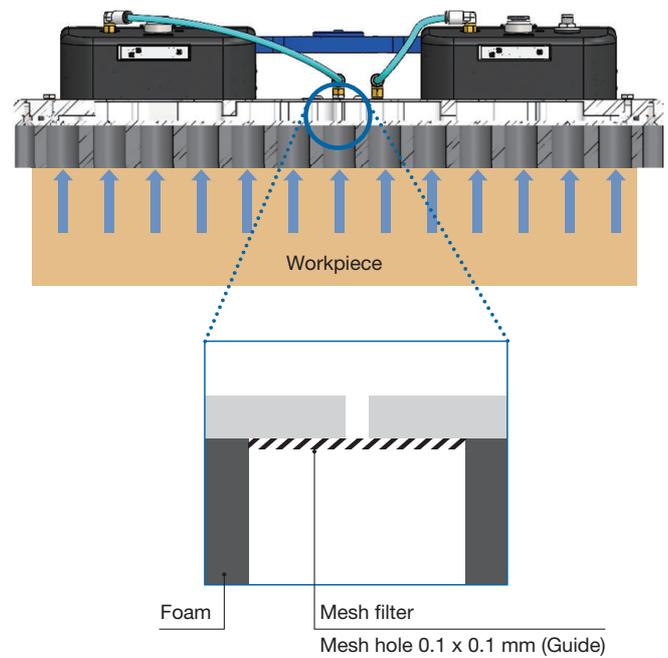
**Mesh filter**  
 Measures against dust  
 Mesh size  $\varnothing$  0.2 mm  
 (Guide)

No restrictions on orientation during the adsorption  
 Vertical transfer is possible.

### Fixed orifice type

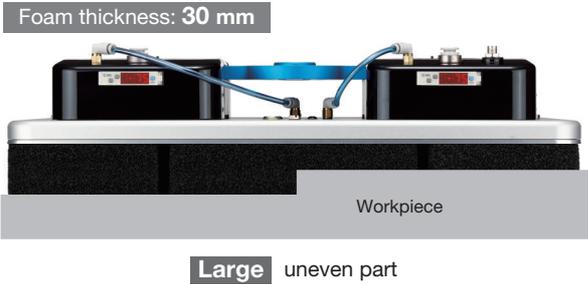
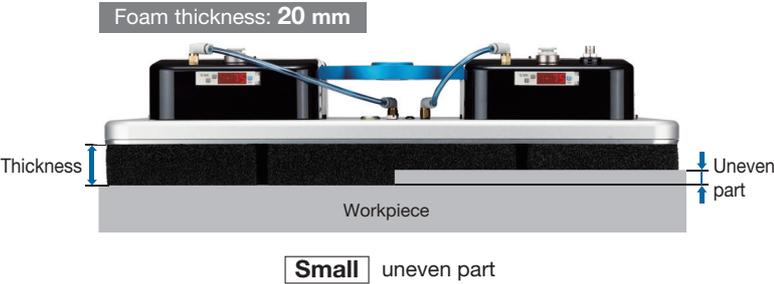


Suitable for use with workpiece that is approximately same size as suction plate  
 Suppresses vacuum pressure drop



\* The above illustration is only for reference and differs from the actual construction.

■ **2 foam thicknesses can be selected according to the workpiece surface shape.**

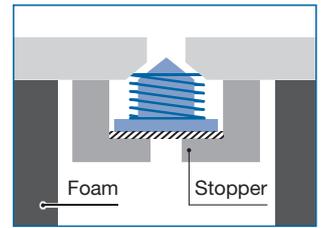


**Improved foam durability due to stopper**

By mounting a stopper, the amount of foam compression can be restricted. This reduces the collapse of cells within the foam during suction.

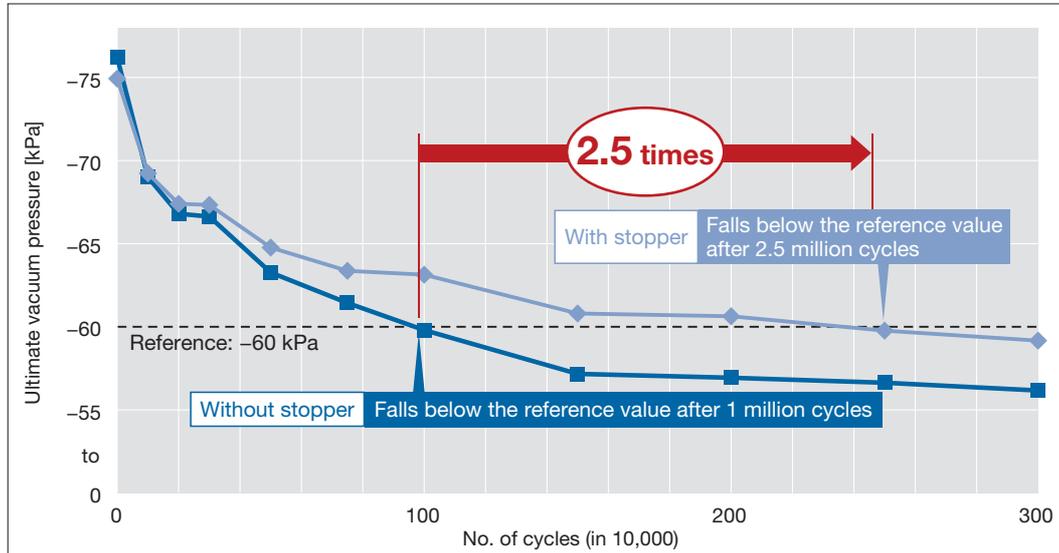
**Number of cycles: Improved by more than 2 times**

(Comparison under SMC's test conditions, without a stopper)

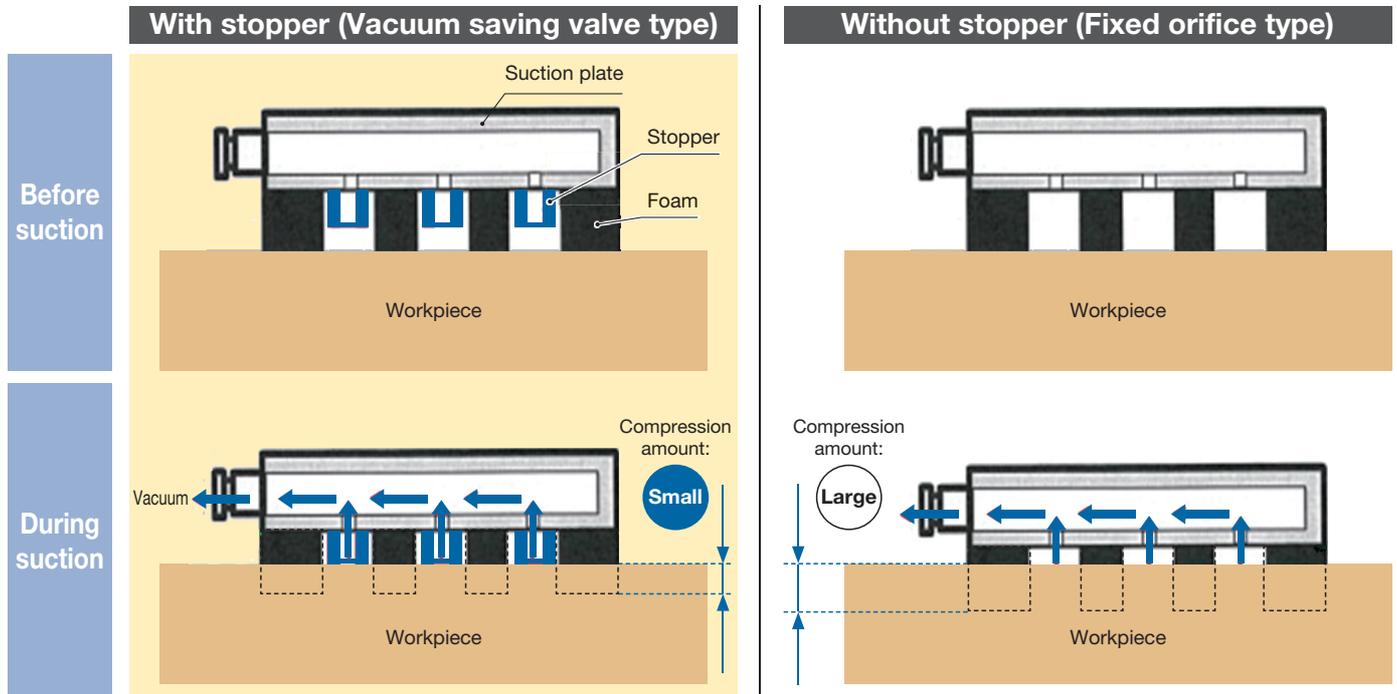


Vacuum saving valve type Image

Number of Cycles and Ultimate Vacuum Pressure

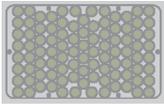
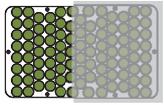
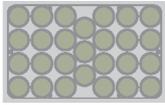
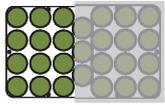


\* Based on SMC's test conditions at 70 % of compression.



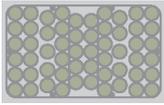
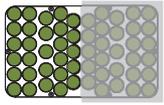
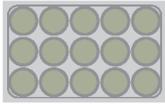
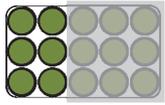
## Plate with Suction Cups

### Cup Diameter Selection Guide

Size		400 mm x 240 mm		Cup diameter Ø 25		Cup diameter Ø 50		
Number of ejector assemblies	Standard supply pressure* <sup>3</sup> [MPa]	Suction area [%]* <sup>4</sup>		100 %	Approx. 55 %	100 %	Approx. 55 %	
		Number of cups [pcs.]		96/96	51/96	27/27	15/27	
		Workpiece: Acrylic plate						
2 pcs.	0.58	Vacuum pressure [kPa]* <sup>1</sup>		-75.0	-4.5	-75.0	-17.8	
		Lifting force [N]* <sup>2</sup>		2144	—* <sup>5</sup>	2144	—* <sup>5</sup>	
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)		536	—	536	—
			Vertical lifting (Safety factor: 8)		268	—	268	—
4 pcs.	0.6	Vacuum pressure [kPa]* <sup>1</sup>		-75.0	-61.8	-75.0	-59.5	
		Lifting force [N]* <sup>2</sup>		2144	702	2144	680	
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)		536	175	536	170
			Vertical lifting (Safety factor: 8)		268	87	268	85
6 pcs.	0.6	Vacuum pressure [kPa]* <sup>1</sup>		-75.0	-65.7	-75.0	-63.8	
		Lifting force [N]* <sup>2</sup>		2144	746	2144	715	
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)		536	186	536	178
			Vertical lifting (Safety factor: 8)		268	93	268	89

- \*1 The vacuum pressure is the actual measured value when non-leakage workpiece (acrylic plate) is suctioned at the standard supply pressure. It is not guaranteed values.
- \*2 The lifting force is an actual value measured by SMC at the above vacuum pressure and is not a guaranteed value. It is necessary to judge the suitability for the workpiece with actual condition of use.
- \*3 This is the pressure immediately before the air pressure supply (P) port of the vacuum gripper system during suction. It is affected by air supply capacity, pipe size, air consumption of other equipment operating simultaneously, etc. During vacuum generation, the pressure immediately before the air pressure supply (P) port of the vacuum gripper system may fall below the standard supply pressure.
- \*4 Vacuum saving valve may not be activated when suction area is small.
- \*5 This indicates that vacuum saving valves don't work.
- \* Be sure to use under conditions where the load factor is 1 or less. For details, refer to the operation manual.

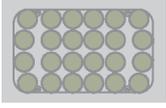
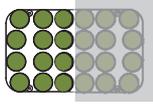
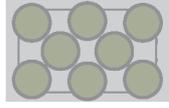
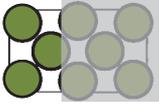
### Cup Diameter Selection Guide

Size		300 mm x 180 mm		Cup diameter Ø 25		Cup diameter Ø 50		
Number of ejector assemblies	Standard supply pressure* <sup>3</sup> [MPa]	Suction area [%]* <sup>4</sup>		100 %	Approx. 50 %	100 %	Approx. 60 %	
		Number of cups [pcs.]		56/56	28/56	15/15	9/15	
		Workpiece: Acrylic plate						
1 pc.	0.45	Vacuum pressure [kPa]* <sup>1</sup>		-63.0	-3.2	-63.0	-14.8	
		Lifting force [N]* <sup>2</sup>		880 (400)	—* <sup>5</sup>	880 (400)	—* <sup>5</sup>	
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)		220 (100)	—	220 (100)	—
			Vertical lifting (Safety factor: 8)		110 (50)	—	110 (50)	—
2 pcs.	0.45	Vacuum pressure [kPa]* <sup>1</sup>		-62.0	-48.0	-62.0	-49.6	
		Lifting force [N]* <sup>2</sup>		880 (400)	298	880 (400)	335	
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)		220 (100)	74	220 (100)	83
			Vertical lifting (Safety factor: 8)		110 (50)	37	110 (50)	41
3 pcs.	0.45	Vacuum pressure [kPa]* <sup>1</sup>		-60.0	-50.2	-60.0	-51.0	
		Lifting force [N]* <sup>2</sup>		880 (400)	312	880 (400)	344	
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)		220 (100)	78	220 (100)	86
			Vertical lifting (Safety factor: 8)		110 (50)	39	110 (50)	43

- \*1 The vacuum pressure is the actual measured value when non-leakage workpiece (acrylic plate) is suctioned at the standard supply pressure. It is not guaranteed values.
- \*2 The lifting force is an actual value measured by SMC at the above vacuum pressure and is not a guaranteed value. (Values in parentheses indicate values when the tool plate and main plate are used.) It is necessary to judge the suitability for the workpiece with actual condition of use.
- \*3 This is the pressure immediately before the air pressure supply (P) port of the vacuum gripper system during suction. It is affected by air supply capacity, pipe size, air consumption of other equipment operating simultaneously, etc. During vacuum generation, the pressure immediately before the air pressure supply (P) port of the vacuum gripper system may fall below the standard supply pressure.
- \*4 Vacuum saving valve may not be activated when suction area is small.
- \*5 This indicates that vacuum saving valves don't work.
- \* Be sure to use under conditions where the load factor is 1 or less. For details, refer to the operation manual.

**Plate with Suction Cups**

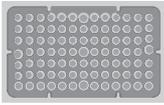
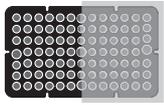
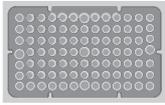
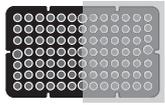
**Cup Diameter Selection Guide**

Size		200 mm × 120 mm		Cup diameter Ø 25		Cup diameter Ø 50		
Number of ejector assemblies	Standard supply pressure*3 [MPa]	Suction area [%]*4	100 %	Approx. 50 %	100 %	Approx. 60 %		
		Number of cups [pcs.]	24/24	12/24	8/8	5/8		
		Workpiece: Acrylic plate						
1 pc.	0.45	Vacuum pressure [kPa]*1	-63.0	-11.3	-63.0	-51.0		
		Lifting force [N]*2	440 (400)	—*5	440 (400)	229		
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	110 (100)	—	110 (100)	57	
			Vertical lifting (Safety factor: 8)	55 (50)	—	55 (50)	28	
2 pcs.	0.45	Vacuum pressure [kPa]*1	-62.0	-54.7	-62.0	-54.9		
		Lifting force [N]*2	440 (400)	168	440 (400)	242		
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	110 (100)	42	110 (100)	60	
			Vertical lifting (Safety factor: 8)	55 (50)	21	55 (50)	30	

- \*1 The vacuum pressure is the actual measured value when non-leakage workpiece (acrylic plate) is suctioned at the standard supply pressure. It is not guaranteed values.
- \*2 The lifting force is an actual value measured by SMC at the above vacuum pressure and is not a guaranteed value. (Values in parentheses indicate values when the tool plate and main plate are used.) It is necessary to judge the suitability for the workpiece with actual condition of use.
- \*3 This is the pressure immediately before the air pressure supply (P) port of the vacuum gripper system during suction. It is affected by air supply capacity, pipe size, air consumption of other equipment operating simultaneously, etc. During vacuum generation, the pressure immediately before the air pressure supply (P) port of the vacuum gripper system may fall below the standard supply pressure.
- \*4 Vacuum saving valve may not be activated when suction area is small.
- \*5 This indicates that vacuum saving valves don't work.
- \* Be sure to use under conditions where the load factor is 1 or less. For details, refer to the operation manual.

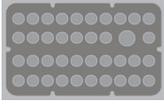
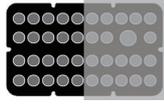
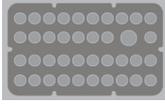
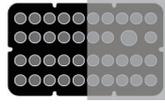
## Suction Plate

### Suction Plate Selection Guide

Foam size		400 mm x 240 mm		Vacuum saving valve type		Fixed orifice type	
Number of ejector assemblies	Standard supply pressure* <sup>3</sup> [MPa]	Suction area [%]* <sup>4</sup>	100 %	Approx. 50 %	100 %	Approx. 50 %	
		Number of suction holes [pcs.]	91/91	42/91	91/91	42/91	
2 pcs.	0.58	Workpiece: Acrylic plate					
			Vacuum pressure [kPa]* <sup>1</sup>	-75.0	-3.6	-75.0	-11.1
		Lifting force [N]* <sup>2</sup>	2144	—* <sup>5</sup>	2144	146	
	Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	536	—	536	36	
			Vertical lifting (Safety factor: 8)	268	—	268	18
4 pcs.	0.6	Workpiece: Acrylic plate	Vacuum pressure [kPa]* <sup>1</sup>	-75.0	-57.0	-75.0	-27.6
			Lifting force [N]* <sup>2</sup>	2144	752	2144	364
	Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	536	188	536	91	
			Vertical lifting (Safety factor: 8)	268	94	268	45
6 pcs.	0.6	Workpiece: Acrylic plate	Vacuum pressure [kPa]* <sup>1</sup>	-75.0	-61.2	-75.0	-33.6
			Lifting force [N]* <sup>2</sup>	2144	808	2144	443
	Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	536	201	536	110	
			Vertical lifting (Safety factor: 8)	268	100	268	55

- \*1 The vacuum pressure is the actual measured value when non-leakage workpiece (acrylic plate) is suctioned at the standard supply pressure. It is not guaranteed values.
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- \*3 This is the pressure immediately before the air pressure supply (P) port of the vacuum gripper system during suction. It is affected by air supply capacity, pipe size, air consumption of other equipment operating simultaneously, etc. During vacuum generation, the pressure immediately before the air pressure supply (P) port of the vacuum gripper system may fall below the standard supply pressure.
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- \* Be sure to use under conditions where the load factor is 1 or less. For details, refer to the operation manual.

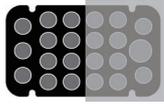
### Suction Plate Selection Guide

Foam size		300 mm x 180 mm		Vacuum saving valve type		Fixed orifice type	
Number of ejector assemblies	Standard supply pressure* <sup>3</sup> [MPa]	Suction area [%]* <sup>4</sup>	100 %	Approx. 50 %	100 %	Approx. 50 %	
		Number of suction holes [pcs.]	39/39	19/39	39/39	19/39	
1 pc.	0.45	Workpiece: Acrylic plate					
			Vacuum pressure [kPa]* <sup>1</sup>	-63.0	-5.0	-63.0	-15.4
		Lifting force [N]* <sup>2</sup>	880 (400)	—* <sup>5</sup>	880 (400)	107	
	Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	220 (100)	—	220 (100)	26	
			Vertical lifting (Safety factor: 8)	110 (50)	—	110 (50)	13
2 pcs.	0.45	Workpiece: Acrylic plate	Vacuum pressure [kPa]* <sup>1</sup>	-62.0	-51.0	-62.0	-27.7
			Lifting force [N]* <sup>2</sup>	880 (400)	350	880 (400)	186
	Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	220 (100)	87	220 (100)	46	
			Vertical lifting (Safety factor: 8)	110 (50)	43	110 (50)	23
3 pcs.	0.45	Workpiece: Acrylic plate	Vacuum pressure [kPa]* <sup>1</sup>	-60.0	-52.0	-60.0	-36.8
			Lifting force [N]* <sup>2</sup>	880 (400)	357	880 (400)	237
	Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	220 (100)	89	220 (100)	59	
			Vertical lifting (Safety factor: 8)	110 (50)	44	110 (50)	29

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- \*2 The lifting force is an actual value measured by SMC at the above vacuum pressure and is not a guaranteed value. (Values in parentheses indicate values when the tool plate and main plate are used.) It is necessary to judge the suitability for the workpiece with actual condition of use.
- \*3 This is the pressure immediately before the air pressure supply (P) port of the vacuum gripper system during suction. It is affected by air supply capacity, pipe size, air consumption of other equipment operating simultaneously, etc. During vacuum generation, the pressure immediately before the air pressure supply (P) port of the vacuum gripper system may fall below the standard supply pressure.
- \*4 Vacuum saving valve may not be activated when suction area is small.
- \*5 This indicates that vacuum saving valves don't work.
- \* Be sure to use under conditions where the load factor is 1 or less. For details, refer to the operation manual.

## Suction Plate

### Suction Plate Selection Guide

Foam size		200 mm x 120 mm		Vacuum saving valve type		Fixed orifice type		
Number of ejector assemblies	Standard supply pressure*3 [MPa]	Suction area [%]*4	100 %	Approx. 50 %	100 %	Approx. 50 %		
		Number of suction holes [pcs.]	22/22	11/22	22/22	11/22		
		Workpiece: Acrylic plate						
1 pc.	0.45	Vacuum pressure [kPa]*1	-63.0	-51.0	-63.0	-26.8		
		Lifting force [N]*2	440 (400)	190	440 (400)	80		
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	110 (100)	47	110 (100)	20	
			Vertical lifting (Safety factor: 8)	55 (50)	23	55 (50)	10	
2 pcs.	0.45	Vacuum pressure [kPa]*1	-62.0	-57.0	-62.0	-42.8		
		Lifting force [N]*2	440 (400)	210	440 (400)	140		
		Lifting force considering safety factor [N]	Horizontal lifting (Safety factor: 4)	110 (100)	52	110 (100)	35	
			Vertical lifting (Safety factor: 8)	55 (50)	26	55 (50)	17	

- \*1 The vacuum pressure is the actual measured value when non-leakage workpiece (acrylic plate) is suctioned at the standard supply pressure. It is not guaranteed values.
- \*2 The lifting force is an actual value measured by SMC at the above vacuum pressure and is not a guaranteed value. (Values in parentheses indicate values when the tool plate and main plate are used.)  
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- \*4 Vacuum saving valve may not be activated when suction area is small.
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### Variations

Foam specifications		Suction plate		Number of ejector assemblies (Max. suction flow rate)			
Thickness				Air leakage from a workpiece	400 x 240	300 x 180	200 x 120
Level of workpiece front/back surface unevenness		Workpiece size					
Even   Uneven	20 mm	Small   Large	Vacuum saving valve type  or  Fixed orifice type	Low	1 pc. x 2 = 2 pcs. (322 l/min (ANR))	1 pc. (162 l/min (ANR))	1 pc. (162 l/min (ANR))
	or			High	2 pcs. x 2 = 4 pcs. (646 l/min (ANR))	2 pcs. (352 l/min (ANR))	2 pcs. (352 l/min (ANR))
	30 mm			High	3 pcs. x 2 = 6 pcs. (1022 l/min (ANR))	3 pcs. (515 l/min (ANR))	—

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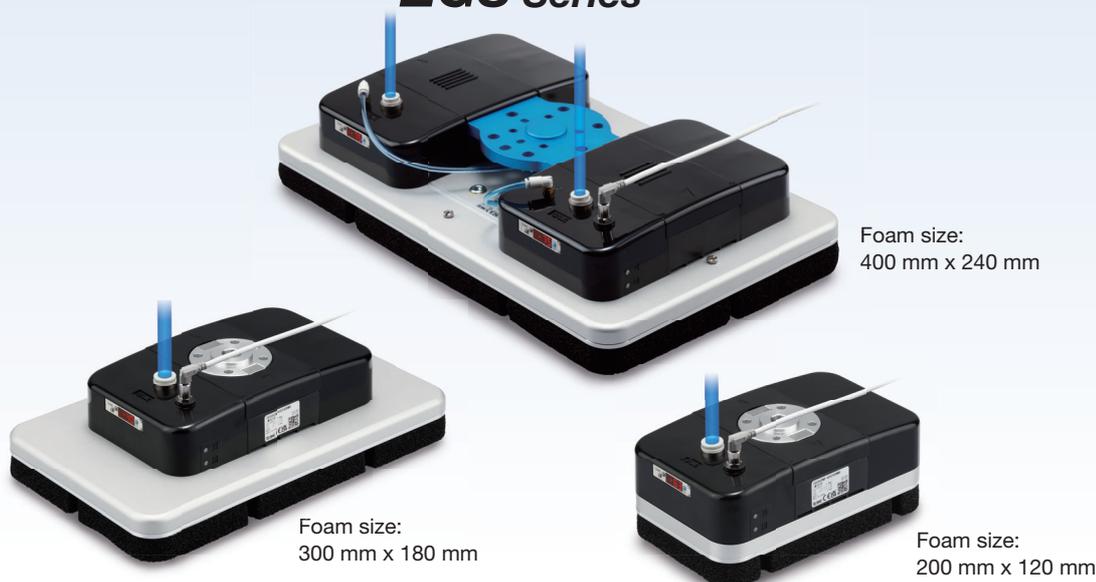
## Vacuum Gripper System (Suction Cup Type) ZGP Series



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# Vacuum Gripper System (Foam Type)

## ZGS Series



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# Vacuum Gripper System (Suction Cup Type)

# ZGP Series



## How to Order

ZGP **NP** **K** - **300180** **A** **25** **2** - **R** **Y** **1** **C8**

①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩

### ① Compatible robot

Symbol		Robot manufacturer	Supported model	Switch output		Valve polarity	
Identification symbol	Output type			Switch output	Valve polarity		
<b>N</b>	<b>P</b>	—	General purpose	PNP	—COM		
	<b>N</b>			NPN	+COM		
	<b>H</b>			IO-Link compatible			
<b>011</b>	<b>P</b>	UNIVERSAL ROBOTS	UR3e	PNP	—COM		
<b>012</b>			UR5e				
			UR10e				
			UR16e				
			UR20				
	UR30						
<b>021</b>	<b>N</b>	OMRON/TECHMAN ROBOT	TM5(S)	NPN	+COM		
			TM7S				
			TM12(S)				
			TM14(S)				
			TM16				
			TM20				
			TM25S				
	TM30S						
<b>043</b>	<b>P</b>	YASKAWA Electric	MOTOMAN-HC10(S)DTP	PNP	—COM		
			MOTOMAN-HC20(S)DTP				
			MOTOMAN-HC30PL				
	<b>N</b>		MOTOMAN-HC10(S)DTP	NPN	+COM		
			MOTOMAN-HC20(S)DTP				
	MOTOMAN-HC30PL						
<b>051</b>	<b>P</b>	FANUC	CRX-5iA	PNP	—COM		
			CRX-10iA(L)				
			CRX-20iA				
			CRX-25iA				
			CRX-30iA				

\* Use robot of appropriate size depending on vacuum gripper system and weight of workpiece.

### ④ Cup specifications

Symbol	Cup form	Cup material	Inner ring	Vacuum saving valve
<b>A</b>	2.5-stage bellows	FS61	With	With
<b>P</b>	Plug			

\* When symbol "P" is selected, product comes with plugs instead of suction cups.

### ② Supply valve/Release valve

Symbol	Supply valve	Release valve
<b>B</b>	N.O. (2-position single)	N.C.
<b>K</b>	N.C. (2-position single)	N.C.
<b>W</b>	2-position double	N.C.
<b>—</b>	None	None

\* When output type "H" is selected for the ① compatible robot, "W" and "—" cannot be selected.

### ③ Size

Symbol	Size
<b>400240</b>	400 mm x 240 mm
<b>300180</b>	300 mm x 180 mm
<b>200120</b>	200 mm x 120 mm

### ⑤ Cup diameter

Symbol	Cup size
<b>25</b>	Ø 25
<b>50</b>	Ø 50

\* Even if symbol "P" is selected for the ④ cup specifications, select a cup diameter.

### ⑥ Number of ejector assemblies

#### For Size 400 mm x 240 mm

Symbol	Number of ejector assemblies
<b>2</b>	2 pcs.
<b>4</b>	4 pcs.
<b>6</b>	6 pcs.

#### For Size 300 mm x 180 mm

Symbol	Number of ejector assemblies
<b>1</b>	1 pc.
<b>2</b>	2 pcs.
<b>3</b>	3 pcs.

#### For Size 200 mm x 120 mm

Symbol	Number of ejector assemblies
<b>1</b>	1 pc.
<b>2</b>	2 pcs.

## 7 Connector cable for compatible robot

Symbol	Connector cable for compatible robot
—	With cable (For compatible models)
<b>R</b>	With cable (Discrete wire)
<b>N</b>	Without cable

\* When symbol "NP" or "NN" is selected for the ① compatible robot, "—: With cable (For compatible models)" cannot be selected. In addition, when symbol "NH" is selected for the ① compatible robot, only "N: Without cable" can be selected.  
(Refer to page 60 for details on the connector cable for compatible robots.)

