



# VP1000 Series Pressure Independent Control Valves



Achieving greater comfort and efficiency. Fast.





## Right in your comfort zone.

### Efficiency starts here.

System efficiency starts with the control valve. Getting the correct flow under varying load conditions means a more comfortable environment and a more efficient system. The VP1000 Series of Pressure Independent Control Valves (PICVs) from Johnson Controls delivers stable flow regardless of pressure fluctuations. Because traditional systems are balanced at full-flow positions in actual conditions, you get either too much or not enough flow through the coils, affecting comfort and overall efficiency. Dynamic balancing properties deliver the correct flow. It's just one more way we continue to provide innovative technology to improve efficiency in building systems.

### More value, end-to-end.

Specifying a PICV simplifies your selection process. No need for Kv or pressure drop calculations. Simply select the valve based on the design flow rate of the coil. PICVs deliver the appropriate flow given the load requirement of the coil, determined by the actuator position and not the pressure differential seen by the valve. This means a coil is not over or under supplied, better managing comfort and energy efficiency. The Johnson Controls PICV also reduces installation and upfront equipment costs by enabling the right-sizing of equipment within the HVAC system. The PICV combines the function of a control, an automatic balancing and a differential pressure control valve. No need to spec a balancing valve, eliminating the need for intensive system balancing, saving time and money. As additional zones are added, the system can be commissioned zone-by-zone, reducing lifecycle costs by minimizing re-commissioning expense.

### The VP1000 PICV vs. pressure dependent valves

Compared to a pressure dependent valve, the dynamic balancing action of the PICV regulates pressure to reduce temperature variations caused by changing load conditions in other temperature zones. This reduces pumping requirements and lowers demand on the heating or cooling system.



### VP1000 Compact Axial (Globe) Valve:

Ideal for applications where you need a compact valve and actuator footprint with contamination resistant technology for the best comfort. It can provide either a linear or equal percentage control characteristic, modulating the flow with the VA-7480 actuator for proportional control or using a thermal actuator for on/off application. Maximum flow is easily set without any special tools. Available in DN15 to DN20 sizes

### Extreme performance. Extra savings. Extended life.

The compact axial VP1000 has an innovative patented pressure regulating cartridge for performance in contaminated water. As a result, the VP1000 Compact will outperform competitive axial PICVs, providing a long life of accurate, pressure independent performance, even as water quality degrades.

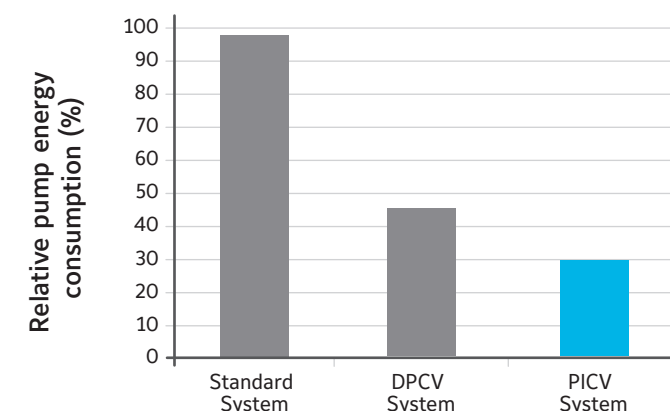
### VP1000 Axial (Globe) Valve:

Ideal for applications where you need a compact and robust design for high flows. It maintains full stroke regardless of whether the valve's maximum flow is set to 100%, or any other percentage, providing better control resolution. Plus, you can set it and forget it. Flow rates can be adjusted and valves locked in position without removing the actuator. Available in DN25 to DN32 sizes.



### VP1000 Rotary Valve:

Ideal for applications that require enhanced flexibility for seasonal commissioning and different room layouts. It provides intrinsic equal percentage control and the maximum flow setting can be set by the building automation system via a characterized control signal, calibrating the actuator or using a graduated adjustment kit. The valve will modulate the flow between close-off and the maximum setting based on the control signal input. Available in iron DN40 to DN65 construction.



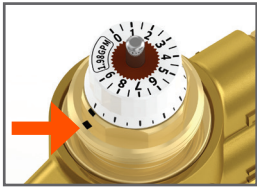
### With the VP1000 Series, you can take advantage of:

- Fewer components to spec and install
- Reduced adjustment and commissioning
- Greater installation flexibility in confined spaces
- Lower pump energy usage, up to 30%
- No manual balancing

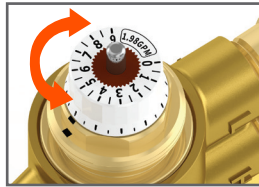
### VP1000 Compact Axial Flow Modulation

The VP1000 Compact and Axial PICV modulate flow as the valve stem moves up and down, closing or opening against the seat. The key in maintaining constant flow at a given valve plug position, regardless of the variations in pressure at the inlet (P1), is the ability of the pressure regulator to maintain a constant differential pressure between (P2) and (P3). This allows the control valve portion of the PICV to modulate the correct flow based on the position of the valve plug in relation to the seat.

