

MULTISTACK®

GOODWAY®
INNOVATIVE MAINTENANCE SOLUTIONS

DESCALING SOLUTIONS FOR MULTISTACK® CHILLERS

Multistack®, an industry leader in modular chiller systems, has partnered with Goodway® Technologies to offer customers a safe cleaning solution for ensuring heat transfer and efficiencies remain optimal.

Preventive maintenance is an integral part of any water operated piece of equipment's efficient operation. Multistack® modular chillers utilize brazed plate heat exchangers to transfer energy (heat) with high efficiency and minimal thermal loss. When operating with hard water or high temperatures, scale deposits derived from mineral within a water source may fall out of suspension and plate onto the heat transfer surfaces. These deposits increase the pressure drop and insulate the heat transfer surface, decreasing the heat exchanger efficiency. As scaling accumulates it can also act as a breeding ground for particulate fouling and even create a microclimate for corrosion.

Goodway® Technologies ScaleBreak®-MP is a unique blend of citric acid with the inclusion of corrosion inhibitors, wetting and penetrating agents. It offers excellent cleaning results and speed without compromising the long-term integrity of equipment base metals. This biodegradable descaling solution will safely dissolve scale deposits into a liquid suspension allowing them to be flushed out of the chiller leaving no residual solution.

Optimal cleaning results are achieved when you pump ScaleBreak®-MP into the bottom of your heat exchanger and return out the top. This method ensures the area to be cleaned is flooded, allowing the ScaleBreak®-MP to come in contact with all the deposits. Cleaning instructions for Multistack equipment utilizing ScaleBreak®-MP are available.

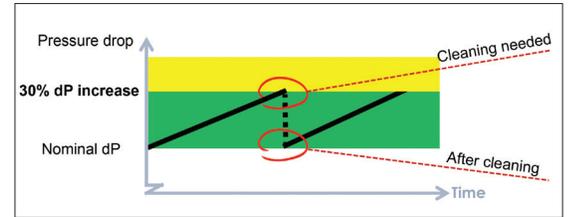


Additional information on cleaning Multistack modular chillers can be found at www.goodway.com/multistack

HOW DO YOU DETERMINE YOUR MULTISTACK® BRAZED PLATE CONDENSER NEEDS CLEANING?

Preventive maintenance is carried out on a periodic basis and ultimately the frequency in which it's performed will be determined by the water supplied to your Multistack® chiller. A preventive maintenance cleaning of your brazed plate heat exchanger is recommended if:

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



Before performing a cleaning of your brazed plate heat exchanger, make sure water flow rates are according to specification, filters are clean, valves are open and pumps are functional to rule out other options.

Monitoring the performance of your Multistack® chiller on a frequent basis will help you ensure the chiller is working with maximum efficiency, preventing energy waste and unplanned shutdowns.

SCALEBREAK-MP GETS RESULTS:

Three Multistack® 85 ton modular chillers had been in operation since 2013 and were tripping on high head pressure. After a thorough inspection it was determined that the poor performance was due to heavy scaling in the condensers. ScaleBreak-MP was circulated through the brazed plate condensers and the results were amazing.

- Head pressure went from 423 PSI to 254 PSI, a 40% reduction!
- Before the cleaning, EER (Energy Efficiency Ratio) was down to 8.6 - After the cleaning EER rose to 15.7!
- Based on a 7 cent/kWh cost for electric, the cleaning resulted in an efficiency savings of \$116.00 per day / \$42,340 per year!
- The Multistack® modular chillers are now operating at the same design specifications as when they were first built!



MULTISTACK DESCALING CALCULATOR

Keeping 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 the evaporator and condenser heat exchangers. Simply choose your model number and we'll do the hard work.

Units: US Metric

Model #:

	Condenser	Evaporator
ScaleBreak-MP Needed	0.5 gal	0.5 gal
Circulation Time	2 hours	2 hours

Volumes and circulation time based on 50/50 mix of chemical to water. These volumes are designed to remove light to moderate scaling. Heavy scaling may require additional ScaleBreak-MP and circulation time. Please contact Goodway for more information.

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/multistack-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

www.goodway.com