

How to Order Valves

SQ2 1 3 0 5 C6

Type of actuation

1	2 position single
2	2 position double (Latching) Metal seal Rubber seal
	2 position double (Double solenoid) (1) Metal seal Rubber seal
3	3 position closed center
4	3 position exhaust center
5	3 position pressure center
A	4 position dual 3 port valve N.C. N.C.
	4 position dual 3 port valve N.O. N.O.
	4 position dual 3 port valve N.C. N.O.

Note 1) For double solenoid specification, the function symbol below is "D".

Note 2) Only rubber seal types are applicable.

Seal

0	Metal seal
1	Rubber seal

Function

Nil	Standard type (1.0 W DC)
D	2 position double (Double solenoid specifications)
N	Negative common
Y ⁽¹⁾	Low wattage type (0.5 W DC)
R ⁽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.

With/Without manifold block

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

Port plug mounting port

Nil	None
A	Port 4(A)
B	Port 2(B)

Cylinder port

C4	One-touch fitting for ø4	Side ported
C6	One-touch fitting for ø6	
C8	One-touch fitting for ø8	
L4	One-touch fitting for ø4	Top ported
L6	One-touch fitting for ø6	
L8	One-touch fitting for ø8	

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.

Coil voltage

5	24 VDC
6	12 VDC

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

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

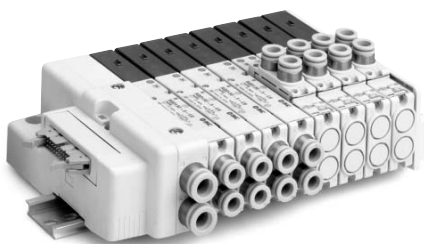
Series SQ2000

Valve Specifications

Model

Series	Number of solenoids	Model		Flow characteristics						Response time (ms) ⁽²⁾		Weight (g)	
				1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → R1/R2)			Standard: 1 W	Low wattage		
				C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv				
SQ2000	2 position	Single	Metal seal	SQ2130	2.2	0.17	0.51	2.4	0.14	0.57	20 or less	26 or less	145
			Rubber seal	SQ2131	2.3	0.17	0.51	3.1	0.18	0.71	24 or less	31 or less	140
		Double (Latching)	Metal seal	SQ2230	2.2	0.17	0.51	2.4	0.14	0.57	26 or less	—	145
			Rubber seal	SQ2231	2.3	0.17	0.51	3.1	0.18	0.71	31 or less	—	140
		Double (Double solenoid)	Metal seal	SQ2230D	2.2	0.17	0.51	2.4	0.14	0.57	15 or less	20 or less	160
			Rubber seal	SQ2231D	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	SQ2330	1.9	0.17	0.46	2.1	0.15	0.47	34 or less	44 or less	180
			Rubber seal	SQ2331	1.9	0.17	0.46	1.8	0.29	0.47	34 or less	44 or less	175
		Exhaust center	Metal seal	SQ2430	1.9	0.17	0.46	2.4	0.14	0.55	34 or less	44 or less	180
			Rubber seal	SQ2431	1.9	0.17	0.46	3.1	0.14	0.65	34 or less	44 or less	175
		Pressure center	Metal seal	SQ2530	2.3	0.17	0.51	2.1	0.18	0.47	34 or less	44 or less	180
			Rubber seal	SQ2531	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	SQ2 ^A _B 31 ^C	1.5	0.17	0.40	1.5	0.17	0.40	34 or less	44 or less	155

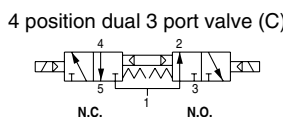
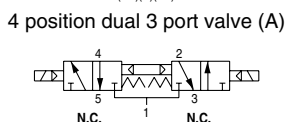
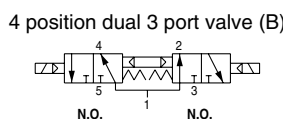
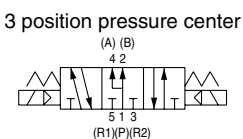
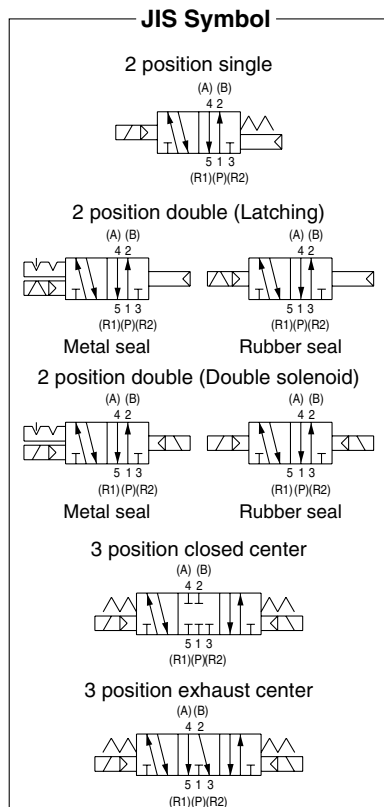
Note 1) Values for the top ported cylinder port size of C8. The side ported type will be about 10% less.
 Note 2) Based on JIS B 8375-1981. (Values with a supply pressure of 0.5 MPa and light/surge voltage suppressor. Values fluctuate depending on the pressure and air quality.)



