



ISO Standard Solenoid Valve: Size 2 Metal Seal/Rubber Seal, Single Unit Series VQ7-8

How to Order Valves

VQ7-8-FG-S-3

Passage symbol

FG	
YZ*	
FHG	
FJG	
FPG	
FIG	

* Option

Number of solenoids

S	Single
D	Double

Connector

Nil	DIN terminal block (With connector)
O	DIN terminal block (Without connector)
SC	Pre-wired connector

Sub-plate port size

Nil	Without sub-plate
A03	Side ported Rc 3/8
A04	Side ported Rc 1/2
A06	Side ported Rc 3/4
B03	Bottom ported Rc 3/8
B04	Bottom ported Rc 1/2
B06	Bottom ported Rc 3/4

Thread type

Nil	Rc
F	G
T	NPTF

Seal

Nil	Metal seal
R	Rubber seal

Option

Nil	None
Z	Light/Surge voltage suppressor
V	Individual pilot exhaust

* When two or more symbols are specified, indicate them alphabetically.

Coil rated

1	100 VAC
2	200 VAC
3	24 VDC
4	12 VDC
9	Other voltages

* For other voltages, please contact SMC separately.

How to Order Sub-plate

VS7-2-A03

Port size

A03	Side ported Rc 3/8
A04	Side ported Rc 1/2
A06	Side ported Rc 3/4
B03	Bottom ported Rc 3/8
B04	Bottom ported Rc 1/2
B06	Bottom ported Rc 3/4

Thread type

Nil	Rc
F	G
T	NPTF

Specifications

Model	Porting specifications		Weight (kg)
	Piping location	Port size	
VS7-2-A03□	Side	3/8	0.68
VS7-2-A04□		1/2	
VS7-2-A06□		3/4	
VS7-2-B03□	Bottom	3/8	0.68
VS7-2-B04□		1/2	
VS7-2-B06□		3/4	

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Model

Series	Number of positions		Model		Port size	Flow characteristics						(1) Response time (ms)	(2) Weight (kg)
						1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)				
						C[dm³/(s·bar)]	b	Cv	C[dm³/(s·bar)]	b	Cv		
VQ7-8	2 position	Single	Metal seal	VQ7-8-FG-S-□	3/8	10	0.18	2.4	12	0.24	3.0	40 or less	0.64
			Rubber seal	VQ7-8-FG-S-□R		12	0.24	3.0	13	0.27	3.3	45 or less	
		Double	Metal seal	VQ7-8-FG-D-□		10	0.18	2.4	12	0.24	3.0	15 or less	0.70
			Rubber seal	VQ7-8-FG-D-□R		12	0.24	3.0	13	0.27	3.3	20 or less	
	3 position	Closed center	Metal seal	VQ7-8-FHG-D-□		10	0.28	2.4	10	0.24	2.4	45 or less	0.75
			Rubber seal	VQ7-8-FHG-D-□R		11	0.25	2.8	11	0.27	2.8	50 or less	
		Exhaust center	Metal seal	VQ7-8-FJG-D-□		10	0.16	2.4	10	0.20	2.4	45 or less	0.75
			Rubber seal	VQ7-8-FJG-D-□R		11	0.26	2.8	13	0.27	3.3	50 or less	
		Double check	Metal seal	VQ7-8-FPG-D-□		7.2	—	—	7.0	—	—	60 or less	1.98
			Rubber seal	VQ7-8-FPG-D-□R		7.2	—	—	7.0	—	—	60 or less	
		Pressure center	Metal seal	VQ7-8-FIG-D-□		10	0.26	2.4	11	0.25	2.8	45 or less	0.75
			Rubber seal	VQ7-8-FIG-D-□R		13	0.27	3.3	12	0.29	3.0	50 or less	

Note 1) Based on JIS B 8375-1981 (Value for supply pressure of 0.5 MPa, with light/surge voltage suppressor, when using clean air.) Response time values will change depending on pressure and air quality. Value when ON for double type.

