

How to Order

● How to order solenoid valves For plug-in (Common for both with and without power supply terminals)

SZ3 1 60 [] [] - 5 [] LOZ [] [] - C6

Type of actuation

1	2 position single solenoid
2	2 position double solenoid
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.
B	4 position dual 3 port valve: N.O./N.O.
C	4 position dual 3 port valve: N.C./N.O.

● Rated voltage

5	24 VDC
6	12 VDC

- When using on a manifold with power supply terminals, be sure to match with the manifold's voltage specifications.

● Back pressure check valve

Nil	None
K	Built-in

- The built-in back pressure check valve type has an effective area approximately 20% smaller.
- The 3 position closed center and 3 position pressure center are not available with back pressure check valve.

● Pilot type

Nil	Internal pilot
R	External pilot

- The 4 position dual 3 port valve is not available with external pilot specifications.

● Switch specifications

Nil: Without switch

J: With switch

* For switch operation, refer to page 1-3-8.

● Common specifications

Nil	Positive common
N	Negative common

- When using on a manifold with power supply terminals, be sure to match with the manifold's common specifications.

● Manual override

Nil: Non-locking push type

D: Push-turn locking slotted type

● A, B port size

C4: One-touch fitting for $\phi 4$
C6: One-touch fitting for $\phi 6$

M5: M5 x 0.5

Elbow fitting assembly (Upward)
L4: $\phi 4$ elbow fitting assembly
L6: $\phi 6$ elbow fitting assembly

Elbow fitting assembly (Downward)
B4: $\phi 4$ elbow fitting assembly
B6: $\phi 6$ elbow fitting assembly

Solenoid Valve Specifications

Series		SZ3000	
Fluid		Air	
Internal pilot operating pressure range (MPa)	2 position single	0.15 to 0.7	
	2 position double	0.1 to 0.7	
	3 position	0.2 to 0.7	
	4 position dual 3 port valve	0.15 to 0.7	
External pilot operating pressure range (MPa)	Operating pressure range		
	Pilot pressure range	2 position single	0.25 to 0.7
		2 position double	0.25 to 0.7
3 position	0.25 to 0.7		
Ambient and fluid temperature (°C)		-10 to 50 (No freezing. Refer to page 1-7-4.)	
Max. operating frequency (Hz)	2 position single, double 4 position dual 3 port valve	10	
	3 position	3	
Manual override (Manual operation)		Non-locking push type, Push-turn locking slotted type	
Pilot type		Common exhaust type for main and pilot valve	
Lubrication		Not required	
Mounting orientation		Unrestricted	
Impact/Vibration resistance m/s ² <small>Note)</small>		150/30	
Enclosure		Dust-protected	

Note) 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)

Solenoid Specifications

Electrical entry	L type (For plug-in), M type plug connector (M)
Rated coil voltage (V) <small>Note)</small>	24, 12, 6, 5, 3 DC
Allowable voltage fluctuation	±10% of rated voltage
Power consumption (W)	0.6 (With light: 0.65)
Surge voltage suppressor	Diode
Indicator light	LED

Note) Only 24 VDC and 12 VDC are available for plug-in use.

Response Time

Note) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage)

Type of actuation	Response time (ms) (at the pressure of 0.5 MPa)	
	Without surge voltage suppressor	With surge voltage suppressor S, Z type
2 position single	12 or less	15 or less
2 position double	10 or less	13 or less
3 position	15 or less	20 or less
4 position dual 3 port valve	30 or less	35 or less

Weight

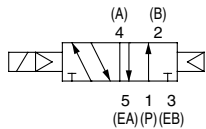
Valve model	Type of actuation		Port size	Weight (g)
			4 (A), 2 (B)	
SZ3□60-□-C4	2 position	Single	C4 (One-touch fitting for ø4)	78
		Double		84
	3 position	Closed center		88
		Exhaust center		
		Pressure center		
	4 position	Dual 3 port valve		84
SZ3□60-□-C6	2 position	Single	C6 (One-touch fitting for ø6)	74
		Double		81
	3 position	Closed center		85
		Exhaust center		
		Pressure center		
	4 position	Dual 3 port valve		81
SZ3□60-□-M5	2 position	Single	M5 x 0.8	69
		Double		75
	3 position	Closed center		79
		Exhaust center		
		Pressure center		
	4 position	Dual 3 port valve		75

