

Dust measuring device



Continuous, tribo-electric monitoring of dust concentration in exhaust gas

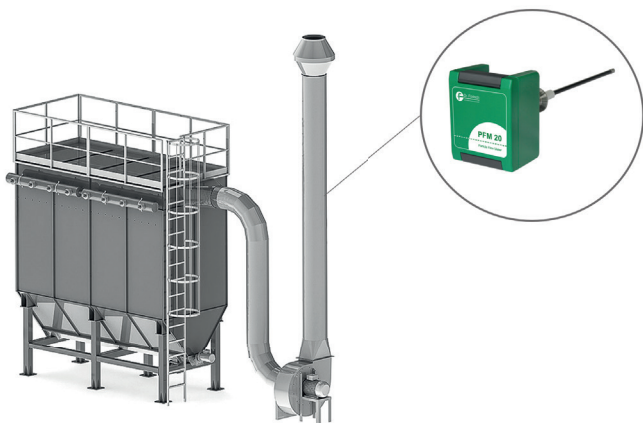
The PFM 20 is a highly sensitive device for continuous measurement of dust emissions. The device meets highest international and European standards.

It is suitable for emission control on waste incineration plants and other combustion plants.

The plug-and-measure device is simple to maintain. The clamp connection allows a quick inserting as well as taking out of the probe which simplifies any kind of service activities like checks or cleaning.

The robust design makes it long lasting (operating time > 10 - 15 years).

APPLICATION EXAMPLE



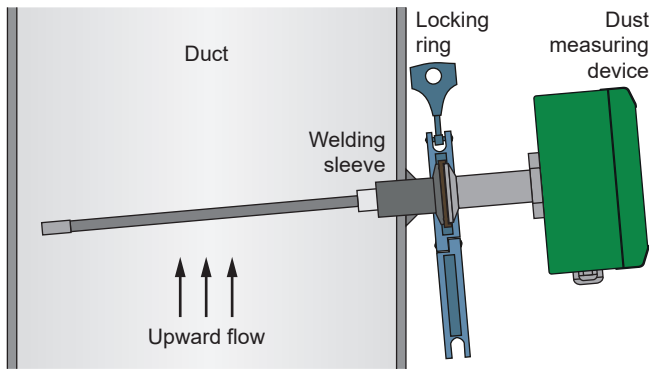
YOUR BENEFITS AT A GLANCE

- lowest certified 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
- robust device and long-term stable measurement results
- probe rod length of about 100, 300, or 500 mm
- different power supply options
- Modbus RS 485, analogue and digital signal output
- connectivity for external display and operation unit (DUX 20; optional)

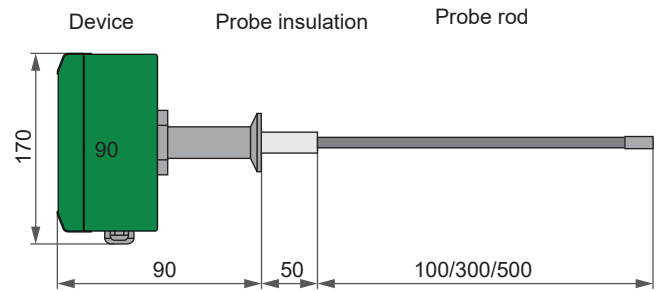
PFM 20 DEVICE VERSIONS

- PFM 20 T - suitable for use in the high-temperature range of up to 1,000 °C
- PFM 20 C - with customizable probe length
- PFM 20 D - with customizable probe length and display

PROCESS CONNECTION BY TRI-CLAMP



DIMENSIONS (mm)



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

TECHNICAL DATA	
Housing:	compact device with aluminium housing; IP 65
Probe:	tribo-electric probe consisting of probe rod and probe head; coated probe rod, electrically isolated from housing, probe rod 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)
Operating conditions:	
Exhaust gas temperature:	max. 280 °C (PFM 20 T up to 1,000 °C)
Relative humidity (air):	no special sensitivity
Measuring range of dust:	raw signal: 0...250 mV; dust concentration: 0...250 mg/m ³ (0...1,000 mg/m ³ on request)
Operational availability:	approx. 1 min after switch-on of power supply
Calibration:	by gravimetric comparison measurements (not required for trend and filter analysis)
Analogue outputs:	2 x 4...20 mA, galvanically isolated to device ground, burden max. 500 Ω; outputs for: <ul style="list-style-type: none"> • dust concentration C_{IB} [mg/m³] • raw signal [mV]
Analogue input:	1 x 4...20 mA for external velocity v [m/s], galvanically isolated to device ground
Digital outputs:	4 potential-free contacts for failure, maintenance, limit value 1 and limit value 2 / optuitability testationally maintenance request; 24 V, 100 mA
Interfaces:	<ul style="list-style-type: none"> • USB interface to PC (for parameter setting) • Modbus RS 485 according to directive VDI 4201 page 3 • Modbus for optional unit (DUx 20)
Process connection:	welding sleeve with Tri-Clamp fastener
Cable gland / tightening zone:	<ul style="list-style-type: none"> • 1x M16 x 1.5; • 2x M12 x 1.5
Power supply:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • Linearity test module (LinTest PFM 20) • Display and operation unit (DUx 20)
<i>Special models are possible on request.</i>	