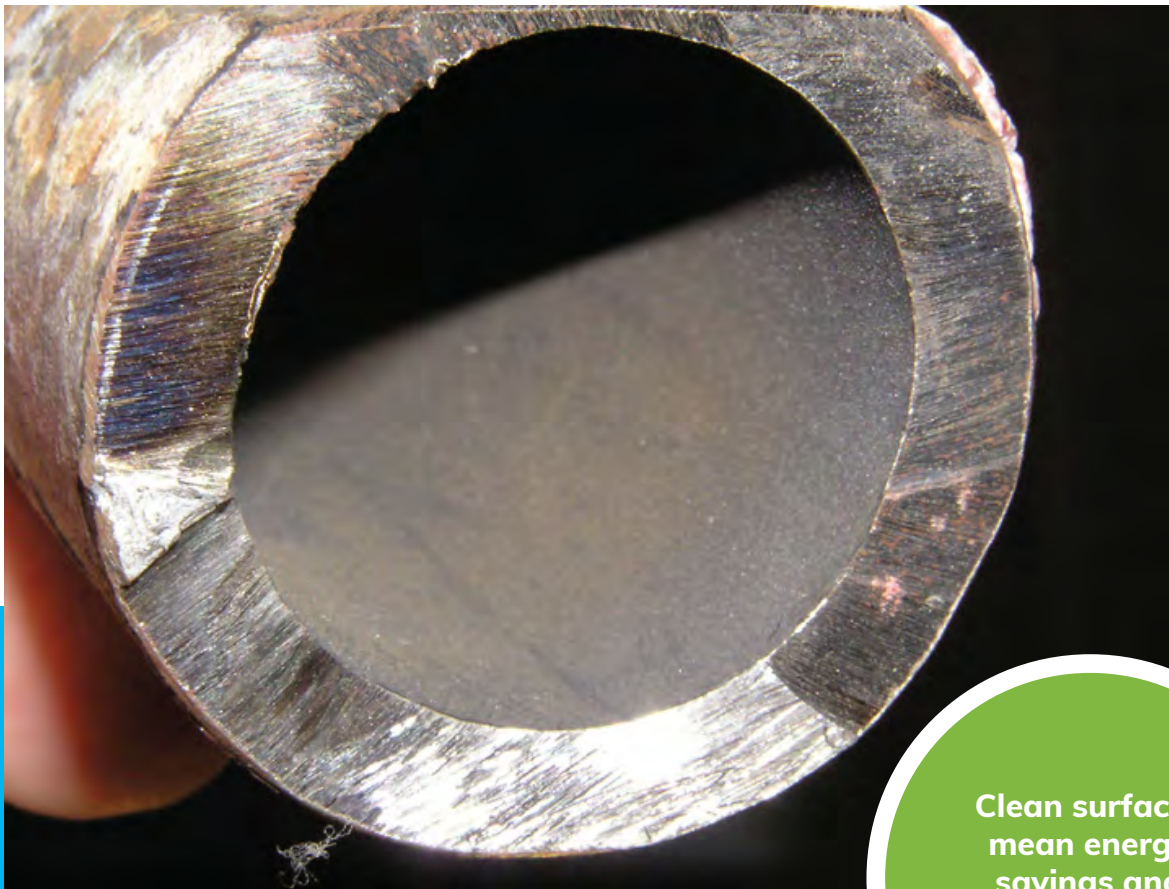




KL-Lämpö
OPTIMIZED WATER TREATMENT



Clean surfaces
mean energy
savings and
trouble-free
operation

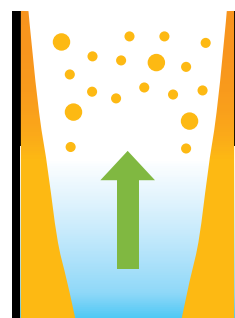
REMEDIATION CLEANING OF HYDRONIC SYSTEMS

Remediation cleaning and system protection

Remediation cleaning restores the heat transfer capacity of a hydronic system. We determine the cleaning need of your system through detailed laboratory analyses.

Key benefits of cleaning

- Restores system performance and efficiency
- Extends system lifetime
- Ensures uninterrupted energy transfer, capacity, and energy efficiency
- Reduces maintenance visits and costs
- Enhances system reliability and end-user satisfaction
- Easy and worry-free: no operational downtime or shutdowns
- Energy savings and reduced energy costs



Deposits dissolve.

We also recommend system protection after cleaning. Protection eliminates the effects of residual oxygen and prevents oxygen ingress into the system. This helps avoid corrosion and the formation of new deposits.



The side-stream filter's magnet and filter bag before cleaning clearly show the need for action.



Cleaning and protection deliver a fast return on investment through lower energy and maintenance costs

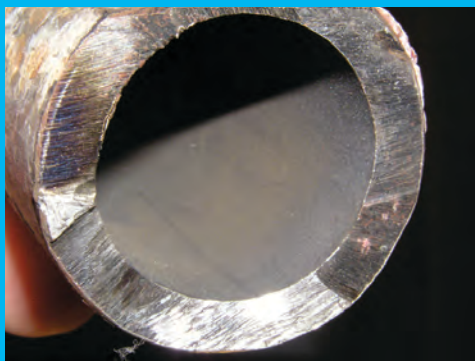
Remediation cleaning can be carried out in both small and large systems.

Why is remediation cleaning necessary?

Over time, pipes accumulate deposits, scaling, and corrosion. A dirty system must be cleaned to maintain balance. System design and capacity calculations are based on the assumption that the networks are clean – and today's technology requires clean heat transfer fluids.

An uncleaned, unfiltered, and unprotected system increases energy consumption and maintenance costs. Remediation cleaning is suitable for both small and large networks, and is recommended for all fouled hydronic systems.

The difference is clear:



A clean pipe with a protective magnetite film.



A pipe exposed to corrosion.

Our process

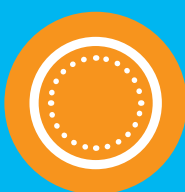
We ensure a high-quality outcome with comprehensive testing. The results of the cleaning are verified with laboratory analyses and photo documentation. You will receive a report including maintenance guidelines and recommendations for ongoing monitoring (e.g. protection level follow-up).



Step 1:
System cleaning



Step 2:
Flushing



Step 3:
Corrosion
protection



Step 4:
Reporting

Why remediation cleaning matters

Well-maintained systems ensure end-user satisfaction

When done properly, remediation cleaning delivers a fast return on investment through energy and maintenance savings.

Remediation cleaning addresses the following problems and their root causes:

PROBLEM	CAUSE	SOLUTION	
Rising heating and cooling costs	Deposits reduce heat transfer and overall efficiency	REMEDICATION CLEANING	CORROSION PROTECTION
Deposits (fouling)	Water-borne impurities		
Corrosion	Oxygen ingress and deposit-induced corrosion		
Radiator valves become clogged	System impurities cause blockages		
Control devices (e.g., thermostatic valves) do not function properly	Deposits build up in the valves		
Uneven heat distribution, cold radiators, improperly balanced system	System was adjusted while dirty (balancing based on a fouled system)		
Sudden drop in fluid pH	Residual oils/greases present in the system		
Growing maintenance costs	Component malfunctions and poor heat transfer		

KL-Lämpö Oy

Golfkentäntie 8, FI-33960 PIRKKALA (Head office)

Kilonkallio 3 B, FI-02610 ESPOO

Riihijärventie 6, FI-90440 KEMPELE (Warehouse)

Tel. +358 20 761 9900

kl-lampo@kl-lampo.com

kl-lampo.com

VAT No. FI09061088

