

# B2 VS and B2 VSS Ball Valves

## B2 VS Series Ball Valves

Technical Data	
Service	chilled or hot water, 60% glycol, 35 lb. steam
Flow characteristic	modified equal percentage
Action	90° rotation valve open CCW, valve closed CW
End fitting	female NPT
<b>Materials:</b>	
Body	B584-C84400 bronze
Ball	316 stainless
Seats	MPTFE, RPTFE
Stem	A276-316 stainless steel, 316 stainless steel
Stem bearing	RPTFE, PEEK/PTFE
Stem packing	MPTFE
Body seal	PTFE
Retainer	B16 brass, B584-C84400 bronze
Gland	B16 brass
Jam nut	Stainless steel
Belleville washer	Stainless steel
Pressure rating	600 psig WOG
Media temp. range	-22...280°F [-30...138°C]
Maximum velocity rating	15 fps
Leakage rating	ANSI Class VI

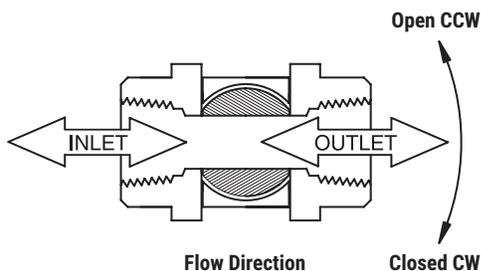
**NOTE:**  
B2050VS-01, B2050VS-02, B2050VS-04, and B2050VS-15 are rated for single temperature applications only (chilled or hot water).

## B2 VSS Series Ball Valves

Technical Data	
Service	chilled or hot water, 60% glycol, 50 lb. steam
Flow characteristic	modified equal percentage
Action	90° rotation valve open CCW, valve closed CW
End fitting	female NPT
<b>Materials:</b>	
Body	A351-CF8M stainless steel
Ball	A276-316 stainless steel, 316 stainless steel
Seats	RPTFE, MPTFE
Stem	A276-316 stainless steel
Stem bearing	RPTFE, PEEK/PTFE
Stem packing	MPTFE
Body seal	PTFE
Retainer	A351-CF8M stainless steel, A276-316 stainless steel
Gland	A276-316 stainless steel
Jam nut	Stainless steel
Belleville washer	Stainless steel
Pressure rating	2000 psi WOG (½...1") 1500 psi WOG (2")
Media temp. range	-22...298°F [-30...148°C]
Maximum velocity rating	15 fps
Leakage rating	ANSI Class VI

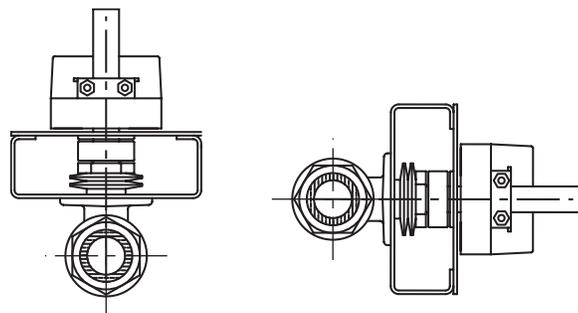
**NOTE:**  
B2050VSS-15 is rated for single temperature applications only (chilled or hot water).

### Flow Pattern



**NOTE:**  
To avoid torque increase during off season shut down, or other periods of inactivity longer than 1 month - the valve should be exercised (actuator or manually driven full open-closed cycle) at least once per month. This is necessary to avoid any application problems after an off season shut down.

### Piping/Mounting Orientation



### Installation

1. Inspect shipping package, valve, linkage, and actuator for physical damage. If shipping damage has occurred notify appropriate carrier. Do not install.
2. If a replacement, remove existing valve, linkage and actuator from the piping system.
3. If actuator and linkage are removed, they must be reinstalled correctly. The actuator must be rotated so that the valve sits properly for close off.
4. Install valve with the proper ports as inlets and outlets. Check that inlet and outlet of 2-way valves are correct. Flow direction arrows must be correct. See supplied drawings on previous page.
5. Blow out all piping and thoroughly clean before valve installation.
6. Clean male pipe threads with wire brush and rag. If threads have been damaged or exposed to weather, running a tap or die over the threads may straighten them. Clean pipes, threads, and valve threads before installation; check for any foreign material that can become lodged in trim components. Strainers should be cleaned after initial startup.
7. Pipe sealing compound should be applied sparingly after cleaning and may not be applied to the two lead threads of a screwed pipe, which are innermost inside the valve. Sealing compound is to be placed on male threads only. The purpose is to lubricate the pipes when tightening.
8. Valve must be installed per the mounting drawings shown.
9. Start the connection by turning the valve or pipe by hand as far as possible. Be certain the threads mate by the "feel" of the connection.
10. Use wrenches to tighten the valve to the pipe. Do not over tighten or strip the threads. Two wrenches are necessary to avoid damaging the valve.
11. Two-way valve Normally Open or Closed configurations must be verified by examining both the mechanical drawings and the valve and actuator. See details below.

### Valve Maintenance

External stem leakage is common over the life of the valve. To stop leakage due to normal wear, tighten packing gland screw clockwise by 1/8 turn increments until observed leakage is halted. Do not exceed values displayed in Table 1.

**Table 1: Stem Nut Torque**

Valve Size	Stem Nut Torque (in-lb)
½"	50
¾...1¼"	75
1½...2"	150

### Warning!

**Valve should not be used for combustible gas applications. Gas leaks and explosions may result. Do not install in systems which exceed the ratings of the valve.**

- Avoid installations where valve may be exposed to excessive moisture, corrosive fumes, vibration, high ambient temperatures, elements, or high traffic areas with potential for mechanical damage.
- Valve assembly location must be within ambient ratings of actuator.
- The valve assembly will require heat shielding, thermal isolation, or cooling if combined effect of medium and ambient temperatures – conduction, convection, and radiation – is above 122°F for prolonged time periods at the actuator.
- Strainers should be installed before coil and valve.
- Visual access must be provided. Assembly must be accessible for routine scheduled service. Contractor should provide unions for removal from line and isolation valves.
- Avoid excessive stresses. Mechanical support must be provided where reducers have been used and the piping system may have less structural integrity than full pipe sizes.
- Sufficient upstream and downstream piping runs must be provided to ensure proper valve capacity and flow response. Five diameters in each direction are recommended.
- Life span of valve stems and packing is dependent on maintaining non-damaging conditions. Poor water treatment or filtration, corrosion, scale, other particulate can result in damage to trim components. A water treatment specialist should be consulted.
- Normal thread engagement between male pipe thread and valve body should be observed. Pipe run that is in too far will damage the valve.



**WARNING:**

This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)