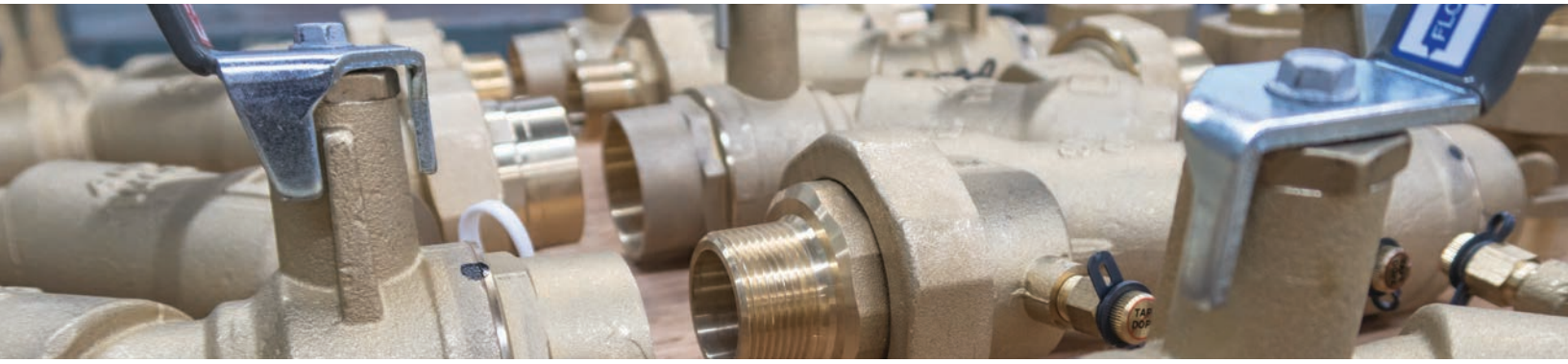
GRISWOLD® CONTROLS

A FlowCon International/Griswold Controls LLC. Company

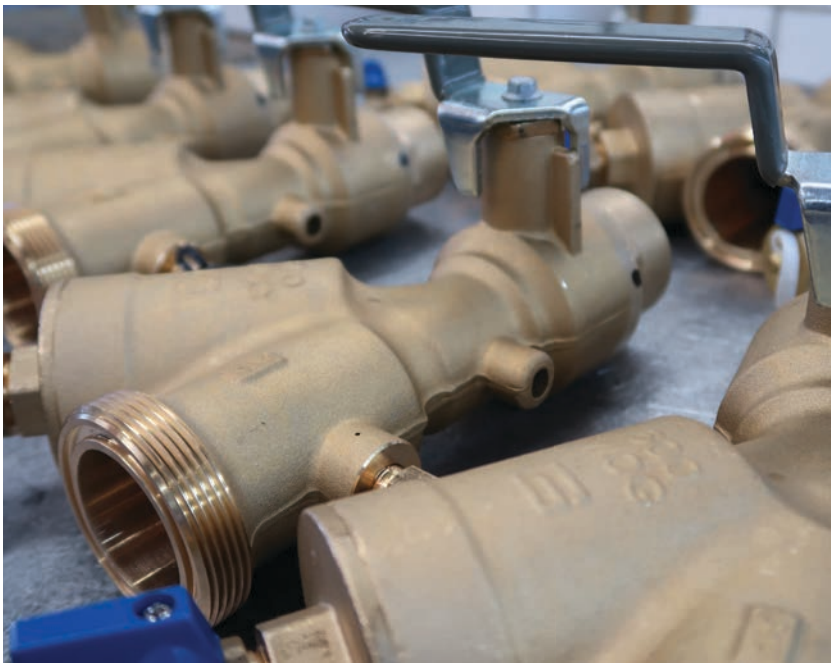
HVAC CATALOG



Absolute Control. Optimized Efficiency.

About Us

Griswold Controls pioneered Automatic flow limiting control with the introduction of its stainless steel flow cartridge in 1960. Over 55 years later, our innovation, quality and reliability continue to set us apart from the competition. From the original 100% stainless steel cartridge for automatic flow controls, to the Automizer® the first combination actuated control ball valve with automatic flow limit controls, Griswold Controls is the leader in HVAC technology for flow control.



Griswold Controls has been “Going Green” for years now with our concerted efforts to improve the energy efficiency of HVAC systems in America. We strive to bring you energy efficient products, technologies and features. Our goal is to highlight energy efficient products and demonstrate how resources are saved by using them.

In addition to offering valves and pre-assembled systems for the HVAC industry, Griswold Controls also offers irrigation valves and pre-assembled piping systems for the landscaping market. Griswold Controls’ goal is to offer a unique line of products that solves problems and features superior quality and high performance in fluid control. Griswold Controls has a large knowledgeable staff with a high degree of efficiency, and a drive to provide outstanding service to each of the markets we serve.

