Delivering Quantifiable AHU Optimization Through Continuous Coil Monitoring

WHAT IS CONTINUOUS COIL OPTIMIZATION & MONITORING (CCOM)?

CCOM combines AQUIS Coil and Tube Restoration with SmartCoil®, an AI-driven Coil Monitoring solution. Coil and Tube Restoration optimizes performance through the comprehensive elimination of biofilm fouling within coils. By monitoring coil fouling levels, SmartCoil sends a condition-based response directly to AQUIS, automatically scheduling Coil and Tube Restoration precisely when it's required. CCOM manages AHU coil optimization automatically, so you don't have to.

- Improve Coil Capacity Performance
- Reduce Energy Consumption
- Increase Equipment Reliability
- Quantify Coil Energy Savings
- Address Deferred Maintenance
- Maximize Equipment Service Life

NO ONE DOES IT BETTER

Since 2005, AQUIS has specialized in the comprehensive refurbishment, optimization, and performance monitoring of mechanical air handling units (AHUs) and their components for more than 750 customers and 6,000+ AHUs. AQUIS Field Service Teams execute efficiently and effectively nationwide in the Healthcare, Higher Education, Industrial, Government and Commercial markets.

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Leaders in Air Handler Renewal

Contact us today to learn more about CCOM.

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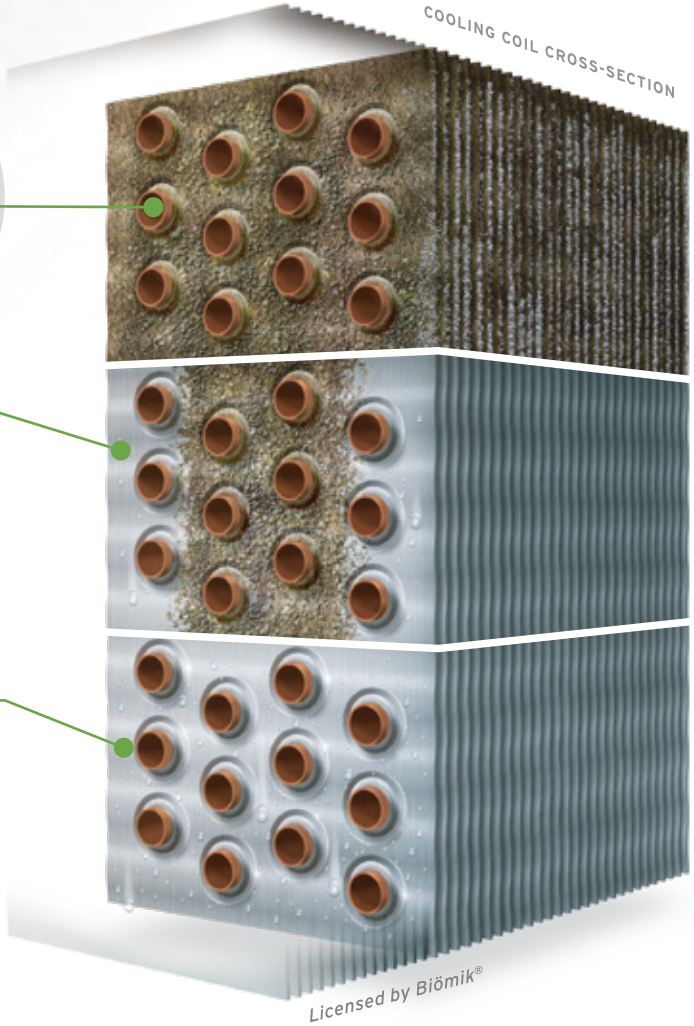
A Critical Component Of CCOM: Coil Restoration

AQUIS Coil Restoration: Drive Increased Performance

AQUIS Coil Restoration combines a high-performance sanitization process with a cutting-edge probiotic technology to detach and eliminate biofilms from coil fins even deep within coils. The result is coils that are cleaned at a microscopic level, driving increased operational efficiency, extending coil service life and improving indoor air quality.

What Are Biofilms? Biofilms are complex communities of microbes, including pathogens and viruses, that form on coil fin surfaces and serve as the foundation for buildup. Over time, biofilm buildup blocks heat transfer and impedes airflow, causing coils to operate well below design specifications.



Conventional Coil Cleaning

- Utilizes pressure washers and steam cleaners that fail to penetrate and clean biofilms deep within coils.
- Uses toxic, corrosive, VOC-containing cleaning agents.
- Provides only marginal improvement in coil performance.

AQUIS Coil Restoration

- Uses an eco-friendly and non-corrosive probiotic technology to breakdown biofilms.
- Uses superheated water to penetrate deep within coils to eliminate biofilm buildup.
- Renews heat transfer and airflow driving increased operating coil capacity.

