



## Series SBSV Solenoid Valves

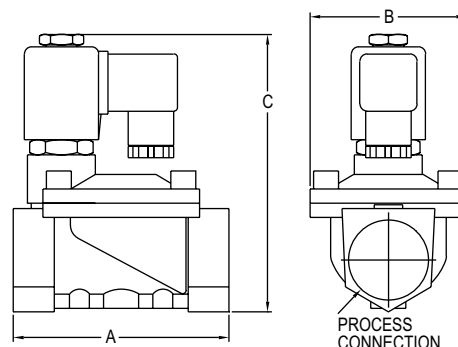
### Specifications - Installation and Operating Instructions



SBSV-B



SBSV-S



Model	A in [mm]	B in [mm]	C in [mm]	Weight lb [kg]	
				SBSV-B	SBSV-S
SBSV-X1XX	1-5/8 [41]	1-5/32 [29]	3-9/32 [83]	0.82 [0.37]	0.82 [0.37]
SBSV-X2XX	1-5/8 [41]	1-5/32 [29]	3-9/32 [83]	0.79 [0.36]	0.79 [0.36]
SBSV-X3XX	2-5/8 [66]	1-57/64 [48]	4-7/16 [112]	1.54 [0.70]	1.65 [0.75]
SBSV-X4XX	2-5/8 [66]	1-57/64 [48]	4-7/16 [112]	1.98 [0.90]	1.54 [0.7]
SBSV-X5XX	2-61/64 [75]	2-19/64 [58]	4-21/32 [118]	1.98 [0.90]	1.98 [0.9]
SBSV-X6XX	3-25/32 [96]	2-49/64 [70]	5-11/64 [131]	3.09 [1.40]	2.87 [1.3]
SBSV-X7XX	5-11/64 [131]	3-25/32 [96]	3-3/4 [146]	6.17 [2.80]	5.73 [2.6]
SBSV-X8XX	5-11/64 [131]	3-25/32 [96]	3-3/4 [146]	5.95 [2.70]	5.51 [2.5]
SBSV-X9XX	6-1/2 [165]	3-47/64 [120]	6-37/64 [167]	10.58 [4.80]	9.7 [4.4]

**Series SBSV Solenoid Valves** are compact, general-service, two-way guide type solenoid valves for air, gas, water and other liquid applications. They are available in brass and SS with a normally closed design and can be oriented in any position. The solenoid enclosure provides protection against dust, while also protecting against seepage of oil and non-corrosive coolants. The Series SBSV valves have a maximum process temperature of 248°F (120°C). The series offers a wide range of valve sizes and flow ranges with connection sizes from 1/8" to 2" NPT and orifices from 3 mm to 50 mm.

Voltage	50 Hz (VA)		60 Hz (VA)		DC (W)
	Inrush	Holding	Inrush	Holding	
220 VAC	55	22	55	18	-
110 VAC	55	22	55	18	-
24 VAC	45	18	45	15	-
24 VDC	-	-	-	-	13

Model		Connection, NPT	Orifice in (mm)	Voltage
SBSV-S1F1	SBSV-B1N1	1/8"	0.12 (3)	110 VAC
SBSV-S2F1	SBSV-B2N1	1/4"	0.12 (3)	110 VAC
SBSV-S3F1	SBSV-B3N1	3/8"	0.51 (13)	110 VAC
SBSV-S4F1	SBSV-B4N1	1/2"	0.51 (13)	110 VAC
SBSV-S5F1	SBSV-B5N1	3/4"	0.79 (20)	110 VAC
SBSV-S6F1	SBSV-B6N1	1"	0.98 (25)	110 VAC
	SBSV-B7N1	1-1/4"	1.38 (35)	110 VAC
SBSV-S8F1	SBSV-B8N1	1-1/2"	1.57 (40)	110 VAC
SBSV-S9F1	SBSV-B9N1	2"	1.97 (50)	110 VAC

**Note:** Add -BSPP to the end of the model number for female BSPP end connections.

#### SPECIFICATIONS

**Service:** Compatible gases and liquids.

**Line Size:** 1/8 to 2" NPT or BSPP.

**End Connections:** Female NPT or BSPP.

**Operating Pressure:** 1/8 to 1/4": 0 psi (0 bar) to 188.5 psi (13 bar); 3/8 to 2": 7.3 psi (0.5 bar) to 188.5 psi (13 bar).

