Flow measuring device

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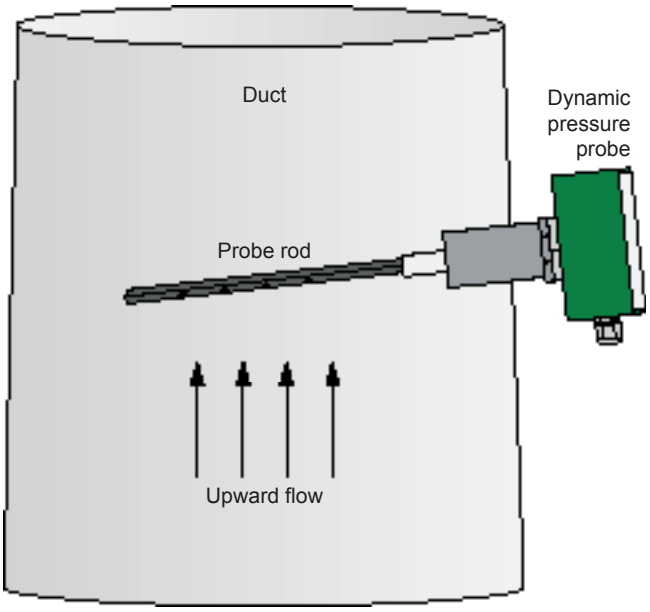
Continuous in-situ measurement of velocity and temperature of gas flows in pipelines

APPLICATION

The use of the measuring principle of dynamic pressure and PT100 assures a device which is easy in design and operating as well as the realtime monitoring of the measuring parameters.

The operating and display unit is integrated in the probe head. On the high-quality display all measuring values, status information and parameters are displayed.

INSTALLATION EXAMPLE



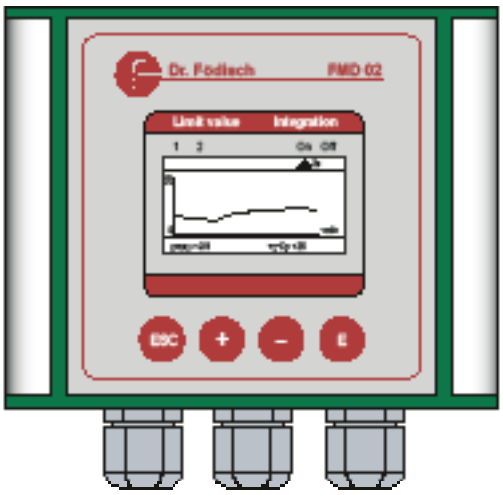
YOUR BENEFITS AT A GLANCE

- compact device consisting of probe and operating unit → no separate operating device necessary
- local diagnosis of system state by integrated graphic display
- real-time display with line diagram
- readout of volume flow at standard reference conditions possible
- easy mounting
- very low maintenance requirement

PRECONDITIONS ON SITE

- ambient temperature: -20...+50 °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

OPERATING UNIT



FUNCTION

The continuous measurement of velocity and temperature of gas flows is very important in the operation of a system with flowing gases (e.g. hall outlet air, exhaust etc.).

By the dynamic pressure probe the measuring gas is measured in the exhaust flow. Thereby the differential pressure is continuously measured. The signal which results from the differential pressure is a degree for the velocity of the exhaust. The microcontroller integrated in the device generates a proportional signal and evaluates the volume flow.

TECHNICAL DATA

Housing:	compact device (integrated operating unit); IP65, protection class 1
Dimensions:	approx. 160 mm x 160 mm x 655 mm (w x h x d) (standard)
Weight:	approx. 2.5 kg
Probe:	dynamic pressure probe with integrated PT100; immersion depth: 500 mm (standard)
Display / Operating:	graphic display (128 x 64 Pixel), 4 operating keys
Ambient temperature:	-20...+50 °C
Relative humidity:	no special sensitivity respective to atmospheric humidity
Dew-point spread:	min. +5 K
Media temperature:	max. 280 °C (higher temperatures on request)
Flow velocity:	from approx. 3 m/s
Measuring ranges:	• velocity: 0…40 m/s • volume flow: 0...1.000.000 m³/h • differential pressure: 0...10 mbar (standard) • temperature: 0...300 °C
Operational availability:	after approx. 5-15 min
Analogue outputs:	2x 4...20 mA; selection of following measurands: velocity, volume flow, difference pressure, temperature and optionally absolute pressure; burden: max. 500 Ω
Digital outputs:	status signals max. 24 V DC at 0.1 A: failure (normally closed, at failure open), limit value 1 and 2 (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:	110/230 V AC, 50-60 Hz, 24 V DC, 5W

Special models are possible on request.

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