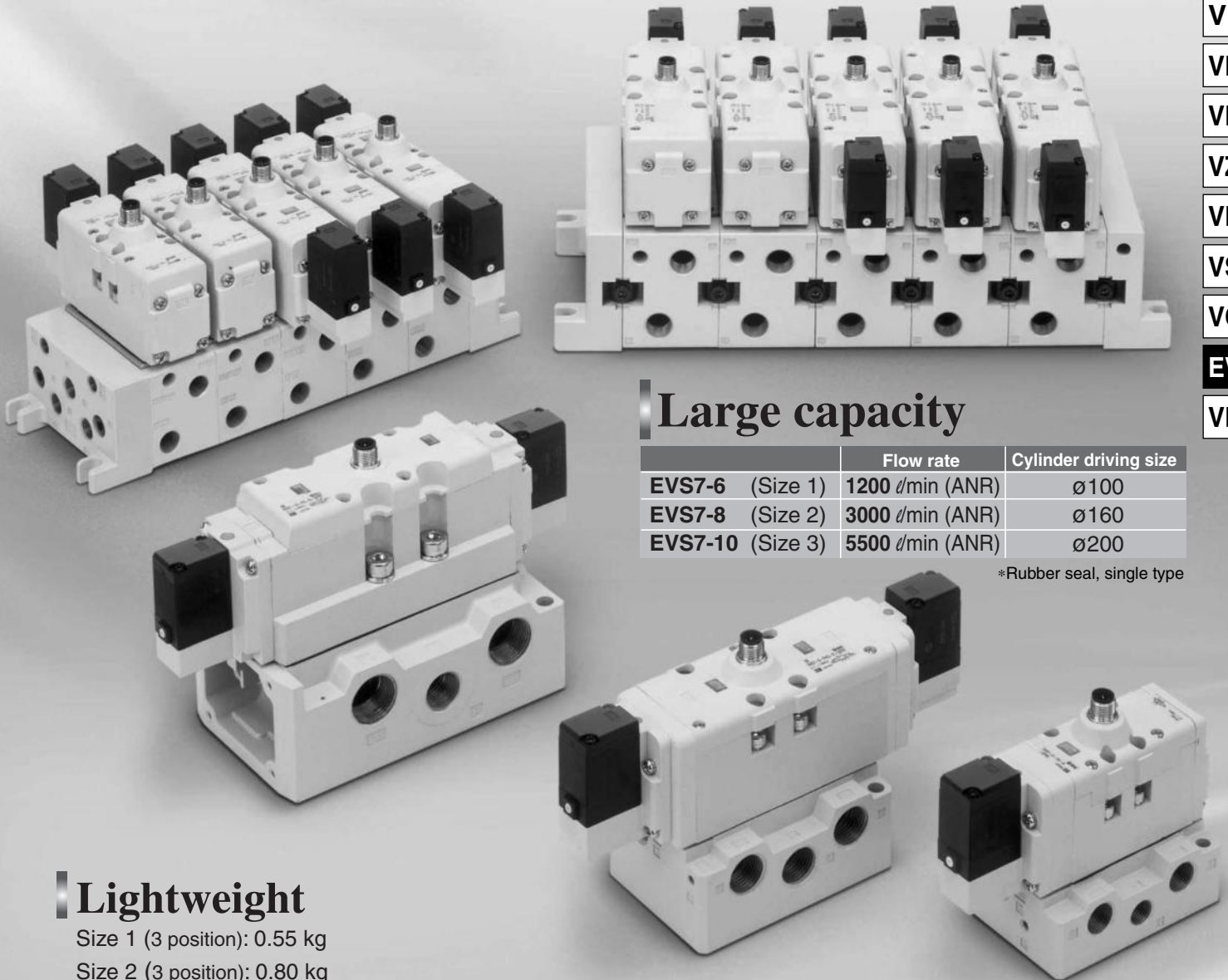


# Conforming to ISO Standard Solenoid Valve (with M12 Connector) Series *EVS7-6/7-8/7-10*

(Size 1) (Size 2) (Size 3)



- VK
- VZ
- VF
- VFR
- VP4
- VZS
- VFS
- VS4
- VQ7
- EVS**
- VFN

## Large capacity

	Flow rate	Cylinder driving size
<b>EVS7-6</b> (Size 1)	1200 $\ell$ /min (ANR)	$\varnothing$ 100
<b>EVS7-8</b> (Size 2)	3000 $\ell$ /min (ANR)	$\varnothing$ 160
<b>EVS7-10</b> (Size 3)	5500 $\ell$ /min (ANR)	$\varnothing$ 200

\*Rubber seal, single type

## Lightweight

Size 1 (3 position): 0.55 kg  
 Size 2 (3 position): 0.80 kg  
 Size 3 (3 position): 1.13 kg

## Interface conforms to ISO standard

Size 1 (**EVS7-6**), Size 2 (**EVS7-8**), and Size 3 (**EVS7-10**)  
 Conform to ISO5599/1

## Reduced installation space

Up to 7% reduction in square area installation (compared to Series EVS7)  
 Up to 35% reduction in cubic area installation (for Cnomo)

## Accommodates enclosure IP65

Dust/Splashproof type

## Wide variety of manifold option

# ISO Standard Solenoid Valve Size 1, 2, 3/Single Unit

# Series *EVS7-6/7-8/7-10*

## How to Order

**Valve** **EVS7-6-FG-S-3- - - - - MO**

**Size**

6	Size 1
8	Size 2
10	Size 3

**Thread type**

Nil	Rc
F	G
T	NPTF

**Passage symbol**

<b>FG</b>	
<b>FHG</b>	
<b>FJG</b>	
<b>FIG</b>	
<b>FPG*</b>	

**Number of solenoids**

<b>S</b>	Single
<b>D</b>	Double

**Rated coil voltage**

<b>3</b>	24 VDC
<b>4</b>	12 VDC
<b>9</b>	Voltage other than above (50 VDC or less)

**Option**

<b>Nil</b>	None
<b>Z</b>	Light/Surge voltage suppressor

**Port size**

Symbol	Piping specifications	Size 1	Size 2	Size 3
Nil	Without sub-plate	○	○	○
A02	Side-ported 1/4	○		
A03	Side-ported 3/8	○	○	
A04	Side-ported 1/2		○	○
A06	Side-ported 3/4		○	○
A10	Side-ported 1			○
B02	Bottom-ported 1/4	○		
B03	Bottom-ported 3/8	○	○	
B04	Bottom-ported 1/2		○	○
B06	Bottom-ported 3/4		○	○

**Sealing type**

<b>Nil</b>	Metal seal
<b>R</b>	Rubber seal

\* Available for 7-6 and 7-8 only

**Sub-plate** **VS7-1-A02- -**

**Size**

1	Size 1
2	Size 2
3	Size 3

**Port size**

Symbol	Piping specifications	Size 1	Size 2	Size 3
A02	Side-ported 1/4	○		
A03	Side-ported 3/8	○	○	
A04	Side-ported 1/2		○	○
A06	Side-ported 3/4		○	○
A10	Side-ported 1			○
B02	Bottom-ported 1/4	○		
B03	Bottom-ported 3/8	○	○	
B04	Bottom-ported 1/2		○	○
B06	Bottom-ported 3/4		○	○

