

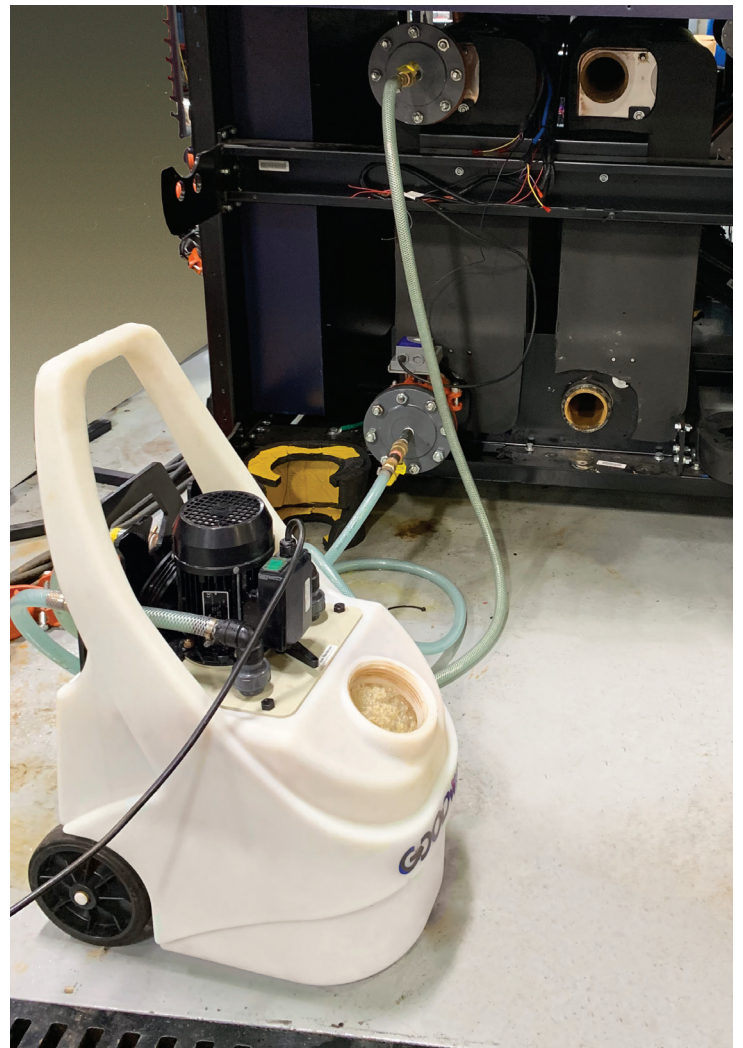
## DESCALING SOLUTIONS FOR WATERFURNACE<sup>®</sup> EQUIPMENT

WaterFurnace<sup>®</sup> International, a company synonymous with ground source and water source heat pumps, chillers, and rooftop units, has teamed up with Goodway Technologies to provide their customers with safe cleaning solutions for their brazed plated heat exchangers. Solutions include chemical descaling and online tools to enhance their preventive maintenance strategy and properly maintain their WaterFurnace equipment to keep their heat transfer systems in peak condition.

WaterFurnace utilizes brazed plate heat exchangers due to their high efficiency and minimal thermal loss. When operating with hard water or high temperatures, minerals within a water source may fall out of suspension and plate onto the heat transfer surface. These deposits increase the pressure drop and insulate the heat transfer surface, decreasing the heat exchanger efficiency. As scaling builds up, it may act as a breeding ground for particulate fouling and even creating a micro-climate for corrosion and bacteria. Regular cleaning is recommended to reduce the impact of scale deposits.

Goodway<sup>®</sup> Technologies ScaleBreak<sup>®</sup>- MP is a unique blend of citric acid with corrosion inhibitors, wetting, and penetrating agents. It offers excellent cleaning results and speed without compromising the long-term integrity of equipment base metals. The biodegradable descaling solution safely dissolves scale deposits into a liquid suspension and allows them to be flushed out of heat exchangers, leaving no residual solution.

