Choosing the Right Valve for the Job

PIC-V® Pressure Independent Control Valves OR Automizer® Combination Control Valves

RECOMMENDED USAGE:

PIC-V® Pressure Independent Control Valves

Recommended when the system uses modulating actuators and an exact flow rate is required. PIC-V valves are *not* recommended when the system uses modulating actuators to control flow at low flow rates, e.g. .3 or .4 on a .5 gpm valve, or .6 or .8 on a 1 gpm valve. Precise temperature control is not needed at those low flow rates; they are typically VAV reheat applications for which Automizer valves are sufficient.

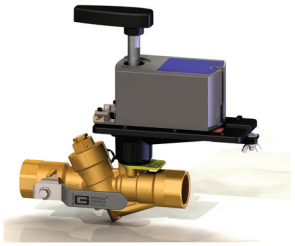
Automizer® Combination Control Valves

Recommended when the system uses on-off actuators and it is necessary to reduce system start-up time. Automizer valves are also recommended when the system has very low flow rates and uses modulating actuators; these are typically VAV reheat applications.

In addition, Automizer valves are self-cleaning, therefore they are recommended when the system is dirty and/or no strainers are used. Automizer valves can also be used when the spec calls for all stainless steel internal parts and no diaphragm.

Griswold Controls is ISO 9001:2000 Certified

PIC-V® (½" - 3")
Control for Valves using Modulating Actuators



Systems with valves using modulating actuators yield the best control with pressure independent valves. At design set point or below, as pressure fluctuates in the pipe, the actuator on the PIC-V pressure independent valve turns the control valve to set the flow and the diaphragm cartridge to maintain the flow. When the control valve is at partial load (a partially open ball) the cartridge compensates for pressure changes in the system, ensuring the system is balanced even at a reduced load. This means less rotations for an actuator. As a comparison, with an Automizer combination control valve flow limiting only occurs at full flow conditions. However, PIC-V pressure independent valves are not available with as many flow rate selections as Automizer combination control valves. The PIC-V has an average of 5 to 8 flow selections per size as opposed to 22 per size with the Automizer. The exact flow rate you require may not be available with a PIC-V valve, and overflow at full load and during early morning start-up may occur. This is more of an issue with large valves because they have higher flow rates and therefore overflow has more of an effect on the system.

Automizer® (½"- 2")
Control for Valves using On/Off Actuators or Modulating Actuators with Low Flow Rates

Systems with valves using on/off actuators yield the best control with combination control valves. On/Off actuators have two positions, open or closed. Since control valves are typically oversized, when the control valve is all the way open, the valve will overflow if it does not have a flow limiting cartridge. This results in overflow and underflow conditions, depending on the valve's distance from the pump. The Automizer combination control valve provides flow limiting, which is crucial for on/off control, especially with larger valves. The flow rates on larger valves are so great that overflow can result in a substantial amount of excess water being pumped. The Automizer combination control valve has a wide variety of flow rates to choose from, allowing the user to choose a maximum flow close to the desired coil flow, thereby avoiding overflow. This same overflow and underflow situation can occur during early morning startup while the system is preparing the building for comfortable occupancy. When the pump is started, control valves are usually fully open, resulting in overflow and underflow conditions, again depending on the valve's distance from the pump. The Automizer valve's flow limit cartridge prevents overflow and underflow from occurring by reducing system startup time to ½ hour, thus saving thousands of dollars of run time and pump energy. In addition, the Automizer combination control valve allows the user to control flow at a coil in the traditional way, serving the same purpose and function as the union, control valve and flow limiting or balancing valve in a single housing.

How to Write a Specification the Competition Cannot Break

Specify the PIC-V and the Automizer on the same job! When modulating control is required, specify PIC-V pressure independent valves on the chilled water, and Automizer combination control valves on the heating valves.

PIC–V®

Combines a balancing valve and a control valve into one, accurately maintaining flow regardless of pressure fluctuations in the system. In addition, delivers high Δ T at all loads, guaranteeing stable temperature control & better heat transfer.

Features	Benefits
PIC-V valves offer pressure independent control	Provides balancing at any point below and including the maximum flow rate, eliminating hot and cold spots in a building
PIC-V valves experience no change in flow regardless of pressure fluctuations up or down stream of valve	Can heat and cool more space with less equipment & energy, requiring less work for the actuator, thereby increasing the actuator's life
PIC-V valves control flow exactly	Eliminates all overflow or underflow at coils
PIC-V valves are low torque	Reduces actuator size needed, allowing for a less expensive actuator
PIC-V valves have a universal mounting plate	Offers compatibility with most manufacturer's actuators
PIC-V valves contain next generation triple seals & field repairable stems	Provide resistance to today's chemical treatments and to temperature fluctuations following evening system shutdown, and allow for field servicing without removing valve

AUTOMIZER®

Provides the performance of an actuated control valve and a flow limiting valve in a single housing

Features	Benefits
Automizer Cv ratings match those of globe valves	Match the flow range most systems are designed for, and offer performance of a globe valve at a ball valve price
Automizer valves feature the patented Optimizer® parabolic flow inserts	Deliver equal percent control, which mirrors the coils' heat transfer, and also provide for 30-50% more rotation response than other ball valves
Automizer valves have a stainless steel automatic flow limiting cartridge	Eliminates overflow, where total flow exceeds the flow required for the system, and underflow problems
Automizer valves have multi-actuator compatibility	Allows use in many applications because the same actuator is not the right choice for every job
Automizer valves contain next generation triple seals & field repairable stems	Provide resistance to today's chemical treatments and to temperature fluctuations following evening system shutdown, and allow for field servicing without removing valve

The following may be helpful when first considering what valve to use for a system.

SYSTEM TYPE		PIC-V Pressure Independent	Automizer Combination Control
Chilled water	Modulating control to discharge air temperature setpoint	X	
	Modulating control to space temperature setpoint, 2 tons or more	X	
	Modulating control to space temperature setpoint, 2 tons or less		X
	On-off control		X
Heating	Modulating flow control to discharge air temperature setpoint without full reset	X	
	Modulating flow control to space temperature setpoint		X
	Constant flow variable water temperature control, full reset		X
	On-off control		X
VFD	Partial load	X	
	Full load	X	X
Applications that require precise control		X	
Water source heat pump			X

GRISWOLD CONTROLS

2803 Barranca Parkway • Irvine CA 92606

Phone 800-838-0858 • Fax 800-543-8662

E-mail info@griswoldcontrols.com

www.griswoldcontrols.com

Griswold Controls Representative

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