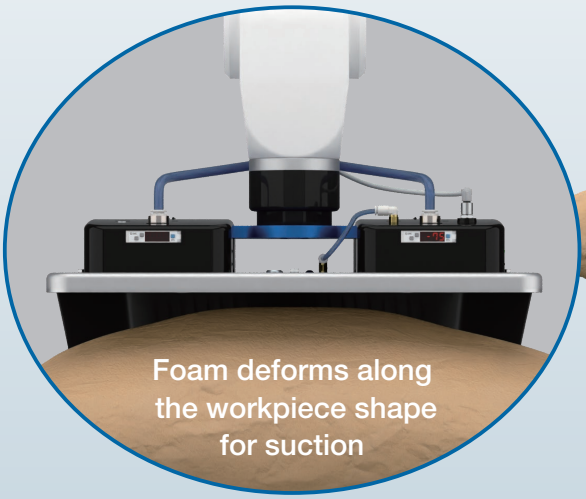
Vacuum Gripper System
(Foam Type)

Suitable for the palletizing and depalletizing of bags, shrink-wrapped products, etc.

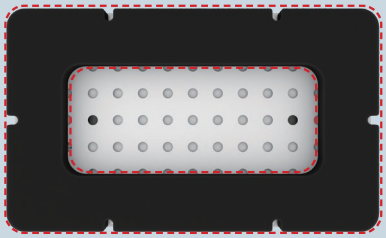




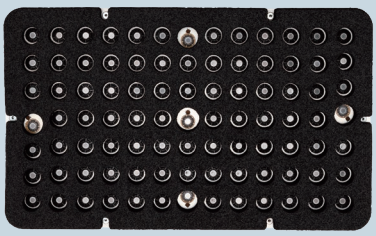
Square ring hole structure

The structure uses large square ring holes, enabling suction to grasp the workpiece

Square ring holes with a hollow space in the center



ZGS-X7



Standard product

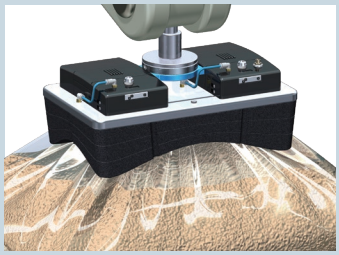
Air leaks reduced

With flexible foam material and sufficient thickness, the foam conforms even to workpieces with highly uneven suction surfaces, such as plastic bottles (shrink-wrapped products), reducing air leaks

Suction marks reduced

Flexible foam material reduces suction marks on the workpiece surface

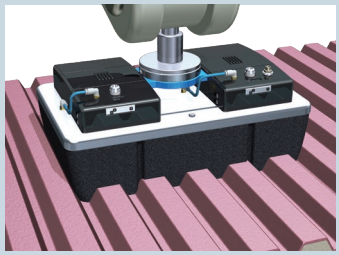
Application Examples



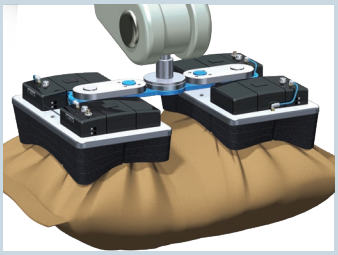
Plastic bags



Plastic bottles (shrink-wrapped)



Exterior wall panels



Low-filled paper bags
(2 units used)

ZGS-X7

Vacuum Gripper System (Foam Type)

ZGS-X7

IO-Link RoHS

How to Order

ZGS NP K – 400240 F U 4 – R M 1 C8 – X7

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾ ❿

❶ Compatible robot

Symbol		Robot manufacturer	Supported model	Switch output	Valve polarity
Identification symbol	Output type				
N	P	—	General purpose	PNP	–COM
	N			NPN	+COM
	H			IO-Link compatible	
011	P	UNIVERSAL ROBOTS	UR3e, 7e, 12e, 16e UR8Long, 15, 18 UR10g, 17g, 18g	PNP	–COM
012			UR20, 30		
021	N	OMRON TECHMAN ROBOT	TM□, TM□S	NPN	+COM
043	P	YASKAWA Electric	MOTOMAN-HC10(S)DTP MOTOMAN-HC20(S)DTP MOTOMAN-HC30PL	PNP	–COM
	N			NPN	+COM
051	P	FANUC	CRX-5iA, CRX-10iA(/L) CRX-20iA/L, CRX-30iA	PNP	–COM

