

Direct Operated 2 Port Solenoid Valve For Water

Series V CW



How to Order Valves (Single Unit)

VCW 2 1 - 1 G - 2 - 02

For water

Series

2	Class 2
3	Class 3
4	Class 4

Valve type

1 N.C. (2) (1)

2 N.O. (2) (1)

Voltage

1	100 VAC
2	200 VAC
3	110 VAC
4	220 VAC
5	24 VDC
6	12 VDC
7	240 VAC
8	48 VAC
36	230 VAC

* Please consult with SMC regarding other voltages.

Electrical entry

G - Grommet	C - Conduit
T - Conduit terminal TL - Conduit terminal with indicator light	D - DIN terminal DL - DIN terminal with indicator light DO - DIN terminal (without connector, with gasket)

* All types are equipped with surge voltage suppressor.

Option

Nil	None
F	Foot type bracket

* Bracket is packed in the same container as the main body.

Material and insulation type

Symbol	Body material	Seal material	Coil insulation type	Note
Nil		NBR		
A	Brass (C37)	FKM	B	
B		EPDM		
C		PTFE		
G	Stainless steel	NBR		
H		FKM		
J		EPDM		
K		PTFE		
L		FKM		For pure water (Note)

Note) High corrosion resistant specification used for armature material.

Thread type

Nil	Rc
F	G
N	NPT

Port size

Symbol	Port size	Class 2	Class 3	Class 4
01	1/8 (6A)	○	—	—
02	1/4 (8A)	○	○	○
03	3/8 (10A)	—	○	○
04	1/2 (15A)	—	○	○
06	3/4 (20A)	—	—	○

Orifice size

Symbol	Orifice dia. (mm)	Class 2	Class 3	Class 4
2	2	○	—	—
3	3	○	○	○
4	4	○	○	○
5	5	○	○	○
7	7	—	○	○
10	10 (Note)	—	○	○

Note) ø10 is available only for N.C. (normally closed).
* Refer to the below table for orifice and port size combinations.

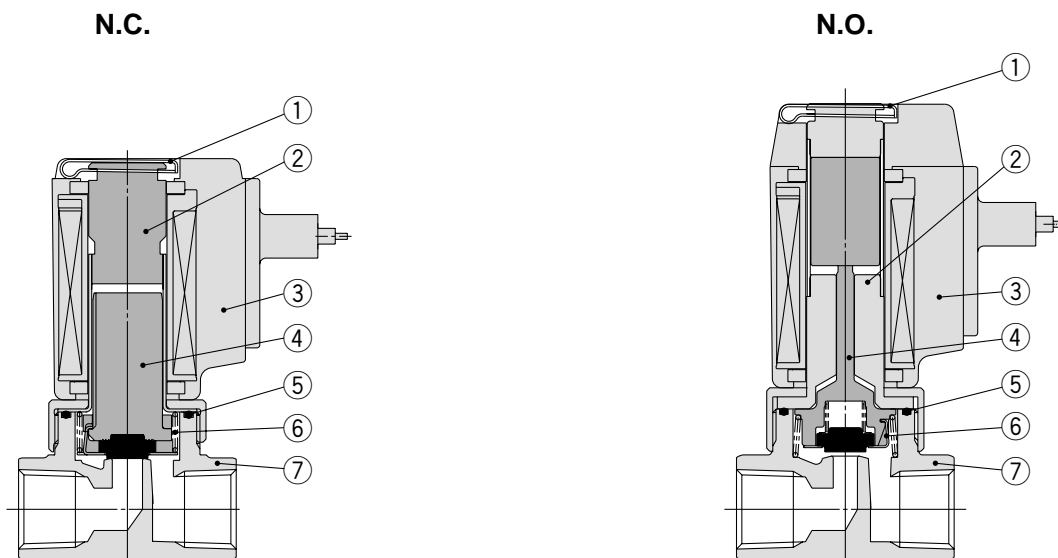
Orifice Diameter and Port Size Combinations

Class	Port size	Orifice diameter (mm)					
		2	3	4	5	7	10 (Note)
2	1/8 (6A)	●	●	●	●	—	—
	1/4 (8A)	●	●	●	●	—	—
3	1/4 (8A)	—	●	●	●	●	—
	3/8 (10A)	—	●	●	●	●	●
4	1/2 (15A)	—	—	—	—	—	●
	1/4 (8A)	—	●	●	●	●	—
	3/8 (10A)	—	●	●	●	●	●
	1/2 (15A)	—	—	—	—	—	●
	3/4 (20A)	—	—	—	—	—	●

Note) ø10 is available only for N.C. (normally closed).