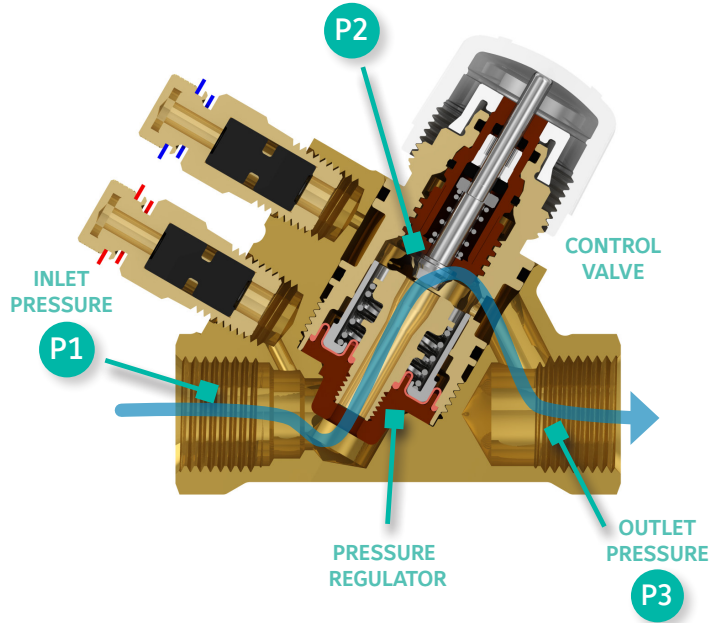
### Compact Axial Max Flow Setting Adjustment



Remove white cap or actuator  
Default Setting: Position 9



Turn the adjustment knob to line up the marking on the body with the appropriate setting that corresponds to the desired flow.



### VP1000 Ball Valve Flow Modulation

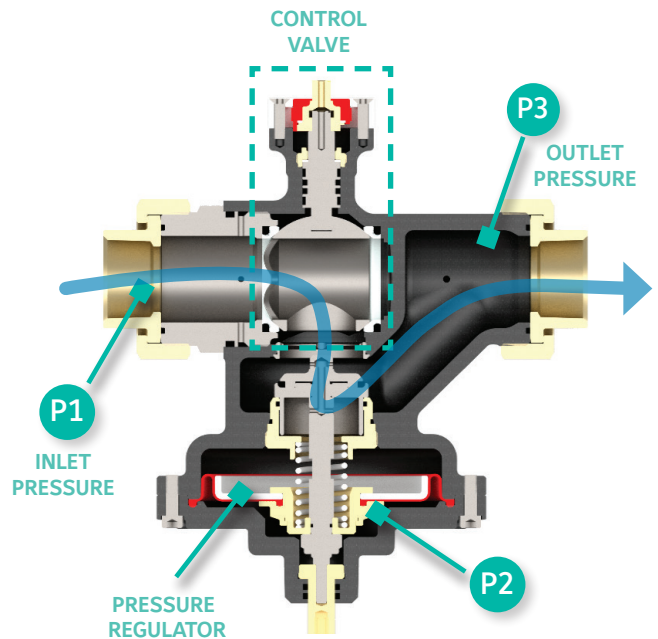
The Ball Valve PICV modulates flow as the ball rotates to close the valve. As with the axial PICV, the key in maintaining constant flow at a given ball rotation, regardless of the variations in pressure at the inlet (P1), is the ability of the pressure regulator to maintain a constant differential pressure between (P2) and (P3). To modulate the flow rate, the actuator positions the ball between fully closed and open, controlled via the building automation system.

### Ball Valve Max Flow Setting Adjustment

Limiting the maximum flow allowed through the valve to something less than the maximum is achieved by characterizing the control signal to the actuator or using a graduated adjustment kit.

### Serviceability

The VP1000 series PICVs can be easily serviced by either cleaning or replacing the pressure regulator with the valve still installed in the system.



## Whatever your application, wherever you are, we're there.

You can count on the backing of the world's largest portfolio of HVAC equipment and controls. No matter where you are in the world, you can rely on Johnson Controls to help meet your efficiency, comfort and application requirements. Also, count on our unsurpassed five-year warranty coverage.

