

Dust measuring device



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

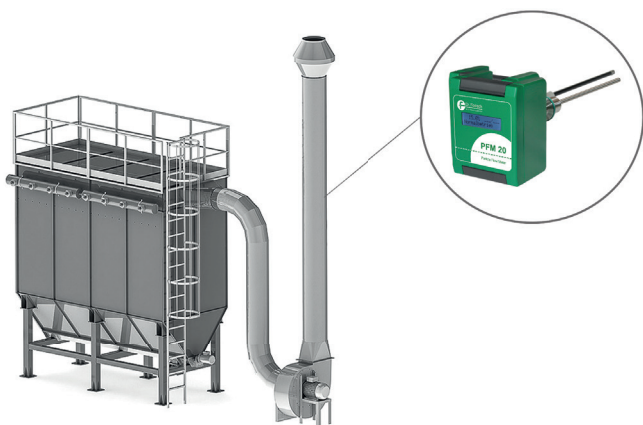
The PFM 20 D based on the certified PFM 20 and is suitable for continuous measurement of dust emissions. For in-situ control the device has a measured values and status display .

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



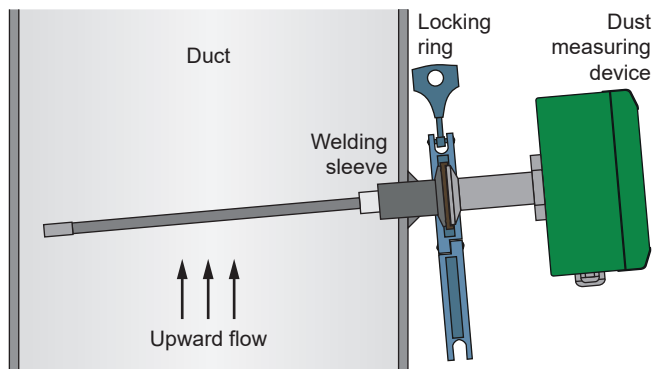
YOUR BENEFITS AT A GLANCE

- robust device design and long-term stable performance
- compact probe head with integrated evaluation electronics
- high-quality triboelectric stainless steel probe rod (round profile)
- configurable length of probe rod and isolator
- variable integration of the measured values
- use at exhaust gas temperatures up to 280 °C (> 280 °C: use of the PFM 20 T)
- two limit values freely definable
- process connection Tri-Clamp connector (> 1,000 mm probe length: flange socket DN 25)
- digital interface and user-friendly software for displaying results and setting parameters
- automatic zero and reference point control adjustable
- display for operation messages and status

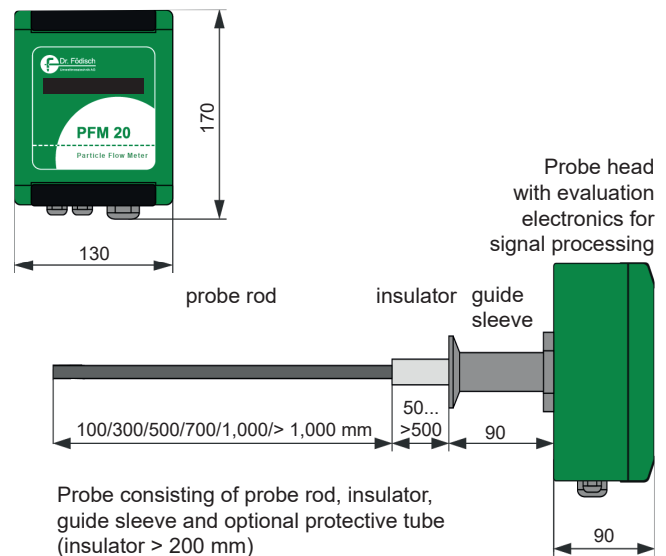
PRECONDITIONS ON SITE

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

PROCESS CONNECTION BY TRI-CLAMP



DIMENSIONS



TECHNICAL DATA

Housing of probe head:	compact device with aluminium housing; IP 65
Probe:	triboelectric probe consisting of probe rod and probe head; probe rod made of stainless steel, electrically isolated from housing, length of probe rod: 100/300/500/700/1,000/> 1,000 mm, length of isolator: 50/100/200/300/400/500/> 500 mm
Dimensions; weight:	130 mm x 170 mm x length of probe rod (w x h x d); e.g. 2.1 kg (probe rod 300 mm)
Operating conditions:	
Exhaust gas temperature:	max. 280 °C
Relative humidity (air):	no special sensitivity, dew-point spread: min. +5 K
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:	1 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]
Digital outputs:	4 potential-free contacts for failure, maintenance, limit value 1 and limit value 2 / optionally 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 connector
Cable glands:	<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 mA
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>	