CASE STUDY

Grästorps kommun

One Smart Upgrade. Years of Impact: The Grästorp District Heating Plant Success Story

Grästorp Fjärrvärme AB, Sweden

The Challenge

The initial soot-blowing system, comprising of 9 valves on the 1st stroke (countercurrent), 5 on the 2nd stroke (wake), and 7 on the 3rd stroke (countercurrent), proved insufficient.

Despite the system, the boiler tubes were not kept clean, and mechanical cleaning was required multiple times per month. This led to increased maintenance, downtime, and reduced overall efficiency.

AFTER
4 years
No replacement needed

Reduced manual cleaning

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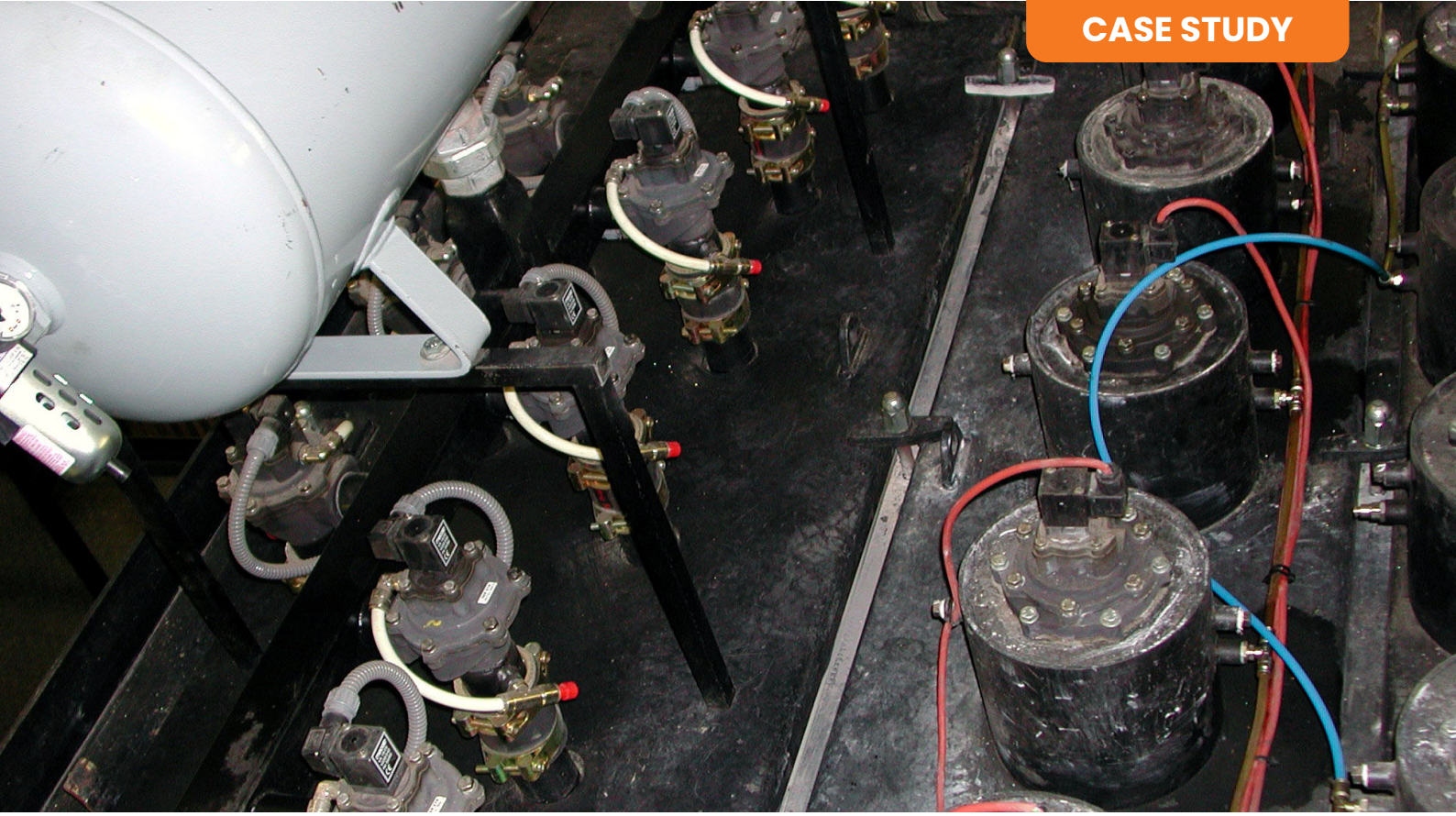


The Solution

To improve boiler cleanliness and reduce manual intervention, it was decided to replace the soot-blowing system on the 1st stroke with an Aerovit ShockClean System.

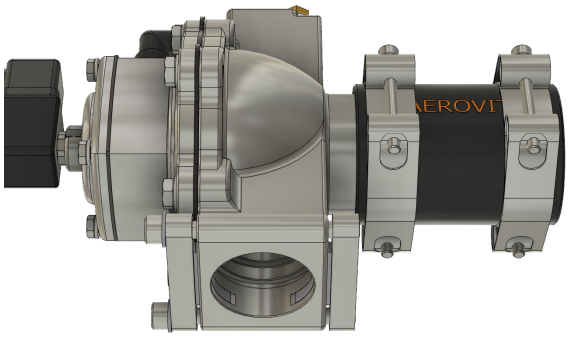
Aerovit delivered new Aerovit ShockClean System mounted on a custom boiler door, optimized for reliable and continuous cleaning performance.