Our Mission

Success will come and go but, integrity is forever. Building a good reputation takes years and Griswold Controls has over 55 years of innovation, quality, reliability and most importantly, integrity. We focus on the needs of the industry, offering control valve solutions that are innovative, efficient and fit today's HVAC applications. Griswold Controls continues to develop new, innovative valves for terminal units, heat pumps, air handlers, and equipment room installations. Griswold Controls understands the challenges faced by contractors and engineers in designing and installing HVAC systems, and we create solutions that meet those challenges.

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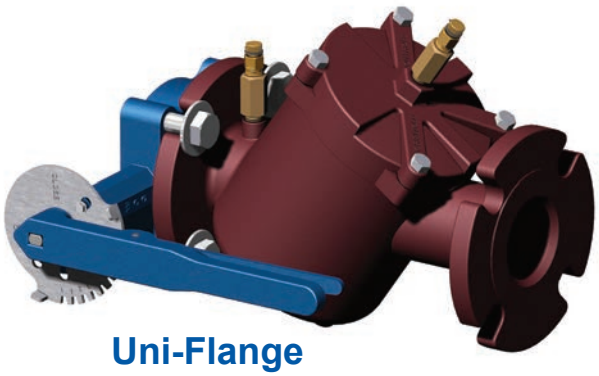
Automatic Flow Limiting Valves

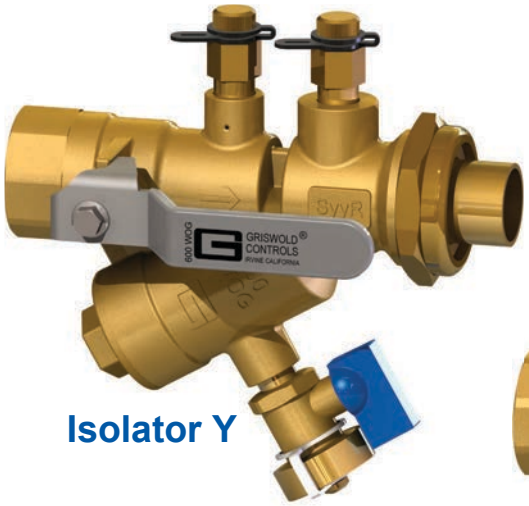
Sizes: 1/2″ – 24″

Isolator R, Isolator Y, K Valve, Mini, Combo, Threaded Flange, Uni-Flange, Steel Flange, Grooved End, & Wafers-Class 150/300

K Valve



Uni-Flange



Isolator Y

Isolator R

Wafer

The Griswold Controls Automatic Flow Limiting Valve is used in many different applications, mostly in the HVAC industry to maintain balance in a HVAC System. The stainless steel flow limiting cartridge has a spring loaded cup that dynamically absorbs pressure fluctuations resulting from changing system conditions due to varying heating/cooling loads. These fluctuations in pressure, within a given pressure differential control range, do not change the flow through the valve, therefore the flow is controlled to within +/- 5% of the designed flow.

Automatic Flow Limiting Valves

Automatic Flow Limiting Valves do not require any additional balancing as do Manual Balancing Valves, therefore they reduce labor costs from not having to balance and rebalance the valves.

Isolator R, Isolator Y and K valves are available with a wide range of flows and PSID ranges, and are the perfect choice for tight spaces. These valves offer easily accessible flow control cartridges, accessible without breaking piping connections, so exchange of the cartridge for flow changes can be made as required. Isolator and K valves are the perfect choice for terminal boxes, VAV boxes, fan coil units, heat pump installations, and base board/in-cabinets.

Recommended Applications:

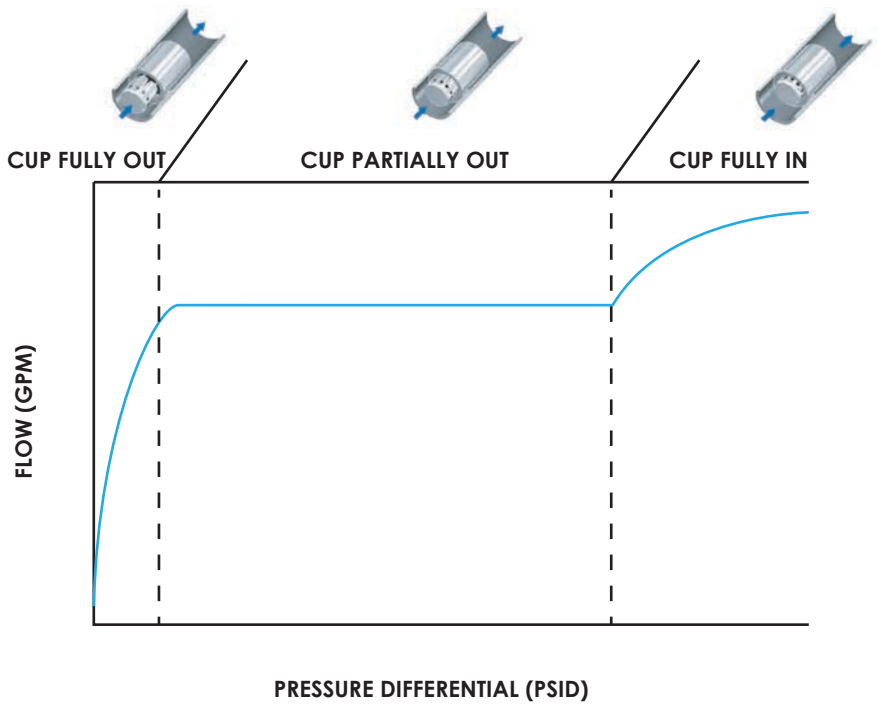
• For Baseboards/In-Cabinets and Terminals: Smaller valves like the Isolator R or Isolator Y, and K Valves. Sizes 1/2″ – 3″