**Thread type**

<b>Nil</b>	Rc
<b>F</b>	G
<b>T</b>	NPTF

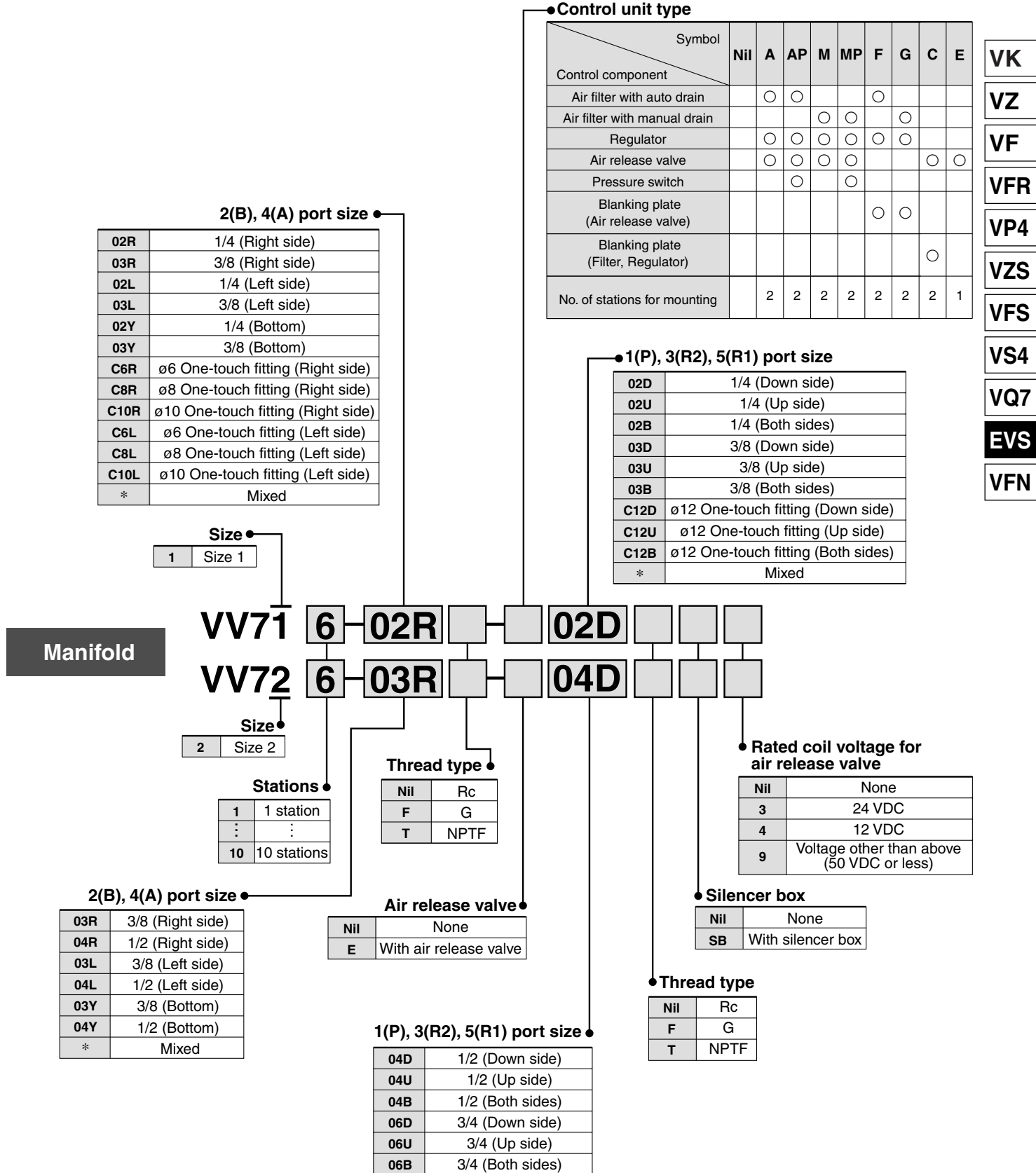
### Specifications

Model	Piping specifications			Weight (kg)	
	Piping direction	Port size for 1(P), 2(B), 4(A)	Port size for 3(R2), 5(R1)		
VS7-1-A02	Horizontal	1/4	3/8	0.37	
VS7-1-A03		3/8			
VS7-1-B02	Bottom	1/4	3/8		
VS7-1-B03		3/8			
VS7-2-A03	Horizontal	3/8			0.68
VS7-2-A04		1/2			
VS7-2-A06	Bottom	3/4		1.29	
VS7-2-B03		3/8			0.68
VS7-2-B04		1/2			
VS7-2-B06		3/4			
VS7-3-A04	Horizontal	1/2	3/4	1.50	
VS7-3-A06		3/4			
VS7-3-A10	Bottom	1			1.50
VS7-3-B04		1/2			
VS7-3-B06		3/4			

Series EVS7-□

# Manifold Specifications

## How to Order



# Series EVS7-□

## Model

### Series EVS7-6



Positions			Bore size	Flow characteristics					
				1 → 4, 2 (P → A, B)			4, 2 → 5, 3 (A, B → EA, EB)		
2 position	Single	Metal seal	1/4	C	b	Cv	C	b	Cv
		Rubber seal		4.1	0.10	0.9	5.2	0.07	1.1
Double	Metal seal	5.0		0.13	1.1	6.0	0.11	1.4	
	Rubber seal	4.1		0.10	0.9	5.2	0.07	1.1	
3 position	Closed center	Metal seal		5.0	0.13	1.1	6.0	0.11	1.4
		Rubber seal		4.1	0.10	0.9	5.2	0.10	1.1
	Exhaust center	Metal seal		5.0	0.13	1.1	5.6	0.20	1.3
		Rubber seal		4.1	0.10	0.9	5.2	0.10	1.1
	Pressure center	Metal seal		4.8	0.16	1.1	6.0	0.17	1.4
		Rubber seal		4.1	0.10	0.9	5.2	0.08	1.1
	Perfect type	Metal seal		5.6	0.15	1.2	5.9	0.08	1.3
		Rubber seal		1.4	—	—	3.1	—	—
			1.4	—	—	3.1	—	—	

### Series EVS7-8



Positions			Bore size	Flow characteristics					
				1 → 4, 2 (P → A, B)			4, 2 → 5, 3 (A, B → EA, EB)		
2 position	Single	Metal seal	3/8	C	b	Cv	C	b	Cv
		Rubber seal		10	0.18	2.4	12	0.24	3.0
Double	Metal seal	12		0.24	3.0	13	0.27	3.3	
	Rubber seal	10		0.18	2.4	12	0.24	3.0	
3 position	Closed center	Metal seal		12	0.24	3.0	13	0.27	3.3
		Rubber seal		10	0.28	2.4	10	0.24	2.4
	Exhaust center	Metal seal		11	0.25	2.8	11	0.27	2.8
		Rubber seal		10	0.16	2.4	10	0.20	2.4
	Pressure center	Metal seal		11	0.26	2.8	13	0.27	3.3
		Rubber seal		10	0.26	2.4	11	0.25	2.8
	Perfect type	Metal seal		13	0.27	3.3	12	0.29	3.0
		Rubber seal		7.2	—	—	7.0	—	—
			7.2	—	—	7.0	—	—	

### Series EVS7-10



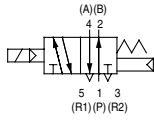
Positions			Bore size	Flow characteristics					
				1 → 4, 2 (P → A, B)			4, 2 → 5, 3 (A, B → EA, EB)		
2 position	Single	Metal seal	1/2	C	b	Cv	C	b	Cv
		Rubber seal		13	0.10	3.0	18	0.10	4.0
Double	Metal seal	16		0.20	4.0	18	0.20	4.4	
	Rubber seal	13		0.10	3.0	18	0.10	4.0	
3 position	Closed center	Metal seal		16	0.20	4.0	18	0.20	4.4
		Rubber seal		13	0.10	3.0	18	0.10	4.0
	Exhaust center	Metal seal		15	0.20	3.5	15	0.20	3.7
		Rubber seal		13	0.10	3.0	18	0.10	4.0
	Pressure center	Metal seal		16	0.20	4.0	16	0.20	4.0
		Rubber seal		13	0.10	3.0	18	0.10	4.0
				15	0.20	3.8	19	0.10	4.4

**Conforming to ISO Standard**  
**Solenoid Valve (with M12 Connector) Series EVS7-□**

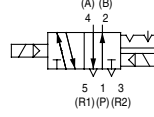
**Standard Specifications**

**JIS Symbol**

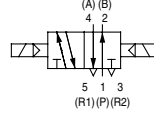
2 position single



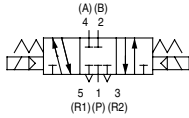
2 position double (metal)



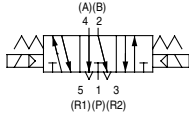
2 position double (rubber)



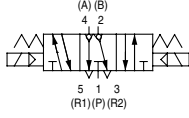
3 position closed center



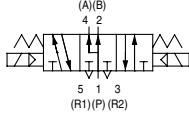
3 position exhaust center



3 position perfect



3 position pressure center



Valve specifications	Valve type	Metal seal	Rubber seal	
	Fluid	Air, Inert gas		
	Maximum operating pressure	1.0 MPa		
	Minimum operating pressure	Single	0.1 MPa	0.1 MPa
		Double	0.1 MPa	0.1 MPa
		3 position	0.1 MPa	0.1 MPa: Size 1 0.15 MPa: Size 2, 3
	Ambient and fluid temperature	-10° to 60°C <sup>(1)</sup>	-5° to 60°C <sup>(1)</sup>	
	Lubrication	None		
	Manual override	Push type (Tool required)		
	Impact resistance/ Vibration resistance	150/50 m/s <sup>2</sup> <sup>(2)</sup>		
Enclosure	IP65 (Dust/Splashproof type)			
Electric specifications	Rated coil voltage	12 VDC, 24 VDC		
	Allowable voltage fluctuation	-15 to +10% of rated voltage		
	Type of coil insulation	Equivalent to Class B		
	Power consumption	24 VDC	1.8 W DC (75 mA)	
		12 VDC	1.8 W DC (150 mA)	

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

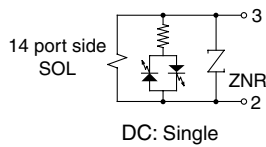
Note 2) Impact resistance: No malfunction resulted during on the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature for both energized and de-energized conditions.

