

Pilot Operated 2 Port Solenoid Valve

For Water, Oil, Air



New
VXD Series **VXD21/22/23**

Solenoid valves for various fluids used in a wide variety of

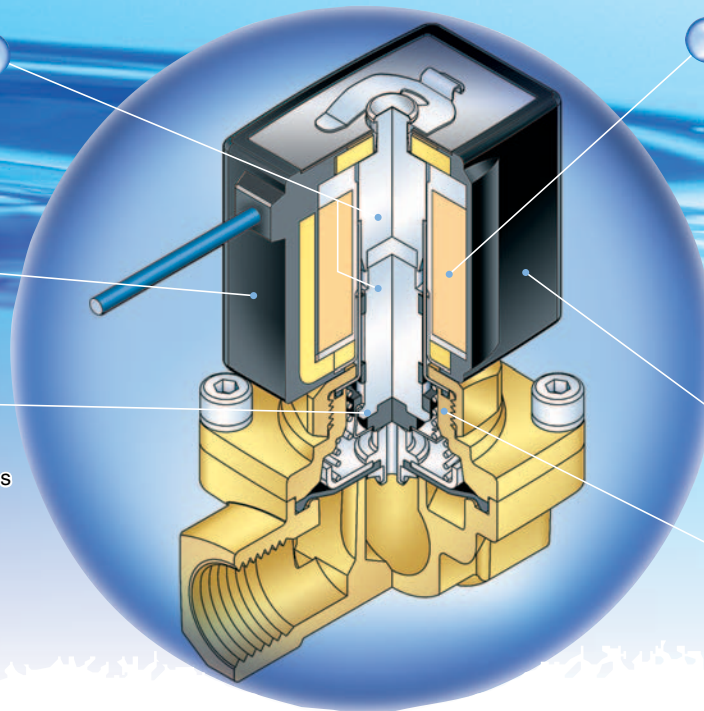
Improvement of corrosion resistance

Special magnetic material adopted

Enclosure: IP65

Low noise construction

Special construction enables to reduce the metal noise. (DC specification)



Reduction of power consumption (DC specification)

VXD21: 6 W

→ **4.5 W** (VXD2140 to 2150)

→ **5.5 W** (VXD2130)

VXD22: 8 W → **7 W**

VXD23: 11.5 W

→ **10.5 W**

Flame resistance UL94V-0 conformed

Flame resistant mold coil material

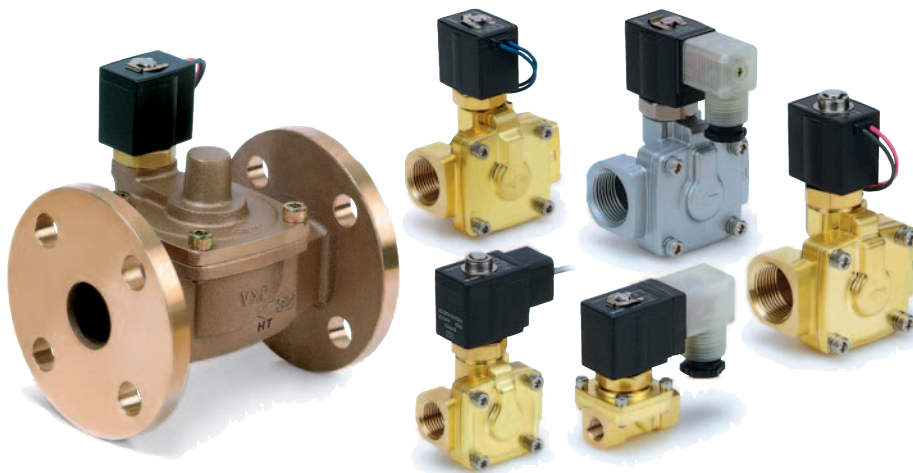
Improvement of maintenance performance

Maintenance is performed easily due to the threaded assembly.

Pilot Operated 3 Port Solenoid Valve

For Water, Oil, Air

New Series VXD21/22/23



Normally Closed (N.C.)

Solenoid valve (Port size)				Orifice size						Material		
Model	VXD21	VXD22	VXD23	3 (10 mmø)	4 (15 mmø)	5 (20 mmø)	6 (25 mmø)	7 (35 mmø)	8 (40 mmø)	9 (50 mmø)	Body	Seal
Port no. (Port size)	Thread	02 (1/4)	—	—	●	—	—	—	—	—	Brass (C37) Stainless steel	NBR FKM EPDM
		03 (3/8)	—	—	●	—	—	—	—	—		
		04 (1/2)	—	—	—	●	—	—	—	—		
		06 (3/4)	—	—	—	—	●	—	—	—		
	Flange	—	10 (1)	—	—	—	—	●	—	—	CAC407	
		—	32 (32A)	—	—	—	—	—	●	—		
—	—	—	40 (40A)	—	—	—	—	—	●	—	—	
—	—	—	50 (50A)	—	—	—	—	—	—	●	—	

Normally Open (N.O.)


Solenoid valve (Port size)				Orifice size					Material			
Model	VXD21	VXD22	VXD23	4 (15 mmø)	5 (20 mmø)	6 (25 mmø)	7 (35 mmø)	8 (40 mmø)	9 (50 mmø)	Body	Seal	
Port no. (Port size)	Thread	03 (3/8)	—	—	●	—	—	—	—	Brass (C37) Stainless steel	NBR FKM EPDM	
		04 (1/2)	—	—	●	—	—	—	—			
		06 (3/4)	—	—	—	●	—	—	—			—
		—	10 (1)	—	—	—	●	—	—			—
	Flange	—	32 (32A)	—	—	—	—	●	—	—		CAC407
		—	—	40 (40A)	—	—	—	—	●	—		
—	—	—	50 (50A)	—	—	—	—	—	●	—		

Pilot Operated 2 Port Solenoid Valve

Series VXD21/22/23

For Water, Oil, Air

Single Unit

<p>Valve</p> <p>Normally closed (N.C.) Normally open (N.O.)</p>	<p>Electrical Entry</p> <p>• Grommet • DIN terminal • Conduit • Conduit terminal</p>		<table border="1"> <thead> <tr> <th>Model</th> <th>VXD2130</th> <th>VXD214$\frac{1}{2}$</th> <th>VXD215$\frac{3}{4}$</th> <th>VXD226$\frac{3}{4}$</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Body size</td> <td>10A</td> <td>●</td> <td>—</td> <td>—</td> </tr> <tr> <td>15A</td> <td>—</td> <td>●</td> <td>—</td> </tr> <tr> <td>20A</td> <td>—</td> <td>—</td> <td>●</td> </tr> <tr> <td>25A</td> <td>—</td> <td>—</td> <td>●</td> </tr> <tr> <td>Port size (Thread)</td> <td>1/4, 3/8, 1/2</td> <td>3/8, 1/2</td> <td>3/4</td> <td>1</td> </tr> </tbody> </table>	Model	VXD2130	VXD214 $\frac{1}{2}$	VXD215 $\frac{3}{4}$	VXD226 $\frac{3}{4}$	Body size	10A	●	—	—	15A	—	●	—	20A	—	—	●	25A	—	—	●	Port size (Thread)	1/4, 3/8, 1/2	3/8, 1/2	3/4	1
Model	VXD2130		VXD214 $\frac{1}{2}$	VXD215 $\frac{3}{4}$	VXD226 $\frac{3}{4}$																									
Body size	10A	●	—	—																										
	15A	—	●	—																										
	20A	—	—	●																										
	25A	—	—	●																										
Port size (Thread)	1/4, 3/8, 1/2	3/8, 1/2	3/4	1																										
<p>Solenoid Coil</p> <p>Coil: Class B, Class H</p>	<p>Rated Voltage</p> <p>100 VAC, 200 VAC, 110 VAC, 220 VAC, 240 VAC, 230 VAC, 48 VAC, 24 VDC, 12 VDC</p>	<table border="1"> <thead> <tr> <th>Model</th> <th>VXD227$\frac{3}{4}$</th> <th>VXD238$\frac{3}{4}$</th> <th>VXD239$\frac{3}{4}$</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Body size</td> <td>32A</td> <td>●</td> <td>—</td> </tr> <tr> <td>40A</td> <td>—</td> <td>●</td> </tr> <tr> <td>50A</td> <td>—</td> <td>●</td> </tr> <tr> <td>Port size (Flange)</td> <td>32A</td> <td>40A</td> <td>50A</td> </tr> </tbody> </table>	Model	VXD227 $\frac{3}{4}$	VXD238 $\frac{3}{4}$	VXD239 $\frac{3}{4}$	Body size	32A	●	—	40A	—	●	50A	—	●	Port size (Flange)	32A	40A	50A										
Model	VXD227 $\frac{3}{4}$	VXD238 $\frac{3}{4}$	VXD239 $\frac{3}{4}$																											
Body size	32A	●	—																											
	40A	—	●																											
	50A	—	●																											
Port size (Flange)	32A	40A	50A																											
<p>Material</p> <table border="1"> <tr> <td>Body</td> <td>Brass (C37)/CAC407, Stainless steel</td> </tr> <tr> <td>Seal</td> <td>NBR, FKM, EPDM</td> </tr> </table>	Body	Brass (C37)/CAC407, Stainless steel	Seal	NBR, FKM, EPDM																										
Body	Brass (C37)/CAC407, Stainless steel																													
Seal	NBR, FKM, EPDM																													