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

❷ Supply valve/Release valve

Symbol	Supply valve	Release valve
B	N.O. (2-position single)	N.C.
K	N.C. (2-position single)	N.C.
W	2-position double	N.C.
Nil	None	None

∗ When output type “H” is selected for the ❶ compatible robot, “W” and “Nil” cannot be selected.

❸ Foam size

Symbol	Foam size
400240	400 mm x 240 mm

❹ Foam

Symbol	Foam type, thickness
E	Square ring type, thickness 60 mm
F	Square ring type, thickness 90 mm
G	Square ring type, thickness 120 mm

❺ Suction plate

Symbol	Specifications
U	Hole ø11

(No setting for vacuum saving valve type)

❻ Number of ejector assemblies

Symbol	Number of ejector assemblies
2	2 pcs.
4	4 pcs.
6	6 pcs.

∗ Total number of ejector assemblies in the two ejector units

❼ Connector cable for compatible robot

Symbol	Connector cable for compatible robot
Nil	With cable (For compatible models)
R	With cable (Discrete wire)
N	Without cable

∗ When symbol “NP” or “NN” is selected for the ❶ compatible robot, “Nil: With cable (For compatible models)” cannot be selected. In addition, when symbol “NH” is selected for the ❶ compatible robot, only “N: Without cable” can be selected.

❽ Pressure switch unit specifications

Symbol	Number of switches	Switch unit
C	2 switches	With unit switching function
M		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 ❶ compatible robot, there will be 1 switch, located on the M8 connector side ejector unit.

❾ Robot mounting flange

Symbol	Robot mounting flange
Nil	Without 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

∗ When symbol “021N” is selected for the ❶ compatible robot, only “Nil” or “2” can be selected.

❿ Air pressure supply (P) port

Symbol	Air pressure supply (P) port	
C8	Metric	ø8 One-touch fitting
C10		ø10 One-touch fitting
N9	Inch	ø5/16" One-touch fitting
N11		ø3/8" One-touch fitting

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∗1	Equivalent to JSY3□40-5MOZ-□
Vacuum pressure switch∗2	Equivalent to ZSE10-00-□
Weight [kg]∗3	4.0

∗1 Refer to the JSY3000 series catalog and operation manual for the specifications of the supply valve and release valve.
∗2 Refer to the ZSE10 series catalog and operation manual for vacuum pressure switch specifications.
Refer to the "ZGS-LD1-□(H/J)□-A" operation manual for the IO-Link specification vacuum pressure switch.
∗3 For ZGSNPK-400240FU4-RM1C8-X7

Ejector Specifications

Number of ejector assemblies	2	4	6
Standard supply pressure [MPa]∗1	0.58	0.6	
Max. vacuum pressure [kPa]∗2	–75		
Air consumption [L/min (ANR)]∗2	228	454	661

∗1 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.
∗2 Values have been measured at standard supply pressure under SMC measurement conditions, and may change depending on atmospheric pressure (weather, altitude, etc.) or measurement method.

Characteristics∗1

Number of ejector assemblies	2	4	6
Lifting force [N]	1870		
Exhaust noise [dB (A)]	70		

∗1 Actual values under SMC's measurement conditions, not guaranteed values.
The lifting force is an actual value measured by SMC at a vacuum pressure of –75 kPa (when a non-leakage workpiece (acrylic plate) is suctioned at the standard supply pressure) and is not a guaranteed value.
It is necessary to judge the suitability for the workpiece with the actual conditions of use.
Be sure to use under conditions where the load factor is 1 or less. For details, refer to the ZGS series operation manual.