## 8 Pressure switch unit specifications

### For Size 400 mm x 240 mm

Symbol	Number of switches	Switch unit
<b>W</b>	1 switch	With unit switching function
<b>Y</b>		SI unit only
<b>C</b>	2 switches	With unit switching function
<b>M</b>		SI unit only

\* When symbol "H" is selected for the ① compatible robot, only "W" or "Y" can be selected.  
\* Under the New Measurement Act, switches with the unit switching function are not permitted for use in Japan.  
(For use within Japan, only symbols "Y" or "M" can be selected.)  
\* Suction cup type uses only one switch. If switching foam type is considered, select two switches.

### For Sizes 300 mm x 180 mm, 200 mm x 120 mm

Symbol	Switch unit
<b>W</b>	With unit switching function
<b>Y</b>	SI unit only

\* Under the New Measurement Act, switches with the unit switching function are not permitted for use in Japan.  
(For use within Japan, only symbol "Y" can be selected.)

## 9 Robot mounting flange

### For Size 400 mm x 240 mm

Symbol	Robot mounting flange
—	Without robot mounting flange
<b>1</b>	Basic type (Conforming to ISO 9409-1-50-4-M6)
<b>2</b>	Basic type (Conforming to ISO 9409-1-50-4-M6) + Offset flange

\* When symbol 021N (OMRON/TECHMAN ROBOT) is selected for the ① compatible robot, only "—" or "2" can be selected.

### For Sizes 300 mm x 180 mm, 200 mm x 120 mm

Symbol	Robot mounting flange
—	Without robot mounting flange
<b>1</b>	Tool plate + Main plate
<b>2</b>	Offset flange
<b>3</b>	Tool plate only
<b>4</b>	Straight flange

\* Note that the lifting force may be limited when the tool plate and main plate are used. For details, refer to the "Cup Diameter Selection Guide" on pages 11 and 12.  
\* Depending on the ① compatible robot, an additional flange is provided. See the Robot Mounting Flange options for details.  
\* When symbol 021N (OMRON/TECHMAN ROBOT) is selected for the ① compatible robot, only "—" or "2" can be selected.  
\* Symbol 3 (Tool plate only) is available for users who already have the main plate (ZGS-PL3-7-A).

## 10 Air pressure supply (P) port

Symbol	Air pressure supply (P) port		
<b>C8</b>	Metric	Straight	Ø 8 One-touch fitting
<b>C10</b>			Ø 10 One-touch fitting
<b>N9</b>	Inch	Straight	Ø 5/16" One-touch fitting
<b>N11</b>			Ø 3/8" One-touch fitting

## Vacuum Gripper System (Suction Cup Type) Specifications



### General Specifications

Fluid	Air
Compressed air purity class	ISO 8573-1:2010 [2:4:3]
Operating pressure range [MPa]	0.3 to 0.7
Operating temperature range [°C]	5 to 50
Power supply voltage [V]	24 VDC ±10 %
Power consumption [W]	2.7
Supply valve/Release valve	Equivalent to JSY3□40-5MOZ-□
Vacuum pressure switch	Equivalent to ZSE10-00-□

Refer to the JSY 3 0 0 0 series **Web Catalogue** for the specifications of the supply valve and release valve.  
Refer to the ZSE10 series **Web Catalogue** for vacuum pressure switch specifications.

### Ejector Specifications (Size: 400 x 240)

Number of ejector assemblies	2	4	6
Standard supply pressure [MPa]	0.58	0.6	
Max. vacuum pressure [kPa]	-75		
Air consumption [l/min (ANR)]	228	454	661
Weight [kg]*1	4.3		

\*1 For ZGPNPK-400240A254-NM1C8

### Ejector Specifications (Size: 300 x 180, 200 x 120)

Number of ejector assemblies		1	2	3
Standard supply pressure [MPa]		0.45		
Max. vacuum pressure [kPa]		-63	-62	-60
Air consumption [l/min (ANR)]		92	177	257
Weight [kg]	Size 300 x 180*2	2.2		
	Size 200 x 120*3	1.5	-	

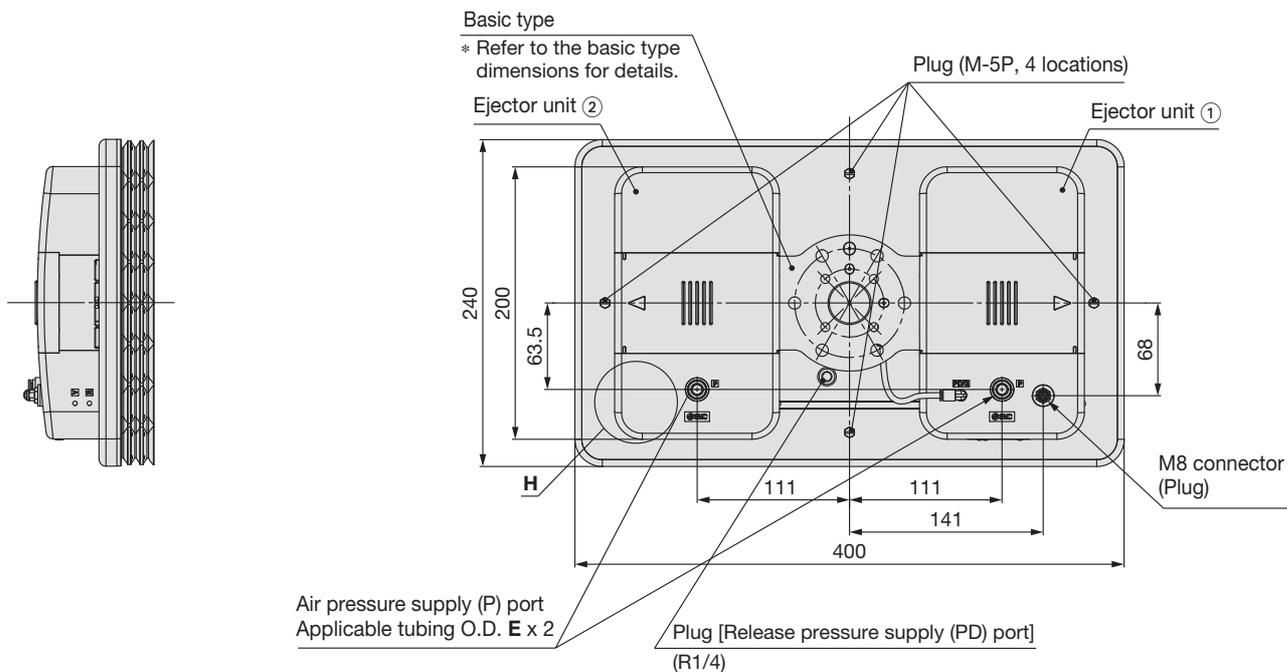
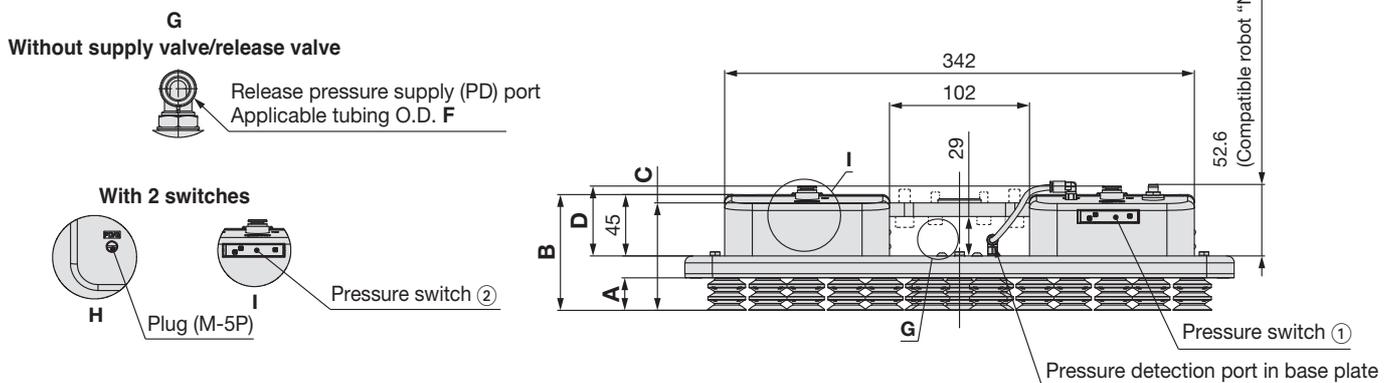
\*2 For ZGPNPK-300180A253-NY1C8

\*3 For ZGPNPK-200120A252-NY1C8

**Dimensions: 400 mm x 240 mm**

**Robot mounting flange: Basic type**

**Compatible robot: NP/NN/NH (General purpose)**  
**011P/012P (UNIVERSAL ROBOTS)**  
**043P/043N (YASKAWA Electric)**  
**051P (FANUC)**



Part no.	A	B	C
ZGP□□-400240A25□-□□1□	24	85	79
ZGP□□-400240A50□-□□1□	48.5	109.5	103.5

Part no.	D	E	F
ZGP□□-400240□□□-□□□C8	51.4	∅ 8	∅ 8
ZGP□□-400240□□□-□□□C10	52	∅ 10	
ZGP□□-400240□□□-□□□N9	51.4	∅ 5/16"	∅ 3/8"
ZGP□□-400240□□□-□□□N11	51.9	∅ 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

# ZGP Series

**Dimensions: 400 mm x 240 mm**

**Robot mounting flange: Basic type + Offset flange**

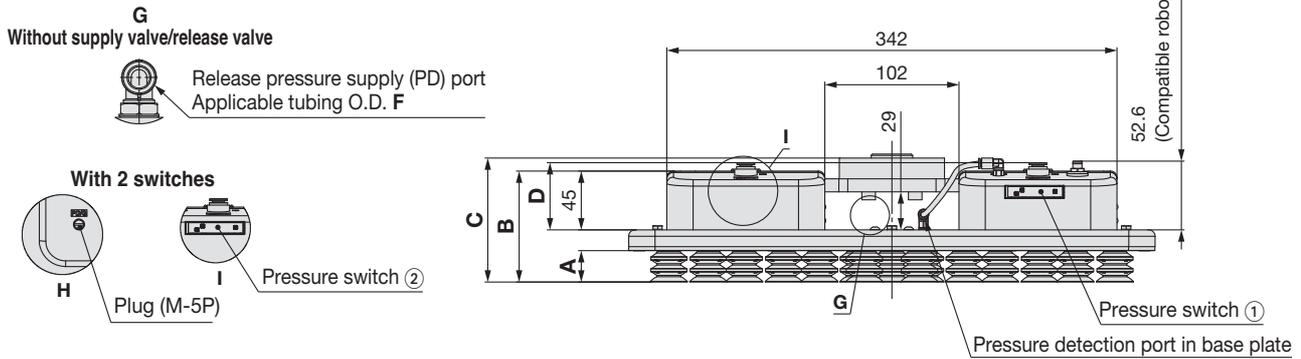
**Compatible robot: NP/NN/NH (General purpose)**

**011P (UNIVERSAL ROBOTS)**

**021N (OMRON/TECHMAN ROBOT)**

**043P/043N (YASKAWA Electric)**

**051P (FANUC)**

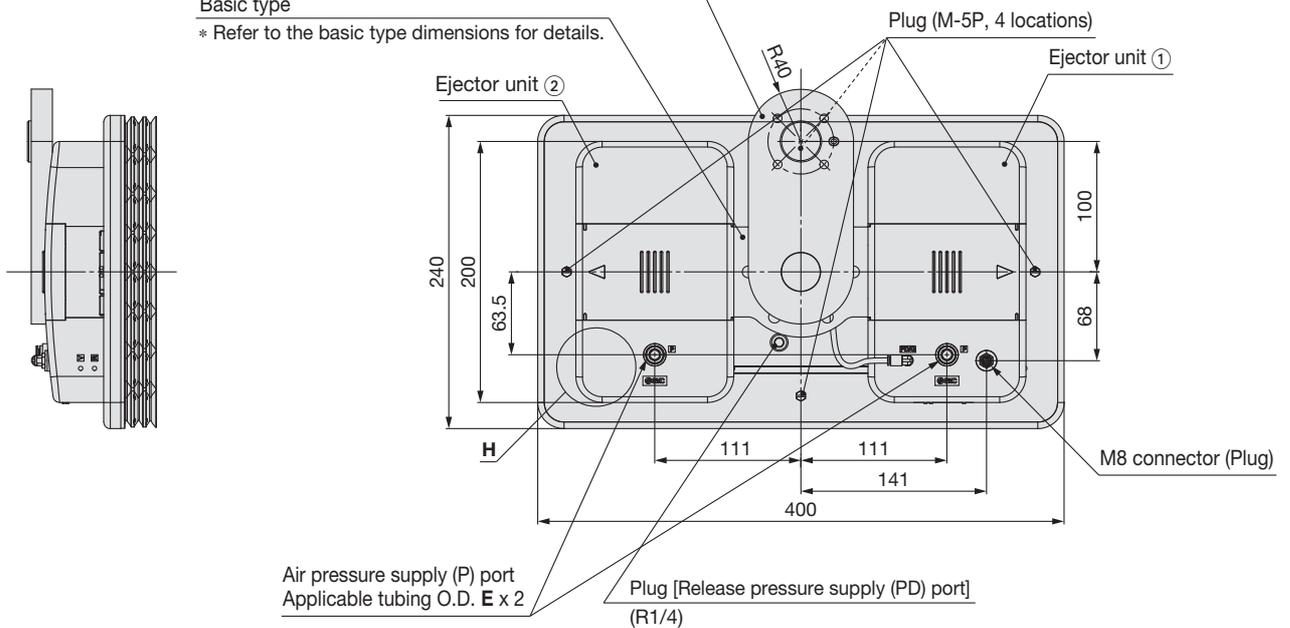


**Offset flange**

\* Refer to the offset flange dimensions for details.

**Basic type**

\* Refer to the basic type dimensions for details.



Part no.	A	B	C
ZGP□□-400240A25□-□□2□	24	85	95
ZGP□□-400240A50□-□□2□	48.5	109.5	119.5

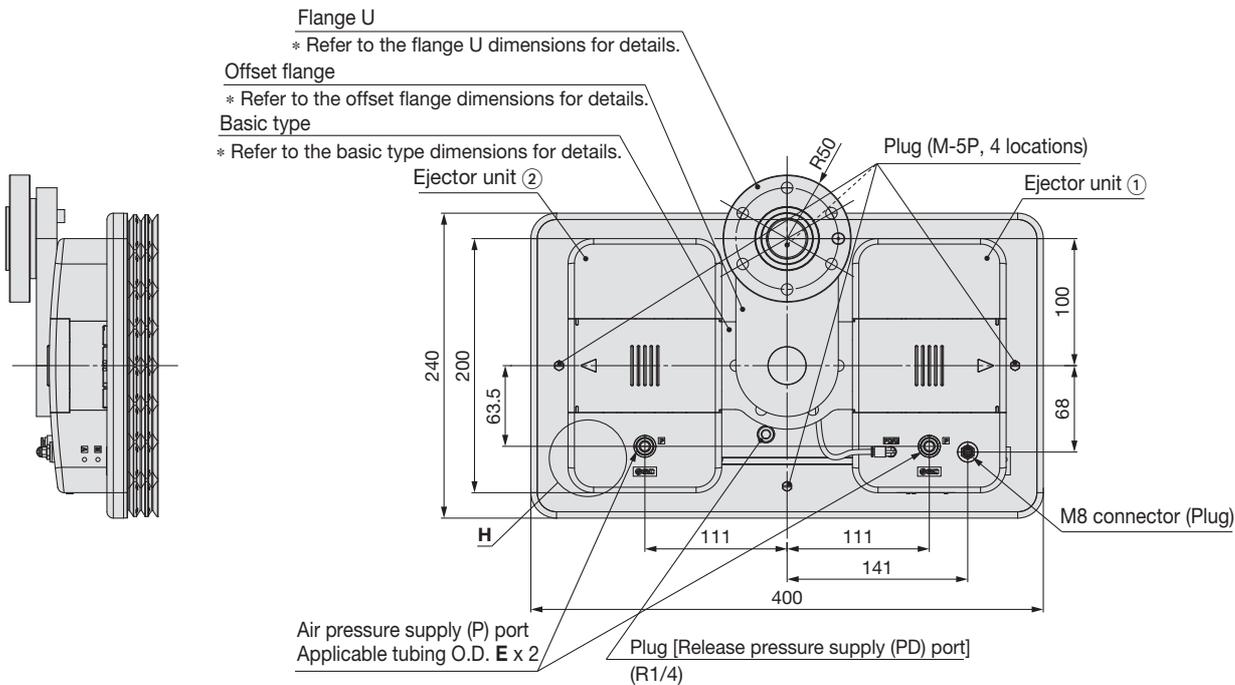
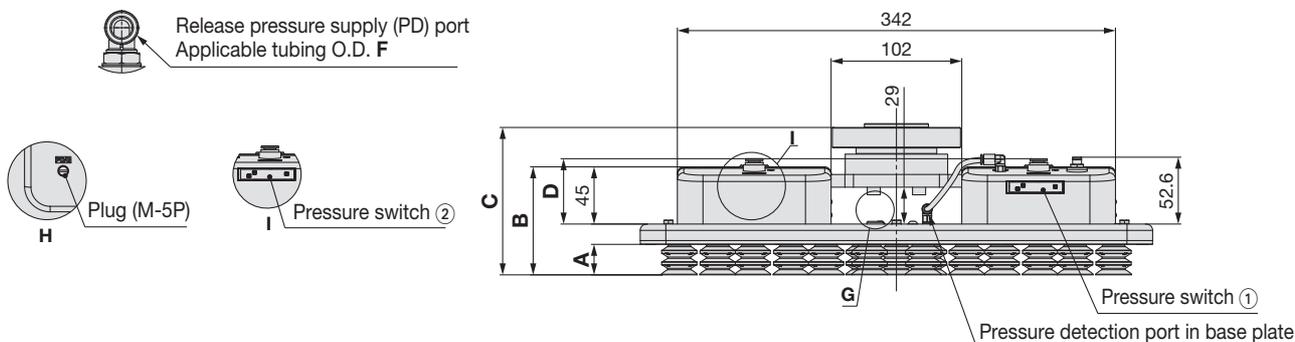
Part no.	D	E	F
ZGP□□-400240□□□-□□□C8	51.4	∅ 8	∅ 8
ZGP□□-400240□□□-□□□C10	52	∅ 10	
ZGP□□-400240□□□-□□□N9	51.4	∅ 5/16"	∅ 3/8"
ZGP□□-400240□□□-□□□N11	51.9	∅ 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

## Dimensions: 400 mm x 240 mm

Robot mounting flange: Basic type + Offset flange + Flange U  
 Compatible robot: 012P (UNIVERSAL ROBOTS)

Without supply valve/release valve



Part no.	A	B	C
ZGP012P□-400240A25□-□□2□	24	85	116
ZGP012P□-400240A50□-□□2□	48.5	109.5	140.5

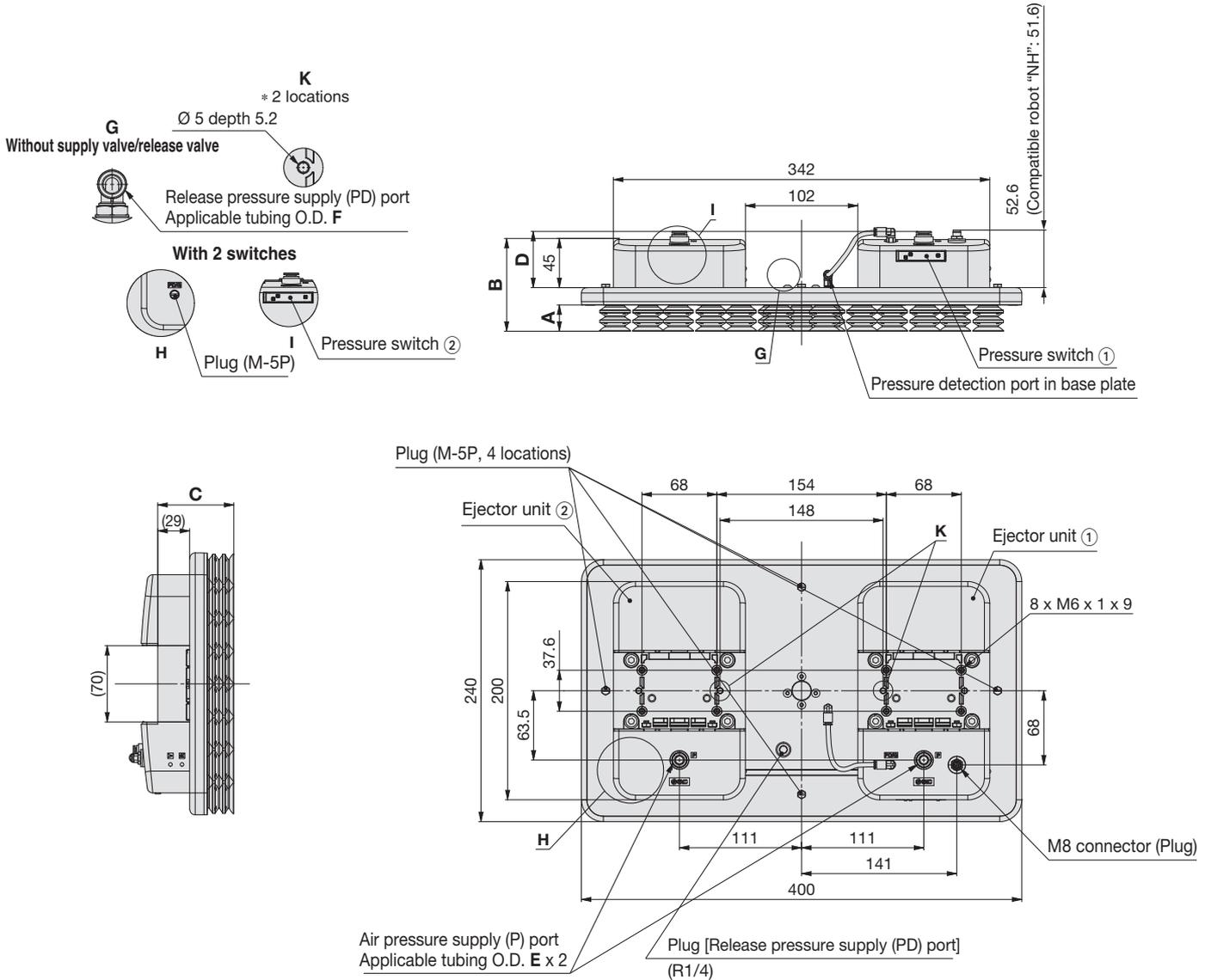
Part no.	D	E	F
ZGP□□-400240□□□-□□□C8	51.4	∅ 8	∅ 8
ZGP□□-400240□□□-□□□C10	52	∅ 10	
ZGP□□-400240□□□-□□□N9	51.4	∅ 5/16"	∅ 3/8"
ZGP□□-400240□□□-□□□N11	51.9	∅ 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

# ZGP Series

**Dimensions: 400 mm x 240 mm**

**Without robot mounting flange**



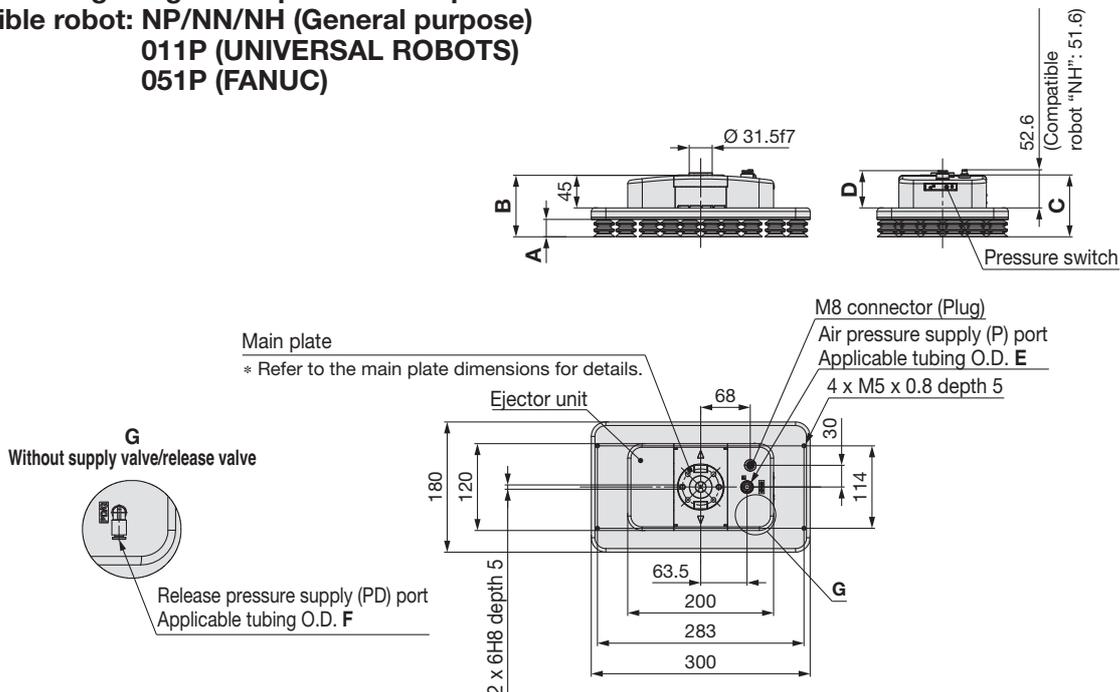
Part no.	A	B	C
ZGP□□-400240A25□-□□□	24	85	69
ZGP□□-400240A50□-□□□	48.5	109.5	93.5

Part no.	D	E	F
ZGP□□-400240□□□-□□C8	51.4	Ø 8	Ø 8
ZGP□□-400240□□□-□□C10	52	Ø 10	
ZGP□□-400240□□□-□□N9	51.4	Ø 5/16"	Ø 3/8"
ZGP□□-400240□□□-□□N11	51.9	Ø 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

## Dimensions: 300 mm x 180 mm

**Robot mounting flange: Tool plate + Main plate**  
**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**051P (FANUC)**

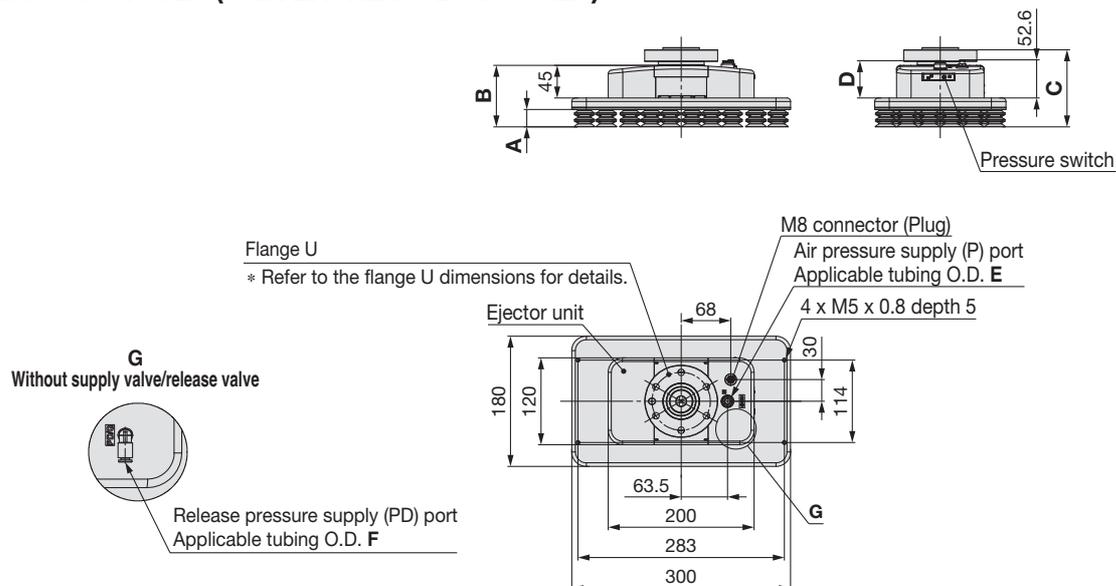


Part no.	A	B	C
ZGP□□-300180A25□-□□1□	24	85	85.5
ZGP□□-300180A50□-□□1□	48.5	109.5	110

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Part no.	D	E	F
ZGP□□-300180□□□-□□□C8	51.4	∅ 8	∅ 4
ZGP□□-300180□□□-□□□C10	52	∅ 10	
ZGP□□-300180□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-300180□□□-□□□N11	51.9	∅ 3/8"	

**Robot mounting flange: Tool plate + Main plate + Flange U**  
**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**



Part no.	A	B	C
ZGP012P□-300180A25□-□□1□	24	85	106.5
ZGP012P□-300180A50□-□□1□	48.5	109.5	131

