



● COMMERCIAL HEATING/COOLING

Plate Heat Exchanger Scale and Biofouling Protection Case Study Ukraine

A HydroFLOW® K40 protected two plate heat exchangers, progressively removing existing deposits and leaving the inspected flange free from scale and biofouling after ten months.

4→0 mo

Biological Deposits



Deposits Progressively Removed

10 mo

Deposit-Free Inspection

0

Scale Formations Found

⇒ BEFORE & AFTER

● BEFORE

- Flange contained biological deposits
- Rust was visible inside the connection
- Scale had accumulated on internal surfaces

● AFTER

- ✓ Biological deposits completely removed
- ✓ Existing scale progressively removed
- ✓ No scale or biofouling after ten months



BEFORE

Scale and biofouling before treatment



AFTER

Biofouling gone; scale reducing



OVERVIEW

State Enterprise 410 Plant operated two plate heat exchangers supplied by a cold-water line. Internal inspection before treatment showed a combination of biological deposits, rust and scale on the heat-exchanger connection. The plant needed to protect both exchangers and progressively clean existing deposits without dismantling the system for continuous mechanical treatment.



CHALLENGE

Scale and biological fouling affected the heat-exchanger water circuit.

- Biological deposits visible inside the connection
- Scale covered internal flange surfaces
- Rust was also visible before treatment



SOLUTION

A *HydroFLOW*® K40 was installed on the cold-water supply to protect both plate heat exchangers. Inspections assessed the system after four and ten months.

UNIT INSTALLED

1x *HydroFLOW*® K40

INSTALLATION POINT

Cold-water supply pipe

EQUIPMENT PROTECTED

Two plate heat exchangers

INSPECTION TIMELINE

4 months & 10 months



INSTALLATION

K40 on cold-water line



RESULTS



Biofouling Completely Removed

Biological deposits were completely gone at the four-month inspection.



Existing Scale Progressively Reduce

Remaining scale deposits were visibly undergoing progressive removal.



No Scale After Ten Months

The inspected heat-exchanger flange showed no scale formation after ten months.



No Biofouling After Ten Months

No biological deposits were found during the ten-month control opening.

KEY TAKEAWAY**Summary**

A HydroFLOW® K40 progressively cleared existing deposits from the heat-exchanger circuit. Biological deposits were gone after four months, and the ten-month inspection found no biological deposits or scale formation.

4 mo→0

BIOLOGICAL DEPOSITS



EXISTING SCALE

10 months

NO SCALE OR BIOFOULING

**ADDITIONAL PHOTO EVIDENCE****INSPECTION***Biological deposits gone as existing scale begins to clear***AFTER***Further deposit reduction after ten months of treatment*

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