

ENERGY & COST SAVINGS

ENSURING YOUR LONG-TERM PEACE OF MIND.

VALUE ADDED SERVICES

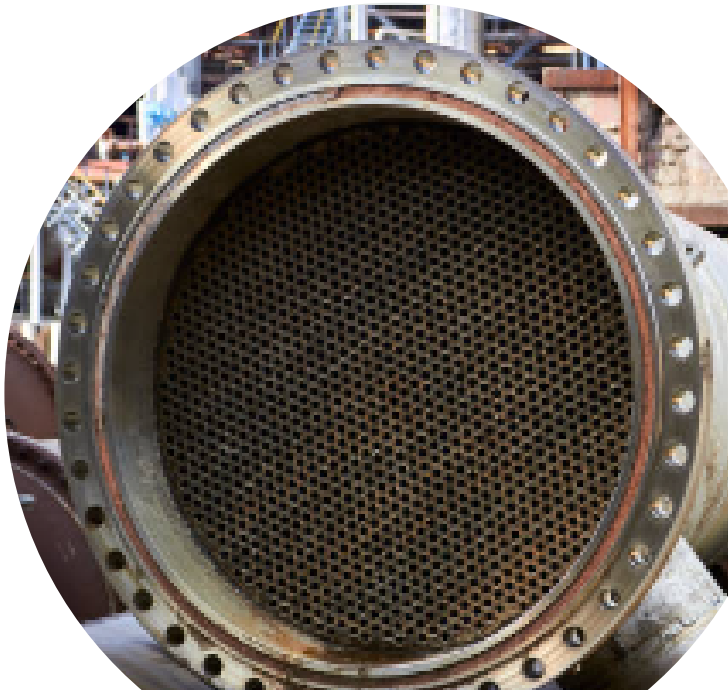
AUTOMATIC TUBE CLEANING SYSTEM

Sustainable and Innovative Solutions in Water & Energy Efficiency

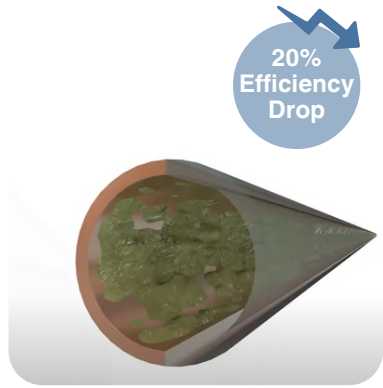
ABOUT DAIKIN APPLIED ASIA & OCEANIA

Engineered for Performance and Flexibility

- Daikin Group is global leaders in the Air Conditioning sector.
- 96,000 employees globally.
- Over 100 Production manufacturing sites across the world.
- Providing technological solutions in more than 170 countries in the world.
- Daikin Applied Asia & Oceania is a subsidiaries under Daikin Industries Ltd Group (“Daikin”) of companies.



DAIKIN APPLIED VALUE ADDED SERVICES



20% Efficiency Drop

The Problem

Fouling & Scales in Condenser Tubes

- Reduces the Heat Transfer Coefficient in Heat Exchangers
- Up to 20% increase in chiller Specific Power Consumption
- Higher working discharge pressure of compressors
- Reduces Cooling Capacity



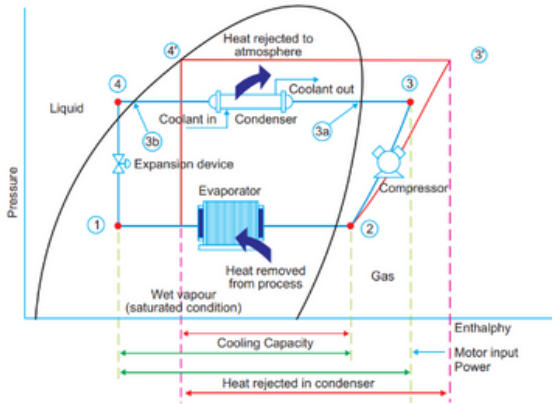
1mm Fouling ~ 30% Increased Power Consumption

Effect of Fouling on COP



1. Increased power consumption.
2. Reduced cooling capacity of chiller.
3. Hence, reduction in COP.

Basic Vapor Compression Refrigeration Cycle



■ Design COP with Clean Condenser
■ Reduced COP with Fouled Condenser

The Solution

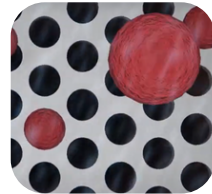
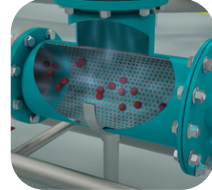
2-3 times / hour cycle

Daikin Automatic Tube Cleaning System

How it works

Sponge balls are pumped almost simultaneously into the heat exchanger tube sheet, passing through them to clean fouling and scales deposits within.

- Fully automated, operates on running chiller only
- No water wastage
- Single system for multiple heat exchangers/condensers



Benefits



- 20% energy saving in HVAC chillers
- Increases cooling capacity
- Improves condenser tube life
- Improves chiller compressor life
- Avoids costly shutdown and downtime
- Eliminates offline cleaning
- Cost effective - payback of less than 18 months

100% Clean Tubes



Before



After

