



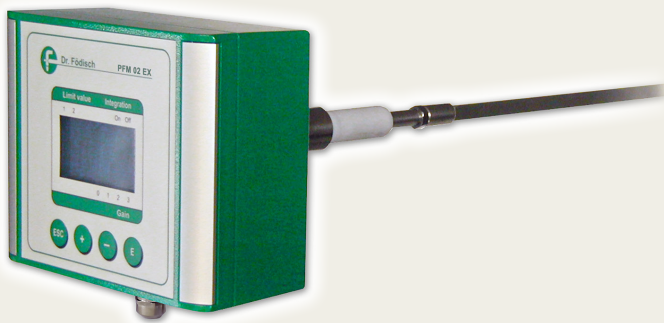
## PFM 02 EX

### Product Information



The PFM 02 EX is a highly sensitive system for continuous, tribo-electric in-situ filter monitoring. Thereby a qualitative monitoring of the exhaust gas is done. Depending on the configuration of the device it can be used as a filter monitoring device as well as a dust measuring device.

For application in potentially explosive atmospheres the PFM 02 EX has the EC-type examination certificate according to EN 60079.



Via the integrated graphic display the PFM 02 EX provides real-time monitoring of dust emissions.

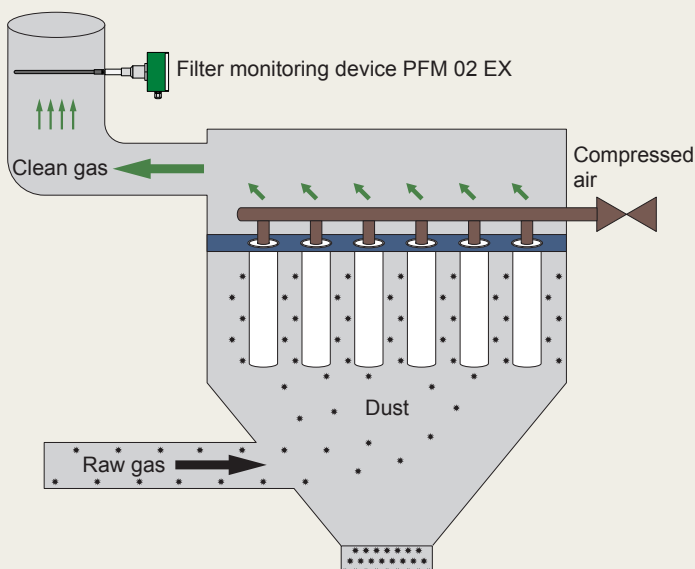
At target value calibration at input of a known average dust content in operating state the convenient calibrating factors are automatically determined and the quantitative dust content is output.

### Application

The PFM 02 EX serves the permanent control of dust emissions. Applied as filter monitoring device it is an effective implement to detect and localise damages at filtering precipitators at early stage. Configured as dust measuring device it can be used for continuous monitoring of clean gas contents and dust contents of filtering precipitators.

By the device visible and invisible exhaust plumes can be avoided. The monitoring furthermore enables directed maintenance procedures and serves the avoidance of product losses.

### Installation example



### Function

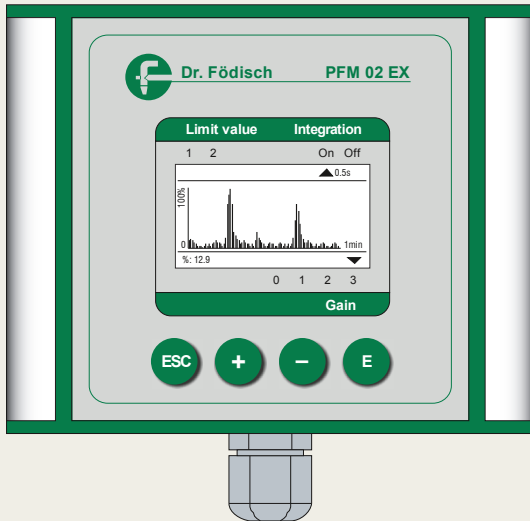
The measurement with the PFM 02 EX is carried out via the tribo-electric measuring method.

For that matter the measuring gas in the exhaust gas flow is gathered by means of the probe rod. By the passing as well as impinging dust particles a charge exchange takes place between these and the probe rod.

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.



## Operating unit



## Highlights of the device

- compact device consisting of probe and operating unit → no separate operating device necessary
- 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/m<sup>3</sup>
- no purge air blower required
- low operational costs
- easy mounting
- first-class price-performance ratio

## Technical data

Housing:	compact device (integrated operating unit); IP 65, protection class 1
Dimensions:	approx. 160 mm x 160 mm x 510/710 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: 400 mm as standard (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. 250 °C
Flow velocity:	from approx. 3 m/s
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 analyses not required)
Analogue output:	4...20 mA, galvanically isolated to device ground, max. burden 500 Ω
Digital outputs:	status signals max. 24 V DC at 0.1 A (for failure, maintenance, maintenance requirement, limit value 1 and 2); load capacity: max. 60 Vp, max. 75 mA; forward resistance: max. 10 Ω
Process connection:	1" welding sleeve
Cable screw connection/ tightening zone:	1x M20 x 1,5 / 9...13 mm
Power supply:	24 V DC
EC-type examination certificate:	EN 60079, ATEX directive; IExU04ATEX1249 X, approved for Ex II 1/3D Ex ia/tc IIIC T74 °C Da/Dc or Ex II 3G Ex ic nA IIC T4 Gc