Vibration resistance: No malfunction resulted during a one-sweep test between 8.3 and 2000 Hz. The test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized conditions.

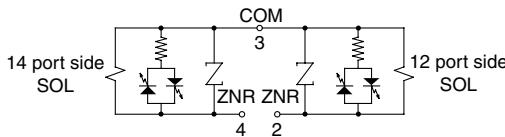
**⚠ Precautions**

**⚠ Caution**

**Internal Wiring Specifications**

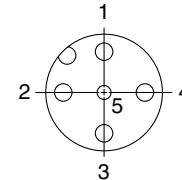


DC: Single



DC: Double

**M12 connector: Wiring specifications**



- Pin no.
- 1: Open
- 2: 12 port side SOL (+)
- 3: COM (-)
- 4: 14 port side SOL (+)
- 5: Ground

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

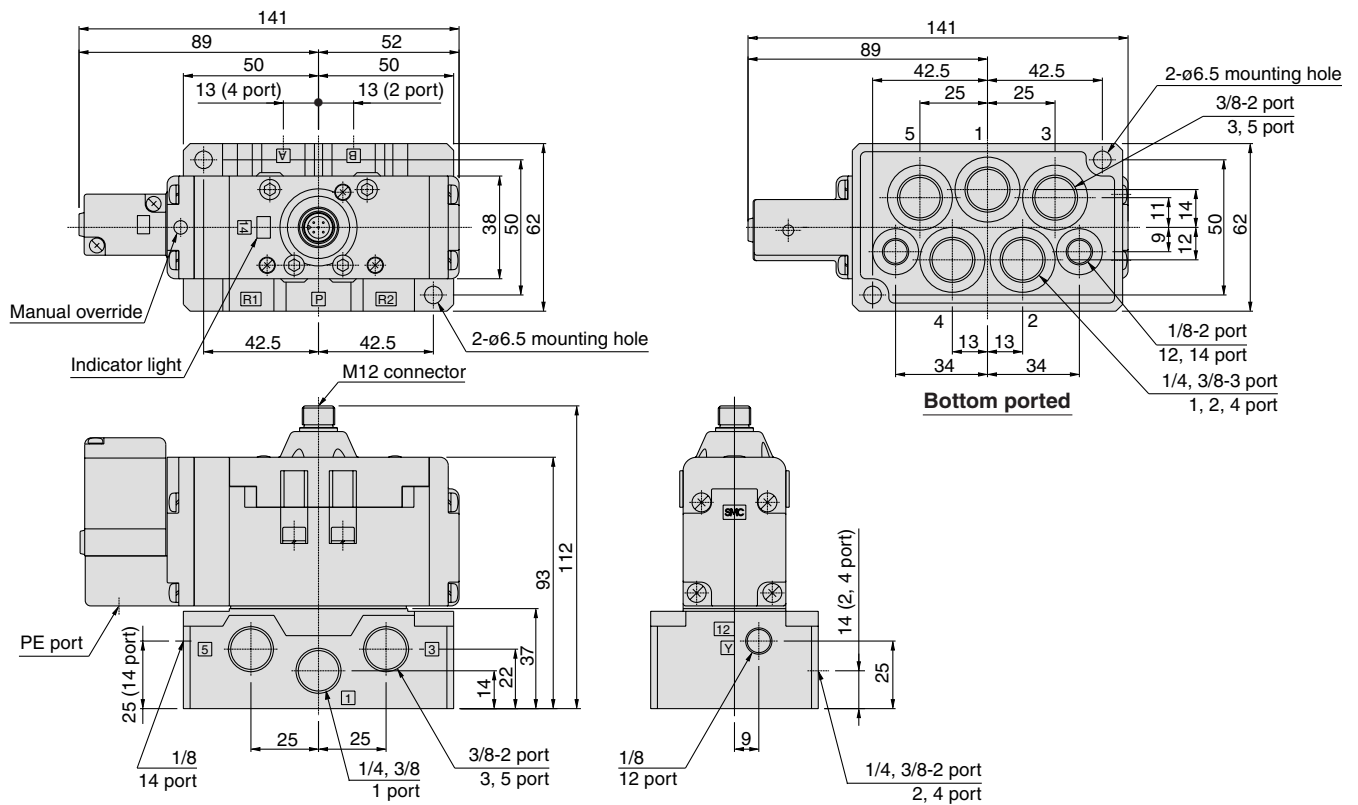
EVS

VFN

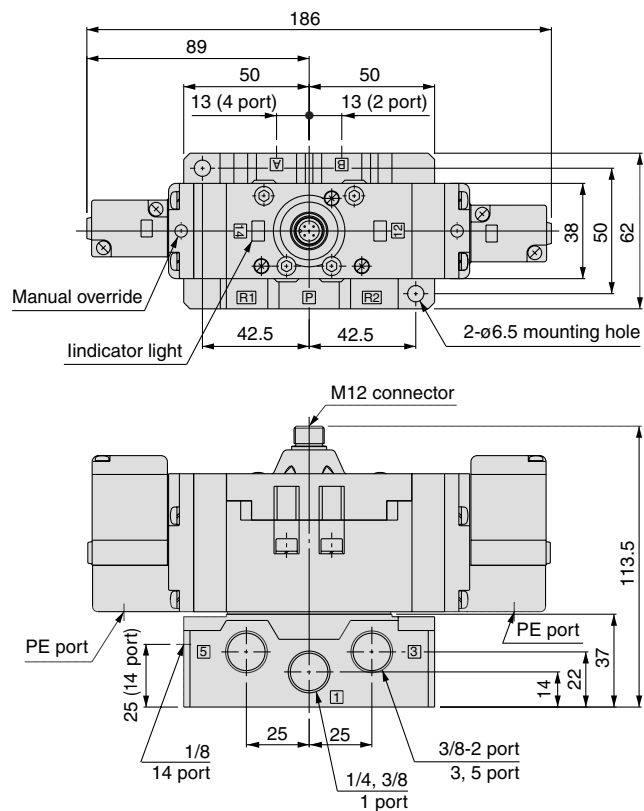
# Series EVS7-□

## Dimensions

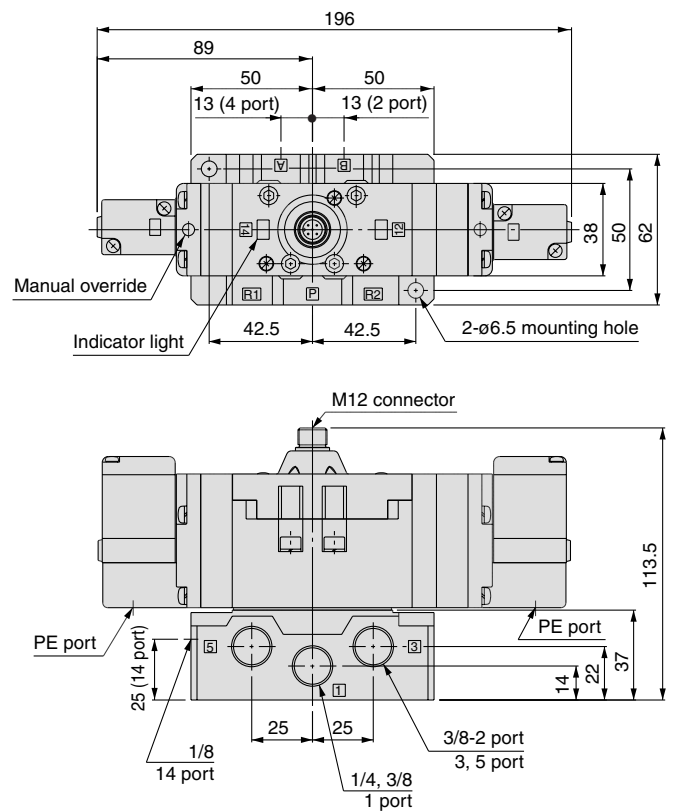
### EVS7-6-FG-S-□□M0



### EVS7-6-FG-D-□□M0



### EVS7-6-F<sup>H</sup>JG-D-□□M0

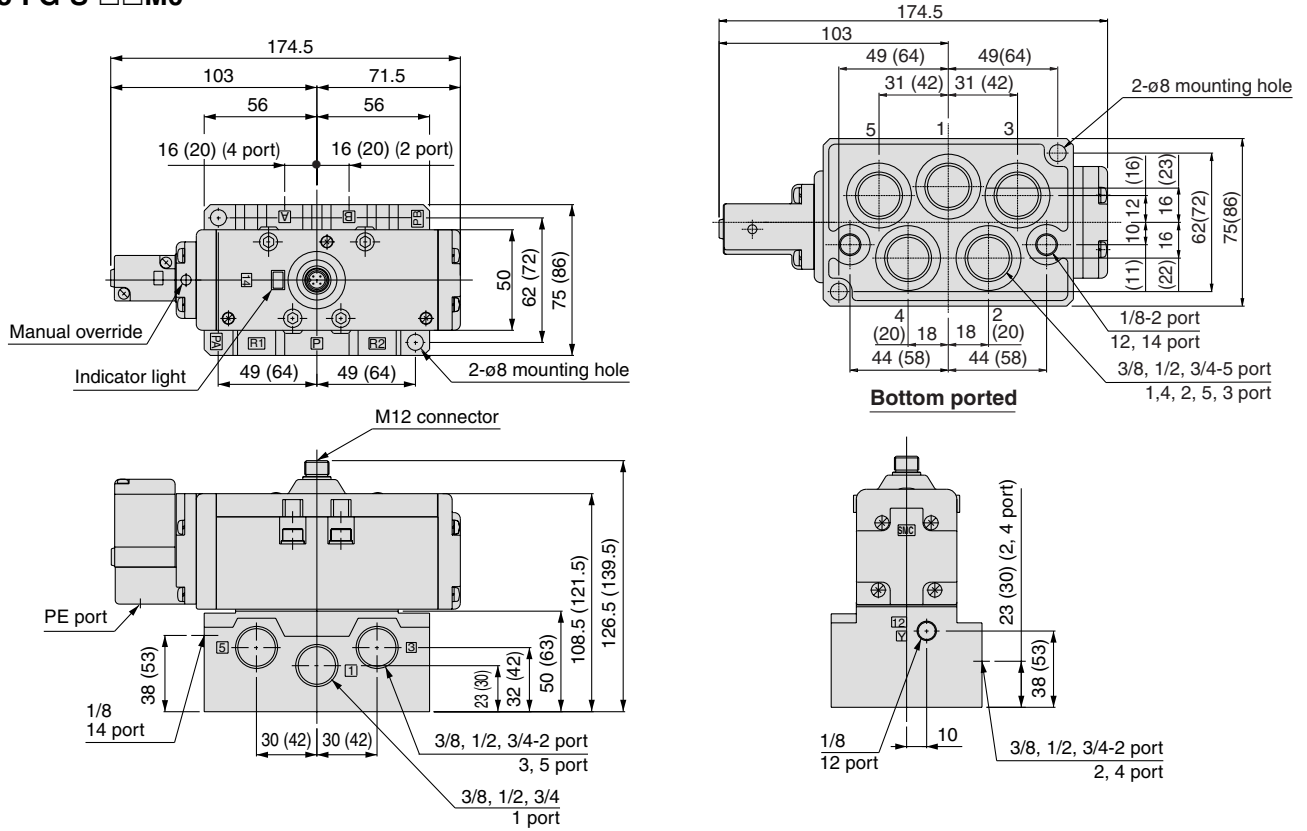




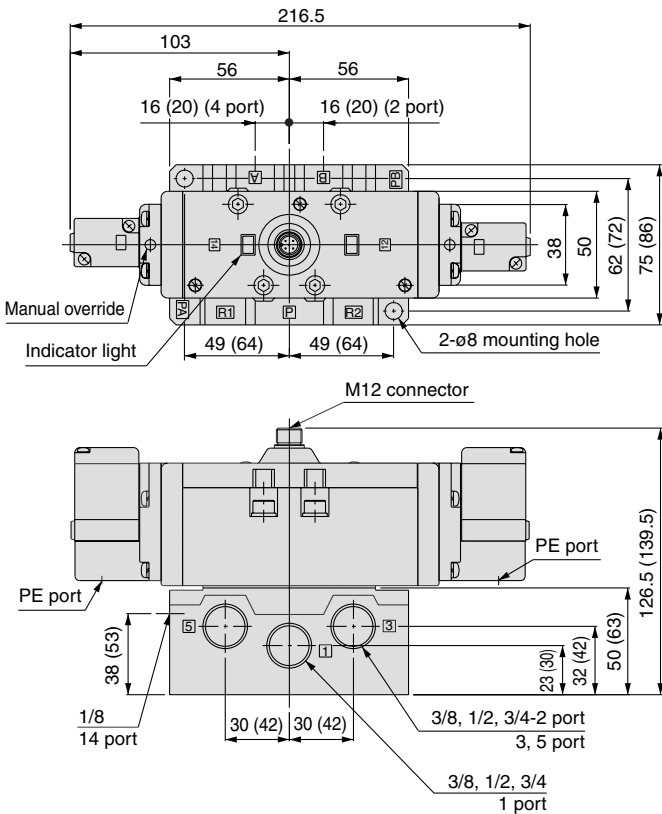