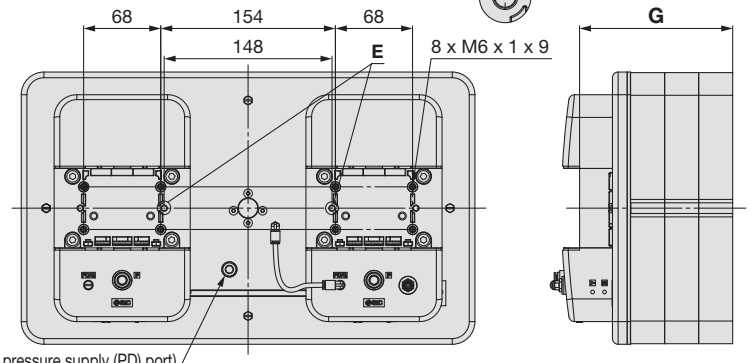


Dimensions

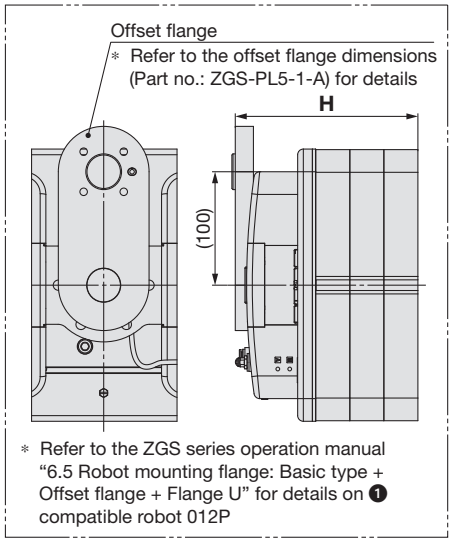
E (2:1) ∗ 2 locations

ø5 depth 5.2

Robot mounting flange: None



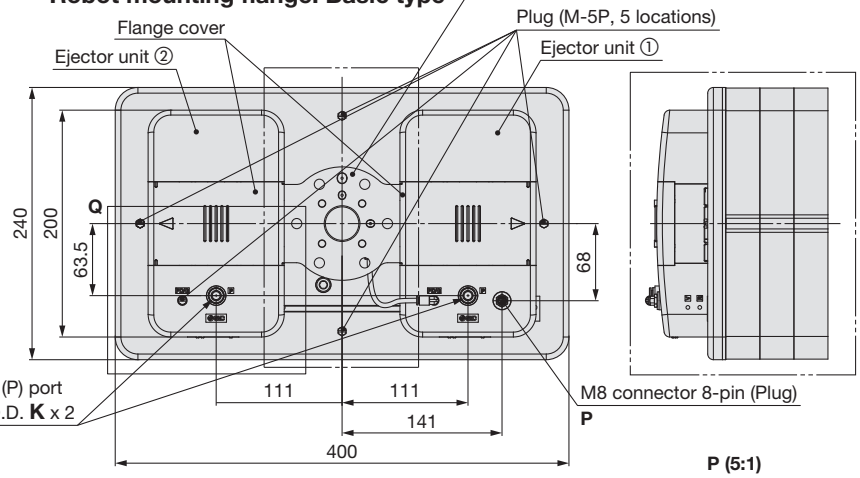
❾Robot mounting flange: Basic type + Offset flange (For ❶ compatible robots other than 012P)



Robot mounting flange: Basic type

Robot mounting flange basic type

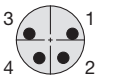
∗ Refer to the robot mounting flange dimensions (Part no.: ZGS-PL3-1-A) for details