For optimal results, pump ScaleBreak-MP into the bottom of the brazed plate heat exchanger and return through the top. This method floods the HX properly, allowing ScaleBreak-MP to come in contact with all internal surfaces.



# HOW TO DETERMINE WHEN CLEANING IS NEEDED?

WaterFurnace Modular Chillers are equipped with the Aurora Hydrolink controls platform which includes advanced refrigerant, energy, and performance monitoring through the HMI or DDC protocols. Preventive maintenance can be performed on an annualized basis for both the condenser and evaporator or if the following conditions exist:

- Temperature difference over the heat exchanger is less than expected
- Pressure drop over the heat exchanger is >30% than normal value
- Pump is consuming more electricity

The damage caused by scale can reduce the system's efficiency and cause premature heat exchanger failure. Scale can reduce flow and heat transfer capabilities as well as increase internal pressure. Scale can even cause under-deposit corrosion, ultimately resulting in plate material failure.

## CLEANING INSTRUCTIONS ARE AVAILABLE, RESULTS ARE ATTAINABLE

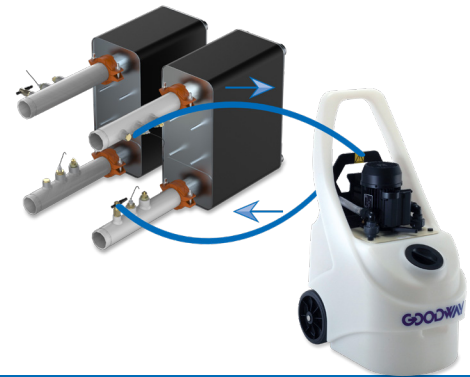
WaterFurnace Modular Chillers utilize Victaulic grooved connections on the brazed plate condenser and evaporator for easy access. Once it has been determined a cleaning is necessary, isolate the heat exchanger by closing the supply and return water valves. The Victaulic coupling can now be removed so the GDS-MSA adaptor can be installed. The Modular Chillers come with 3/4" NPT taps for externally checking pressure and temperature. These ports are located between the isolation valve and the heat exchanger. On these specific models the ports can be used as Clean-In-Place (CIP) inlet and return.

### Goodway Technologies also offers dependable clean-in-place pump systems to simplify your cleaning process.



#### GDS-C40 and GDS-C92 FEATURES:

- Acid proof pump and fittings
- Innovative flow reversal valve
- 15 or 21 GPM pump (depending on model)
- C40 volumes 1-50 and C92 10-100 gallons
- Compact design for easy transport and storage
- 10 or 15 gallon reservoir tank (depending on model)
- Venting cap for closed systems



## WATERFURNACE DESCALING CALCULATOR

Keeping your WaterFurnace® heat exchangers scale-free is the best way to maintain system efficiency. Use this handy calculator to identify how much ScaleBreak®-MP descaler you will need, and how long to circulate it for to clean your heat exchangers. Simply choose your series and model number and we'll do the hard work.

Units:  US  Metric

Model Number:

Volume of ScaleBreak®-MP and Circulation Time Needed

ScaleBreak®-MP Needed	2 gal
Circulation Time	2 hours

Goodway Technologies has developed simple to use calculators for determining the correct amount of ScaleBreak-MP descaler required for a cleaning. Simply select your model number and our calculator will provide the amount of descaler and a circulation time. The calculator can be found at:

[www.goodway.com/waterfurnace-calculator](http://www.goodway.com/waterfurnace-calculator)



Call 1-800-333-7467

Goodway Technologies Corporation

420 West Avenue, Stamford, CT 06902-6384 U.S.A.

Phone: 203-359-4708 • Fax: 203-359-9601 • [goodway@goodway.com](mailto:goodway@goodway.com)

[www.goodway.com](http://www.goodway.com)