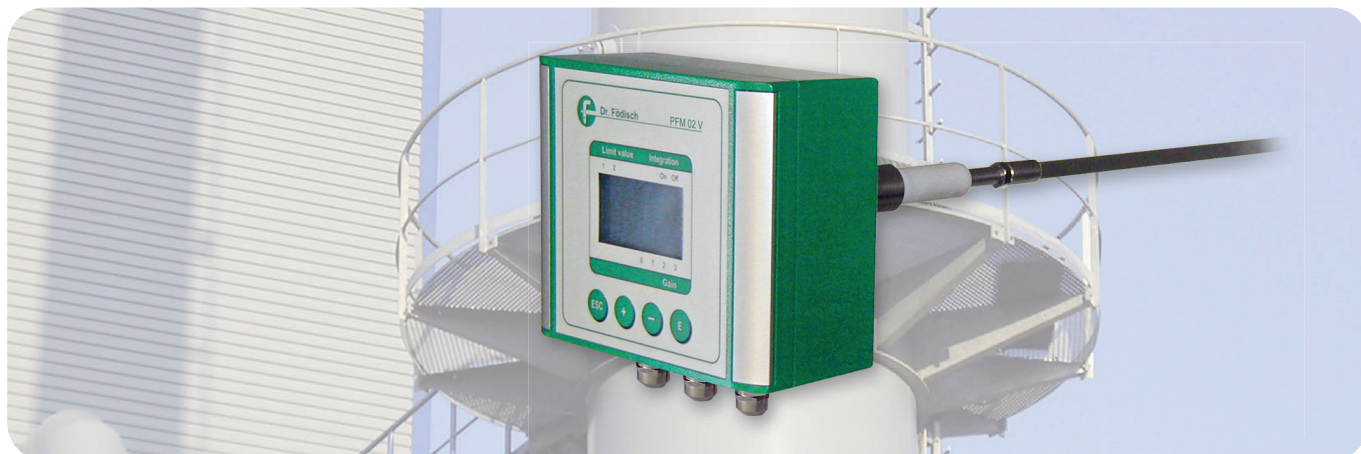


## Dust measuring device



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

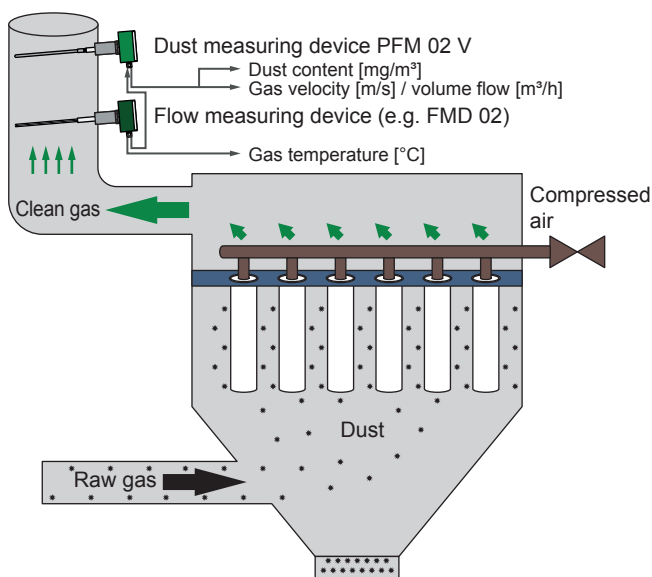
### APPLICATION

The PFM 02 V is a highly sensitive system for continuous measurement of dust concentrations. Since velocity is the second most influence on the tribo-electric measuring principle after the dust concentration, the measuring signal must be velocity-compensated in case of varying flows. That's why an additional velocity measuring device can be integrated into the measuring system (e.g. flow measuring device FMD 02 or FMD 09). Alternatively the PFM 02 V calculates with a substitute input value.

### YOUR BENEFITS AT A GLANCE

- 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 diagram or in text mode with display in % or  $\text{mg}/\text{m}^3$
- input for velocity signal (in case of optional additional device)

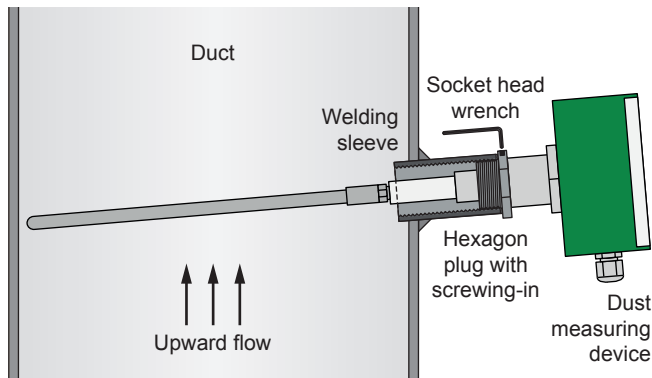
### INSTALLATION EXAMPLE



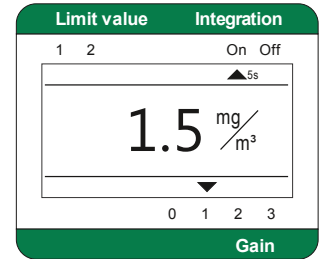
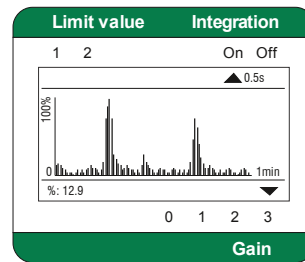
### PRECONDITIONS ON SITE

- ambient temperature:  $-20\dots+50\text{ }^{\circ}\text{C}$
- location free of percussion
- homogenous dust and stack gas distribution
- flow velocity of min. 3 m/s
- dew-point spread: min. +5 K
- installation place with run-in/run-out zone of min. 5-fold/2-fold length of duct diameter

PROCESS CONNECTION



DISPLAY AS GRAPHIC & TEXT MODE



TECHNICAL DATA

Housing:	compact device (integrated operating unit); IP65, protection class 1
Dimensions:	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 (128 x 64 Pixel), 4 operating keys
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)
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
Measuring range of dust:	qualitative: 0...100%; quantitative: 0...10 mg/m <sup>3</sup> (0...1000 mg/m <sup>3</sup> )
Gain levels:	4
Operational availability:	after approx. 5-15 min
Calibration:	by gravimetric comparison measurements (for trend measurement and filter analysis not required)
Analogue outputs:	2x 4...20 mA (dust, velocity / volume flow), galvanically isolated to device ground, burden max. 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 gland / tightening zone:	3x M20 x 1.5 / 9...13 mm
Power supply:	230/110 V AC, 50-60 Hz, 24 V DC, 3 VA
<i>Special models are possible on request.</i>	

