

Compact Direct Operated 2/3 Port Solenoid Valve for Water and Air

VDW Series

The production was discontinued. VDW200/300: 3 Port

The production of the VDW10/20/30 series was discontinued.
(Except for VDW10/20 manifold and 3 port type)
For details about new series: VDW10/20 → page 453
VDW30 → VX2 series



- VCH
- VDW
- SX10
- VQ
- LVM

Molded coil specifications have been added!

IP65



Grommet/Molded



Flat terminal/Molded

For Water and Air Compact Direct Operated 2/3 Port Solenoid Valve

VDW Series

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 VDW30 → VX2 series

Improved durability (Nearly twice the life of the previous series)

The use of a unique magnetic material reduces the operating resistance of moving parts, while improving service life, wear and corrosion resistance.

Improved corrosion resistance
 Special material introduced

High flow rate: Cv factor
 0.04 to 0.46 (2 port)

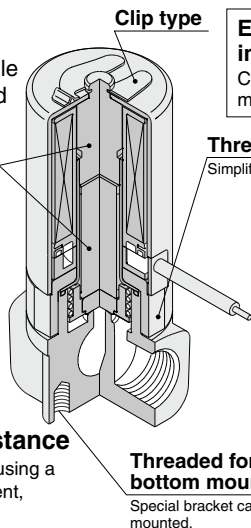
Universal porting
 VDW200/300 (3 port)

Improved environment resistance

Environment resistance is improved by using a molded coil. (Enclosure IP65 or equivalent, grommet mold)



Grommet/Molded

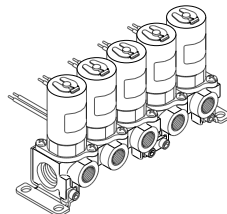


Ease of maintenance has been improved.

Changing of the coil is made easy by means of clip design. (2 port)

Threaded assembly
 Simplifies maintenance.

Brass (C37)/Stainless steel manifolds added to series (2 port)



Lineup by Compact Design

2 Port			3 Port	
P.473			P.484	
ø17	ø20.5	ø28	ø20.5	ø28
<p>The production was discontinued.</p>				
VDW10	VDW20	VDW30	VDW200	VDW300

The production of the VDW10/20/30 series was discontinued.
 (Except for VDW10/20 manifold and 3 port type)
 For details about new series: VDW10/20 → page 453
 VDW30 → VX2 series

Compact Direct Operated 2 Port Solenoid Valve for Water and Air VDW10/20/30 Series



How to Order Valves (Single Unit)

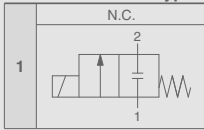
VDW **2** **1** - **1** **G** - **2** - **01** □ - □ - □ - □ - □

For Water, Air, Vacuum

Series

1	10
2	20
3	30

Valve type



CE-compliant

Nil	—
Q	CE-compliant

Made to Order (Refer to page 474.)

Option

Nil	None
F	Foot bracket

(Note) The foot bracket is packed with a valve.

Voltage

Symbol	Voltage	Grommet / Tape winding (G)	Flat terminal, Molded (F)	Grommet / Molded (W)
1	100 VAC (50/60 Hz)	●	—	●
2	200 VAC (50/60 Hz)	●	—	●
3	110 VAC (50/60 Hz)	●	—	●
4	220 VAC (50/60 Hz)	●	—	●
5	24 VDC	●	●	●
6	12 VDC	●	●	●
V	6 VDC	●	●	●
S	5 VDC	●	●	●
R	3 VDC	●	●	●

The production was discontinued.

Material and insulation type

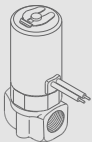
Symbol	Body material	Seal material	Coil insulation
Nil		NBR	Class B
A	Brass (C37)	FKM	
B		EPDM	
G		NBR	
H	Stainless steel	FKM	
J		EPDM	
L (Note)		FKM	

(Note) The armature assembly is a corrosion resistant construction.

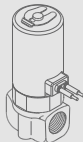
Please consult with SMC regarding other voltages.

Coil type

G – Grommet / Tape winding W – Grommet / Molded

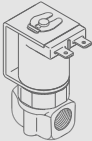


Magnet wire protection: Tape winding



Magnet wire protection: Resin Molded

F – Flat terminal / Molded



Magnet wire protection: Resin Molded

Thread type

Nil	Rc
F	G
N	NPT

Port size

Symbol	Port size	Series		
		10	20	30
M5	M5	○	○	—
01	1/8 (6A)	—	○	○
02	1/4 (8A)	—	—	○

Orifice diameter

Symbol	Orifice diameter (mm ø)	Series
1	1	10
2	1.6	
1	1.6	
2	2.3	20
3	3.2	
2	2	
3	3	30
4	4	

Series and Coil Type Combinations

Series	Grommet / Tape winding	Flat terminal / Molded	Grommet / Molded
10	●	—	●
20	●	●	●
30	●	●	●

VCH □
 VDW
 SX10
 VQ
 LVM

VDW10/20/30 Series

The production of the VDW10/20/30 series was discontinued.
 (Except for VDW10/20 manifold and 3 port type)
 For details about new series: VDW10/20 → page 453
 VDW30 → VX2 series

Standard Specifications



Valve specifications	Valve construction	Direct operated poppet	
	Fluid <small>Note 2)</small>	Water (except waste water or agricultural water), Air, Low vacuum	
	Withstand pressure (MPa)	2.0	
	Ambient temperature (°C)	-10 to 50	
	Fluid temperature (°C)	1 to 50 (No freezing)	
	Environment	Location without corrosive or explosive gases	
	Valve leakage (cm³/min)	0 (with water pressure) 1 or less (Air)	
Coil specifications	Mounting orientation	Unrestricted	
	Vibration/Impact (m/s²) <small>Note 4)</small>	30/150	
	Rated voltage	24 VDC, 12 VDC, 6 VDC, 5 VDC, 3 VDC, 100 VAC, 110 VAC, 200 VAC, 220 VAC (50/60 Hz)	
	Allowable voltage fluctuation (%)	±10% of rated voltage	
	Coil insulation type	Class B	
	Enclosure	Grommet / Tape winding	Dust-proof (equivalent to IP40)
		Flat terminal / Molded	Dust-tight (equivalent to IP60) <small>Note 5)</small>
Grommet / Molded		Dust-tight / Low jetproof (equivalent to IP65)	
Power consumption (W) <small>Note 3)</small>	2.5 (VDW10), 3 (VDW20/30)		

