

How to Order (Solenoid Valve for Manifold)

DC, AC/Class H coil **VX 31 1 1 A** **00-1 G 1**

AC/Class B coil (with full-wave rectifier) **VX 31 1 1 A** **00-1 G R1**

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

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

Valve/Body configuration

1	N.C. / Manifold
3	N.O. / Manifold
5	COM. / Manifold

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

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.

Suffix

Nil	—
Z	Oil free

Refer to page 2 for ordering coil only.

Electrical entry

G - Grommet
GS - With grommet surge voltage suppressor

C - Conduit

D - DIN
DS - DIN with surge voltage suppressor
DL - DIN with light
DZ - DIN with surge voltage suppressor and light
DO - For DIN (without connector)

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

* DIN type is available with class B insulation only.

* Refer to Table (3) for the 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.

For Water

For Oil

For Steam

For Air

How to Order Manifold Bases

VVX31
VVX32
VVX33

1 **07** **1**

Manifold base

Suffix

Nil	—
Z	Oil free

Number of manifolds

02	2 stations
•	•
•	•
•	•
10	10 stations

Port size (Individual port)

1	Rc1/8
2	Rc1/4

* Common port sizes are all Rc1/4.
* Indicating numbers shown below are for common ports.

Type	SUP port	EXH port
N.C.	1	3
N.O.	3	1

• Blanking plate part no.

For VX31 **VVX31-4A-F**

For VX32/33: **VVX32-4A-F**

• Seal material: FKM

How to Order Manifold Assemblies (Example)

Enter the valve and blanking plate to be mounted under the manifold base part number.

Example
 VVX311-05-1 1 set "*" is the symbol for mounting.
 * VX3111A-00-1GR1 .. 4 sets Add an "*" in front of the part numbers for solenoid valves, etc. to be mounted.
 * VVX31-4A-F..... 1 set

U side 1 2 3 4 5 6 U side

Enter the product's part number in order, counting the 1st station from the left in the manifold arrangement, when viewing the individual port in front. The common port on the right side is plugged.

Table (1) Port/Orifice Size

Solenoid valve	Orifice symbol (diameter)			
	1 (1.5 mmø)	2 (2.2 mmø)	3 (3 mmø)	4 (4 mmø)
VX31	●	●	●	—
VX32	—	●	●	●
VX33	—	●	●	●

Table (2) Solenoid Valve Option

Option symbol	Seal material		Body material/ Shading coil material	Guide pin material	Coil insulation type
	Main valve poppet	Fixed sealant			
A	FKM	FKM	Brass (C37)	PPS	B
D			Brass (C37)/Cu	Stainless steel	H

* Aluminum is only available as a material for the manifold base.

The additives contained in oil are different depending on the type and manufacturers so the durability of the seal materials will vary.

For details please consult with SMC.

Table (3) Rated Voltage Electrical Entry Electrical Option

Rated voltage			Class B			Class H		
AC/DC	Voltage symbol	Voltage	With surge voltage suppressor	With light	With light and surge voltage suppressor	With surge voltage suppressor	With light	With light and surge voltage suppressor
AC	1	100 V	Note 1)	●	Note 1)	●	●	●
	2	200 V		●		●	●	
	3	110 V		●		●	●	
	4	220 V		●		●	●	
	7	240 V		—		—	—	
	8	48 V		—		—	—	
DC	J	230 V	—	—	—	●	—	—
	5	24 V	●	●	●	DC specification is not available.		
	6	12 V	●	—	—	DC specification is not available.		

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

How to Order (Solenoid Valve for Manifold)

DC

AC/Class B coil (with full-wave rectifier)

VX 31 1 1 □ □ — 00 — 5 G 1

VX 31 1 1 □ □ — 00 — 1 G R1

1

With full-wave rectifier surge voltage suppressor

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

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

Suffix

Nil	—
Z	Oil free

Valve/Body configuration

1	N.C. / Manifold
3	N.O. / Manifold
5	COM. / Manifold

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

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 2 for ordering coil only.

