

Particle flow meter



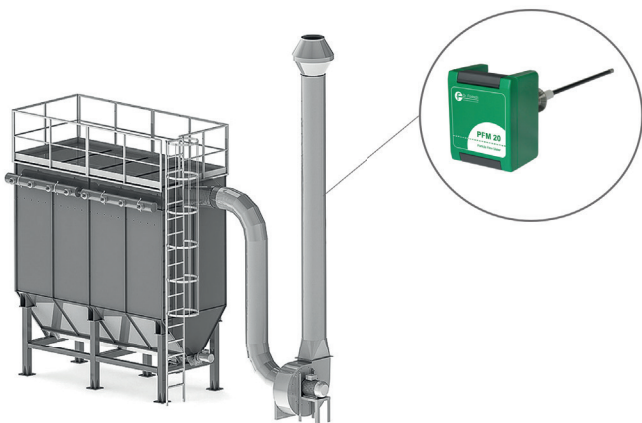
Qualitative triboelectric in-situ dust measurement for process and emissions monitoring

The PFM 20 C is used for continuous, qualitative monitoring of the dust content in flue gases at channels or stacks without insulation. As a filter monitor, it is used for permanent control of dust separators.

The device consists of a probe rod and a compact probe head. It is suitable for chimneys with as well as without insulation. Depending on the configuration, a Tri-Clamp connection or a flange DN 25 is used for the process connection.

The properties and numerous configurations of the PFM 20 C make diverse and demanding applications easily possible.

APPLICATION EXAMPLE



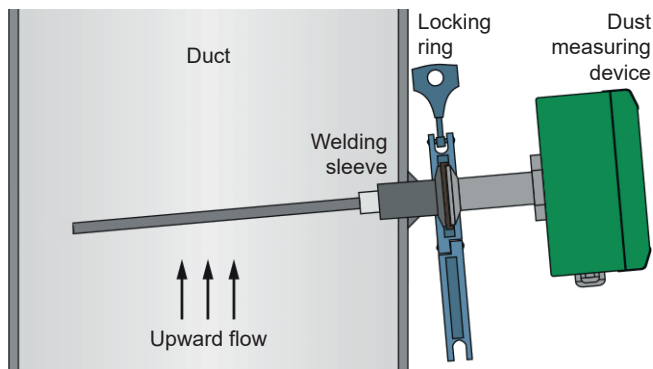
YOUR BENEFITS AT A GLANCE

- 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

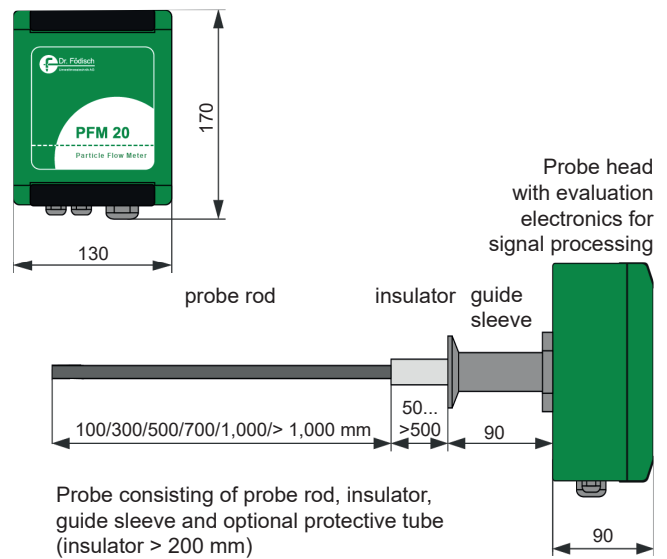
PRECONDITIONS ON SITE

- 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



DIMENSION



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: • dust concentration C _{IB} [mg/m ³] • 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:	• 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:	• 1x M16 x 1.5; 2x 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:	• Linearity test module (LinTest PFM 20) • Display and operation unit (DUx 20)
<i>Special models are possible on request.</i>	