- Note 1) When used under conditions which may cause condensation on the exterior of the product, select Grommet / Molded.
 Note 2) When used with deionized water, select "L" (Stainless steel, FKM) for the material type.
 Note 3) Since the AC coil specification includes a rectifier element, there is no difference in power consumption between inrush and holding.
In the case of 110/220 VAC, the VDW10 is 3 W and the VDW20/30 is 3.5 W.
 Note 4) Vibration resistance No malfunction when tested with one sweep of 5 to 200 Hz in the axial direction and at a right angle to the armature, in both energized and deenergized states.
 Impact resistance No malfunction when tested with a drop tester in the axial direction and at a right angle to the armature, one time each in energized and deenergized states.
 Note 5) Since electrical connections are exposed, there is no water resistance.

Made to Order	Made to Order (For details, refer to page 489.)
Symbol	Specifications
The production was discontinued.	
-X23	Oil-free specification
-X60	Lead wire length: 600 mm specification
-X133	Seal material: Perfluoroelastomer specification

Characteristic Specifications

Model	Port size	Orifice dia. (mm ø)	Max. operating pressure differential (MPa) <small>Note 1)</small>		Operating Pressure range (MPa) <small>Note 2)</small>	Weight (kg)
			Pressure port 1			
VDW10	M5	1	0.9		0 to 1.0	0.08
		1.6	0.4			
VDW20	M5 1/8 (6A)	1.6	0.7			
		2.3	0.4			
		3.2	0.2			
VDW30	1/8 (6A) 1/4 (8A)	2	0.8			1/8: 0.23 1/4: 0.26
		3	0.4			
		4	0.2			

- Note 1) The maximum operating pressure differential changes depending on the flow direction of the fluid. Refer to page 494 for details.
 Note 2) For low vacuum specifications, the operating pressure range is 1 Torr (1.33 x 10² Pa) to 1.0 MPa. Please consult with SMC if using below 1 Torr (1.33 x 10² Pa).

Flow Rate Characteristics

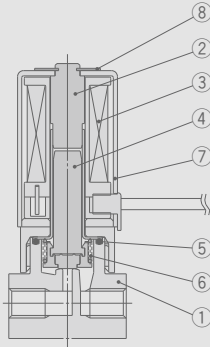
Model	Port size	Orifice dia. (mm ø)	Water			Air		
			1→2 (IN→N.C.)			1→2 (IN→N.C.)		
			N.C.	Kv	Cv converted	C [dm ³ /(s·bar)]	b	Cv
VDW10	M5	1	0.03	0.04	0.14	0.40	0.04	
		1.6	0.06	0.07	0.30	0.25	0.07	
VDW20	M5 1/8 (6A)	1.6	0.06	0.07	0.30	0.45	0.07	
		2.3	0.15	0.18	0.58	0.45	0.18	
		3.2	0.25	0.30	1.1	0.38	0.30	
VDW30	1/8 (6A) 1/4 (8A)	2	0.14	0.16	0.52	0.52	0.16	
		3	0.24	0.28	1.0	0.52	0.30	
		4	0.39	0.44	1.5	0.49	0.46	

Compact Direct Operated 2 Port Solenoid Valve for Water and Air **VDW10/20/30 Series**

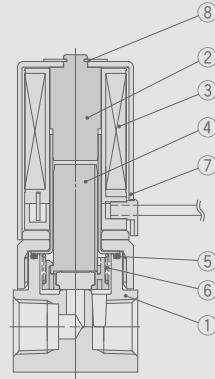
The production of the VDW10/20/30 series was discontinued. (Except for VDW10/20 manifold and 3 port type)
For details about new series: VDW10/20 → page 453
VDW30 → VX2 series

Construction

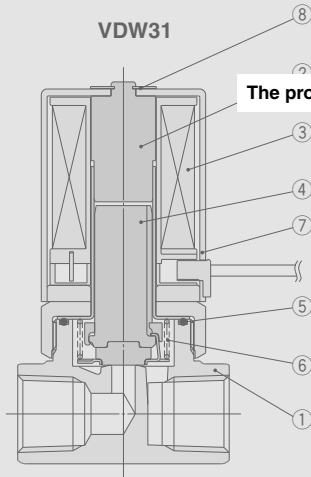
VDW11



VDW21



VDW31



Component Parts

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

VCH □

VDW

SX10

VQ

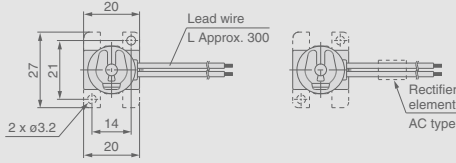
LVM

VDW10/20/30 Series

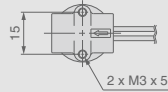
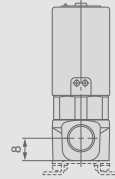
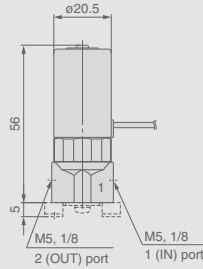
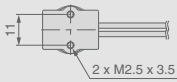
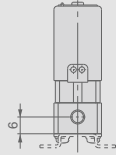
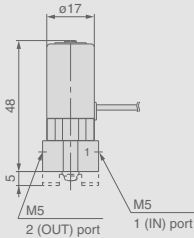
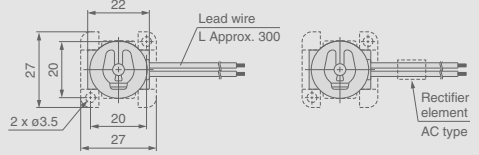
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 For details about new series: VDW10/20 → page 453
 VDW30 → VX2 series