Standard Specifications

Valve specifications	Valve construction		Pilot operated 2 port diaphragm type	
	Withstand pressure (MPa)		5.0	
	Body material		Brass (C37), Stainless steel, CAC407	
	Seal material		NBR, FKM, EPDM	
	Enclosure		Dusttight, Low jetproof (equivalent to IP65) ^{Note 1)}	
Environment		Location without corrosive or explosive gases		
Coil specifications	Rated voltage	AC (Class B coil, with a full-wave rectifier)	100 VAC, 200 VAC, 110 VAC, 220 VAC, 230 VAC, 240 VAC, 48 VAC	
		AC (Class B coil/H coil) ^{Note 2)}		
		DC (Class B coil only)		24 VDC, 12 VDC
	Allowable voltage fluctuation	±10% of rated voltage		
	Allowable leakage voltage	AC (Class B coil, with a full-wave rectifier)		±10% or less of rated voltage
		AC (Class B coil/H coil) ^{Note 2)}		±20% or less of rated voltage
DC (Class B coil only)		±2% or less of rated voltage		
Coil insulation type		Class B, Class H		

Note 1) Electrical entry, Grommet with surge voltage suppressor (GS) has a rating of IP40.

Note 2) The AC (Class B) coil for the VXD2130 comes with a full-wave rectifier.

Solenoid Coil Specifications

Note) The values are for an ambient temperature of 20°C and at the rated voltage.

DC Specification

Model	Power consumption (W)	Temperature rise (C°) ^{Note)}
VXD2130	5.5	50
VXD214 $\frac{1}{2}$ /215 $\frac{3}{4}$	4.5	45
VXD226 $\frac{3}{4}$ /227 $\frac{3}{4}$	7	45
VXD238 $\frac{3}{4}$ /239 $\frac{3}{4}$	10.5	60

AC Specification (Class B coil, with a full-wave rectifier)

Model	Apparent power (VA)*	Temperature rise (C°) ^{Note)}
VXD21	7	55
VXD22	9.5	60
VXD23	12	65

* There is no difference in apparent power due to the inrush, energization, or frequency of the power, since the AC coil uses a rectifying circuit.

AC Specification (Class B coil)

Model	Frequency (Hz)	Apparent power (VA)		Temperature rise (C°) ^{Note)}
		Inrush	Energized	
VXD21	50	19	9	45
	60	16	7	40
VXD22	50	43	19	55
	60	35	16	50
VXD23	50	62	30	65
	60	52	25	60

* The AC (Class B) coil for the VXD2130 comes with a full wave rectifier.

AC Specification (Class H coil)

Model	Frequency (Hz)	Apparent power (VA)		Temperature rise (C°) ^{Note)}
		Inrush	Energized	
VXD21	50	19	9	45
	60	16	7	40
VXD22	50	43	19	55
	60	35	16	50
VXD23	50	62	30	65
	60	52	25	60

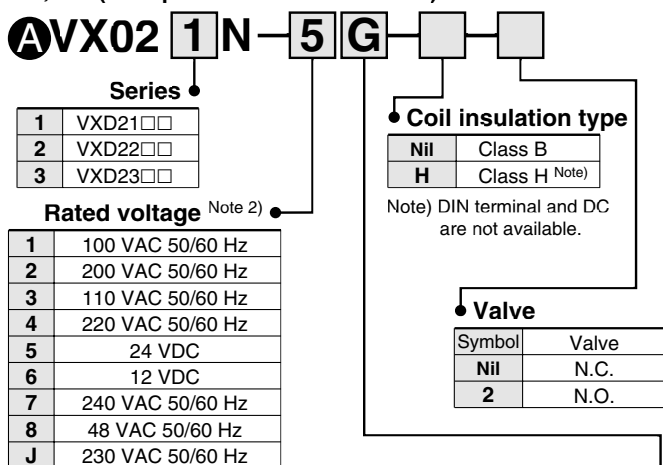
How to Order Solenoid Coil Assembly

Table (1) Model and Solenoid Coil Type

Select the coil type from A to C, and refer to "How to Order" below.

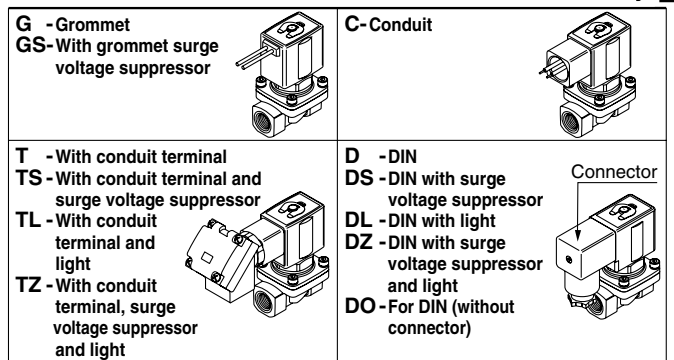
Voltage type	AC		AC (with a full-wave rectifier)	DC
	Class B	Class H	Class B	Class H
(Solenoid valve option)	(Nil, A, B, G, H, J, L)	(D, E, N, P)	(Nil, A, B, G, H, J, L)	(Nil, A, B, G, H, J, L)
Model	VXD2130	— Note)	A	C
	VXD21 ⁴ ₅ □	A	A	C
	VXD22 ⁶ ₇ □	A	A	C
	VXD23 ⁸ ₉ □	A	A	C

DC, AC (Except VXD2130 AC/Class B) ^{Note 1)}



Note 1) The AC (Class B) coil for VXD2130 comes with a full-wave rectifier.

Note 2) Refer to "Table (2)" for the available combinations.



* Refer to "Table (2)" for the available combinations between each electrical option and rated voltage.



