

New !



FACOS™

The Change in Furnace Cleaning

The FACOS™ system developed by Clyde Bergemann analyses the fouling and slagging condition of the combustion chamber, visualizes this information online and automatically activates the respective cleaning device in the furnace on demand.

Through FACOS™ the owner/operator gets reliable and clear information about the fouling behaviour of his boiler. Moreover, automatic and demand-controlled cleaning in the furnace has a considerable economic influence on the whole boiler process.

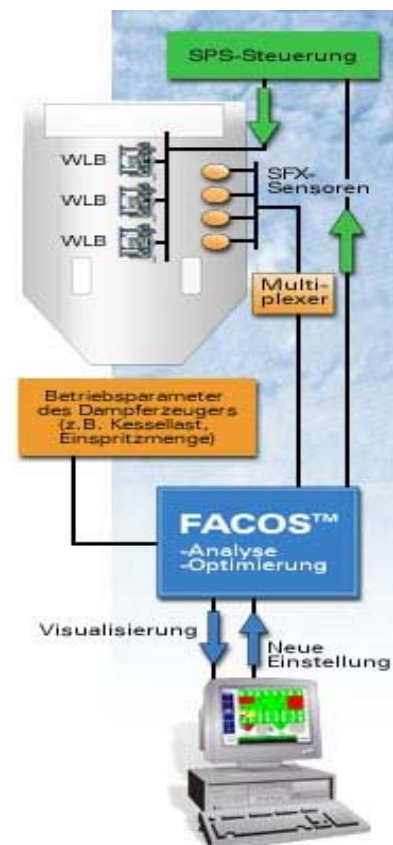
So far it was not possible to assess the fouling behaviour in the combustion chamber selectively. Thus, utilization of the cleaning facility was in most cases determined by subjective criteria such as:

- ⇒ Observation through inspection holes
- ⇒ Furnace exit gas temperature
- ⇒ Soot blowing cycle once per shift
- ⇒ Other criteria

Thus, decisive questions for efficient boiler operation remain unanswered:

- Is the planned cleaning action too early or too late?
- Have the necessary areas in the furnace been cleaned?

FACOS™ has the right answer to these questions and, in addition, provides the great advantage of selective assessment of the furnace.



Advantages:

- ⇒ Furnace cleaning on demand "As often as necessary, as less as possible!"
- ⇒ Additional source of information about furnace behaviour
- ⇒ Reduction of blowing frequency by app. 30%
- ⇒ Preservation of furnace heating surfaces
- ⇒ Safe and better operating mode
- ⇒ Optimally clean heating surface
- ⇒ Reduction of furnace exit gas temperature
- ⇒ Less fouling in convection part
- ⇒ More favourable emission behaviour / NO_x
- ⇒ Extension of operating period

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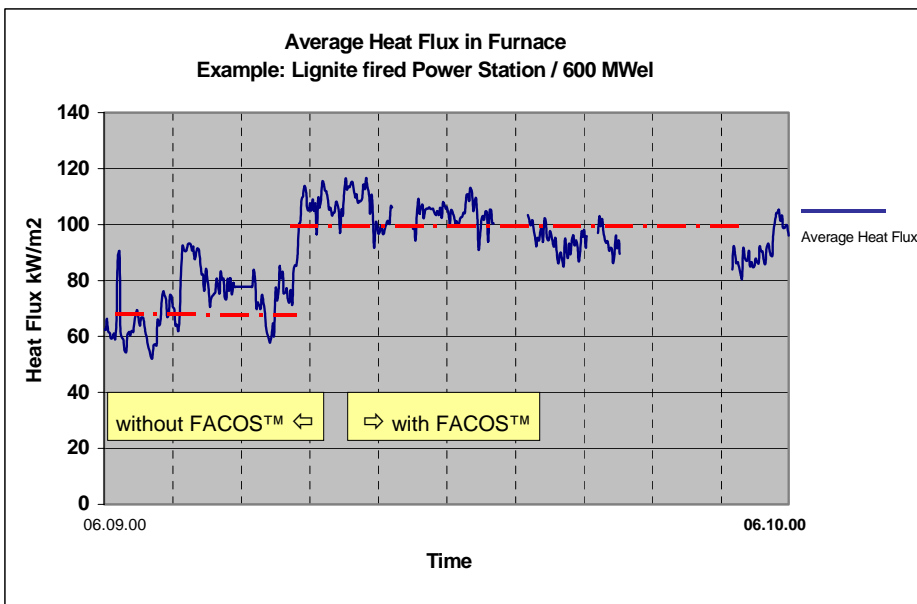
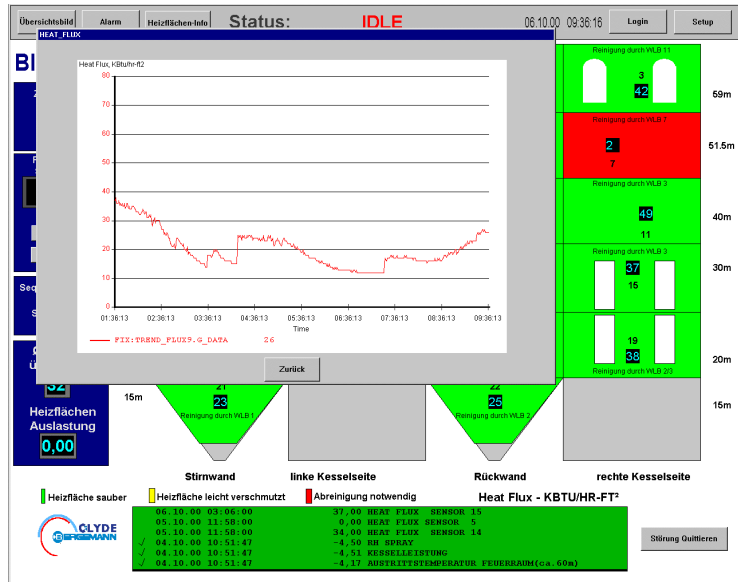
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The FACOS™ Functioning Principle

The system is based on direct measuring of the heat flux density in the furnace. To determine local fouling in the furnace, SMART FLUX™ sensors are placed at selected locations. For this purpose a section of the tube wall is replaced by a tube which is equipped with special redundant sensors. Through the multiplexer the heat flux signals are concentrated, filtered and amplified.

An analyzing and diagnostic system provides all information in a clear form on the visualization screen or at an interface and in addition determines the optimum moment for starting the respective furnace cleaning.

Automatically only those cleaning devices are initiated that are necessary at that moment.



Application of FACOS™

led in a lignite-fired power plant to an increase of the heat flux density in the furnace of about 30%.

This increase of the heat flux density also caused a reduction of the furnace end gas temperature of about 70K.

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