Dimensions

VDW11-□^G/_W

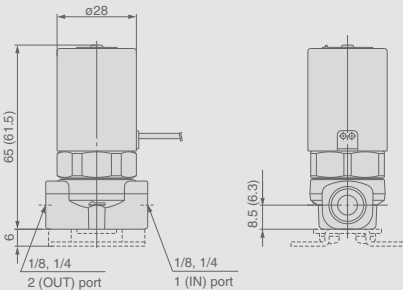
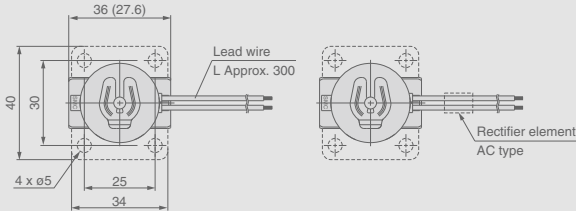


VDW21-□^G/_W



The production was discontinued.

VDW31-□^G/_W



Dimensions inside () are for port size 1/8.

Bracket assembly part no.

- 10, 20 series

VDW **2** 0-15A-1

- Series

1	10
2	20

- 30 series

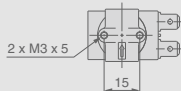
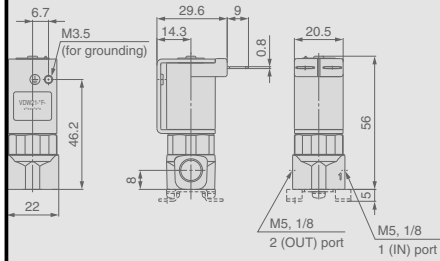
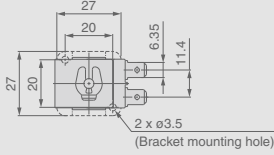
VCW20-12-01A

Compact Direct Operated 2 Port Solenoid Valve for Water and Air **VDW10/20/30 Series**

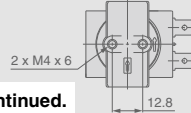
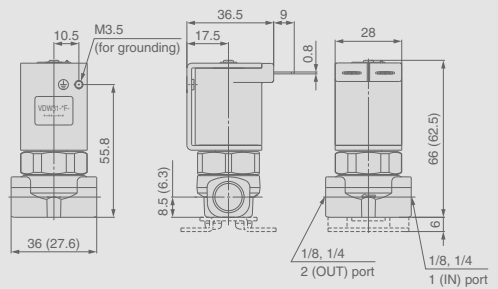
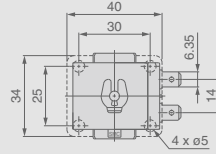
The production of the VDW10/20/30 series was discontinued. (Except for VDW10/20 manifold and 3 port type)
For details about new series: VDW10/20 → page 453
VDW30 → VX2 series

Dimensions

VDW21-□F



VDW31-□F



The production was discontinued.

Bracket assembly part no.

- 20 series

VDW20 – 15A – 1

- 30 series

VCW20 – 12 – 01A

VCH□

VDW

SX10

VQ

LVM

VDW10/20/30 Series



How to Order Manifold

VV2DW **2** - **05** **01** - - -

Series

1	10
2	20
3	30

Material

Symbol	Manifold material	Seal material
NII	Brass (C37)	NBR
A		FKM
B		EPDM
G	Stainless steel	NBR
H		FKM
J		EPDM

Stations

02	2 stations
:	:
10	10 stations

CE-compliant

NII	—
Q	CE-compliant

Option

NII	None
F	With bracket

Note) 30 series is available with bracket only.

Thread type

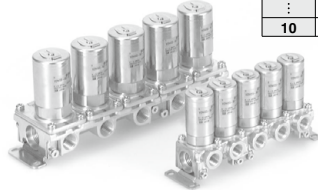
NII	Rc
F	G*
N	NPT

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

OUT port size

Symbol	Port size	Series		
		10	20	30
M5	M5	○	○	—
01	1/8 (6A)	—	○	○
02	1/4 (8A)	—	—	○

Note) IN port sizes are as follows.
 10: 1/8 (6A)
 20: 1/4 (8A)
 30: 3/8 (10A)



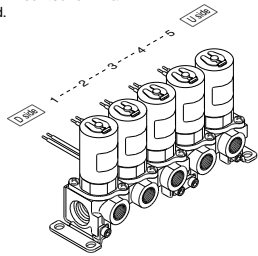
How to Order Manifold Assembly

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

<Ordering example>
 VV2DW2-0501 (-Q) 1 set Manifold part no.
 *VDW23-5G-2 (-Q) 5 sets Valve part no.
 (Stations 1 to 5)

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

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



How to Order Valves (For Manifold)

VDW **2** **3** - **5** **G** - **2** - - -

Series

1	10
2	20
3	30

Valve type

3	N.C. for manifold
---	-------------------

Voltage

Symbol	Voltage	Grommet / Tape winding (G)	Flat terminal, Molded (F)	Grommet / Molded (W)
1	100 VAC (50/60 Hz)	●	—	●
2	200 VAC (50/60 Hz)	●	—	●
3	110 VAC (50/60 Hz)	●	—	●
4	220 VAC (50/60 Hz)	●	—	●
5	24 VDC	●	●	●
6	12 VDC	●	●	●
V	6 VDC	●	●	●
S	5 VDC	●	●	●
R	3 VDC	●	●	●

* Please consult with SMC regarding other voltages.