Note 2) Weight without sub-plate. (Sub-plate: Rc 3/8, 1/2: 0.68 kg, Rc 3/4: 1.29 kg)



Standard Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure		1.0 MPa	
	Min. operating pressure	Single	0.15 MPa	0.20 MPa
		Double	0.15 MPa	0.15 MPa
		3 position	0.15 MPa	0.20 MPa
	Ambient and fluid temperature		−10 to 60°C ⁽¹⁾	−5 to 60°C ⁽¹⁾
	Lubrication		Not required	
	Manual override		Push type (Tool required)	
	Shock/Vibration resistance		150/30 m/s ² ⁽²⁾	
	Enclosure		IP65 (Dusttight, Low jetproof)	
Solenoid specifications	Coil rated voltage		12 VDC, 24 VDC, 100 VAC, 110 VAC, 200 VAC, 220 VAC (50/60 Hz)	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Class B or equivalent	
	Power consumption (Current)	24 VDC	1 W DC (42 mA)	
		12 VDC	1 W DC (83 mA)	
		100 VAC	Inrush 1.2 VA (12 mA), Holding 1.2 VA (12 mA)	
		110 VAC	Inrush 1.3 VA (11.7 mA), Holding 1.3 VA (11.7 mA)	
		200 VAC	Inrush 2.4 VA (12 mA), Holding 2.4 VA (12 mA)	
		220 VAC	Inrush 2.6 VA (11.7 mA), Holding 2.6 VA (11.7 mA)	



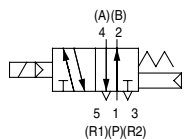
Note 1) Use dry air to prevent condensation when operating at low temperatures.

Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)

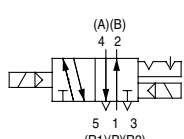
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

JIS Symbol

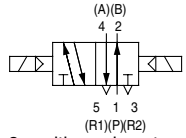
2 position single



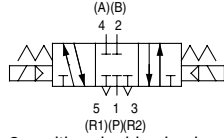
2 position double (Metal)



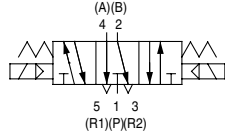
2 position double (Rubber)