- VX2
- VXD
- VXZ
- VXE
- VXP
- VXR
- VXH
- VXF
- VX3
- VXA
- VCH
- VDW
- VQ
- LVM
- VCA
- VCB
- VCL
- VCS
- VCW

Construction



Component Parts

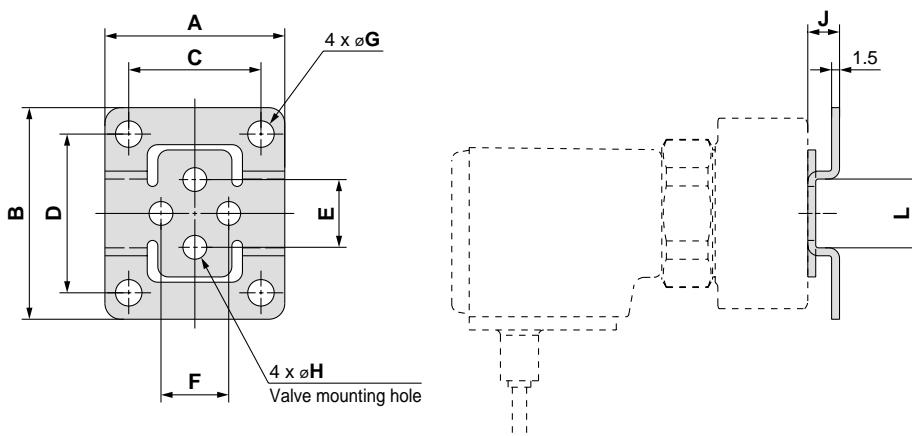
No.	Description	Material		Note
		Standard	Option	
1	Clip	Stainless steel	—	
2	Tube assembly	Stainless steel	—	
3	Coil assembly	Class B	—	
4	Armature assembly	Stainless steel, PPS, NBR	Stainless steel, PPS, FKM, Stainless steel, PPS, EPDM/Stainless steel, PTFE	
5	O-ring	NBR	FKM, EPDM	
6	Return spring	Stainless steel	—	
7	Body	Brass (C37)	Stainless steel	

Component parts

No.	Description	Material		Note
		Standard	Option	
1	Clip	Stainless steel	—	
2	Tube assembly	Stainless steel, PTFE	—	
3	Coil assembly	Class B	—	
4	Push rod assembly	Stainless steel PPS, NBR	Stainless steel, PPS, FKM/Stainless steel, PPS, EPDM, Stainless steel, PPS, PTFE	
5	O-ring	NBR	FKM, EPDM	
6	Return spring	Stainless steel	—	
7	Body	Brass (C37)	Stainless steel	

Refer to pages 314 and 315 for solenoid coil replacement and replacement parts.

Dimensions: Bracket



Bracket Mounting Dimensions/Bracket Material: Stainless Steel

Valve model	Port size	Bracket part no.	A	B	C	D	E	F	G	H	J	K	L	Note
VCW2□	1/8, 1/4	VCW20-12-01	34	40	25	30	12.8	12.8	5	4.5	6	1.5	13	
VCW3□	1/4, 3/8	VCW30-12-02	42	52	30	40	19	19	6	5.5	7	1.5	19	
	1/2	VCW30-12-04	48	56	36	44	23	23	6	5.5	7	1.5	23	
VCW4□	1/4, 3/8	VCW40-12-02	42	52	30	40	23	23	6	5.5	7	1.5	19	
	1/2	VCW30-12-04	48	56	36	44	23	23	6	5.5	7	1.5	23	
	3/4	VCW40-12-06	56	65	44	53	28.2	28.2	6	5.5	7	1.5	26	

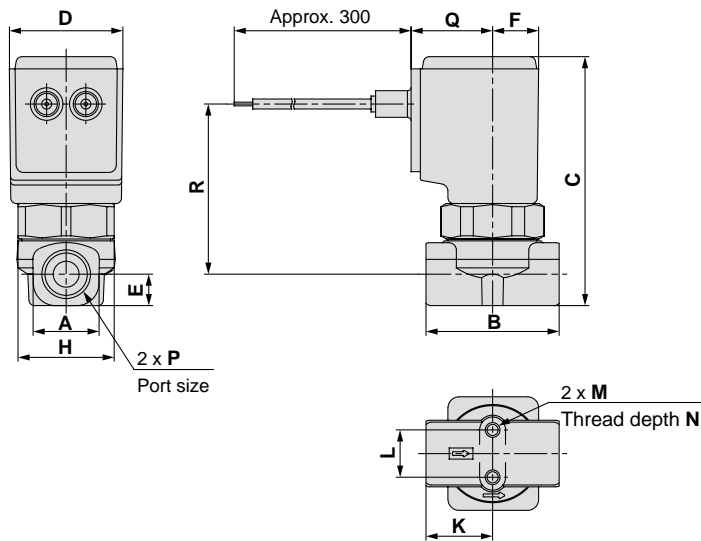
* 2 mounting screws (for mounting bracket) are included in bracket part no.