CE-compliant

NII	—
Q	CE-compliant

Material and insulation type

Symbol	Body material	Seal material	Coil insulation
NII	Brass (C37)	NBR	Class B
A		FKM	
B		EPDM	
G	Stainless steel	NBR	
H		FKM	
J		EPDM	
L (Note)		FKM	

Note) The armature assembly is a corrosion resistant construction.

Coil type

G	Grommet / Tape winding
F	Flat terminal / Molded
W	Grommet / Molded

Note) About series and coil type combinations, refer to page 473.

Orifice diameter

Symbol	Orifice diameter (mmø)	Series
1	1	10
2	1.6	
1	1.6	20
2	2.3	
3	3.2	
2	2	
3	3	30
4	4	

Manifold Options

Blanking plate assembly

• 10, 20 series

VVDW **2** **0** - **3A** - - -

Series

1	10
2	20

Material

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

* Plate material is stainless steel only.

• 30 series

VVCW20 - 3A - - -

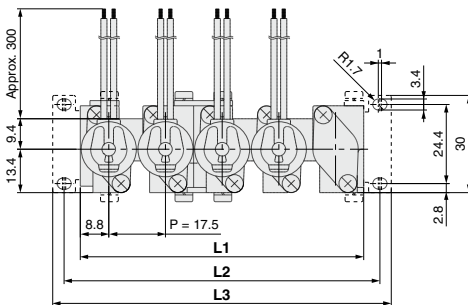
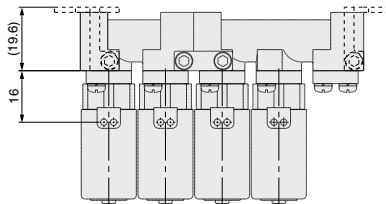
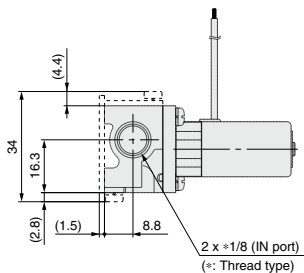
The production was discontinued.

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

Compact Direct Operated 2 Port Solenoid Valve for Water and Air **VDW10/20/30 Series**

Dimensions

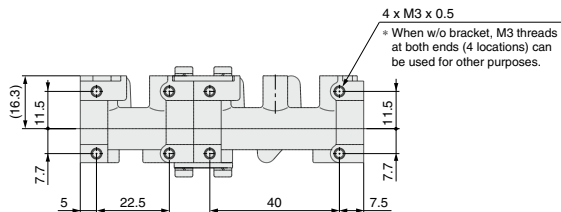
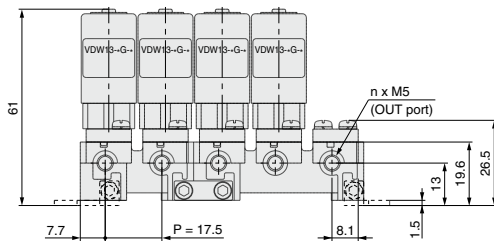
VV2DW1



D side

Stations 1 2 3 4 5 n

U side



VCH

VDW

SX10

VQ

LVM

L Dimension

Dimension	n (stations)									
	2	3	4	5	6	7	8	9	10	
L1	35	52.5	70	87.5	105	122.5	140	157.5	175	
L2	45	62.5	80	97.5	115	132.5	150	167.5	185	
L3	52	69.5	87	104.5	122	139.5	157	174.5	192	
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	

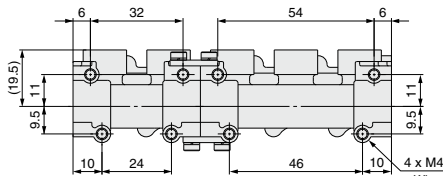
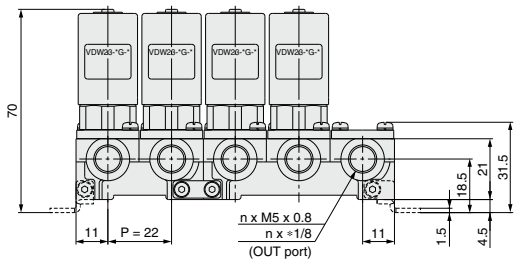
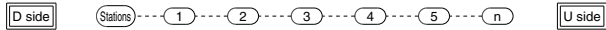
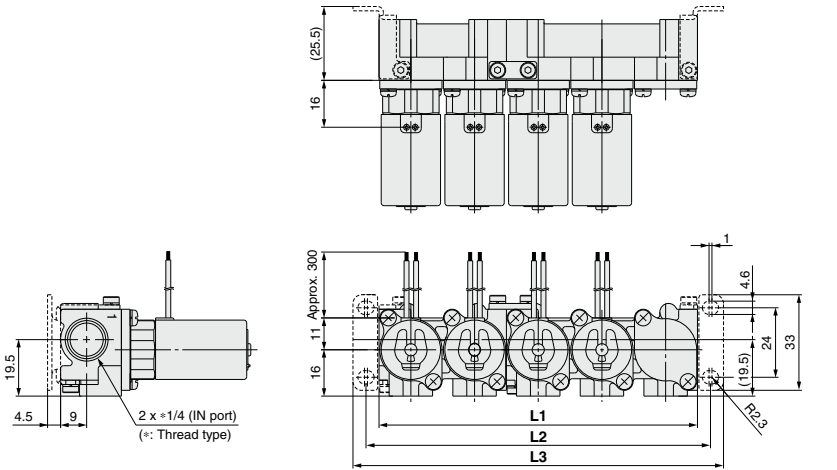
Note) Manifold base is consisted of the junction of 2 and 3 station bases.

Refer to pages 482 and 483 regarding manifold additions.

VDW10/20/30 Series

Dimensions

VV2DW2



* When w/o bracket, M4 threads at both ends (4 locations) can be used for other purposes.

