G5000 Boiler Monitoring

Dynamic Multi-Parameter Monitoring

Dependent on Actual Load

Perfecting Sensible Technology

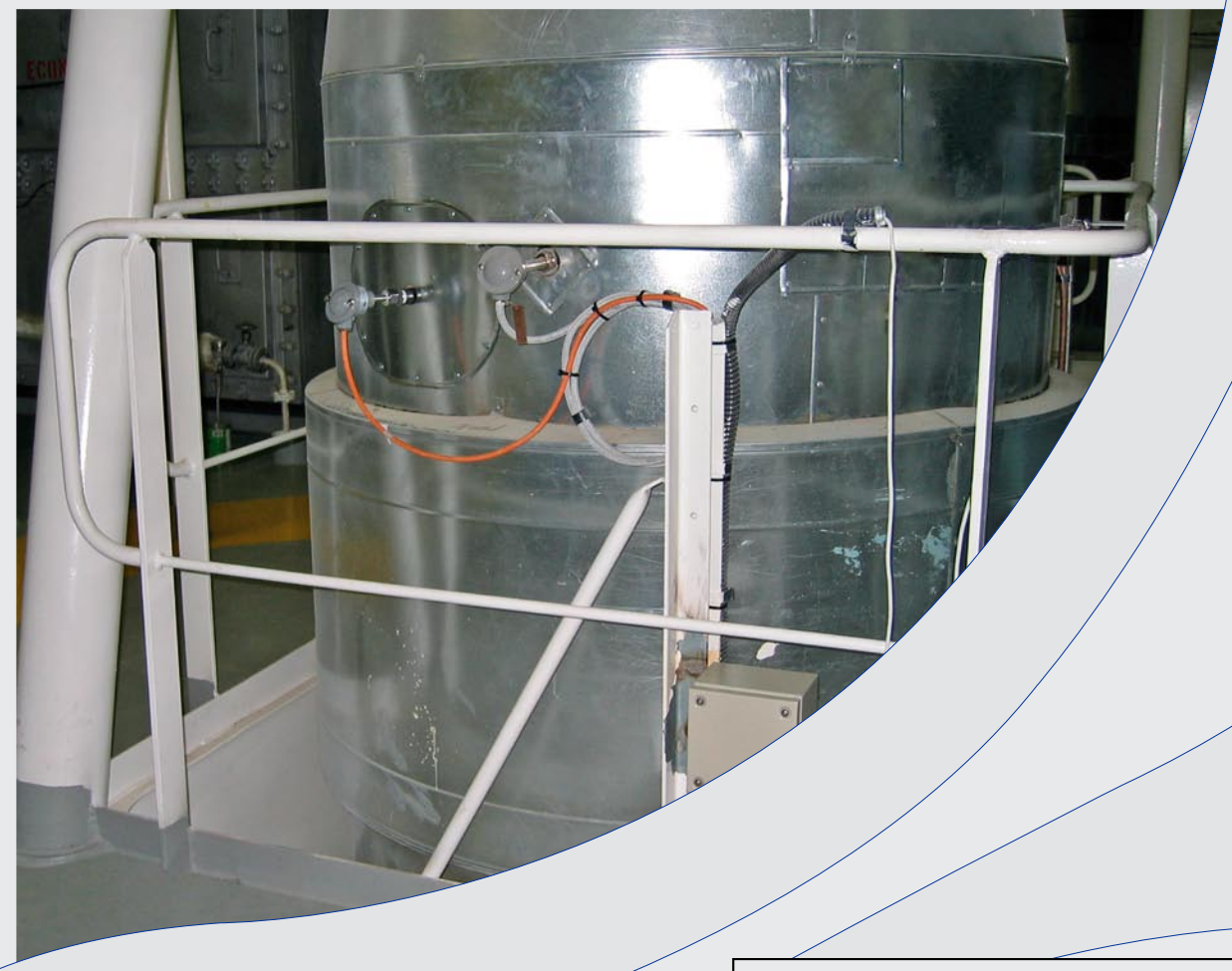
Optimize and protect your boilers and economizers by monitoring their thermal condition and performance. The unique feature of the G5000 is the dynamic load-dependent monitoring. This provides an accurate diagnosis under low load operation, slow steaming and maneuvering. Green Instruments offers long-time experience and wide knowledge of boiler protection, providing you with the most cost-effective solution for your boilers.

G5000 Boiler Monitoring:

- G5100 EGE Monitor
- G5500 OFB Monitor

GREEN INSTRUMENTS

G5100 Exhaust Gas Economizer Monitor



How to Avoid Soot Fire Accidents

Soot fire accidents in exhaust gas economizers after diesel engines are an increasing problem. Soot burning can develop into very high temperature fires and eventually result in serious damage in the form of boiler meltdown.

Many boilers have temperature sensors or even a static pressure drop alarm. However, a static control system cannot detect problems while operating under low and medium engine load conditions.

So how do you avoid soot fire accidents? The answer is simple: "Keep the economizer clean and ensure water circulation at all times".

