INSTRUCTION MANUAL

Pressure Independent Characterized Control Valves™

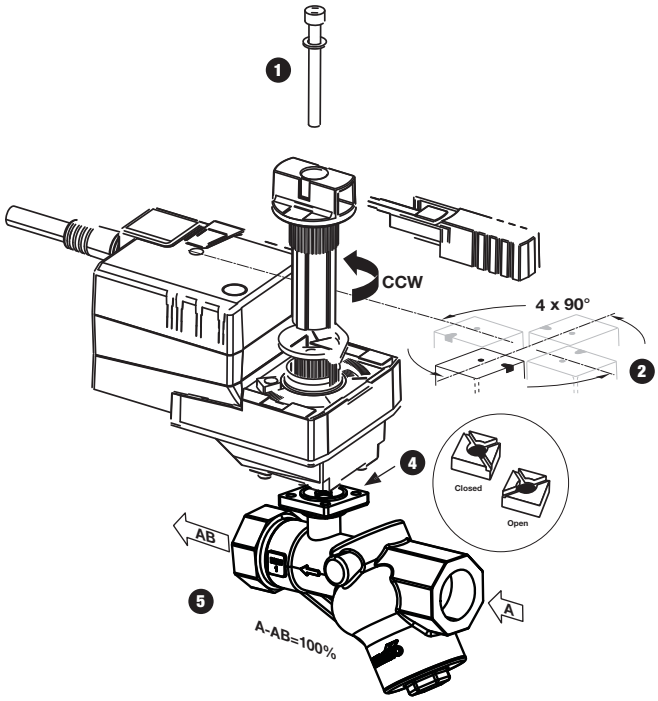
P2... Series
Pressure Independent Characterized Control Valves

Technical Data	
Service	chilled or hot water, 60% glycol
Flow characteristic	equal percentage
Controllable flow range	75°
Sizes	½", ¾", 1", 1¼", 1½", 2"
Type of end fitting	NPT female ends
Materials	
Body	forged brass, nickel plated
Ball	chrome plated brass
Stem	chrome plated brass
Seat	Teflon® PTFE
Set O-ring	Viton®
Characterizing disc	½" & ¾" brass 1"- 2" TEFZEL®
Packing	2 EPDM O-rings, lubricated
Diaphragm	½" & ¾" Nomex reinforced silicone 1"- 2" polyester reinforced silicone
Regulator components	stainless steel/brass/Delrin 500AF/Nitrile
Spring	stainless steel
Pressure rating	
600 psi	½", ¾", 1"
400 psi	1¼", 1½", 2"
Media temp range	0°F to 212°F [-18°C to 100°C]
Close off pressure	200 psi
Maximum differential pressure across valve (range)	5 to 50 psid
Leakage	ANSI Class IV (0.01% of rated valve capacity at 50 psi differential)

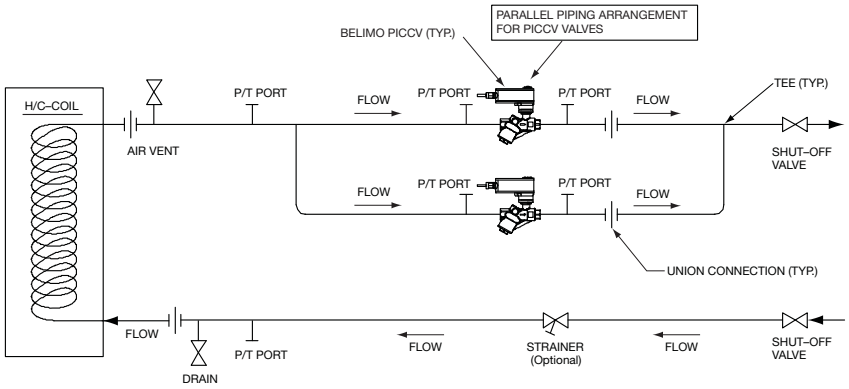
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Assembly

1. One screw attaches to valve
2. Four actuator mounting positions
3. 2-way flow pattern
4. Top of valve stem indicates direction of flow (Flow A to AB shown)



Typical Parallel Piping in Relation to The Input and Output (Scale: None)



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 seats properly for close off.
4. Install valve with the proper ports as inlets and outlets. Flow direction arrows must be correct.
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 with the stem towards the vertical, not below horizontal.
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. A strainer is not required per unit but is recommended to install one #20 strainer per system. If the system has multiple branches, install one strainer per branch.

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 the assembly 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. If temperature is below -22°F a heater is required.
- 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.
- Visual access must be provided. Assembly must be accessible for routine schedule 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.
- Life span of valve stems and O-rings 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.

8/12 - Subject to change. © Belimo Aircontrols (USA), Inc.