

How to Order Valves

SQ2 1 4 0 - **5 L** 1 - **C6** - - -

Seal

0	Metal seal
1	Rubber seal

Type of actuation

1	2 position single (A)4 2(B) (R1)5 1 3(R2) (P)
2	2 position double (Double solenoid) (1) (A)4 2(B) (A)4 2(B) (R1)5 1 3(R2) (R1)5 1 3(R2) (P) (P) Metal seal Rubber seal
3	3 position closed center (A)4 2(B) (R1)5 1 3(R2) (P)
4	3 position exhaust center (A)4 2(B) (R1)5 1 3(R2) (P)
5	3 position pressure center (A)4 2(B) (R1)5 1 3(R2) (P)
A (2)	4 position dual 3 port valve 4(A) 2(B) 5(R1) 1(P) 3(R2)
B (2)	4 position dual 3 port valve 4(A) 2(B) 5(R1) 1(P) 3(R2)
C (2)	4 position dual 3 port valve 4(A) 2(B) 5(R1) 1(P) 3(R2)

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

Function

Symbol	Specifications
Nil	Standard type (0.4 W)
B	Quick response type (0.95 W)
D (1)	2 position double (Double solenoid specifications)
N	Negative common
R (2)	External pilot specifications

Note 1) "D" is specified for 2 position double.
Note 2) Except dual 3 port valves.
Note 3) When two or more symbols are specified, indicate them alphabetically.

Rated voltage

5	24 VDC
6	12 VDC

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

Nil	—
Q	CE compliant

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.
• When ordering with manifolds • When only valves are required.	For adding stations	

Port plug mounting port

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

Cylinder port

Symbol	Port size	Port location	
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 ⁽¹⁾	
L6	One-touch fitting for ø6		
L8	One-touch fitting for ø8		

Note 1) Can be changed to side ported configuration.
Note 2) Refer to page 107 for the inch-size One-touch fittings.

Manual override

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

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.

Plug
-in

Plug
Lead

SQ
1000

SQ
2000

EX510

F
kit

P
kit

J
kit

T
kit

L
kit

S
kit

C
kit

Manifold
Options

How to Increase
Manifold Stations

Construction

Manifold
Exploded View

Valve Specifications

Model

Series		Type of actuation		Seal	Model	Flow characteristics ⁽¹⁾						Response time (ms) ⁽²⁾		Weight (g)
						1→4/2 (P→A/B)			4/2→5/3 (A/B→R1/R2)			Standard (0.4 W)	Quick response (0.95 W)	
						C [dm³/(s·bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv			
SQ2000	2 position	Single	Metal seal	SQ2140	2.2	0.17	0.51	2.4	0.14	0.57	35 or less	20 or less	145	
			Rubber seal	SQ2141	2.3	0.17	0.51	3.1	0.18	0.71	31 or less	24 or less	140	
		Double	Metal seal	SQ2240D	2.2	0.17	0.51	2.4	0.14	0.57	20 or less	15 or less	160	
			Rubber seal	SQ2241D	2.3	0.17	0.51	3.1	0.18	0.71	26 or less	20 or less	155	
	3 position	Closed center	Metal seal	SQ2340	1.9	0.17	0.46	2.1	0.15	0.47	56 or less	37 or less	180	
			Rubber seal	SQ2341	1.9	0.17	0.46	1.8	0.29	0.45	44 or less	34 or less	175	
		Exhaust center	Metal seal	SQ2440	1.9	0.17	0.46	2.4	0.14	0.55	56 or less	37 or less	180	
			Rubber seal	SQ2441	1.9	0.17	0.46	3.1	0.14	0.58	44 or less	34 or less	175	
		Pressure center	Metal seal	SQ2540	2.3	0.17	0.51	2.1	0.18	0.47	56 or less	37 or less	180	
			Rubber seal	SQ2541	2.5	0.17	0.56	1.8	0.30	0.47	44 or less	34 or less	175	
		4 position	Dual 3 port valve	Rubber seal	SQ2 ^A _B 41 ^C	1.5	0.17	0.40	1.5	0.17	0.40	34 or less	19 or less	155

- Note 1) Values for the top ported cylinder port size of C8, CYL → Values of EXH. 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 (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 ⁽¹⁾	
	Lubrication		Not required	
	Pilot valve manual override		Push type (Tool required)/Locking type (Tool required) Slide locking type (Manual type)	
Solenoid specifications	Vibration/Impact resistance ⁽²⁾		30/150 m/s ²	
	Protection structure		Dust tight	
	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	0.4 W DC (17 mA), 0.95 W DC (40 mA) ⁽³⁾	
		12 VDC	0.4 W DC (34 mA), 0.95 W DC (80 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 deenergized states every once for each condition.

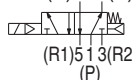
Note 3) Value for quick response type.



JIS Symbol

2 position single

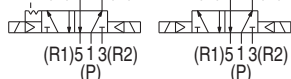
(A)4 2(B)



2 position double (Double solenoid)

(A)4 2(B)

(A)4 2(B)

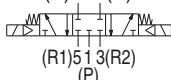


Metal seal

Rubber seal

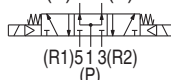
3 position closed center

(A)4 2(B)



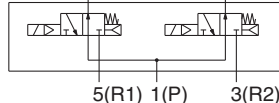
3 position pressure center

(A)4 2(B)



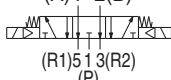
4 position dual 3 port valve (B)

4(A) 2(B)



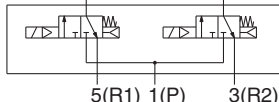
3 position exhaust center

(A)4 2(B)



4 position dual 3 port valve (A)

4(A) 2(B)



4 position dual 3 port valve (C)

4(A) 2(B)