Electrical entry (AC/DC)

<p>G - Grommet</p> <p>GS - With grommet surge voltage suppressor</p>	<p>C - Conduit</p>
<p>T - With conduit terminal</p> <p>TS - With conduit terminal and surge voltage suppressor</p> <p>TL - With conduit terminal and light</p> <p>TZ - With conduit terminal, surge voltage suppressor and light</p>	<p>D - DIN</p> <p>DS - DIN with surge voltage suppressor</p> <p>DL - DIN with light</p> <p>DZ - DIN with surge voltage suppressor and light</p> <p>DO - For DIN (without connector)</p> <p>* DIN type is available with class B insulation only.</p>

* Refer to Table (3) for the 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.

For Water

For Oil

For Steam

For Air

How to Order Manifold Bases

VVX31

VVX32 1 □ — **07** — 1

VVX33

Port size (Individual port)

1	Rc1/8
2	Rc1/4

* Common port sizes are all Rc1/4.

* Indicating numbers shown below are for common

Type	SUP port	EXH port
N.C.	1	3
N.O.	3	1

Manifold base

Blanking plate part no.

For VX31 **VVX31-4A-** □

For VX32/33: **VVX32-4A-** □

Seal material

Nil	NBR
F	FKM

Number of manifolds

02	2 stations
•	•
•	•
•	•
10	10 stations

Suffix

Nil	—
Z	Oil free

How to Order Manifold Assemblies (Example)

Enter the valve and blanking plate to be mounted under the manifold base part number.

Example

VVX311-05-1 1 set "*" is the symbol for mounting.

* VX3111-00-1GR1 ... 4 sets Add an "*" in front of the part numbers for solenoid valves, etc. to be mounted.

* VVX31-4A 1 set

Enter the product's part number in order, counting the 1st station from the left in the manifold arrangement, when viewing the individual port in front. The common port on the right side is plugged.

Table (1) Port/Orifice Size

Solenoid valve	Orifice symbol (diameter)			
	1 (1.5 mmø)	2 (2.2 mmø)	3 (3 mmø)	4 (4 mmø)
VX31	●	●	●	—
VX32	—	●	●	●
VX33	—	●	●	●

Table (2) Solenoid Valve Option

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

* Aluminum is only available as a materia for the manifold base.

