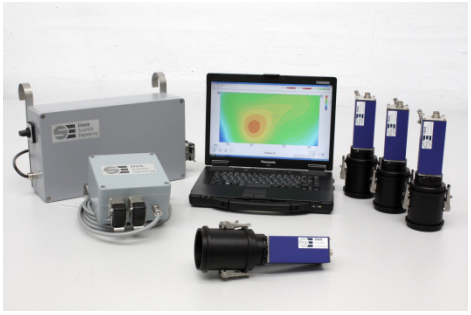
EUtech Scientific Engineering
A COMPANY WITH ENERGY

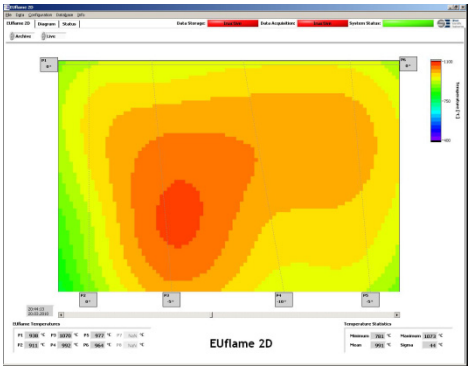
EUflame

Temperature profiling of pulverized coal flames

EUflame pyrometer - mounted to boiler wall



EUflame 2D pyrometer components



EUflame 2D user interface

The flame temperature and its distribution are fundamental properties of the combustion process influencing coal devolatilization, pollutant formation, heat transfer, LoI as well as slagging and fouling. Moreover, an unrecognized imbalance of the flame ball position may impose excessive stress on boiler parts leading to premature system failure. Reliable information on the temperature and its distribution are therefore paramount for an optimal boiler operation. Varying fuel blends and the non-constant flame emissivity make this a challenging task.

Solution

Optical radiation pyrometry has been recognized as the only practical non-intrusive method for measuring the flame temperature in large boiler flames. *EUflame* is a two-colour radiation pyrometer specifically designed for the application to pulverized coal combustion. A special algorithm determines the flame emissivity via the optical thickness and thus considers the non-constant flame emissivity when determining the ***true* flame temperature**. The optical thickness gives a reliable indication of the soot particle load and hence a measure for the cleanliness inside the boiler. By combining several pyrometers in an array, the planar two-dimensional flame temperature distribution (*EUflame 2D*) can be reconstructed.

Specifications

Temperature range	600 °C – 3,000 °C (acc. to requirement)
Accuracy	0.5 %
Interfaces	Analog (0…4 – 20 mA), RS-232, RS-485

Benefits

- Combustion and flame monitoring
- On-line combustion optimization (Reducing LoI, emissions and slagging)
- Flame ball centering
- Control of on-load cleaning devices
- Online boiler optimization with EUcontrol boiler

Contact

Direct: +49 (0)241 963-3151

Email: info@eutech.de

Internet: www.eutech-scientific.de