

## Case Study

### Grästorp Fjärrvärme AB - Grästorp District Heating Plant

Co-owned by Lantmännen Agroenergi AB and the municipality of Grästorp, Sweden.



Fuel: Wood chips and Salix

Boiler: 3.5 MW – installed 2002

Soot-blower: The boiler was delivered with a soot-blowing system at the top of the boiler  
 9 pcs. valves on 1<sup>st</sup> stroke countercurrent  
 5 pcs. valves on 2<sup>nd</sup> stroke wake  
 7 pcs. valves on 3<sup>rd</sup> stroke countercurrent

Efficiency: Mechanical cleaning was necessary several times per month – the pipes were not kept clean.

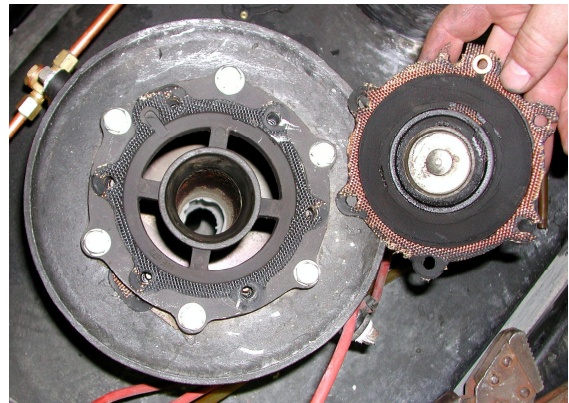
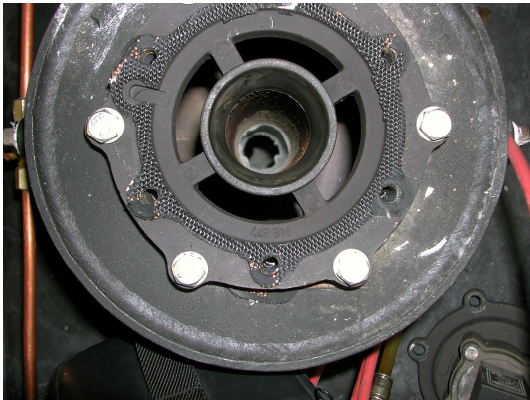
Initiative: It was decided to replace the soot-blowing system on the 1<sup>st</sup> stroke.  
 AEROVIT soot-blowers on a new boiler door were delivered February 2003.

Result: Mechanical cleaning only necessary twice a year.  
 The pipes in 1<sup>st</sup> stroke are now kept clean.  
 The pipes in 2<sup>nd</sup> stroke are now kept fairly clean.  
 The pipes in 3<sup>rd</sup> stroke are not kept clean.

Future: If the remaining soot-blowing system is replaced with AEROVIT valves, it is to be expected that there will be a need for mechanical cleaning only once every 2 or 3 years.

**Service carried out on all valves after 4 years in operation.**

The soot-blowing system – without cooling – on 2<sup>nd</sup> and 3<sup>rd</sup> stroke shows dysfunction and flow of compressed air.



All 12 valve diaphragms were burned or melted, cracked and rigid – clearly affected by the heat from the boiler's turn box. All diaphragms had to be replaced.

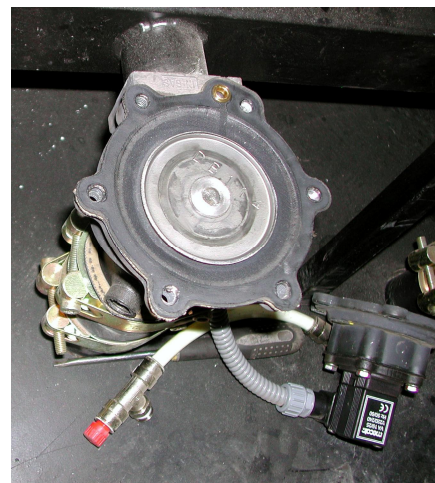
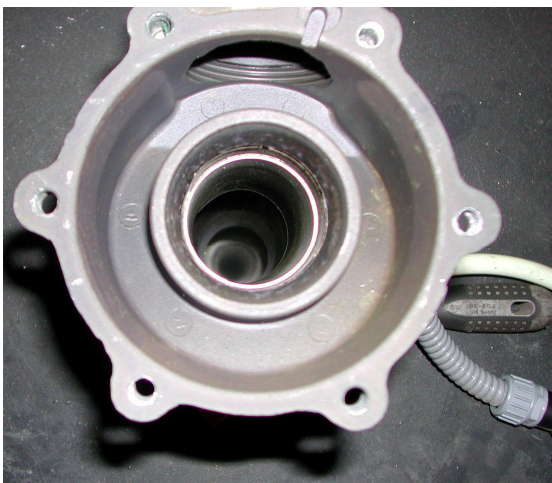


Corrosion in the shot tube of the valves – obviously affected by corrosive flue gas.

The shot tube is almost sooted up in consequence of dysfunction.

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AEROVIT's valve system – with cooling – on 1<sup>st</sup> stroke has faultless function.



All 9 valves and valve diaphragm are in good condition and require no replacement. Clear result of AEROVIT's patented system with cooling air.

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