

## How to Order Valves

SQ2 1 4 0 5 L C6

### Type of actuation

<b>1</b>	2 position single  (A)(B) 4 2 5 1 3 (R1)(P)(R2)
<b>2</b>	2 position double (Latching)  (A)(B) (A)(B) 4 2 4 2 5 1 3 5 1 3 (R1)(P)(R2) (R1)(P)(R2) Metal seal Rubber seal 2 position double (Double solenoid) (1)  (A)(B) (A)(B) 4 2 4 2 5 1 3 5 1 3 (R1)(P)(R2) (R1)(P)(R2) Metal seal Rubber seal
<b>3</b>	3 position closed center  (A)(B) 4 2 5 1 3 (R1)(P)(R2)
<b>4</b>	3 position exhaust center  (A)(B) 4 2 5 1 3 (R1)(P)(R2)
<b>5</b>	3 position pressure center  (A)(B) 4 2 5 1 3 (R1)(P)(R2)
<b>A</b>	4 position dual 3 port valve  (A) (B) 4 4 5 1 3 (R1) (P) (R2) N.C. N.C.
<b>B</b>	4 position dual 3 port valve  (A) (B) 4 4 5 1 3 (R1) (P) (R2) N.O. (P) N.O.
<b>C</b>	4 position dual 3 port valve  (A) (B) 4 4 5 1 3 (R1) (P) (R2) N.C. (P) N.O.

Note 1) For double solenoid specifications, the function symbol below is "D".  
Note 2) Only rubber seal types are applicable.

### Seal

<b>0</b>	Metal seal
<b>1</b>	Rubber seal

### Function

<b>Nil</b>	Standard type (1.0 W DC)
<b>D</b>	2 position double (Double solenoid specifications)
<b>N</b>	Negative common
<b>Y</b> (1)	Low wattage type (0.5 W DC)
<b>R</b> (2)	External pilot specifications

Note 1) Except double (latching) type.  
Note 2) Except dual 3 port valves.  
Note 3) When two or more symbols are specified, indicate them alphabetically.

### Coil voltage

<b>5</b>	24 VDC
<b>6</b>	12 VDC

Note) Light/Surge voltage suppressor is built-in.

### With/Without manifold block

Nil	M	MB
Without manifold block	With manifold block	With manifold block, built-in back pressure check valve
	 * Lead wire is not included.	 * Lead wire is not included.
<ul style="list-style-type: none"> <li>When ordering with manifolds</li> <li>When only valves are required.</li> </ul>	For adding stations	

### Port plug mounting port

<b>Nil</b>	None
<b>A</b>	Port 4(A)
<b>B</b>	Port 2(B)

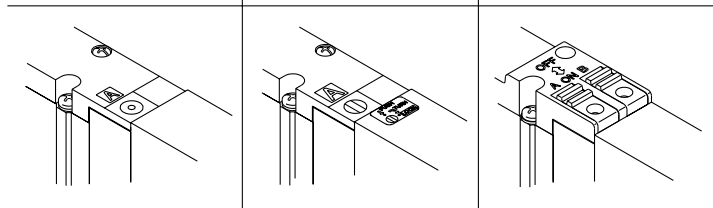
### Cylinder port

<b>C4</b>	One-touch fitting for $\phi 4$	Side ported
<b>C6</b>	One-touch fitting for $\phi 6$	
<b>C8</b>	One-touch fitting for $\phi 8$	Note) Top ported
<b>L4</b>	One-touch fitting for $\phi 4$	
<b>L6</b>	One-touch fitting for $\phi 6$	
<b>L8</b>	One-touch fitting for $\phi 8$	

Note) Can be changed to side ported configuration.

### Manual override

Nil	B Note)	D Note)
Non-locking push type (Tool required)	Locking type (Tool required)	Slide locking type (Manual type) * Only side ported type applicable



Note) Except double (latching) type.