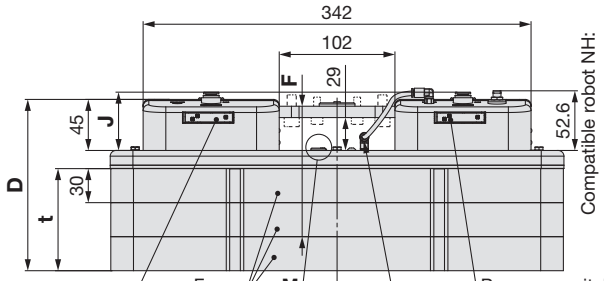
Q (1:5)
Compatible robot: NH



P (5:1)
Compatible robot: NH



M8 4-pin (Plug)



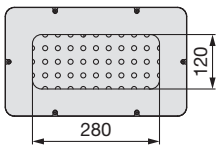
Pressure switch ②
Cannot be used with these specifications.
∗ When using the ZGS-FM4-400240T□(J/T)(P)-A foam or foam with plate type, pressure switch ② can be used with piping. (When output type "H" is selected for the ❶ compatible robot, pressure switch ② is not available.)

M (1:1)
Without supply valve/release valve



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

View L
(foam suction surface)



Dimensions

Part no.	t	D	F	G	H
ZGS□□-400240EU□-□□□□-X7	60	121	115	105	131
ZGS□□-400240FU□-□□□□-X7	90	151	145	135	161
ZGS□□-400240GU□-□□□□-X7	120	181	175	165	191

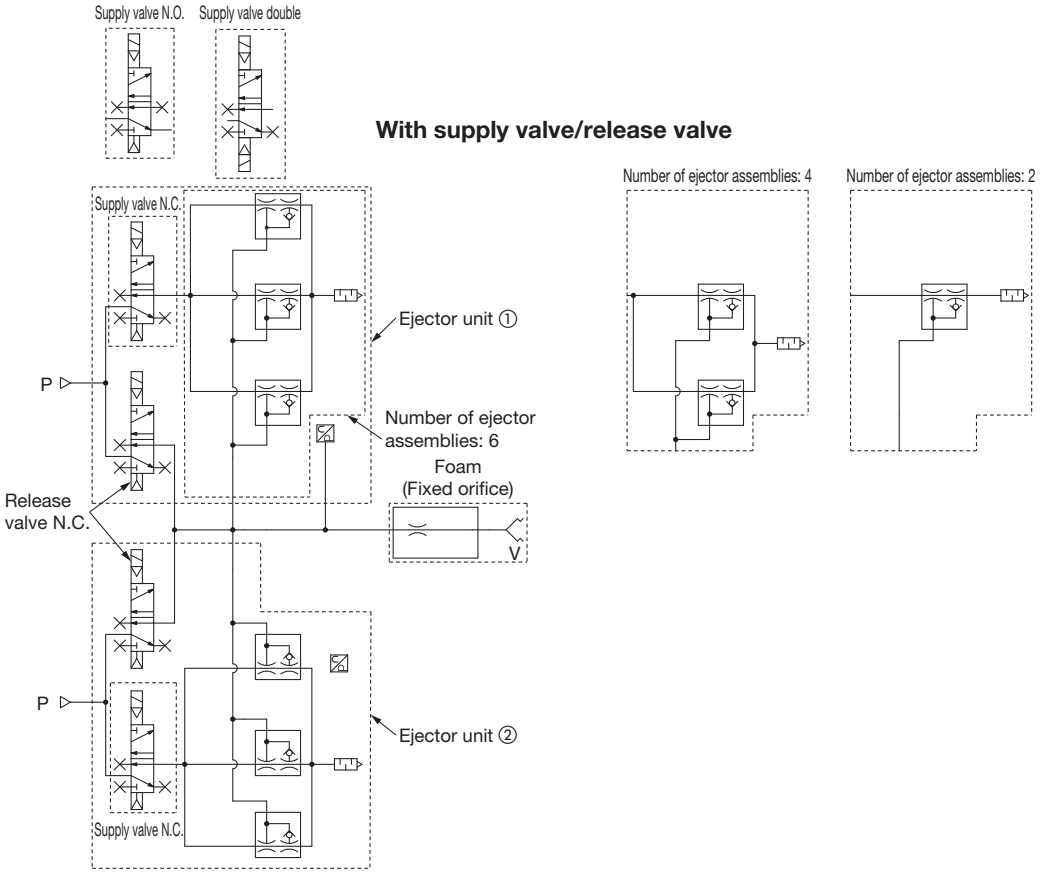
Part no.	J	K	N
ZGS□□-400240□U□-□□□C8-X7	51.4	ø8	ø8
ZGS□□-400240□U□-□□□C10-X7	52	ø10	
ZGS□□-400240□U□-□□□N9-X7	51.4	ø5/16"	ø3/8"
ZGS□□-400240□U□-□□□N11-X7	51.9	ø3/8"	