# Series EVS7-□

## Dimensions

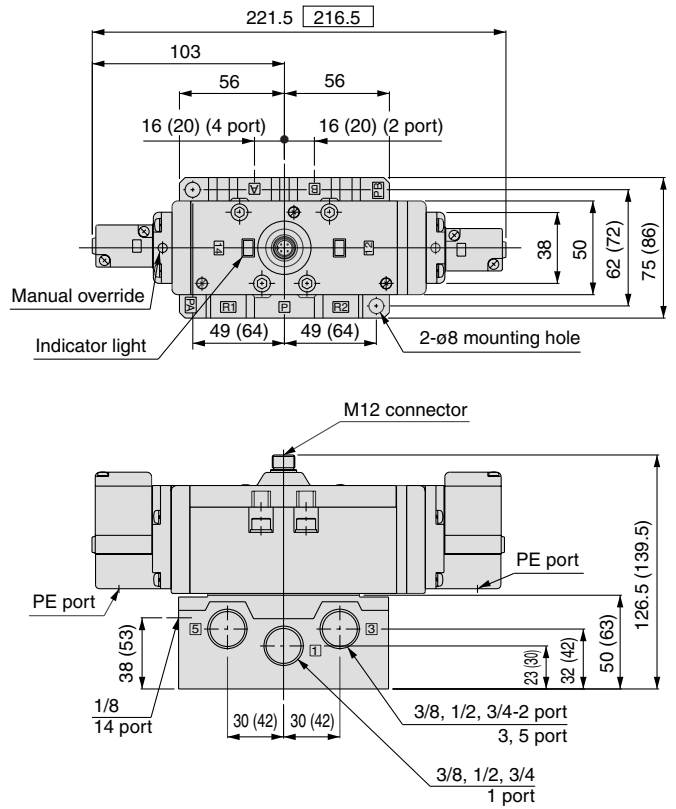
### EVS7-8-FG-S-□□M0



### EVS7-8-FG-D-□□M0



### EVS7-8-F<sup>H</sup><sub>I</sub>G-D-□□M0



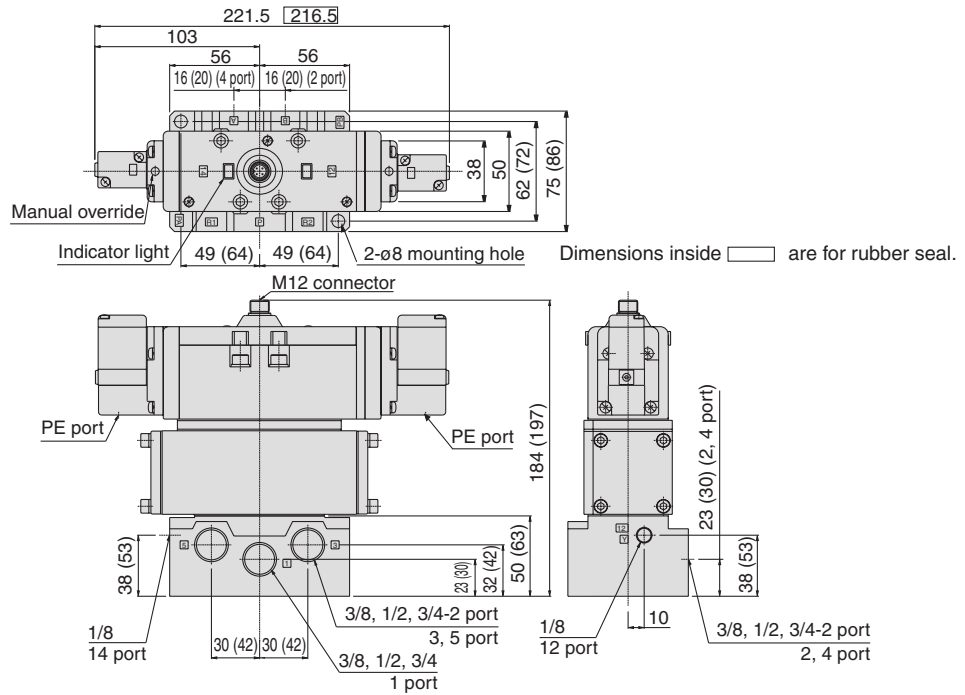
Dimension inside   is for rubber seal.  
Dimensions inside ( ) are for Sub-plate.



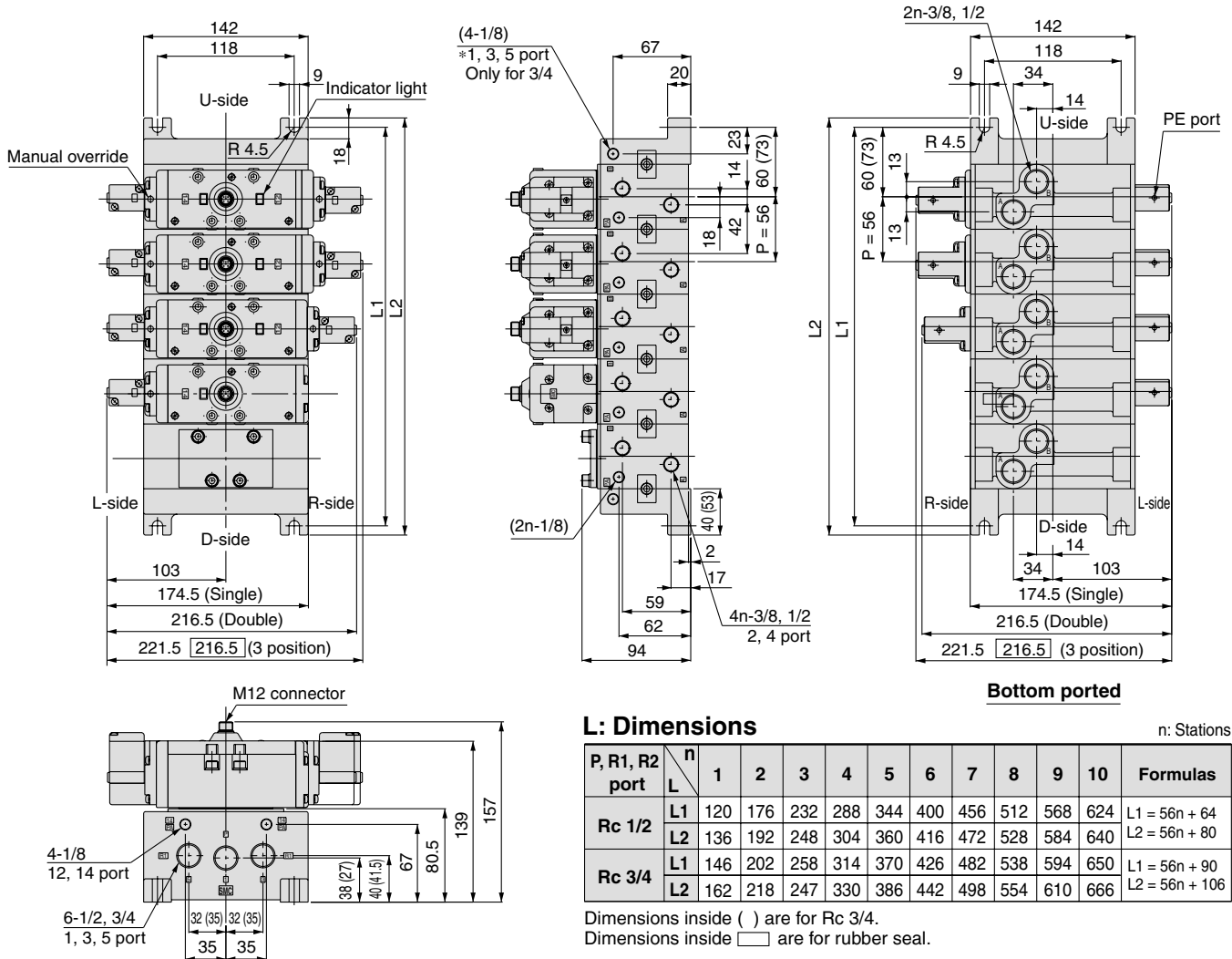
**Conforming to ISO Standard  
Solenoid Valve (with M12 Connector) Series EVS7-□**