Rated voltage

5	24 VDC
6	12 VDC

Table (2) Rated Voltage Electrical Option

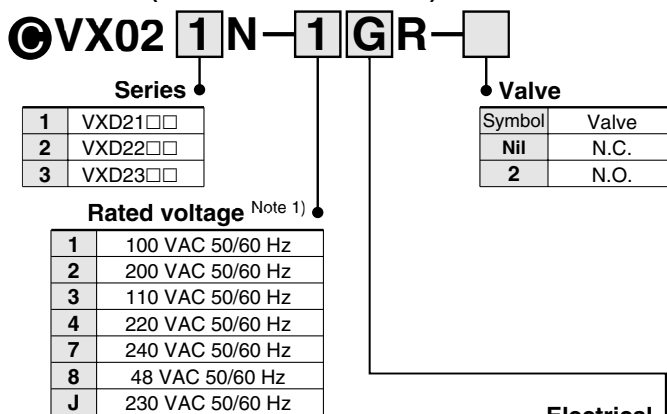
Rated voltage	Class B			Class H			
	S	L	Z	S	L	Z	
AC/DC	With surge voltage suppressor	With light	With light and surge voltage suppressor	With surge voltage suppressor	With light	With light and surge voltage suppressor	
AC	1	100 V	●	●	●	●	
	2	200 V	●	●	●	●	
	3	110 V	●	●	●	●	
	4	220 V	●	●	●	●	
	7	240 V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

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

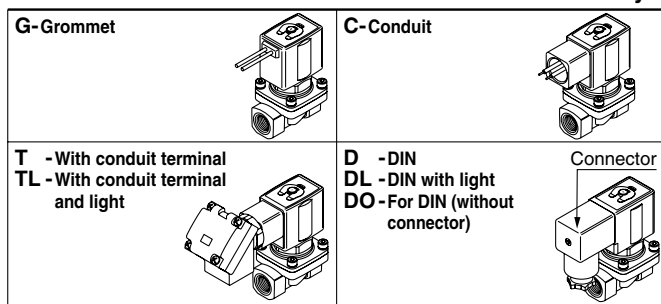
* When changing coils, AC/DC are not interchangeable with each other, and Class B and H coils are also not interchangeable with each other.

AC (with a full-wave rectifier)/DC are interchangeable with each other.

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



Note 1) Refer to "Table (2)" for the available combinations.



* Refer to "Table (2)" for the available combinations between each electrical option and rated voltage.

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

• Name plate part no.

AZ-T-VX **Valve model**

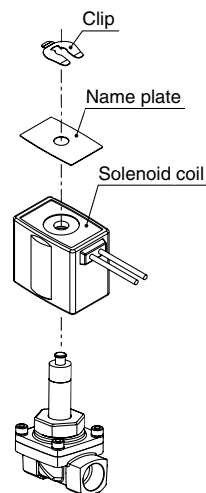
↑ Enter by referring to "How to Order"

• Clip part no. (For N.C.)

For VXD21 VX021N-10
For VXD22: VX022N-10
For VXD23: VX023N-10

• Clip part no. (For N.O.)

For VXD21 ETW-7
For VXD22: ETW-8
For VXD23: ETW-9

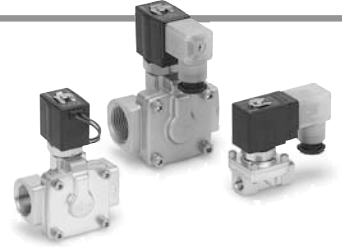
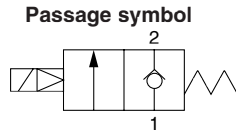


Series VXD21/22/23

For Water

Model/Valve Specifications

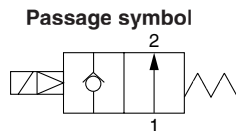
Normally closed (N.C.)



Port size	Orifice size (mmø)	Model	Min. operating pressure differential (MPa)	Max. operating pressure differential (MPa)		Flow characteristics		Max. system pressure (MPa)	Weight (g) ^{Note)}	
				AC	DC	Av x 10 ⁻⁶ m ²	Cv converted			
Thread	1/4 (8A)	10	VXD2130-02	0.02	0.7	0.5	46	1.9	1.5	420
	3/8 (10A)	10	VXD2130-03				58	2.4		
		15	VXD2140-03		110	4.5				
	1/2 (15A)	10	VXD2130-04		0.7	0.5	58	2.4		
		15	VXD2140-04		130	5.5				
	3/4 (20A)	20	VXD2150-06		230	9.5				
Flange	1 (25A)	25	VXD2260-10	1.0	1.0	310	13	1650		
	32A	35	VXD2270-32			550	23	5400		
	40A	40	VXD2380-40			740	31	6800		
	50A	50	VXD2390-50			1200	49	8400		

Note) Weight of grommet type. Add 10 g for conduit, 30 g for DIN terminal, and 60 g for terminal type respectively.
 • Refer to "Glossary of Terms" on front matter 10, for details on the max. operating pressure differential and the max. system pressure.

Normally open (N.O.)



Port size	Orifice size (mmø)	Model	Min. operating pressure differential (MPa)	Max. operating pressure differential (MPa)	Flow characteristics		Max. system pressure (MPa)	Weight (g) ^{Note)}		
				AC, DC	Av x 10 ⁻⁶ m ²	Cv converted				
Thread	3/8 (10A)	15	VXD2142-03	0.7	110	4.5	1.5	690		
	1/2 (15A)	20	VXD2142-04						130	5.5
	3/4 (20A)	25	VXD2152-06						230	9.5
	1 (25A)	35	VXD2262-10						310	13
Flange	32A	35	VXD2272-32	0.03	550	23	5400			
	40A	40	VXD2382-40		740	31	6800			
	50A	50	VXD2392-50		1200	49	8400			

Note) Weight of grommet type. Add 10 g for conduit, 30 g for DIN terminal, and 60 g for terminal type respectively.
 • Refer to "Glossary of Terms" on front matter 10, for details on the max. operating pressure differential and the max. system pressure.

Operating Fluid and Ambient Temperature

Power source	Operating fluid temperature (°C)		Ambient temperature (°C)
	Solenoid valve option		
	Nil, G, H	E, P	
AC	1 to 60	1 to 99	-10 to 60
DC	1 to 40	—	-10 to 40

Note 1) Since the AC/Class B coil (with a full-wave rectifier) uses a rectifying circuit, the fluid and ambient temperature are the same as the DC specifications.

Note 2) With no freezing

Tightness of Valve (Leakage Rate)

Seal material	Leakage rate (With water pressure)	
	1/4 to 1	32A to 50A
NBR, FKM, EPDM	0.2 cm ³ /min or less	1 cm ³ /min or less

How to Order

DC/AC (except VXD2130 AC/Class B)
AC/Class B coil (with a full-wave rectifier)

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

Valve/Body configuration • Refer to "Table (1)" shown below for availability

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

Suffix

Nil	—
Z	Oil-free

Thread type

Nil	Rc
T	NPTF
F	G
N	NPT

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 1 for ordering coil only.

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

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

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

* Refer to "Table (3)" for the available combinations between each electrical option (S, L, Z, and rated voltage)
 * Option S, Z are not available since a surge voltage suppressor is integrated into the AC/Class B coil, as a standard

Bracket

Nil	None
B	With bracket

* Bracket is not removable

With a full-wave rectifier, surge voltage suppressor

For Water
For Oil
For Air

Table (1) Port/Orifice Size

Normally closed (N.C.)

Solenoid valve (Port size)				Orifice symbol							Material	
Model	VXD21	VXD22	VXD23	3 (10 mmø)	4 (15 mmø)	5 (20 mmø)	6 (25 mmø)	7 (35 mmø)	8 (40 mmø)	9 (50 mmø)	Body	Seal
Port no. (Port size)	Thread	02 (1/4)	—	—	●	—	—	—	—	—	Brass (C37), Stainless steel	NBR FKM EPDM
		03 (3/8)	—	—	●	●	—	—	—	—		
		04 (1/2)	—	—	●	●	—	—	—	—		
	06 (3/4)	—	—	—	—	●	—	—	—			
	—	10 (1)	—	—	—	—	●	—	—			
	—	32 (32A)	—	—	—	—	—	●	—			
Flange	—	—	40 (40A)	—	—	—	—	—	●	—	CAC407	
	—	—	50 (50A)	—	—	—	—	—	—	●		
	—	—	—	—	—	—	—	—	—	●		

Normally open (N.O.)