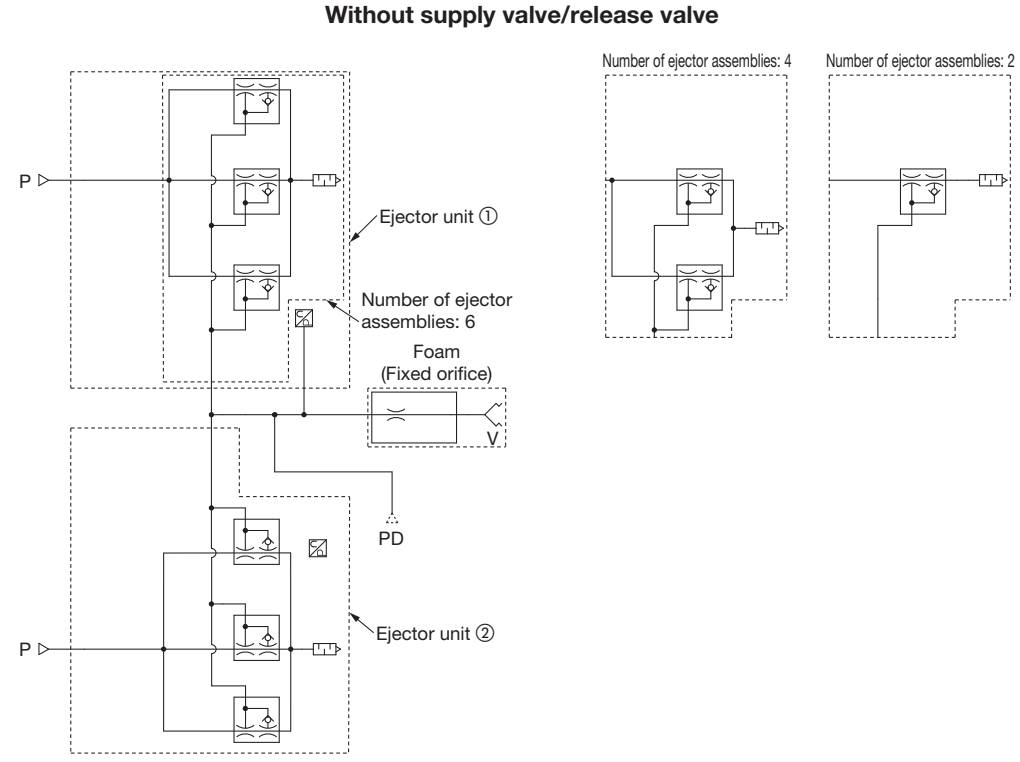
Replacement Parts

Part no.	Description
ZGS-FM1-400240T(60U/90U/120U)-A-X5	Foam
ZGS-FM1-400240T(60U/90U/120U)P-A-X5	Foam with plate

∗1 Customers are requested to thoroughly verify the suitability for the workpiece, including service life, before use.
∗2 Refer to the Vacuum Gripper System ZGS series operation manual for the robot mounting flange dimensions and wiring.

Air Circuit Diagram





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

SMC Corporation

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