### Electrical entry

L	LO
Plug connector type With 300 mm lead wire	Plug connector type without connector
	For F, P, J kit manifolds Note)

Note) Indicate "LO" when ordering centralized wiring type manifolds, F, P, and J kits, since the lead wire will be attached to the manifold side.

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

# Series SQ2000

## Valve Specifications

### Model

Series	Number of solenoids	Model		Flow characteristics						Response time (ms) <sup>(2)</sup>		Weight (g)	
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)			Standard: 1 W	Low wattage		
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv				
SQ2000	2 position	Single	Metal seal	<b>SQ2140</b>	2.2	0.17	0.51	2.4	0.14	0.57	20 or less	26 or less	145
			Rubber seal	<b>SQ2141</b>	2.3	0.17	0.51	3.1	0.18	0.71	24 or less	31 or less	140
		Double (Latching)	Metal seal	<b>SQ2240</b>	2.2	0.17	0.51	2.4	0.14	0.57	26 or less	—	145
			Rubber seal	<b>SQ2241</b>	2.3	0.17	0.51	3.1	0.18	0.71	31 or less	—	140
		Double (Double solenoid)	Metal seal	<b>SQ2240D</b>	2.2	0.17	0.51	2.4	0.14	0.57	15 or less	20 or less	160
			Rubber seal	<b>SQ2241D</b>	2.3	0.17	0.51	3.1	0.18	0.71	20 or less	26 or less	155
	3 position	Closed center	Metal seal	<b>SQ2340</b>	1.9	0.17	0.46	2.1	0.15	0.47	34 or less	44 or less	180
			Rubber seal	<b>SQ2341</b>	1.9	0.17	0.46	1.8	0.29	0.45	34 or less	44 or less	175
		Exhaust center	Metal seal	<b>SQ2440</b>	1.9	0.17	0.46	2.4	0.14	0.55	34 or less	44 or less	180
			Rubber seal	<b>SQ2441</b>	1.9	0.17	0.46	3.1	0.14	0.58	34 or less	44 or less	175
		Pressure center	Metal seal	<b>SQ2540</b>	2.3	0.17	0.51	2.1	0.18	0.47	34 or less	44 or less	180
			Rubber seal	<b>SQ2541</b>	2.5	0.17	0.56	1.8	0.30	0.47	34 or less	44 or less	175
	4 position	Dual 3 port valve	Rubber seal	<b>SQ2<sup>A</sup><sub>B</sub>41<sup>C</sup></b>	1.5	0.17	0.40	1.5	0.17	0.40	34 or less	44 or less	155

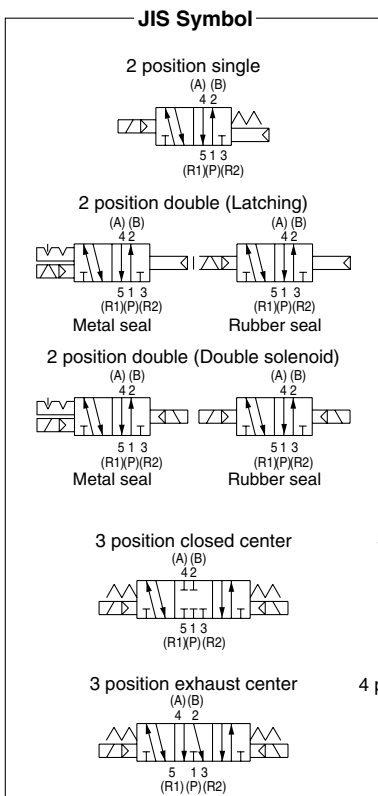
Note 1) Values for the top ported cylinder port size of C8. The side ported type will be about 10% less.  
 Note 2) Based on JIS B 8375-1981. (Values with a supply pressure of 0.5 MPa and light/surge voltage suppressor. Values fluctuate depending on the pressure and air quality.)