Solenoid valve (Port size)				Orifice symbol						Material	
Model	VXD21	VXD22	VXD23	4 (15 mmø)	5 (20 mmø)	6 (25 mmø)	7 (35 mmø)	8 (40 mmø)	9 (50 mmø)	Body	Seal
Port no. (Port size)	Thread	03 (3/8)	—	—	●	—	—	—	—	Brass (C37), Stainless steel	NBR FKM EPDM
		04 (1/2)	—	—	●	—	—	—	—		
		06 (3/4)	—	—	—	●	—	—	—		
	—	10 (1)	—	—	—	●	—	—			
	—	32 (32A)	—	—	—	—	●	—			
	—	—	40 (40A)	—	—	—	—	●	—		
Flange	—	—	50 (50A)	—	—	—	—	—	●	CAC407	
	—	—	—	—	—	—	—	—	●		

Table (2) Solenoid Valve Option

Option symbol	Seal material	Body material/ Shading coil material	Coil insulation type	Note
Nil	NBR	Brass (C37), Cu	B	—
G		Stainless steel, Ag		
E	EPDM	Brass (C37), Cu	H	Heated water (AC only)
P		Stainless steel, Ag		
L	FKM	Stainless steel, Ag	B	High corrosion resistance specification, Oil-free

Table (3) Rated Voltage Electrical Option

Rated voltage			Class B			Class H		
AC/DC	Voltage symbol	Voltage	S With surge voltage suppressor	L With light	Z With light and surge voltage suppressor	S With surge voltage suppressor	L With light	Z With light and surge voltage suppressor
AC	1	100 V	●	●	●	●	●	●
	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	●	—	—			

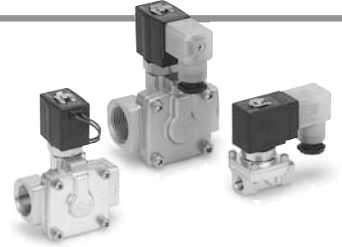
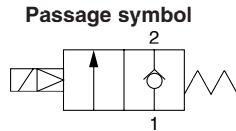
Note: Option S, Z are not available as surge voltage suppressor is integrated into the AC/Class E coil, as a standard.

Series VXD21/22/23

For Oil

Model/Valve Specifications

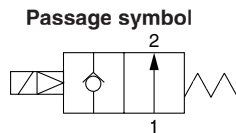
Normally closed (N.C.)



Port size	Orifice size (mmø)	Model	Min. operating pressure differential (MPa)	Max. operating pressure differential (MPa)		Flow characteristics		Max. system pressure (MPa)	Weight (g) ^{Note)}	
				AC	DC	Av x 10 ⁻⁶ m ²	Cv converted			
Thread	1/4 (8A)	10	VXD2130-02	0.02	0.5	0.4	46	1.9	1.5	420
	3/8 (10A)	10	VXD2130-03				58	2.4		
		15	VXD2140-03		110	4.5				
	1/2 (15A)	10	VXD2130-04		0.5	0.4	58	2.4		
		15	VXD2140-04		130	5.5				
	3/4 (20A)	20	VXD2150-06		230	9.5				
Flange	1 (25A)	25	VXD2260-10	0.7	0.7	310	13	5400		
	32A	35	VXD2270-32			550	23	6800		
	40A	40	VXD2380-40			740	31	8400		
	50A	50	VXD2390-50			1200	49			

Note) Weight of grommet type. Add 10 g for conduit, 30 g for DIN terminal, and 60 g for terminal type respectively.
 • Refer to "Glossary of Terms" on front matter 10, for details on the max. operating pressure differential and the max. system pressure.

Normally open (N.O.)



Port size	Orifice size (mmø)	Model	Min. operating pressure differential (MPa)	Max. operating pressure differential (MPa)		Flow characteristics		Max. system pressure (MPa)	Weight (g) ^{Note)}
				AC, DC		Av x 10 ⁻⁶ m ²	Cv converted		
Thread	3/8 (10A)	15	VXD2142-03	0.6		110	4.5	1.5	690
	1/2 (15A)	20	VXD2142-04			130	5.5		
	3/4 (20A)	25	VXD2152-06			230	9.5		
	1 (25A)	35	VXD2262-10			310	13		
Flange	32A	40	VXD2272-32	0.03		550	23	5400	
	40A	50	VXD2382-40			740	31	6800	
	50A		VXD2392-50			1200	49	8400	

Note) Weight of grommet type. Add 10 g for conduit, 30 g for DIN terminal, and 60 g for terminal type respectively.
 • Refer to "Glossary of Terms" on front matter 10, for details on the max. operating pressure differential and the max. system pressure.

Operating Fluid and Ambient Temperature

Power source	Operating fluid temperature (°C)		Ambient temperature (°C)
	Solenoid valve option		
	A, H	D, N	
AC	-5 to 60	-5 to 100	-10 to 60
DC	-5 to 40	—	-10 to 40

Note 1) Dynamic viscosity: 50 mm²/s or less
 Note 2) Since the AC/Class B coil (with a full-wave rectifier) uses a rectifying circuit, the fluid and ambient temperature are the same as the DC specifications.

Tightness of Valve (Leakage Rate)

Seal material	Leakage rate (With oil pressure)	
	1/4 to 1	32A to 50A
FKM	0.2 cm ³ /min or less	1 cm ³ /min or less

How to Order

DC/AC (except VXD2130 AC/Class B)
AC/Class B coil (with a full-wave rectifier)

Model • Refer to "Table (1)" shown below for availability
Orifice size • Refer to "Table (1)" shown below for availability
Valve/Body configuration • Refer to "Table (1)" shown below for availability
Port size • Refer to "Table (1)" shown below for availability
Thread type • Refer to "Table (1)" shown below for availability
Electrical entry • Refer to "Table (3)" for the available combinations between each electrical option (S, L, Z, and rated voltage)
Solenoid valve option • Refer to "Table (2)" shown below for availability
Suffix • Refer to "Table (3)" shown below for availability
Rated voltage • Refer to "Table (3)" shown below for availability

Bracket
 Nil None
 B With bracket
 * Bracket is not removable

With a full-wave rectifier, surge voltage suppressor

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
DS - DIN with surge voltage suppressor
DL - DIN with light
DZ - DIN with surge voltage suppressor and light
DO - For DIN (without connector)
 * DIN type is available with class B insulation only.

Thread type
 Nil Rc
 T NPTF
 F G
 N NPT

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 1 for ordering coil only.

Table (1) Port/Orifice Size

Normally closed (N.C.)

Solenoid valve (Port size)				Orifice symbol							Material	
Model	VXD21	VXD22	VXD23	3 (10 mmø)	4 (15 mmø)	5 (20 mmø)	6 (25 mmø)	7 (35 mmø)	8 (40 mmø)	9 (50 mmø)	Body	Seal
Port no. (Port size)	Thread	02 (1/4)	—	—	●	—	—	—	—	—	Brass (C37), Stainless steel	NBR FKM EPDM
		03 (3/8)	—	—	●	●	—	—	—	—		
		04 (1/2)	—	—	●	●	—	—	—	—		
		06 (3/4)	—	—	—	—	●	—	—	—		
	Flange	—	10 (1)	—	—	—	—	●	—	—	CAC407	
		—	32 (32A)	—	—	—	—	—	●	—		
—	—	40 (40A)	—	—	—	—	—	—	●	—	—	
—	—	50 (50A)	—	—	—	—	—	—	—	●	—	

Normally open (N.O.)

Solenoid valve (Port size)				Orifice symbol						Material	
Model	VXD21	VXD22	VXD23	4 (15 mmø)	5 (20 mmø)	6 (25 mmø)	7 (35 mmø)	8 (40 mmø)	9 (50 mmø)	Body	Seal
Port no. (Port size)	Thread	03 (3/8)	—	—	●	—	—	—	—	Brass (C37), Stainless steel	NBR FKM EPDM
		04 (1/2)	—	—	●	—	—	—	—		
		06 (3/4)	—	—	—	●	—	—	—		
	Flange	—	10 (1)	—	—	—	●	—	—	CAC407	
		—	32 (32A)	—	—	—	●	—	—		
		—	40 (40A)	—	—	—	—	●	—		
—	—	50 (50A)	—	—	—	—	—	●	—		

Table (2) Solenoid Valve Option

Option symbol	Seal material	Body material/ Shading coil material	Coil insulation type
A	FKM	Brass (C37), Cu	B
H		Stainless steel, Ag	
D		Brass (C37), Cu	H
N		Stainless steel, Ag	

Table (3) Rated Voltage Electrical Option

Rated voltage			Class B			Class H		
AC/DC	Voltage symbol	Voltage	S With surge voltage suppressor	L With light	Z With light and surge voltage suppressor	S With surge voltage suppressor	L With light	Z With light and surge voltage suppressor
AC	1	100 V	●	●	●	●	●	●
	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) Option S, Z are not available as surge voltage suppressor is integrated into the AC/Class B coil, as a standard.