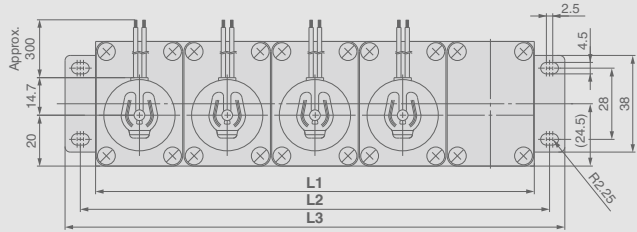
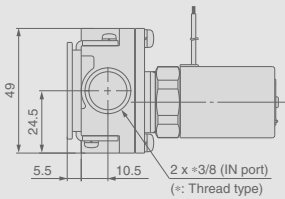
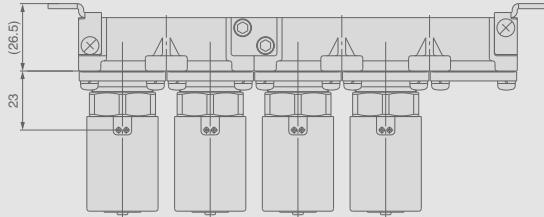
L Dimension

Dimension	n (stations)									
	2	3	4	5	6	7	8	9	10	
L1	44	66	88	110	132	154	176	198	220	
L2	53	75	97	119	141	163	185	207	229	
L3	62	84	106	128	150	172	194	216	238	
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	

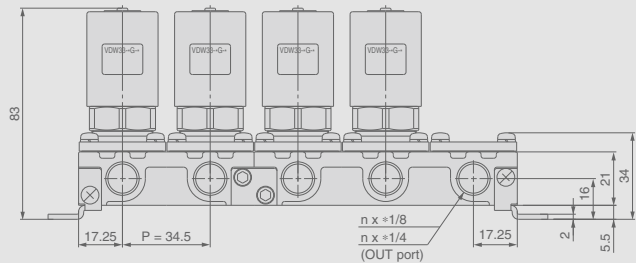
Note) Manifold base is consisted of the junction of 2 and 3 station bases.
Refer to pages 482 and 483 regarding manifold additions.

**Compact Direct Operated
2 Port Solenoid Valve for Water and Air** **VDW10/20/30 Series**

VV2DW3



[D side] **The production was discontinued.** 4 5 n [U side]



- VCH
- VDW
- SX10
- VQ
- LVM

L Dimension

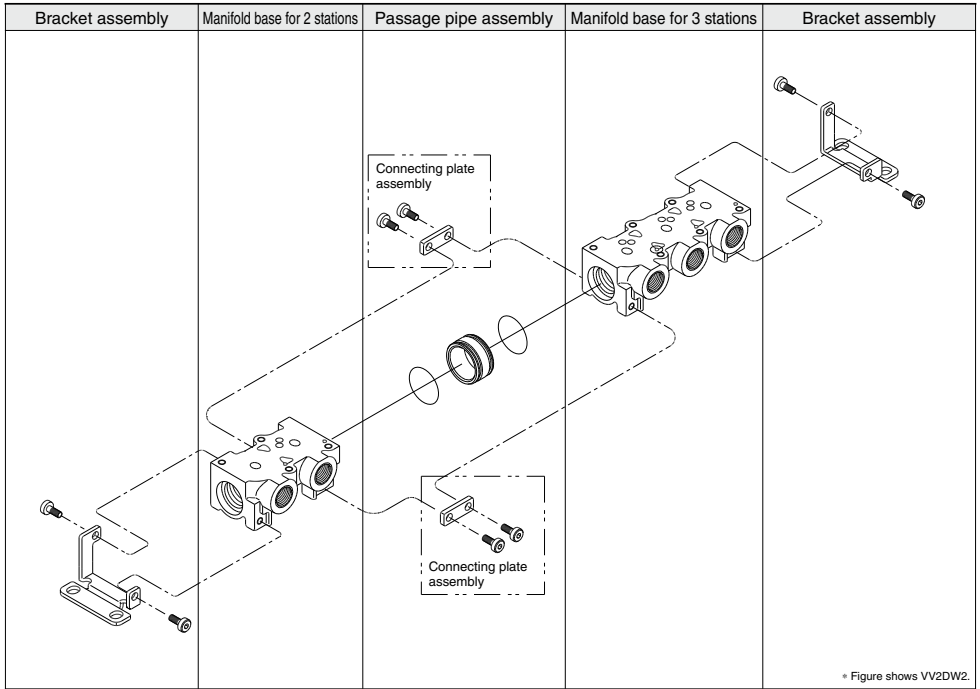
Dimension	n (stations)									
	2	3	4	5	6	7	8	9	10	
L1	70	105	140	175	210	245	280	315	350	
L2	82	117	152	187	222	257	292	327	362	
L3	94	129	164	199	234	269	304	339	374	

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.
Refer to pages 482 and 483 regarding manifold additions.

VDW10/20/30 Series

Manifold Exploded View



Manifold additions

- 1 Install a passage pipe assembly in between the manifold bases to be added.
- 2 Connect the respective manifold bases with a connecting plate assembly. (Tightening torque: 0.9 ± 0.1 N·m)
- 3 Attach brackets to the manifold bases. (when equipped with brackets) (Tightening torque: 0.9 ± 0.1 N·m)

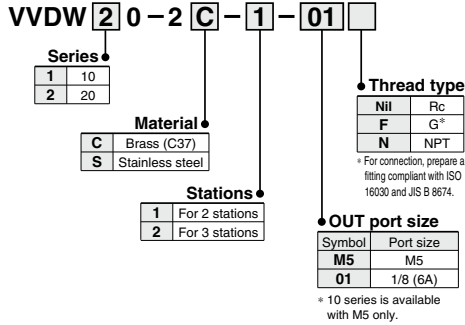
Note) Manifold can be increased by every 2 or 3-station unit.

Order one set each of manifold base, connection plate assembly and passage pipe assembly.