VX2
VXD
VXZ
VXE
VXP
VXR
VXH
VXF
VX3
VXA
VCH□
VDW
VQ
LVM
VCA
VCB
VCL
VCS
VCW

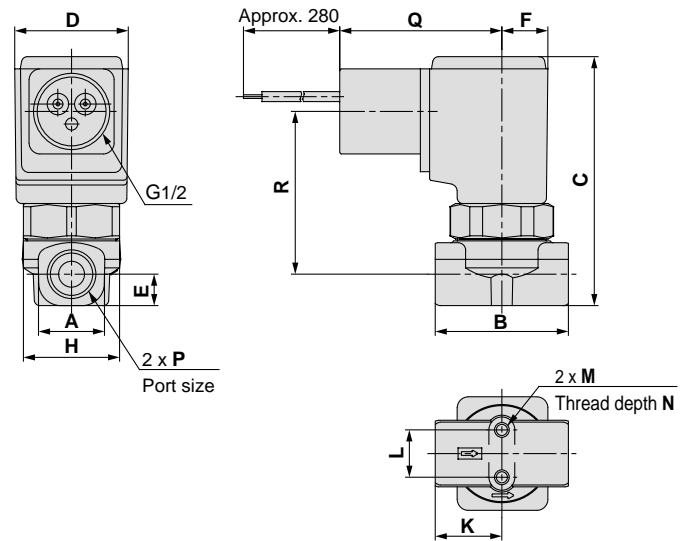
Series VCW

Dimensions (N.C.)