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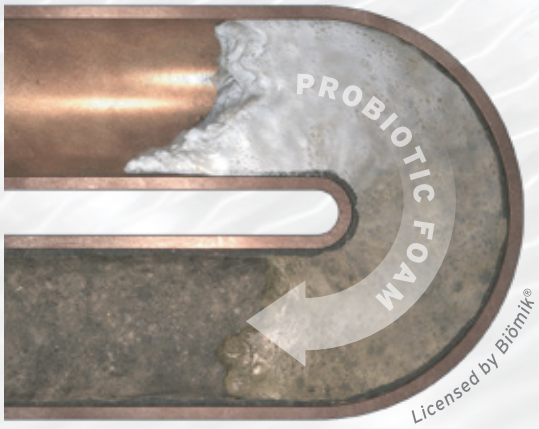
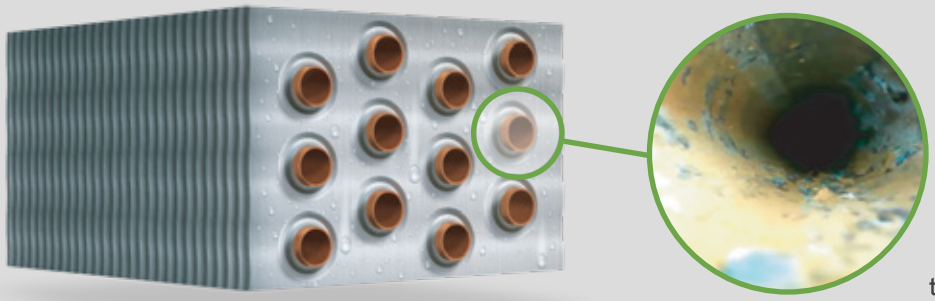
A Critical Component Of CCOM: Tube Restoration

AQUIS Tube Restoration: Increase Coil Efficiency

AQUIS Tube Restoration is an innovative process for the restoration of the interior of chilled water coil tubes. This patented technology uses a cutting-edge probiotic foam which, when injected into coil at low pressure, effectively removes biofilm, scale, and debris. The result is improved water flow and heat transfer driving increased coil capacity above Coil Restoration alone.





The Problem: Biofilm, scale, and debris inside poorly maintained tubes compromise coil performance by blocking heat transfer and reducing water flow. Microbial induced corrosion (MIC) caused by biofilm within tubes limits the service life of coils.

Drive Quantifiable Results with AQUIS Coil Optimization

AQUIS conducted Coil and Tube Restoration[1] with SmartCoil M&V on 43 AHUs (19 facilities) located in various climate zones nationwide. Results are based on the measurement of 9+ parameters calculating performance both before and after AQUIS Coil and Tube Restoration.

RESULTS OVERVIEW	
AHU Quantity	43
Avg AHU Airflow	49,000 CFM
Avg Energy Savings	82,430 kWh / Yr
Avg Simple Payback	12.1 months

PARAMETER	AVG	MAX Δ
Air Velocity	▲ 10%	▲ 18%
Cooling Coil Capacity	▲ 17%	▲ 35%
Chilled Water ΔT	▲ 11%	▲ 41%
Energy Consumption[2]	▼ 15%	▼ 28%

[1]AQUIS Tube Restoration was conducted on only 20 of the 43 AHUs in the study. [2]Includes energy consumption from the fan blowers, pumps, and chillers only. Additional energy savings is expected to be achieved from the cooling towers and condenser water pumps but was not measured directly.

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SMARTCOIL®
BY SENSIBLE

The First Real-Time Monitoring System For AHU Coils

Why Monitor Coils?

The true performance of AHU coils is currently a blind spot in your operation. This puts critical air handlers at risk of not meeting demand. Coil monitoring offers real-time data to improve visibility into coil performance, enabling you to act before problems arise. Ultimately, coil monitoring allows you to improve equipment reliability and reduce operating costs.

What is SmartCoil®?

SmartCoil by Sensible is a real-time monitoring system for AHU coils. The SmartCoil gateway collects data from an array of SmartCoil sensors. Using a cloud-based AI machine learning algorithm, SmartCoil translates the raw coil data into insightful analytics which include fouling metrics, performance trending and predictive maintenance. SmartCoil dashboard is accessible online or through compatible BMS systems.

LOOKS CAN BE DECEIVING.
Don't be misled by visual inspections. Coils that look clean are often fouled deep inside.

Cost-Saving Insight Into Your Coil

By determining your coils' fouling rate, the SmartCoil algorithm provides the ideal service schedule, minimizing overall energy to minimize overall energy and maintenance costs. SmartCoil determines the effectiveness of coil cleaning, tracks cost savings, and can even predict service failures before they occur.

The SmartCoil dashboard provides valuable insight into coil fouling levels, coil capacity, energy consumption and more.

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