

Residual dust sensor

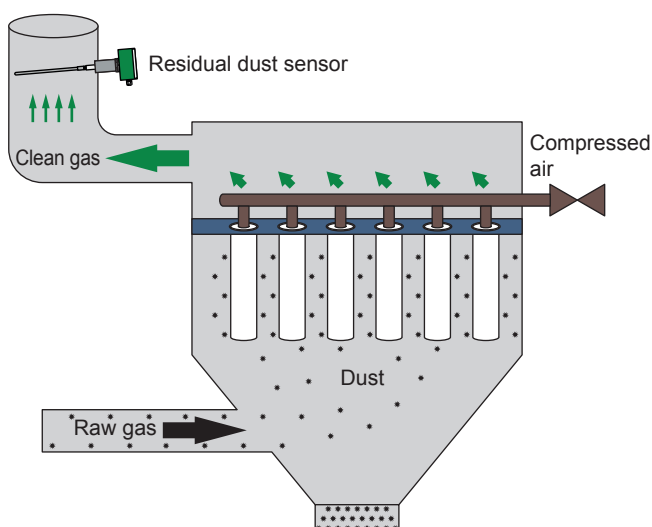


Continuous, tribo-electric in-situ filter monitoring for woodworking industry

APPLICATION

The residual dust sensor PFM 02 HB, purpose-built for the woodworking industry, is developed for the monitoring of filter systems with air recirculation. With the safety function “save monitoring of residual dust content” it meets the demands of category B and Performance Level PI b according to EN ISO 13849-1.

INSTALLATION EXAMPLE



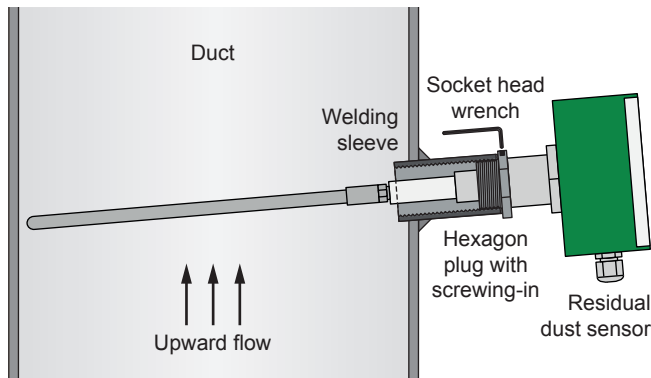
YOUR BENEFITS AT A GLANCE

- monitoring of air recirculation
- recirculated-air operation at filter systems possible
- reduction of heat energy
- compact device consisting of probe and operating unit
- no purge air blower required
- low operational costs
- easy mounting
- very low maintenance requirement

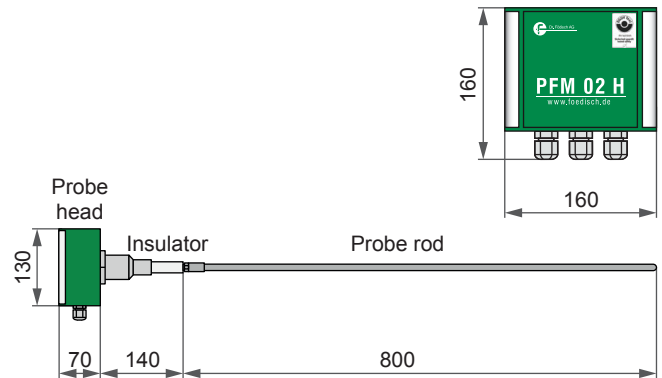
PRECONDITIONS ON SITE

- ambient temperature: -10...+35 °C
- location free of percussion
- homogenous dust and stack gas distribution
- flow velocity approx. 4...12 m/s
- installation place with run-in/run-out zone of min. 5-fold/2-fold length of duct diameter
- power supply
- processing of measuring signals

PROCESS CONNECTION



DESIGN & DIMENSIONS



TECHNICAL DATA	
Housing:	compact device consisting of probe rod and electronics; IP65, protection class 1
Dimensions:	approx. 160 mm x 160 mm x 1010 mm (w x h x d)
Weight:	approx. 2.1 kg
Probe:	tribo-electric probe consisting of probe rod and probe head; probe rod: electrically isolated from housing, circular profile, probe rod length / immersion depth: approx. 800 mm
Ambient temperature:	-10...+35 °C
Dew-point spread:	min. +5 K (no bedewing of the isolator permissible)
Flow velocity:	approx. 4...12 m/s
Measuring range of dust:	qualitative: 0...100%
Operational availability:	after approx. 30 s
Analogue output:	only for zero point setting, 4...20 mA, galvanically isolated to device ground, burden max. 500 Ω
Digital outputs:	3x status signal max. 24 V DC at 0.1 A: • concentration > 0.1 mg/m ³ , warning • concentration > 0.3 mg/m ³ , alarm 1 - recirculated-air shutoff / filter break • alarm 2 - measuring range exceedance / system shutoff contacts normally closed, in case of warning/alarm open; load capacity: max. 60 Vp, max. 75 mA; forward resistance: max. 10 Ω
Data transfer:	transmission of filter status data to the control of the filter system, interval: 0.25 h (special software at the control of the filter system necessary)
Process connection:	1" welding sleeve
Cable gland / tightening zone:	1x M20 x 1.5 / 9...13 mm
Power supply:	24 V DC ±20%, max. 0.25 A, 6 VA; pre-fuse 0.5 AT
<i>Special models are possible on request.</i>	