• For Air Handling Units: Larger Isolator R, Uni-Flange, and Wafers offer precise control for larger applications. Sizes 1-1/2″ – 6″

• For Chillers, Towers & Pumps: For higher flow applications use Wafers, Steel Flange, Grooved End or Weld End with multiple cartridges. Sizes 3″ – 24″

For more information visit:

griswoldcontrols.com/automatic-flow-limiting-valves

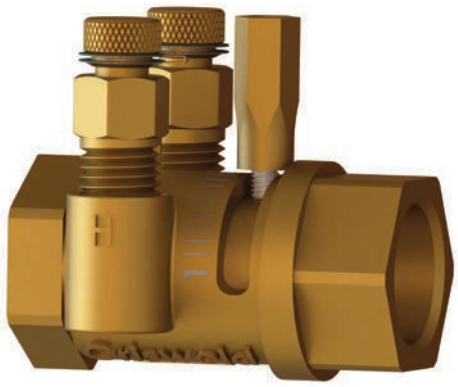


Flow Change with Flow Limiting and Actuated Valve
In a system with flow limiting cartridges as the pressure drop increases, the open area in the cup decreases so the result is no flow change. The only way to increase the flow is to modulate the control valve.

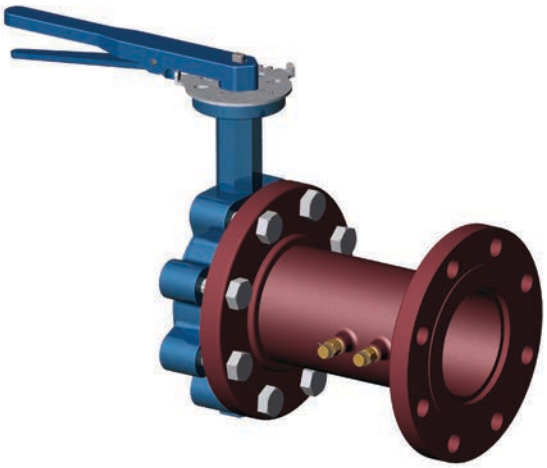
Manual Balance Valves

Sizes: 1/2″ – 20″

QuickDisc™ and QuickSet® Manual Balance Valves & Metering Stations

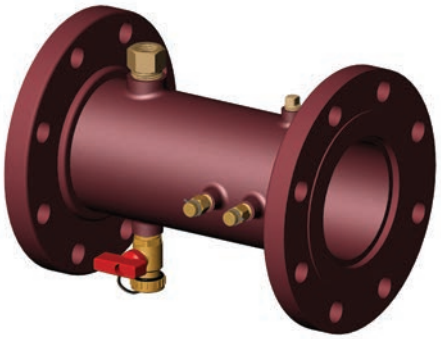


QuickDisc™



Flanged End QuickSet®

QuickSet®



Flanged End Metering Station

The QuickDisc™ and QuickSet® are manual balance valves that include venturi inserts for flow measurement and isolation valves with memory stops for flow setting. The venturis are precisely machined to attain ±1% accuracy throughout its range. The venturi produces a high pressure signal for flow adjustment, while creating very low permanent pressure loss, thereby minimizing pump head requirements and maximizing system efficiency.

Manual Balance Valves

The QuickDisc™ valve uses a ceramic disc to set the flowrate and the QuickSet® valves use a ball (1/2”-2”) or a butterfly (2-1/2”-20”) valve to set the valve flowrate. Both valves have built-in straight runs before the venturi. This design feature allows the valves to be installed after an elbow, temperature control or other valves without affecting flow measurement or control.

Pitot Tube and Venturi metering stations require 4-10 diameters of straight pipe entry for accurate measurement. Many retrofit jobs don’t have 4-10 diameters of space, so accurate measurement is frequently compromised. Griswold Controls’ engineers studied “Disturbed Flow Measurement” and developed a patented Piezo Ring and dual chamber design, enabling accurate measurement in the smallest footprint. Now engineers can specify to ±1% accuracy and locate the valve with less than four pipe diameters entry piping, or adjacent to an elbow or temperature control. Whether a new or retrofit installation, these valves require only simple and direct piping, saving valuable equipment space and field labor and ensuring quality comfort conditioning and lowering operating costs for owners.

