



Made to Order
(For details, refer to page 259.)

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: Kalrez® specification (Note)

Note) Kalrez® is a registered trademark of DuPont Dow Elastomers.

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 or less (Air)
	Mounting orientation		Unrestricted
	Vibration/Impact (m/s²) ^{Note 4)}		30/150
Coil specifications	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)
		Faston terminal / Molded	Dust-tight (equivalent to IP60) ^{Note 5)}
		Grommet / Molded	Dust-tight / Low jetproof (equivalent to IP65)
Power consumption (W) ^{Note 3)}		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.

Characteristic Specifications

Model	Port size	Orifice dia. (mm ø)	Max. operating pressure differential (MPa) (Note 1)		Operating Pressure range (MPa) (Note 2)	Mass (kg)
			Pressure port 1	Pressure port 2		
VDW10	M5	1	0.9	0.4	0 to 1.0	0.08
		1.6	0.4	0.2		
VDW20	M5 1/8 (6A)	1.6	0.7	0.2		0.1
		2.3	0.4	0.1		
		3.2	0.2	0.05		
VDW30	1/8 (6A) 1/4 (8A)	2	0.8	0.2		1/8: 0.23 1/4: 0.26
		3	0.4	0.1		
		4	0.2	0.05		



Note 1) The maximum operating pressure differential changes depending on the flow direction of the fluid. Refer to page 264 for details.

Note 2) For low vacuum specifications, the operating pressure range is 1 Torr (1.33×10^2 Pa) to 1.0 MPa.

Please consult with SMC if using below 1 Torr (1.33×10^2 Pa).

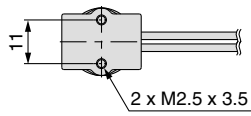
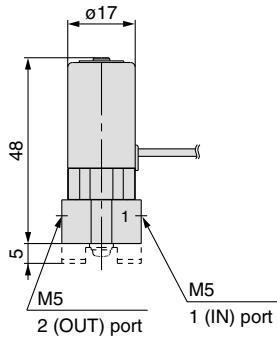
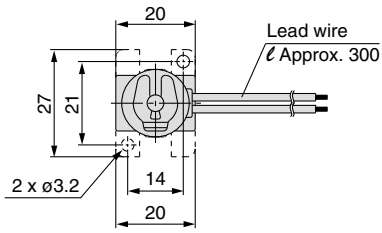
Flow Characteristics

Model	Port size	Orifice dia. (mm ø)	Water		Air		
			1→2 (IN→N.C.)		1→2 (IN→N.C.)		
			N.C.	Av x 10 ⁻⁶ m ²	Cv converted	C [dm³/(s·bar)]	b
VDW10	M5	1	0.96	0.04	0.14	0.40	0.04
		1.6	1.7	0.07	0.30	0.25	0.07
VDW20	M5 1/8 (6A)	1.6	1.9	0.08	0.31	0.45	0.09
		2.3	4.3	0.18	0.58	0.45	0.18
		3.2	7.2	0.30	1.2	0.38	0.33
VDW30	1/8 (6A) 1/4 (8A)	2	3.8	0.16	0.52	0.52	0.16
		3	6.7	0.28	1.0	0.52	0.30
		4	11	0.44	1.5	0.49	0.46

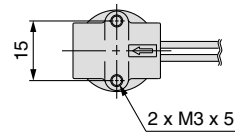
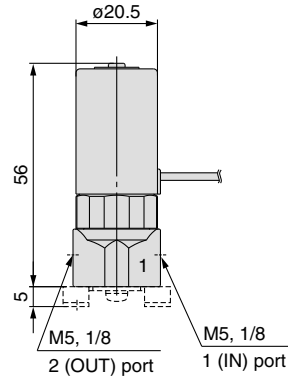
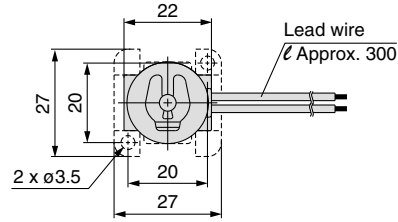
Series VDW10/20/30

Dimensions

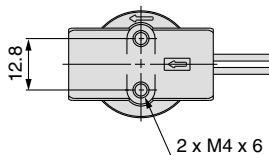
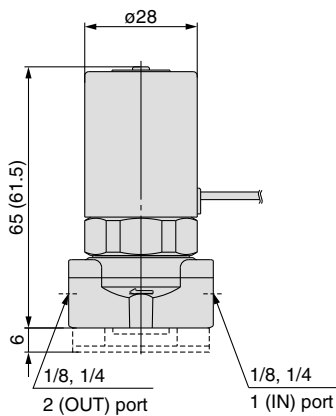
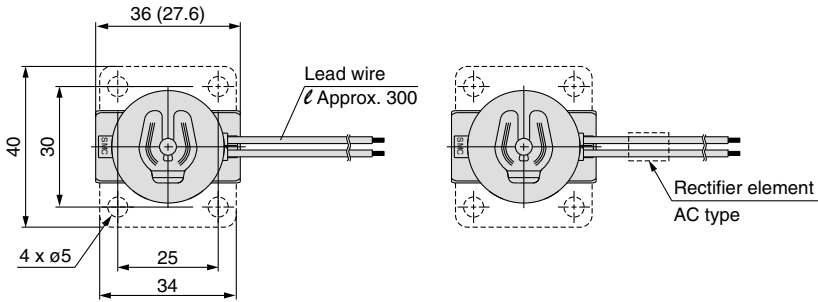
VDW11-□^G_W



VDW21-□^G_W



VDW31-□^G_W



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

Bracket assembly part no.

- Series 10, 20

VDW 2 0-15A-1

- Series

1	10
2	20

- Series 30

VCW20-12-01A