

**How to Order (Single Unit)**

DC **VX31 1 4 - 01 - 5 G 1 -**

AC/Class B coil (Built-in full-wave rectifier type) **VX31 1 4 - 01 - 1 GR1 -**

Model Refer to Table (1) shown below for availability.

Orifice diameter Refer to Table (1) shown below for availability.

Valve / Body type

0	N.C. / Single unit
2	N.O. / Single unit
4	COM. / Single unit

Solenoid valve option Refer to Table (2) shown below for availability.

Port size Refer to Table (1) shown below for availability.

Suffix

Nil	—
Z	Oil-free spec.

Thread type

Nil	Rc
T	NPTF
F	G*
N	NPT

* For connection, prepare a fitting compliant with ISO 16030 and JIS B 8674.

Rated voltage

1	100 VAC 50/60 Hz	6	12 VDC
2	200 VAC 50/60 Hz	7	240 VAC 50/60 Hz
3	110 VAC 50/60 Hz	8	48 VAC 50/60 Hz
4	220 VAC 50/60 Hz	J	230 VAC 50/60 Hz
5	24 VDC		

* Refer to Table (3) shown below for availability.

Refer to page 401 for ordering coil only.

Bracket

Nil	None
B	With bracket

* Bracket is neither mountable nor removable.

Built-in full-wave rectifier type

Electrical entry

G - Grommet
GS - With grommet surge voltage suppressor

C - Conduit

T - With conduit terminal
TS - With conduit terminal and surge voltage suppressor
TL - With conduit terminal and light
TZ - With conduit terminal, surge voltage suppressor and light

D - DIN terminal
DS - DIN terminal with surge voltage suppressor
DL - DIN terminal with light
DZ - DIN terminal with surge voltage suppressor and light
DO - For DIN terminal (without connector, gasket is included.)

Connector

* DIN type is available with class B only.

* Refer to Table (3) shown below for availability.

Refer to page 401 for ordering coil only.

* Refer to Table (3) for available combinations between each electrical option (S, L, Z) and rated voltage.

* Surge voltage suppressor is integrated into the AC/Class B coil, as a standard.

Table (1) Model/Orifice Diameter/Port Size

Solenoid valve model			Orifice symbol (Diameter)			
Model	VX31	VX32	VX33	1 (1.5 mm)	2 (2.2 mm)	3 (3 mm)
Port symbol (Port size)	01 (1/8)	—	—	●	●	●
	02 (1/4)	—	—	●	●	—
	—	02 (1/4)	02 (1/4)	—	●	●
	—	—	03 (3/8)	—	●	●

Table (2) Solenoid Valve Option

Option symbol	Seal material Main valve poppet	Fixed sealant	Body material/ Shading coil material	Guide pin material	Coil insulation type	Note ^(Note)
Nil	NBR	NBR	Brass (C37)			—
G			Stainless steel	PPS	B	Non-leak (10 ⁻⁶ Pa·m ³ /sec), Medium vacuum (0.1 Pa.abs), Oil-free
M	FKM	FKM	Stainless steel			
V			Brass (C37)			

Note) The leakage amount (10⁻⁶ Pa·m³/sec) for the "V" and "M" option are values when the differential pressure is 0.1 MPa.

Table (3) Rated Voltage – Electrical Option

Rated voltage			Class B		
AC/DC	Voltage symbol	Voltage	With surge voltage suppressor	With light	With light and surge voltage suppressor
AC	1	100 V	— (Note)	●	— (Note)
	2	200 V		●	
	3	110 V		●	
	4	220 V		●	
	7	240 V		—	
	8	48 V		—	
	J	230 V		—	
DC	5	24 V	●	●	●
	6	12 V	●	—	—

Note 1) Option S, Z are not available as surge voltage suppressor is integrated into the AC/Class B coil, as a standard.

* Class H coil is not available.

VVX31/32/33 Series

For Air /Manifold

(Non-leak, Medium vacuum)

Solenoid Valve for Manifold / Valve Specifications

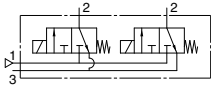
N.C.

N.O.

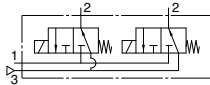
COM.



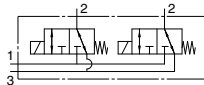
Symbol



Symbol



Symbol



Note) Symbols for N.C. and N.O. types

The symbols show that the N.C. type: port 3 and N.O. type: port 1 are in a blocked state (T).
However, use each port pressure in the state shown below.

N.C. type: Pressure at port 1 \geq Pressure at port 2 \geq Pressure at port 3

N.O. type: Pressure at port 3 \geq Pressure at port 2 \geq Pressure at port 1

Orifice diameter (mm)	Model	Max. operating pressure differential ^{Note 2)} (MPa)			Flow rate characteristics ^{Note 1)}			Max. system pressure (MPa) ^{Note 2)}
		N.C.	N.O.	COM.	C[dm ³ /(s·bar)]	b	Cv	
1.5	VX311□-00	1	1	0.7	0.29	0.32	0.08	2.0
	VX312□-00	0.7	0.5	0.4	0.60	0.25	0.15	
2.2	VX322□-00	1.2	1	0.7	0.64	0.40	0.17	
	VX332□-00	1.6	1.6	1				
3	VX313□-00	0.3	0.3	0.2	1.1	0.25	0.27	
	VX323□-00	0.6	0.5	0.3				
	VX333□-00	1	0.9	0.6				
4	VX324□-00	0.3	0.25	0.2	1.6	0.20	0.38	
	VX334□-00	0.5	0.4	0.3				

Note 1) The flow rate characteristics of this product have variations.

When the highly precise flow control is required according to the system to be used, select an orifice diameter 1.3 times larger than that shown above and install a restrictor on the downstream side of the solenoid valve to make the adjustment.

Note 2) Refer to "Glossary of Terms" on page 403 for details on the max. operating pressure differential and the max. system pressure.

Fluid and Ambient Temperature

Power source	Fluid temperature (°C)		Ambient temperature (°C)
	Solenoid valve option (symbol)		
	Nil	V	
AC	-10 ^{Note)} to 60	-10 ^{Note)} to 40	-20 to 60
DC	-10 ^{Note)} to 60	-10 ^{Note)} to 40	-20 to 40

Note) Dew point temperature: -10°C or less

Valve Leakage Rate

Internal Leakage / External Leakage

Seal material	Max. operating pressure differential	Leakage rate	
		Air	Non-leak, Medium vacuum ^{Note)}
NBR, FKM	From 0 to less than 1 MPa	1 cm ³ /min or less	10 ⁻⁶ Pa·m ³ /sec or less
	1 MPa or more	2 cm ³ /min or less	

Note) The leakage amount (10⁻⁶ Pa·m³/sec) for the "V" option are values when the differential pressure is 0.1 MPa.