Features:

- Customized system designed to match the specific boiler design and fuel type
- Unique cooling system that protects the valve from high temperatures and corrosive flue gas
- Special sound silencer
- Low maintenance costs

Advantages:

- Payback time in 3-24 month
- Proven higher efficiency and boiler output
- Reduce manual cleaning and thus boiler shutdowns with 80-100%
- Reduce fuel consumption per produced MW
- Lower CO2 emission
- Robust design with few moving parts



The Results

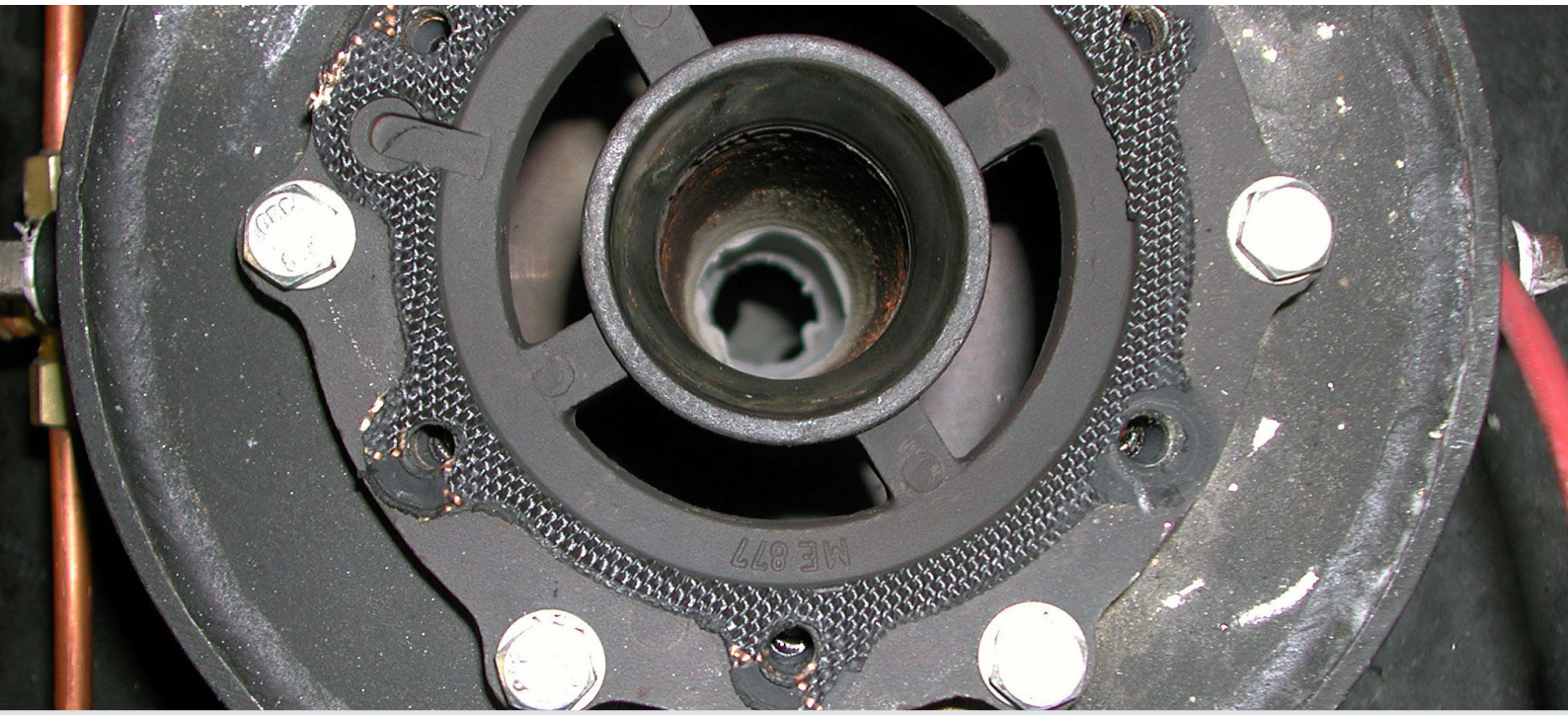
The retrofit showed immediate benefits:

- Mechanical cleaning on the 1st stroke dropped from several times per month to only twice a year.
- Tubes in the 1st stroke are now kept consistently clean.
- Tubes in the 2nd stroke are fairly clean.
- Tubes in the 3rd stroke still require further improvement.

A service inspection after 22 month confirmed that:

- The original soot-blowers on the 2nd and 3rd strokes (without cooling) showed significant dysfunction.
- All 12 valve diaphragms were damaged due to heat exposure and required replacement.
- Corrosion and soot buildup were evident, particularly in the shot tubes.

In contrast, Aerovit's valves on the 1st stroke, even after 4 years in operation, were in excellent condition, with no need for replacement, demonstrating the effectiveness of the cooling-air design.



Overview

Grästorp Fjärnvärme AB is a district heating plant in Sweden, co-owned by Lantmännen Agroenergi AB and the municipality of Grästorp. The facility operates a 3.5 MW biomass boiler and is fueled by wood chips and Salix (willow). The plant originally relied on a traditional soot-blowing system installed at the top of the boiler, but struggled to maintain clean tube passes, leading to frequent manual cleaning and operational inefficiencies.