Vacuum Unit

Series ZK2

CE RoHS

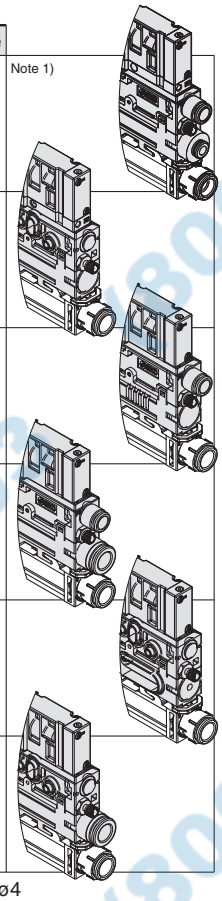
How to Order Single Unit

Vacuum Pump System	ZK2	P	00	K	5	A	L	– 08	–	
Ejector System (with Valve)	ZK2	A	12	K	5	A	L	– 08	–	
Ejector System (without Valve)	ZK2	A	12	N	0	N	N	– 08	–	
		❶	❷	❸	❹	❺	❻	❼	❽	

Remains blank when option is not selected.

❶ System/Body Type

Symbol	System	Body type	Exhaust type
P	Vacuum pump system	Single unit	—
Q		For manifold	—
A	Ejector system	Single unit	Silencer exhaust
B			Port exhaust Note 1)
C		For manifold	Common Silencer exhaust
F			Individual port exhaust



Note 1) PS port size of pump system: mm: ø4
inch: ø5/32"
Port size of exhaust port: mm: ø8
inch: ø5/16"

❷ Nominal Nozzle Size

Symbol	System	Nominal size
00	Vacuum pump system	—
07	Ejector system Note 2)	ø0.7
10		ø1.0
12		ø1.2
15		ø1.5

Note 2) Standard supply pressure for nozzle size 07 to 12 is 0.35 MPa, 15 is 0.4 MPa

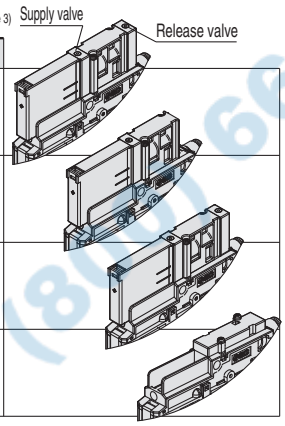
❹ Rated Voltage Note 8)

Symbol	Voltage
5	24 VDC
6	12 VDC
0	When ❸ is "N"

Note 8) Rated voltage for the supply and release valve

❸ Combination of Supply Valve and Release Valve Note 3)

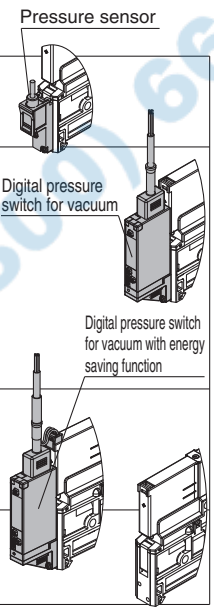
Symbol	Supply valve	Release valve
K Note 6)	N.C.	N.C.
J	N.C. Note 4)	None
R	Self-holding release valve linked Note 5)	N.C.
N Note 7)	None	None



Note 3) Only non-locking type is available for the manual override for "K, J, R".
Note 4) When "J" is selected for vacuum pump system, install a release valve or vacuum breaker.
Note 5) Self-holding type maintains vacuum by instantaneous energization (20 ms or more). Stopping the vacuum turns on the release valve. (signal to stop vacuum not needed)
Note 6) When the digital pressure switch for vacuum with energy saving function is selected, select "K" for ❺ Pressure Sensor/Digital Pressure Switch for Vacuum Specifications.
Note 7) Cannot be selected for vacuum pump system.

