BV Series Refrigeration Ball Valve

General Information

The BVE/BVS series of Bidirectional Ball valves are designed for general use in isolating suction, discharge and liquid line pipe-work during maintenance shutdown periods.

Safety Instructions

- Read installation instructions thoroughly. Failure to comply can result in device failure, system damage or personal injury.
- It is intended for use by persons having the appropriate knowledge and skill. Before attempting to install the valve, make sure pressure in system is brought to and remains at atmospheric pressure.
- Do not release any refrigerant into the atmosphere.
- Do not use any other fluid media without prior approval of Emerson. Use of fluid not listed could result in:
- Chemical deterioration of components within the valve
- The attached strap (Fig. 3) contains important valve data. Do not remove because of warranty and traceability reasons.
- Do not connect on BVS Schrader connection any safety pressure switches or other control devices

Mounting Location

- The BVE/BVS valve may be installed in any position which allows access to remove the stem cap. The valves are bidirectional.
- Locate the BVE/BVS as close as possible to the section of pipe-work to be isolated. This will reduce the amount of refrigerant to be recovered during future maintenance of the system.

Installation Instructions

- Do not remove seal caps until ready for installation. The seal caps should be removed with care to avoid damaging the connections.
- For BVS version do not mount schraeder valve and cap before brazing.
- Ensure valve is in the fully open position before brazing (see Fig. 2a). Failure to do so could cause damage to internal components.
- To avoid oxidation, it is advised to purge the system with an inert gas such as nitrogen while brazing.
- When brazing, direct the flame away from the main body of the valve to avoid possible internal damage. Use wet rags or other suitable heat protection (see Fig. 1). On larger body sizes it may be necessary to re-humidify wet rags with additional water during brazing process!
- To avoid overheating the valve body, it is advised to make the joint at one end and cool the valve completely before repeating the procedure on the other end connection.
- For BVS version install schraeder valve and schraeder valve cap after cooling down of the ball valve.
- For panel mounting see dimension of holes in Fig. 4.

Leakage Test

- After completion of installation, a test pressure must be carried out as follows:
- To maximum working pressure of system for other applications

Warning: Failure to do so could result in loss of refrigerant.

Operation

- The Valve has a built-in stop for the stem and opening/closing of the valve is clearly indicated as shown in Fig. 3. Open Valve is shown in Fig. 2a and closed valve in Fig. 2b.
- Never leave the ball position as shown in Fig. 2c otherwise seat leakage can occur.
- To avoid operation by unauthorized person's valve can be equipped with a sealable cap which is available as accessory (see fig. 5).
- The plastic cap is equipped with an O-Ring. Do not use any tool to mount the cap. Cap must be closed hand tight only.

Warning: If the valve is installed in hot gas discharge line, the valve has hot surface temperature during operation of system or short after off-cycle.

- The Design pressure marked on this component shall not be less than the installed system working pressure or less than the values outlined in ANSI/ASHRAE 15 for the charges refrigerant. After charging mark the installed equipment with the refrigerant type and Oil used.
- For use with HFC and HCFC refrigerant listed in CAN/CSA B52, ANSI/ASHRAE 34 and ANSI/ASHRAE 15 SEC. 9.2. Where the saturation pressure at 125°F (High side) and 80°F (Low side) is less than the maximum design Working Pressure. After charging mark Unit with refrigerant type and oil type.

Technical Data	BVE-/BVS-...<28 mm	BVE-/BVS-...>32 mm
Connection, DN	1/4" (6 mm)...1-1/8" (28 mm)	1-3/8" (35 mm)...3-1/8" (80 mm)
Max. Working Pressure PS	45 bar/650 psig	
Medium Temperature TS	-40°C...+120°C (short term +150°C)/-40°F...+250°F (short term +300°F)	
Fluid Group Acc. PED	II	
Refrigerant	HCFC, HFC, CO2 (ASHRAE Standard 34: A1, A2)	
Material	CW617N	
Hazard Category: PED 97/23/EC	not applicable	I
Marking	UL 207,	CE, UL 207,

Fig. 1:

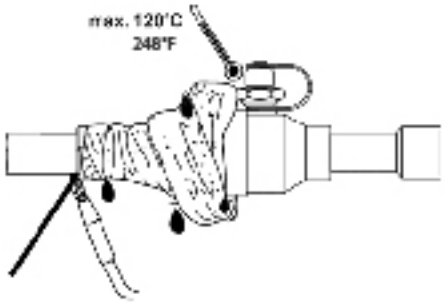


Fig. 2:

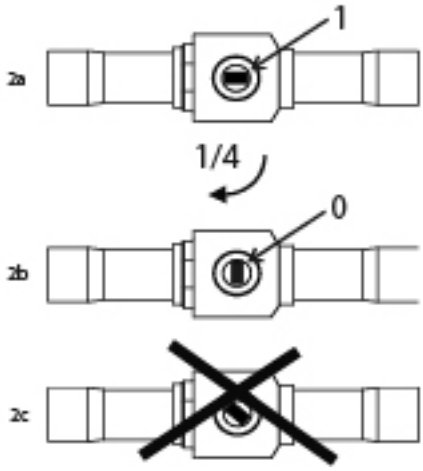


Fig. 3:

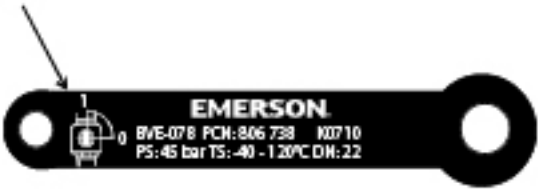
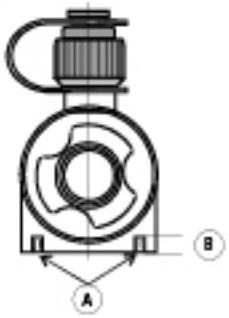


Fig 4:



BVE- / BVS-	A	B
014, M06, 038, M10	M3	15/64"
012, M12, 058, 034, 078, 118, M28	M4	23/64"
138, 158, M42, 218, 258, 318	M6	25/64"

Fig. 5

BVE /BVS Ø	PCN (10 pcs)
< 1-1/8	806 770
1-1/8 .. 1-3/8	806 771
> 1-3/8	806 772