

# FMD 02

## Product Information

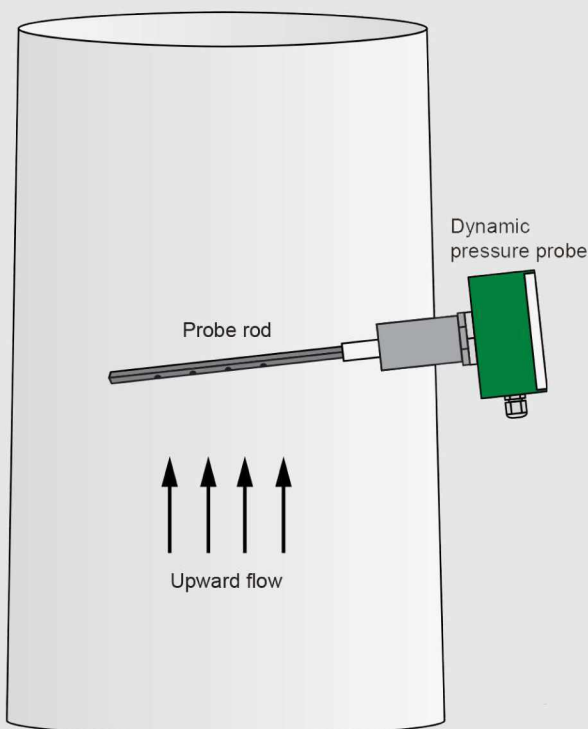
The flow measuring device FMD 02 is a highly sensitive system for continuous in-situ measurement of the velocity and temperature of gas flows in pipelines.

## Features

The use of the measuring principle of dynamic pressure and PT100 ensures a device which is easy to operate as well as enabling 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. Furthermore, a real-time display as a line diagram is possible.



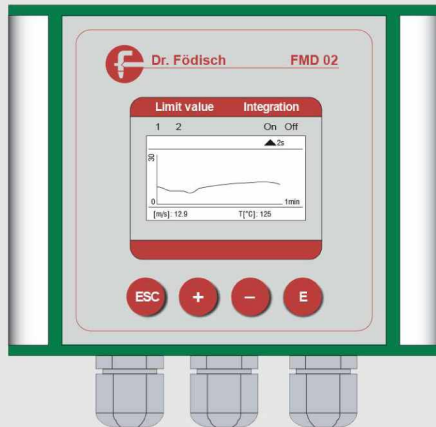
### Installation example



### Technology

The continuous measurement of velocity and temperature of gas flows is important in an operation of a system with flowing gases (e.g. hall outlet air, exhaust etc.). At emission the current concentration measurements are determined. For the translation to absolute emitted masses the volume is necessary; this is calculated through the gas velocity. 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.

### Operating unit



### Features and benefits of the device

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

### Technical data

Housing:	compact device consisting of probe and operating unit; IP 65, protection class 1
Dimensions:	as standard approx. 160 mm x 160 mm x 655 mm (w x h x d)
Weight:	approx. 2.5 kg
Probe:	dynamic pressure probe with integrated PT100; immersion depth: 500 mm (standard)
Display/operating:	graphic display, 4 operating buttons
Ambient temperature:	-20...+50 °C
Atmospheric humidity:	no special sensitivity
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:	2 x 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 screw connection/ 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.*