**Pressure Limit:** 246.6 psi (12 bar).

**Wetted Material:** SBSV-B: Body: Brass; Spring: 304 SS; Seal: NBR; SBSV-S: Body: 316 SS; Spring: 304 SS; Seal: Fluoroelastomer.

**Temperature Limits:** Process: 176°F (80°C); Ambient: 32 to 149°F (0 to 65°C).

**Power Requirements:** Standard: 110 VAC; Optional: 220 VAC, 24 VDC, 24 VAC consult factory. See Series SRC Solenoid Coils.

**Power Consumption:** See table.

**Enclosure Rating:** NEMA 13 (IP54).

**Electrical Connection:** DIN connection.

**Other Materials:** Nylon.

**Mounting Orientation:** Any position, best if solenoid vertically above valve.

**Weight:** See table above.

**Type of Operation:** NC.

## INSTALLATION

**⚠ WARNING** When working on the Actuator/Valve assembly, disconnect the air or power supply to the actuator. Spring return actuators/valves may change position if power fails or is removed. Never insert any object or body part into the valve body. Severe injury may occur.

Check the product label for correct catalog number and voltage.

## POSITIONING/MOUNTING

The solenoid is designed to perform properly when mounted in any position. However for optimum life and performance, the solenoid should be mounted vertical and upright so as to reduce the possibility of foreign matter accumulating in the core tube area.

**IMPORTANT:** For the protection of the solenoid valve, install a strainer or filter suitable for the service involved on the inlet side of the valve as close to the valve as possible.

## WIRING

Wiring must comply with local codes and the National Electrical Code. To facilitate wiring, the solenoid may be rotated 360°.

1. The open-frame solenoid is provided with DIN terminals to accommodate the plug connector kit.
2. Remove center screw from plug connector. Remove the screw from the terminal block and using a small screwdriver, pry the terminal block from the connector cover.
3. Use #12-18 AWG stranded copper wire rated at 90°C or greater for connections. Strip the wire leads back approximately 1/4" for installation in socket terminals. The use of wire-end sleeves is also recommended for these socket terminals. Maximum length of wire-end sleeves to be approximately 1/4". Thinning of the ends of the lead wires is not recommended.
4. Thread wire through gland nut, gland gasket, washer and connector cover. **Note:** Connector cover may be rotated in 90° increments for alternate positioning of cable entry.
5. Check DIN connector terminal block for electrical markings. Then make electrical connection to terminal block according to markings on it. Snap terminal block into connector cover and install the terminal block and center screw.
6. Install the plug connector on the solenoid.

## SOLENOID TEMPERATURE

Standard catalog valves are supplied with coils designed for continuous duty service. When the solenoid is energized for a long period, the solenoid enclosure becomes hot and should not be touched.

**⚠ WARNING** Turn off electrical power supply and depressurize valve before making repairs. It is not necessary to remove the valve from the pipelines for repairs.

## CLEANING

A periodic cleaning of all solenoid valves is desirable. The time between cleaning will vary depending on medium and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive noise or leakage will indicate cleaning is required. Clean valve strainer or filter when cleaning the solenoid valve.

## PREVENTIVE MAINTENANCE

1. Keep the medium flowing through the valve as free from dirt and foreign material as possible.
2. While in service, operate the valve at least once a month to insure proper opening and closing.
3. Periodic inspection (depending on medium and service conditions) of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. Replace any parts that are worn or damaged.

## IMPROPER OPERATION

1. Faulty Control Circuit: Check the electrical system by energizing the solenoid. A metallic click signifies the solenoid is operating. Absence of the click indicates loss of power supply. Check for loose or blown fuses, open-circuit or grounded coil, broken lead wires or spliced connections.
2. Burned-Out Coil: Check for open-circuit coil. Replace coil if necessary.
3. Voltage: Check voltage across the coil leads. Voltage must be at least 85% of stated rating.

## SOLENOID REPLACEMENT

1. Disconnect the conduit, coil leads, and grounding wire.
2. Remove the center screw from the DIN plug connector. Disconnect the DIN plug connector from the adapter. Remove the locknut, DIN terminal adapter, and gasket from the solenoid.
3. Remove the coil from the plunger tube assembly.
4. Reassemble reversing the previous steps.

## MAINTENANCE/REPAIR

Upon final installation of the Series SBSV, no routine maintenance is required. The Series SBSV is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.

## WARRANTY/RETURN

Refer to "Terms and Conditions of Sales" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.