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

* Class H coil is not available

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

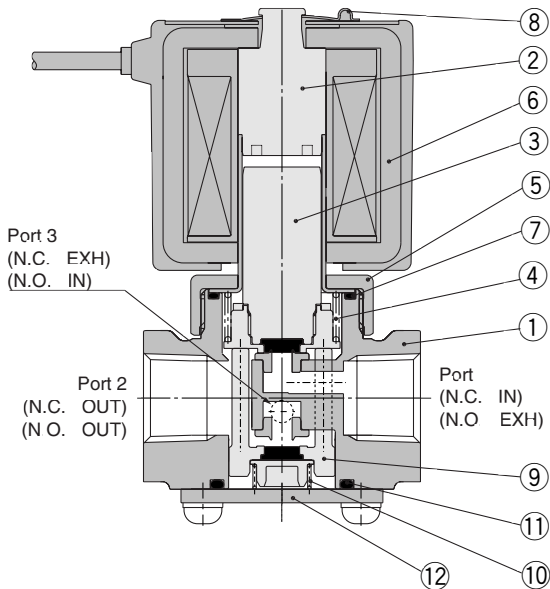
Series VX31/32/33

For Water, Oil, Steam, Air

Construction

Single unit

Body material Brass (C37), Stainless Steel



Component Parts

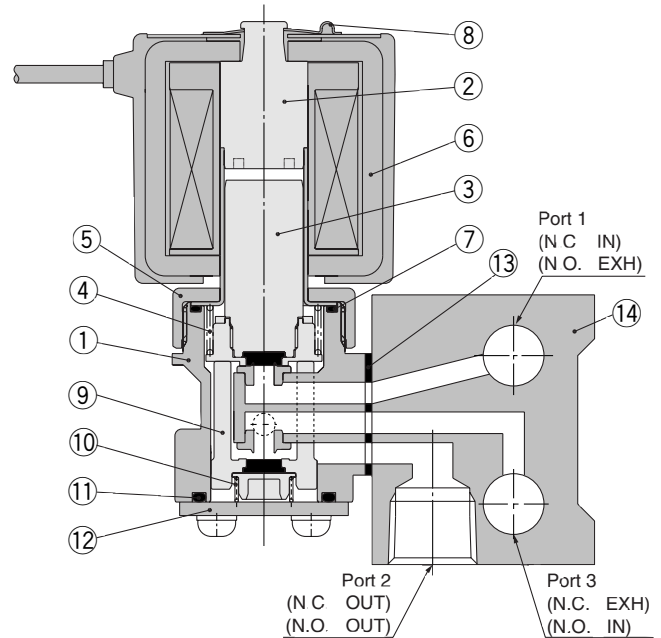
No.	Description	Material	
		Standard	Option
1	Body	Brass (C37)	Stainless steel
2	Tube assembly	Stainless steel, Cu	Stainless steel, Ag
3	Armature assembly	Stainless steel, Brass (C36), PTFE (NBR)	Stainless steel, PTFE (FKM, EPDM, FFKM)
4	Return spring	Stainless steel	
5	Nut	Brass (C37)	Brass (C37) • Ni plated
6	Solenoid coil	Class B molded	Class H molded
7	O-ring	(NBR)	(FKM, EPDM, PTFE)
8	Clip	SK	
9	Guide pin assembly	PPS, Brass (C36), (NBR)	Stainless steel (FKM, EPDM, FFKM)
10	Support spring	Stainless steel	
11	O-ring	(NBR)	(FKM, EPDM, PTFE)
12	Plate	Stainless steel	

The materials in parentheses are the seal materials.

Manifold

Base material: Aluminum

Manifold body material: Brass (C37)



Component Parts

No.	Description	Material	
		Standard	Option
	Manifold body	Brass (C37)	
2	Tube assembly	Stainless steel, Cu	
3	Armature assembly	Stainless steel, Brass (C36), PTFE (NBR)	Stainless steel, PTFE (FKM, EPDM, FFKM)
4	Return spring	Stainless steel	
5	Nut	Brass (C37)	Brass (C37) • Ni plated
6	Solenoid coil	Class B molded	Class H molded
7	O-ring	(NBR)	(FKM, EPDM)
8	Clip	SK	
9	Guide pin assembly	PPS, Brass (C36), (NBR)	Stainless steel (FKM, EPDM)
10	Support spring	Stainless steel	
11	O-ring	(NBR)	(FKM, EPDM)
12	Plate	Stainless steel	
13	Gasket	(NBR)	(FKM, EPDM)
14	Base	Aluminum	

The materials in parentheses are the seal materials.

