

Dust concentration monitor for wet gases

System for continuous extractive dust concentration measurement in accordance with the scattered light principle

Features

- Compact design
- Very low maintenance requirement
- High sensitivity
- Automatic zero and reference point check
- Automatic contamination control and correction

Applications

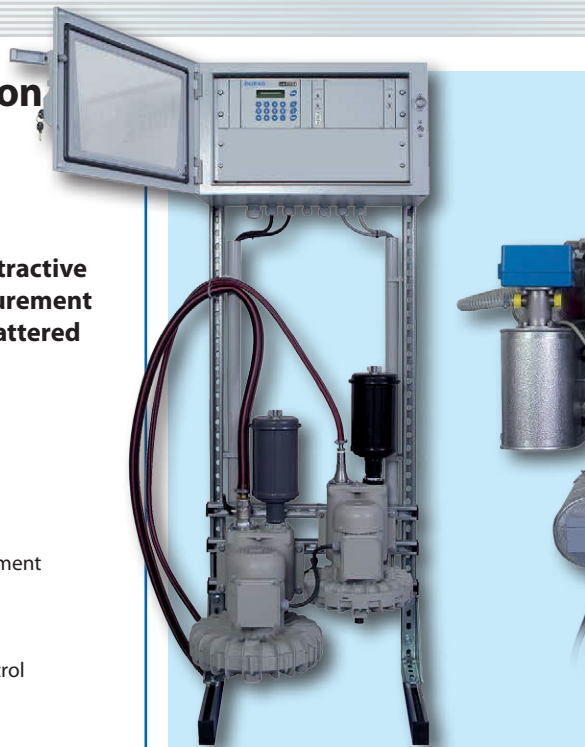
The D-R 820 F is used for measuring dust concentration in wet gases.

Potential applications e.g.:

- Measurements in saturated gas downstream of desulfurization plants
- Downstream of wet cleaning plants
- Waste incineration plants
- Technological processes

Approvals

- Approved and certified acc. to EN 15267-3
- Suitability-tested by the TÜV Cologne, test report 936/21210225/A
- MCERTS



Measuring principle

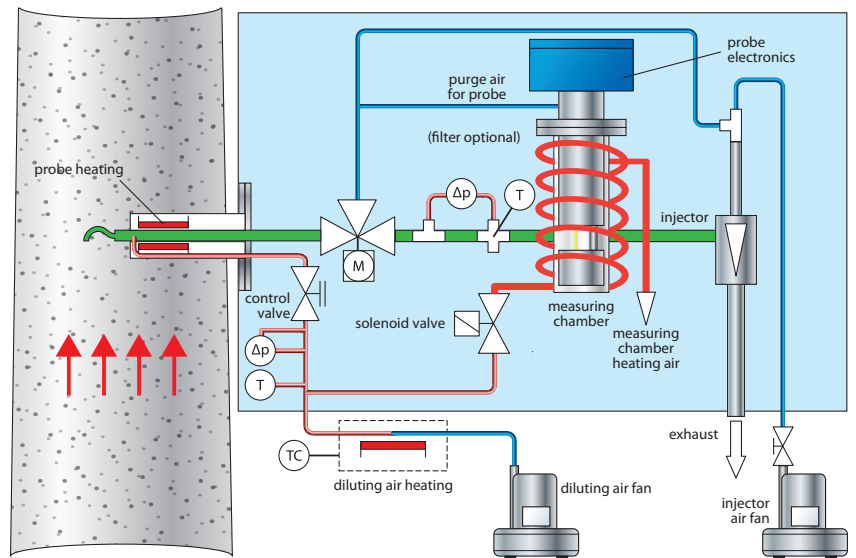
A defined partial current is withdrawn from the exhaust gas current. This partial current is continuously heated and diluted with clean, heated air directly in the sampling probe. This immediately lowers the relative moisture and aerosols get evaporated in the heated

probe. The partial current is optically measured in the measuring chamber. The signal is corrected by the measured dilution ratio and is thus a measure of the dust content of the exhaust gas.

The system comprises a special sampling probe, the laser dust monitor, a gas conditioning unit (dilution, tempering), an injector, two fans and an electronic evaluation unit.

The sampling probe and the measuring chamber form an assembly. The electronic evaluation unit and one blower for operating the injector and one for generating the diluting air are mounted together on a rack frame.

System components



Measuring range		Rack frame with control unit	
dust in operation	0 ... 15 (max. 100) mg/m ³ higher on request	dimensions (w x h x d)	600 x 1750 x 550 mm
exhaust gas moisture limit value	>100 % relative humidity, max. 30g/m ³ H ₂ O as aerosol	space requirements (w x h x d)	1100 x 1750 x 1100 mm
Probe unit		weight	approx. 90 kg
dimensions including probe (w x h x d)	600 x 1050 x 1500 mm	protection class	IP55
length	1000 mm	ambient temperature	-20 ... 50 °C
weight	approx. 40 kg	power supply	230/ 400 V, 50 Hz, 3x 16 A, 3 L, N, PE others optional
probe material	stainless steel, Hastelloy as option	Connections on control unit	
protection class	IP65	current outputs	4x 4 ... 20 mA/ 1 kOhm
ambient temperature	-20 ... 50 °C	digital contacts	6x max. 35 V, 0.4 A
measuring gas temperature	max. 280 °C	digital input	optional via switching contact to externally change between measuring/ purging
measuring air flow rate	8 ... 10 m ³ /h		
flange	DN 80 PN 6 special version tube Ø100 mm		

