Setra Heby Sawmill

Application: Grate Furnace
Efficiency solution: Infrasound Cleaning
Cleaning area: Smoke tube boiler and Smoke Tube Economiser

General info

Sawmill: Setra Heby
Boiler: VEÅ
Fuel: Mixed biofuel from the sawmill
Capacity: 16 MWth

Installation

Type: 1x APS350 & 1x APS150
Year of installation: 2023

Situation description

The customer has a 16MWth biomass furnace with a hot water smoke tube boiler and subsequent economizer in Heby. Their focus is mainly on delivery to all lumber dryers, and the facilities on the sawmill area. The inlet to the smoke tube boiler was scraped clean three times per week. The pipes were sooted 5-6 times/year in both boiler and eco. A maximum of 1 week-long stops are permitted. The multi-cyclone is also contaminated and blown clean with compressed air when the pressure drop measurement shows an increased value.



Figure 1. APS350 installed on Smoke tubes boiler

Setra Heby had a different automatic cleaning system installed, which they were not satisfied with. The tubes in the boiler and the economizer were earlier cleaned manually when the flue gas outlet temperature was over 200 degrees. Also, the multi-cyclone suffered from fouling with time.

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

Results page 1 (2)

The number of stops for manual cleaning have been reduced drastically:
2019: 9 times
2020: 8 times
2021: 6 times
2022: 7 times
2023: 4 times before installing infrasound cleaning week 24. Once after week 24
2024: 1 time until September

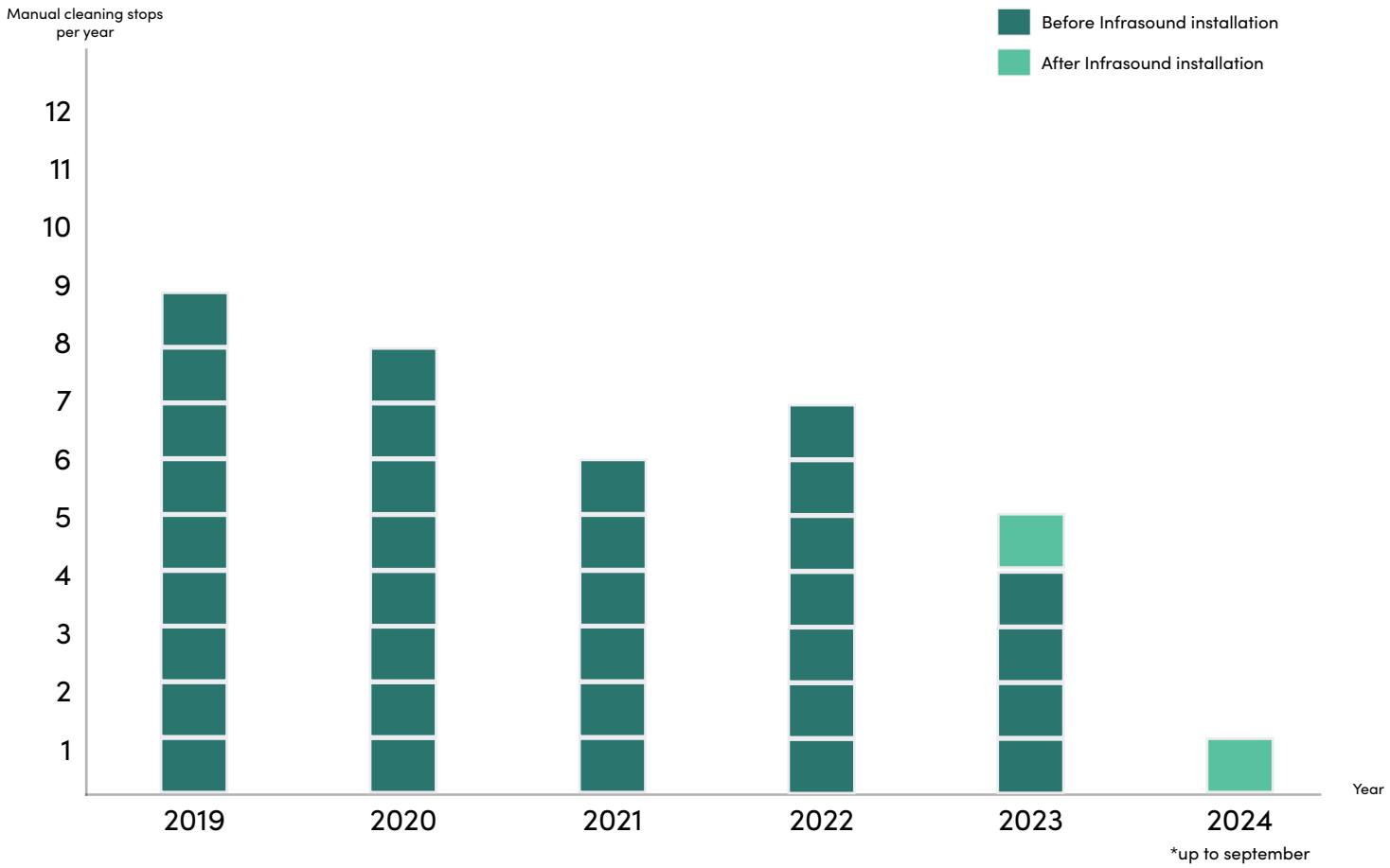


Figure 2. Diagram illustrating manual cleaning stops before and after using Infrasound cleaning

