

PFMASTER—MASS FLOW AND VELOCITY MEASUREMENT OF PULVERISED FUEL

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- **On-line measurement of pulverised- fuel distribution (PF split), velocity and mass flow rate**
- **Measurement across total pipe cross-section, virtually unaffected by pf roping**
- **Inherent precision and calibration at manufacture. Inherent compensation for rope position in pipe.**
- **Very low maintenance non intrusive system**
- **Safe, non-hazardous operation, designed with Zener barriers guaranteed not to put energy or sparks into the pipe-work. Designed to EExia intrinsic safety.**

The new slim-line Pfmaster has been designed specifically for ease of installation and lower cost. Greenbank are an ABB channel partner and jointly manufacture the PFmaster system.

The technology works by sensing the charge conveyed by pulverised fuel—signal processing ensures a low noise system that has a rapid response and does not need to be smoothed .

Greenbank can guarantee up to 5 years against wear / erosion, together with stability of calibration set at the factory means the lifetime cost of owning Pfmaster is very low—repeated access to PF pipe-work can be expensive.

Probes that intrude into the pipe wear, and often systems that have to be calibrated frequently can require a yearly expenditure which soon outweighs the initial cost of the instrumentation.

If there is a problem with electronics, Zener barriers ensure that no sparks are generated inside pipe-work containing the potentially explosive mixture of pulverised coal and air.



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The potential uses of the PFmaster system

The difficulty in trying to control mal-distribution to burners has been a problem for some time now. Control systems can utilise on-line distribution data to trim secondary air levels to match coal flow, although this does require complex individual secondary air control with sensible limits on the magnitude of any adjustment.

Many believe the most important information from Pfmeters is on-line velocity, where it is critical for any on-line control system to have a rapidly updated and consistent measurement.

Minimising Primary Air, or transport air, through a mill for any given load requires the control system to lower PF transport velocities closer to a point where they can fall out of suspension which is against safety codes of practice.

Minimising primary can have many advantages for the plant operation, the benefits obviously vary depending on plant configuration. Please ask Greenbank for further details on the potential benefits for NO_x, classification and distribution.

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