

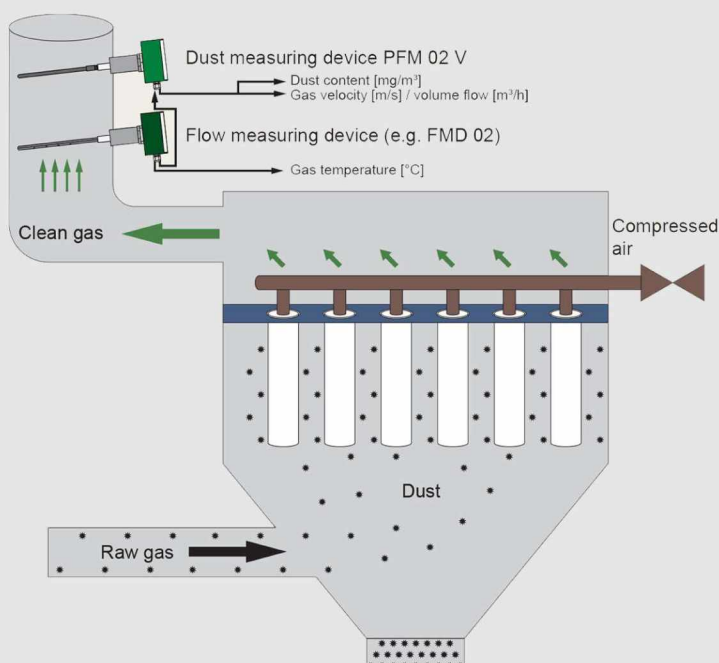
PFM 02 V

Product Information

The PFM 02 V is a highly sensitive continuous qualitative monitoring system for the monitoring of dust emissions. Depending on the configuration of the device it can be used as a filter monitoring device as well as a dust measuring device. For determination of the dust concentration, it is also possible to calculate the calculation of the gas flow velocity is possible.



Installation example



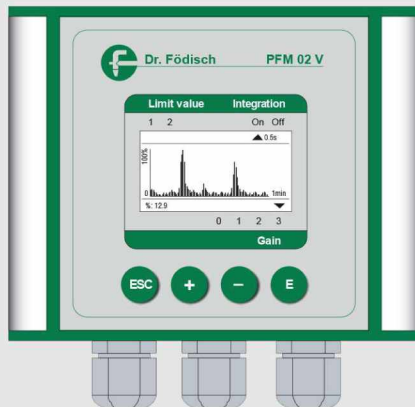
Technology

The measurement with the PFM 02 V is carried out via the tribo-electric measuring method. The measuring gas in the exhaust gas flow is gathered by means of the probe rod. A charge exchange takes place between the probe rod and the passing and impinging dust particles.

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.

After dust concentration velocity has the most influence on the triboelectric charge changeover, so the triboelectric signal must be velocity-compensated. By an additional velocity measuring device integrated in the measuring system (e.g. flow measuring device FMD 02) the velocity of the flowing gas can be determined and calculated separately. As substitute for this, in the PFM 02 V the calculation of an alternative input value is possible..

Operating unit



Features and benefits of the device

- compact device consisting of probe and operating unit → easy mounting
- variable application possibilities through probe rod modification
- local diagnosis of system state by integrated graphic display
- real-time display with line diagram or in text mode with display in % or mg/m³
- possibility to observe the velocity influence (in case of optional additional device)
- first-class price-performance ratio

Technical data

Housing:	compact device (integrated operating unit); IP 65, protection class 1
Dimensions:	standard approx. 160 mm x 160 mm x 510 mm (w x h x d)
Weight:	approx. 2.5 kg
Probe:	tribo-electric probe consisting of probe rod and probe head; probe rod: electrically isolated from housing, standard length: 300 mm (other lengths on request); circular, rectangular or wing profile as option; immersion depth: dependent on application
Display/operating:	graphic display, 4 operating buttons
Ambient temperature:	-20...+50 °C
Relative humidity:	no special sensitivity
Dew-point spread:	min. +5 K
Measuring gas temperature:	max. 280 °C (higher temperatures on request)
Flow velocity:	from approx. 3 m/s
Measuring range of dust:	qualitative: 0...100%; quantitative: 0...10 mg/m ³ (0...1000 mg/m ³)
Gain levels:	4
Velocity measurement (in case of optional additional device):	calculation of analogue 4...20 mA signals of a separate velocity measurement or alternative input of a substitute value
Operational availability:	after approx. 5-15 min
Calibration:	by gravimetric comparison measurements (for trend measurement and filter analyses not required)
Analogue outputs:	2x 4...20 mA (dust, velocity / volume flow), galvanically isolated to device ground, max. burden 500 Ω
Analogue input:	1x 4...20 mA or 2-wire transmitter connection (12 V DC)
Digital outputs:	status signals max. 24 V DC at 0.1 A: failure/maintenance (normally closed, at failure open), limit value 1 and 2 / maintenance request (opening or closing contact selectable); load capacity: max. 60 Vp, max. 75 mA; forward resistance: max. 10 Ω
Process connection:	1" welding sleeve
Cable screw connection/ tightening zone:	3x M20 x 1.5 / 9...13 mm
Power supply:	230/110 V AC, 50-60 Hz, 24 V DC, 3 VA

Special models are possible on request.