Series SZ3000

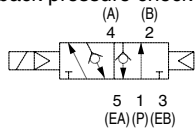
Construction

JIS Symbol

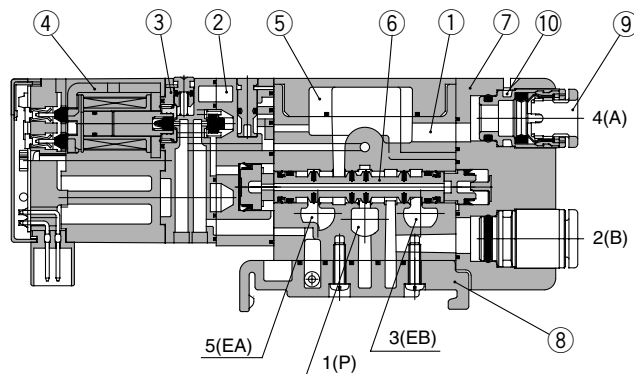
2 position single



2 position single with back pressure check valve

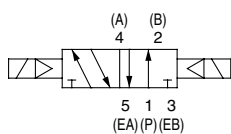


2 position single

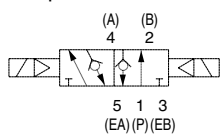


JIS Symbol

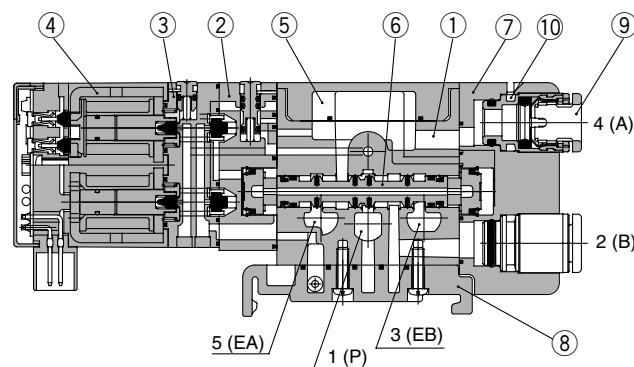
2 position double



2 position double with back pressure check valve

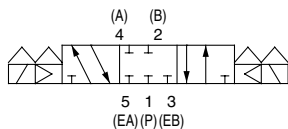


2 position double

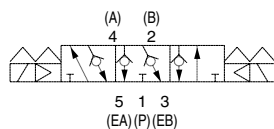


JIS Symbol

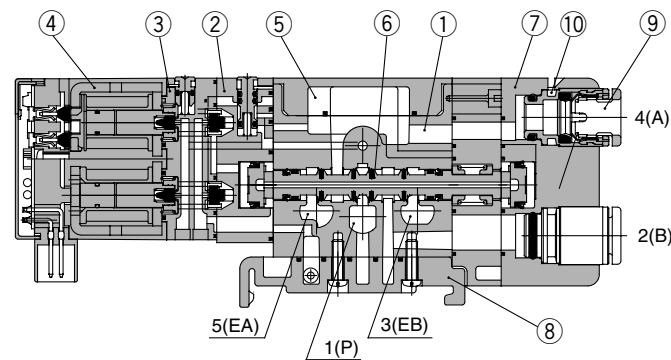
3 position closed center



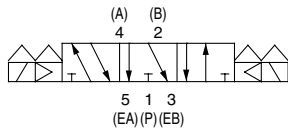
3 position exhaust center with back pressure check valve



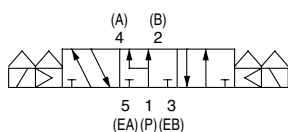
3 position closed center/exhaust center/pressure center



3 position exhaust center



3 position pressure center



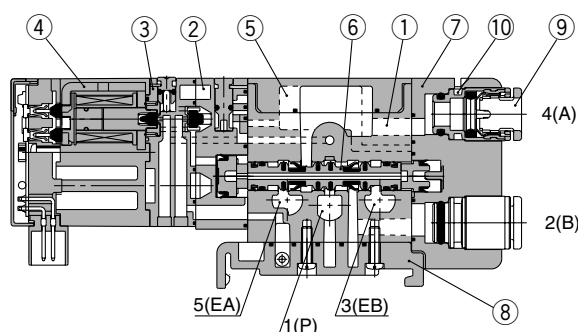
Component Parts

No.	Description	Material	Note
①	Body	Zinc die-casted	—
②	Adapter plate	Resin	Urban white
③	Pilot body	Resin	Urban white
④	Molded coil	—	Urban gray
⑤	Body cover	Resin	Urban white
⑥	Spool valve assembly	Aluminum/HNBR	—
⑦	Port block	Resin	Urban white
⑧	Bottom cover assembly	—	Urban white

