



CircuitSolver® Union Cold Water Balancing Valves For Cold Water Recirculation Systems

Dynamically & automatically balance cold water recirculation systems using the CircuitSolver® Union Cold Water (CSU-CW) thermostatic balancing valve.

Legionella in Non-Recirculated Cold Water Systems

Stagnant, warm water in a plumbing system increases the risk of Legionella bacteria growth. In cold water systems, adequate flow through high fixture usage and low water temperatures discourage the growth of Legionella and other biofilms. However, in the event flow throughout the system or part of the system is insufficient, standing water can drastically increase the likelihood of bacteria colonization.

When cold water flow is minimal or stopped completely, as seen during recent COVID-19 lockdowns that left buildings unoccupied for long periods of time, disinfectant levels evaporate and temperatures gradually rise to Legionella's growth range (77–113°F, 25–42°C), leading to bacteria colonization and uneven free chlorine distribution throughout the system.

To address Legionella mitigation in cold water systems, organizations such as the VHA have begun taking a more proactive approach to planning for "periods of low flow or non-use" by implementing cold water recirculation systems.

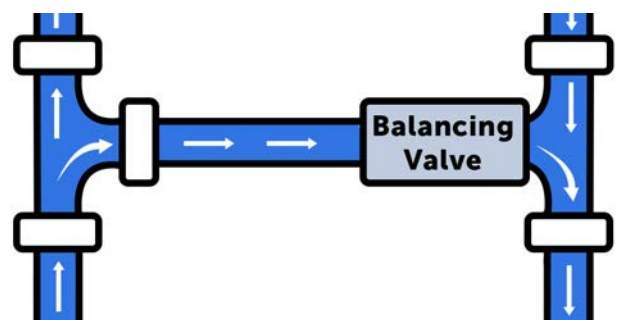
Why Cold Water Recirculation?

- Keeps cold water moving and maintains water quality to reduce the impact of stagnation
- Ensures "residual chlorine" is distributed throughout the cold water system
- Keeps water temperature in branches and risers below 68°F
- VHA 1061 Directive

Before Recirculation



After Recirculation



Need For Dynamic Balancing

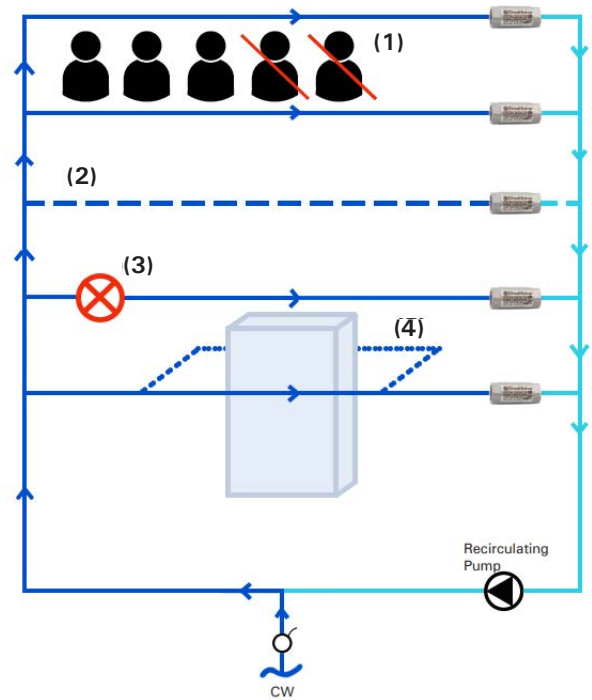
To discourage Legionella bacteria growth, cold water systems need to be recirculated and must be properly balanced to both establish continuous flow and keep line temperatures below 67°F - the point at which Legionella begins to colonize.

Many variables impact the balance of a domestic water system:

- (1) Changes in building occupancy; closing off floors
- (2) Building expansion after initial construction
- (3) Reduction in building utilization overall
- (4) Actual construction different than design (material, pipe installs/runs, installation)

In order to achieve stability, system balancing must be dynamic - continually addressing the ever changing conditions. Thermostatic balancing valves adjust dynamically providing the best opportunity for sustainability and Legionella mitigation.

Traditional manual balancing valves could provide a solution to cold water balancing, but their static operation inherently does not factor in nor adapt to the realities of everyday system operation & changes, which may render the balancing obsolete over time.



CircuitSolver® Union Cold Water (CSU-CW) Balancing Valve

To balance a cold water recirculation system, a CircuitSolver® Union Cold Water thermostatic valve is installed at the end of each branch or riser. The valve automatically monitors and modulates flow based on current water temperatures to maintain a set temperature in the system to mitigate Legionella growth.

The CircuitSolver® Union Cold Water balancing valve uses the same reliable and precise thermal actuator technology as the traditional CircuitSolver® for hot water balancing. Designed with ease in mind, the CSU-CW is offered in sizes ranging 1/2" to 1" and is available in a range of configurations to suit individual system needs.



Benefits

- Automatically and continuously adjusts to balance cold water recirculation systems
- Reliable, long lasting thermal actuator
- Long service life and 3 year warranty
- NSF/ANSI 61 certified

Design Features

- Never fully closes, small bypass of flow
- Lead free for use in potable water systems
- Stainless steel, corrosion-resistant construction