❺ Pressure Sensor/Digital Pressure Switch for Vacuum Specifications

Symbol	Type	Pressure range [kPa]	Specifications	
P	Pressure sensor	0 to –101	Analog output 1 to 5 V	
T		–100 to 100	Analog output 1 to 5 V	
A	Digital pressure switch for Vacuum	0 to –101	NPN 2 outputs	Unit selection function Note 9)
B				SI unit only Note 10)
C			PNP 2 outputs	Unit selection function Note 9)
D				SI unit only Note 10)
E		–100 to 100	NPN 2 outputs	Unit selection function Note 9)
F				SI unit only Note 10)
H			PNP 2 outputs	Unit selection function Note 9)
J				SI unit only Note 10)
K	Digital pressure switch for vacuum with energy saving function Note 11)	100 to –100	NPN 1 output	Unit selection function Note 9)
Q				SI unit only Note 10)
R			PNP 1 output	Unit selection function Note 9)
S				SI unit only Note 10)
N	Without pressure sensor/ Digital pressure switch for vacuum			



Note 9) Unit selection function is not available in Japan due to new measurement law.
Note 10) Fixed unit: kPa
Note 11) When "K, Q, R or S" is selected, select "K" for ❸ Combination of Supply Valve and Release Valve. Select "W" for ❻.

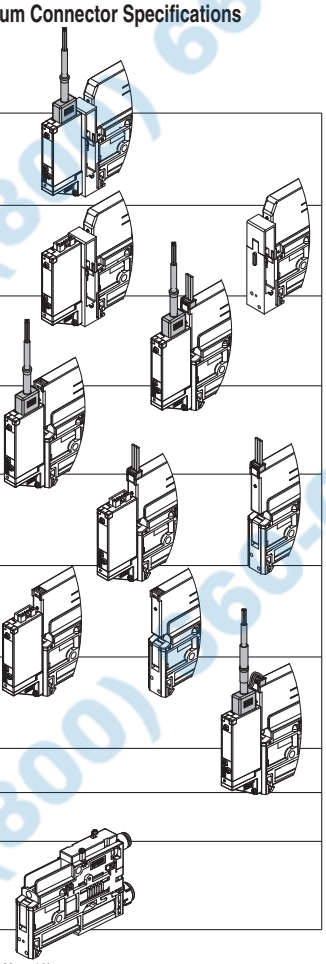
SMC

- PV: Air pressure supply port/Port for vacuum source (Vacuum pump)
- PS: Pilot pressure supply port
- PD: Individual release pressure supply port
- V: Vacuum port • EXH: Exhaust port
- PE: Pilot pressure exhaust port

For details ⇒ Page 14

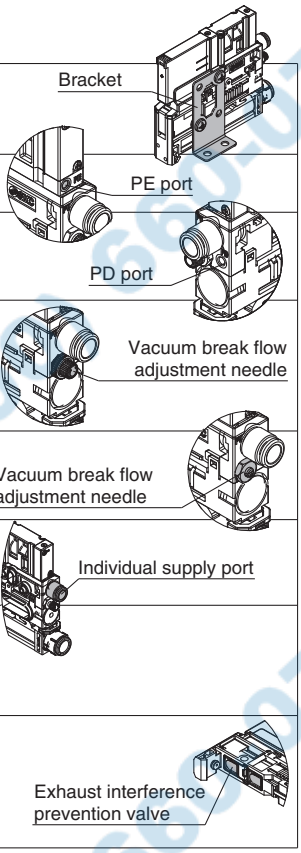
❻ Supply Valve/Release Valve/Digital Pressure Switch for Vacuum Connector Specifications

Symbol	❸ For supply valve/release valve Note 12)		❺ Lead wire with connector for pressure switch/sensor Note 15)
	Connector type	Lead wire with connector	
C	Common wiring (Plug-in) (For manifold)	×	○ Note 16)
C1			× Note 17)
L	L-type plug connector	○ Note 13)	○ Note 16)
L1		× Note 14)	○ Note 16)
L2		○ Note 13)	× Note 17)
L3		× Note 14)	× Note 17)
W		With lead wire for switch with energy saving function	
Y	Non-valve (without supply/release valve) When "N" is selected for ❸		○ Note 16)
Y1			×
N	When "N" is selected for both ❸ (Combination of Supply Valve and Release Valve) and ❺ (Pressure Sensor/Pressure Switch for Vacuum Specifications) (without supply/release valve, without switch, pressure sensor)		



❽ Optional Specifications/Functions/Applications Note 19)