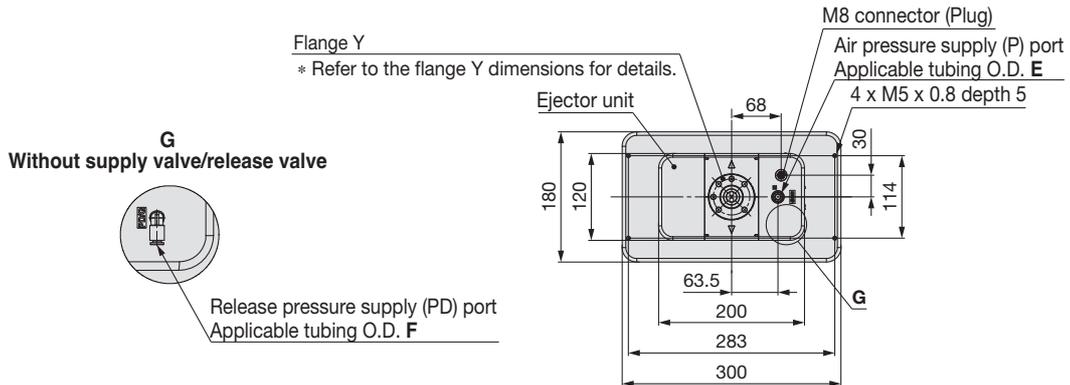
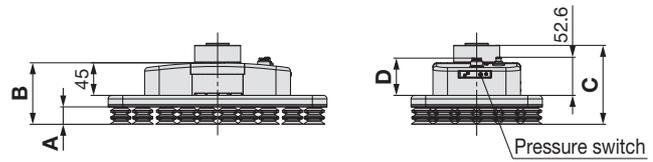
\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Part no.	D	E	F
ZGP□□-300180□□□-□□□C8	51.4	∅ 8	∅ 4
ZGP□□-300180□□□-□□□C10	52	∅ 10	
ZGP□□-300180□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-300180□□□-□□□N11	51.9	∅ 3/8"	

# ZGP Series

**Dimensions: 300 mm x 180 mm**

**Robot mounting flange: Tool plate + Main plate + Flange Y**  
**Compatible robot: 043P/043N (YASKAWA Electric)**

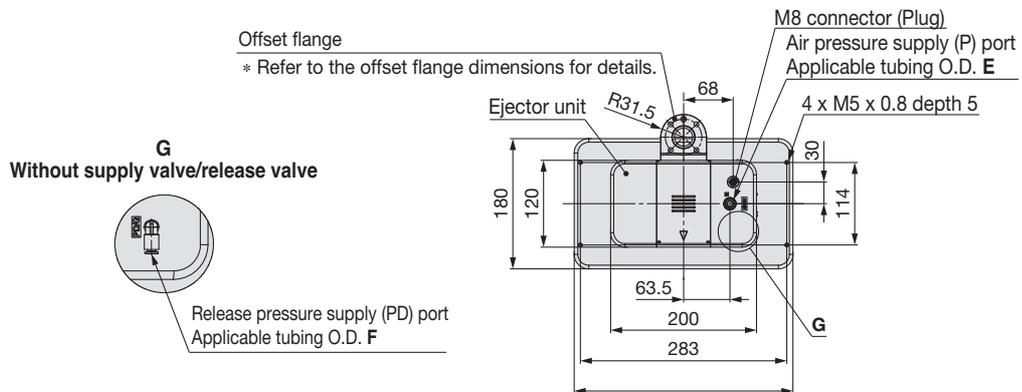
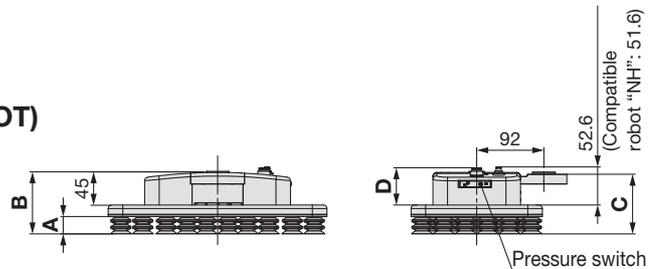


Part no.	A	B	C
ZGP043(P/N)□-300180A25□-□□1□	24	85	109
ZGP043(P/N)□-300180A50□-□□1□	48.5	109.5	133.5

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Part no.	D	E	F
ZGP□□-300180□□□-□□□C8	51.4	Ø 8	Ø 4
ZGP□□-300180□□□-□□□C10	52	Ø 10	
ZGP□□-300180□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGP□□-300180□□□-□□□N11	51.9	Ø 3/8"	

**Robot mounting flange: Offset flange**  
**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**051P (FANUC)**  
**021N (OMRON/TECHMAN ROBOT)**



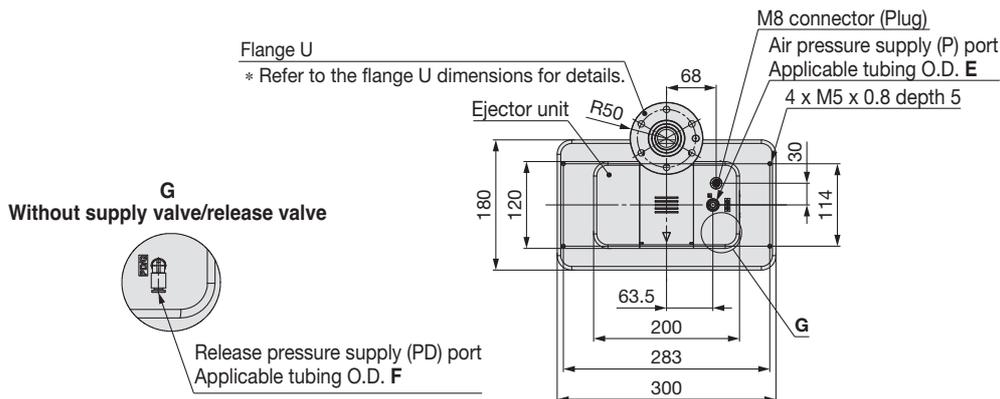
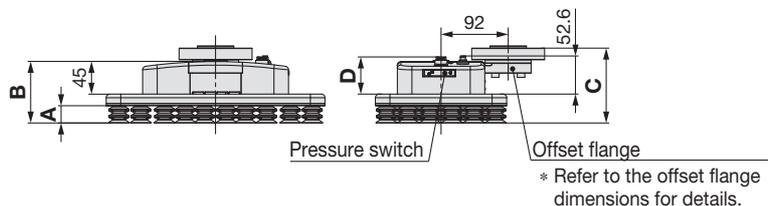
Part no.	A	B	C
ZGP□□-300180A25□-□□2□	24	85	82.5
ZGP□□-300180A50□-□□2□	48.5	109.5	107

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Part no.	D	E	F
ZGP□□-300180□□□-□□□C8	51.4	Ø 8	Ø 4
ZGP□□-300180□□□-□□□C10	52	Ø 10	
ZGP□□-300180□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGP□□-300180□□□-□□□N11	51.9	Ø 3/8"	

**Dimensions: 300 mm x 180 mm**

**Robot mounting flange: Offset flange + Flange U**  
**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**

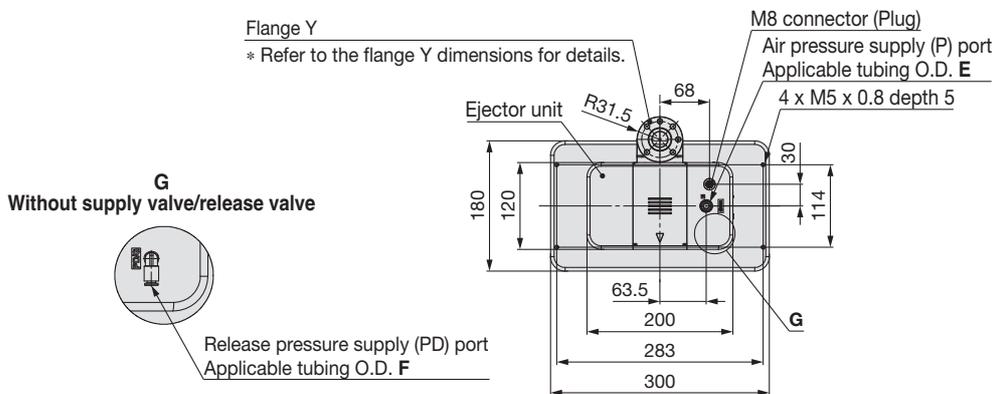
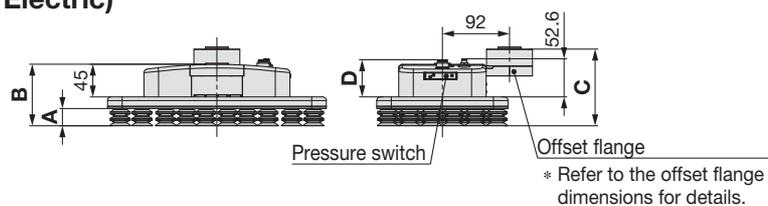


Part no.	A	B	C
ZGP012P□-300180A25□-□□2□	24	85	103.5
ZGP012P□-300180A50□-□□2□	48.5	109.5	128

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Part no.	D	E	F
ZGP□□-300180□□□-□□□C8	51.4	∅ 8	∅ 4
ZGP□□-300180□□□-□□□C10	52	∅ 10	
ZGP□□-300180□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-300180□□□-□□□N11	51.9	∅ 3/8"	

**Robot mounting flange: Offset flange + Flange Y**  
**Compatible robot: 043P/043N (YASKAWA Electric)**



Part no.	A	B	C
ZGP043(P/N)□-300180A25□-□□2□	24	85	106
ZGP043(P/N)□-300180A50□-□□2□	48.5	109.5	130.5

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

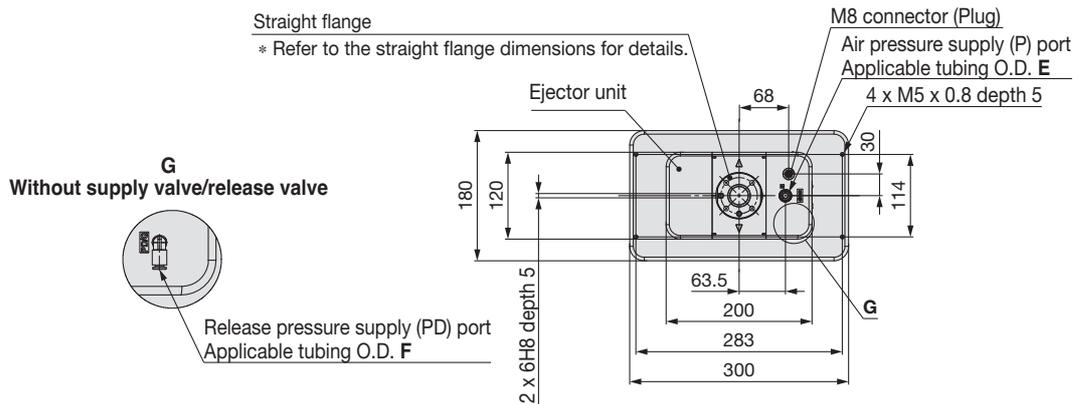
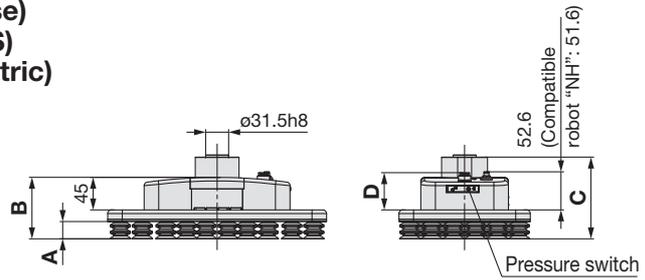
Part no.	D	E	F
ZGP□□-300180□□□-□□□C8	51.4	∅ 8	∅ 4
ZGP□□-300180□□□-□□□C10	52	∅ 10	
ZGP□□-300180□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-300180□□□-□□□N11	51.9	∅ 3/8"	

# ZGP Series

**Dimensions: 300 mm x 180 mm**

**Robot mounting flange: Straight flange**

**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**043P/043N (YASKAWA Electric)**  
**051P (FANUC)**



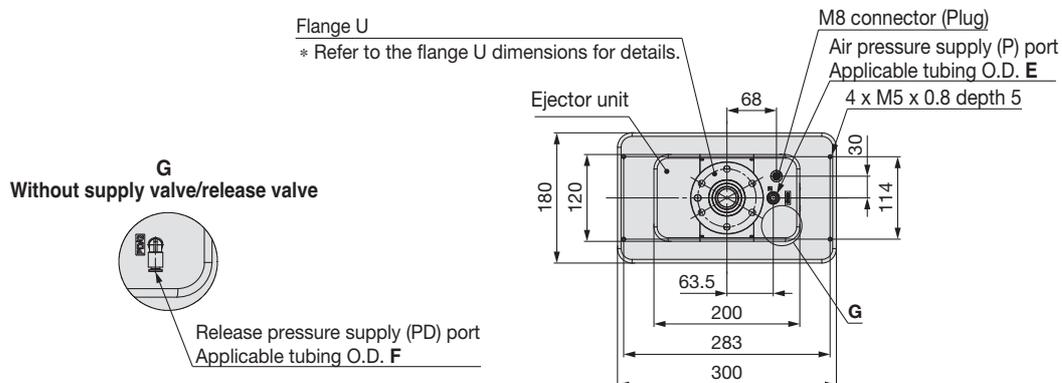
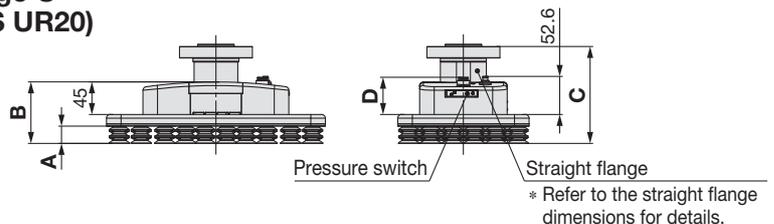
Part no.	A	B	C
ZGP□□-300180A25□-□□4□	24	85	113
ZGP□□-300180A50□-□□4□	48.5	109.5	137.5

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Part no.	D	E	F
ZGP□□-300180□□□-□□□C8	51.4	∅ 8	∅ 4
ZGP□□-300180□□□-□□□C10	52	∅ 10	
ZGP□□-300180□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-300180□□□-□□□N11	51.9	∅ 3/8"	

**Robot mounting flange: Straight flange + Flange U**

**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**



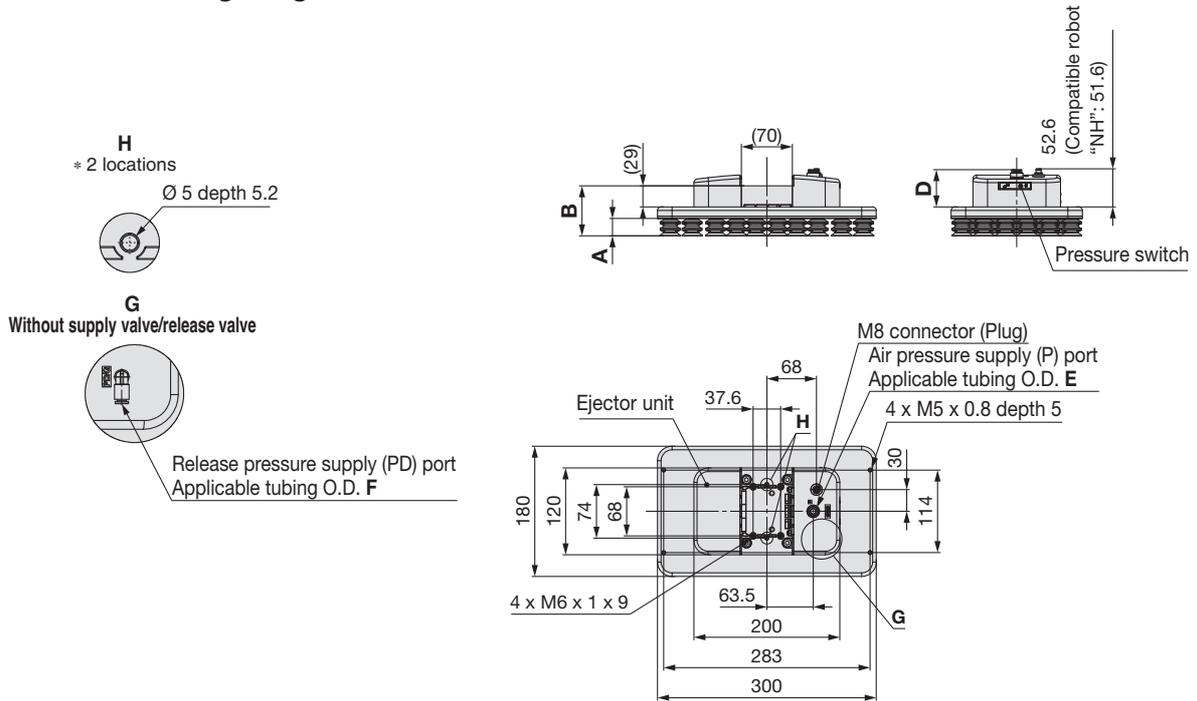
Part no.	A	B	C
ZGP012P□-300180A25□-□□4□	24	85	134
ZGP012P□-300180A50□-□□4□	48.5	109.5	158.5

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Part no.	D	E	F
ZGP□□-300180□□□-□□□C8	51.4	∅ 8	∅ 4
ZGP□□-300180□□□-□□□C10	52	∅ 10	
ZGP□□-300180□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-300180□□□-□□□N11	51.9	∅ 3/8"	

**Dimensions: 300 mm x 180 mm**

**Without robot mounting flange**



Part no.	A	B
ZGP□□-300180A25□-□□□	24	69
ZGP□□-300180A50□-□□□	48.5	93.5

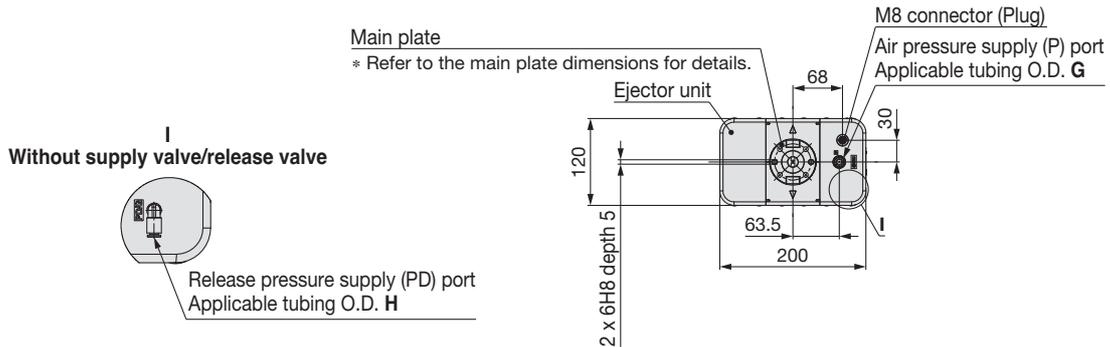
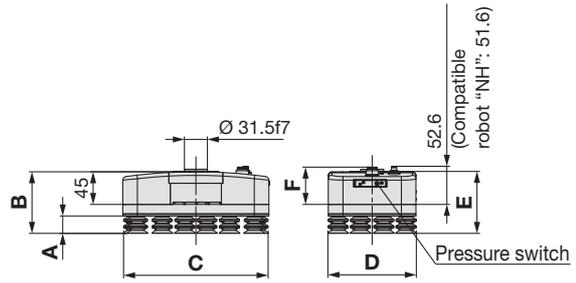
\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Part no.	D	E	F
ZGP□□-300180□□□-□□C8	51.4	∅ 8	∅ 4
ZGP□□-300180□□□-□□C10	52	∅ 10	
ZGP□□-300180□□□-□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-300180□□□-□□N11	51.9	∅ 3/8"	

# ZGP Series

**Dimensions: 200 mm x 120 mm**

**Robot mounting flange: Tool plate + Main plate**  
**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**051P (FANUC)**

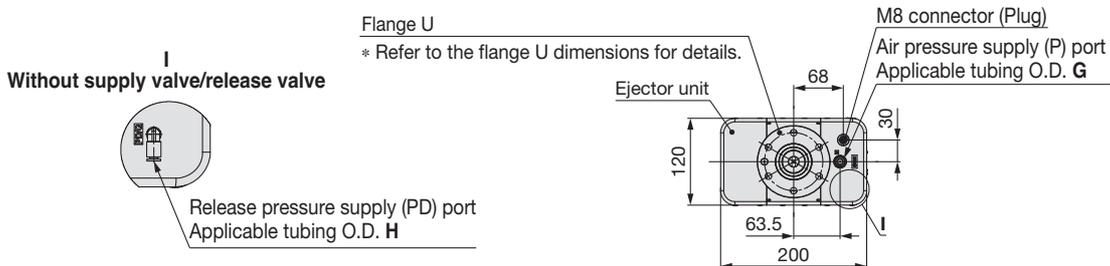
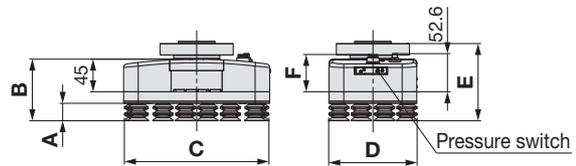


Part no.	A	B	C	D	E
ZGP□□-200120A25□-□□1□	24	85	198	121	85.5
ZGP□□-200120A50□-□□1□	48.5	109.5	215.8	137	110

Part no.	F	G	H
ZGP□□-200120□□□-□□□C8	51.4	Ø 8	Ø 4
ZGP□□-200120□□□-□□□C10	52	Ø 10	
ZGP□□-200120□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGP□□-200120□□□-□□□N11	51.9	Ø 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

**Robot mounting flange: Tool plate + Main plate + Flange U**  
**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**



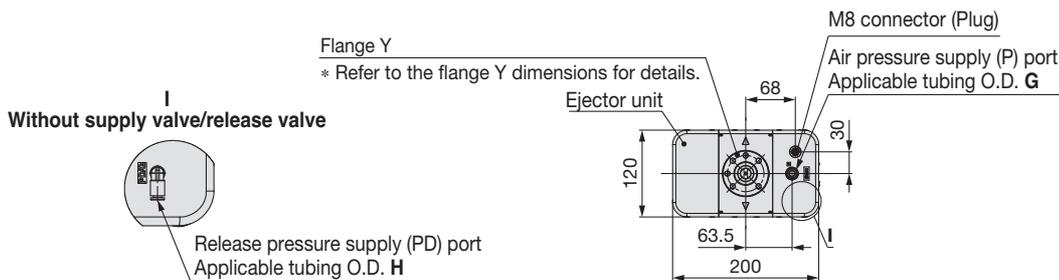
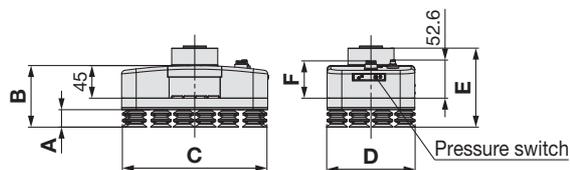
Part no.	A	B	C	D	E
ZGP012P□-200120A25□-□□1□	24	85	198	121	106.5
ZGP012P□-200120A50□-□□1□	48.5	109.5	215.8	137	131

Part no.	F	G	H
ZGP□□-200120□□□-□□□C8	51.4	Ø 8	Ø 4
ZGP□□-200120□□□-□□□C10	52	Ø 10	
ZGP□□-200120□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGP□□-200120□□□-□□□N11	51.9	Ø 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

## Dimensions: 200 mm x 120 mm

**Robot mounting flange: Tool plate + Main plate + Flange Y**  
**Compatible robot: 043P/043N (YASKAWA Electric)**

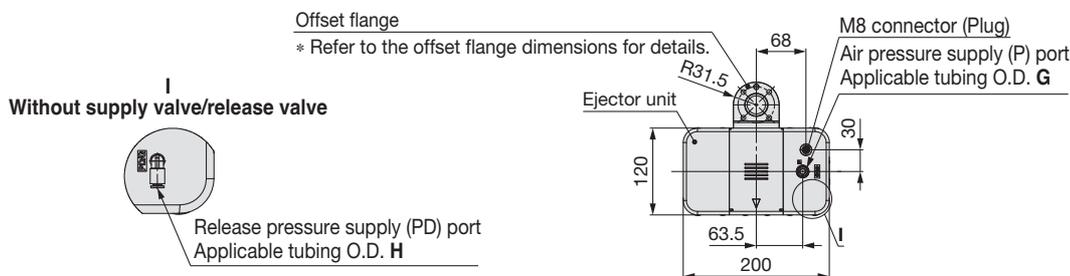
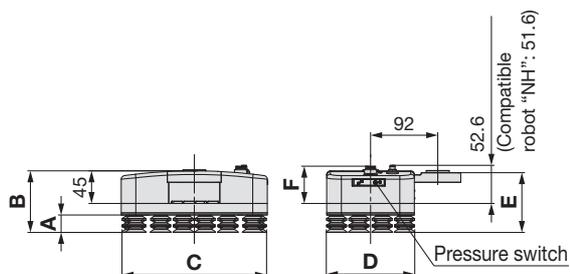


Part no.	A	B	C	D	E
ZGP043(P/N)□-200120A25□-□□1□	24	85	198	121	109
ZGP043(P/N)□-200120A50□-□□1□	48.5	109.5	215.8	137	133.5

Part no.	F	G	H
ZGP□□-200120□□□□-□□□□C8	51.4	∅ 8	∅ 4
ZGP□□-200120□□□□-□□□□C10	52	∅ 10	
ZGP□□-200120□□□□-□□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-200120□□□□-□□□□N11	51.9	∅ 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

**Robot mounting flange: Offset flange**  
**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**051P (FANUC)**  
**021N (OMRON/TECHMAN ROBOT)**



Part no.	A	B	C	D	E
ZGP□□-200120A25□-□□2□	24	85	198	121	82.5
ZGP□□-200120A50□-□□2□	48.5	109.5	215.8	137	107

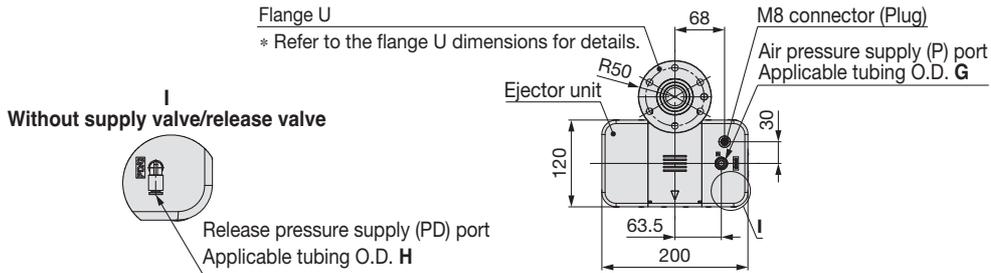
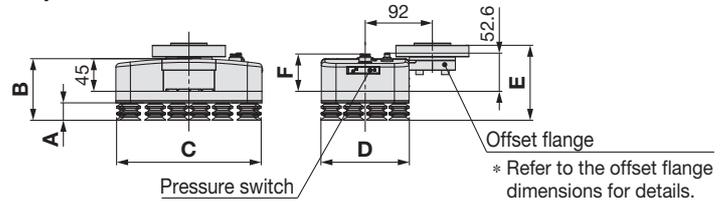
Part no.	F	G	H
ZGP□□-200120□□□□-□□□□C8	51.4	∅ 8	∅ 4
ZGP□□-200120□□□□-□□□□C10	52	∅ 10	
ZGP□□-200120□□□□-□□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-200120□□□□-□□□□N11	51.9	∅ 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

# ZGP Series

**Dimensions: 200 mm x 120 mm**

**Robot mounting flange: Offset flange + Flange U**  
**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**

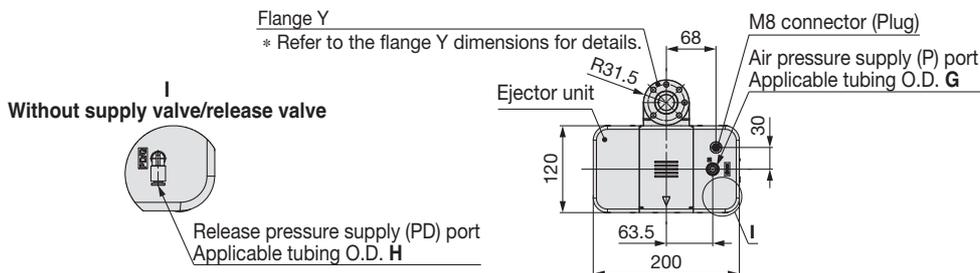
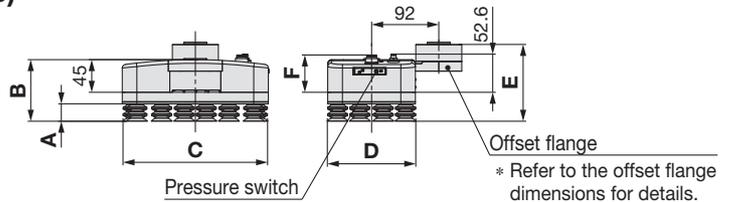


Part no.	A	B	C	D	E
ZGP012P□-200120A25□-□□2□	24	85	198	121	103.5
ZGP012P□-200120A50□-□□2□	48.5	109.5	215.8	137	128

Part no.	F	G	H
ZGP□□-200120□□□□-□□□□C8	51.4	∅ 8	∅ 4
ZGP□□-200120□□□□-□□□□C10	52	∅ 10	
ZGP□□-200120□□□□-□□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-200120□□□□-□□□□N11	51.9	∅ 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