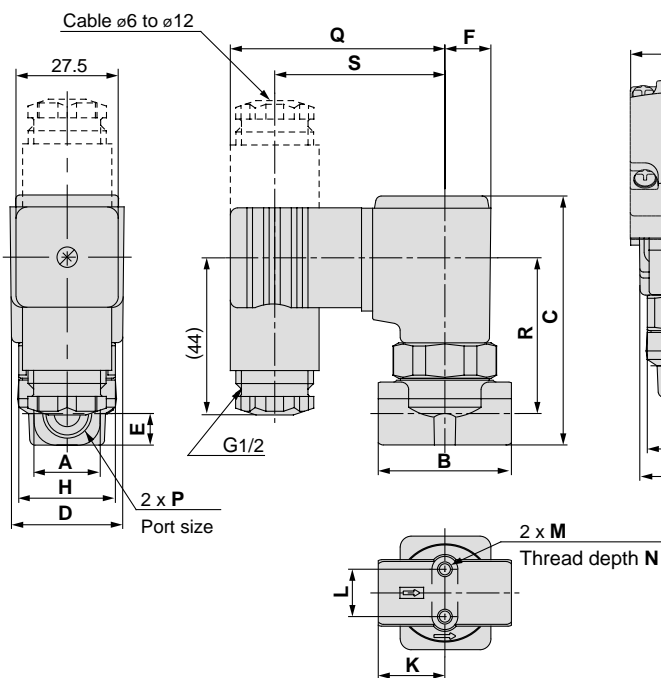
Grommet: G



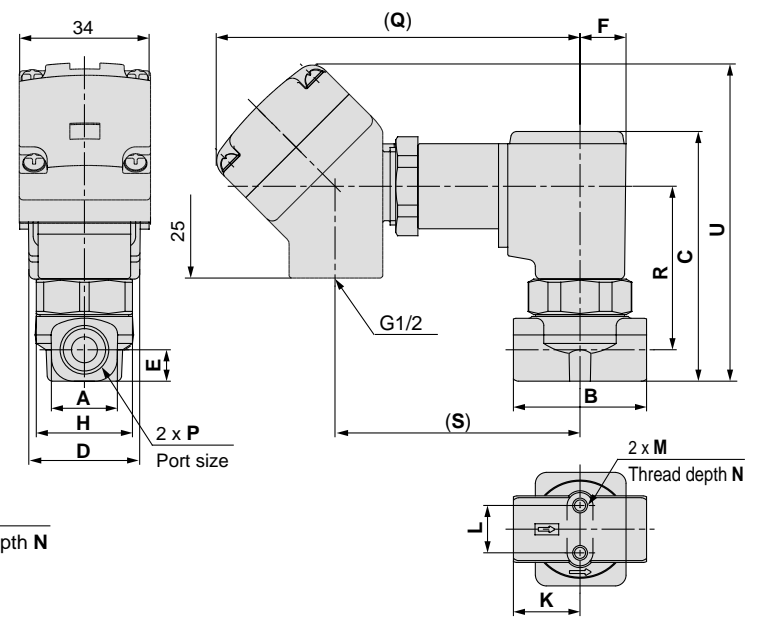
Conduit: C



DIN terminal: D



Conduit terminal: T



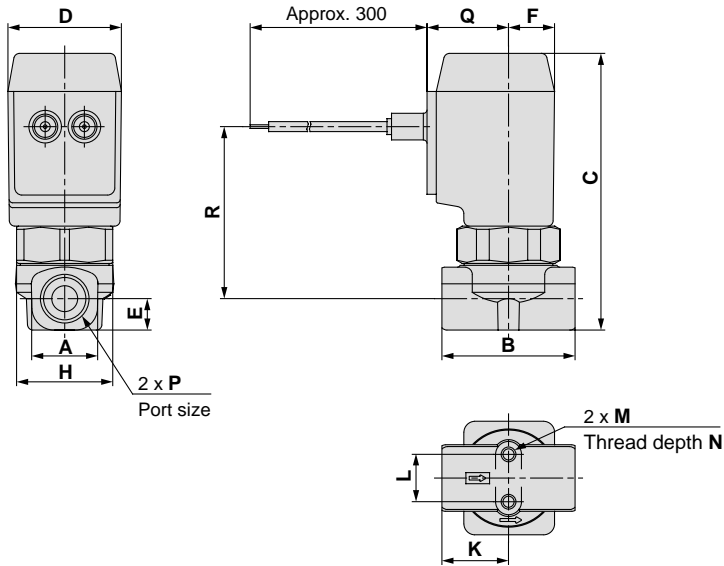
N.C.

(mm)

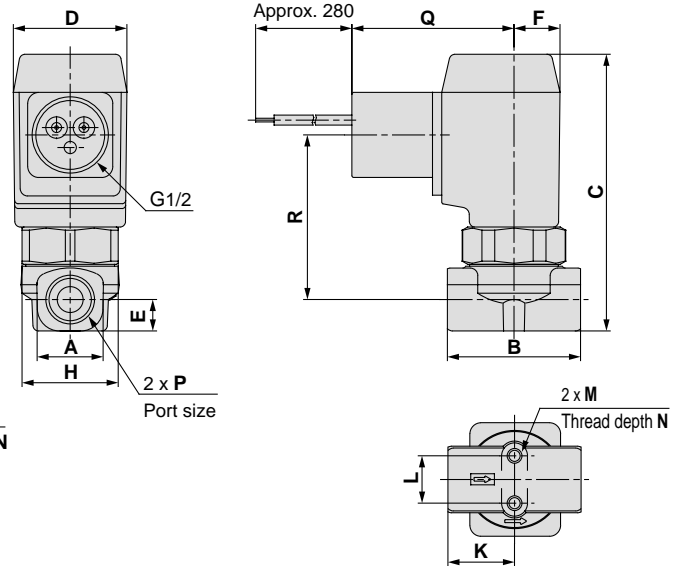
Model	P Port size	A	B	C	D	E	F	H	K	L	M	N	Electrical entry										
													Grommet: G		Conduit: C		DIN terminal: D			Conduit terminal: T			
													Q	R	Q	R	Q	R	S	Q	R	S	U
VCW21	1/8	13.5	28	64	31	6.5	12.5	26.5	14	12.8	M4	4.5	22	45	44	43	58	40.5	46.5	99	43	66	83
	1/4	18	36	67.5	31	8.5	12.5	26.5	18	12.8	M4	6	22	46	44	44	58	41.5	46.5	99	44	66	86
VCW31	1/4, 3/8	22	40	81.5	36.5	11	15	33	20	19	M5	8	24	56.5	46	54.5	60	52	48.5	101	54.5	68	99
	1/2	30	50	86	36.5	13.5	15	38	25	23	M5	8	24	59	46	57	60	54.5	48.5	101	57	68	104
VCW41	1/4, 3/8	22	45	90	41	11	17	37	22.5	23	M5	8	26	64.5	48	62.5	62	60	50.5	103	62.5	70	107
	1/2	30	50	94	41	13.5	17	38	25	23	M5	8	26	66.5	48	64.5	62	62	50.5	103	64.5	70	111.5
	3/4	35	60	102	41	17.5	17	38	30	28.2	M5	8	26	70	48	68	62	65.5	50.5	103	68	70	119

Dimensions (N.O.)