Griswold Controls also offers the venturi in a Metering Station that can be used for flow measurement. The Metering Stations are available with an electronic output signal (transducer) from the measuring station. This makes it easy and convenient to integrate the valve into a building’s energy management computer system and accurately measure flow at all times.

Recommended Applications:

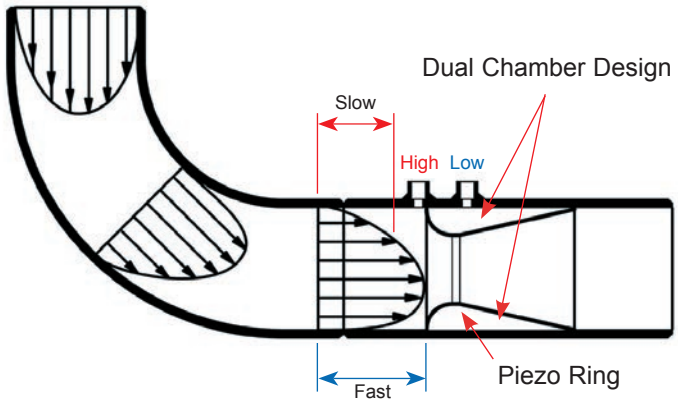
• For Baseboards/In-Cabinets and Terminals: Smaller valves like the QuickDisc™ or the Brass QuickSet® for balancing or Brass Metering Station for flow measurement. Sizes 1/2″ – 2″

• For Air Handling Units, Chillers, Towers & Pumps: Larger QuickSet® in Flanged, Weld or Grooved End style or Metering Station for flow measurement. Sizes 2-1/2″ – 20″

For more information visit:

griswoldcontrols.com/manual-balance-valves

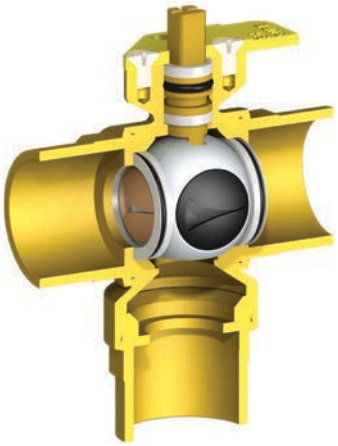
QuickSet® Can Be Installed Downstream of Bends and Other Valves



2-Way & 3-Way Actuated Ball Valves

Sizes: 1/2″ – 6″

Unimizer® 2-Way & 3-Way Actuated Ball Valves



3-Way Unimizer®

3-Way Flanged Unimizer®

2-Way Unimizer®

Griswold Controls' Unimizer® valves achieve true equal percentage flow from the patented parabolic shape of the Optimizer. The valves include the patented low torque seals allowing the same 35 in-lb actuator to be used on 1/2" to 3" valve. The valves also feature the universal mounting plate which allows the valve to be installed with your choice of actuator. And finally, the Unimizer valves feature the patented repairable Next Generation stem which allows for stem repair or replacement without removing the valve. This extends the life of the valve well beyond traditional actuated valves on the market.

2-Way & 3-Way Actuated Ball Valves

The Unimizer® eliminates inaccuracy in ball valves. This is made possible with the technology of the Griswold parabolic flow OPTIMIZER®, a device inserted into the ball to achieve Equal Percentage Control Characteristics.

Why choose a ball valve over a globe valve? With the Unimizer® you can achieve the low Cv ratings of a globe valve at the low price of a ball valve. You can get the added benefit of higher close off pressure.

Many manufacturers settle for providing non-equal percentage control to the coil, or they achieve equal percentage control by using a costly, custom programmed actuator. Griswold Controls' Unimizer® achieve true equal percentage flow from the parabolic shape of the Optimizers® located at each port, thereby allowing the use of any standard, low cost actuator.

Recommended Applications:

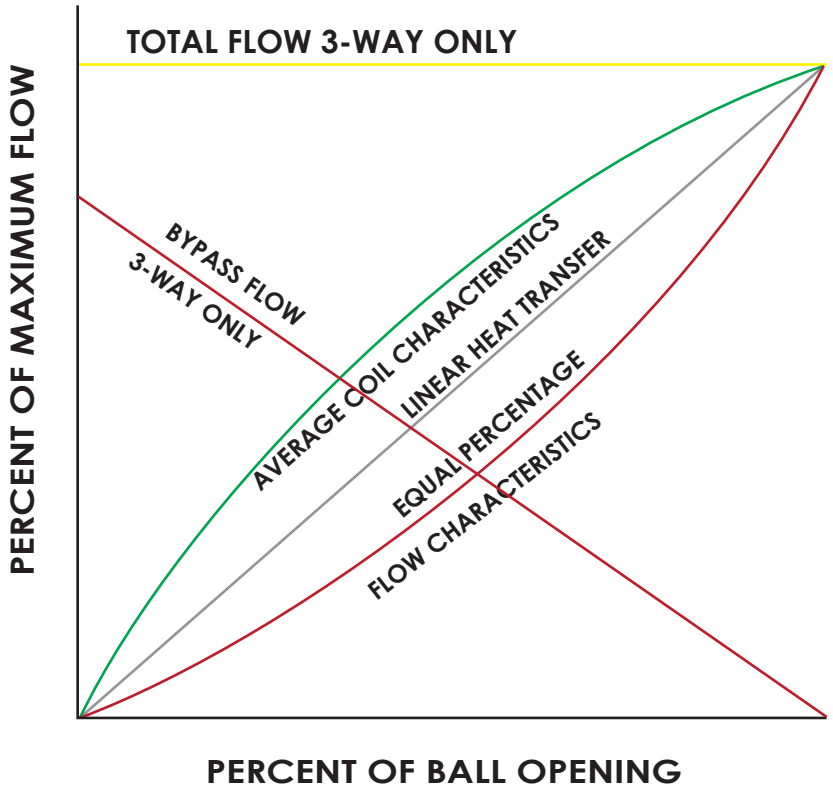
• For Baseboards/In-Cabinets and Terminals: Smaller valves like the Brass Unimizer. Sizes 1/2″ – 3″

• For Heat Pumps: Smaller valve like the Brass Unimizer with a quick acting 35 second actuator. Sizes 1/2"-2".

• For Air Handling Units, Chillers, Towers & Pumps: Larger Flanged Unimizer. Sizes 2-1/2″ – 6″

For more information visit:

griswoldcontrols.com/2-way-3-way-actuated-ball-valves

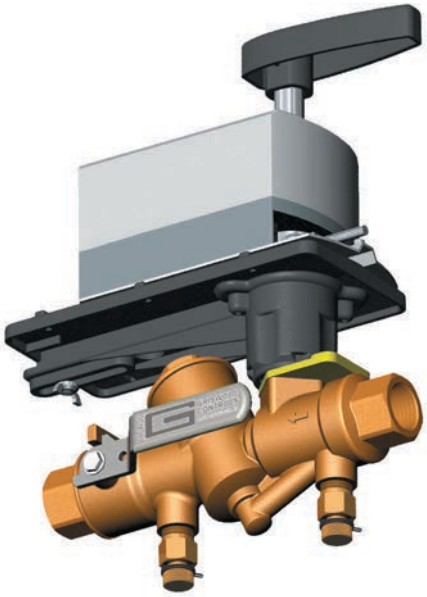


Equal movements of the valve stem at any point of the flow range change the existing flow an equal percentage regardless of the existing flow. As you can see in the graph, our valve (red curve) mirrors the equal percentage characteristic of the coil (green curve), resulting in linear heat transfer. Unlike any other 3-Way valve on the market, the total flow or the sum of bypass flow and straight through flow (yellow line) never exceeds the maximum flow rating which saves pump energy since the system is never overflowing.

Pressure Independent Control Valves

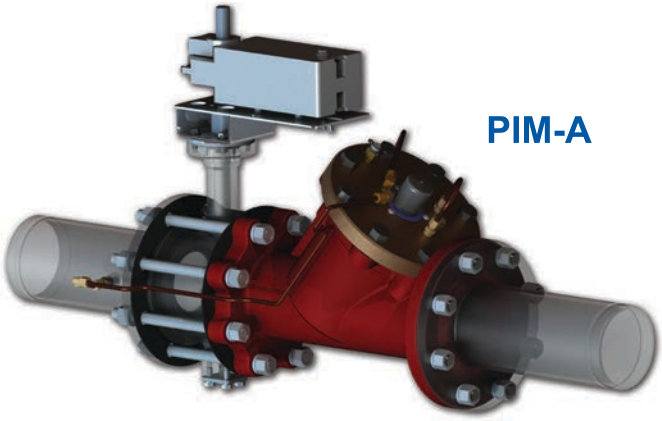
Sizes: 1/2″ – 6″

Griswold Controls' PIC-V®, MVP®, Pinnacle and PIM valves are Pressure Independent Control Valves.



PIC-V®

Pinnacle



PIM-A

MVP®

Pressure independent (PI) valves can help reduce energy costs and increase occupant comfort. PI control valves are designed to replace the conventional 2 way control valve and balancing valve pair, installed at heating and cooling coils in buildings. To obtain the most efficient and optimal results in a system, only the necessary amount, no more and no less, of chilled or heated water must be delivered to the heating and cooling coils at all times. Traditional control valves allow for over flow and under flow to coils which means excess water is pumped to compensate for their inaccuracy.

Pressure Independent Control Valves

The actuators in traditional valves have to cycle more often to compensate for pressure changes in the system that impact the flow. By precisely controlling the flow of water to each coil, the valve enables energy savings, increases available plant capacity, minimizes capital expenses necessary to acquire additional capacity, and simplifies system design and control.

