

Volume flow measuring system

Measuring system for ultra-sonic measuring of velocity and volume flow, especially for wet and aggressive smoke emissions (waste incineration).

Features

- In-situ measuring method
- Measurement possible below dew point and for high dust concentrations
- Continuous measurement of normal volume flow and gas velocity
- Automatic zero point and reference point control
- Direct connection for temperature and pressure correction
- Parameter input via keyboard or PC
- Continuous temperature measuring.

Applications

- Volume flow measuring at low speeds
- Plants with damp and/or aggressive exhaust gas, e.g. in waste incineration plants.
- Volume flow measurement at high dust content.

Approvals

- Suitability-tested by the TÜV Hamburg, test report 99CU019
- Itemized in the list of suitable measuring devices for continuous emission measuring
- MCERTS.



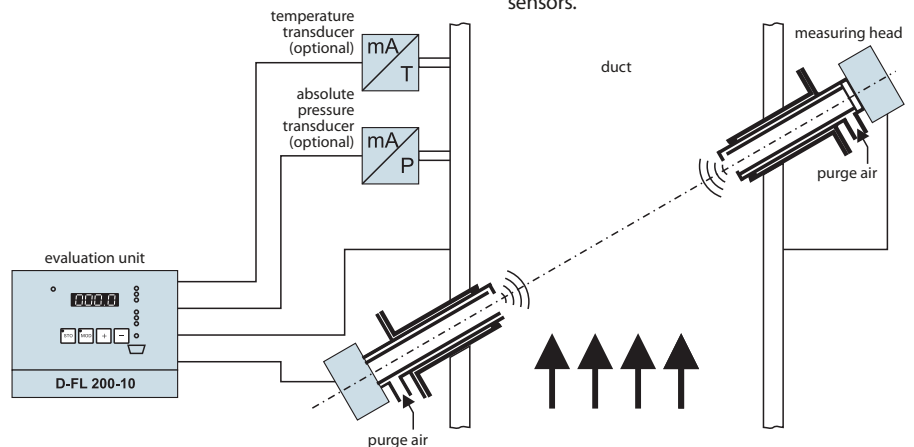
Measuring principle

The D-FL 200 measuring system works according to the acoustic transit time differential method. Ultrasonic transducers mutually send and receive short pulses with and against the gas flow direction which affects their transit time. The volume flow is calculated from the difference of transit times.



System components

- 2 mounting flanges (Mat. 1.4571)
- 2 measuring heads
- Evaluation unit **D-FL 200-10** with housing
- Purge air unit for cleaning and cooling the sensors.



measurements	flue gas velocity, volume flow ¹⁾ , temperature	detection limit	<0.3% of measuring range
measuring ranges	0-3000000 m ³ /h / 0-40 m/s 0-400°C	reference point drift	<0.3% of measuring range/month
measuring principle	acoustic propagation delay	zero point drift	<0.2% of measuring range/month
flue gas temperature	0-200 °C, optional higher	supply voltage	115 / 230 VAC, 50 / 60 Hz, 50 VA
flue gas pressure	-50 up to +20 hPa, optional higher	dimensions	standard measuring head: 190 Ø x 570 mm
duct diameter	0.7-10 m, temperature dependent	weight	17 kg
ambient temperature	-20 up to +50 °C	remarks	¹⁾ optional pressure and temperature correction
protection	IP65	purge air supply	
measuring outputs	2 x 0 / 4-20 mA / 500 Ohm, optional Modbus RTU, Profibus DP	purge air quantity	approx. 80 m ³ /h
digital outputs	3 relay outputs, permissible load 250 V, 100 VA	supply voltage	115 / 230 V, 50 / 60 Hz, 0.37 / 0.43 kW
digital inputs	none	dimensions weight	350 x 550 x 500 mm 12 kg
accuracy	<2%	protection	IP54