**Robot mounting flange: Offset flange + Flange Y**  
**Compatible robot: 043P/043N (YASKAWA Electric)**



Part no.	A	B	C	D	E
ZGP043(P/N)□-200120A25□-□□2□	24	85	198	121	106
ZGP043(P/N)□-200120A50□-□□2□	48.5	109.5	215.8	137	130.5

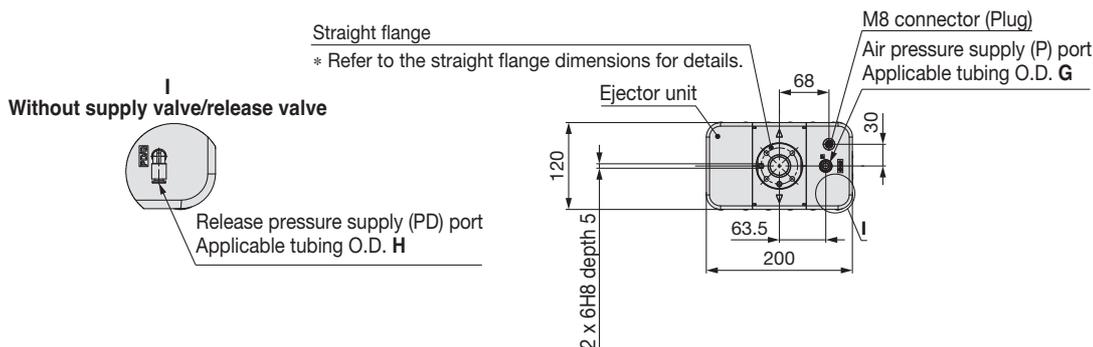
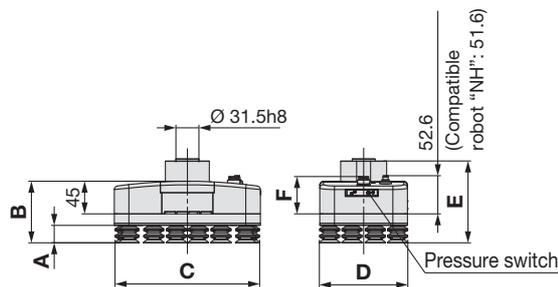
Part no.	F	G	H
ZGP□□-200120□□□□-□□□□C8	51.4	∅ 8	∅ 4
ZGP□□-200120□□□□-□□□□C10	52	∅ 10	
ZGP□□-200120□□□□-□□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-200120□□□□-□□□□N11	51.9	∅ 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

## Dimensions: 200 mm x 120 mm

Robot mounting flange: Straight flange

Compatible robot: NP/NN/NH (General purpose)  
 011P (UNIVERSAL ROBOTS)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)



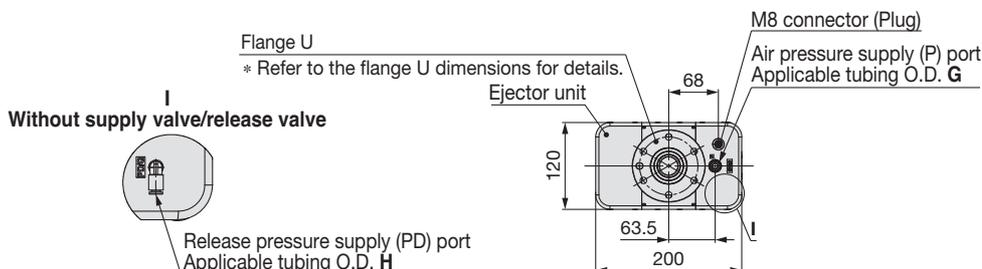
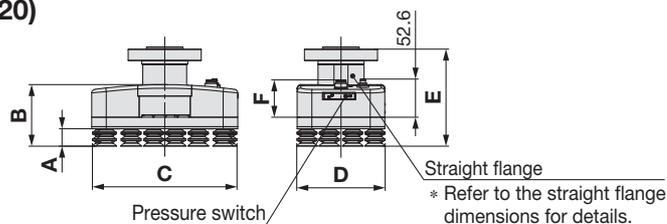
Part no.	A	B	C	D	E
ZGP□□-200120A25□-□□4□	24	85	198	121	113
ZGP□□-200120A50□-□□4□	48.5	109.5	215.8	137	137.5

Part no.	F	G	H
ZGP□□-200120□□□-□□□C8	51.4	∅ 8	∅ 4
ZGP□□-200120□□□-□□□C10	52	∅ 10	∅ 4
ZGP□□-200120□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-200120□□□-□□□N11	51.9	∅ 3/8"	∅ 1/8"

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

Robot mounting flange: Straight flange + Flange U

Compatible robot: 012P (UNIVERSAL ROBOTS UR20)



Part no.	A	B	C	D	E
ZGP012P□-200120A25□-□□4□	24	85	198	121	134
ZGP012P□-200120A50□-□□4□	48.5	109.5	215.8	137	158.5

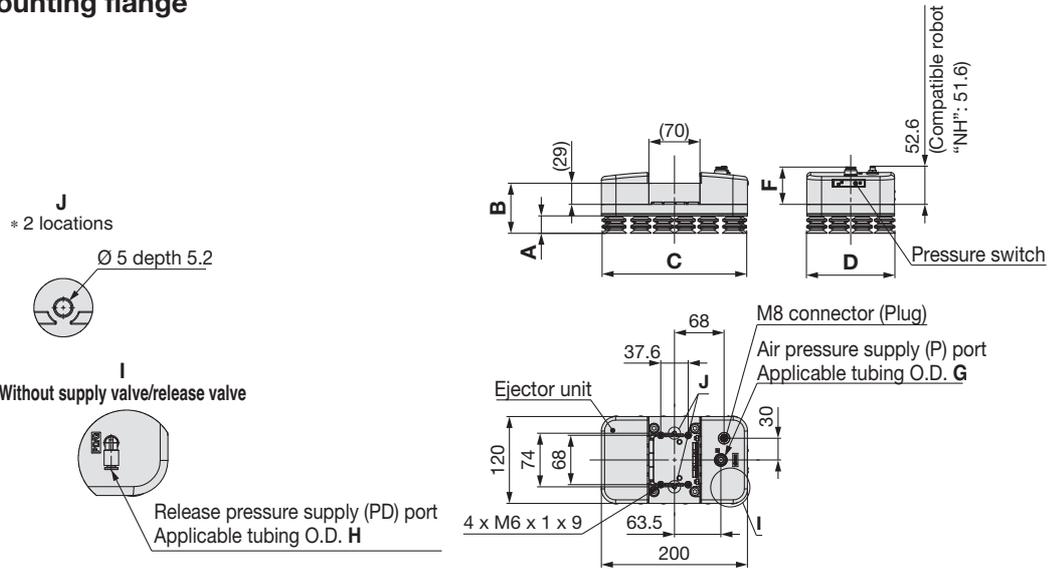
Part no.	F	G	H
ZGP□□-200120□□□-□□□C8	51.4	∅ 8	∅ 4
ZGP□□-200120□□□-□□□C10	52	∅ 10	∅ 4
ZGP□□-200120□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGP□□-200120□□□-□□□N11	51.9	∅ 3/8"	∅ 1/8"

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.

# ZGP Series

Dimensions: 200 mm x 120 mm

Without robot mounting flange



Part no.	A	B	C	D
ZGP□□-200120A25□-□□□	24	69	198	121
ZGP□□-200120A50□-□□□	48.5	93.5	215.8	137

Part no.	F	G	H
ZGP□□-200120□□□□-□□C8	51.4	Ø 8	Ø 4
ZGP□□-200120□□□□-□□C10	52	Ø 10	
ZGP□□-200120□□□□-□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGP□□-200120□□□□-□□N11	51.9	Ø 3/8"	

\* Refer to the suction cup catalogue for details on suction cup dimensions and other specifications. Refer to page 60 for built-in suction cup part numbers.



# Vacuum Gripper System (Foam Type)

# ZGS Series



## How to Order

ZGS **NP** **K** - **400240** **B** **J** **4** - **R** **M** **1** **C8**

①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩

### ① Compatible robot

Symbol	Robot manufacturer	Supported model	Switch output	Valve polarity
<b>N</b>	-	General purpose	PNP	-COM
			NPN	+COM
			IO-Link compatible	
<b>011</b>	UNIVERSAL ROBOTS	UR3e	PNP	-COM
<b>012</b>		UR5e		
		UR10e		
		UR16e		
		UR20		
<b>021</b>	OMRON/TECHMAN ROBOT	UR30	NPN	+COM
		TM5(S)		
		TM7(S)		
		TM12(S)		
		TM14(S)		
		TM16		
		TM20		
		TM25S		
<b>043</b>	YASKAWA Electric	MOTOMAN-HC10(S)DTP	PNP	-COM
		MOTOMAN-HC20(S)DTP		
		MOTOMAN-HC30PL		
		MOTOMAN-HC10(S)DTP	NPN	+COM
		MOTOMAN-HC20(S)DTP		
MOTOMAN-HC30PL				
<b>051</b>	FANUC	CRX-5iA	PNP	-COM
		CRX-10iA(L)		
		CRX-20iA		
		CRX-25iA		
		CRX-30iA		

\* Use robot of appropriate size depending on vacuum gripper system and weight of workpiece.

### ② Supply valve/Release valve

Symbol	Supply valve	Release valve
<b>B</b>	N.O. (2-position single)	N.C.
<b>K</b>	N.C. (2-position single)	N.C.
<b>W</b>	2-position double	N.C.
<b>-</b>	None	None

\* When output type "H" is selected for the ① compatible robot, "W" and "-" cannot be selected.

### ③ Foam size

Symbol	Foam size
<b>400240</b>	400 mm x 240 mm
<b>300180</b>	300 mm x 180 mm
<b>200120</b>	200 mm x 120 mm

### ⑥ Number of ejector assemblies

#### For Size 400 mm x 240 mm

Symbol	Number of ejector assemblies
<b>2</b>	2 pcs.
<b>4</b>	4 pcs.
<b>6</b>	6 pcs.

#### For Size 300 mm x 180 mm

Symbol	Number of ejector assemblies
<b>1</b>	1 pc.
<b>2</b>	2 pcs.
<b>3</b>	3 pcs.

#### For Size 200 mm x 120 mm

Symbol	Number of ejector assemblies
<b>1</b>	1 pc.
<b>2</b>	2 pcs.

### ④ Foam

Symbol	Thickness	Number of holes		
		400 x 240	300 x 180	200 x 120
<b>A</b>	20 mm	91	39	22
<b>B</b>	30 mm			

### ⑤ Suction plate

#### For Size 400 mm x 240 mm

Symbol	Specifications
<b>J</b>	Vacuum saving valve, Centre foam hole pressure detection port
<b>T</b>	Fixed orifice, Centre foam hole pressure detection port

#### For Sizes 300 mm x 180 mm, 200 mm x 120 mm

Symbol	Specifications
<b>S</b>	Vacuum saving valve
<b>M</b>	Fixed orifice

## 7 Connector cable for compatible robot

Symbol	Connector cable for compatible robot
—	With cable (For compatible models)
<b>R</b>	With cable (Discrete wire)
<b>N</b>	Without cable

- \* When symbol "NP" or "NN" is selected for the ① compatible robot, "—: With cable (For compatible models)" cannot be selected. In addition, when symbol "NH" is selected for the ① compatible robot, only "N: Without cable" can be selected. (Refer to page 60 for details on the connector cable for compatible robots.)

## 8 Pressure switch unit specifications

### For Size 400 mm x 240 mm

Symbol	Number of switches	Switch unit
<b>C</b>	2 switches	With unit switching function
<b>M</b>		SI unit only

- \* Under the New Measurement Act, switches with the unit switching function are not permitted for use in Japan. (For use within Japan, only symbol "M" can be selected.)
- \* When output type "H" is selected for the ① compatible robot, there will be 1 switch, located on the M8 connector side ejector unit.

### For Sizes 300 mm x 180 mm, 200 mm x 120 mm

Symbol	Switch unit	Pressure detection location
<b>W</b>	With unit switching function	Pressure in base plate
<b>X</b>		Pressure in a foam hole
<b>Y</b>	SI unit only	Pressure in base plate
<b>Z</b>		Pressure in a foam hole

- \* Under the New Measurement Act, switches with the unit switching function are not permitted for use in Japan. (For use within Japan, only symbols "Y" or "Z" can be selected.)

## 9 Robot mounting flange

### For Size 400 mm x 240 mm

Symbol	Robot mounting flange
—	Without robot mounting flange
<b>1</b>	Basic type (Conforming to ISO 9409-1-50-4-M6)
<b>2</b>	Basic type (Conforming to ISO 9409-1-50-4-M6) + Offset flange

- \* When symbol 021N (OMRON/TECHMAN ROBOT) is selected for the ① compatible robot, only "—" or "2" can be selected.

### For Sizes 300 mm x 180 mm, 200 mm x 120 mm

Symbol	Robot mounting flange
—	Without robot mounting flange
<b>1</b>	Tool plate + Main plate
<b>2</b>	Offset flange
<b>3</b>	Tool plate only
<b>4</b>	Straight flange

- \* Note that the lifting force may be limited when the tool plate and main plate are used. For details, refer to the "Suction Plate Selection Guide" on pages 13 and 14.
- \* Depending on the ① compatible robot, an additional flange is provided. See the Robot Mounting Flange options for details.
- \* When symbol 021N (OMRON/TECHMAN ROBOT) is selected for the ① compatible robot, only "—" or "2" can be selected.
- \* Symbol 3 (Tool plate only) is available for users who already have the main plate (ZGS-PL3-7-A).

## 10 Air pressure supply (P) port

Symbol	Air pressure supply (P) port		
<b>C8</b>	Metric	Straight	Ø 8 One-touch fitting
<b>C10</b>			Ø 10 One-touch fitting
<b>N9</b>	Inch	Straight	Ø 5/16" One-touch fitting
<b>N11</b>			Ø 3/8" One-touch fitting

## Vacuum Gripper System (Foam Type) Specifications



### General Specifications

Fluid	Air
Compressed air purity class	ISO 8573-1:2010 [2:4:3]
Operating pressure range [MPa]	0.3 to 0.7
Operating temperature range [°C]	5 to 50
Power supply voltage [V]	24 VDC ±10 %
Power consumption [W]	2.7
Supply valve/Release valve	Equivalent to JSY3□40-5MOZ-□
Vacuum pressure switch	Equivalent to ZSE10-00-□

Refer to the JSY3000 series **Web Catalogue** for the specifications of the supply valve and release valve.  
Refer to the ZSE10 series **Web Catalogue** for vacuum pressure switch specifications.

### Ejector Specifications (Size: 400 x 240)

Number of ejector assemblies	2	4	6
Standard supply pressure [MPa]	0.58	0.6	
Max. vacuum pressure [kPa]	-75		
Air consumption [l/min (ANR)]	228	454	661
Weight [kg]*1	3.9		

\*1 For ZGSNPK-400240BJ4-NM1C8

### Ejector Specifications (Size: 300 x 180, 200 x 120)

Number of ejector assemblies	1	2	3
Standard supply pressure [MPa]	0.45		
Max. vacuum pressure [kPa]	-63	-62	-60
Air consumption [l/min (ANR)]	92	177	257
Weight [kg]	Size 300 x 180*2	1.8	
	Size 200 x 120*3	1.3	-

\*2 For ZGSNPK-300180AM3-NY1C8

\*3 For ZGSNPK-200120AM2-NY1C8

**Dimensions: 400 mm x 240 mm**

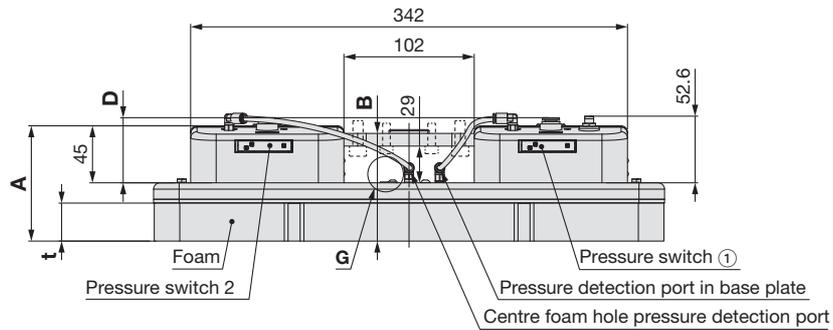
**Robot mounting flange: Basic type**

**Compatible robot: NP/NN (General purpose)**

**011P/012P (UNIVERSAL ROBOTS)**

**043P/043N (YASKAWA Electric)**

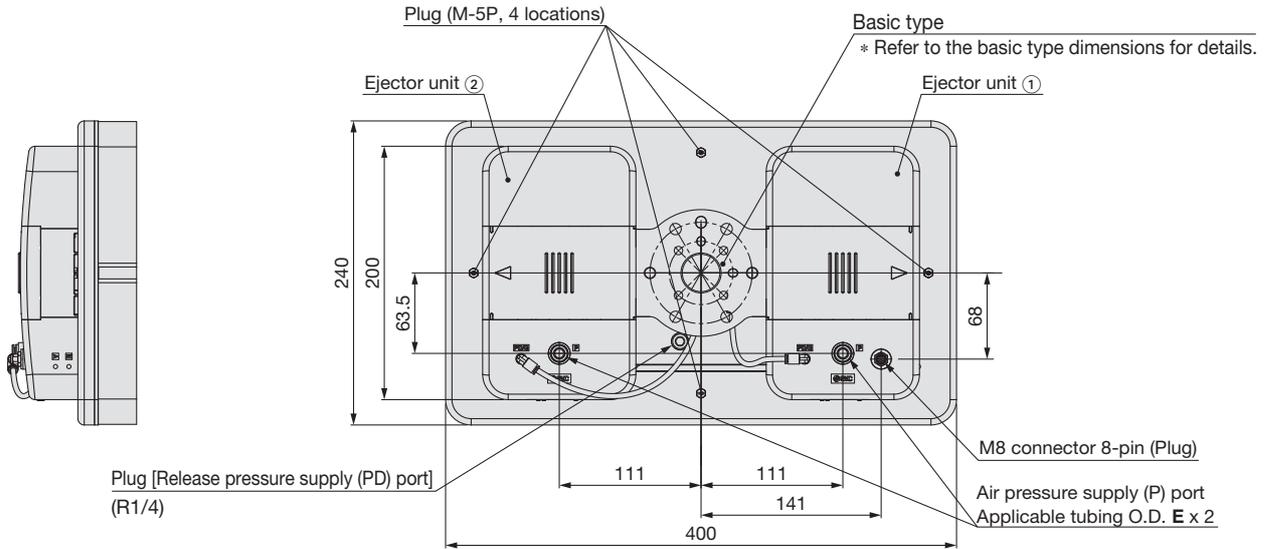
**051P (FANUC)**



**G**  
Without supply valve/release valve



Release pressure supply (PD) port  
Applicable tubing O.D. F



Part no.	t	A	B
ZGS□□-400240A□□-□□1□	20	81	75
ZGS□□-400240B□□-□□1□	30	91	85

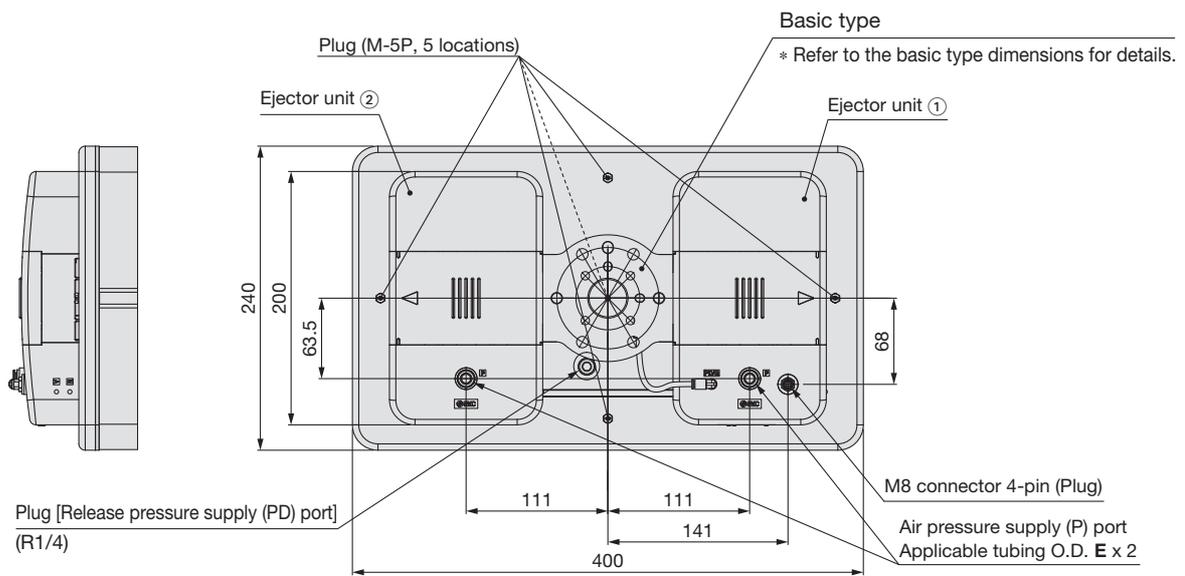
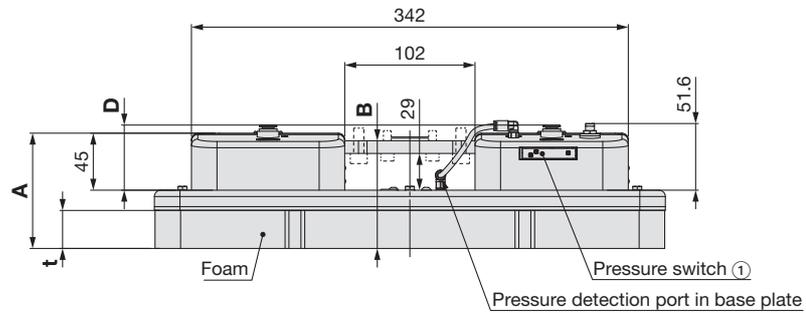
Part no.	D	E	F
ZGS□□-400240□□□-□□□C8	51.4	∅ 8	∅ 8
ZGS□□-400240□□□-□□□C10	52	∅ 10	
ZGS□□-400240□□□-□□□N9	51.4	∅ 5/16"	∅ 3/8"
ZGS□□-400240□□□-□□□N11	51.9	∅ 3/8"	

# ZGS Series

**Dimensions: 400 mm x 240 mm**

**Robot mounting flange: Basic type**

**Compatible robot: NH (General purpose)**



Part no.	t	A	B
ZGSNH□-400240A□□-□□1□	20	81	75
ZGSNH□-400240B□□-□□1□	30	91	85

Part no.	D	E
ZGS□□-400240□□□-□□□C8	51.4	∅ 8
ZGS□□-400240□□□-□□□C10	52	∅ 10
ZGS□□-400240□□□-□□□N9	51.4	∅ 5/16"
ZGS□□-400240□□□-□□□N11	51.9	∅ 3/8"

**Dimensions: 400 mm x 240 mm**

**Robot mounting flange: Basic type + Offset flange**

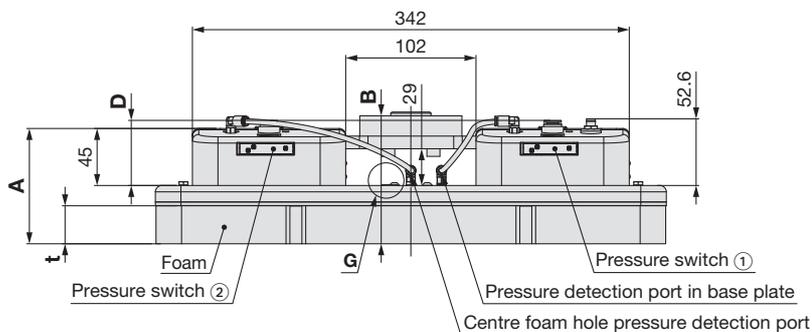
**Compatible robot: NP/NN (General purpose)**

**011P (UNIVERSAL ROBOTS)**

**021N (OMRON/TECHMAN ROBOT)**

**043P/043N (YASKAWA Electric)**

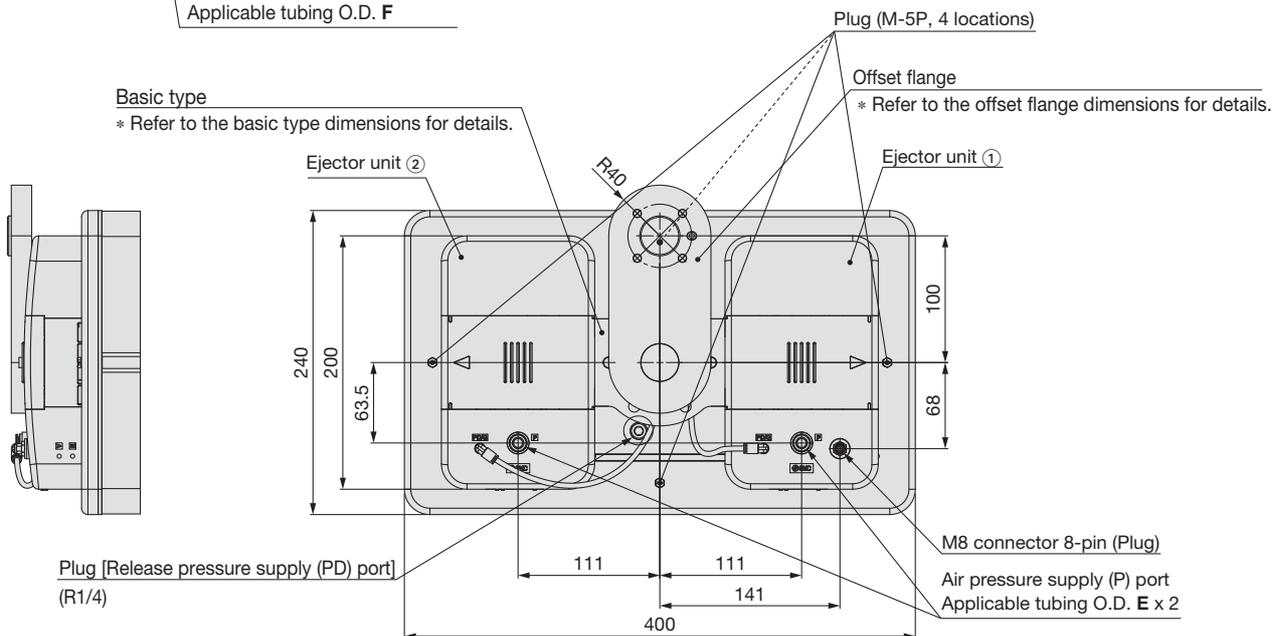
**051P (FANUC)**



**G**  
Without supply valve/release valve



Release pressure supply (PD) port  
Applicable tubing O.D. F



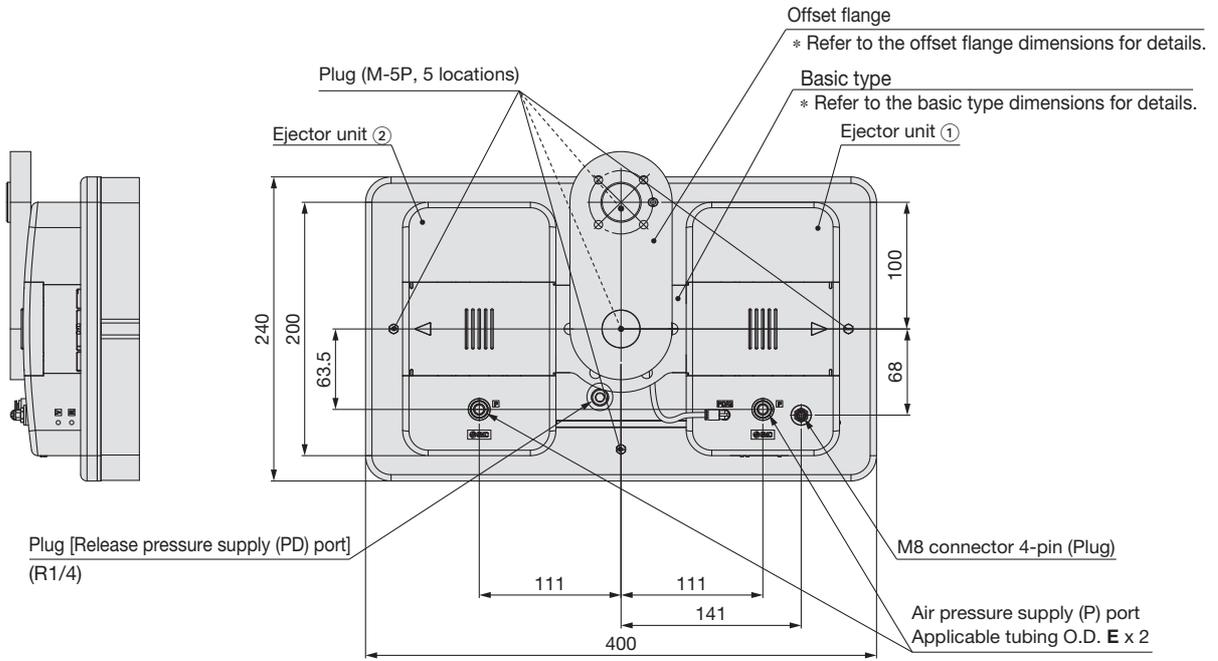
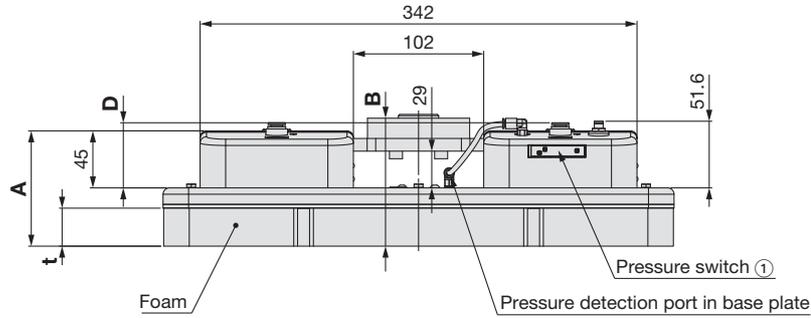
Part no.	t	A	B
ZGS□□-400240A□□-□□2□	20	81	91
ZGS□□-400240B□□-□□2□	30	91	101