For Water
For Oil
For Air

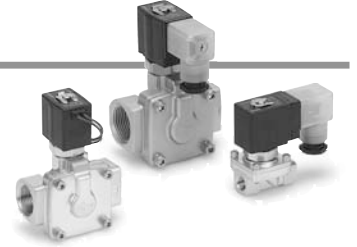
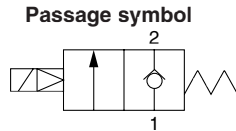
Series VXD21/22/23

For Air

(Inert gas)

Model/Valve Specifications

Normally closed (N.C.)



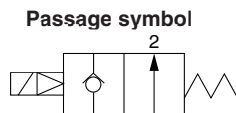
Port size	Orifice size (mmø)	Model	Min. operating pressure differential (MPa)	Max. operating pressure differential (MPa)		Flow characteristics			Max. system pressure (MPa)	Weight (g) ^{Note)}	
				AC	DC	C	b	Cv			
Thread	1/4 (8A)	10	VXD2130-02	0.02	0.9	0.7	8.5	0.35	2.0	1.5	420
	3/8 (10A)	10	VXD2130-03				9.2		2.4		
		15	VXD2140-03		18.0	5.0					
	1/2 (15A)	10	VXD2130-04		0.9	0.7	9.2		2.4		
		15	VXD2140-04		1.0	1.0	20.0		5.5		
3/4 (20A)	20	VXD2150-06	1.0	1.0	38.0	0.30	9.5	1150			

Port size	Orifice size (mmø)	Model	Min. operating pressure differential (MPa)	Max. operating pressure differential (MPa)		Flow characteristics		Max. system pressure (MPa)	Weight (g) ^{Note)}
				AC, DC	Effective area (mm ²)				
Thread	1 (25A)	25	VXD2260-10	0.02	1.0	225		1.5	1650
Flange	32A	35	VXD2270-32			0.03	415		5400
	40A	40	VXD2380-40	560			6800		
	50A	50	VXD2390-50	880			8400		



Note) Weight of grommet type. Add 10 g for conduit, 30 g for DIN terminal, and 60 g for terminal type respectively
 • Refer to "Glossary of Terms" on front matter 10, for details on the max. operating pressure differential and the max. system pressure.

Normally open (N.O.)



Port size	Orifice size (mmø)	Model	Min. operating pressure differential (MPa)	Max. operating pressure differential (MPa)		Flow characteristics			Max. system pressure (MPa)	Weight (g) ^{Note)}
				AC, DC	C	b	Cv			
Thread	3/8 (10A)	15	VXD2142-03	0.02	0.7	18.0	0.35	5.0	1.5	690
	1/2 (15A)	VXD2142-04	20.0			5.5				
	3/4 (20A)	20	VXD2152-06			38.0		0.30		

Port size	Orifice size (mmø)	Model	Min. operating pressure differential (MPa)	Max. operating pressure differential (MPa)		Flow characteristics		Max. system pressure (MPa)	Weight (g) ^{Note)}
				AC, DC	Effective area (mm ²)				
Thread	1 (25A)	25	VXD2262-10	0.02	0.7	225		1.5	1690
Flange	32A	35	VXD2272-32			0.03	415		5400
	40A	40	VXD2382-40	560			6800		
	50A	50	VXD2392-50	880			8400		



Note) Weight of grommet type. Add 10 g for conduit, 30 g for DIN terminal, and 60 g for terminal type respectively
 • Refer to "Glossary of Terms" on front matter 10, for details on the max. operating pressure differential and the max. system pressure.

Operating Fluid and Ambient Temperature

Power source	Operating fluid temperature (°C)		Ambient temperature (°C)
	Solenoid valve option		
	Nil, G		
AC	-10 ^{Note)} to 60		-10 to 60
DC	-10 to 60		-10 to 40

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

Tightness of Valve (Leakage Rate)

Seal material	Leakage rate (Air)	
	1/4 to 1	32A to 50A
NBR, FKM	2 cm ³ /min or less	10 cm ³ /min or less

How to Order (Single Unit)

DC VXD 21 3 0 [] [] 02 [] 5 G 1 []

AC/Class B coil (with a full-wave rectifier) VXD 21 3 0 [] [] 02 [] 1 G R1 []

* The AC (Class B) coil for VXD2130 comes with a full-wave rectifier.

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

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

Valve/Body configuration •

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

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

Thread type • Refer to "Table (1)" shown below for availability

Nil	Rc
T	NPTF
F	G
N	NPT

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

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

* DIN type is available with class B insulation only.

Bracket

Nil	None
B	With bracket

* Bracket is not removable

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 1 for ordering coil only.

Table (1) Port/Orifice Size

Normally closed (N.C.)

Solenoid valve (Port size)				Orifice symbol							Material		
Model	VXD21	VXD22	VXD23	3 (10 mmø)	4 (15 mmø)	5 (20 mmø)	6 (25 mmø)	7 (35 mmø)	8 (40 mmø)	9 (50 mmø)	Body	Seal	
Port no. (Port size)	Thread	02 (1/4)	—	—	●	—	—	—	—	—	Brass (C37), Stainless steel	NBR	
		03 (3/8)	—	—	●	●	—	—	—	—			
		04 (1/2)	—	—	●	●	—	—	—	—			
		06 (3/4)	—	—	—	—	●	—	—	—			
	Flange	—	10 (1)	—	—	—	—	●	—	—			CAC407
		—	32 (32A)	—	—	—	—	—	●	—			
—	—	—	40 (40A)	—	—	—	—	—	●	—	—		
—	—	—	50 (50A)	—	—	—	—	—	—	●	—		

Normally open (N.O.)

Solenoid valve (Port size)				Orifice symbol						Material		
Model	VXD21	VXD22	VXD23	4 (15 mmø)	5 (20 mmø)	6 (25 mmø)	7 (35 mmø)	8 (40 mmø)	9 (50 mmø)	Body	Seal	
Port no. (Port size)	Thread	03 (3/8)	—	—	●	—	—	—	—	Brass (C37), Stainless steel	NBR	
		04 (1/2)	—	—	●	—	—	—	—			
		06 (3/4)	—	—	—	●	—	—	—			—
	Flange	—	10 (1)	—	—	—	●	—	—			CAC407
		—	32 (32A)	—	—	—	●	—	—			
		—	—	40 (40A)	—	—	—	●	—			
—	—	—	50 (50A)	—	—	—	—	●	—			

Table (2) Solenoid Valve Option

Option symbol	Seal material	Body material/ Shading coil material	Coil insulation type	Note
Nil	NBR	Brass (C37), Cu	B	—
G		Stainless steel, Ag		

Table (3) Rated Voltage Electrical Option

Rated voltage			Class B			Class H		
AC/DC	Voltage symbol	Voltage	S With surge voltage suppressor	L With light	Z With light and surge voltage suppressor	S With surge voltage suppressor	L With light	Z With light and surge voltage suppressor
AC	1	100 V	●	●	●	●	●	●
	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	●	—	—			