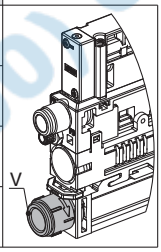
Symbol	Type	Function/Application
Nil	Without option	—
B	With one bracket for mounting a single unit (Mounting screw is attached.)	• Use when a single unit is mounted to the floor in an upright position is requested. (When ordering only bracket, refer to page 22.)
C	Pump system PE port female thread specification Note 20)	• Use for pilot pressure exhaust piping (Standard pump system is released to the atmosphere.)
D	With individual release pressure supply (PD) port type Note 21)	• Use when supply pressure for vacuum release which pressure is different from the ejector supply pressure is requested.
J	Vacuum break flow adjustment needle Round lock nut type	• Thicker than standard hexagon type. More suitable for hand tightening. • Round lock nut improves operability when manifold, pump system, or exhaust port type is used.
K	Vacuum break flow adjustment needle Screwdriver operation type	• Slotted type improves fine adjustment performance when manifold, pump system, or exhaust port type is used.
L	Manifold individual supply specification Note 22)	• Adjust the supply pressure individually for manifold in order to adjust the vacuum pressure reached by each ejector.
P	Manifold common release pressure supply specification Note 24)	• When selecting "D" (with common release pressure supply (PD) port) for ❺ manifold option, supplying a pressure which is different from for common PV to common PD is requested.
W	With exhaust interference prevention valve Note 23, 25)	• When ejectors are operated individually with silencer common exhaust manifold, exhausted air may flow backward from the V port of ejectors that are OFF. Exhaust interference prevention valve prevents back flow.



Note) Refer to page 31 when mounting single unit to DIN rail.

❼ Vacuum (V) Port Note 18)

Symbol	Type	Port size
06	Metric size	ø6 One-touch fitting
08		ø8 One-touch fitting
07	Inch size	ø1/4" One-touch fitting
09		ø5/16" One-touch fitting



Note 18) Supply port (PV) size of single unit: ø6 (mm), ø1/4" (inch)

Note 12) Solenoid valve with light/surge voltage suppressor
Note 13) Standard lead wire length for solenoid valve is 300 mm.
Note 14) For lead wire lengths other than standard, select "L1 or L3", and order the connector assembly desired. (Refer to page 16.)
Note 15) Standard lead wire length for pressure sensor is 3 m. Standard lead wire length with connector for switch for vacuum and the lead wire length for switch with energy saving function is 2 m.
Note 16) Select "C, L, L1, Y" when the pressure sensor (P, T) is selected for ❺ Pressure Sensor/Digital Pressure Switch for Vacuum Specifications.
Since only grommet type is available for the pressure sensor, sensor without lead wire cannot be selected.
Note 17) Select when no pressure switch for vacuum, pressure sensor, or pressure switch for vacuum with connector without lead wire is used.

Single Unit and Options Note 26)

	❶	❷	❸	❹	❺	❻	❼	❽ B	C	D	J	K	L	P	W
ZK2	P	00	K·J·R	5·6	P to J·N	L to L3	06·08·07·09	●	●	●	●	●			
	Q					C to L3			●		●	●		●	
	A	07·10·12·15	K·J·R·N	5·6·0	P to N	L to N		●		●	●	●			
	B							●		●	●	●			
	C					C to N						●	●	●	●
	F											●	●	●	●

Note 26) When "J or N" is selected for ❸ Combination of Supply Valve and Release Valve , "J or K" cannot be selected for ❽ Optional Specifications/Functions/Applications.

For options not in the table, please contact SMC.

Note 19) When more than one option is selected, list the option symbols in an alphabetical order. Example) -BJ
Note 20) For an ejector, PE is common with EXH, so it is not necessary to specify the option. Thread size is M3.
Note 21) Only M3 is available for PD port size. Use one-touch fitting (KJS series) or barb fitting (M series) for piping.
Note 22) Select body for manifold. Select "L" for manifold type. When the common supply and individual supply are mixed, please contact SMC.
Note 23) To prevent backflow of the manifold common exhaust, not for holding vacuum. This option does not completely stop the back flow of the exhaust air. Select port exhaust type depending on purpose.
Note 24) When "-D" is selected for manifold option, select "-P" option for single unit model number.
Note 25) When "J" is selected for ❸ Combination of Supply Valve and Release Valve and "W" (exhaust interference prevention valve type) is selected for ❽ Optional Specifications/Functions/Applications, install a release valve or vacuum breaker.