

INSTRUCTION SHEET

Shell & Tube Heat Exchanger Cleaning Guide

As a shell & tube product ages, deposits accumulate in the tubes which inhibit heat transfer. This leads to an increase in pressures and utility costs. Below are the recommended cleaning methods for various types of contamination.

Soft Deposits (Biological growth, algae, mud)

Soft deposits are best cleaned using a pneumatic tube cleaning gun. This process forces plugs into and down the tubes. Some may have brushes and other plugs are designed to scrape the tube walls as they are forced into and down the tube.

Scale

Scale is minerals that have been deposited on the inside of tubes due to water that is high in alkalinity. These deposits are hard, much like how hard water can cause similar problems in your home. To clean these deposits, a special tool with a flexible shaft and brushes is used that rotates as it is fed into and down the tube. There are a wide variety of brushes available from various manufacturers.

Recommended Brush Sizes:

Product	Brush OD
All Shell & Tube Condensers HEC(H), HPC(H), HEM(H), etc.	5/8"
Shell & Tube DX Chillers UL Listed	3/16"
ASME	5/16"

Brush should have little to no resistance when inserted into the enhanced portion of the tube.

Corrosion

Corrosion can be caused by poor water quality or either inadequate or excessive water velocity. If you find corrosion or pitting, further investigation into water quality is required and must be corrected to prevent permanent damage to the condenser end plates and tubes.

Acid Cleaning

Acid cleaning is **not recommended**. without proper methods, the acid can cause severe damage, thereby rendering the condenser permanently damaged beyond use.

RESOURCES

There are several resources for tube cleaning equipment, including:

Goodway Technologies	(800) 333-7467	www.goodway.com
Elliott Tool	(800) 332-0447	www.elliott-tool.com
Thomas C. Wilson	(800) 230-2636	www.tcwilson.com

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NOTICES

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