Replacement Parts

No.	Description	Part no.
⑨	One-touch fitting	Refer to One-touch fitting part number information on page 1-3-5.
⑩	Clip	SX3000-115-2

2 position single with back pressure check valve

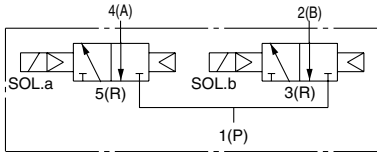


Cassette Type Manifold Plug-in Type Series SZ3000

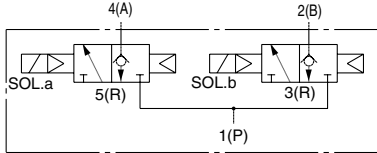
JIS Symbol

4 position dual 3 port valve

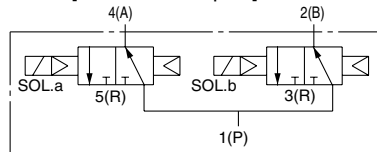
SZ3A60 [N.C. valve x 2 pcs.]



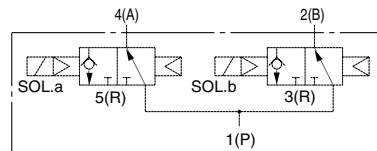
SZ3A60K/With back pressure check valve



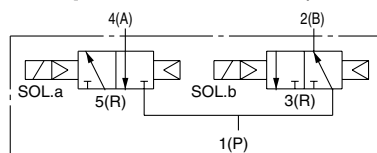
SZ3B60 [N.O. valve x 2 pcs.]



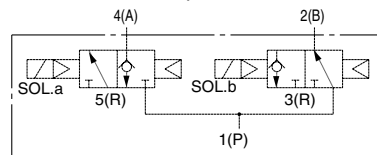
SZ3B60K/With back pressure check valve



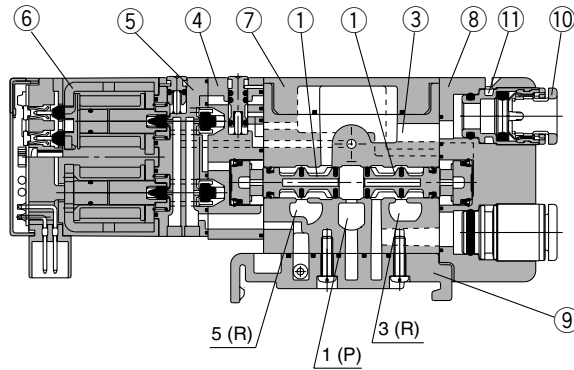
SZ3C60 [N.C. valve, N.O. valve 1 pc. each]



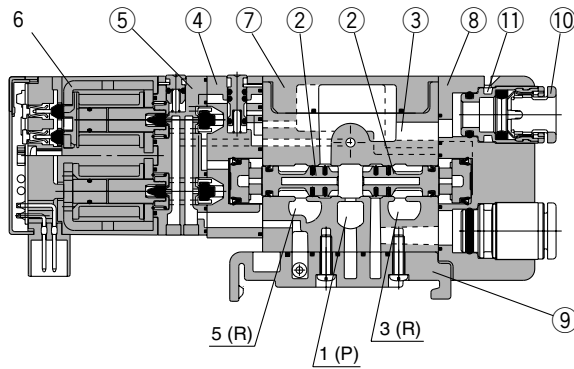
SZ3C60K/With back pressure check valve



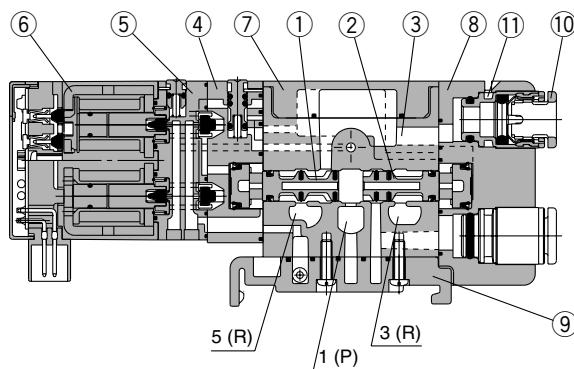
SZ3A60 [N.C. valve x 2 pcs.]