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

For Water

For Oil

For Air

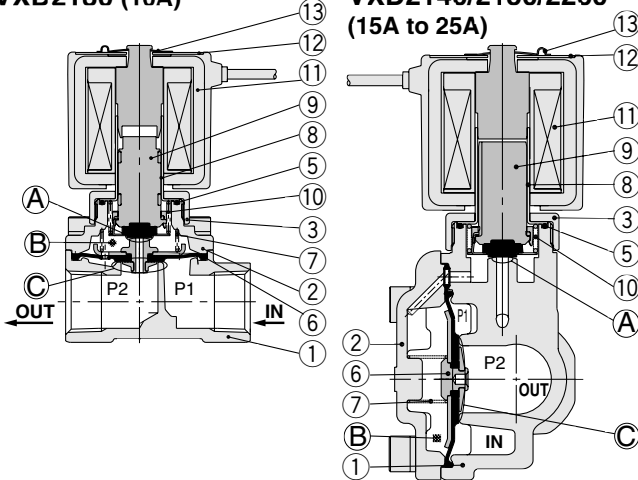
Series VXD21/22/23

Construction

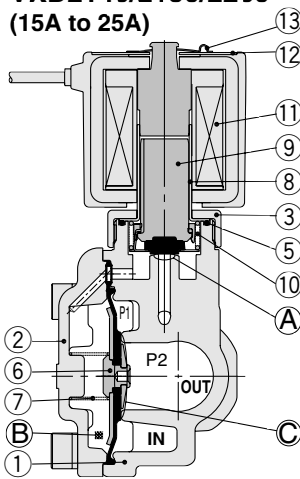
Normally closed (N.C.)

Body material Brass (C37) (32A or more: CAC407), Stainless steel

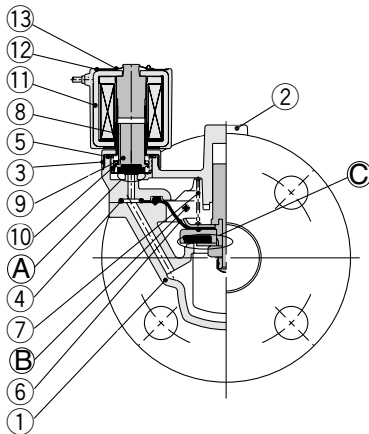
VXD2130 (10A)



VXD2140/2150/2260 (15A to 25A)



VXD2270/2380/2390 (32A to 50A)



Operation

<Valve opened> When the coil (11) is energized, the armature assembly (9) is attracted into the core of the tube assembly (8) and the pilot valve (A) opens. Then the pressure in the pressure action chamber (B) falls to open the main valve (C).
<Valve closed> When the coil (11) is not energized, the pilot valve (A) is closed and the pressure in the pressure action chamber (B) rises and the main valve (C) closes.

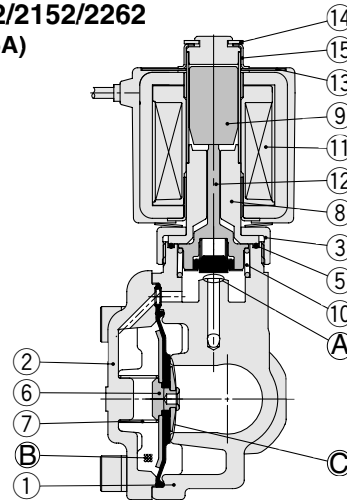
Component Parts

No.	Description	Size	Material	
			Standard	Option
1	Body	10A to 25A	Brass (C37)	Stainless steel
		32A to 50A	CAC407	
2	Bonnet	10A to 25A	Brass (C37)	Stainless steel
		32A to 50A	CAC407	
3	Nut	10A to 50A	Brass (C37)	Brass (C37), Ni plated
4	O-ring	32A to 50A	NBR	FKM, EPDM
5	O-ring	10A to 50A	NBR	FKM, EPDM
6	Diaphragm assembly	10A to 25A	Stainless steel, NBR	Stainless steel, FKM, EPDM
		32A to 50A	Stainless steel, Brass (C37), NBR	Stainless steel, FKM, EPDM
7	Valve spring	10A to 50A	Stainless steel	
8	Tube assembly	10A to 25A	Stainless steel, Cu	Stainless steel, Ag
		32A to 50A	Stainless steel, Cu	
9	Armature assembly	10A	Stainless steel, PPS, NBR	Stainless steel, PPS, FKM, EPDM
		15A to 50A	Stainless steel, PPS, NBR	
10	Return spring	10A to 50A	Stainless steel	
11	Solenoid coil	10A to 50A	Class B molded	Class H molded
12	Name plate	10A to 50A	Aluminum	
13	Clip	10A to 50A	SK	

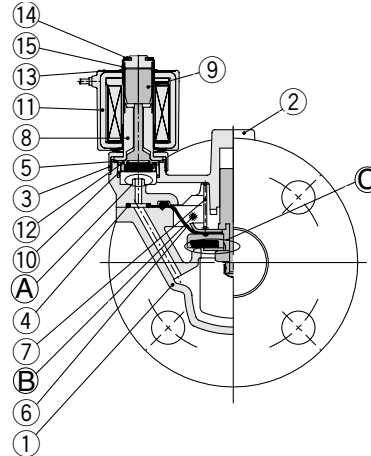
Normally open (N.O.)

Body material: Brass (C37) (32A or more: CAC407), Stainless steel

VXD2142/2152/2262 (15A to 25A)



VXD2272/2382/2392 (32A to 50A)



Operation

<Valve opened> When the coil (11) is energized, the opened pilot (A) closes, the pressure in pressure action chamber (B) rises and the main valve (C) closes.
<Valve closed> When the coil (11) is not energized, the closed pilot valve (A) opens, the pressure in pressure action chamber (B) drops and the main valve (C) opens.

Component Parts

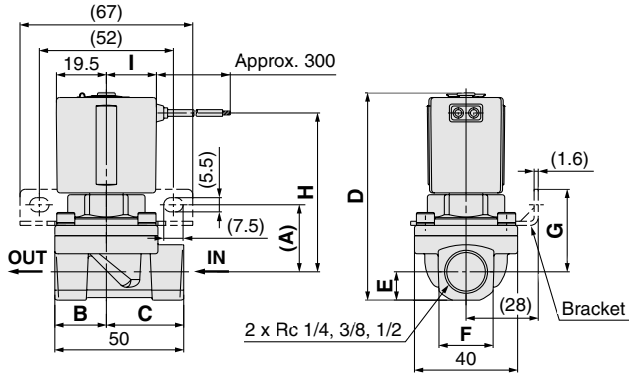
No.	Description	Size	Material	
			Standard	Option
1	Body	15A to 25A	Brass (C37)	Stainless steel
		32A to 50A	CAC407	
2	Bonnet	15A to 25A	Brass (C37)	Stainless steel
		32A to 50A	CAC407	
3	Nut	15A to 25A	Brass (C37)	Brass (C37), Ni plated
4	O-ring	32A to 50A	NBR	FKM, EPDM
5	O-ring	15A to 50A	NBR	FKM, EPDM
6	Diaphragm assembly	15A to 25A	Stainless steel, NBR	Stainless steel, FKM, EPDM
		32A to 50A	Stainless steel, NBR	Stainless steel, FKM, EPDM
7	Valve spring	15A to 25A	Stainless steel	
8	Tube assembly	15A to 25A	Stainless steel, Cu	Stainless steel, Ag
		32A to 50A	Stainless steel, Cu	
9	Armature assembly	10A to 50A	Stainless steel	
10	Return spring	15A to 50A	Stainless steel	
11	Solenoid coil	15A to 50A	Class B molded	Class H molded
12	Push rod assembly	15A to 50A	NBR, PPS, Stainless steel	FKM, EPDM, Stainless steel
13	Name plate	15A to 50A	Aluminum	
14	Clip	15A to 50A	SK	
15	Cover	15A to 50A	Stainless steel	

The materials in parentheses are the seal materials.