Compact Direct Operated 2 Port Solenoid Valve for Water and Air **VDW10/20/30 Series**

<Manifold base>

- 10, 20 series

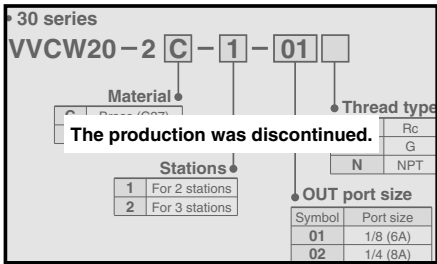
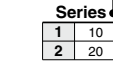


<Connecting plate assembly>

- 10, 20 series

VVDW **2** 0 - 4A

Note) Two sets of connecting plate and mounting screws.



<Passage pipe assembly>

- 10, 20 series

VVDW **2** 0 - 6A -



Material

Symbol	Pipe material	Seal material
Nil		NBR
A	Brass (C37)	FKM
B		EPDM
G		NBR
H	Stainless steel	FKM
J		EPDM

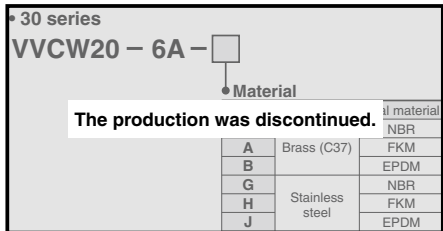
<Bracket assembly>

- 10, 20 series

VVDW **2** 0 - 5A



Note) Consists of a set for D and U sides.



VCH

VDW

SX10

VQ

LVM

Compact Direct Operated 3 Port Solenoid Valve for Water and Air VDW200/300 Series



How to Order Valves (Single Unit)

VDW **2** 50 - **1** **G** - **2** - **01** - - - - -

For Water, Air, Vacuum •

Series

2	200
3	300

Valve type

C.O.

CE-compliant

Nil	—
Q	CE-compliant

Made to Order
(Refer to page 485.)

Option

Nil	None
F	Foot bracket

Note) The foot bracket is packed with a valve.

Voltage

Symbol	Voltage	Grommet / Tape winding (G)	Flat terminal / Molded (F)	Grommet / Molded (W)
1	100 VAC (50/60 Hz)	●	—	●
2	200 VAC (50/60 Hz)	●	—	●
3	110 VAC (50/60 Hz)	●	—	●
4	220 VAC (50/60 Hz)	●	—	●
5	24 VDC	●	●	●
6	12 VDC	●	●	●
V	6 VDC	●	●	●
S	5 VDC	●	●	●
R	3 VDC	●	●	●

* Please consult with SMC regarding other voltages.

Coil type

G – Grommet / Tape winding **W** – Grommet / Molded

Magnet wire protection: Tape winding

Magnet wire protection: Resin Molded

F – Flat terminal / Molded

Magnet wire protection: Resin Molded

Material and insulation type

Symbol	Body material	Seal material	Coil insulation
Nil		NBR	Class B
A	Brass (C37)	FKM	
B		EPDM	
G		NBR	
H	Stainless steel	FKM	
J		EPDM	
L ^{Note)}		FKM	

Note) The armature assembly is a corrosion resistant construction.

Thread type

Nil	Rc
F	G*
N	NPT

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

Port size

Symbol	Port size	Series	
		200	300
M5	M5	○	—
01	1/8 (6A)	○	○
02	1/4 (8A)	—	○

Orifice diameter

Symbol	N.C. Orifice diameter (mm ø)	N.O. Orifice diameter (mm ø)	Series
1	1	1	200
2	1.6		
2	2	1.8	300
3	3		
4	4		

Compact Direct Operated 3 Port Solenoid Valve for Water and Air **VDW200/300 Series**

Standard Specifications



Valve specifications	Valve construction		Direct operated poppet
	Fluid ^{Note 2)}		Water (except waste water or agricultural water), Air, Low vacuum
	Withstand pressure (MPa)		2.0
	Ambient temperature (°C)		-10 to 50
	Fluid temperature (°C)		1 to 50 (No freezing)
	Environment		Location without corrosive or explosive gases
	Valve leakage (cm³/min)		0 (with water pressure) 1 (Air)
Coil specifications	Mounting orientation		Unrestricted
	Vibration/Impact (m/s²) ^{Note 4)}		30/150
	Rated voltage		24 VDC, 12 VDC, 100 VAC, 110 VAC, 200 VAC, 220 VAC (50/60 Hz)
	Allowable voltage fluctuation (%)		±10% of rated voltage
	Coil insulation type		Class B
	Enclosure ^{Note 6)}	Grommet / Tape winding	Dust-proof (equivalent to IP40)
Flat terminal / Molded		Dust-tight (equivalent to IP60) ^{Note 5)}	
		Grommet / Molded	Dust-tight / Low jetproof (equivalent to IP65)
Power consumption (W) ^{Note 3)}		3	

Note 1) Please consult with SMC when used under conditions which may cause condensation on the exterior of the product.

Note 2) When used with deionized water, select "L" (Stainless steel, FKM) for the material type.

Note 3) Since the AC coil specification includes a rectifier element, there is no difference in power consumption between inrush and holding.

3.5 W in the case of 110/220 VAC

Note 4) Vibration resistance No malfunction when tested with one sweep of 5 to 200 Hz in the axial direction and at a right angle to the armature, in both energized and deenergized states.

Impact resistance No malfunction when tested with a drop tester in the axial direction and at a right angle to the armature, one time each in energized and deenergized states.

Note 5) Since electrical connections are exposed, there is no water resistance.

Note 6) For enclosure, refer to "Glossary of Terms" on page 495. When using the product in a place which requires water resistance, please contact SMC.

Made to Order

Made to Order
(For details, refer to page 489.)