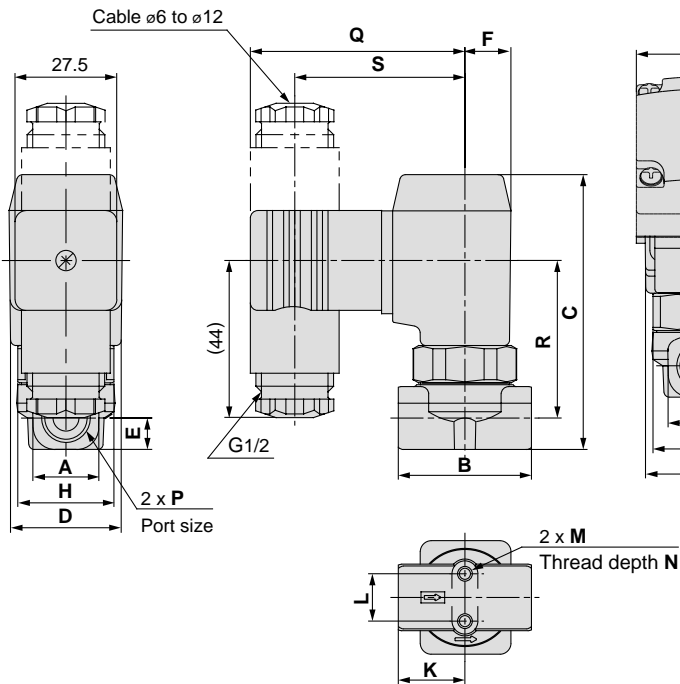
Grommet: G



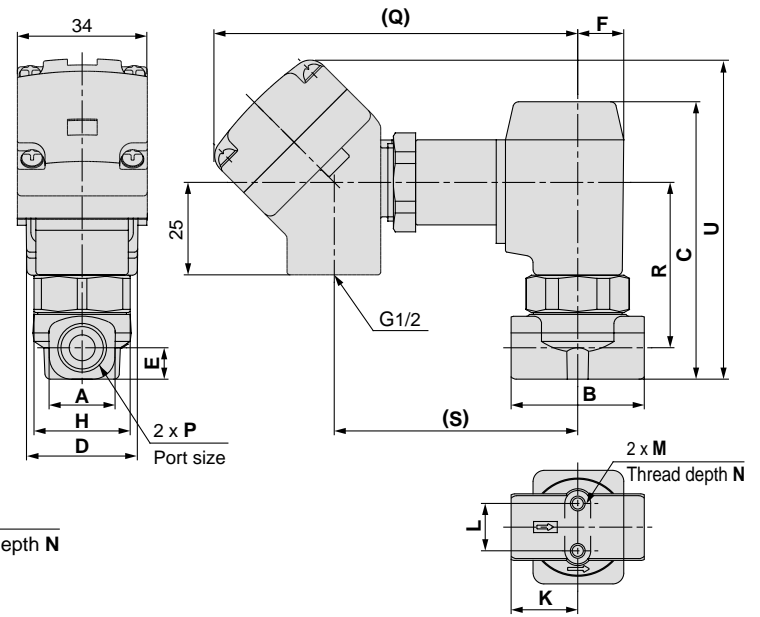
Conduit: C



DIN terminal: D



Conduit terminal: T



- VX2
- VXD
- VXZ
- VXE
- VXP
- VXR
- VXH
- VXF
- VX3
- VXA
- VCH
- VDW
- VQ
- LVM
- VCA
- VCB
- VCL
- VCS
- V CW**

N.O.

(mm)

Model	P Port size	A	B	C	D	E	F	H	K	L	M	N	Electrical entry										
													Grommet: G		Conduit: C		DIN terminal: D			Conduit terminal: T			
													Q	R	Q	R	Q	R	S	Q	R	S	U
VCW22	1/8	13.5	28	71.5	31	6.5	12.5	28	14	12.8	M4	4.5	22	45.5	44	43.5	58	41	46.5	99	43.5	66	83
	1/4	18	36	75	31	8.5	12.5	28	18	12.8	M4	6	22	46.5	44	44.5	58	42	46.5	99	44.5	66	86
VCW32	1/4, 3/8	22	40	89.5	36.5	11	15	32	20	19	M5	8	24	57	46	55	60	52.5	48.5	101	55	68	99
VCW42	1/4, 3/8	22	45	97.5	41	11	17	36	22.5	23	M5	8	26	65	48	63	62	60.5	50.5	103	63	70	107

Series VCW

How to Order Manifold

VV2C W 2 - 02 01

For water

Series

2	Class 2
3	Class 3
4	Class 4

Material

Symbol	Base material	Seal material
Nil	Brass (C37)	NBR
A		FKM
B		EPDM
C		PTFE
G	Stainless steel	NBR
H		FKM
J		EPDM
K		PTFE

Thread type

Symbol	Thread type
Nil	Rc
N	NPT
F	G

OUT port size

Symbol	Port size
01	1/8 (6A)
02	1/4 (8A)

* All IN ports are 3/8.