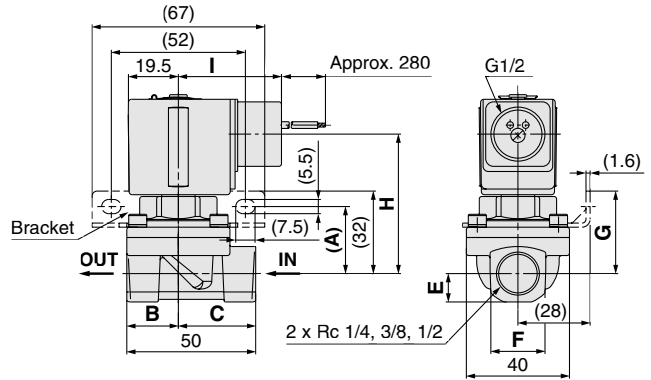
Dimensions

Normally closed (N.C.): VXD2130

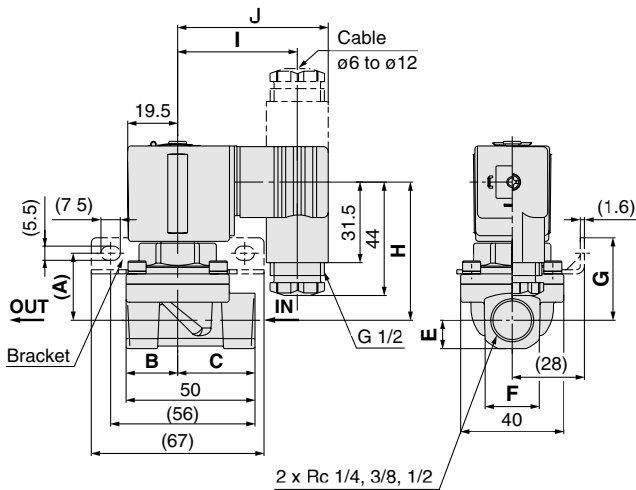
Grommet: G



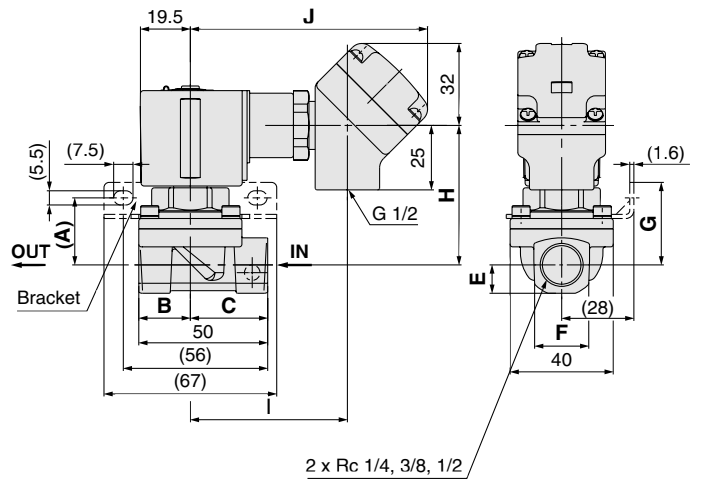
Conduit: C



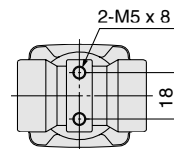
DIN terminal: D



Conduit terminal: T



VXD2130-04



(mm)

Model	Port size P	A	B	C	D	E	F	G	Electrical entry (DC, AC/Class H coil)									
									Grommet		Conduit		DIN terminal		Conduit terminal			
									H	I	H	I	H	I	J	H	I	J
Normally closed VXD2130	1/4, 3/8	26	20	30	80.5	11	21	32	62	19.5	54.5	40	54	46.5	58.5	54.5	61	92
	1/2	28	24	26	86	14.5	28	34	64	19.5	56.5	40	56	46.5	58.5	56.5	61	92

Model	Electrical entry (AC/Class B coil)*									
	Grommet		Conduit		DIN terminal		Conduit terminal			
	H	I	H	I	H	I	J	H	I	J
Normally closed VXD2130	58	30	53	48.5	54	53.5	65.5	53	69.5	100.5
	60	30	55	48.5	56	53.5	65.5	55	69.5	100.5

* Coil with a full-wave rectifier (electrical option "R")

Series VXD21/22/23

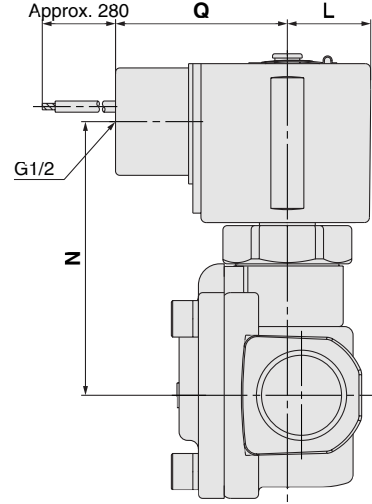
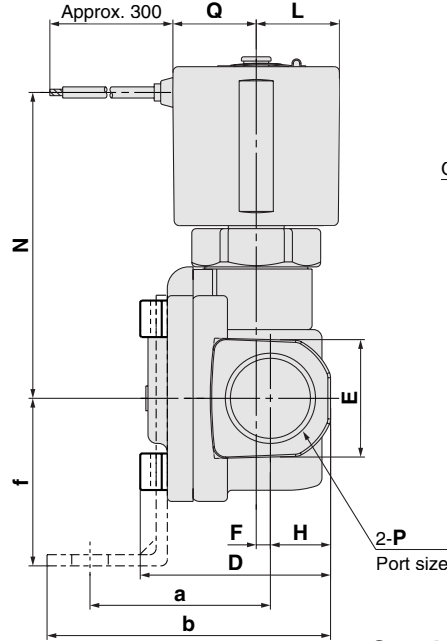
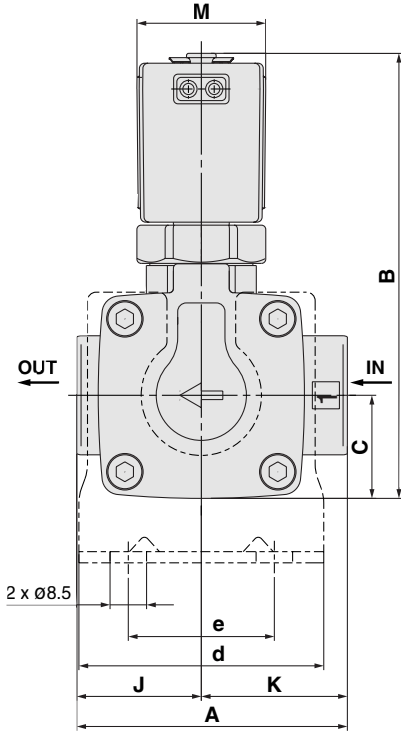
Dimensions

