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PFM 97 ED

Product Information

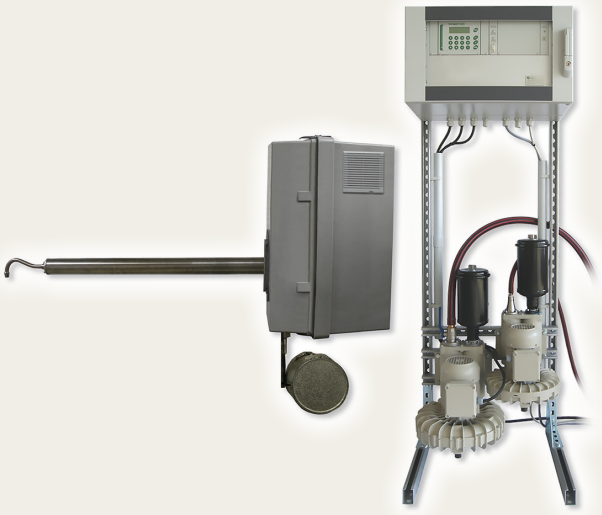
The dust concentration measuring device PFM 97 ED is used for continuous extractive measurement of dust contents in wet and sticky exhaust gases.

Dust concentration measuring

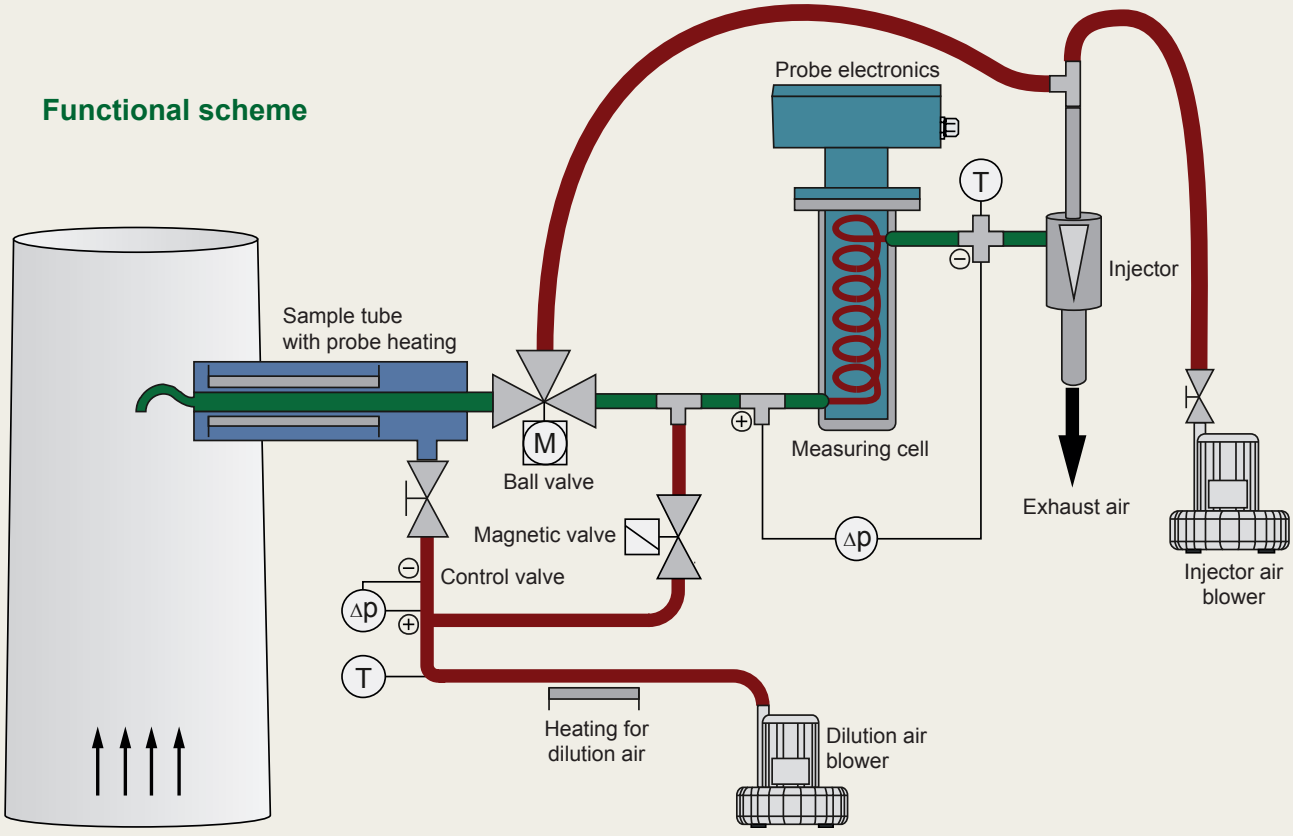
For measurement the measuring gas is sampled from the process by a temperature-controlled probe and conveyed to a measuring cell. The sucked off measuring gas is continuously diluted and dried with hot and dust-free ambient air.