Stations

02	2 stations
⋮	⋮
10	10 stations

How to Order Manifold Assembly

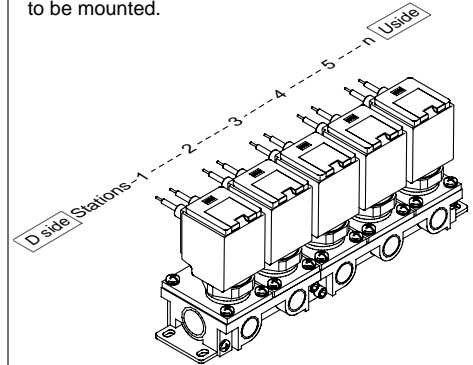
Enter the mounting valve and option part numbers under the manifold base part number.

<Ordering Example>

VV2CW2-0501..... 1 set Manifold part no.
*** VCW23-5G-2..... 5 sets** Valve part no. (Stations 1 to 5)

"*" is the symbol for assembly. Add an "*" in front of the part numbers for solenoid valves, etc., to be mounted.

Enter together in order, counting from station 1 on the D side.



How to Order Valves (For Manifold)

VC W 2 3 - 1 G - 2 -

For water

Series

2	Class 2
3	Class 3
4	Class 4

Valve type

3	N.C. for manifold
4	N.O. for manifold

Voltage

1	100 VAC
2	200 VAC
3	110 VAC
4	220 VAC
5	24 VDC
6	12 VDC
7	240 VAC
8	48 VAC
36	230 VAC

* Please consult with SMC regarding other voltages.

Material and insulation type

Symbol	Body material	Seal material	Coil insulation type	Note	
Nil	Brass (C37)	NBR	B		
A		FKM			
B		EPDM			
C		PTFE			
G	Stainless steel	NBR			
H		FKM			
J		EPDM			
K		PTFE			
L		FKM			For pure water ^{Note)}

Note) High corrosion resistant specification used for armature material.

Electrical entry

G	Grommet
C	Conduit
T	Conduit terminal
TL	Conduit terminal with indicator light
D	DIN terminal
DL	DIN terminal with indicator light
DO	DIN terminal (without connector, with gasket)

* All types are equipped with surge voltage suppressor.

Orifice size

Symbol	Orifice dia. (mm)	Class 2	Class 3	Class 4
2	2	○	—	—
3	3	○	○	○
4	4	○	○	○
5	5	○	○	○
7	7	—	○	○