**Dimensions**

**EVS7-8-FPG-D-□□M0**



**VV72□-□-□□□  
(M connector type)**

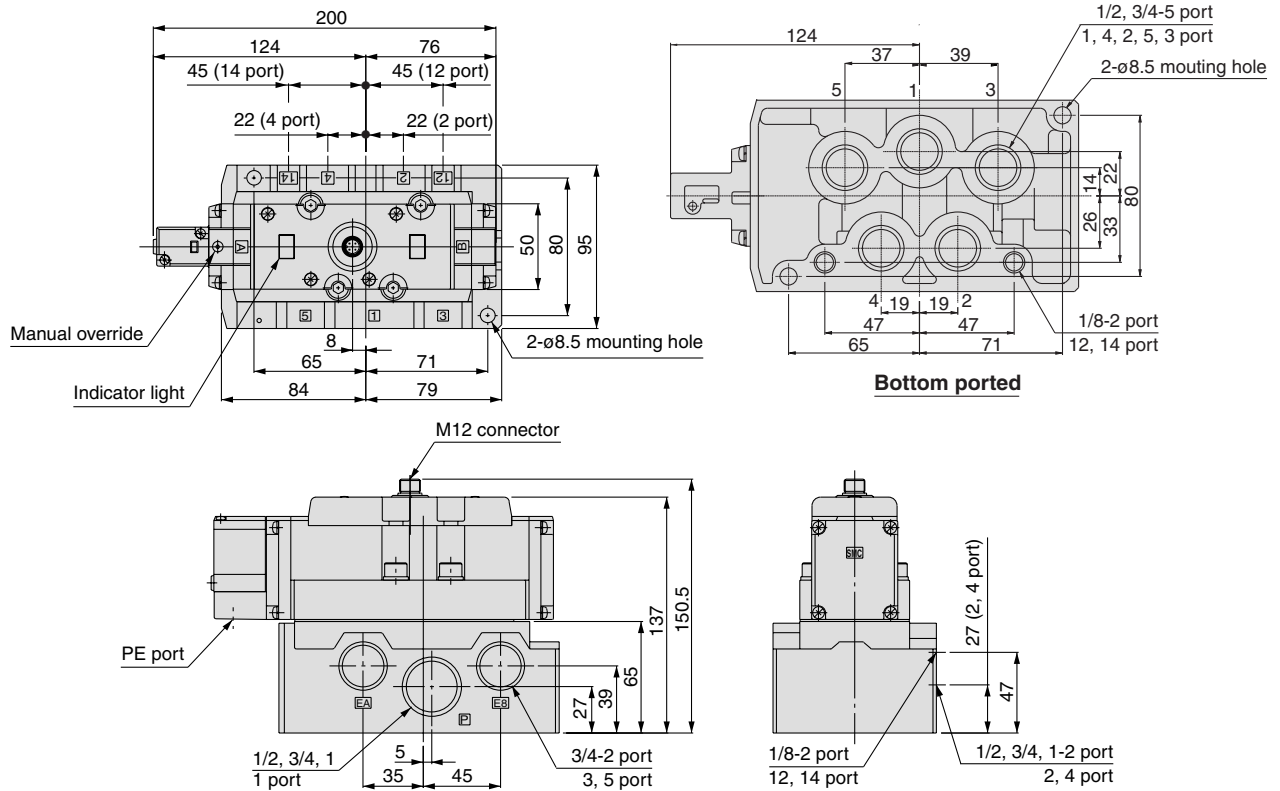


- VK
- VZ
- VF
- VFR
- VP4
- VZS
- VFS
- VS4
- VQ7
- EVS
- VFN

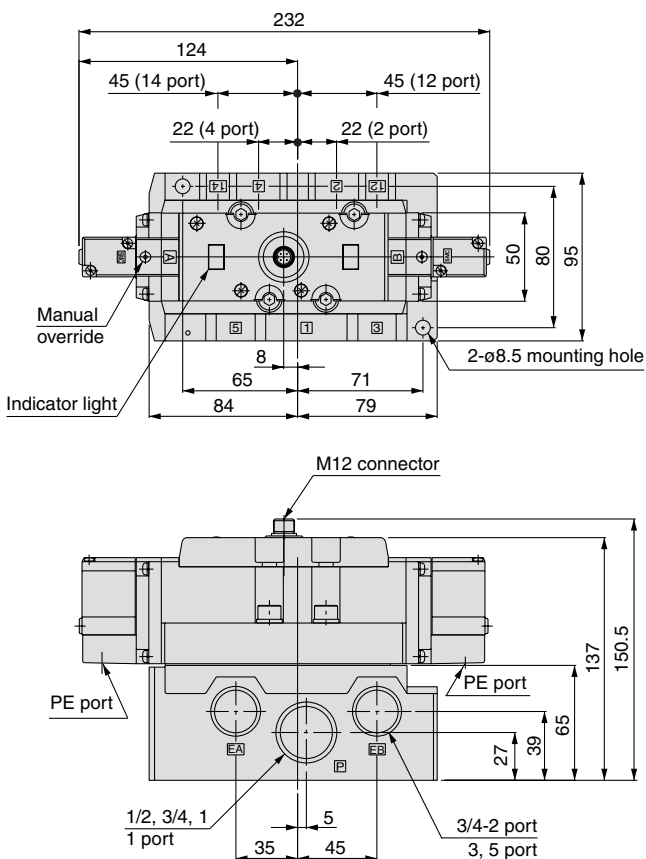
# Series EVS7-□

## Dimensions

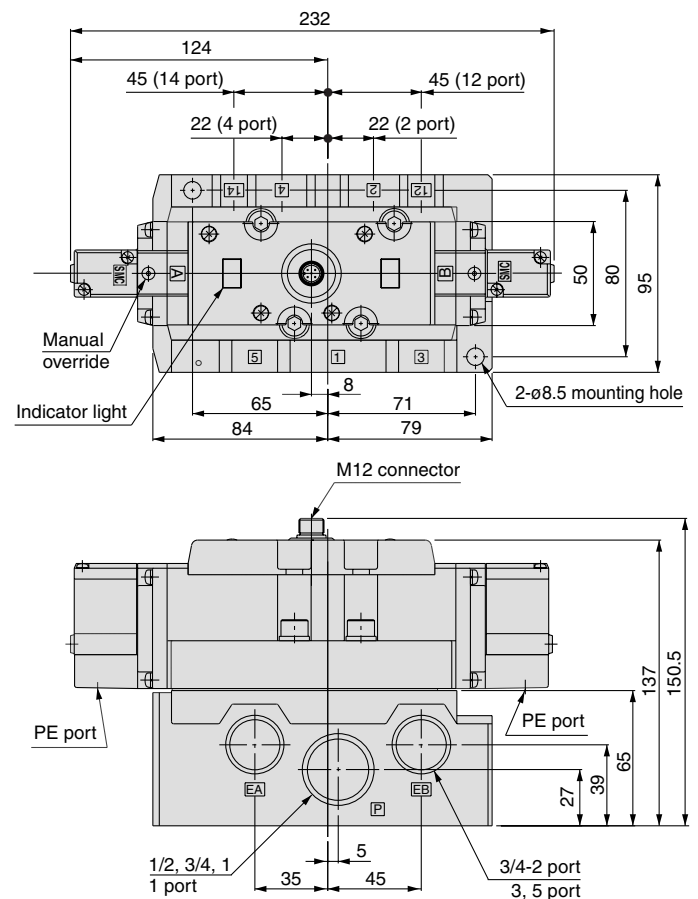
### EVS7-10-FG-S-□□M0



### EVS7-10-FG-D-□□M0



### EVS7-10-F<sup>H</sup>J<sup>I</sup>G-D-□□M0



Conforming to ISO Standard  
Solenoid Valve (with M Connector)

# Series *EVS1-01/1-02*

(Size 1)

(Size 2)



- VK
- VZ
- VF
- VFR
- VP4
- VZS
- VFS
- VS4
- VQ7
- EVS**
- VFN

## Large capacity

	Flow rate	Cylinder driving size
<b>EVS1-01</b> (Size: 01)	1000 ℓ/min (ANR)	ø100
<b>EVS1-02</b> (Size: 02)	400 ℓ/min (ANR)	ø80

## Lightweight

Size 01 (3 position): 0.26 kg  
Size 02 (3 position): 0.18 kg

## ISO 15407-1 Interface

Size 01 (**EVS1-01**) and Size 02 (**EVS1-02**)  
Interface conforms to ISO 15407-1

## Accommodates enclosure IP65

Dust/Splashproof type

# ISO Standard Solenoid Valve Size 1,2/Single Unit

# Series *EVS1-01/1-02*

## How to Order

### Valve

**EVS1-01-FG-S-3- - - - - M0**

● **Size**

<b>01</b>	Size 01
<b>02</b>	Size 02

● **Thread type**

<b>Nil</b>	Rc
<b>F</b>	G
<b>T</b>	NPTF

● **Passage symbol**

<b>FG</b>	
<b>FHG</b>	
<b>FJG</b>	
<b>FIG</b>	

● **Number of solenoids**

<b>S</b>	Single
<b>D</b>	Double

● **Rated coil voltage**

<b>3</b>	24 VDC
<b>4</b>	12 VDC
<b>9</b>	Voltage other than above (50 VDC or less)

● **Port size**

Symbol	Piping specifications	Size 01	Size 02
<b>Nil</b>	Without sub-plate	○	○
<b>A01</b>	Side ported 1/8	○	○
<b>A02</b>	Side ported 1/4	○	—

● **Sealing type**

<b>Nil</b>	Metal seal
<b>R</b>	Rubber seal

● **Option**

<b>Nil</b>	None
<b>Z</b>	Light/Surge voltage suppressor

### Sub-plate

**VS1-01-A02- -**

● **Size**

<b>01</b>	Size 01
<b>02</b>	Size 02

● **Thread type**

<b>Nil</b>	Rc
<b>F</b>	G
<b>T</b>	NPTF

● **Port size**

Symbol	Piping specifications	Size 01	Size 02
<b>A01</b>	Side ported 1/8	○	○
<b>A02</b>	Side ported 1/4	○	—

### Specifications

Model	Piping specifications			Weight (kg)
	Piping direction	Port size for 1(P), 2(B), 4(A)	Port size for 3(R2), 5(R1)	
<b>VS1-01-A01</b>	Horizontal	1/8		0.14
<b>VS1-01-A02</b>		1/4		
<b>VS1-02-A01</b>	Horizontal	1/8		0.07

