Filter monitoring device

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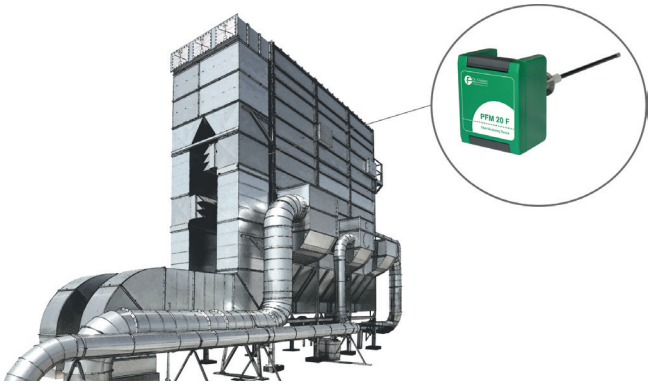
Continuous, tribo-electric in-situ measurement for qualitative monitoring of exhaust gas

The PFM 20 F is certified by TUV for monitoring of particulates in the air flow and can be used as a dust monitor for filter monitoring downstream of filter systems at plants requiring approval (13th BImSchV, 17th BImSchV, 30th BImSchV, 44th BImSchV, TA Luft) as well as at installations according to the 27th BImSchV.

It complies with EN 15859:2010.

PFM 20 F detects reliably even slightest increases in particulate loading, e.g. in case of bag filter leakage. With its alarm features it is ideal for efficient maintenance of dust collectors. The device is also suited for harsh industrial conditions. Measuring ranges can be adjusted.

APPLICATION EXAMPLE



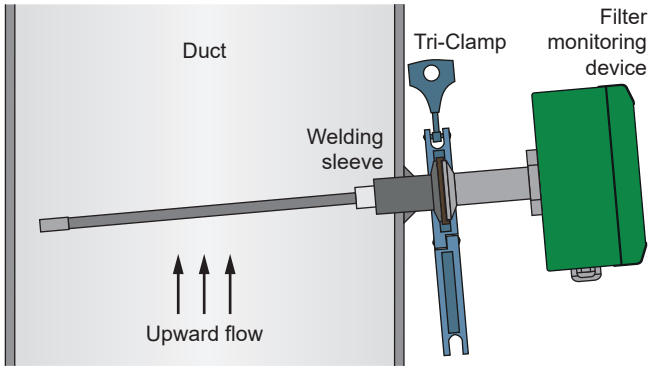
YOUR BENEFITS AT A GLANCE

- suitability tested EN 15267, QAL1 certified
- lowest certificated range 0 - 7.5 mg/m³ dust, max. measuring range 0...250 mg/m³ dust (special range 0...1,000 mg/m³ dust on request)
- automatic zero and reference point check
- compact probe head and coated probe rod
- customizable probe rod lengths and power supply options
- Modbus RS 485, analogue and digital signal output
- robust device and long-term stable measurement results
- connectivity for external display and operation unit (DUx 20; optional)

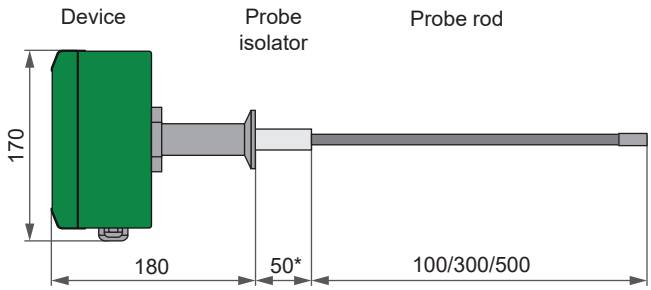
PRECONDITIONS ON SITE

- ambient temperature: -20...+50 °C
- flow velocity of min. 3 m/s
- dew-point spread: min. +5 K
- processing of measuring signals

PROCESS CONNECTION BY TRI-CLAMP



DIMENSIONS



* optional length of isolator: 250 mm

TECHNICAL DATA

Housing:	compact device with aluminium housing; IP 65
Probe:	tribo-electric probe consisting of device, probe isolator and probe rod; coated probe rod, electrically isolated from housing, length: 100/300/500 mm
Dimensions; weight:	130 mm x 170 mm x 330/530/730 mm (w x h x d); 2.1 kg (300 mm)/2.25 kg (500 mm)
Display / Operating:	LEDs and switches at signal module
Operating conditions:	
Exhaust gas temperature:	max. 280 °C
Relative humidity:	no special sensitivity
Measuring range of dust:	raw signal: 0...250 mV (approx. 0...250 mg/m³)
Operational availability:	approx. 1 min after switch-on of power supply
Calibration:	limit value determination possible by gravimetric measurement
Analogue output:	1 x analogue output 4...20 mA for raw signal [mV], galvanically isolated to device ground, burden max. 500 Ω
Digital outputs:	4 x potential-free contacts for failure, maintenance, limit value 1 and limit value 2 / optionally maintenance request; 24 V, 100 mA
Interfaces:	• PC interface (USB, for parameter setting) • Modbus RS 485 according to directive VDI 4201 page 3 • Modbus for optional display/operating device
Process connection:	welding sleeve with Tri-Clamp fastener
Cable gland / tightening zone:	• 1 x M16 x 1.5; • 2 x M12 x 1.5
Power supply:	• 110...240 V AC, 50...60 Hz, fuse 1 AT, 10 W; pre-fuse: min. 1.2 AT • 24 V DC (optional), 10 W; pre-fuse: min. 500 mAT
Optional:	• Display and operation unit (DUx 20)

Special models are possible on request.