Manifold Option

Blanking plate assembly

VVCW 2 0 - 3A - G

Series

2	Class 2
3	Class 3
4	Class 4

Material

Symbol	Plate material	Seal material
G	Stainless steel	NBR
H		FKM
J		EPDM
K		PTFE

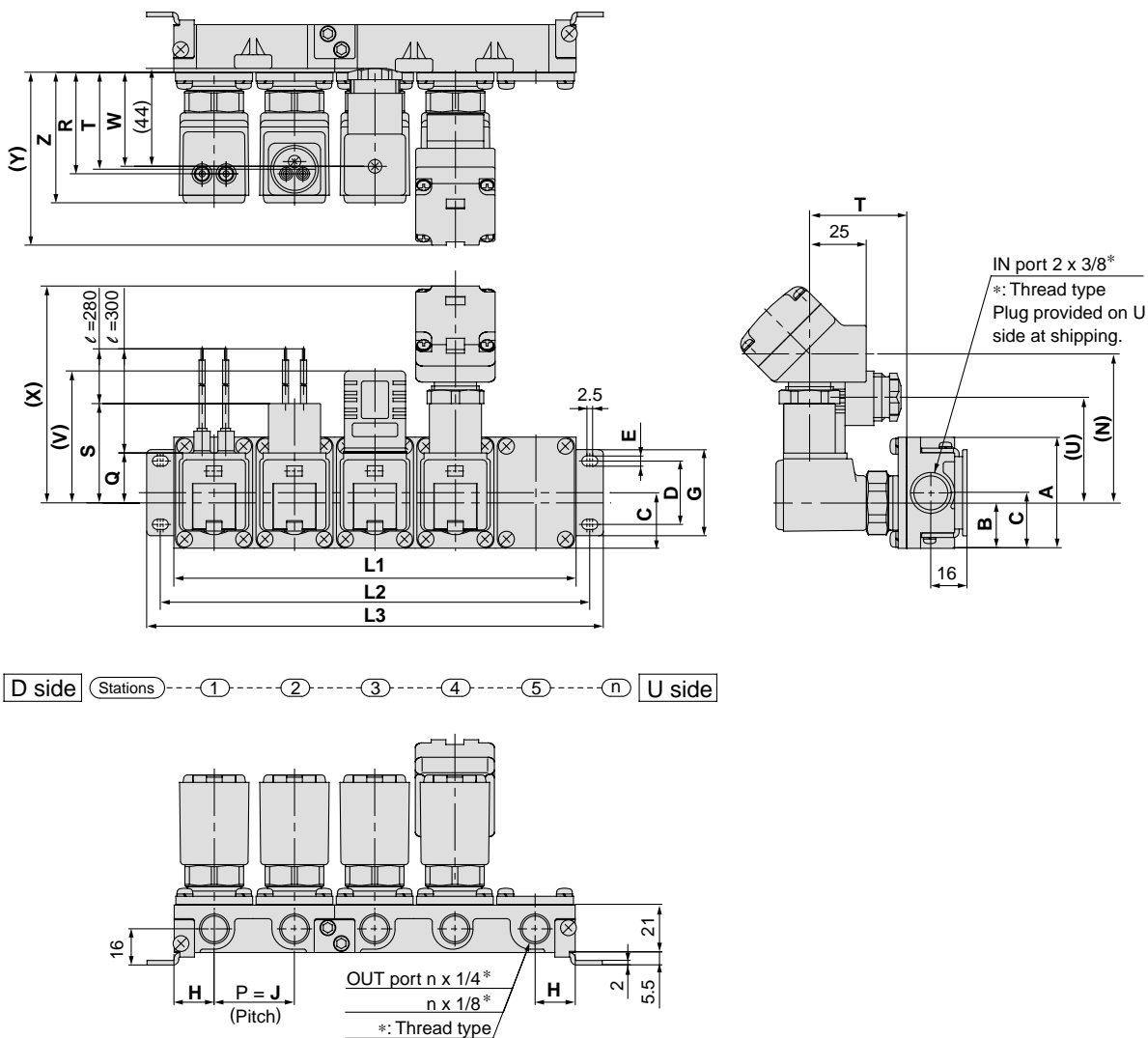
JIS Symbol



This is used by mounting it on the manifold block when a valve is removed for maintenance or when the mounting of an additional valve is planned, etc.

Direct Operated 2 Port Solenoid Valve For Water **Series VCW**

Dimensions (N.C.)



- VX2
- VXD
- VXZ
- VXE
- VXP
- VXR
- VXH
- VXF
- VX3
- VXA
- VCH□
- VDW
- VQ
- LVM
- VCA
- VCB
- VCL
- VCS
- VCW**

L Dimension

Model	Dimensions	n (stations)								
		2	3	4	5	6	7	8	9	10
VV2CW2	L1	70	105	140	175	210	245	280	315	350
	L2	82	117	152	187	222	257	292	327	362
	L3	94	129	164	199	234	269	304	339	374
VV2CW3	L1	78	117	156	195	234	273	312	351	390
	L2	90	129	168	207	246	285	324	363	402
	L3	102	141	180	219	258	297	336	375	414
VV2CW4	L1	84	126	168	210	252	294	336	378	420
	L2	96	138	180	222	264	306	348	390	432
	L3	108	150	192	234	276	318	360	402	444
Manifold composition		2 stns. x 1	3 stns. x 1	2 stns. x 2	2 stns. + 3stns.	3 stns. x 2	2 stns. x 2 + 3 stns.	2 stns. + 3 stns. x 2	3 stns. x 3	2 stns. x 2 + 3 stns. x 2