Conforming to ISO Standard  
Solenoid Valve (with M Connector) **Series EVS1-01/1-02**

## Model

### Series EVS1-01



Positions			Flow characteristics					
			1 → 4, 2 (P → A, B)			4, 2 → 5, 3 (A, B → EA, EB)		
			C	b	Cv	C	b	Cv
2 position	Single	Metal seal	3.10	0.10	0.60	3.40	0.10	0.70
		Rubber seal	3.60	0.28	0.90	4.20	0.20	1.00
	Double	Metal seal	3.10	0.10	0.60	3.40	0.10	0.70
		Rubber seal	3.60	0.28	0.90	4.20	0.20	1.00
3 position	Closed center	Metal seal	3.10	0.10	0.60	3.20	0.10	0.60
		Rubber seal	3.20	0.34	0.80	4.20	0.30	1.00
	Exhaust center	Metal seal	2.70	0.10	0.60	3.30	0.10	0.70
		Rubber seal	3.10	0.26	0.80	4.00	0.25	1.10
	Pressure center	Metal seal	3.20	0.10	0.70	3.20	0.10	0.60
		Rubber seal	4.40	0.25	1.00	3.60	0.25	1.00

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

### Series EVS1-02



Positions			Flow characteristics					
			1 → 4, 2 (P → A, B)			4, 2 → 5, 3 (A, B → EA, EB)		
			C	b	Cv	C	b	Cv
2 position	Single	Metal seal	1.50	0.10	0.30	1.70	0.10	0.30
		Rubber seal	2.20	0.20	0.50	2.20	0.10	0.50
	Double	Metal seal	1.50	0.10	0.30	1.70	0.10	0.30
		Rubber seal	2.20	0.20	0.50	2.20	0.10	0.50
3 position	Closed center	Metal seal	1.50	0.10	0.30	1.60	0.10	0.30
		Rubber seal	2.10	0.20	0.50	2.10	0.10	0.40
	Exhaust center	Metal seal	1.30	0.10	0.20	1.60	0.10	0.20
		Rubber seal	2.00	0.16	0.50	2.10	0.10	0.40
	Pressure center	Metal seal	1.60	0.10	0.20	1.50	0.10	0.20
		Rubber seal	2.20	0.20	0.50	2.10	0.10	0.40

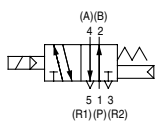
Note) Values for 2 position single from the cylinder port to the exhaust (from 2 to 3 and from 4 to 5) C (Sonic conductance) and b (Critical pressure ration) are subject to ISO 6358/JIS B 8390. Cv (Flow coefficient) is subject to ANSI/CNFPA T3.21.3.

# Series EVS1-01/1-02

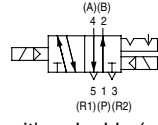
## Standard Specifications

### JIS Symbol

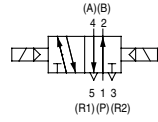
2 position single



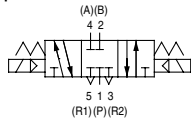
2 position double (metal)



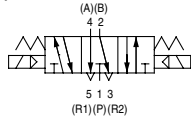
2 position double (rubber)



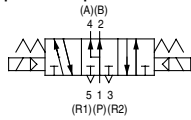
3 position closed center



3 position exhaust center



3 position pressure center



Valve specifications	Valve type		Metal seal	Rubber seal
	Fluid		Air, Inert gas	
	Maximum operating pressure		1.0 MPa	
	Minimum operating pressure	Single	0.1 MPa	0.15 MPa
		Double	0.1 MPa	0.1 MPa
		3 position	0.15 MPa	0.2 MPa
	Ambient and fluid temperature		-10° to 60°C (1)	-5° to 60°C (1)
	Lubrication		Not required (Non-lube type)	
	Manual override		Push type (Tool required)	
	Impact resistance/Vibration resistance		150, 30m/s <sup>2</sup> (2)	
Enclosure		IP65 (Dust/Splashproof type)		
Electric specifications	Rated coil voltage		12 VDC, 24 VDC	
	Allowable voltage fluctuation		±10% of rated voltage	
	Type of coil insulation		Equivalent to class B	
	Power consumption (Current)	24 VDC	1 W DC (42 mA)	
		12 VDC	1 W DC (83 mA)	

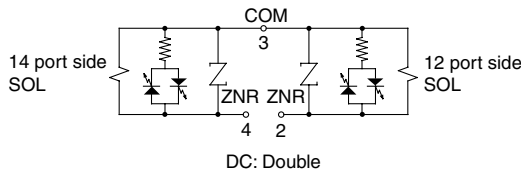
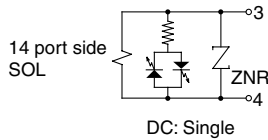
Note 1) Use dry air to prevent condensation at low temperatures.

Note 2) Impact resistance: No malfunction resulted during an impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature for both energized and de-energized conditions.

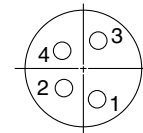
Vibration resistance: No malfunction resulted during an one-sweep test between 8.3 and 2000 Hz. The test was performed in the axial and right angle directions of the main valve and armature for both energized an de-energized conditions.

## ⚠️ Precautions

## ⚠️ Caution Internal Wiring Specifications

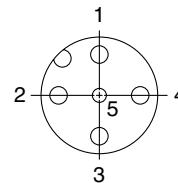


### M8 Connector: Wiring specifications (EVS1-02)



- Pin no.  
1: Open  
2: 12 port side SOL (+)  
3: COM (-)  
4: 14 port side SOL (+)

### M12 Connector: Wiring specifications (EVS1-01)



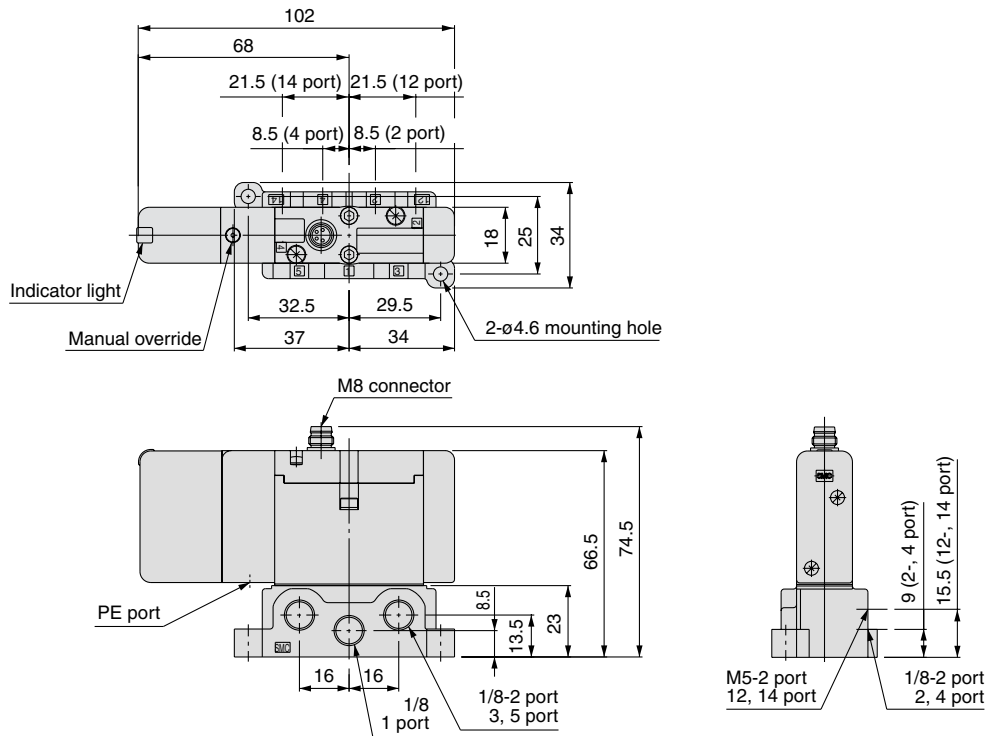
- Pin no.  
1: Open  
2: 12 port side SOL (+)  
3: COM (-)  
4: 14 port side SOL (+)  
5: Ground