Dynamic Load Depending Monitoring

Green Instruments' G5100 Exhaust Gas Economizer Monitor offers a unique solution that will provide you with dynamic monitoring of different parameters in relation to engine load including pressure drop, inlet and outlet temperature. Monitoring the water circulation flow is optional.

Monitoring these parameters along with actual engine load will indicate soot contamination and the best time for cleaning, thus helping to maintain high efficiency of the economizer and avoid economizer breakdown.

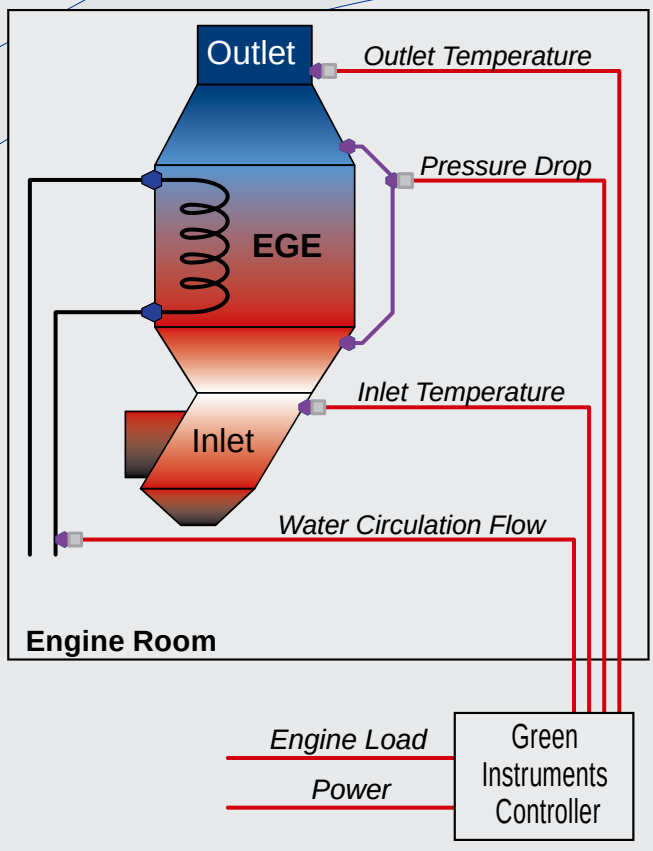
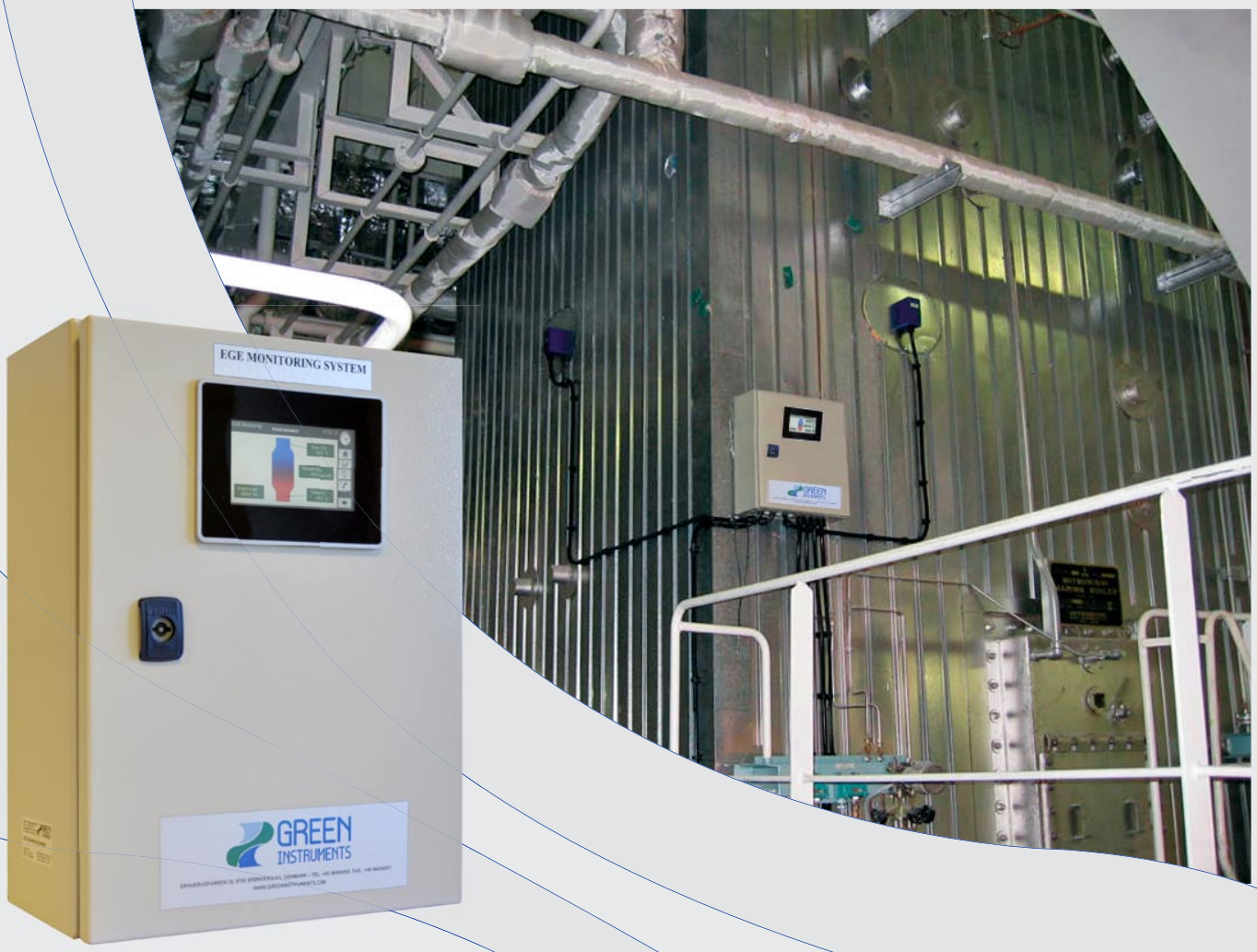


Diagram of the G5100 EGE Monitor

G5500 Oil-Fired Boiler Monitor



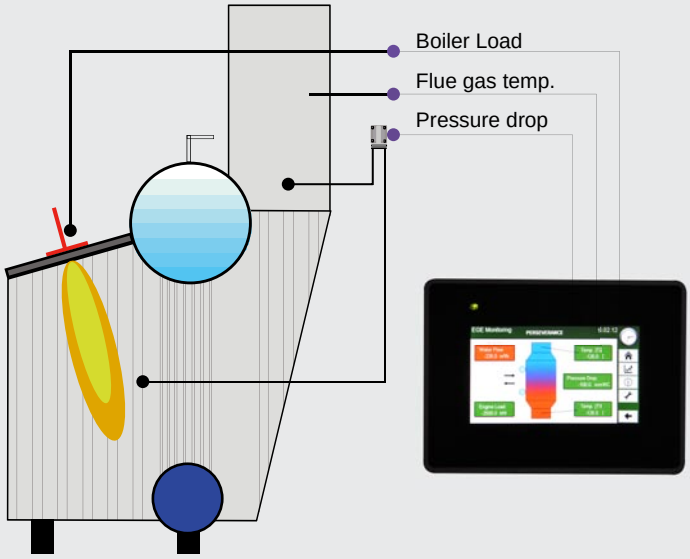


Diagram of the G5500 OFB Monitor

How to Avoid Boiler Breakdown

In oil fired boilers, thermal stress on the boiler tubes is a critical problem. The problem usually arises due to scale build-up or oil contamination on the water side of the tubes and soot contamination on the gas side, which will reduce the heat transfer efficiency.

In some extreme situation, it can lead to high cost damages since insufficient water, problem in water circulation, contamination and asymmetrical heat distribution may cause the boiler to break down.

Dynamic Boiler Monitoring

The G5500 OFBM offers a dynamic monitoring of flue gas temperature, pressure drop across the boiler and boiler pressure in relation to the boiler load. The monitor gives alarms to a certain level of soot contamination, scale buildup or contamination. With this, your crew can maintain boiler efficiency with appropriate cleaning, optimize boiler performance and avoid critical problems.

In connection with fuel saving, please note that the system can be extended with our G3600 Stack Gas Oxygen Analyzer for optimum fuel/air combustion trim.

Specifications - G5000 Boiler Monitoring

Key Features

Dynamic load-dependent monitoring
Indication for optimized cleaning intervals
Alarm relay for reduced heat transfer due to soot, scale, oil contamination or water failiure - can be used to slow engine or boiler load
Modular design for customized configuration
Configurable measuring range and output
Easy integration to any boiler control system
Worldwide customer support via service partners
Optional alarm relay for low water circulation - can be used to start the stand-by pump
Optional O_2 trim signal for boiler optimization

Using the G5000 Boiler Monitoring family you can

Maintain boiler/economizer efficiency
Receive indication for best cleaning time
Prevent soot-fire hazard
Avoid boiler dry-out/meltdown

The systems allows for a diagnosis of the following issues

Soot deposit on the gas side
Contamination on the water side
Heat exchanger efficiency
Poor combustion
Thermal stress
Soot fire hazard

Configurations

G5100 EGE Monitor

The system consists of the following main elements:
Monitoring cabinet with touch screen (4 alarm relays and 2 analog inputs)
Remote input module with 4 analog inputs
Differential pressure transmitter unit
Temperature sensors
Flow sensor (optional)

G5500 OFB Monitor

The system consists of the following main elements:
Monitoring cabinet with touch screen (4 alarm relays and 2 analog inputs)
Remote input module with 4 analog inputs
Differential pressure transmitter unit
Temperature sensors
Pressure transmitter
G3620 Stack Gas Oxygen Analyzing System (optional)

GREEN INSTRUMENTS

ISO 9001 BUREAU VERITAS Certification