Every year billions of dollars are wasted due to the weaknesses in HVAC heating and cooling systems. If heating and cooling systems do not consistently operate at their designed temperature differential, costly energy waste occurs. This unnecessary expense can be eliminated by using Griswold Controls' pressure independent valves.

Recommended Applications:

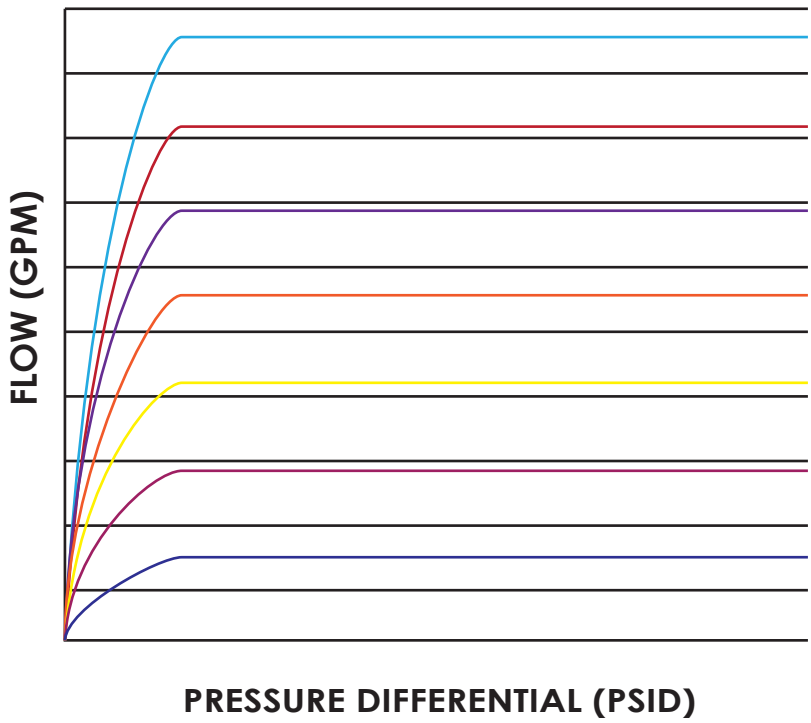
• For Baseboards/In-Cabinets and Terminals: Smaller valves like the Pinnacle or PIC-V. Sizes 1/2″ – 3″

• For Heat Pumps: Smaller valve like the PIC-V with a quick acting 35 second actuator. Sizes 1/2"-3".

• For Air Handling Units, Chillers, Towers & Pumps: MVP. Sizes 2-1/2″ – 6″

For more information visit:

griswoldcontrols.com/pressure-independent-control-valves



Flow changes as pressure and/or open area changes. In a PI valve if you maintain a constant pressure (P) drop AND a constant area (A) the flow (Q) remains unchanged until the actuator changes the open area.

$Q = A * \sqrt{\Delta P}$

The actuator rotation moves the horizontal fixed flow line up or down to provide temperature control modulation. Simultaneously, flow control is maintained along the horizontal portion of the graph within the minimum & maximum differential pressure limits when the pressure in the system changes.

Combination Actuated Ball Valve and Flow Limiting Valve

Sizes: 1/2″ – 2″

Automizer® and Balance Zone Automatic Flow Limiting & Temperature Control

Balance Zone

Automizer®

Griswold Controls has combined the equal percentage control of the Optimizer® insert with the precision of the Griswold Stainless Steel Flow Limiting Cartridge in the Automizer valve. The Griswold Controls Flow Cartridge limits flow from exceeding coil's specification, while the Optimizer® creates a smooth, responsive flow curve when the valve is actuated.

Combination Actuated Ball Valve and Flow Limiting Valve

Most coils have an actuated control valve and a balancing or flow limiting valve. Two valves means two manufacturers and two distributors. Griswold Controls provides a single source for both valves, for less hassles and less headaches.

Griswold Controls' Automizer® valves combine all the patented features of the Unimizer valve with a flow limiting cartridge. Besides the equal percentage Optimizer it also includes the patented low torque seals allowing the same 35 in-lb actuator to be used on 1/2" to 2" valve. The valves also feature the universal mounting plate which allows the valve to be installed with your choice of actuator. And finally, the Automizer valves feature the patented repairable Next Generation stem which allows for stem repair or replacement without removing the valve. This extends the life of the valve well beyond traditional actuated valves on the market. And for an added feature, the Automizer® has an integrated isolation ball valve so it is the entire return side of the coil in one valve.

The Balance Zone also incorporates a flow limiting cartridge with actuated control. Its compact size makes it ideal for all zone valve applications but since it includes flow limiting cartridge it extends actuator life since hunting is eliminated. Unlike most zone valves on the market, the Balance Zone has a high close off pressure.