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 fluid temperature	-10 to 50°C ⁽¹⁾		
	Lubrication	Not required		
Pilot valve manual override	Push type (Tool required)/Slide locking type (Tool required)			
Vibration/Impact resistance ⁽²⁾	30/150 m/s ²			
Protection structure	Dust tight			
Solenoid specifications	Coil rated voltage	12 VDC, 24 VDC		
	Allowable voltage fluctuation	±10% of rated voltage		
	Coil insulation type	Equivalent to class B		
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA) ⁽³⁾	
12 VDC		1 W DC (83 mA), 0.5 W DC (42 mA) ⁽³⁾		

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 common specifications. Manifold part numbers are the same as the standard except L kit. Also, negative COM specifications are not available for the S kit.

● How to order negative COM valves (Example)

SQ1130 **N** -5-C6

• Negative common specifications

● How to order negative COM manifold (Example)

SS5Q13 - **08** **LD1** **N** - **DN**

Stations

Kit type

Option

DIN rail mounting style

• 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)

SQ1130- 5 - **N7**

Port location

Cylinder port

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

● How to order manifold (Example)

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

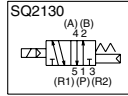
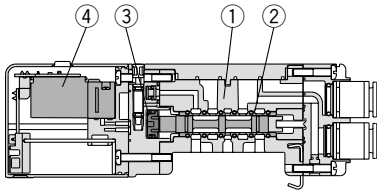
SS5Q13- **08** **FD0** - **DN** - **00T**

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

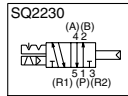
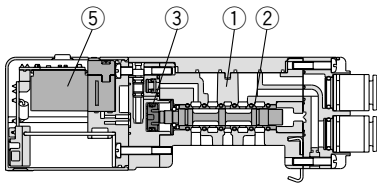
Construction: Series SQ2000 Plug-in Type Main Parts and Pilot Valve Assembly

Metal seal type

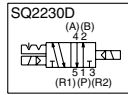
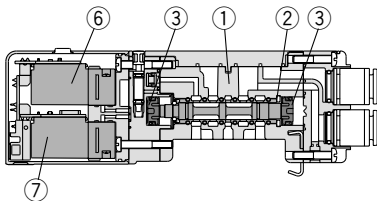
Single: SQ2130



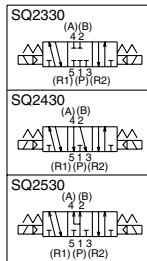
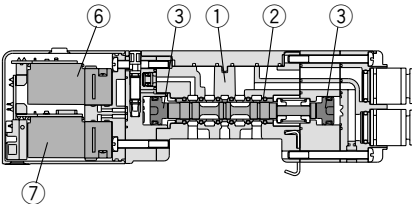
Double (Latching): SQ2230



Double (Double solenoid): SQ2230D



3 position: SQ2 $\frac{3}{5}$ 30



Component Parts

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

Pilot Valve assembly (Note)

No.	Model	SQ2 \square 3 \square
④	For single	VQ111S(Y)- $\frac{5}{6}$ (N)J31
⑤	For double (Latching)	VQ110SL- $\frac{5}{6}$ J32 Negative COM: VQ110SN- $\frac{5}{6}$ J32
⑥	For double (Double solenoid) on A side For 3P, Dual 3 port on A side	VQ111S(Y)- $\frac{5}{6}$ (N)J23
⑦	For double (Double solenoid) on B side For 3P, Dual 3 port on B side	VQ111S(Y)- $\frac{5}{6}$ (N)J34

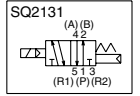
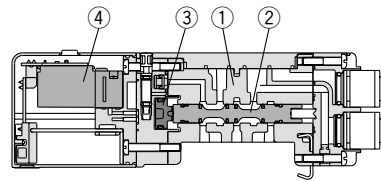
Note) Nil: Standard

N : Negative COM specifications

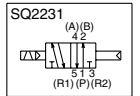
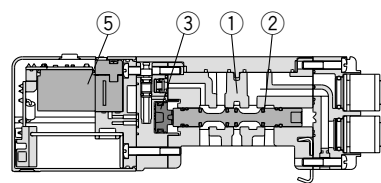
Y : Low wattage specifications

Rubber seal type

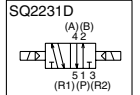
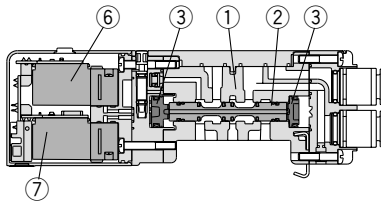
Single: SQ2131



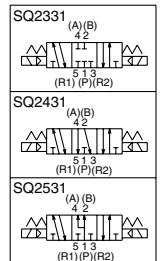
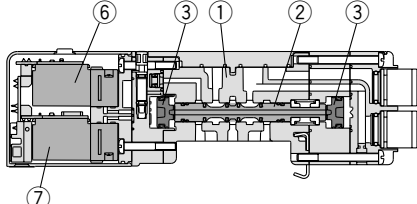
Double (Latching): SQ2231



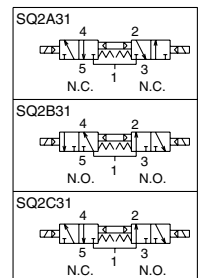
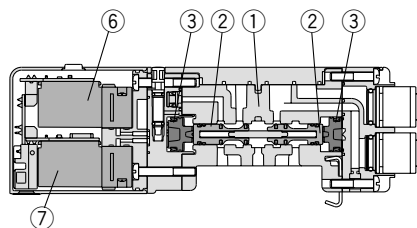
Double (Double solenoid): SQ2231D



3 position: SQ2 $\frac{3}{5}$ 31



Dual 3 port valve: SQ2 $\frac{A}{B}$ 31



VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD