

Online boiler rapper monitor

Intelligent control and optimisation



Systematic rapper measurements for top-flight boiler performance

Our online rapper monitoring system supports you in your efforts to safeguard or improve the profitability of your plant. The reason: the functional integrity of the rapper is continuously and automatically checked during operation.

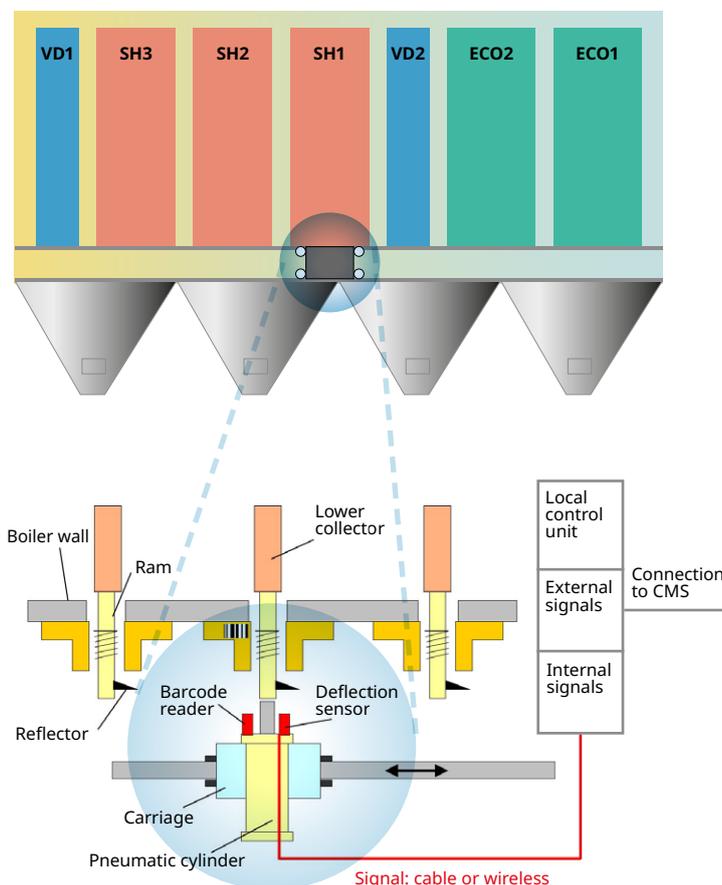
Together with the combustion system, the boiler constitutes the heart of every waste combustion plant. Accordingly, its maintenance and upkeep are critically important. The cleaner the boiler, the higher its efficiency. In turn, high efficiency assures that more energy can be extracted from the combustion process.

Every harp counts

To maintain a high degree of efficiency, the heat exchanger surfaces in the boiler must be continu-

ously cleaned. Even a single poorly cleaned harp can have a negative impact on plant performance.

Various cleaning options are available. Pneumatic and mechanical rappers are very commonplace. The approach in both methods is to generate enough rapping energy to adequately deflect the lower headers and thus induce vibrations in the individual boiler harps. The resulting accelerative forces detach the ash layers and remove them from the panels.



There are many reasons for insufficient harp kinetics:

- The rapper does not strike with adequate force
- The ram is jammed inside its guide
- The header guide inside the boiler is blocked
- The motion of the boiler harp is restricted by ash deposits

In such cases, the user-friendly online monitoring system automatically performs one of the following activities:

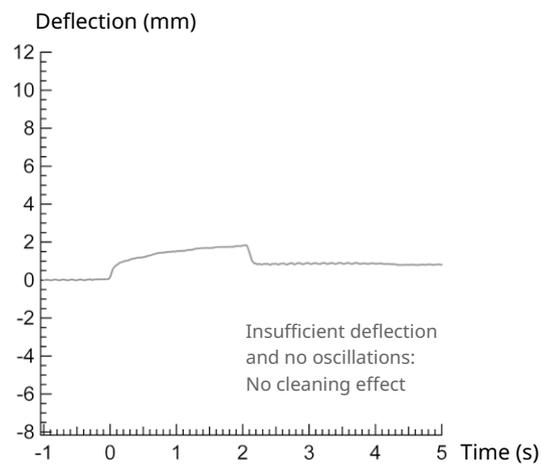
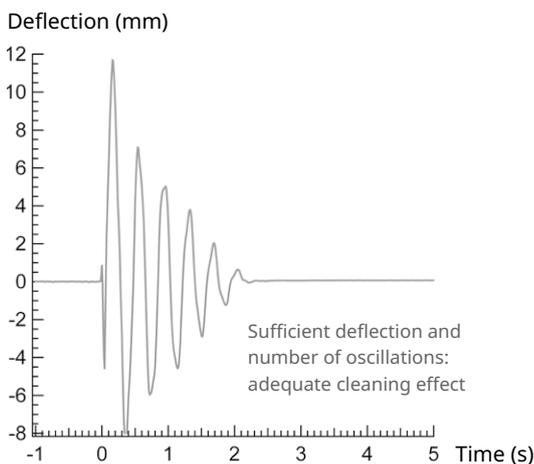
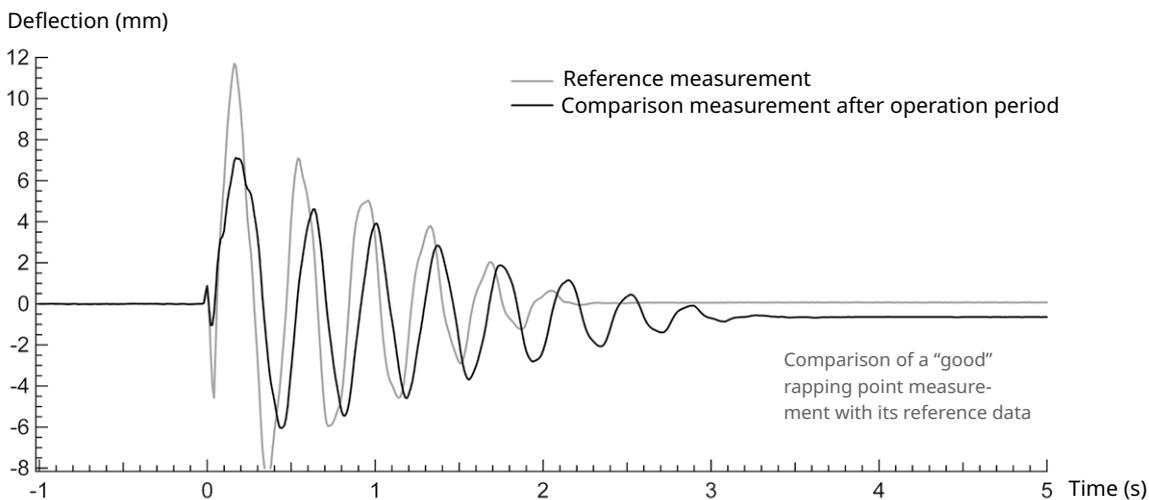
- Repeated rapping of the affected rapping point
- Increase of rapping force at the affected point
- Adjustment of rapping frequency
- Alarm message to the operator

In-service monitoring

Systematic monitoring is the only way to determine for sure if a boiler rapper is working right or not. The one-of-a-kind rapping control and optimisation solution is very helpful because it checks the exact level and location of fouling in the boiler by listening to harp harmonics and then uses laser positioning sensors to move the rapping carriage right to the problem area. With the help of the solution's advanced control and optimisation tools, any issues are quickly found and fixed. This lets the boiler get back to its best design and working performance by using the

data it collects and comparing it with theoretical models in the computer that controls the solution more quickly and more accurately.

You can use the rapping control and optimisation solution for both mechanical and pneumatic rapping devices. When this advanced control and optimisation option is used with a pneumatic system, it provides you more performance and flexibility. By using both together, the energy from the rapping cylinders can be directed to specific rapping places or problem areas that need to be fixed right away.



The advantages at a glance

Continuous monitoring of the boiler rapper system makes sure that it operates as intended. This results in various benefits for your plant:

- Prevention of premature and excessive boiler fouling
- Longer boiler campaign durations
- Reduction of manual cleaning effort and related downtime
- Steadier and more predictable boiler operation
- Accurately plannable overhaul schedules



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