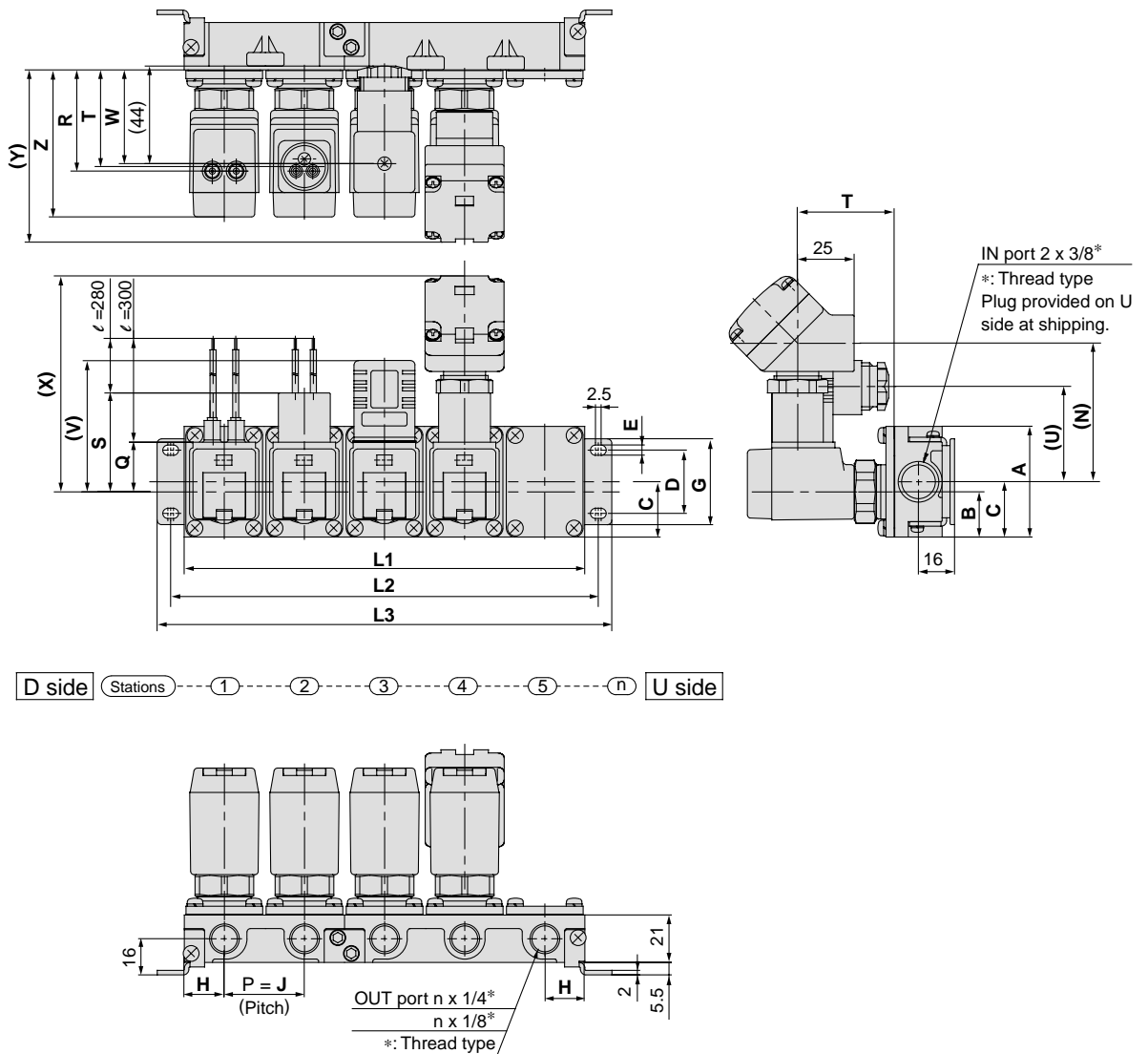
Note) Manifold base is consisted of the junction of 2 and 3 station bases.

Dimensions

Model	A	B	C	D	E	G	H	J	Z	Electrical entry									
										Grommet		Conduit		DIN terminal			Conduit terminal		
										Q	R	S	T	U	V	W	N	X	Y
VV2CW2	49	20	24.5	28	4.5	38	17.3	34.5	56	22	45.5	44	43.5	46	58	41.5	66	99	77
VV2CW3	57	25.5	28.5	30	5.5	42	19.3	38.5	66	24	55	45.5	53	48	60	51	68	101	86.5
VV2CW4	57	25.5	28.5	30	5.5	42	20.8	41.5	74	26	62.5	47.5	60.5	50	62	58.5	70	103	94

Series VCW

Dimensions (N.O.)



L Dimension

(mm)

Model	Dimensions	n (stations)								
		2	3	4	5	6	7	8	9	10
VV2CW2	L1	70	105	140	175	210	245	280	315	350
	L2	82	117	152	187	222	257	292	327	362
	L3	94	129	164	199	234	269	304	339	374
VV2CW3	L1	78	117	156	195	234	273	312	351	390
	L2	90	129	168	207	246	285	324	363	402
	L3	102	141	180	219	258	297	336	375	414
VV2CW4	L1	84	126	168	210	252	294	336	378	420
	L2	96	138	180	222	264	306	348	390	432
	L3	108	150	192	234	276	318	360	402	444
Manifold composition		2 stns. x 1	3 stns. x 1	2 stns. x 2	2 stns. + 3 stns.	3 stns. x 2	2 stns. x 2 + 3 stns.	2 stns. + 3 stns. x 2	3 stns. x 3	2 stns. x 2 + 3 stns. x 2

Note) Manifold base is consisted of the junction of 2 and 3 station bases.

Dimensions

(mm)

Model	A	B	C	D	E	G	H	J	Z	Electrical entry									
										Grommet		Conduit		DIN terminal			Conduit terminal		
										Q	R	S	T	U	V	W	N	X	Y
VV2CW2	49	20	24.5	28	4.5	38	17.3	34.5	63.5	22	45.5	44	43.5	46	58	41.5	66	99	77
VV2CW3	57	25.5	28.5	30	5.5	42	19.3	38.5	74	24	55	45.5	53	48	60	51	68	101	86.5
VV2CW4	57	25.5	28.5	30	5.5	42	20.8	41.5	81.5	26	62.5	47.5	60.5	50	62	58.5	70	103	94