



# APPLICATION TIPS

## Griswold Controls Solves Cold Shower Issues:

Cold showers and lack of hot water are a building manager's nightmares! Unbalanced systems also happen in domestic hot water recirc. and lead to loud complaints from tenants.

Since 1960 Griswold Controls has made automatic flow limiting (automatic balancing) valves for the HVAC industry. An automatic flow limiting valve maintains a constant flow in spite of pressure changes in the system, so the equipment in each zone has the flow it needs at all times. In comparison, when a system is unbalanced you have some equipment in the building that has excessive flows due to high pressure differentials and some equipment that has inadequate flows due to lower pressure differentials. High flows can lead to excessive heating/cooling, high velocity noise and erosion, wasted pump energy, and dehumidification problems. Low flows can lead to inadequate heating/cooling and short circuiting of equipment. Typically an unbalanced system has the higher flows near the pumps and the lower flows are in the index circuit, the equipment farthest from the pump.



## Why Balancing a Domestic Hot Water System Pays Off

The same flow issues that exist in an unbalanced HVAC system also exist in an unbalanced domestic hot water recirc. system but now you have the added issue of users having inadequate hot water for their shower, faucet, or washer leading to angry complaints! So balancing a domestic hot water recirc. system is as important as balancing a HVAC system. Often these systems are balanced with ball valves or manual balance valves, both requiring balancing labor and in the end neither maintains balance when the system has pressure changes. Unlike HVAC systems, these are open systems and as people open and close faucets and run washers it causes even more pressure changes than a HVAC system experiences which can cause even more flow changes. Another factor with an open system is water will take the path of least resistance so if a faucet is open close to the pump in an unbalanced system the faucet farthest from the pump will have less hot water available to it.

The same flow limiting cartridges used in our HVAC valves can be used in lead free valve housing to control the flow in domestic hot water systems. The burden of balancing is shifted from the contractor to the valve itself as it maintains flow, regardless of pressure changes, through the life of the valve. For years Griswold Controls

*Absolute Control. Optimized Efficiency.*

representatives have been selling automatic flow limiting valves in high rise buildings like hotels, condos and dormitories.

## Satisfied Residents Testify to Benefits of Automatic Flow Limiting Cartridges

Recently a building manager was interviewed about the impact in their system of removing Griswold Controls automatic flow limiting cartridges for cleaning and they said they had complaints about inadequate hot water from the day the parts were removed for cleaning. Once they were replaced the complaints stopped. Adding automatic valves can guarantee the hot water is distributed to each unit and remains balanced regardless of pressure changes in the system. Typical domestic hot water recirc systems use flow limiting valves set at 0.55 gpm since .55 gpm is adequate for a faucet or shower but the flow can be different for larger zones. And since the valve is pre-set for the flow no human balancing is required. This is less flow than is typically specified for a manual system since they have to pump more flow to make sure that there is enough hot water at every location when system is unbalanced due to pressure changes. Designing for less flow means smaller pumps which saves initial install costs.



Because the laws have changed over the years we offer the certified lead free K Valve for these domestic water applications to meet the government's requirements. We also offer the lead free QuickDisc for manual balance applications and lead free Unimizer for actuated valve applications like hot water heaters.

All our lead free valves are certified to NSF 61G standards.