A Case study from Heat Management

Infrafone Naantali, Finland

Application: Combined Heat and Power plant
Efficiency solution: Infrasound technology

Infrafone

Application: Combined Heat and Power plant
Efficiency solution: Infrasound technology

General info

Plant: Combined Heat and Power plant
Fuel: Coal
Capacity: 2 x 110 MWel, Sulzer

Cleaning areas:

One economizer and four Ljungstrom air preheaters size 24 1⁄2 Infrasound generators:
APM500, installed 1985, upgrade 2006
APM500, installed 1985, upgrade 2006
APM500, installed 1988, upgrade 2007
APL1000, installed 1988, upgrade 2006
APM500, installed 1989, upgrade 2007

Situation description

Naantali power plant has generated power for over 40 years. The plant, which originally generated only power, now also produces most of the district heating used in the Turku region and the steam used by industries in the surrounding area.

Coal is the main fuel used at Naantali power plant. Heavy fuel oil is used for start-ups and as support fuel. Refinery gas is also used.

The two boilers each have two air preheaters, each with an Infrasound generator installed below the rotor on the flue gas side. One of th two boilers is also equipped with an Infrasound generator.

Fortum upgraded three of their sonic cleaners with new pulsators in 2006 and the remaining two in 2007. The upgrade was made to operate the Infrasound generators on compressed air instead of low pressure air blowers that was used earlier, and in this way reduce operating costs.



Figure 1 - Infrasound generator installed on Ljungstrom air preheater.

Results

- Drastically reduced need for steam soot blowing. Thanks to the Infrasound generators, the steam soot blowers in the economizer and in the air preheaters are very rarely operated.
- Minimal damage to the air preheater elements. The elements have never been replaced. Reduced damage of seals in the air preheater
- No need for water washing of the air preheater elements

Under References, at www.heatmanagement.com, you can read about our technical and economical results for several heat and power plants.

We have also gathered our knowledge based on our long experience of infrasound technology compared to conventional methods as steam soot blowing, shot cleaning, compressed air soot blowing and audible sound (sonic or acoustic horns) in several "white papers" that are available here.

More information about the infrasound technology and its benefits as well as technical features and functions of the Infrasound System can be found in several brochures under Products at Infrafones homepage.

Heat Management

Heat Management was founded in 2016 following a merger between Infrafone AB and Soottech AB. The purpose of the merger was to create a world-leading cleantech company with a superior product portfolio in energy conversion adapted for industrial boilers and incinerators.

Heat Management's primary customers include power and heat plants as well as pulp mills and marine companies. Today, Heat Management has patented solutions installed in a large number of applications around the world.

qValify ISO 9001 qValify ISO 14001 qValify ISO 45001

Wave Impact Heat Management AB
Landsvägen 50A
172 63 Sundbyberg, Sweden

E-mail: info@heatmanage.com
Phone: +46 8-661 33 10
Fax: +46 8-661 33 60