Part no.	D	E	F
ZGS□□-400240□□□-□□□C8	51.4	∅ 8	∅ 8
ZGS□□-400240□□□-□□□C10	52	∅ 10	
ZGS□□-400240□□□-□□□N9	51.4	∅ 5/16"	∅ 3/8"
ZGS□□-400240□□□-□□□N11	51.9	∅ 3/8"	

# ZGS Series

**Dimensions: 400 mm x 240 mm**

**Robot mounting flange: Basic type + Offset flange**  
**Compatible robot: NH (General purpose)**



Part no.	t	A	B
ZGSNH□-400240A□□-□□2□	20	81	91
ZGSNH□-400240B□□-□□2□	30	91	101

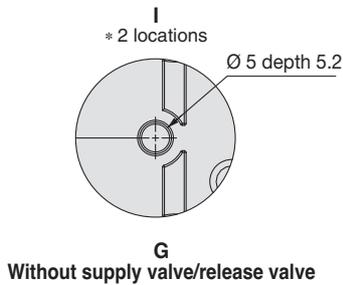
Part no.	D	E
ZGS□□-400240□□□-□□□C8	51.4	∅ 8
ZGS□□-400240□□□-□□□C10	52	∅ 10
ZGS□□-400240□□□-□□□N9	51.4	∅ 5/16"
ZGS□□-400240□□□-□□□N11	51.9	∅ 3/8"



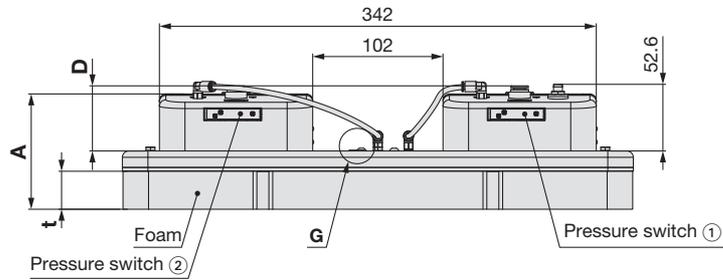
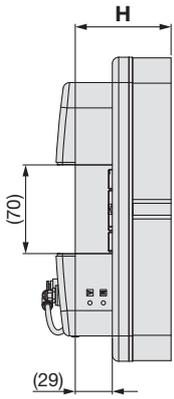
# ZGS Series

Dimensions: 400 mm x 240 mm

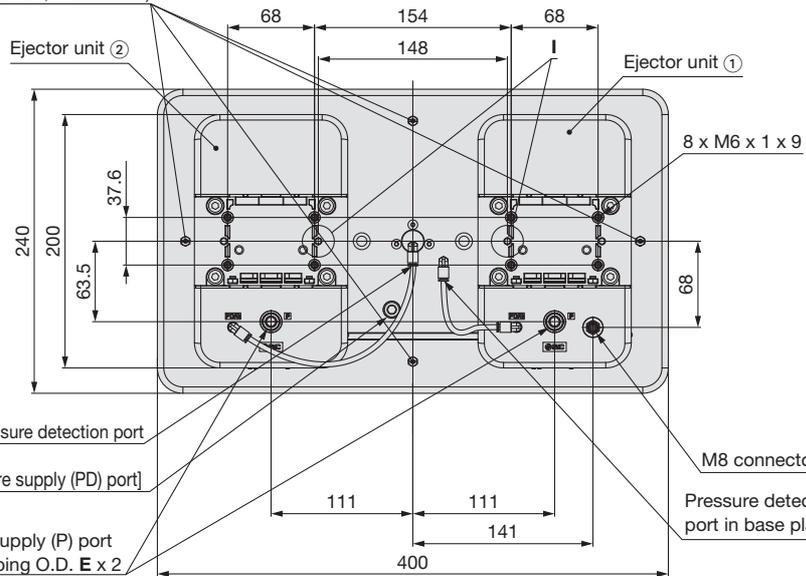
Without robot mounting flange



Release pressure supply (PD) port  
Applicable tubing O.D. F



Plug (M-5P, 4 locations)

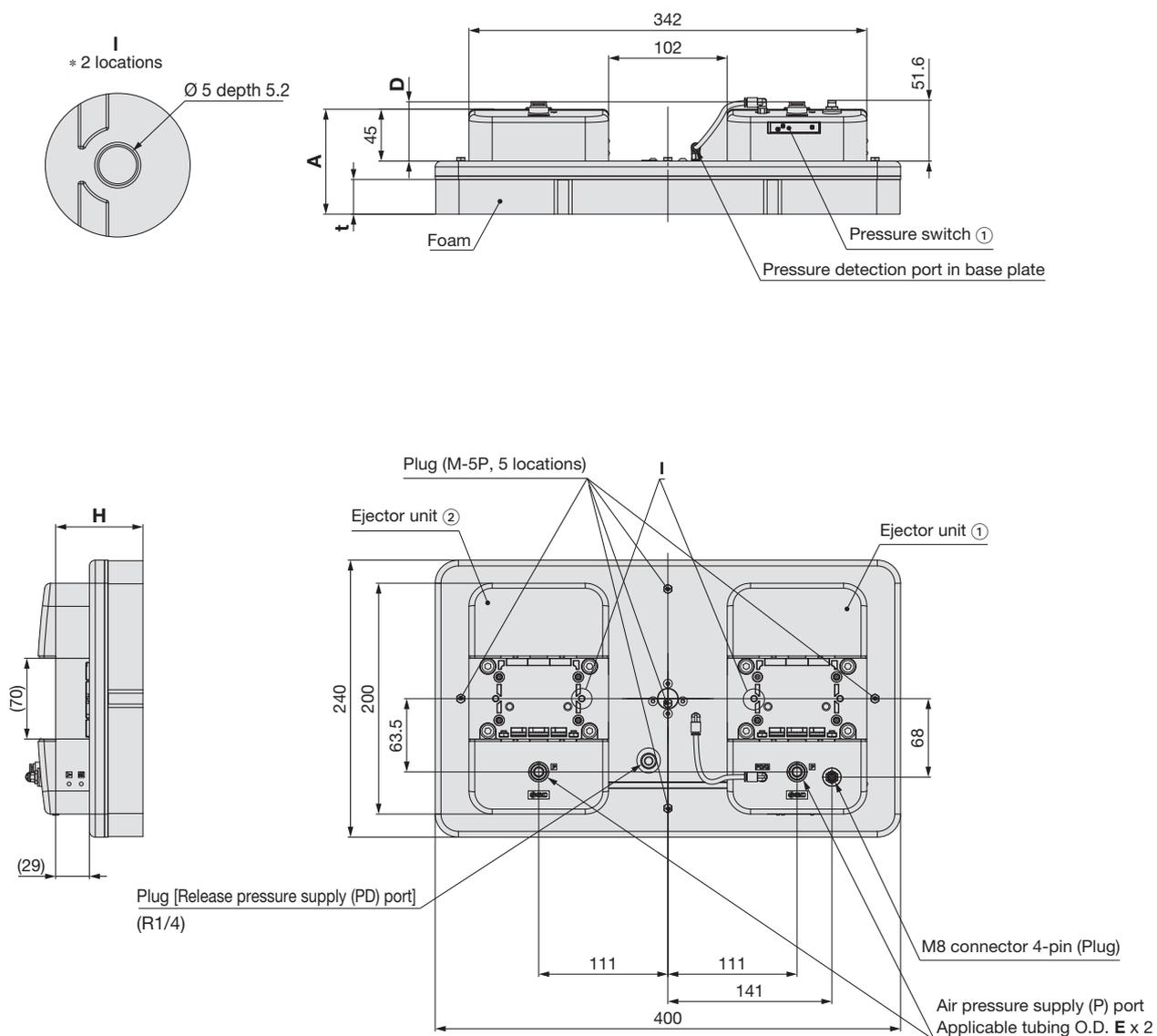


Part no.	t	A	H
ZGS□□-400240A□□-□□□	20	81	65
ZGS□□-400240B□□-□□□	30	91	75

Part no.	D	E	F
ZGS□□-400240□□□-□□C8	51.4	Ø 8	Ø 8
ZGS□□-400240□□□-□□C10	52	Ø 10	
ZGS□□-400240□□□-□□N9	51.4	Ø 5/16"	Ø 3/8"
ZGS□□-400240□□□-□□N11	51.9	Ø 3/8"	

## Dimensions: 400 mm x 240 mm

Without robot mounting flange  
Compatible robot: NH (General purpose)



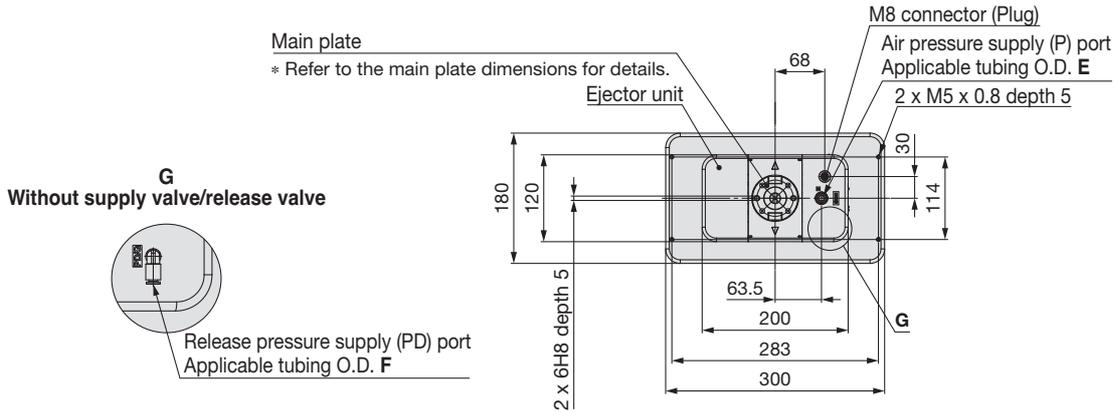
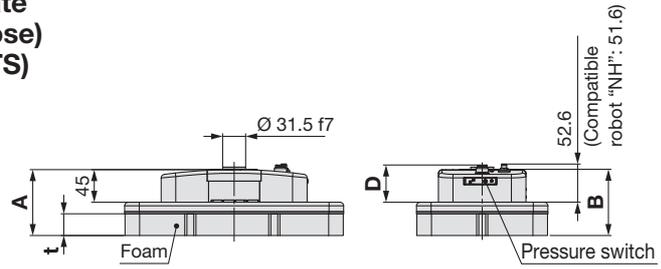
Part no.	t	A	H
ZGSNH□-400240A□□-□□□	20	81	65
ZGSNH□-400240B□□-□□□	30	91	75

Part no.	D	E
ZGS□□-400240□□□-□□C8	51.4	∅ 8
ZGS□□-400240□□□-□□C10	52	∅ 10
ZGS□□-400240□□□-□□N9	51.4	∅ 5/16"
ZGS□□-400240□□□-□□N11	51.9	∅ 3/8"

# ZGS Series

**Dimensions: 300 mm x 180 mm**

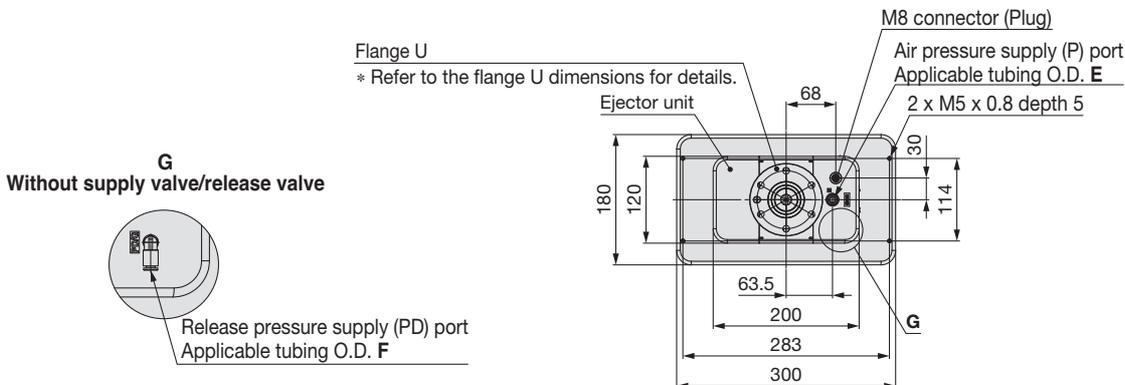
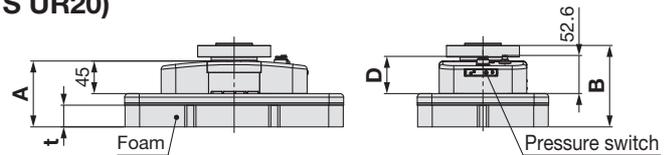
**Robot mounting flange: Tool plate + Main plate**  
**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**051P (FANUC)**



Part no.	t	A	B
ZGS□□-300180A□□-□□1□	20	81	81.5
ZGS□□-300180B□□-□□1□	30	91	91.5

Part no.	D	E	F
ZGS□□-300180□□□-□□□C8	51.4	Ø 8	Ø 4
ZGS□□-300180□□□-□□□C10	52	Ø 10	
ZGS□□-300180□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-300180□□□-□□□N11	51.9	Ø 3/8"	

**Robot mounting flange: Tool plate + Main plate + Flange U**  
**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**

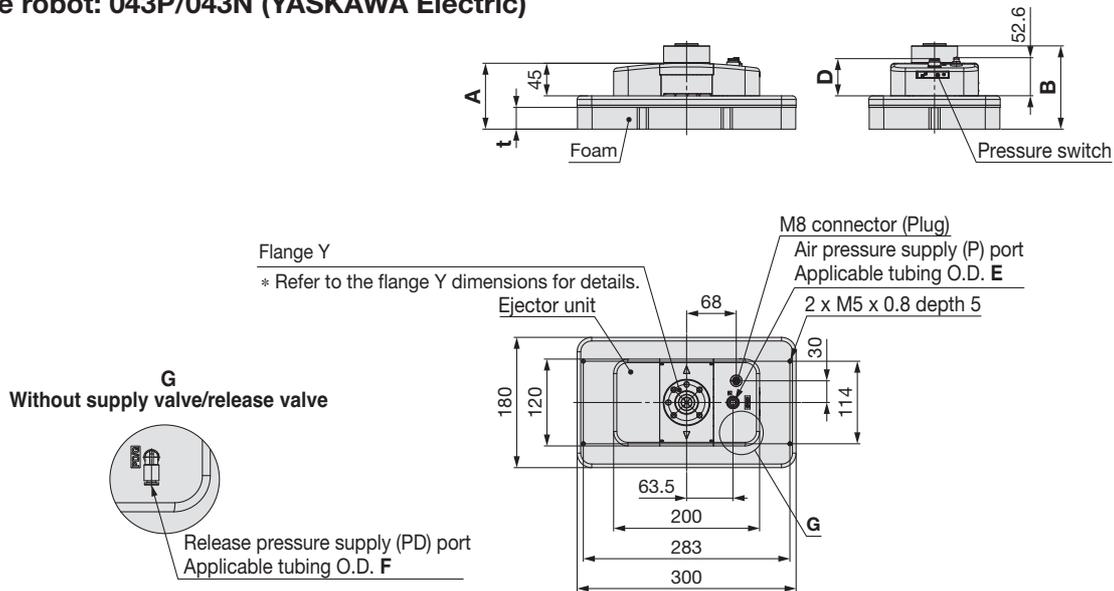


Part no.	t	A	B
ZGS012P□-300180A□□-□□1□	20	81	102.5
ZGS012P□-300180B□□-□□1□	30	91	112.5

Part no.	D	E	F
ZGS□□-300180□□□-□□□C8	51.4	Ø 8	Ø 4
ZGS□□-300180□□□-□□□C10	52	Ø 10	
ZGS□□-300180□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-300180□□□-□□□N11	51.9	Ø 3/8"	

## Dimensions: 300 mm x 180 mm

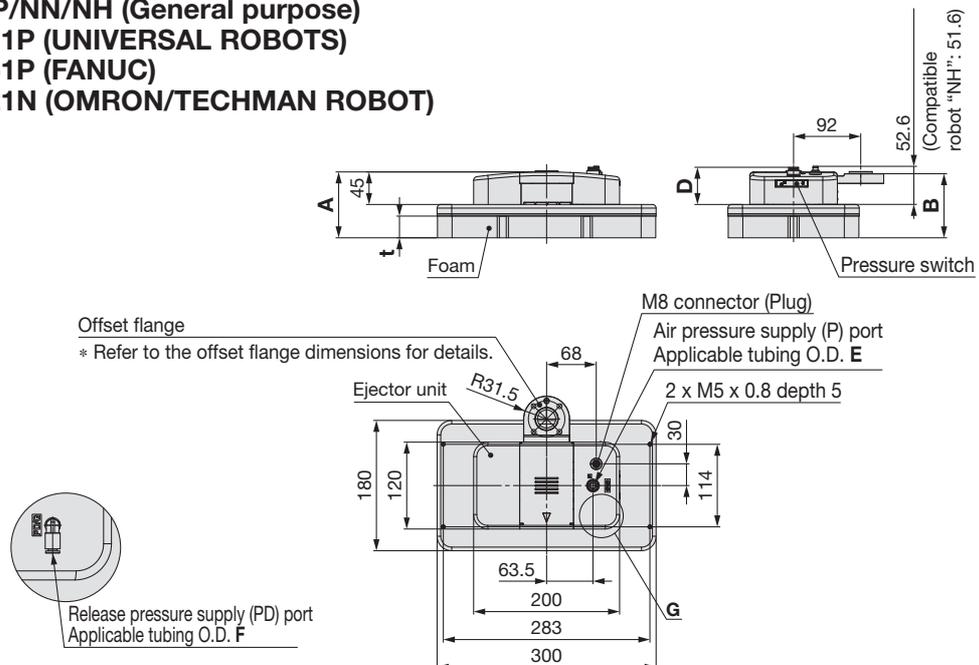
Robot mounting flange: Tool plate + Main plate + Flange Y  
 Compatible robot: 043P/043N (YASKAWA Electric)



Part no.	t	A	B
ZGS043(P/N)□-300180A□□-□□1□	20	81	105
ZGS043(P/N)□-300180B□□-□□1□	30	91	115

Part no.	D	E	F
ZGS□□-300180□□□□-□□□□C8	51.4	∅ 8	∅ 4
ZGS□□-300180□□□□-□□□□C10	52	∅ 10	
ZGS□□-300180□□□□-□□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGS□□-300180□□□□-□□□□N11	51.9	∅ 3/8"	

Robot mounting flange: Offset flange  
 Compatible robot: NP/NN/NH (General purpose)  
 011P (UNIVERSAL ROBOTS)  
 051P (FANUC)  
 021N (OMRON/TECHMAN ROBOT)



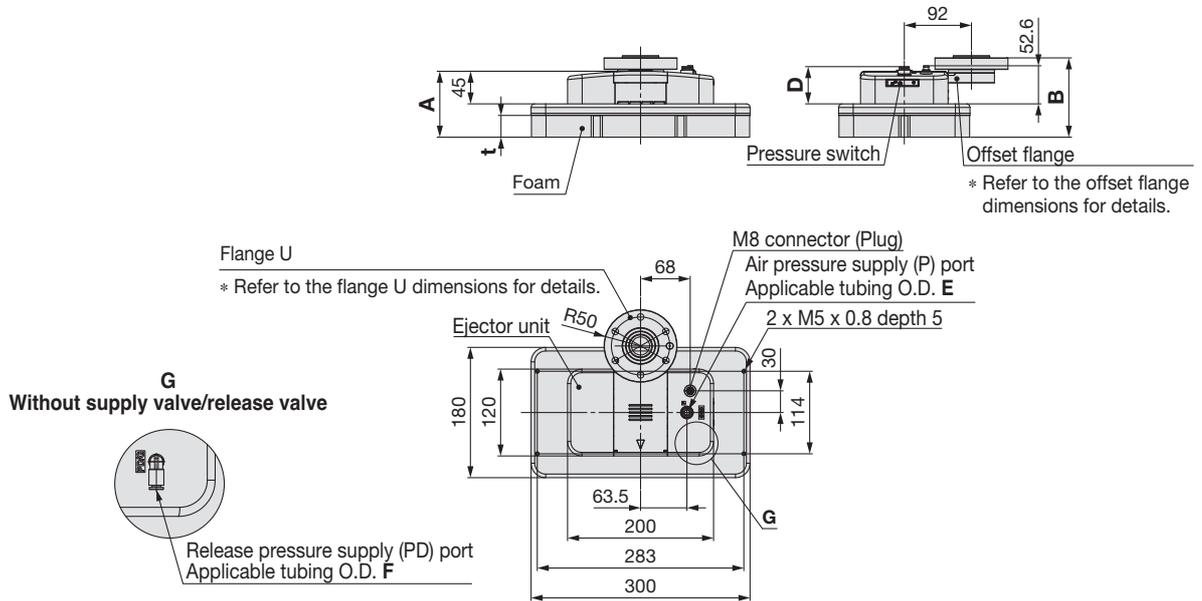
Part no.	t	A	B
ZGS□□-300180A□□-□□2□	20	81	78.5
ZGS□□-300180B□□-□□2□	30	91	88.5

Part no.	D	E	F
ZGS□□-300180□□□□-□□□□C8	51.4	∅ 8	∅ 4
ZGS□□-300180□□□□-□□□□C10	52	∅ 10	
ZGS□□-300180□□□□-□□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGS□□-300180□□□□-□□□□N11	51.9	∅ 3/8"	

# ZGS Series

**Dimensions: 300 mm x 180 mm**

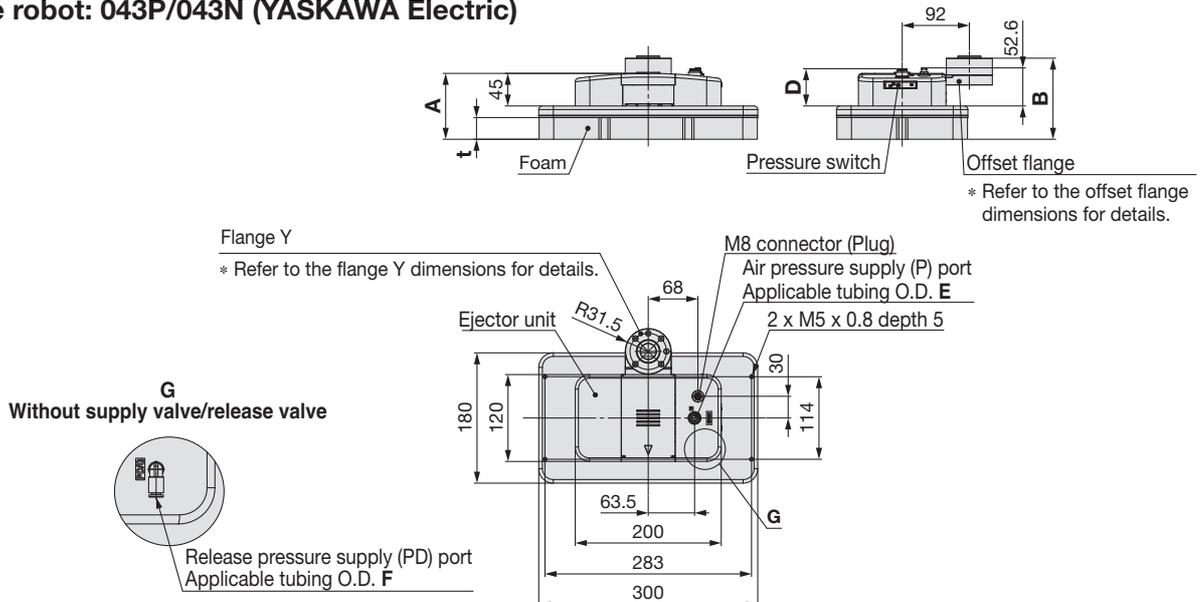
**Robot mounting flange: Offset flange + Flange U**  
**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**



Part no.	t	A	B
ZGS012P□-300180A□□-□□2□	20	81	99.5
ZGS012P□-300180B□□-□□2□	30	91	109.5

Part no.	D	E	F
ZGS□□-300180□□□-□□□C8	51.4	∅ 8	∅ 4
ZGS□□-300180□□□-□□□C10	52	∅ 10	
ZGS□□-300180□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGS□□-300180□□□-□□□N11	51.9	∅ 3/8"	

**Robot mounting flange: Offset flange + Flange Y**  
**Compatible robot: 043P/043N (YASKAWA Electric)**



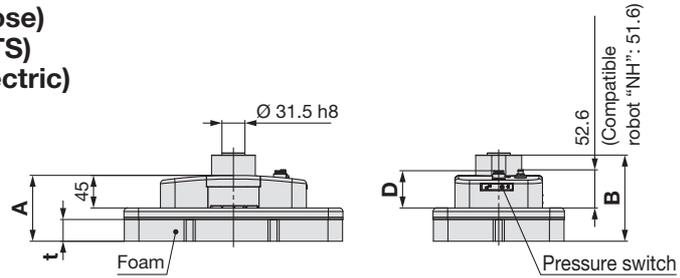
Part no.	t	A	B
ZGS043(P/N)□-300180A□□-□□2□	20	81	102
ZGS043(P/N)□-300180B□□-□□2□	30	91	112

Part no.	D	E	F
ZGS□□-300180□□□-□□□C8	51.4	∅ 8	∅ 4
ZGS□□-300180□□□-□□□C10	52	∅ 10	
ZGS□□-300180□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGS□□-300180□□□-□□□N11	51.9	∅ 3/8"	

**Dimensions: 300 mm x 180 mm**

**Robot mounting flange: Straight flange**

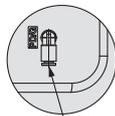
**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**043P/043N (YASKAWA Electric)**  
**051P (FANUC)**



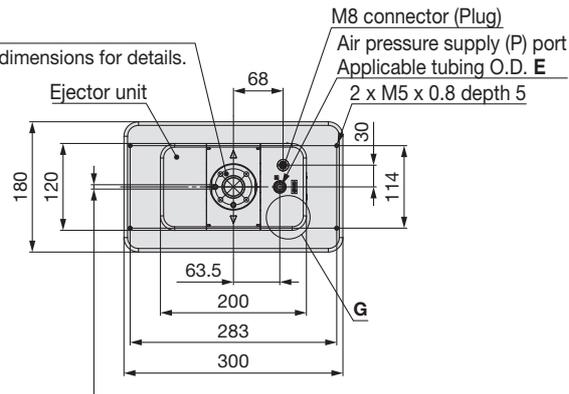
Straight flange

\* Refer to the straight flange dimensions for details.

**G**  
Without supply valve/release valve



Release pressure supply (PD) port  
Applicable tubing O.D. **F**

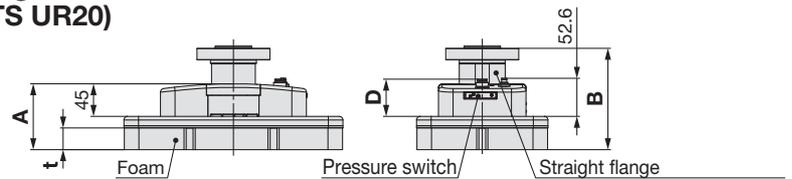


Part no.	t	A	B
ZGS□□-300180A□□-□□4□	20	81	109
ZGS□□-300180B□□-□□4□	30	91	119

Part no.	D	E	F
ZGS□□-300180□□□-□□□C8	51.4	Ø 8	Ø 4
ZGS□□-300180□□□-□□□C10	52	Ø 10	
ZGS□□-300180□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-300180□□□-□□□N11	51.9	Ø 3/8"	

**Robot mounting flange: Straight flange + Flange U**

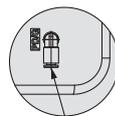
**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**



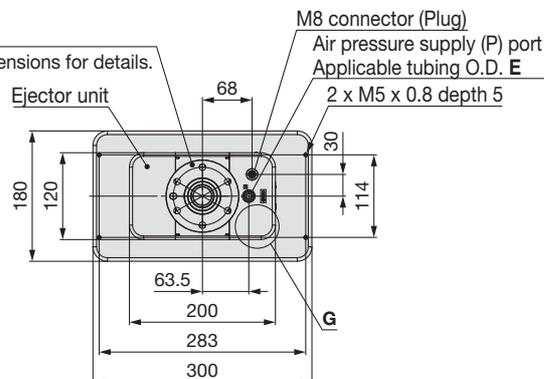
Flange U

\* Refer to the flange U dimensions for details.