Series VVX31/32/33

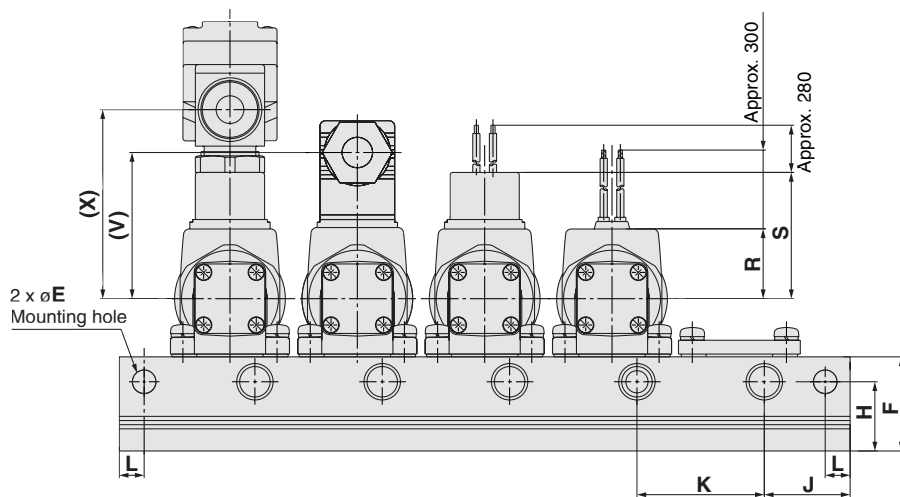
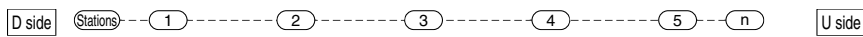
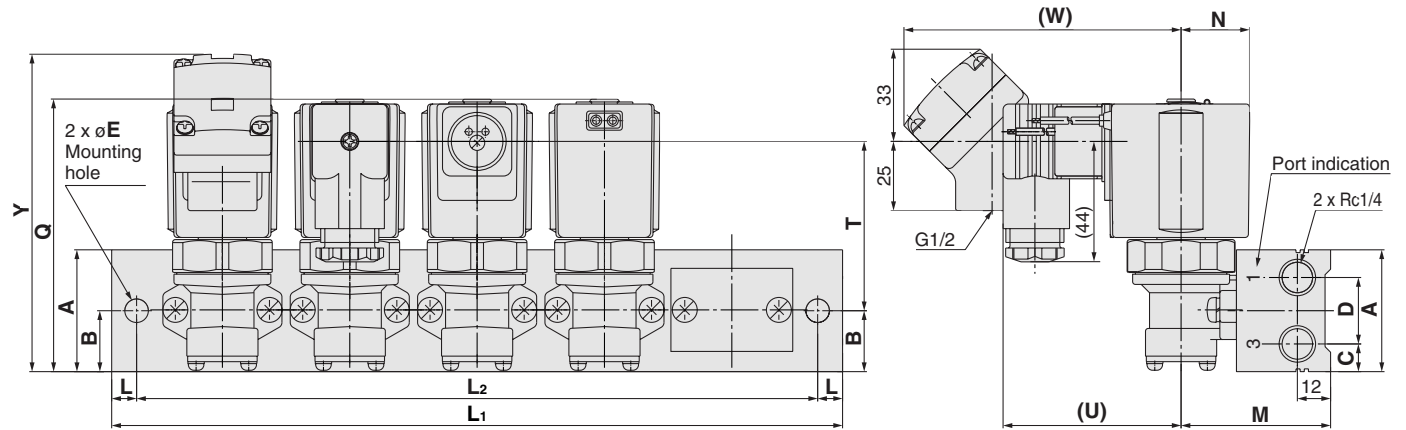
For Oil, Air/Manifold

Dimensions Manifold/Base Material Aluminum

Normally closed (N.C.):

Normally open (N.O.): VVX31/VVX32/VVX33

Common (COM.):



(mm)

Model	Dimension	n (stations)								
		2	3	4	5	6	7	8	9	10
VVX31	L1	96	132	168	204	240	276	312	348	384
	L2	84	120	156	192	228	264	300	336	372
VVX32	L1	126	172	218	264	310	356	402	448	494
	L2	108	154	200	246	292	338	384	430	476

(mm)

Model	A	B	C	D	E	F	H	J	K	L	M	N	Q	Electrical entry (DC, AC/Class H)												
														Grommet			Conduit				DIN terminal			Conduit terminal		
														R	S	T	T	U	V	W	X	Y				
VVX31	40	20	9	22	6.5	33	24	26	36	6	49	19.5	80.5	19.5	40	45.5	45	58.5	46.5	92	61	97				
VVX32	44	22	10	24	8.5	34	25	31	46	9	55	22.5	91	22.5	43	54	53.5	61.5	49.5	95	64	107.5				
VVX33	44	22	10	24	8.5	34	25	31	46	9	55	25	99.5	25.5	46	62	61.5	64	52	98	66.5	116				

(mm)

Model	Electrical entry (AC/Class B)												
	Grommet			Conduit				DIN terminal			Conduit terminal		
	R	S	T	T	U	V	W	X	Y				
VVX31	30	48.5	44	45	65.5	53.5	100.5	69.5	95.5				
VVX32	33	51.5	52.5	53.5	68.5	56.5	103.5	72.5	106				
VVX33	36	54	60.5	61.5	71	59	106	75	114.5				