Inside the measuring cell the diluted measuring gas is gathered by means of tribo-electric probes. By the passing as well as impinging dust particles a charge exchange takes place between these and the probes.

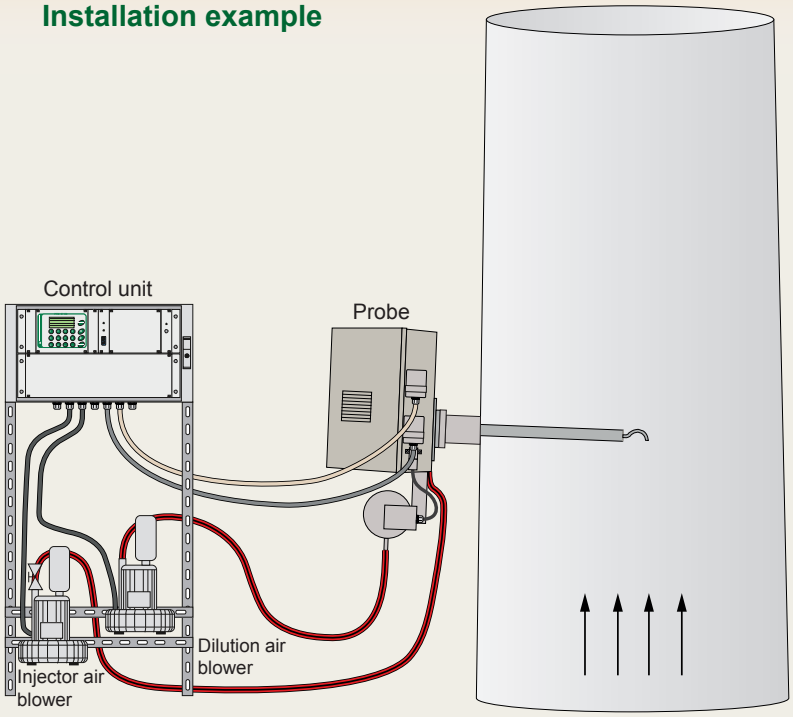
From the discharged current a signal is generated which depends on the mechanical and electrical characteristics of the dust. The dust-proportional signal which is generated by the microcontroller integrated in the device is the degree for the dust content of the exhaust.



Functional scheme



Installation example



Highlights of the device

- extractive dust measurement in wet and sticky exhaust
- special device consisting of probe and control unit
- relatively small required space
- compact device → only 1 sample fitting with integrated or separated return fitting necessary
- display option in mg/m³ by input of calibration parameters
- first-class price-performance ratio

Technical data

Control unit:	steel sheet housing on profile rack (incl. blowers) 600 mm x 1700 mm x 500 mm (w x h x d), approx. 90 kg, IP 65
Probe:	extractive sampling with GRP weather protection casing 600 mm x 700 mm x 1500 mm (w x h x d), approx. 45 kg, IP 55 immersion depth: 1000 mm (standard)
Flange:	DN 80 PN 6, special design: tube ∅ 100 mm
Measuring method:	dust: tribo-electric measurement by sensors, extractive
Measuring range:	dust i. o.: 0...15 mg/m³ (max. 500 mg/m³)
Accuracy:	± 2%
Calibration:	by gravimetric comparison measurement
Display:	4-line LC display
Media temperature:	max. 280 °C (higher temperatures on request)
Exhaust humidity:	rel. humidity: 100%
Pressure on ambience:	-30...+2 hPa
Ambient temperature:	-20...+50 °C
Flow of measuring gas:	6...12 m³/h (sucked off measuring gas and dilution air)
Power supply:	3L, N, PE, 400 V AC 50 Hz, 4 kVA
Analogue outputs:	4 x 4...20 mA, galvanically isolated with combined ground, burden max. 1 kΩ
Digital outputs:	6 x potential-free contact, max. 35 V UC, 0.2 A (for failure, maintenance, maintenance request, limit value 1 and 2, measuring range)
Digital input:	optional, external switch contact for changeover of measuring/purging
Clip contacts:	max. 2.5 mm²

Special models are possible on request.