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

Results page 2 (2)

Apart from the large reductions of manual cleaning, the staff has reported that during 2024 the boiler has been performing on record level when it comes to high power during long time, which is shown in below trends. ”P1_pn” is the power of the first smoke tube boiler. ”P1_eco” is the power of the smoke tube economizer following downstream. Also the multi-cyclone has become cleaner as a side-effect of having infrasound cleaning installed.

In the lower window (the ”xy-plot”) it can be seen that flue gas outlet temperature (”P1_trg”) is low for such high power (”P1_pbtot”). Orange marked dots represent the period January to March 2024. Blue dots represent Feb 2023 to Dec 2023

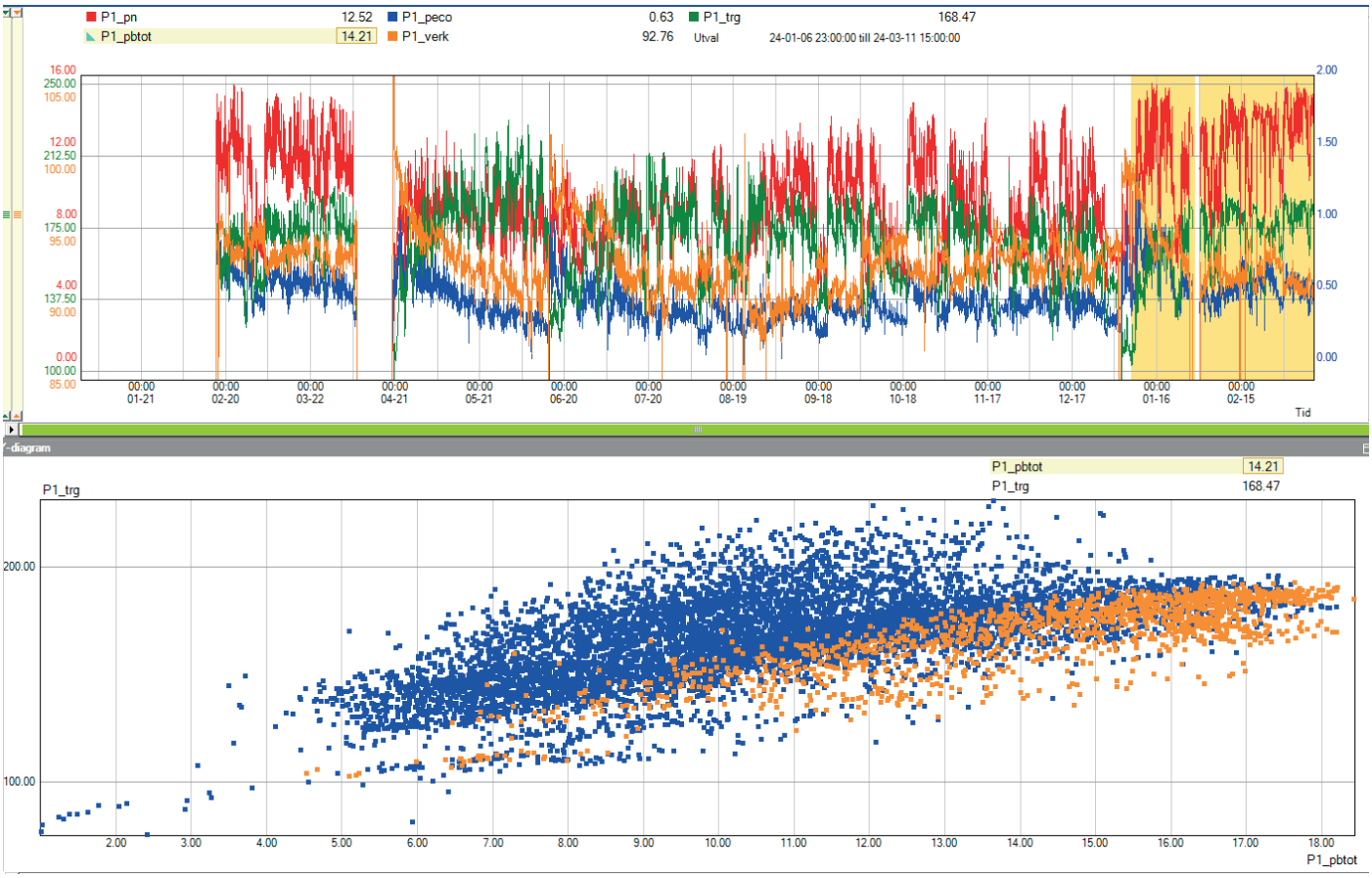


Figure 3. Diagram illustrating manual cleaning stops before and after using Infrasound cleaning

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