EUtech Scientific Engineering

A COMPANY WITH ENERGY

EUcoalsizer

Mill optimization and fuel line balancing

The coal particle size spectrum has a strong impact on the combustion process. It influences ignition delay, combustion efficiency and LoI, the emission levels as well as slagging and fouling. Despite the significance of this property, there has not yet been a robust and easy to handle system for the online measurement of coal fineness inside the pipe.

EUcoalsizer probe and control unit

Solution

EUcoalsizer solves this problem. The system measures the particle size distribution and the coal and air flow inside a measurement volume that is placed at the tip of an insertable lance. By traversing the lance through the pipe, a spatially resolved distribution along the cross-section of the coal pipe can be measured. The time-of-transition method covers a very wide range of particle sizes from 20 µm to 4 mm. The simultaneous measurement of coal and air flow proves to be an essential prerequisite for fuel line balancing and coal flow optimization.

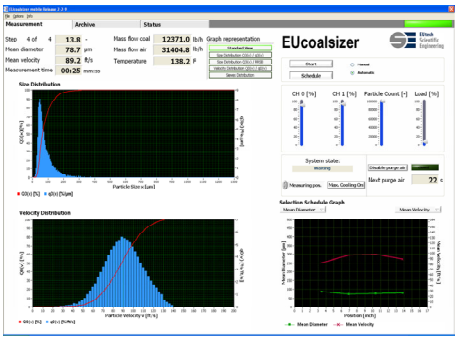
Specifications

The *EUcoalsizer* system comes turn-key and can be directly applied via an adapter to the coal pipe. The system delivers results on-line and instantaneously. Handling is very easy via an intuitive graphical user interface. The system has many helpful features to support analysis and optimization (report generator, data base etc.)

- Rugged industrial design for exposure to highly abrasive flow conditions
- Effective lance length > 1 m (covering pipe diameters up to ~ 625 mm / 25'')
- Probe diameter 51 mm (2'')

Controllable O&M variable	$\Delta\eta_{th}$
Coal fineness	0.4%
Primary air-flow	0.3%
Fuel line balance	0.3%
Particulate-air ratio	0.3%
Carbon-in-ash (LoI)	0.2%
Excess oxygen	0.5%
Total	**~ 2.0%**

Why is coal fineness so important?



EUcoalsizer online analyzer

Benefits

- On-line combustion optimization (Reducing LoI, emissions, slagging)
- Pulverizer performance monitoring
- Condition-based pulverizer maintenance
- Coal flow and air/fuel distribution tuning
- Reduction of fuel consumption

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