**G**  
Without supply valve/release valve



Release pressure supply (PD) port  
Applicable tubing O.D. **F**



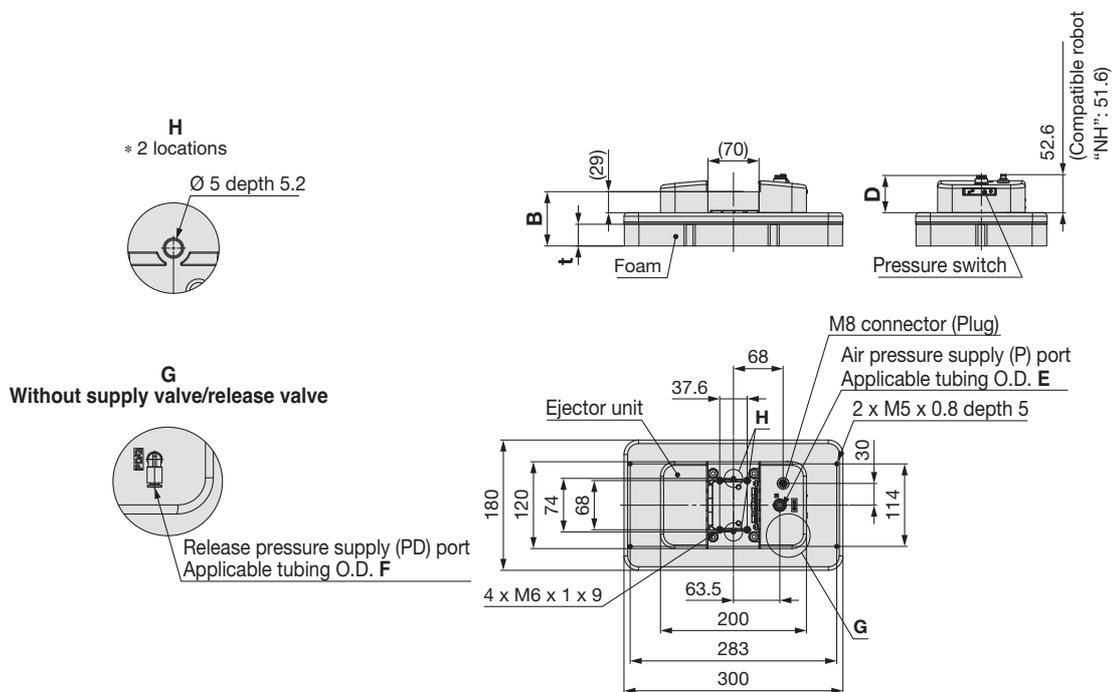
Part no.	t	A	B
ZGS012P□-300180A□□-□□4□	20	81	130
ZGS012P□-300180B□□-□□4□	30	91	140

Part no.	D	E	F
ZGS□□-300180□□□-□□□C8	51.4	Ø 8	Ø 4
ZGS□□-300180□□□-□□□C10	52	Ø 10	
ZGS□□-300180□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-300180□□□-□□□N11	51.9	Ø 3/8"	

# ZGS Series

Dimensions: **300 mm x 180 mm**

Without robot mounting flange

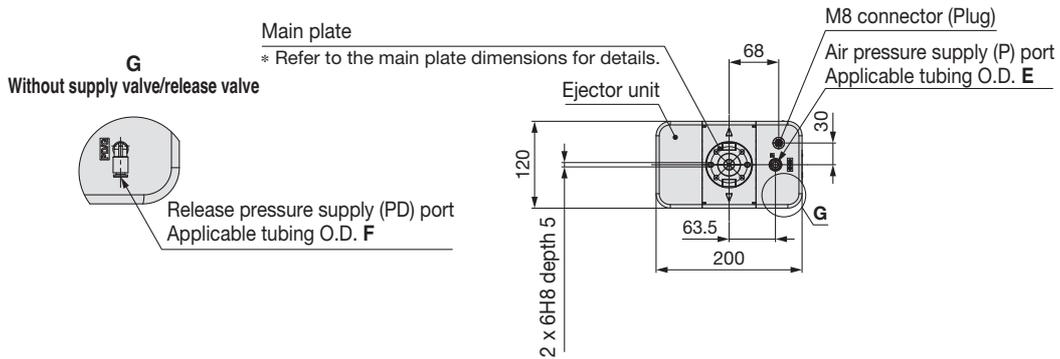
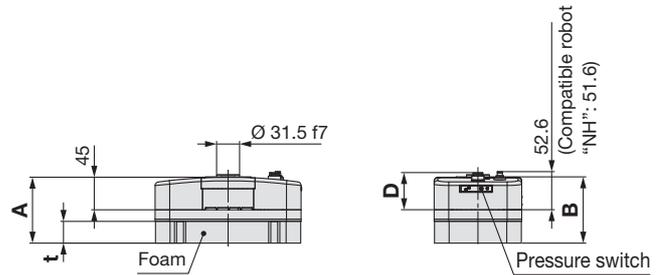


Part no.	t	B
ZGS□□-300180A□□-□□□	20	65
ZGS□□-300180B□□-□□□	30	75

Part no.	D	E	F
ZGS□□-300180□□□-□□C8	51.4	Ø 8	Ø 4
ZGS□□-300180□□□-□□C10	52	Ø 10	
ZGS□□-300180□□□-□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-300180□□□-□□N11	51.9	Ø 3/8"	

## Dimensions: 200 mm x 120 mm

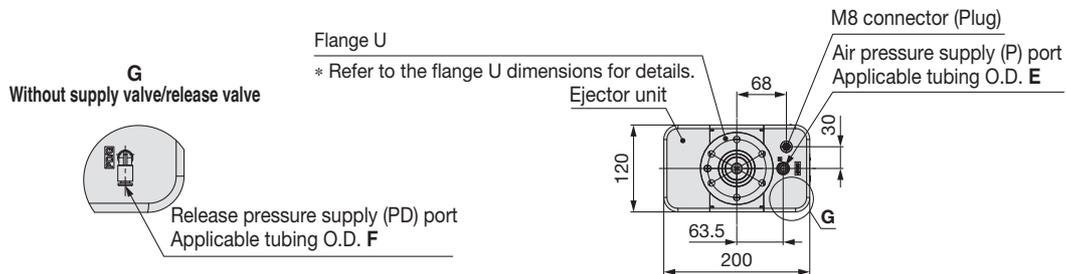
Robot mounting flange: Tool plate + Main plate  
 Compatible robot: NP/NN/NH (General purpose)  
 011P (UNIVERSAL ROBOTS)  
 051P (FANUC)



Part no.	t	A	B
ZGS□□-200120A□□-□□1□	20	81	81.5
ZGS□□-200120B□□-□□1□	30	91	91.5

Part no.	D	E	F
ZGS□□-200120□□□-□□□C8	51.4	∅ 8	∅ 4
ZGS□□-200120□□□-□□□C10	52	∅ 10	
ZGS□□-200120□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGS□□-200120□□□-□□□N11	51.9	∅ 3/8"	

Robot mounting flange: Tool plate + Main plate + Flange U  
 Compatible robot: 012P (UNIVERSAL ROBOTS UR20)



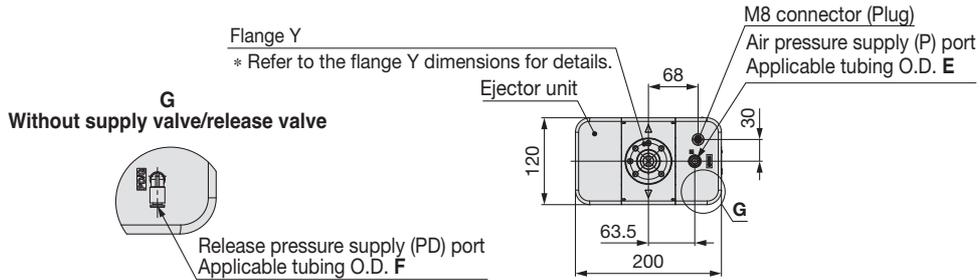
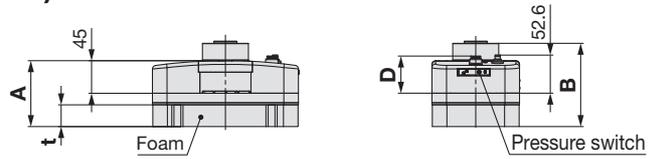
Part no.	t	A	B
ZGS012P□-200120A□□-□□1□	20	81	102.5
ZGS012P□-200120B□□-□□1□	30	91	112.5

Part no.	D	E	F
ZGS□□-200120□□□-□□□C8	51.4	∅ 8	∅ 4
ZGS□□-200120□□□-□□□C10	52	∅ 10	
ZGS□□-200120□□□-□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGS□□-200120□□□-□□□N11	51.9	∅ 3/8"	

# ZGS Series

**Dimensions: 200 mm x 120 mm**

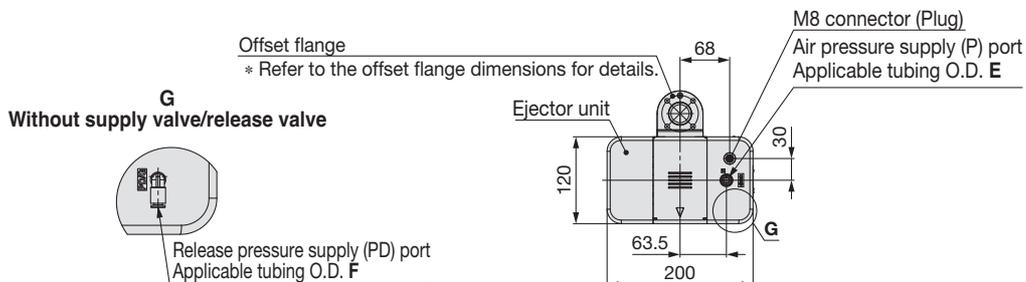
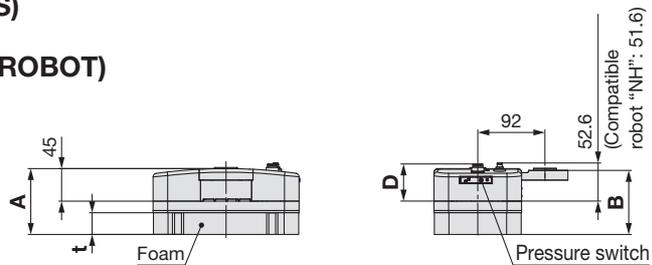
**Robot mounting flange: Tool plate + Main plate + Flange Y**  
**Compatible robot: 043P/043N (YASKAWA Electric)**



Part no.	t	A	B
ZGS043(P/N)□-200120A□□-□□1□	20	81	105
ZGS043(P/N)□-200120B□□-□□1□	30	91	115

Part no.	D	E	F
ZGS□□-200120□□□□-□□□□C8	51.4	Ø 8	Ø 4
ZGS□□-200120□□□□-□□□□C10	52	Ø 10	Ø 4
ZGS□□-200120□□□□-□□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-200120□□□□-□□□□N11	51.9	Ø 3/8"	Ø 1/8"

**Robot mounting flange: Offset flange**  
**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**051P (FANUC)**  
**021N (OMRON/TECHMAN ROBOT)**

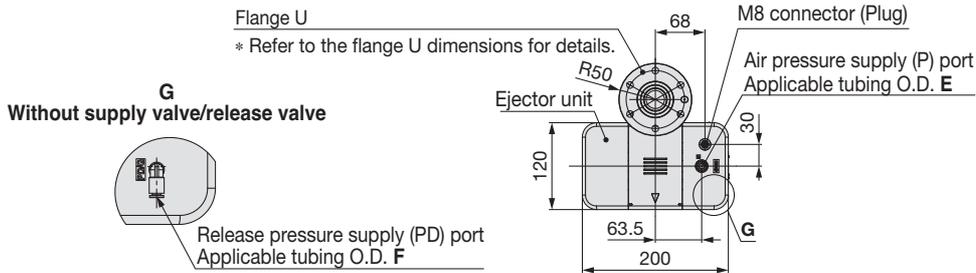
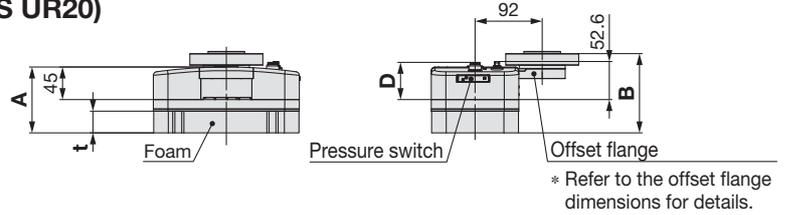


Part no.	t	A	B
ZGS□□-200120A□□-□□2□	20	81	78.5
ZGS□□-200120B□□-□□2□	30	91	88.5

Part no.	D	E	F
ZGS□□-200120□□□□-□□□□C8	51.4	Ø 8	Ø 4
ZGS□□-200120□□□□-□□□□C10	52	Ø 10	Ø 4
ZGS□□-200120□□□□-□□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-200120□□□□-□□□□N11	51.9	Ø 3/8"	Ø 1/8"

## Dimensions: 200 mm x 120 mm

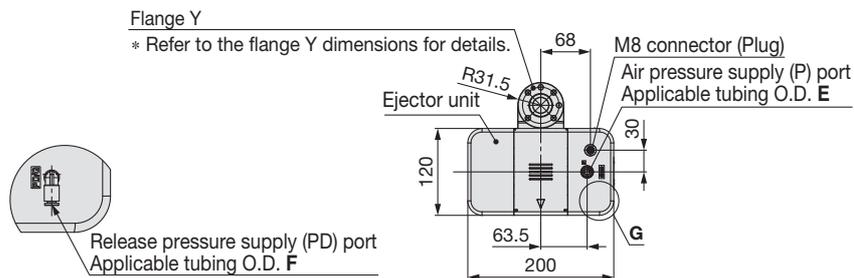
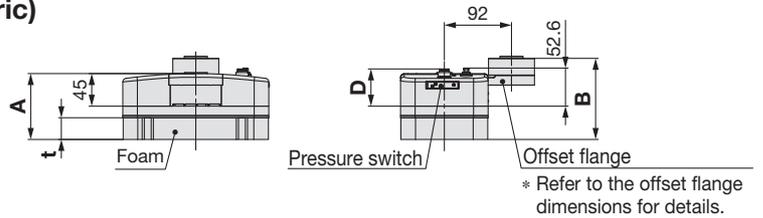
Robot mounting flange: Offset flange + Flange U  
Compatible robot: 012P (UNIVERSAL ROBOTS UR20)



Part no.	t	A	B
ZGS012P□-200120A□□-□□2□	20	81	99.5
ZGS012P□-200120B□□-□□2□	30	91	109.5

Part no.	D	E	F
ZGS□□-200120□□□□-□□□□C8	51.4	∅ 8	∅ 4
ZGS□□-200120□□□□-□□□□C10	52	∅ 10	
ZGS□□-200120□□□□-□□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGS□□-200120□□□□-□□□□N11	51.9	∅ 3/8"	

Robot mounting flange: Offset flange + Flange Y  
Compatible robot: 043P/043N (YASKAWA Electric)



Part no.	t	A	B
ZGS043(P/N)□-200120A□□-□□2□	20	81	102
ZGS043(P/N)□-200120B□□-□□2□	30	91	112

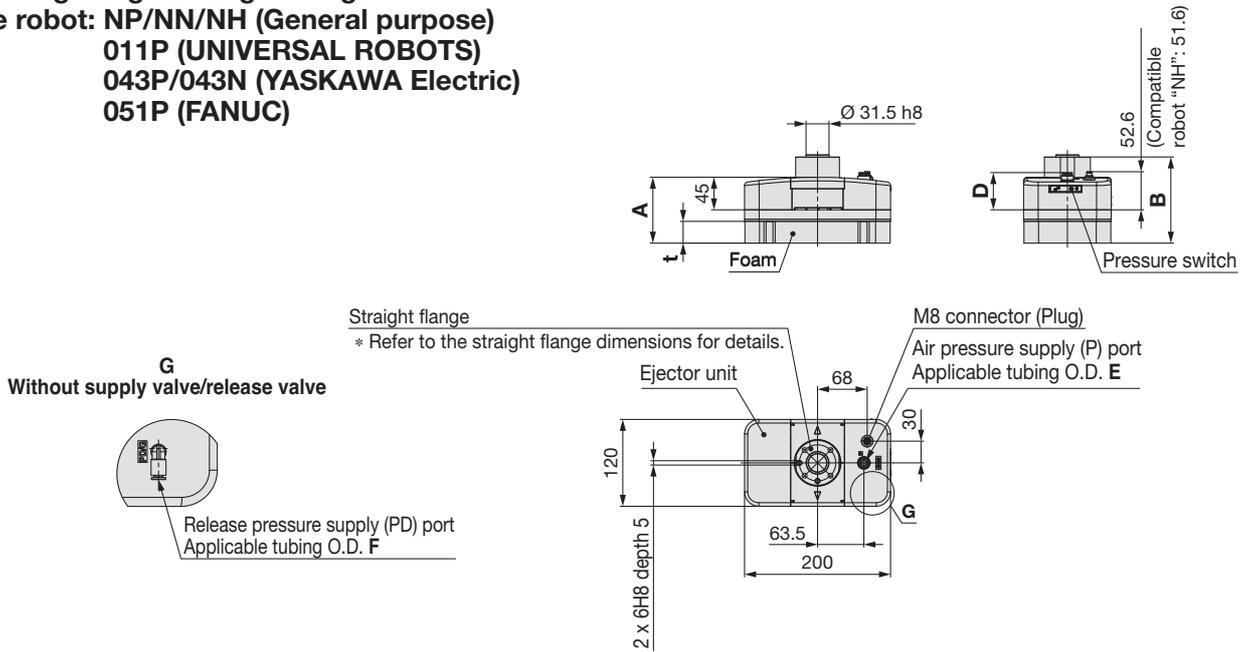
Part no.	D	E	F
ZGS□□-200120□□□□-□□□□C8	51.4	∅ 8	∅ 4
ZGS□□-200120□□□□-□□□□C10	52	∅ 10	
ZGS□□-200120□□□□-□□□□N9	51.4	∅ 5/16"	∅ 1/8"
ZGS□□-200120□□□□-□□□□N11	51.9	∅ 3/8"	

# ZGS Series

**Dimensions: 200 mm x 120 mm**

**Robot mounting flange: Straight flange**

**Compatible robot: NP/NN/NH (General purpose)**  
**011P (UNIVERSAL ROBOTS)**  
**043P/043N (YASKAWA Electric)**  
**051P (FANUC)**

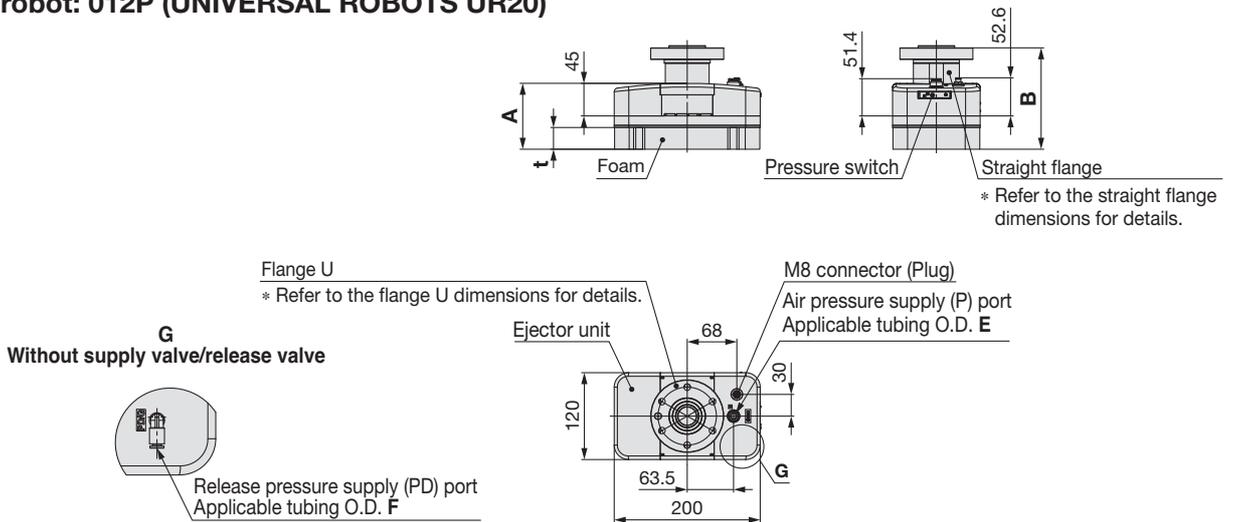


Part no.	t	A	B
ZGS□□-200120A□□-□□4□	20	81	109
ZGS□□-200120B□□-□□4□	30	91	119

Part no.	D	E	F
ZGS□□-200120□□□-□□□C8	51.4	Ø 8	Ø 4
ZGS□□-200120□□□-□□□C10	52	Ø 10	Ø 4
ZGS□□-200120□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-200120□□□-□□□N11	51.9	Ø 3/8"	

**Robot mounting flange: Straight flange + Flange U**

**Compatible robot: 012P (UNIVERSAL ROBOTS UR20)**

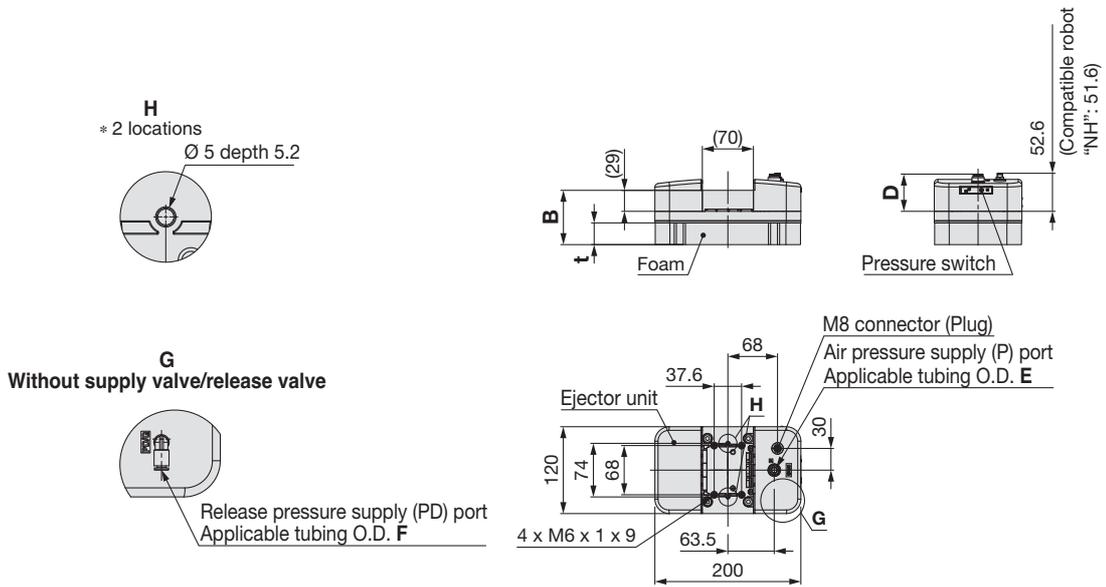


Part no.	t	A	B
ZGS012P□-200120A□□-□□4□	20	81	130
ZGS012P□-200120B□□-□□4□	30	91	140

Part no.	D	E	F
ZGS□□-200120□□□-□□□C8	51.4	Ø 8	Ø 4
ZGS□□-200120□□□-□□□C10	52	Ø 10	Ø 4
ZGS□□-200120□□□-□□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-200120□□□-□□□N11	51.9	Ø 3/8"	

**Dimensions: 200 mm x 120 mm**

Without robot mounting flange



Part no.	t	B
ZGS□□-200120A□□-□□□	20	65
ZGS□□-200120B□□-□□□	30	75

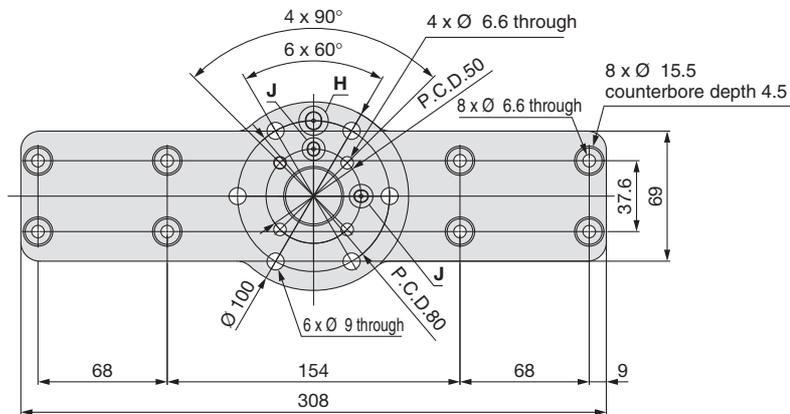
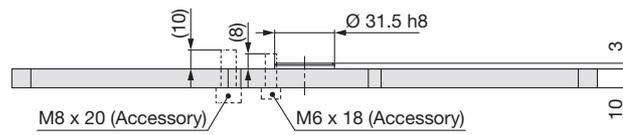
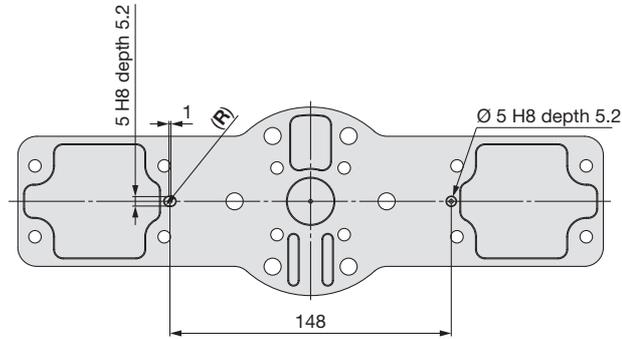
Part no.	D	E	F
ZGS□□-200120□□□-□□C8	51.4	Ø 8	Ø 4
ZGS□□-200120□□□-□□C10	52	Ø 10	Ø 4
ZGS□□-200120□□□-□□N9	51.4	Ø 5/16"	Ø 1/8"
ZGS□□-200120□□□-□□N11	51.9	Ø 3/8"	Ø 1/8"

# ZGP/ZGS Series

Dimensions: For Size 400 mm x 240 mm

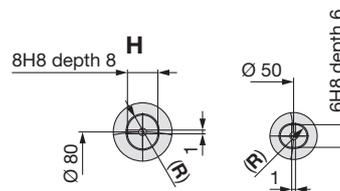
Basic type

Compatible robot: NP/NN/NH (General purpose)  
 011P/012P (UNIVERSAL ROBOTS)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)



J

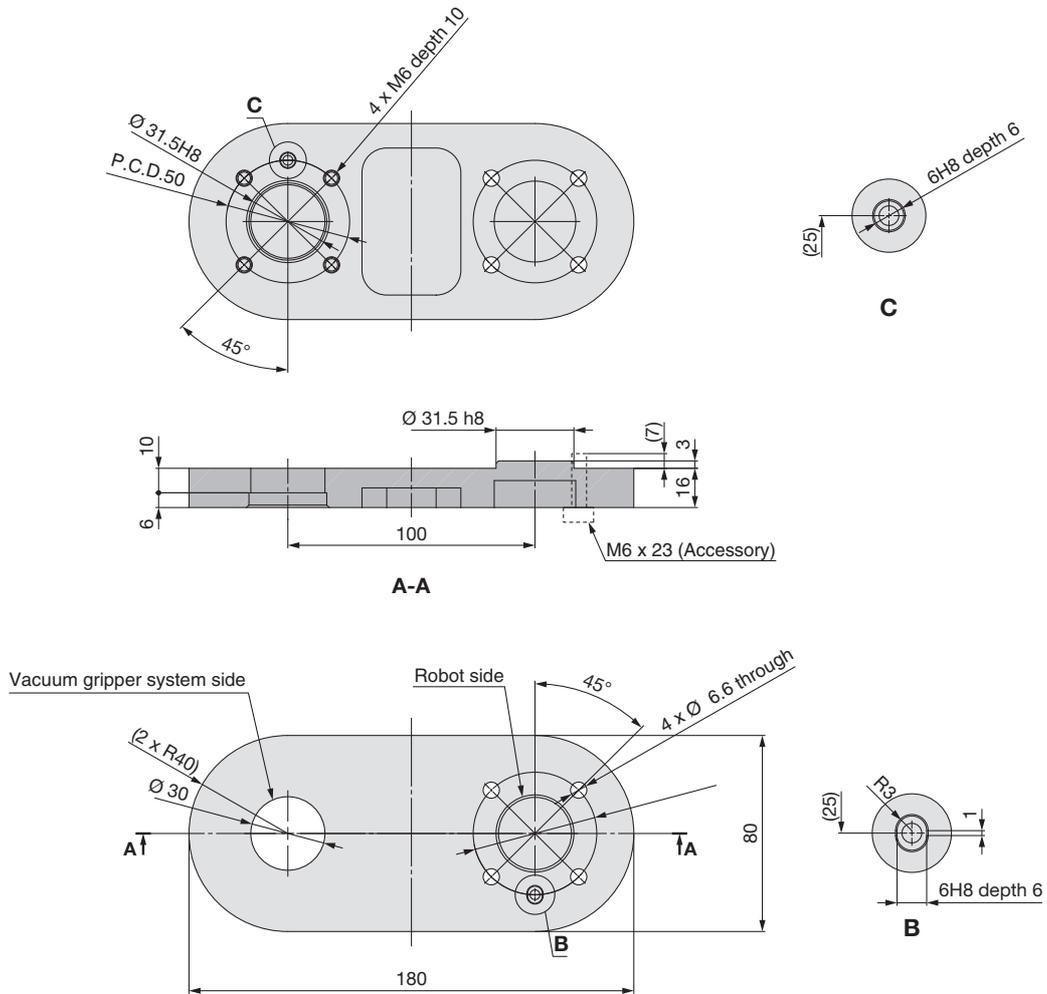
\* 2 locations



## Dimensions: For Size 400 mm x 240 mm

### Offset flange

Compatible robot: NP/NN/NH (General purpose)  
 011P/012P (UNIVERSAL ROBOTS)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)