### Specifications



Valve specifications	Valve construction	Metal seal	Rubber seal	
	Fluid	Air/Inert gas		
	Maximum operating pressure	0.7 MPa		
	Min. operating pressure	Single	0.1 MPa	0.15 MPa
		Double (Latching)	0.18 MPa	0.18 MPa
		Double (Double solenoid)	0.1 MPa	0.1 MPa
		3 position	0.1 MPa	0.2 MPa
		4 position	—	0.15 MPa
	Ambient and fluid temperature	-10 to 50°C <sup>(1)</sup>		
	Lubrication	Not required		
	Pilot valve manual override	Push type (Tool required)/Locking type (Tool required) Slide locking type (Manual type)		
	Vibration/Impact resistance <sup>(2)</sup>	30/150 m/s <sup>2</sup>		
	Protection structure	Dust tight		
Solenoid specifications	Coil rated voltage	12 VDC, 24 VDC		
	Allowable voltage fluctuation	±10% of rated voltage		
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA) <sup>(3)</sup>	
		12 VDC	1 W DC (83 mA), 0.5 W DC (42 mA) <sup>(3)</sup>	

Note 1) Use dry air to prevent condensation when operating at low temperatures.  
 Note 2) 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)  
 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)  
 Note 3) Values for the low wattage (0.5 W) specifications.



# Series SQ1000/2000

## Manifold Option for SQ1000/SQ2000

### Negative Common Specifications

The following valve part numbers are for negative COM specifications. Manifold part numbers are the same as standard.

#### ● How to order negative COM valves (Example)

SQ1140 N -5L-C6

- Negative common specifications

### Inch-size One-touch Fittings

For One-touch fittings in inch sizes, use the following part numbers. Also, the color of the release button is orange.

#### ● How to order valves (Example)

SQ1140-5L-□ N7

Port location

Cylinder port

Nil	Side ported	Symbol	N1	N3	N7	N9
L	Top ported	Applicable tubing O.D. (Inch)	ø1/8"	ø5/32"	ø1/4"	ø5/16"
4(A), 2(B) port		SQ1000	●	●	●	—
		SQ2000	—	●	●	●

#### ● How to order manifold (Example)

Add "00T" at the end of the part number.

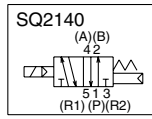
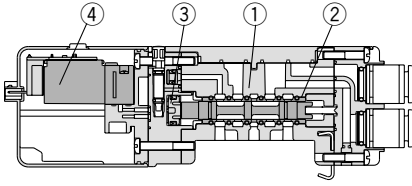
SS5Q14- 08 FD0 DN - 00T

- 1 (P), 3 (R) port in inch size
  - { SQ1000: ø5/16" (N9)
  - { SQ2000: ø3/8" (N11)

## Construction: Series SQ2000 Plug Lead Type Main Parts and Pilot Valve Assembly

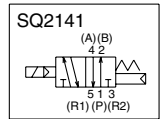
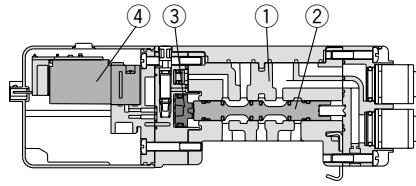
### Metal seal type

#### Single: SQ2140

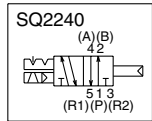
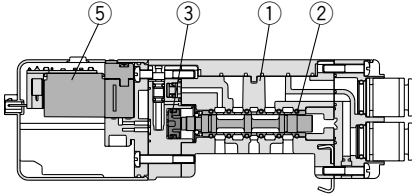


### Rubber seal type

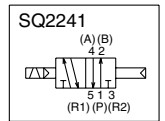
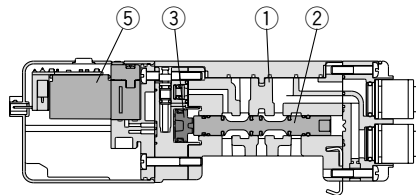
#### Single: SQ2141