Normally closed (N.C.): VXD2140/2150/2260

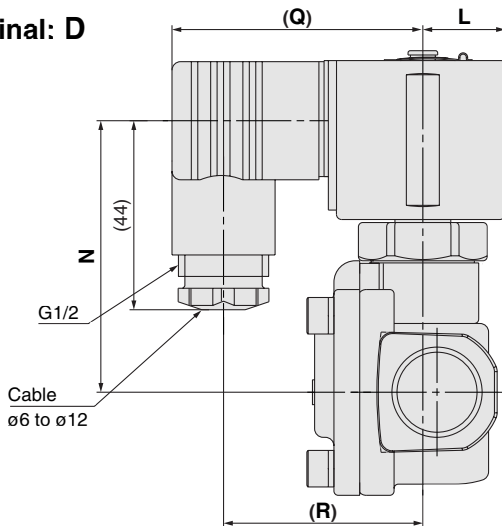
Normally open (N.O.): VXD2142/2152/2262

Grommet: G

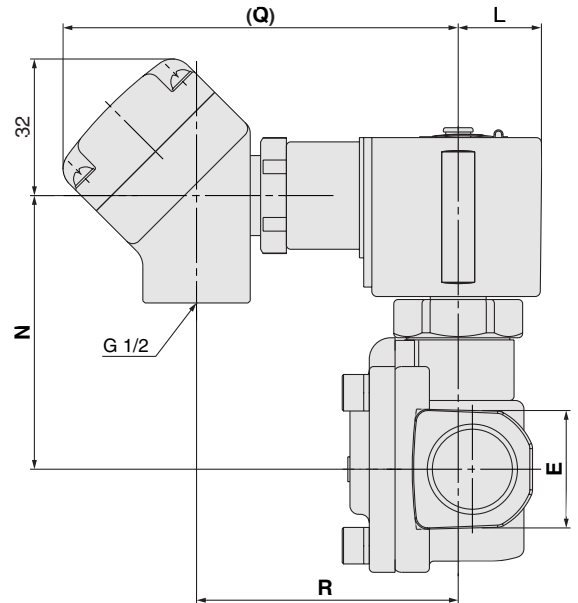
Conduit: C



DIN terminal: D



Conduit terminal: T



Model		Port size P	A	B	C	D	E	F	H	J	K	L	M	Electrical entry (DC, AC)											
Normally closed	Normally open	Rc												Grommet			Conduit			DIN terminal			Conduit terminal		
														N	Q	N	Q	N	Q	R	N	Q	R		
VXD2140	VXD2142	3/8, 1/2	63	104 (110.5)	24	44.5	28	3.5	14	29	34	19.5	30	71.5	19.5	64	40	63.5	58.5	46.5	64	92	61		
VXD2150	VXD2152	3/4	80	115.5 (122)	29	51.5	35	4.5	17	37	43	19.5	30	78	19.5	70.5	40	70	58.5	46.5	70.5	92	61		
VXD2260	VXD2262	1	90	133 (140.5)	33	60	42	4.5	20	43	47	22.5	35	92	22.5	84.5	43	84	61.5	49.5	84.5	95	64		

denotes the value for N O.

Model		Port size P	Bracket mounting					
Normally closed	Normally open	Rc	a	b	d	e	f	
VXD2140	VXD2142	3/8, 1/2	42	66	57	34	39	
VXD2150	VXD2152	3/4	46	73	74	51	45.5	
VXD2260	VXD2262	1	56	86	81	58	49.5	

Model		Electrical entry (AC/Class B coil)*											
Normally closed	Normally open	Grommet			Conduit			DIN terminal			Conduit terminal		
		N	Q	N	Q	N	Q	R	N	Q	R		
VXD2140	VXD2142	67.5	37	62.5	48.5	63.5	65.5	53.5	62.5	100.5	69.5		
VXD2150	VXD2152	74	37	69	48.5	70	65.5	53.5	69	100.5	69.5		
VXD2260	VXD2262	88	40	83	51.5	84	68.5	56.5	83	103.5	72.5		

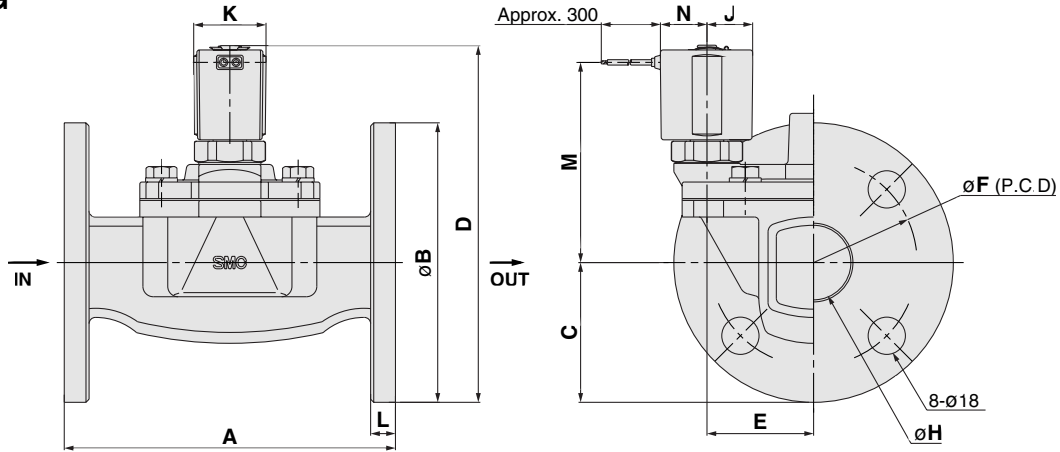
* Coil with a full-wave rectifier (electrical option "R")

Dimensions

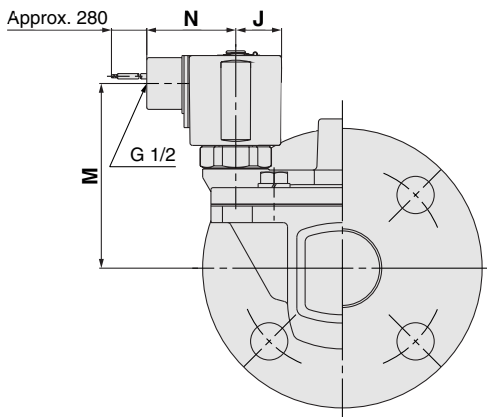
Normally closed (N.C.): VXD2270/2380/2390

Normally open (N.O.): VXD2272/2382/2392

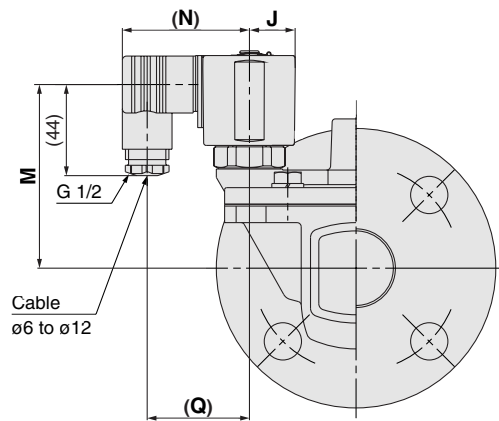
Grommet: **G**



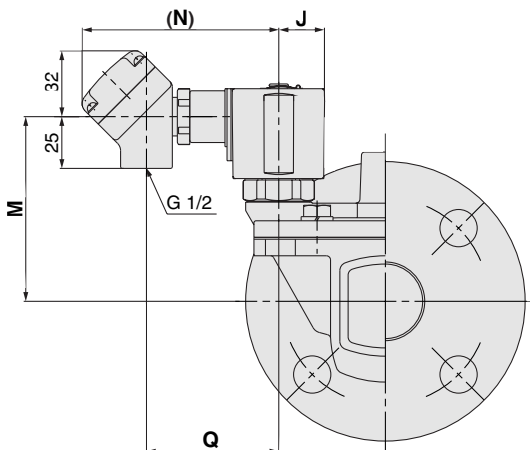
Conduit: **C**



DIN terminal **D**



Conduit terminal **T**



(mm)

Model		Electrical entry (AC/Class B coil)*									
		Grommet		Conduit		DIN terminal			Conduit terminal		
Normally closed	Normally open	M	N	M	N	M	N	Q	M	N	Q
VXD2270	VXD2272	93	33	88	51.5	89	68.5	56.5	88	103.5	72.5
VXD2380	VXD2382	103	36	98	54	99	71	59	98	106	75
VXD2390	VXD2392	108.5	36	103.5	54	104.5	71	59	103.5	106	75

) denotes the value for N.O

* Coil with a full-wave rectifier (electrical option "R")

(mm)

Model		Applicable flange	A	B	C	D	E	F	H	J	K	L	Electrical entry (DC, AC)									
													Grommet		Conduit		DIN terminal			Conduit terminal		
Normally closed	Normally open												M	N	M	N	Q	M	N	Q		
VXD2270	VXD2272	32A	160	135	67.5	172.5 (180)	51.5	100	36	22.5	35	12	97	22.5	89.5	43	89	61.5	49.5	89.5	95	64
VXD2380	VXD2382	40A	170	140	70	185 (192.5)	54.5	105	42	25	40	14	106.5	25.5	99	46	98.5	64	52	99	98	66.5
VXD2390	VXD2392	50A	180	155	77.5	198.5 (205.5)	59	120	52	25	40	14	112.5	25.5	105	46	104.5	64	52	105	98	66.5

) denotes the value for N.O.