Symbol	Specifications
-X22	Non-leak (10 ⁻⁶ Pa·m ³ /sec) / Vacuum (0.1Pa-abs) specification
-X23	Oil-free specification
-X60	Lead wire length: 600 mm specification
-X133	Seal material: Perfluoroelastomer specification

Characteristic Specifications

Model	Port size	Orifice dia. (mm ø)	Max. operating pressure differential (MPa) ^{Note 2)}		Operating pressure range (MPa) ^{Note 3)}	Weight (kg)
			Pressure port 1	Pressure port 2, 3 ^{Note 1)}		
VDW200	M5 1/8 (6A)	1	0.9	0.3	0 to 1.0	0.12
		1.6	0.7	0.1		
VDW300	1/8 (6A) 1/4 (8A)	2	0.8	0.2		
		3	0.4	0.1		
		4	0.2	0.05		

Note 1) Indicates the maximum operating pressure differential of pressure ports 2 and 3.

Note 2) The maximum operating pressure differential changes depending on the flow direction of the fluid. Refer to page 494 for details.

Note 3) For low vacuum specifications, the operating pressure range is 1 Torr (1.33 x 10² Pa) to 1.0 MPa. Please consult with SMC if using below 1 Torr (1.33 x 10² Pa).

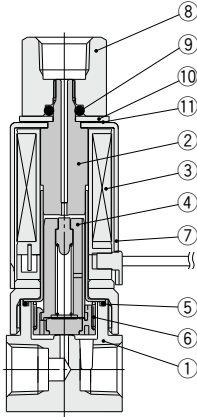
Flow Rate Characteristics

Model	Port size	Orifice dia. (mm ø)		Water				Air					
				1→2 (IN→N.C.)		1→3 (IN→N.O.)		1→2 (IN→N.C.)			1→3 (IN→N.O.)		
		N.C.	N.O.	Kv	Cv converted	Kv	Cv converted	C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv
VDW200	M5 1/8 (6A)	1	1	0.03	0.03	0.03	0.04	0.12	0.35	0.03	0.13	0.52	0.04
		1.6		0.06	0.07			0.30	0.45	0.07			
VDW300	1/8 (6A) 1/4 (8A)	2	1.8	0.14	0.16	0.11	0.13	0.52	0.52	0.16	0.38	0.50	0.12
		3		0.24	0.28			1.0	0.52	0.30			
		4		0.39	0.44			1.5	0.49	0.46			

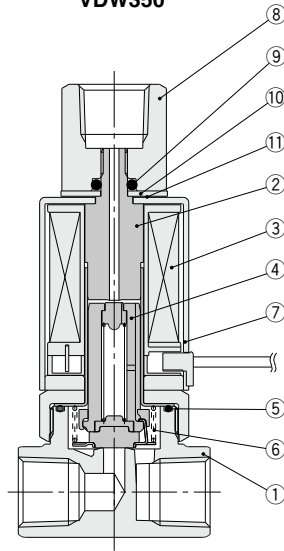
VDW200/300 Series

Construction

VDW250



VDW350



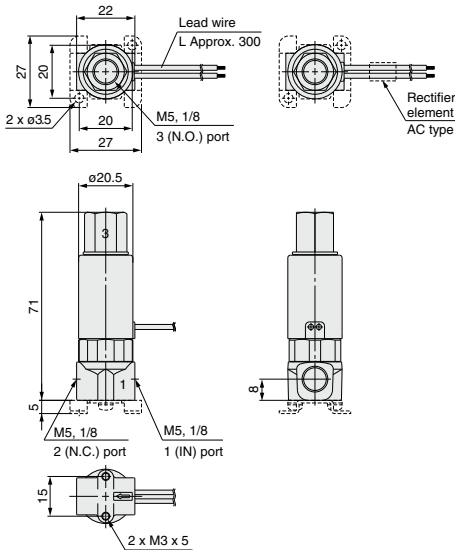
Component Parts

No.	Description	Material	
		Standard	Option
1	Body	Brass (C37)	Stainless steel
2	Tube assembly	Stainless steel	—
3	Coil assembly	—	—
4	Armature assembly	Stainless steel, PPS, NBR	Stainless steel, PPS, FKM, EPDM
5	O-ring (Body)	NBR	FKM, EPDM
6	Return spring	Stainless steel	—
7	Cover	SPCE	—
8	Socket	C36	Stainless steel
9	O-ring	NBR	FKM, EPDM
10	Plate	SPCC	—
11	Wave washer	Stainless steel	—

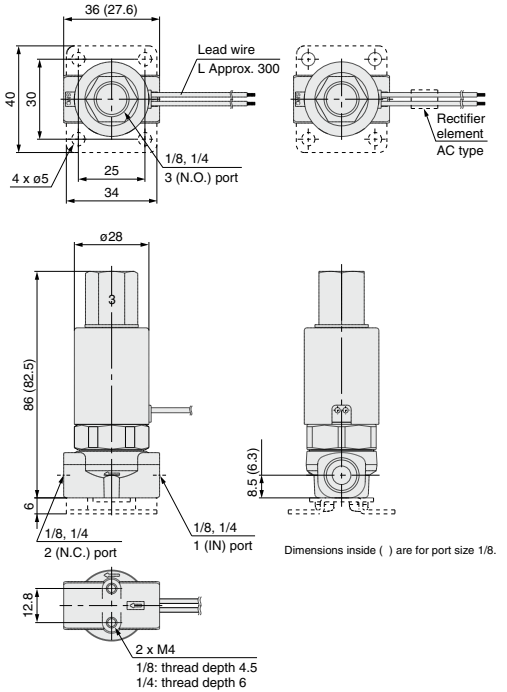
Compact Direct Operated 3 Port Solenoid Valve for Water and Air **VDW200/300 Series**

Dimensions

VDW250-□^G_W



VDW350-□^G_W



Bracket assembly part no.