Ideally, a control valve settles into position once a heating or cooling setpoint is reached and doesn't move again until there is a change in the room's load requirement. Pressure changes in the system however, impact the room's heating or cooling so a valve has to open or close to compensate. When this happens over and over it is called hunting and the constant actuation shortens the life of the actuator. Both the Automizer and Balance Zone Valves limit the flow to the control valve's actuated set point so that the actuator doesn't have to move until there is a load change in the room.

Recommended Applications:

• For Baseboards/In-Cabinets and Terminals: Smaller valves like the Balance Zone or Automizer. Sizes 1/2″ – 2″

• For Heat Pumps: Smaller valve like the Automizer with a quick acting 35 second actuator. Sizes 1/2" – 3".

• For Equipment requiring Zone Valve type Control: Balance Zone. 1/2" – 1-1/2"

For more information visit:

griswoldcontrols.com/combination-actuated-ball-valve-and-flow-limiting-valve-automizer

Coil Piping Packages/Hose Kits

Standard Coil Piping Packages & Coil Hookups

2-Way Manual Coil Piping Package

3-Way Manual Coil Piping Package

2-Way Automatic Coil Piping Package

3-Way Automatic Coil Piping Package

Griswold Coil Piping Packages are pre-assembled piping systems that save time and reduce cost. We offer fully assembled coil hook ups that can be readily connected to your system with as little as 4 connections. No more field assembled components, we do it all for you. Griswold Controls offers over 900 standard configurations and our Technical Services team is standing by ready to create custom packages to meet your unique needs.

Coil Piping Packages/Hose Kits

Griswold Controls' coil piping packages are pre–plumbed solutions for specific piping needs, saving you time, labor, and money, and offering the convenience of using only one supplier for all the elements on a system. Coil piping packages make it easy to connect your HVAC system piping to hydronic terminal units such as coils, VAV boxes and AHUs.

• Engineers who specify Griswold Controls' coil piping packages save significant time designing their HVAC systems

• Contractors who use Griswold Controls' preassembled piping packages greatly reduce their labor and material costs.

• Owners save money because they do not have to pay for costly field labor to assemble the components or to check whether every component is plumbed in the correct order, per design.

Valves included in standard piping packages are all Next Generation, which contain triple seals and field repairable stems. These Next Generation valves provide resistance to chemical treatments and temperature fluctuations following evening system shutdown, and allow for field servicing without removing the valve.

Piping packages may include, but are not limited to: ball valves, strainers, flow control valves, unions, and 2–way or 3–way temperature control valves. They may also include other components such as air vents, pressure/temperature ports, drain valves, and tees. Piping packages come ready to be hard piped to the system, or with a flexible stainless steel hoses for easy connection to the heating or cooling coil. 1/2" to 2" packages are available with threaded or sweat connections. 2–1/2" to 8" packages are available with flange, weld, or grooved end connections.

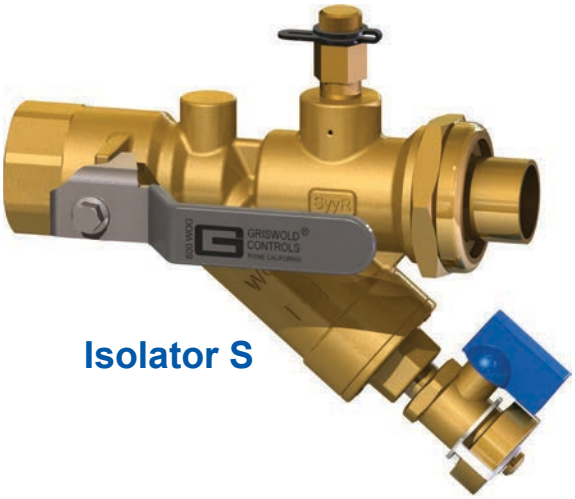
For more information visit:
griswoldcontrols.com/coil-piping-packageshose-kits

Coil piping packages can be designed for virtually any hydronic system. The parts are shrink wrapped in their exact required configuration, labeled or tagged, boxed and foam–packed for added protection and shipped to your door.

Piping Components and Accessories

Isolator U, Isolator B, Isolator S, Y-Strainers, Flange Accessories

Isolator B



Isolator S

Isolator U

Stainless Steel Hose

Valves are never installed alone. Automatic Flow Limiting valves, Manual Balance Valves and Actuated Valves are all installed in HVAC systems with other valves and accessories. For example most coil manufacturers and control valve manufacturers recommend strainers are installed before their equipment. Most building owners require that isolation valves are installed on mains and branches to make maintenance on equipment easier. Instead of sourcing all the accessory valves from different suppliers, Griswold Controls has sourced piping components and accessories to meet all your needs.