SZ3B60 [N.O. valve x 2 pcs.]



SZ3C60 [N.C. valve, N.O. valve 1 pc. each]



SV
SZ
SY
SYJ
SX

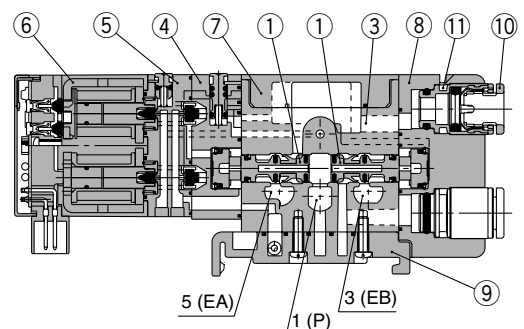
Component Parts

No.	Description	Material	Note
①	Spool valve assembly	Resin/HNBR	For N.C. (Normally closed)
②	Spool valve assembly	Resin/HNBR	For N.O. (Normally open)
③	Body	Zinc die-casted	—
④	Adapter plate	Resin	Urban white
⑤	Pilot body	Resin	Urban white
⑥	Molded coil	—	Urban gray
⑦	Body cover	Resin	Urban white
⑧	Port block	Resin	Urban white
⑨	Bottom cover assembly	—	Urban white

Replacement Parts

No.	Description	Part no.
⑩	One-touch fitting	Refer to One-touch fitting part number information on page 1-3-5.
⑪	Clip	SX3000-115-2

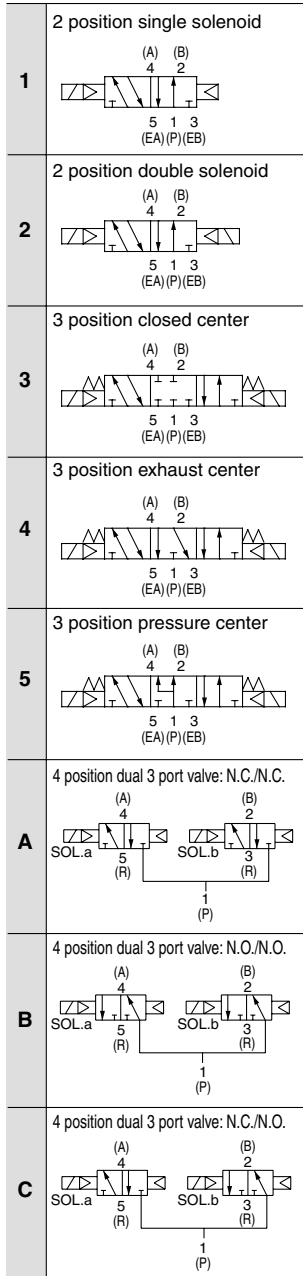
SZ3A60K/With back pressure check valve



How to Order

SZ3 **1** **60** **5** **M** **C6**

Type of actuation



Pilot type

Nil	Internal pilot
R	External pilot

- The 4 position dual 3 port valve is not available with external pilot specifications.

Back pressure check valve

Nil	None
K	Built-in

- The built-in back pressure check valve type has an effective area approximately 20% smaller.
- The 3 position closed center and 3 position pressure center are not available with back pressure check valve.

Rated voltage

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC

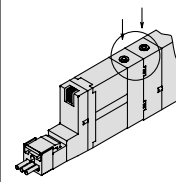
Common specifications

Nil	Positive common
N	Negative common

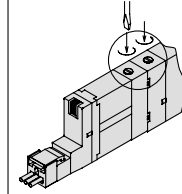
- The symbol is "Nil" when not equipped with light/surge voltage suppressor.

Manual override

Nil: Non-locking push type



D: Push-turn locking slotted type

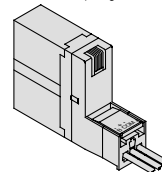


Light/Surge voltage suppressor

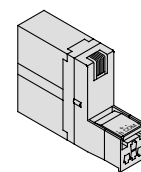
Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor

Electrical entry

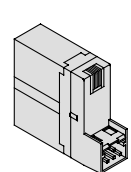
M: With lead wire (Length 300 mm)