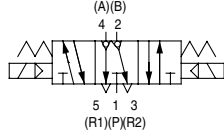
3 position closed center



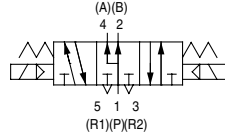
3 position exhaust center



3 position double check



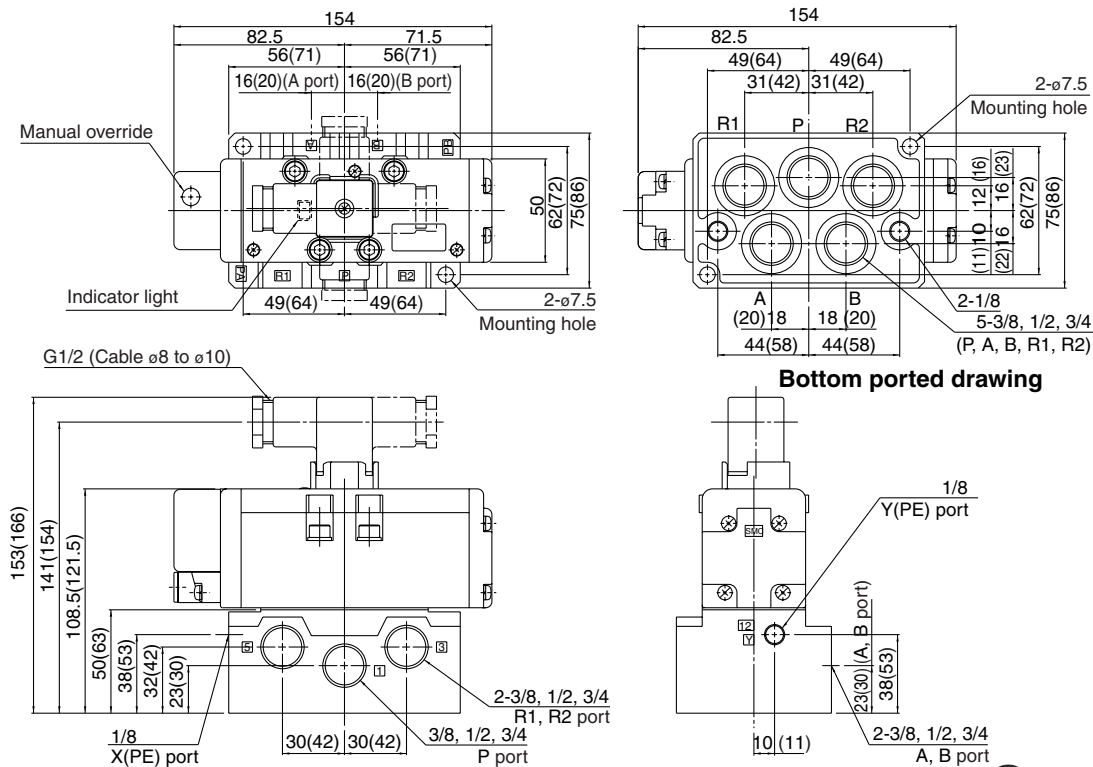
3 position pressure center



Series VQ7-8

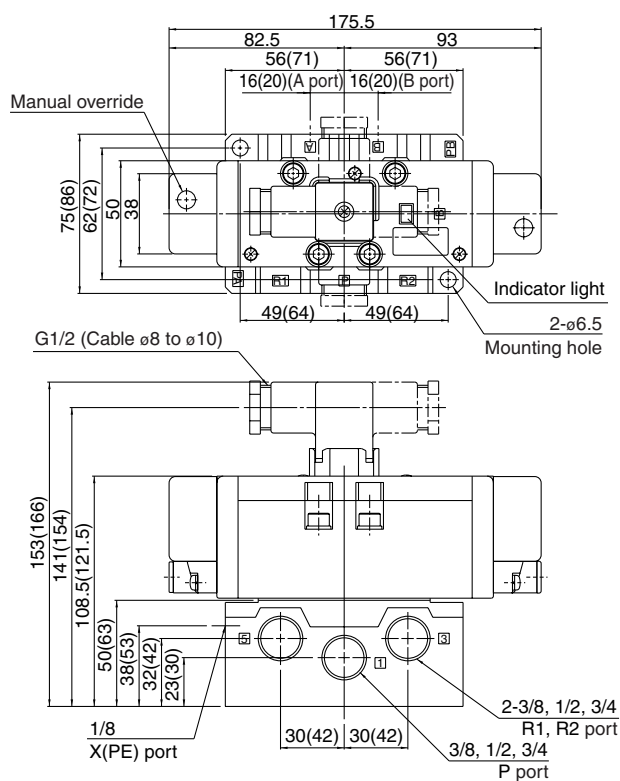
DIN Terminal Type

2 position single : VQ7-8-FG-S
single (Reverse pressure): VQ7-8-YZ-S



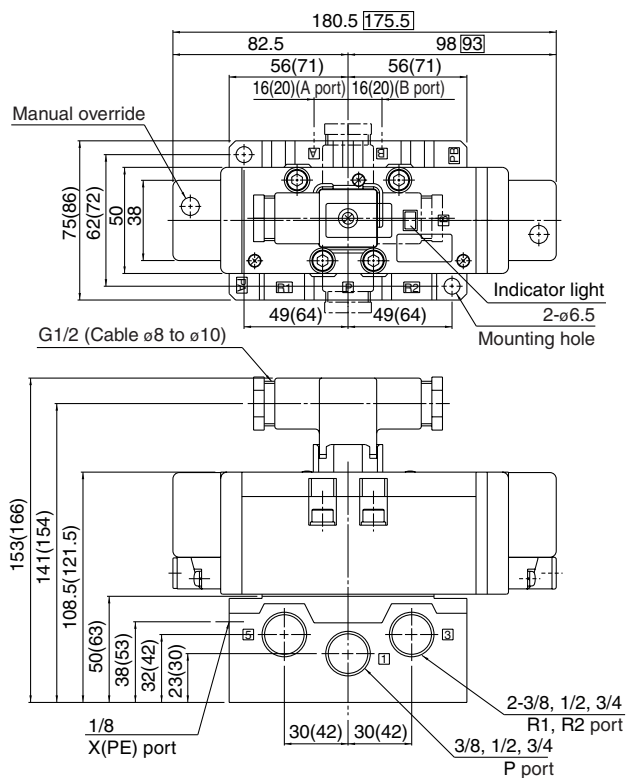
() : 3/4

2 position double : VQ7-8-FG-D
double (Reverse pressure): VQ7-8-YZ-D



() : 3/4

3 position closed center : VQ7-8-FHG-D
exhaust center : VQ7-8-FJG-D
pressure center : VQ7-8-FIG-D



() : 3/4
Dimensions inside ☐ are for rubber seals.