Piping Components and Accessories

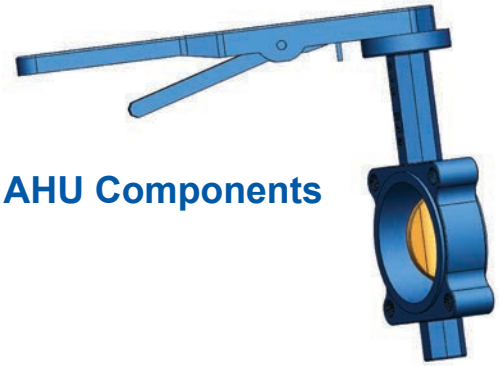
Griswold Controls offers piping components like isolation ball valves, unions, and y-strainers that can be used to create custom coil piping packages. We have expanded our offering of these components to include larger accessories components like flanges, flange adapters and tees to build larger air handling unit packages. Griswold Controls also offers accessories like combination air vent and pressure temperature test valves, automatic air vents, pressure temperature test valves, hoses and drain valves.

For more information visit:
griswoldcontrols.com/piping-components-and-accessories

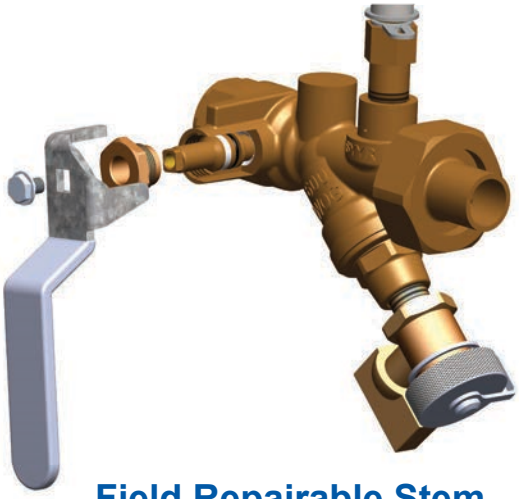
Additional Products

Lead Free K, AHU Components, Field Repairable Stems

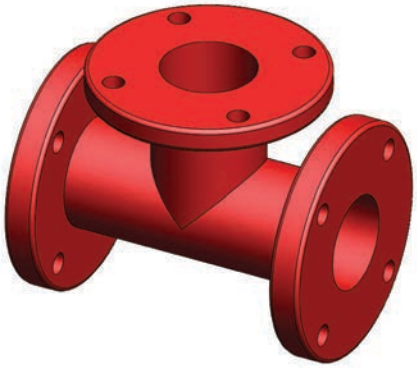
Lead Free Valve



AHU Components



Field Repairable Stem



AHU Components

Custom Material Valves

Additional Products

Lead Free: Griswold Controls Lead Free Valves have been certified to meet various legal standards for lead free product including NSF 61G.

For more information visit:
griswoldcontrols.com/pdfs/Griswold%20Controls%20WQA%20Certificate%202012.pdf

AHU Components: Griswold Controls offers many products suitable for installation on AHU and other large equipment. Products like Balancing Valves can be mixed and matched with butterfly valves, tees, Y-strainers to meet your application's specific needs.

For more information visit:
griswoldcontrols.com/pdfs/F-5544.pdf

Field Repairable Stem: Next Generation products have addressed a need long unmet in the industry – offering an enhancement to product serviceability and at the same time answering the changing environment. Next Generation products provide:

- External stem accessibility allowing for field servicing without having to remove the valve
- Safeguards against the chemical treatments used in many of today's HVAC systems.
- Protection from temperature fluctuations following an evening shutdown.
- Resistance to legislated hotter soldering requirements

For more information visit:
griswoldcontrols.com/products-putting-you-in-control-now-and-for-the-next-generation/

Custom Material Valves: Griswold Controls offers many of our standard products with custom materials. We offer Stainless Steel valves for specialty applications like pharmaceuticals, deionized water, or food processing. Our standard Wafer valve is also available with bronze or epoxy coated housing for swimming pool or sea water applications.

For more information visit:
http://griswoldcontrols.com/custom-material-valves/

Additional Tools Available

Looking for more information? Our website has many tools to help you select and size products.

Sizing the Cv for your Actuated Valve or Manual Balance Valve?

Need help sizing the Cv for your Actuated Valve or Manual Balance Valve? Our calculator sizing program will guide you to the best selection. The calculator is available on both the PC and iphone. The calculator is on the website in the Support menu.
griswoldcontrols.com/support/product-calculator

Application Tips

Curious about creative ways to use Actuated Valves or Flow Limiting Valves in HVAC systems? We have collected some of our representatives best ideas in our Application Tips section of the website.
griswoldcontrols.com/support/application-tips

Specifications and Support

Can we help you add our product to your engineering specifications? We have Microsoft Word documents as well as Adobe pdfs of the written specifications for all products in the Support menu to make it simple to add our products.
griswoldcontrols.com/support/written-specifications

Need Drawings?

Do you need 2-D or 3-D drawings for your plans? We have them both available in the Support menu on the website.
griswoldcontrols.com/support/3d-2d-drawing-library

Thank you for considering Griswold Controls as your one-stop supplier. We look forward to earning your business.