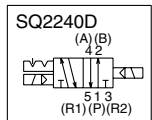
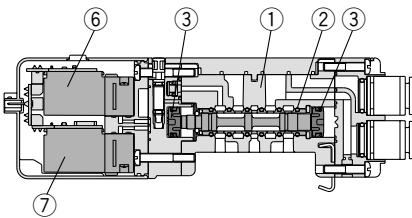
#### Double (Latching): SQ2240



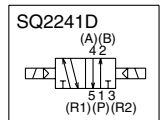
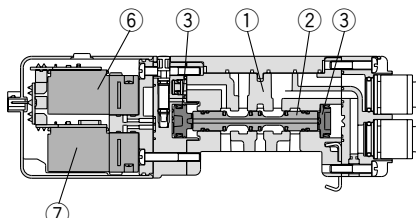
#### Double (Latching): SQ2241



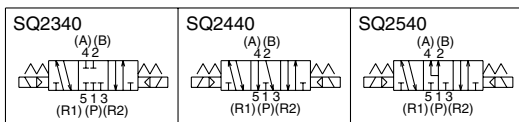
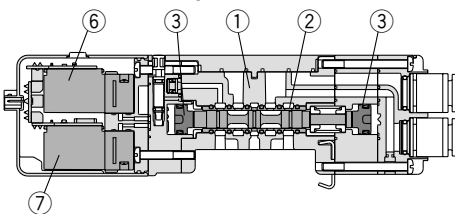
#### Double (Double solenoid): SQ2240D



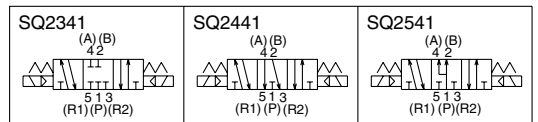
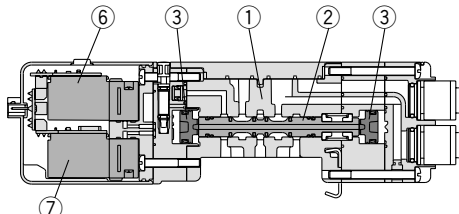
#### Double (Double solenoid): SQ2241D



#### 3 position: SQ2 3/4 40



#### 3 position: SQ2 3/4 41



### Component Parts

No.	Description	Material
①	Body	Aluminum die-casted
②	Spool/Sleeve	Stainless steel (Metal seal)
②	Spool	Aluminum (Rubber seal)
③	Piston	Resin

### Pilot Valve Assembly Note)

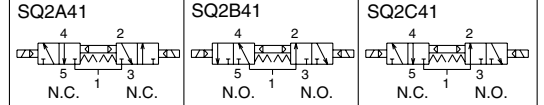
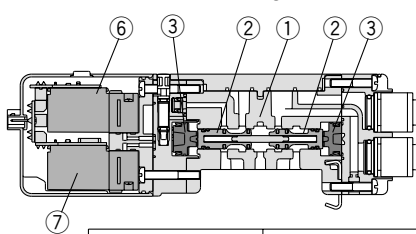
No.	Model	SQ2□4□
④	For single	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J21
⑤	For double (latching)	VQ110SL- <sup>5</sup> / <sub>6</sub> J22 Negative COM: VQ110SN- <sup>5</sup> / <sub>6</sub> J22
⑥	For double (Double solenoid) on A side For 3P, Dual 3 port on A side	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J23
⑦	For double (Double solenoid) on B side For 3P, Dual 3 port on B side	VQ111S(Y)- <sup>5</sup> / <sub>6</sub> (N)J24

Note) Nil : Standard

N : Negative COM specifications

Y : Low wattage specifications

#### Dual 3 port valve: SQ2 3/4 41



VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD