

Embrace the Technology<sup>®</sup>

# CircuitSolver<sup>®</sup>

A ThermOmegaTech<sup>®</sup> product

## Thermostatic Balancing Valves For Domestic Hot Water Systems



Offered in a variety of sizes up to 2" with configurations including ball valves, integrated unions, check valves, strainers, and ProPress ends



All CircuitSolver<sup>®</sup> Valves  
are NSF/ANSI 61 Certified

[www.CircuitSolver.com](http://www.CircuitSolver.com)  
1-877-379-8258

ThermOmegaTech's QMS is certified to the AS9100 D Standards which includes ISO 9001:2015

## CircuitSolver® (CS)

ThermOmegaTech's standard thermostatic, self-actuating balancing valve, CircuitSolver®, adjusts the flow through a domestic hot water recirculation system to maintain a specified return temperature at the end of each branch.



## CircuitSolver® Union (CSU)

The CircuitSolver® Union is equipped with an integrated union and optional check valve to reduce the number of system components being installed. It features an integrated o-ring for a leak-free seal.

## CircuitSolver® Union Assembly (CSUA)

The CircuitSolver® Union Assembly adds isolation ball valves on either end of the CSU. Assembled and leak tested prior to delivery, the CSUA makes it easier to install and service.



## CircuitSolver® Union Strainer Assembly (CSUAS)

The CircuitSolver® Union Assembly is offered with an integrated strainer for water systems with dirt or particulate to facilitate system start up and protect valve components and operation.

## CircuitSolver® with ProPress®

CircuitSolver® valves are offered with Viega ProPress® ends for seamless integration into ProPress Systems. Viega Smart Connect technology easily identifies unpressed connection points, saving time and labor costs. The ProPress ends can be equipped to any CircuitSolver® configuration.



## CircuitSolver® Thermometer Assembly

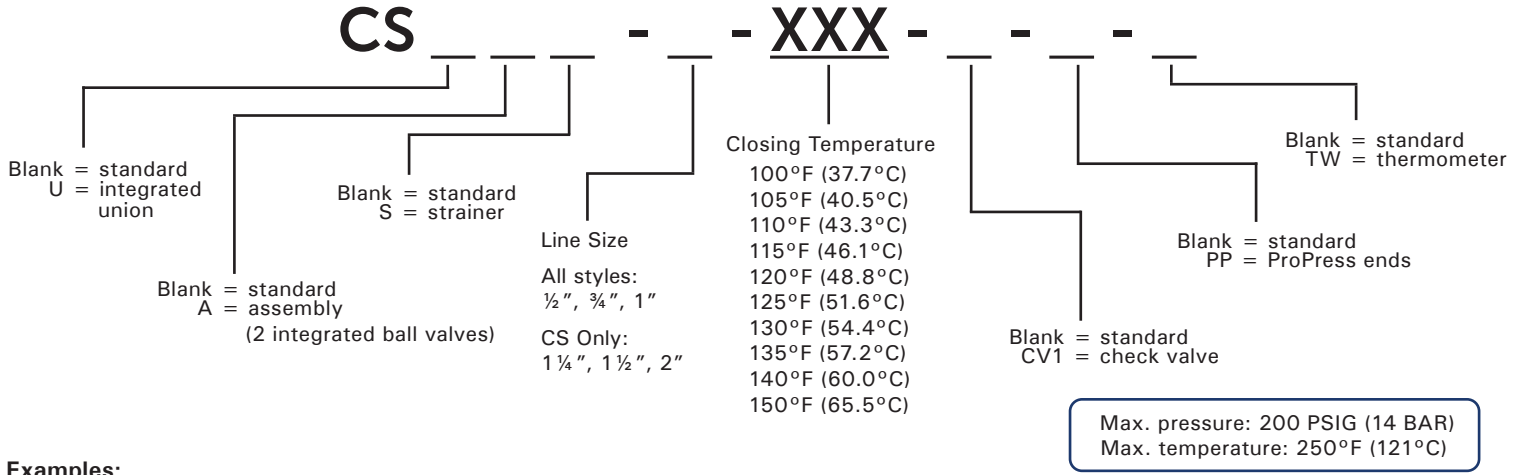
The CircuitSolver® thermometer monitors system temperature with an easy-to-read dial for instant hot water temperature verification. Offered in ½", ¾", and 1" sizes, the thermometer assembly can be purchased in any CircuitSolver® configuration or independently.



For product dimensions and specifications, submittals are available at: [www.CircuitSolver.com/plumbingspecs](http://www.CircuitSolver.com/plumbingspecs)



**Model Selection:**



**Examples:**

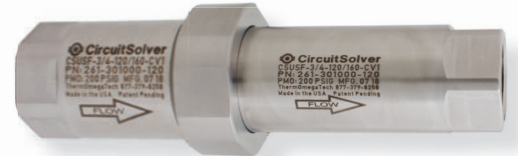
- Standard CircuitSolver® installed on a ½" line with 120°F return temperature: CS-1/2-120
- CircuitSolver® Union with check valve installed on a ¾" line with 115°F return temperature: CSU-3/4-115-CV1
- CircuitSolver® Union Strainer Assembly installed on a 1" line with 130°F return temperature: CSUAS-1-130

For product dimensions and specifications, submittals are available at: [www.CircuitSolver.com/plumbingspecs](http://www.CircuitSolver.com/plumbingspecs)

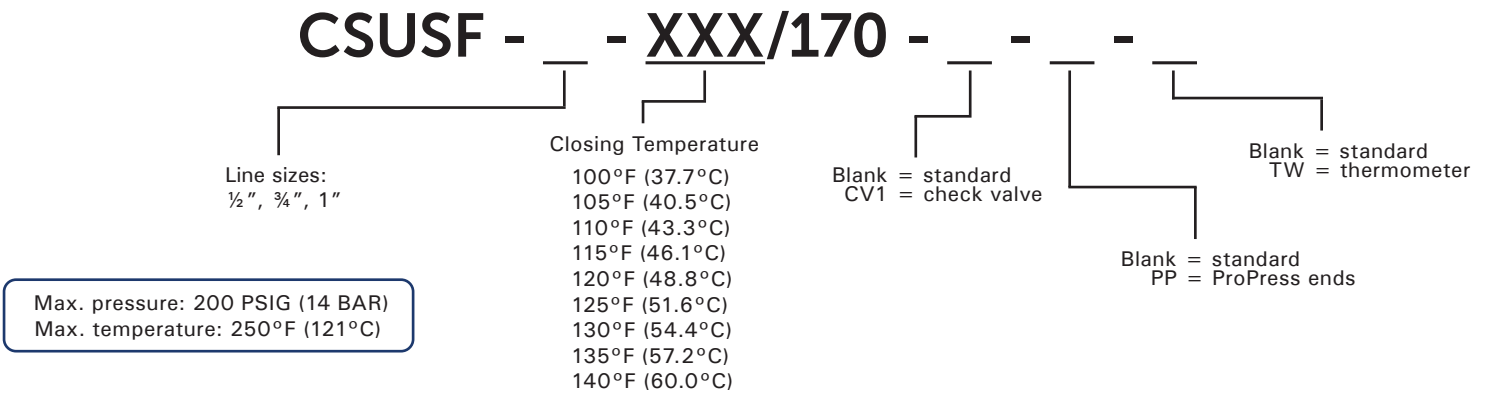
**CircuitSolver® Sanitary Flush (CSUSF)**

The CircuitSolver® Sanitary Flush balances a domestic hot water system during normal operation and allows for higher water temperatures to flow through the system during a disinfecting process to protect against Legionella growth.

During model temperature selection, the first temperature indicates the standard return line temperature and the second temperature indicates the maximum temperature during the sanitary flush process.



**Model Selection:**



**Examples:**

- CSUSF installed on a ½" line with 120°F return temperature during standard usage and 170°F return temperature during high temperature flush disinfection process: CSUSF-1/2-120/170.
- CSUSF with check valve and thermometer installed on a ¾" line with 115°F return temperature during standard usage and 170°F return temperature during high temperature flush disinfection process: CSUSF-3/4-115/170-CV1-TW.

For product dimensions and specifications, submittals are available at: [www.CircuitSolver.com/plumbingspecs](http://www.CircuitSolver.com/plumbingspecs)

## CircuitSolver®: Balancing In A Fraction of The Time

CircuitSolver® is a thermostatic, self-actuating balancing valve that automatically and continuously adjusts the flow through a domestic hot water recirculation system to maintain a specified temperature at the end of each branch. This valve balances the system in a fraction of the time, eliminating time-consuming and expensive manual balancing labor during start-up and maintenance.

CircuitSolver® automatically adjusts flow in response to temperature changes and fluctuations in demand, ensuring hot water at the turn of a tap and effectively eliminating callbacks.

## How It Works

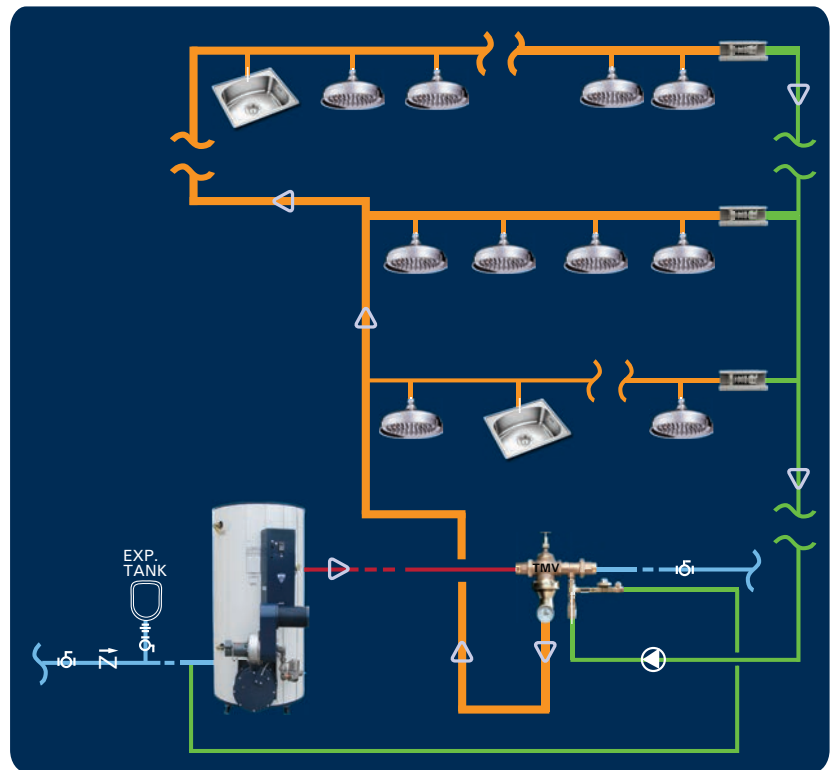
CircuitSolver® utilizes a thermal actuator to modulate the valve open and closed in response to temperature variations to control water flow through the CircuitSolver®. Installed in-line at the end of each branch before the return, the valve continually monitors water temperatures to direct hot water flow where it's needed.

When the water temperature falls below the valve's set-point, the CircuitSolver® modulates open to allow more water to flow to the return.

As the water approaches the set-point temperature again, the CircuitSolver® automatically modulates towards its closed position, allowing more water to flow to the other branches still in need of hot water.

The valve will never fully close, always allowing a small amount of bypass flow to avoid dead-heading the recirculation pump. This maintains a thermally balanced system that responds dynamically to varied usage rates throughout the day.

CircuitSolver® valves can also be used to balance the return flow between the master mixing valve and hot water heater.



## Why CircuitSolver®?

- Temperature solution to a temperature problem
- Manufactured in the USA
- Lead free & NSF 61 Certified
- Long service life & 3 year warranty
- Stainless steel - corrosion resistant
- Range of sizes ½", ¾", 1", 1¼", 1½" & 2"
- Array of configurations available
- Direct replacement for manual balancing

For product dimensions and specifications, submittals are available at: [www.CircuitSolver.com/plumbingspecs](http://www.CircuitSolver.com/plumbingspecs)