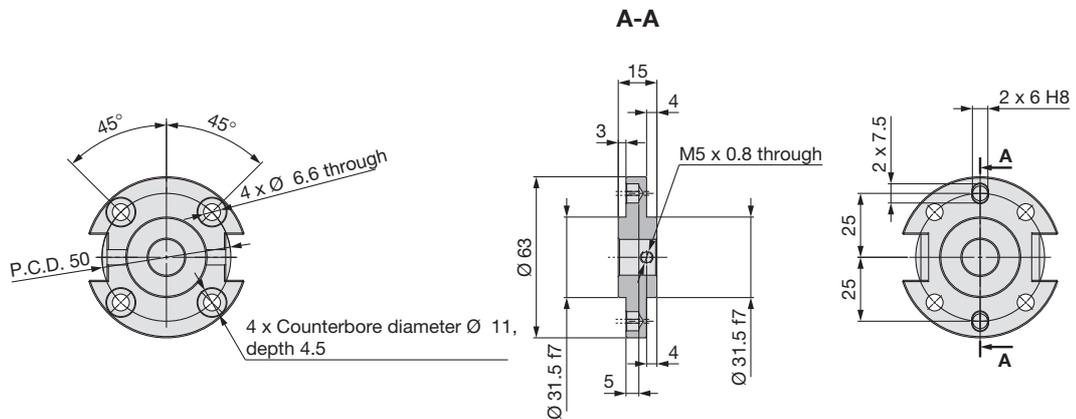


# ZGP/ZGS Series

Dimensions: For Sizes 300 mm x 180 mm, 200 mm x 120 mm

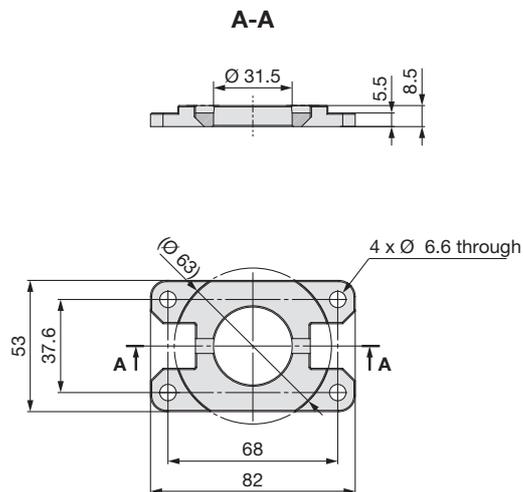
## Main plate

Compatible robot: NP/NN/NH (General purpose)  
 011P/012P (UNIVERSAL ROBOTS)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)



## Tool plate

Compatible robot: NP/NN/NH (General purpose)  
 011P/012P (UNIVERSAL ROBOTS)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)

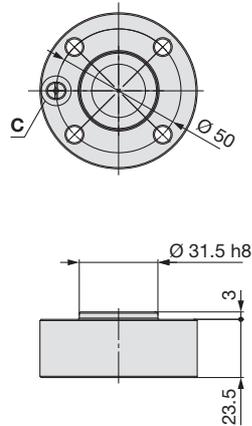
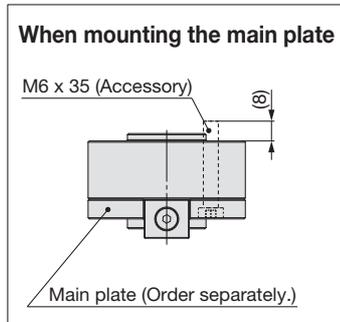


## Dimensions: For Sizes 300 mm x 180 mm, 200 mm x 120 mm

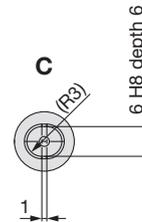
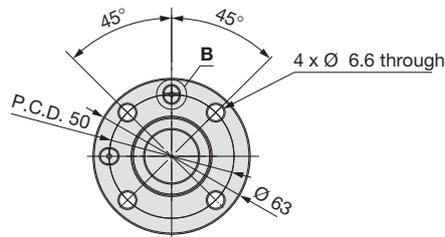
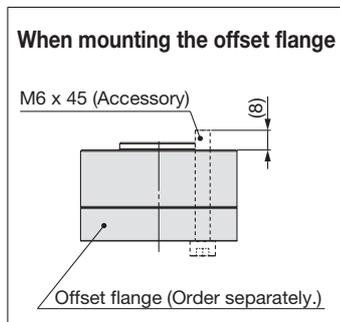
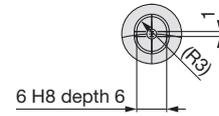
### Flange Y

Compatible robot:

043P/043N (YASKAWA Electric)



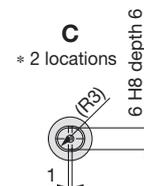
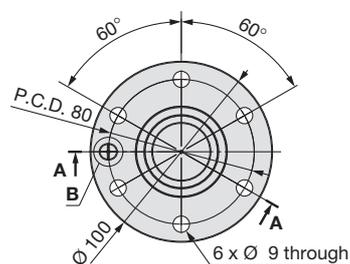
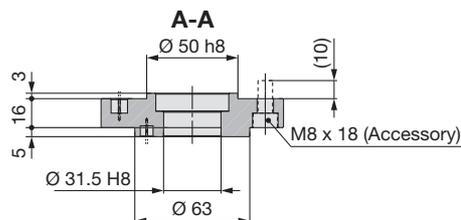
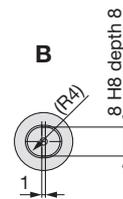
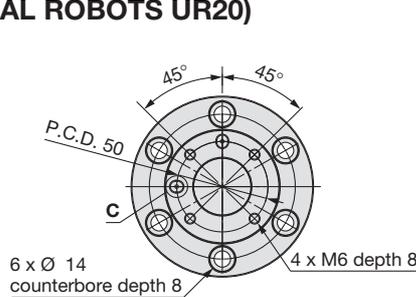
**B**  
\* 2 locations



## Dimensions: For Sizes 400 mm x 240 mm, 300 mm x 180 mm, 200 mm x 120 mm

### Flange U

Compatible robot: 012P (UNIVERSAL ROBOTS UR20)

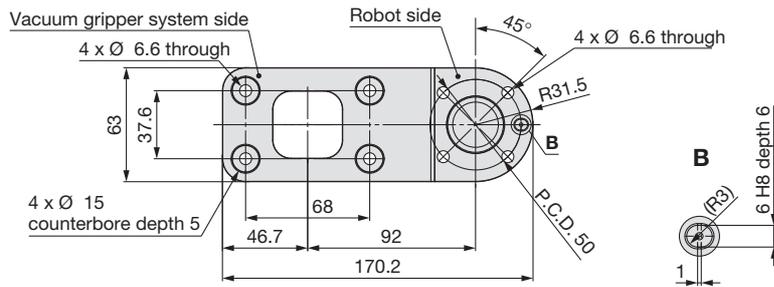
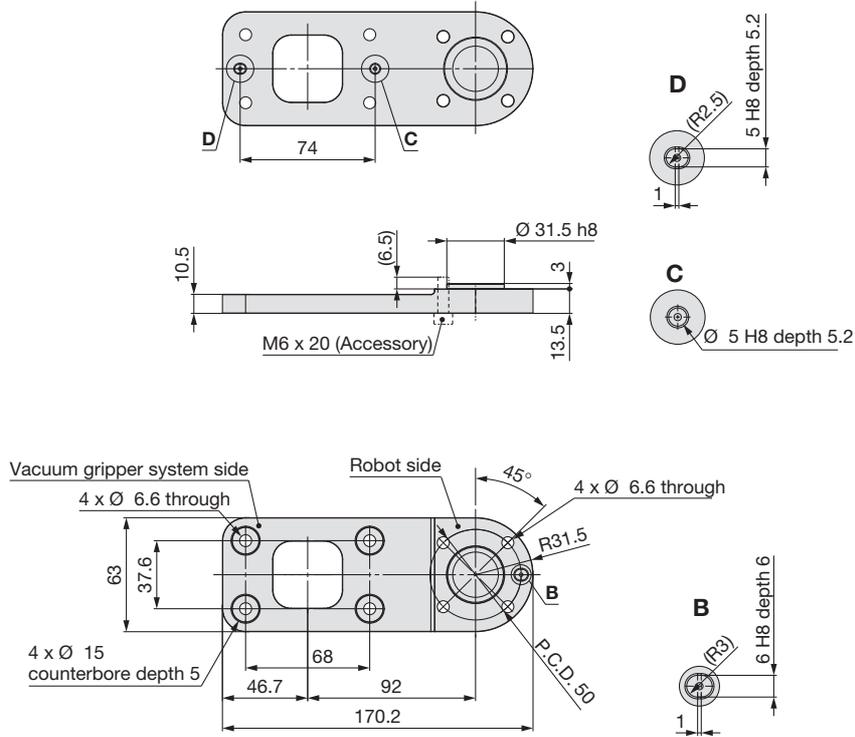


# ZGP/ZGS Series

Dimensions: For Sizes 300 mm x 180 mm, 200 mm x 120 mm

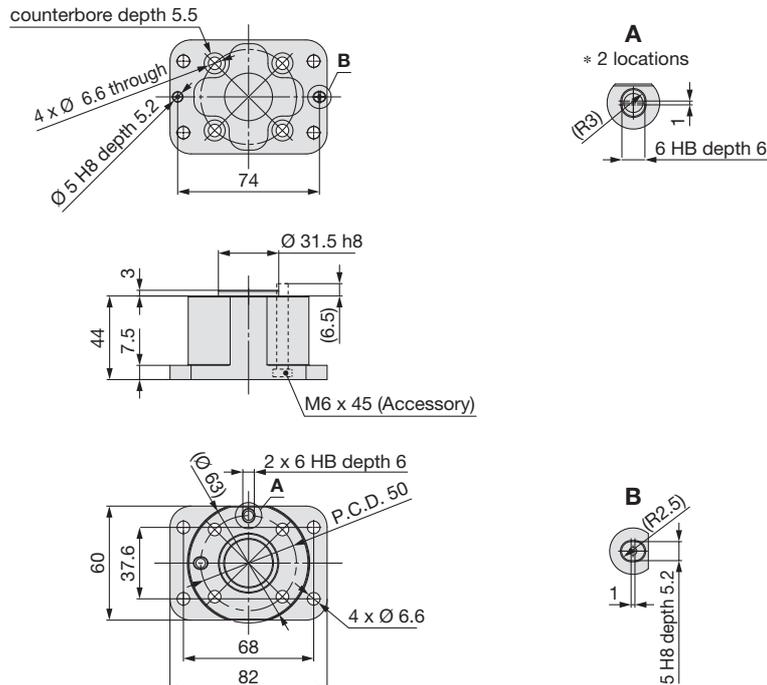
## Offset flange

Compatible robot: NP/NN/NH (General purpose)  
 011P/012P (UNIVERSAL ROBOTS)  
 021N (OMRON/TECHMAN ROBOT)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)

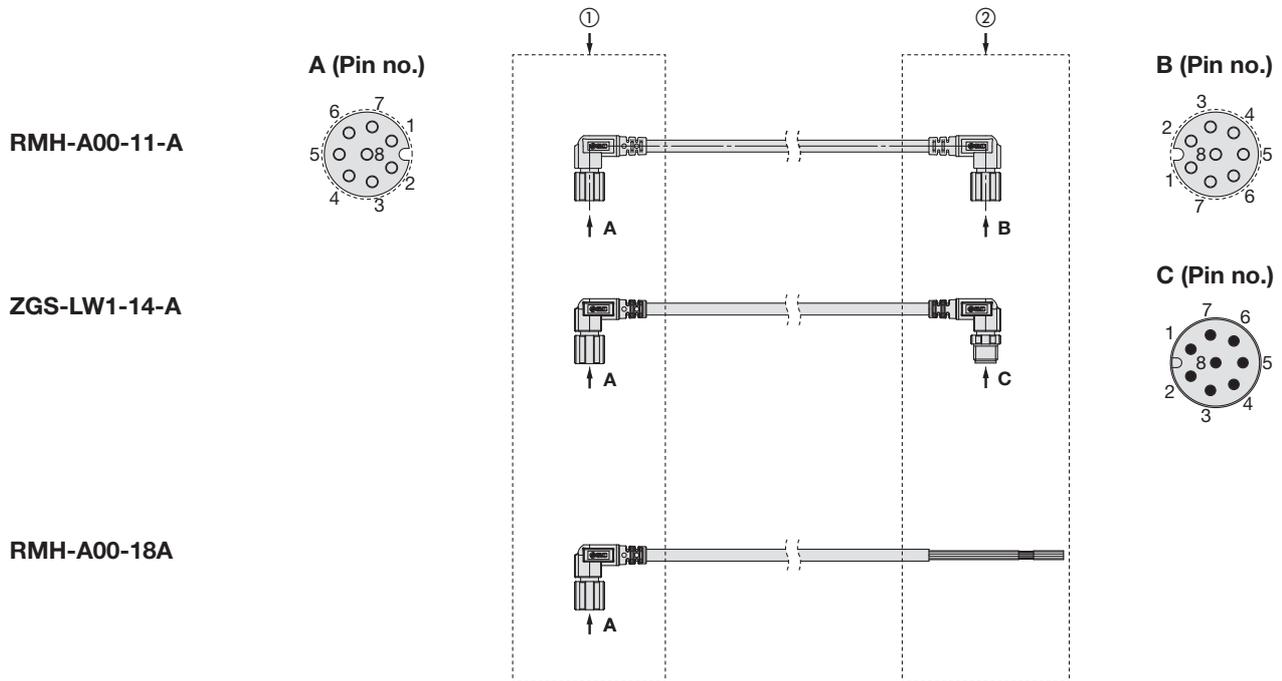


## Straight flange

Compatible robot: NP/NN/NH (General purpose)  
 011P/012P (UNIVERSAL ROBOTS)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)



## Connector Cable for Compatible Robot



Symbol	Robot manufacturer	① Vacuum gripper system side	② Robot side	Part no.	Cable length [mm]
011P*1	UNIVERSAL ROBOTS	M8 8-pin connector (Socket)	M8 8-pin connector (Socket)	<b>RMH-A00-11-A</b>	220
012P*1			M8 8-pin connector (Socket)	<b>RMH-A00-11-A</b>	220
043P	YASKAWA Electric		M8 8-pin connector (Socket)	<b>RMH-A00-11-A</b>	220
043N			Discrete wire	<b>RMH-A00-18A</b>	3000
051P	FANUC		M8 8-pin connector (Plug)	<b>ZGS-LW1-14-A</b>	300
NP	—	M8 4-pin connector (Socket)	For customers already in possession of an M12 cable, be sure to prepare an M8 to M12 conversion connector.		
NN	—				
021N	OMRON/TECHMAN ROBOT				
NH	—				

\*1 For UR robots that come with a tool cable adapter, be sure to use it.

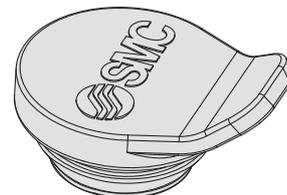
## Suction Cup with Retainer Part Nos.



\* This part is for ZGP series products.  
It cannot be mounted to ZGS series products.

Cup diameter	Part no.
Ø 25	<b>ZP3C2-D25J2FS-05-R</b>
Ø 50	<b>ZP3C2-D50J2FS-10-R</b>

## Plug Part Nos.



\* This part is for ZGP series products.  
It cannot be mounted to ZGS series products.

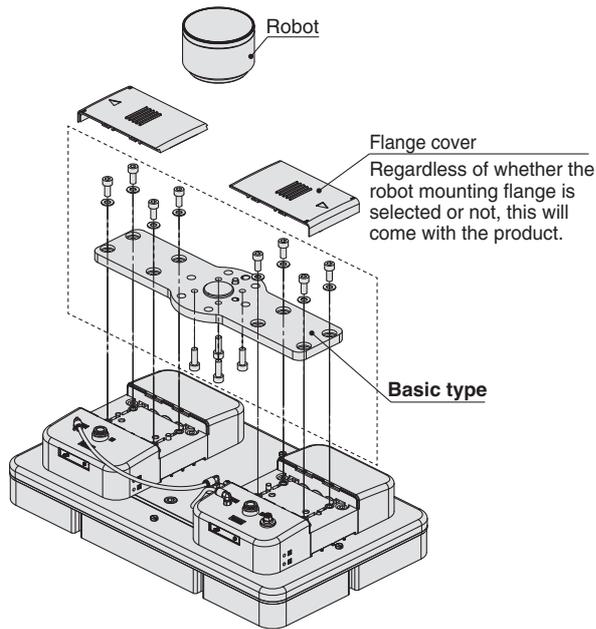
Description	Order no.	Qty.	Note
Plug S	<b>ZGP-GK1-1-A</b>	10 pcs. included	For cup diameter Ø 25
Plug L	<b>ZGP-GK1-2-A</b>	5 pcs. included	For cup diameter Ø 50

# ZGP/ZGS Series

## Robot Mounting Flange (Size: 400 mm x 240 mm)

### Basic type

Compatible robot: NP/NN/NH (General purpose)  
 011P/012P (UNIVERSAL ROBOTS)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)



	Description	Qty.	Note
<b>ZGS-PL3-1-A</b> Basic type (Conforming to ISO 9409-1-50-4-M6)	Robot mounting flange Basic type	1	
	Parallel pin (Ø 6 x 10)	1	For securing the robot flange to the robot*1
	Hexagon socket head cap screw (M6 x 18)	4	
	Parallel pin (Ø 8 x 15)	1	For securing the robot flange to the robot*1
	Hexagon socket head cap screw (M8 x 20)	6	
	Parallel pin (Ø 5 x 10)	2	For securing the robot flange to the ejector unit
	Hexagon socket head cap screw (M6 x 14)	8	
Flat washer (M6)	8		

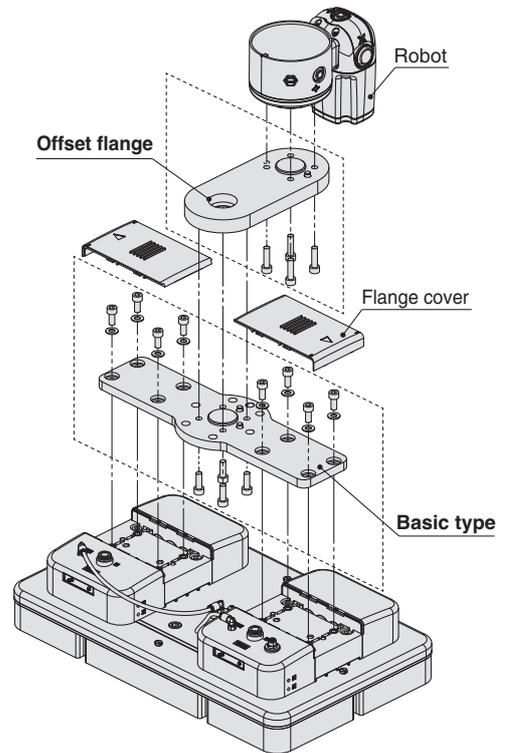
\*1 Select the most suitable option for the robot to be used.

\* The image shows the foam type.

However, mounting is the same for the suction cup type.

### Basic type + Offset flange

Compatible robot: NP/NN/NH (General purpose)  
 011P (UNIVERSAL ROBOTS)  
 021N (OMRON/TECHMAN ROBOT)  
 043P/043N (YASKAWA Electric)  
 051P (FANUC)



	Description	Qty.	Note
<b>ZGS-PL3-1-A</b> Basic type (Conforming to ISO 9409-1-50-4-M6)	Robot mounting flange Basic type	1	
	Parallel pin (Ø 6 x 10)	1	For securing the robot flange to the robot*1
	Hexagon socket head cap screw (M6 x 18)	4	
	Parallel pin (Ø 8 x 15)	1	For securing the robot flange to the robot*1
	Hexagon socket head cap screw (M8 x 20)	6	
	Parallel pin (Ø 5 x 10)	2	For securing the robot flange to the ejector unit
	Hexagon socket head cap screw (M6 x 14)	8	
Flat washer (M6)	8		
<b>ZGS-PL5-1-A</b> Offset flange	Offset flange	1	
	Parallel pin (Ø 6 x 10)	1	For securing the offset flange to the robot
	Hexagon socket head cap screw (M6 x 23)	4	

\*1 Select the most suitable option for the robot to be used.

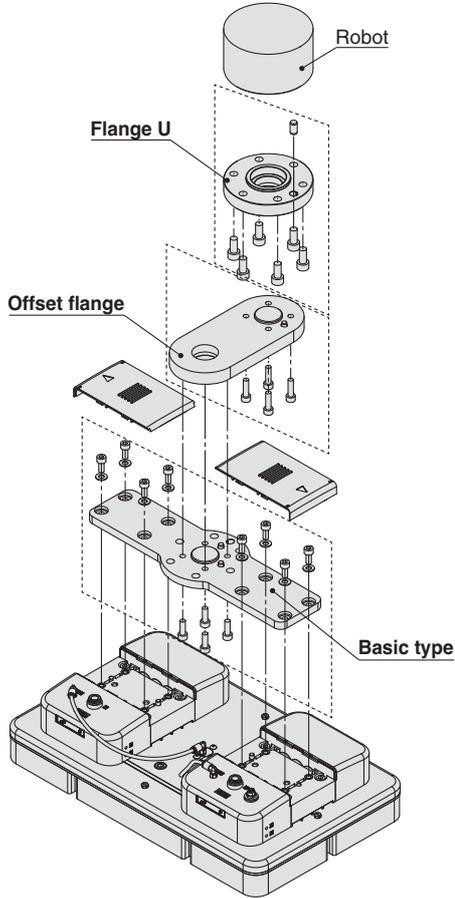
\* The image shows the foam type.

However, mounting is the same for the suction cup type.

## Robot Mounting Flange (Size: 400 mm x 240 mm)

Basic type + Offset flange

Compatible robot: 012P (UNIVERSAL ROBOTS)



	Description	Qty.	Note
<b>ZGS-PL3-1-A</b> Basic type (Conforming to ISO 9409-1-50-4-M6)	Robot mounting flange Basic type	1	
	Parallel pin (Ø 6 x 10)	1	For securing the robot flange to the robot*1
	Hexagon socket head cap screw (M6 x 18)	4	
	Parallel pin (Ø 8 x 15)	1	For securing the robot flange to the robot*1
	Hexagon socket head cap screw (M8 x 20)	6	
	Parallel pin (Ø 5 x 10)	2	For securing the robot flange to the ejector unit
	Hexagon socket head cap screw (M6 x 14)	8	
	Flat washer (M6)	8	
<b>ZGS-PL5-1-A</b> Offset flange	Offset flange	1	
	Parallel pin (Ø 6 x 10)	1	For securing the offset flange to the robot
	Hexagon socket head cap screw (M6 x 23)	4	
<b>ZGS-PL3-5-A</b> Flange U	Flange U	1	
	Hexagon socket head cap screw (M8 x 18)	6	For securing the flange U to the robot
	Parallel pin (8 x 15)	1	

\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

# ZGP/ZGS Series

## Robot Mounting Flange (Size: 300 mm x 180 mm, 200 mm x 120 mm)

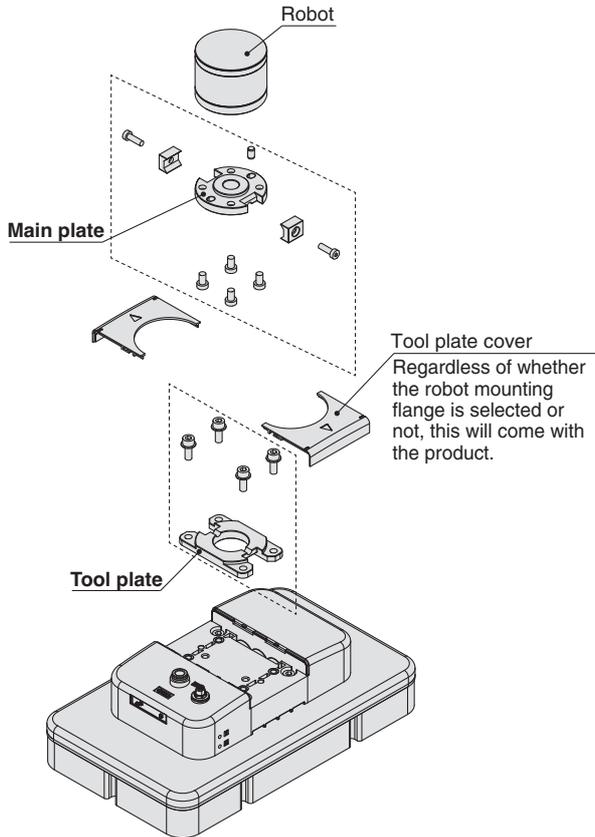
### Tool plate + Main plate

Compatible robot:

NP/NN/NH (General purpose)

011P (UNIVERSAL ROBOTS)

051P (FANUC)



	Description	Qty.	Note
<b>ZGS-PL3-7-A</b> Main plate	Main plate	1	
	Clamber	2	
	Hexagon socket thin head cap screw (M5 x 25)	2	For securing the clamber
	Hexagon socket thin head cap screw (M6 x 10)	4	For securing the main plate to the robot
	Parallel pin (6 x 10)	1	
<b>ZGS-PL3-3-A</b> Tool plate	Tool plate	1	
	Hexagon socket head cap screw (M6 x 16)	4	For securing the tool plate to the ejector unit
	Flat washer (M6)	4	

\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

### Offset flange

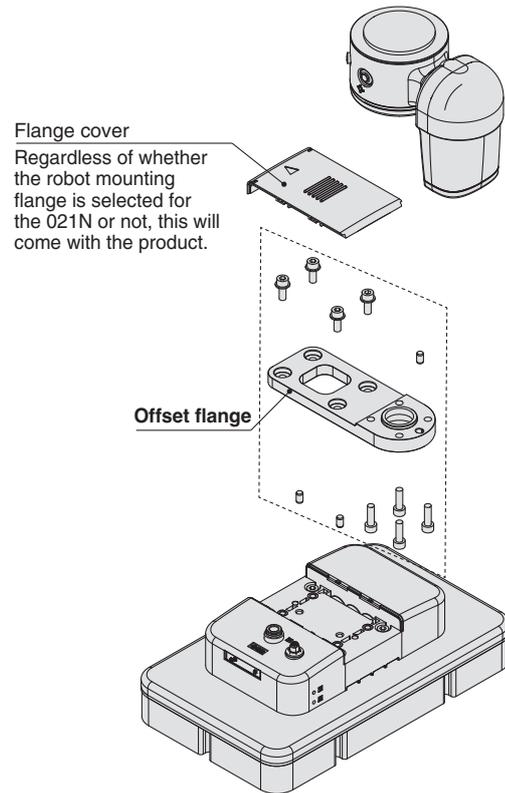
Compatible robot:

NP/NN/NH (General purpose)

011P (UNIVERSAL ROBOTS)

051P (FANUC)

021N (OMRON/TECHMAN ROBOT)



	Description	Qty.	Note
<b>ZGS-PL3-4-A</b> Offset flange	Offset flange	1	
	Hexagon socket head cap screw (M6 x 16)	4	For securing the offset flange to the ejector unit
	Flat washer (M6)	4	
	Parallel pin (5 x 10)	2	
	Parallel pin (6 x 10)	1	For securing the offset flange to the robot
	Hexagon socket head cap screw (M6 x 20)	4	

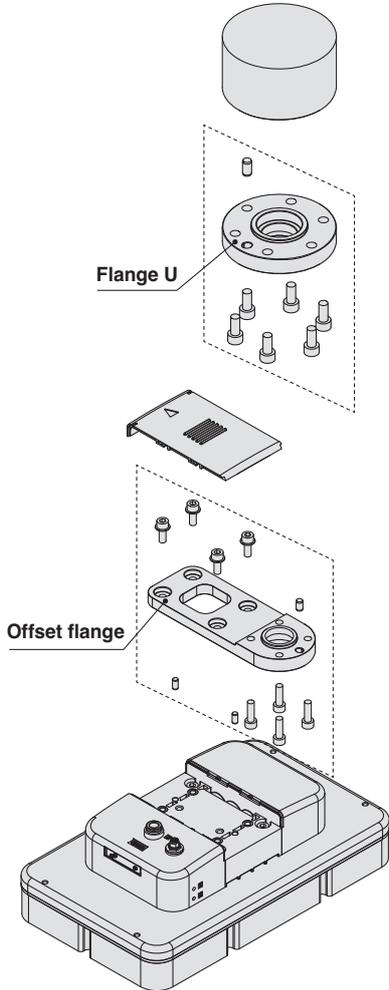
\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