MN: Without lead wire

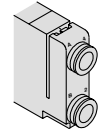


MO: Without connector

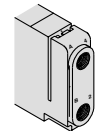


A, B port size

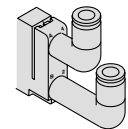
C4: One-touch fitting for $\phi 4$
C6: One-touch fitting for $\phi 6$



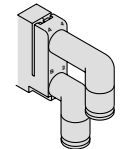
M5: M5 x 0.5



Elbow fitting assembly (Upward)
L4: $\phi 4$ elbow fitting assembly
L6: $\phi 6$ elbow fitting assembly



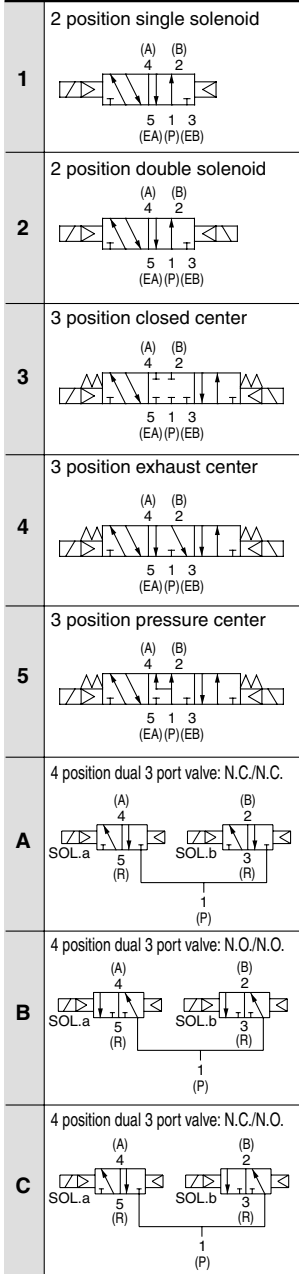
Elbow fitting assembly (Downward)
B4: $\phi 4$ elbow fitting assembly
B6: $\phi 6$ elbow fitting assembly



How to Order Solenoid Valves

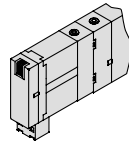
SZ3 1 60 - 5LOZ - C6

Type of actuation

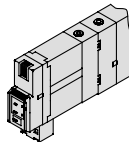


Switch specifications

Nil: Without switch

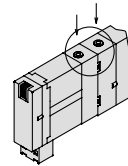


J: With switch

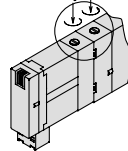


Manual override

Nil: Non-locking push type



D: Push-turn locking slotted type



* For switch operation, refer to page 1-3-2.

Back pressure check valve

Nil	None
K	Built-in

- The built-in back pressure check valve type has an effective area approximately 20% smaller.
- The 3 position closed center and 3 position pressure center are not available with back pressure check valve.

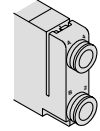
Pilot type

Nil	Internal pilot
R	External pilot

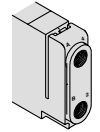
- Dual 3 port valves are not available with external pilot specifications.

A, B port size

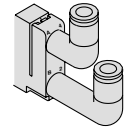
C4: One-touch fitting for ø4
C6: One-touch fitting for ø6



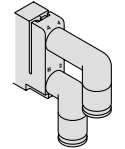
M5: M5 x 0.5



Elbow fitting assembly (Upward)
L4: ø4 elbow fitting assembly
L6: ø6 elbow fitting assembly



Elbow fitting assembly (Downward)
B4: ø4 elbow fitting assembly
B6: ø6 elbow fitting assembly



SV

SZ

SY

SYJ

SX

Series SZ3000

Made to Order Specifications:

Please contact SMC for detailed specifications, delivery and pricing.

1 Main Valve Fluoro Rubber Specifications -X90

Fluoro rubber is used for rubber parts of the main valve to allow use in applications such as the following.

1. When using a lubricant other than the recommended turbine oil, and there is a possibility of malfunction due to swelling of the spool valve seals.
2. When ozone enters or is generated in the air supply.

Model no.

SZ3 60(R) - -X90

- Entry is the same as standard products. Specifications and performance are the same as standard products.

Note) Because in series -X90 fluoro rubber is used for only main valve, the rubber parts of the application/usage in conditions requiring heat resistance should be avoided.

2 Plug-in Manifold Connector and Serial Unit Mounted on Side U

Products are also available with the plug-in manifold connector mounting position and the serial unit mounting position on the reverse side (U side). For details about part numbers and wiring specifications, etc., please contact SMC.