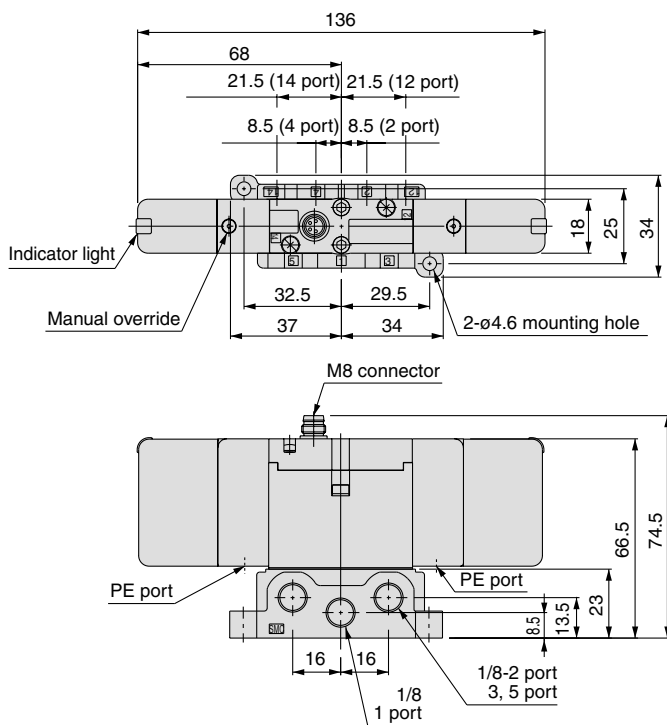
# Series EVS1-01/1-02

## Dimensions

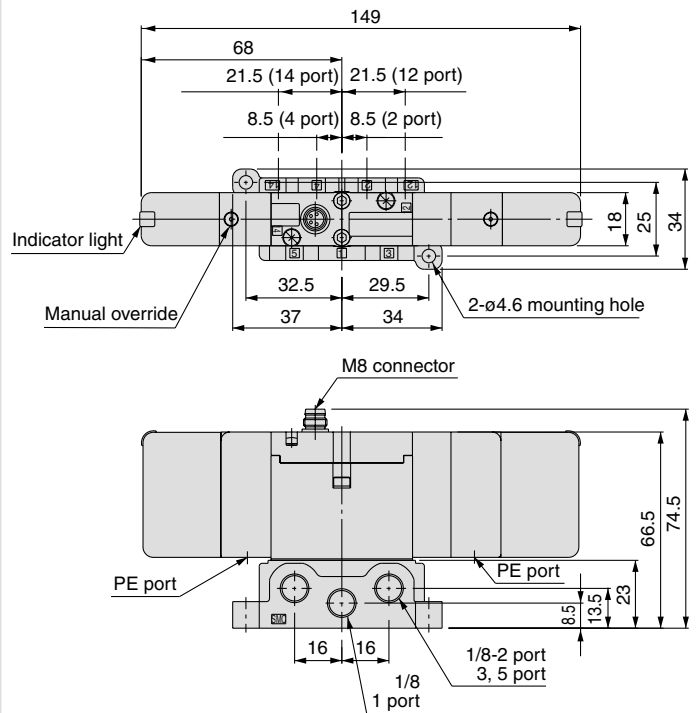
### EVS1-02-FG-S-□□M0



### EVS1-02-FG-D-□□M0



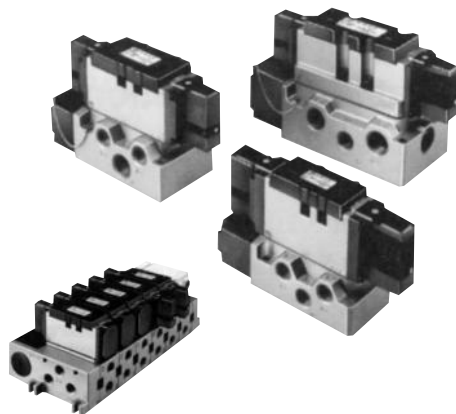
### EVS1-02-F<sup>H</sup>J<sup>I</sup>G-D-□□M0





# Product Profile: ISO Interface Solenoid Valve, ISO 5599/II Rubber Seal/Metal Seal

## Series **VSR8/VSS8**



### Choice of seals for maximum flexibility

Available in either high flow rubber seal (model VSR) or matched ground spool and sleeve (model VSS).

### Low power consumption 1.8 W DC

Available in 2 or 3 position, single or double solenoid pilot configuration.

### Long service life

- Rubber seal: 30 million cycles or more
  - Metal seal: 50 million cycles or more
- \* Subject to SMC's own test data using clean and dry air.

### Lightweight

- Size 1: 552 g (1.21 lb)
- Size 2: 824 g (1.81 lb)
- Size 3: 1,000 g (2.21 lb)

### Top mounted manual override

Easy access for trouble shooting the circuit

### Model

Size	Model	Seal	Effective area <sup>(1)</sup> (Cv)	Response time m (sec) <sup>(2)</sup>			Weight <sup>(3)</sup> g (lb)	Port size
				Single	Double	3 position		
1	VSR8-6	Rubber	36 (2.0)	30	30	50	551 (1.21)	1/4, 3/8, 1/2
	VSS8-6	Metal	32 (1.8)	25	20	45		
2	VSR8-8	Rubber	72 (4.0)	50	50	70	824 (1.81)	3/8, 1/2, 3/4
	VSS8-8	Metal	65 (3.6)	40	20	55		
3	VSR8-10	Rubber	97 (5.4)	80	50	95	1000 (2.21)	1/2, 3/4, 1
	VSS8-10	Metal	90 (5.0)	50	25	60		

Note 1) With port size 1/2 for VSR/VSS8-6, 3/4 for VSR/VSS8-8, 1 for VSR/VSS8-10.

Note 2) Subject to JIS B 8375-1981. At 0.5 MPa (71 psi)

Note 3) Single solenoid type without base.

### Specifications

		Rubber seal	Metal seal
Valve operation		Pilot operated, 5 port	
Fluid		Air, Inert gas	
Operating pressure range MPa (psi)		0.1 to 1.0 (14.5 to 145)	0.1 to 1.6 (14.5 to 230) <sup>Note1</sup>
Proof pressure MPa (psi)		1.5 (217)	2.4 (348)
Ambient and fluid temperature °C (°F) <sup>(2)</sup>		-5 to +50 (+23 to +122)	-20 to +60 (-4 to +140)
Max. operating frequency (cycle/sec)		8-6: 5; 8-8: 5, 8-10: 5	8-6: 20; 8-8: 15, 8-10: 10
		8-6: 3; 8-8: 3, 8-10: 2	8-6: 10; 8-8: 10, 8-10: 20
Lubrication		Not required	
Manual override		Non-locking push type	
Enclosure		Dusttight	
Coil rated voltage		100 VAC, 110 VAC, 200 VAC, 220 VAC, 24 VDC	
Allowable voltage range (%)		-15 to +10% of rated voltage	
Coil insulation		Class B or equivalent	
Apparent power (VA)	Inrush	50 Hz	5.6
		60 Hz	5.0
	Holding	50 Hz	3.4
		60 Hz	2.3
Power consumption (W)		1.8	
Surge voltage suppressor and indicator light		Available as option	

Note 1) Pilot pressure range should be 0.1 to 1 MPa (14.5 to 145 psi).

Note 2) Use dry air to prevent dew condensation when operating at low temperature.

Note 3) Subject to JIS B 8375-1975.

For details, please contact SMC.

VK

VZ

VF

VFR

VP4

VZS

VFS

VS4

VQ7

EVS

VFN

# Manifold Specifications



## Standard Specifications

Manifold block size	ISO Size 1	ISO Size 2	ISO Size 1
Applicable solenoid valve	VSR/S8-6	VSR/S8-8	VSR/S8-6
Number of stations	1 to 10		
Port size	A, B port	1/4, 3/8, 1/2, 3/4, 1	
	P, EA, PB port	1/4, 3/8, 1/2, 3/4, 1	
Individual SUP spacer	VV81-P-02/03/04□	VV82-P-03/04/06□	—
Individual EXH spacer	VV81-R-02/03/04□	VV82-R-03/04/06□	—
Interface speed control	VV8060-22A	VV8080-22A	—
Interface regulator	ARB250-00-□-1	ARB350-00-□-1	—
	NARB250-N0-□-1	NARB350-N0-□-1	—
Blanking plate assembly	VVS8060-11A	VVS8080-11A	VVS8060-11A

## How to Order Manifold