**Robot Mounting Flange (Size: 300 mm x 180 mm, 200 mm x 120 mm)**

**Offset flange**

**Compatible robot:**

**012P (UNIVERSAL ROBOTS UR20)**



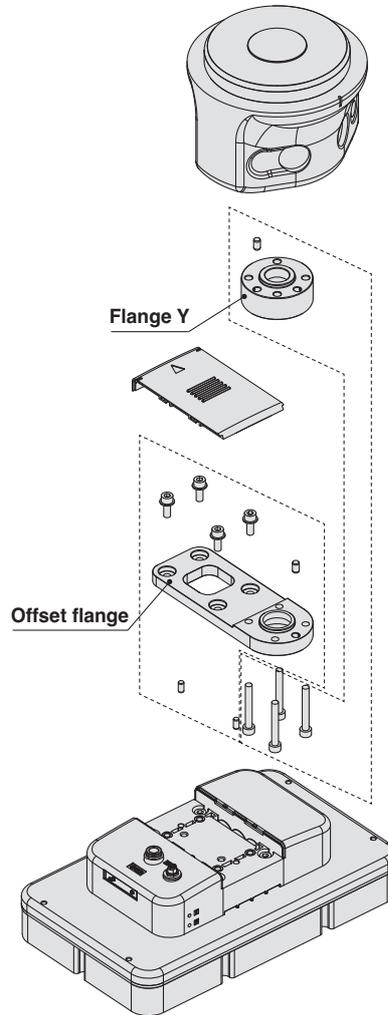
	Description	Qty.	Note
<b>ZGS-PL3-5-A</b> Flange U	Flange U	1	
	Hexagon socket head cap screw (M8 x 18)	6	For securing the flange U to the robot
	Parallel pin (8 x 15)	1	
<b>ZGS-PL3-4-A</b> Offset flange	Offset flange	1	
	Hexagon socket head cap screw (M6 x 16)	4	For securing the offset flange to the ejector unit
	Flat washer (M6)	4	
	Parallel pin (5 x 10)	2	For securing the flange U to the offset flange
	Parallel pin (6 x 10)	1	
	Hexagon socket head cap screw (M6 x 20)	4	

\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

**Offset flange**

**Compatible robot:**

**043P/043N (YASKAWA Electric)**



	Description	Qty.	Note
<b>ZGS-PL3-6-1-A</b> Flange Y	Flange Y	1	
	Hexagon socket head cap screw (M6 x 45)	4	For securing the flange Y + offset flange to the robot
	Parallel pin (6 x 10)	1	
<b>ZGS-PL3-4-A</b> Offset flange	Offset flange	1	
	Hexagon socket head cap screw (M6 x 16)	4	For securing the offset flange to the ejector unit
	Flat washer (M6)	4	
	Parallel pin (5 x 10)	2	For securing the flange Y to the offset flange
	Parallel pin (6 x 10)	1	
		Hexagon socket head cap screw (M6 x 20)	4

\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

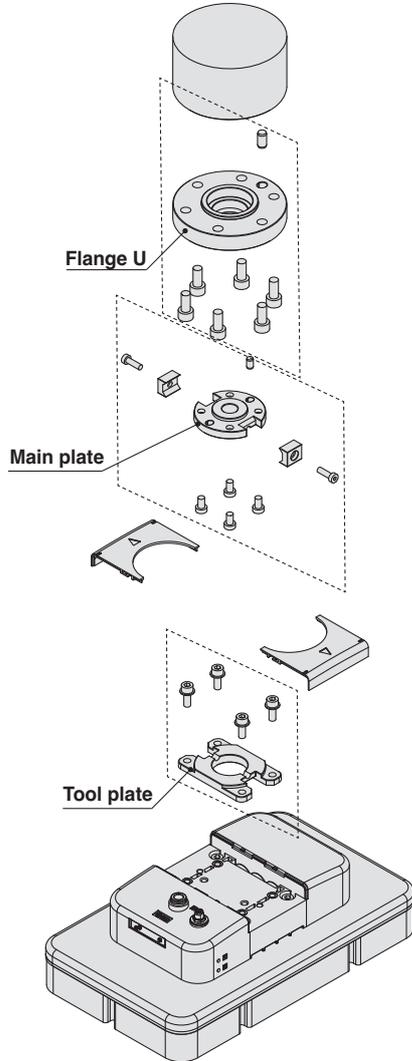
# ZGP/ZGS Series

## Robot Mounting Flange (Size: 300 mm x 180 mm, 200 mm x 120 mm)

Tool plate + Main plate

Compatible robot:

012P (UNIVERSAL ROBOTS UR20)



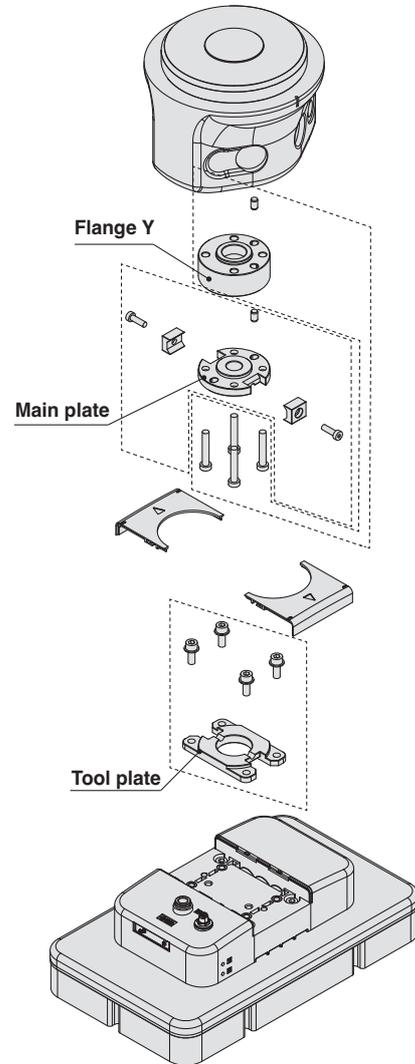
	Description	Qty.	Note
<b>ZGS-PL3-5-A</b> Flange U	Flange U	1	
	Hexagon socket head cap screw (M8 x 18)	6	For securing the flange U to the robot
	Parallel pin (8 x 15)	1	
<b>ZGS-PL3-7-A</b> Main plate	Main plate	1	
	Clamper	2	
	Hexagon socket thin head cap screw (M5 x 25)	2	For securing the clamper
	Hexagon socket thin head cap screw (M6 x 10)	4	For securing the main plate to the flange U
<b>ZGS-PL3-3-A</b> Tool plate	Parallel pin (6 x 10)	1	
	Tool plate	1	
	Hexagon socket head cap screw (M6 x 16)	4	For securing the tool plate to the ejector unit
	Flat washer (M6)	4	

\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

Tool plate + Main plate

Compatible robot:

043P/043N (YASKAWA Electric)



	Description	Qty.	Note
<b>ZGS-PL3-6-A</b> Flange Y	Flange Y	1	
	Hexagon socket thin head cap screw (M6 x 35)	4	For securing the flange Y + main plate to the robot
	Parallel pin (6 x 10)	1	For securing the flange Y to the robot
<b>ZGS-PL3-7-A</b> Main plate	Main plate	1	
	Clamper	2	
	Hexagon socket thin head cap screw (M5 x 25)	2	For securing the clamper
	Hexagon socket thin head cap screw (M6 x 10)	4	It comes with the product but is not used.
<b>ZGS-PL3-3-A</b> Tool plate	Parallel pin (6 x 10)	1	For securing the main plate to the flange Y
	Tool plate	1	
	Hexagon socket head cap screw (M6 x 16)	4	For securing the tool plate to the ejector unit
	Flat washer (M6)	4	

\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

**Robot Mounting Flange (Size: 300 mm x 180 mm, 200 mm x 120 mm)**

**Straight flange**

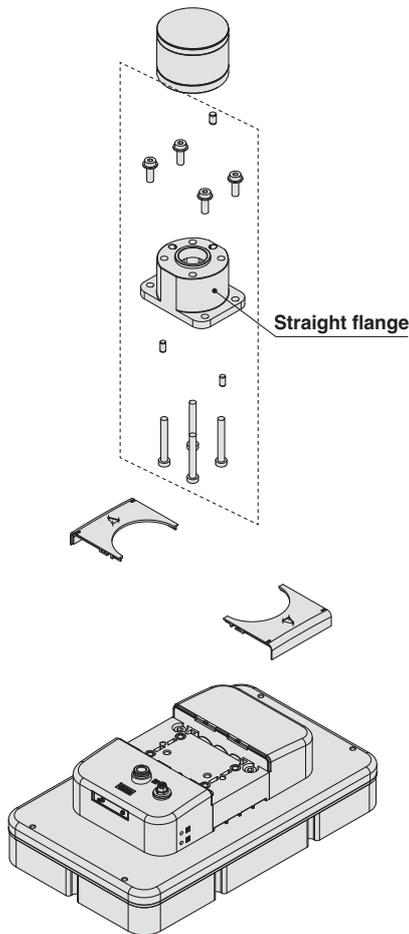
Compatible robot:

NP/NN/NH (General purpose)

011P (UNIVERSAL ROBOTS)

043P/043N (YASKAWA Electric)

051P (FANUC)



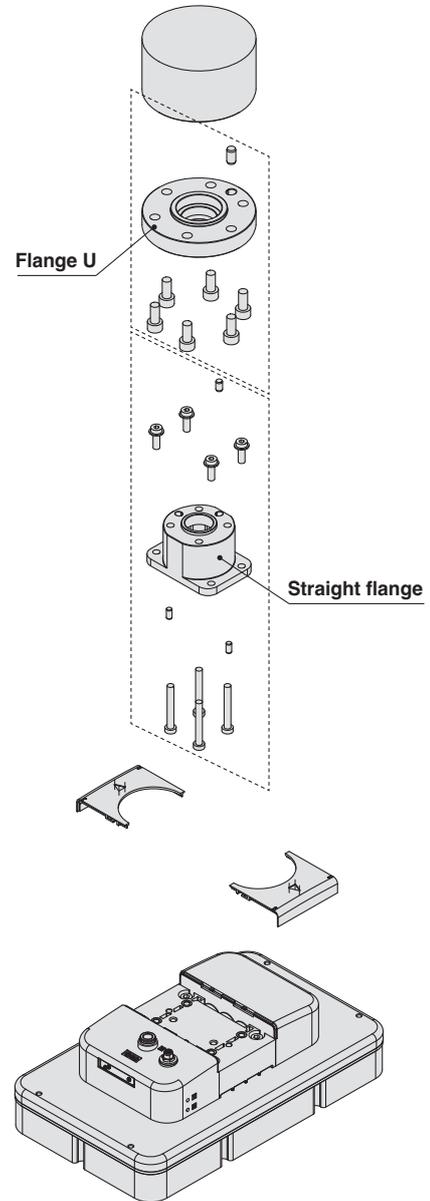
	Description	Qty.	Note
<b>ZGS-PL3-8-A</b> Straight flange	Straight flange	1	
	Hexagon socket thin head cap screw (M6 x 45)	4	For securing the straight flange to the robot
	Parallel pin (6 x 10)	1	
	Hexagon socket thin head cap screw (M6 x 18)	4	For securing the straight flange to the ejector unit
	Flat washer (M6)	4	
	Parallel pin (5 x 10)	2	

\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

**Straight flange**

Compatible robot:

012P (UNIVERSAL ROBOTS)



	Description	Qty.	Note
<b>ZGS-PL3-5-A</b> Flange U	Flange U	1	
	Hexagon socket thin head cap screw (M8 x 18)	6	For securing the flange U to the robot
	Parallel pin (8 x 15)	1	
<b>ZGS-PL3-8-A</b> Straight flange	Straight flange	1	
	Hexagon socket thin head cap screw (M6 x 45)	4	For securing the straight flange to the robot
	Parallel pin (6 x 10)	1	
	Hexagon socket thin head cap screw (M6 x 18)	4	For securing the straight flange to the ejector unit
	Flat washer (M6)	4	
	Parallel pin (5 x 10)	2	

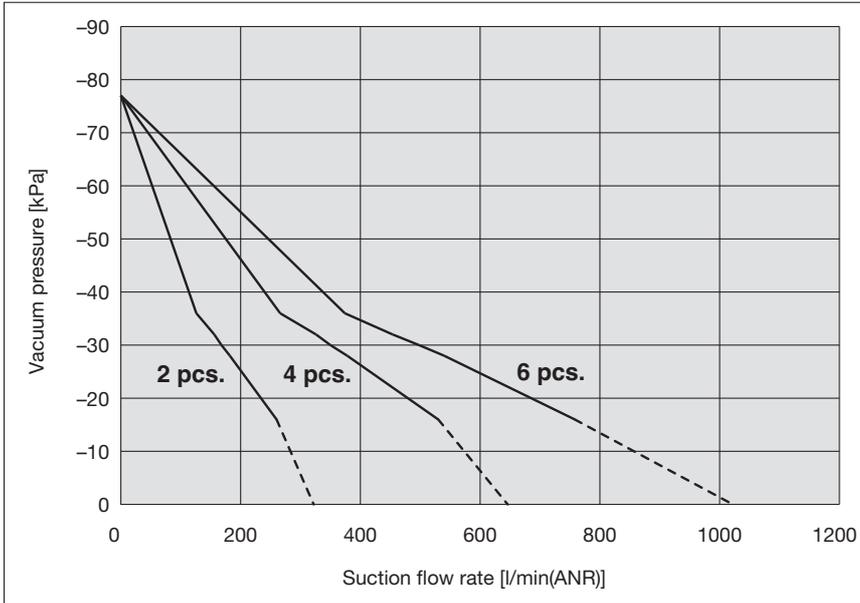
\* The image shows the foam type.  
However, mounting is the same for the suction cup type.

# ZGP/ZGS Series

Size: 400 mm x 240 mm

## Ejector Flow Rate Characteristics (Reference value)\*1

(Supply pressure as shown in the table below)



\*1 Suction flow rates are measured under SMC test conditions and are not guaranteed. The dotted lines and values in parentheses in the table below are estimates based on measured values.

### Suction flow rate for each number of ejector assemblies

Number of ejector assemblies	Supply pressure [MPa]	Suction flow rate [l/min (ANR)] for each vacuum pressure [kPa]							
		0	-10	-20	-30	-40	-50	-60	-70
2 pcs.	0.58	(322)	286	238	168	110	80	46	22
4 pcs.	0.6	(646)	574	490	350	222	172	104	54
6 pcs.	0.6	(1022)	(864)	706	498	338	250	144	66

### Exhaust Noise (Reference value)

Exhaust noise [dB(A)]	70
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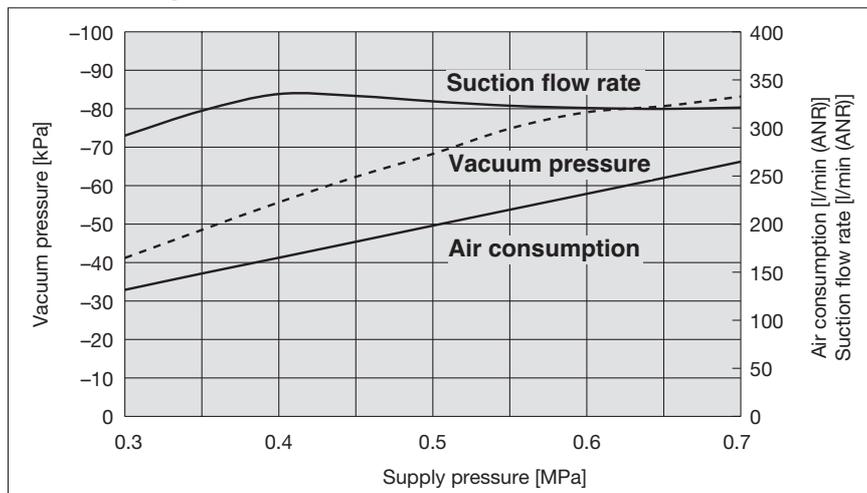
\* Actual values under SMC's measurement conditions (Not guaranteed values)

**Size: 400 mm x 240 mm**

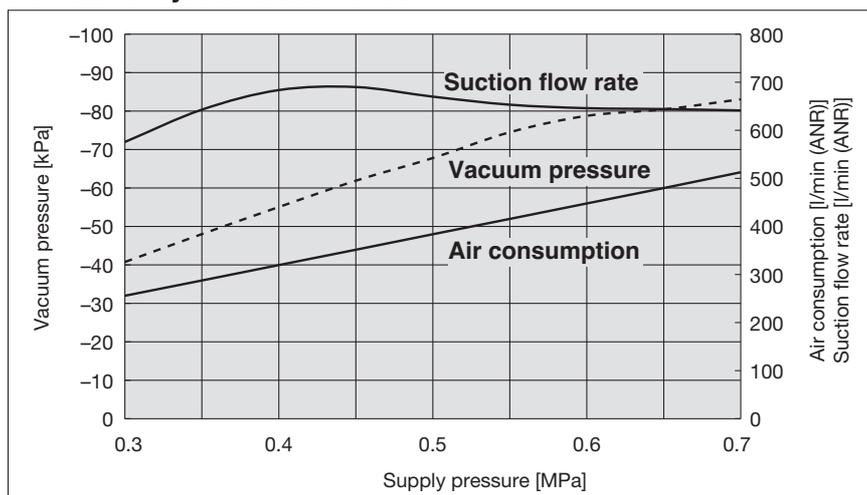
## Ejector Exhaust Characteristics (Reference value)\*1

\*1 Measured under SMC test conditions and are not guaranteed

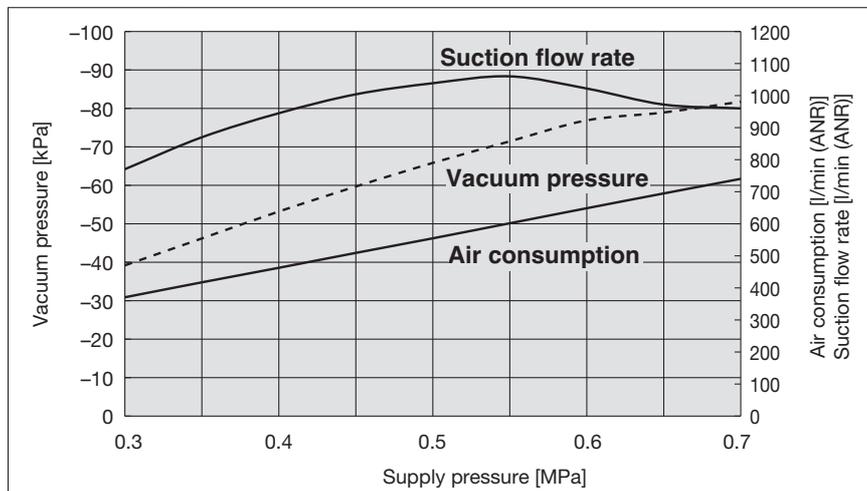
**Number of ejector assemblies: 2**



**Number of ejector assemblies: 4**



**Number of ejector assemblies: 6**

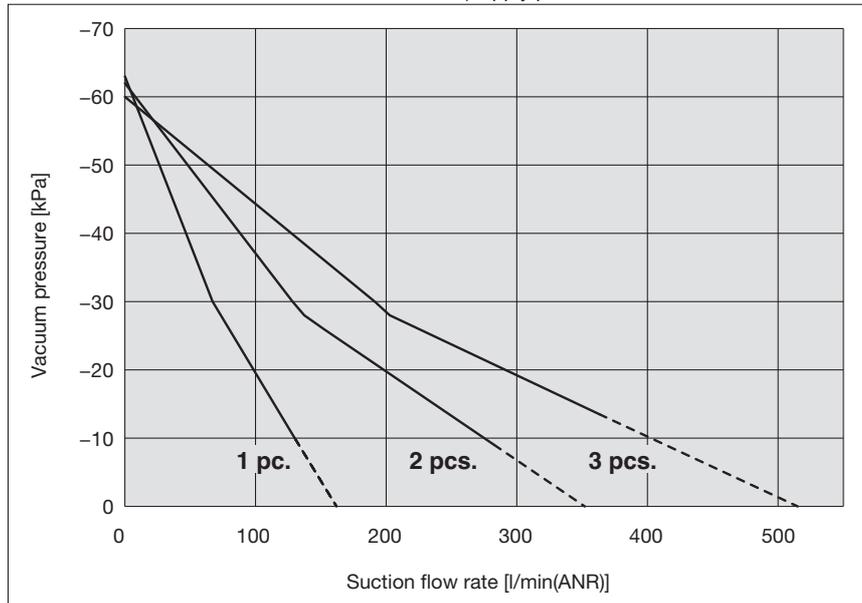


# ZGP/ZGS Series

Size: 300 mm x 180 mm, 200 mm x 120 mm

## Ejector Flow Rate Characteristics (Reference value)\*1

(Supply pressure as shown in the table below)



\*1 Suction flow rates are measured under SMC test conditions and are not guaranteed. The dotted lines and values in parentheses in the table below are estimates based on measured values.

### Suction flow rate for each number of ejector assemblies

Number of ejector assemblies	Supply pressure [MPa]	Suction flow rate [l/min (ANR)] for each vacuum pressure [kPa]					
		0	-10	-20	-30	-40	-50
1 pc.	0.45	(162)	130	99	67	47	26
2 pcs.		(352)	275	198	128	88	48
3 pcs.		(515)	(407)	292	191	127	63

### Exhaust Noise (Reference value)

Exhaust noise [dB(A)]	Size 300 x 180	64
	Size 200 x 120	60

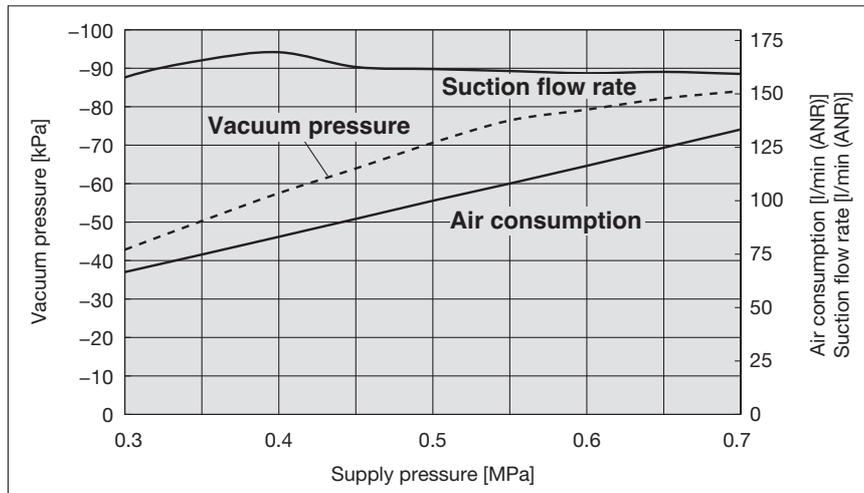
\* Actual values under SMC's measurement conditions (Not guaranteed values)

**Size: 300 mm x 180 mm, 200 mm x 120 mm**

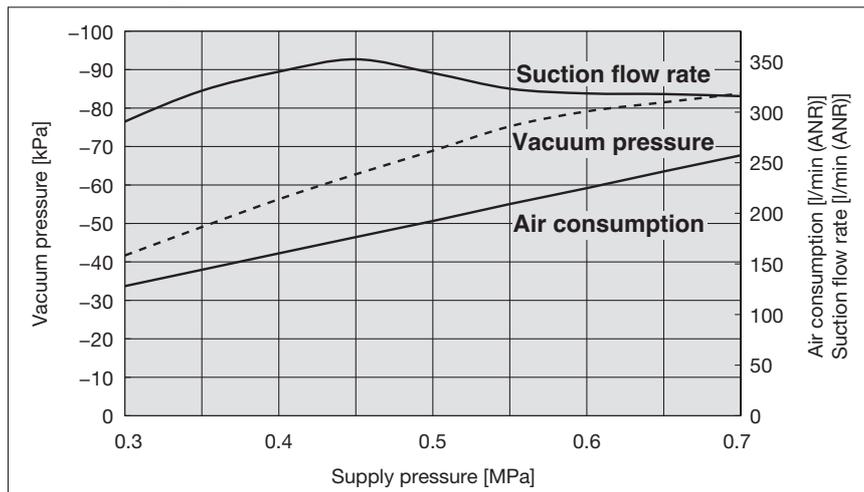
## Ejector Exhaust Characteristics (Reference value)\*1

\*1 Measured under SMC test conditions and are not guaranteed

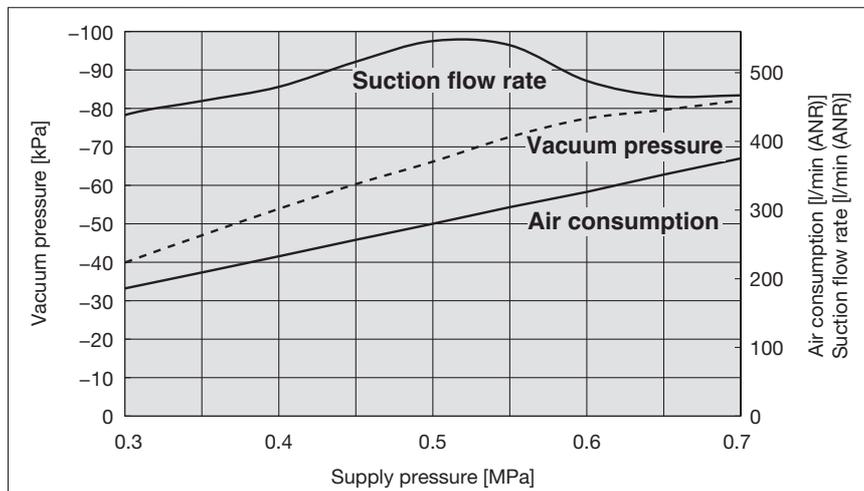
### Number of ejector assemblies: 1



### Number of ejector assemblies: 2



### Number of ejector assemblies: 3





# ZGP/ZGS Series Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For vacuum equipment precautions, refer to the “Handling Precautions for SMC Products” and the “Operation Manual” on the SMC website: <https://www.smc.eu>

## Handling

### Warning

When the suction cup/foam comes into contact with a workpiece, do not insert a finger between the suction cup/foam and the workpiece, as it can be caught during adsorption.

### Caution

- 1. Strictly observe the precautions on vacuum equipment and safety when using the product.**  
Take safety measures so that any accident, such as the dropping of a workpiece, does not occur during adsorption transfer.
- 2. Use the product within the specification range.**  
Use exceeding the voltage may result in serious damage due to reduced product performance.
- 3. Exhaust air is released from the opening in the product.**  
Therefore, this exhaust air opening must not be blocked or restricted.
- 4. ZGP Series**  
**Start generating vacuum after suction cups contact workpieces.**  
**ZGS Series**  
**Before suction, press the foam onto the workpiece so that the foam adapts to the unevenness of the workpiece surface in order to avoid the suction failure.**  
It is recommended that the foam is compressed to approximately 50 % of its original thickness.
- 5. Do not pressurize the product with the ejector cover removed; ejector assembly may jump out.**
- 6. Use this product avoiding resonance.**  
Too much load may apply to the product due to resonance, resulting in product damage.

## Environment

### Warning

This product is not designed to be explosion proof, dustproof, or drip proof.

Do not use in an environment where flammable gas or explosive gas is present.

### Caution

If liquids such as water, oil, or chemicals are adsorbed, it may accumulate inside the product causing damage and reducing the performance. Therefore, this product cannot be used in an environment where liquids such as water, oil content, or chemicals are present. In addition, if the product adsorbs a workpiece that is adhered to such liquids, it will reduce the product life and require early maintenance. Do not use the product in a place where static electricity is a problem. Otherwise, failure or malfunction of the system can result.

## Design

### Warning

Design the equipment with safety in mind, taking into account a vacuum pressure drop caused by a power or air supply failure.

Provide preventive measures against the fall of workpieces where this may cause danger.

## Maintenance

### Warning

Perform maintenance inspection according to the procedures indicated in the operation manual.

If handled improperly, malfunction or damage of the product may occur.

## 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. 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 catalogue 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.<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) 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

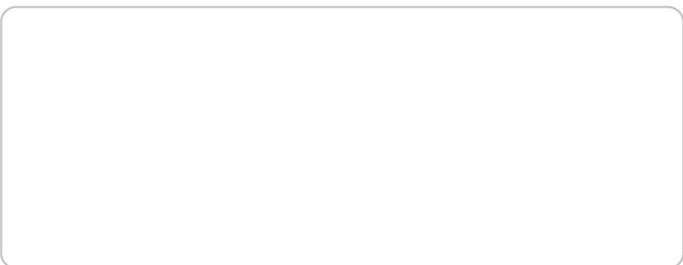
Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.

## Revision History

<b>Edition B</b>	- Foam sizes 300 mm x 180 mm and 200 mm x 120 mm have been added. - The number of pages has been increased from 16 to 40.	DP
<b>Edition C</b>	- A suction cup type (size: 400 mm x 240 mm, 300 mm x 180 mm, 200 mm x 120 mm) has been added. - The number of pages has been increased from 40 to 76.	

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