- 200 series

VDW20-15A-1

- 300 series

VCW20-12-01A

VCH□

VDW

SX10

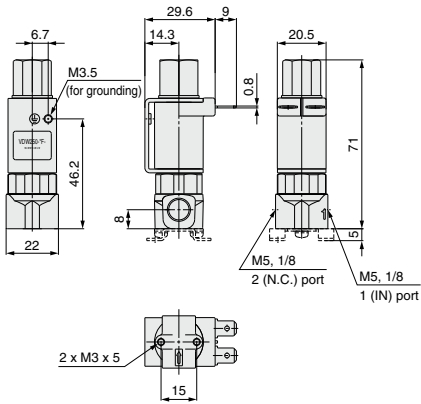
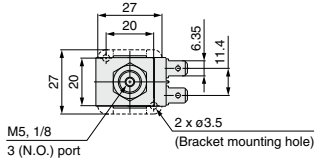
VQ

LVM

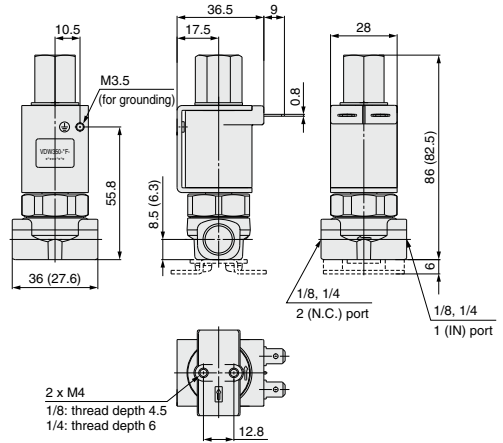
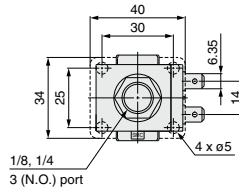
VDW200/300 Series

Dimensions

VDW250-□F



VDW350-□F



Bracket assembly part no.

- 200 series

VDW20-15A-1

- 300 series

V CW20-12-01A

VDW Series

Made to Order Specifications:

Please consult with SMC for detailed size, specifications and delivery.

The production of the VDW10/20/30 series was discontinued.
 (Except for VDW10/20 manifold and 3 port type)
 For details about new series:
 VDW10/20 → page 453
 VDW30 → VX2 series



1 Non-leak (10^{-6} Pa·m³/sec)/Vacuum (0.1 Pa-abs) Specification Symbol **-X22**

VDW — X22(-Q)

2 Oil-free Specification Symbol **-X23**

VDW — X23(-Q)

3 Lead Wire Length: 600 mm Specification Symbol **-X60**

VDW — X60(-Q)

4 Seal Material: Perfluoroelastomer Specification Symbol **-X133**

VDW — X133(-Q)

Note) Select from A, H, or L for the material and insulation type.

VCH

VDW

SX10

VQ

LVM

The production of the VDW10/20/30 series was discontinued.
 (Except for VDW10/20 manifold and 3 port type)
 For details about new series: VDW10/20 → page 453
 VDW30 → VX2 series

Pressure Terminology

1. Maximum operating pressure differential

This indicates the maximum pressure differential (inlet and outlet pressure differential) which can be allowed for operation with the valve closed or open. When the outlet pressure is 0 MPa, this becomes the maximum operating pressure.

2. Maximum operating pressure

This indicates the limit of pressure that can be applied inside the pipelines. (Line pressure)
 (The pressure differential of the solenoid valve unit must be no more than the maximum operating pressure differential.)

3. Withstand pressure

The pressure which must be withstood without a drop in performance after returning to the operating pressure range (The value under the prescribed conditions).

Electrical Terminology

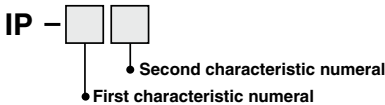
1. Surge voltage

A high voltage which is momentarily generated in the shut-off unit by shutting off the power.

2. Enclosure

A degree of protection defined in the "JIS C 0920: Waterproof test of electric machinery/appliance and the degree of protection against the intrusion of solid foreign objects".

Verify the degree of protection for each product.



● First Characteristics: Degrees of protection against solid foreign objects

0	Non-protected
1	Protected against solid foreign objects of 50 mm ϕ and greater
2	Protected against solid foreign objects of 12 mm ϕ and greater
3	Protected against solid foreign objects of 2.5 mm ϕ and greater
4	Protected against solid foreign objects of 1.0 mm ϕ and greater
5	Dust-protected
6	Dusttight

● Second Characteristics: Degrees of protection against water

0	Non-protected	—
1	Protected against vertically falling water drops	Dripproof type 1
2	Protected against vertically falling water drops when enclosure tilted up to 15°	Dripproof type 2
3	Protected against rainfall when enclosure tilted up to 60°	Rainproof type
4	Protected against splashing water	Splashproof type
5	Protected against water jets	Low jetproof type
6	Protected against powerful water jets	Strong jetproof type
7	Protected against the effects of temporary immersion in water	Immersible type
8	Protected against the effects of continuous immersion in water	Submersible type

Example) IP65: Dusttight, Low jetproof type
 "Low jetproof type" means that no water intrudes inside an equipment that could hinder from operating normally by means of applying water for 3 minutes in the prescribed manner. Take appropriate protection measures, since a device is not usable in an environment where a droplet of water is splashed constantly.

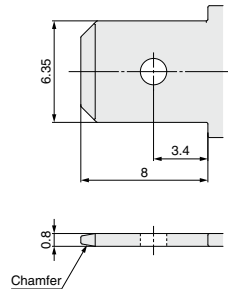
Other

1. Material

NBR: Nitrile rubber
 FKM: Fluororubber
 EPDM: Ethylene propylene rubber
 C37: Brass
 SUS: Stainless steel

Flat Terminal

1. Flat terminal/Electrical connection size of molded coil



2. When providing a body ground, please use the frame ground (M3.5).

(Recommended fastening bolt: M3.5, length 5 mm)