Heat Management

Metsä Board, Kaskinen

Application: Recovery Boiler
Efficiency solution: High Impact Sootblowing System (HISS®)
Cleaning area: Superheater (SH), boiler bank (BB), economizer (ECO)

General info

Plant: Board mill
Boiler: Alrec (Rinheat Oy)
Fuel: Black liquor
Capacity: 65 tDS/day

Installation

Type: HISS® Essentials
No of sootblowers: 19
Year of installation: 2021

Situation description

Metsä Board operates an Alrec (Rinheat Oy) 65 tDS/day Recovery Boiler with 19 steam sootblowers. The boiler produces 350t steam per day (avg.) and 30% was used for steam sootblowing before the HISS® installation.

As a pilot project, one sootblower in the economizer was equipped with HISS® to evaluate its performance. The goal was to reduce steam consumption and wear on the heating surfaces from steam sootblowing. Following a master thesis study, Metsä decided to upgrade the remaining 18 sootblowers with HISS®.

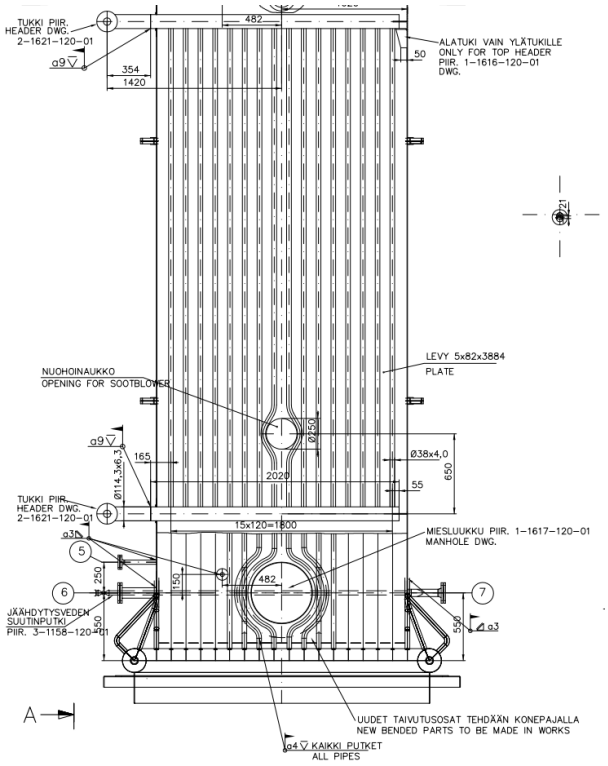


Figure 1. Crossection of the recovery boiler.

Wave Impact Heat Management AB
E-mail: info@heatmanage.com
Phone: +46 8-661 33 10

Results

HISS® was seemlessly integrated in one of the sootblowers for evaluation. Metsä decided to equip all steam sootblowers with HISS® following the promising results. A master's thesis student concluded the following results after conducting the pre-study:

- 49% saved steam for the tested sootblower (theoretical total, 36.75 ton steam/day).
- No changes in flue gas flow.
- Upgrading the entire sootblowing system could enhance the cleanliness of the heating surfaces.
- Press this link to view master's thesis.

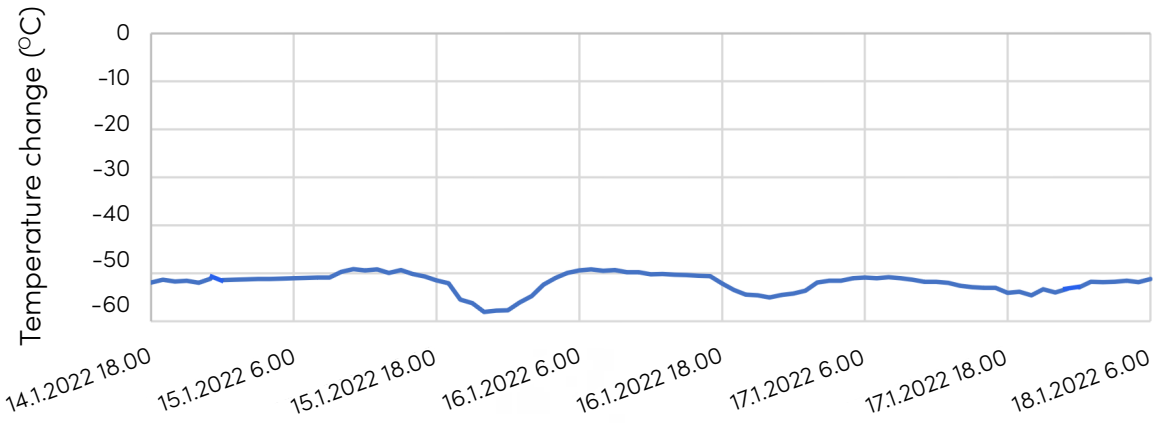


Figure 2. Flue gas temperature change in the economizer with the old system.

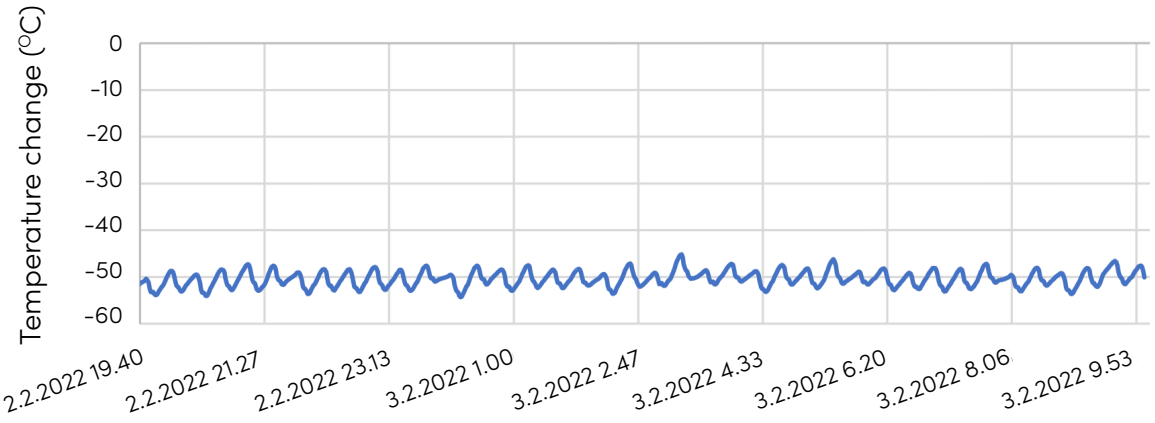


Figure 3. Flue gas temperature change in the economizer with the new system.

When comparing Figures 2 & 3, we can conclude that the HISS® system is able to keep the heat transfer surfaces as clean as before, but with 49 % steam savings.

Wave Impact Heat Management AB
E-mail: info@heatmanage.com
Phone: +46 8-661 33 10