The PFM 13 C is a highly sensitive system for continuous, tribo-electric in-situ filter monitoring. Thereby a qualitative monitoring of the exhaust gas is done. Depending on the configuration of the device it can be used as a filter monitoring device as well as a dust measuring device.

**Application**

The PFM 13 C serves the permanent control of dust emissions. Applied as filter monitoring device it is an effective implement to detect and localise damages at filtering precipitators at early stage. Configured as dust measuring device it can be used for continuous monitoring of clean gas contents and dust contents of filtering precipitators.

By the device visible and invisible exhaust plumes can be avoided. The monitoring furthermore enables directed maintenance procedures and serves the avoidance of product losses.

**Function**

The measurement with the PFM 13 C is carried out via the tribo-electric measuring method.

For that matter the measuring gas in the exhaust gas flow is gathered by means of the probe rod. By the passing as well as impinging dust particles a charge exchange takes place between these and the probe rod.

From the discharged current a signal is generated which depends on the mechanical and electrical characteristics of the dust. The dust-proportional signal which is generated by the microcontroller integrated in the device is the degree for the dust content of the exhaust.
Technical data

Housing: compact device; IP 65; protection class 1
Dimensions: approx. 100 mm x 120 mm x 530/730 mm (w x h x d)
Weight: approx. 0.9 kg
Probe: tribo-electric probe consisting of probe rod and probe head; probe rod: electrically isolated from housing, length: 300/500 mm (possible to shorten mechanically); immersion depth: approx. 410/610 mm (dependent on application)
Operating: switches at signal module
Ambient temperature: -20...+50 °C
Relative humidity: no special sensitivity
Dew-point spread: min. +5 K
Measuring gas temperature: max. 280 °C
Flow velocity: min. 3 m/s
Measuring range of dust: 0...100% (qualitative)
Amplification levels: 4
Operational availability: immediately after switch-on of power supply
Calibration: by gravimetric comparison measurements (for trend measurement and filter analyses not required)
Analogue output: 4...20 mA, 2-wire transmitter, galvanically isolated to device ground, burden max. 480 Ω
Process connection: welding sleeve with Tri-Clamp fastener
Cable gland / tightening zone: M20 x 1.5 / 9...13 mm
Power supply: 2-wire transmitter (4...20 mA); min. 15 V DC / max. 30 V DC

Special models are possible on request.

Highlights of the device

- dust measurement and filter monitoring with one compact device
- no separate power supply necessary (2-wire transmitter)
- no purge air blower required
- low operational costs
- easy mounting
- first-class price-performance ratio