

Measuring device for smoke spot number

Extremely sensitive device for measuring smoke spot number

Features

- In-situ measurement directly in the flue gas flow
- Automatic system tests and correction of measured values
- Self-calibration in 4-h cycle
- Optics and electronics in a hermetically sealed unit - no smoke gas can enter device
- Maintenance-friendly, thanks to optimal purge air conduction in front of the heated optical end plates
- Direct access to all parameters via the operator display

Applications

- Smoke spot number measurement in furnaces designed for light fuel oil

Approvals

- Suitability-tested by the TÜV Cologne, test report 936/800002
- MCERTS



Measuring principle

The D-R 300 operates according to the scattered light method. The modulated light from a halogen lamp illuminates the dust particles in the exhaust duct. The scattered light reflected from these particles is measured and assessed.

Specifications

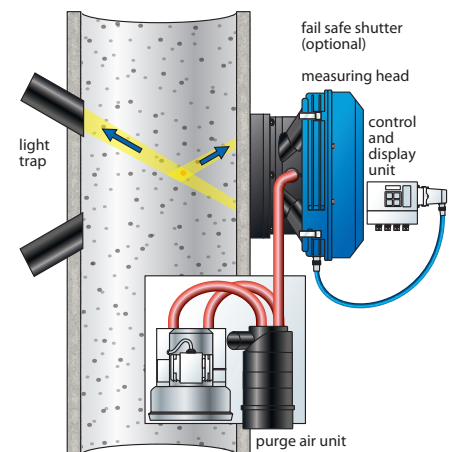
- Measuring range: smoke spot number 0-3. Limit value II can be set as delayed disconnected contact
- Calibration: VDI 2066, part 8.

System components

- Measuring head
- Mounting flange
- Control and display unit
- Light traps
- Purge air unit

Options

- Weather protection covers
- Fail safe shutter to protect measuring device in the event of failure of the purge air supply
- Halar flange coating
- High temperature option up to 500 °C with additional redundant blowers



measurements	smoke spot number	detection limit	<1% measuring range
measuring ranges	smoke spot number 1...3 (5)	power supply	115/ 230 VAC, 50/ 60 Hz, 50 VA
measuring principle	back scattering	dimensions (h x w x d)	measuring head 565 x 310 x 200 mm
flue gas temperature	above dew point up to 320 °C, optionally higher	weight	18 kg
flue gas pressure	-50 ... +20 hPa	purge air supply	
duct diameter	0.3 to 4 m	purge air quantity	approx. 80 m ³ /h
ambient temperature	-20 ... +50 °C	power supply	115/ 230 VAC, 50/ 60 Hz, 0.37/ 0.43 kW
protection	IP65	dimensions (h x w x d)	350 x 550 x 500 mm
measuring outputs	2x 0/ 4 ... 20 mA/ 500 Ohm, optional measuring range switching	weight	12 kg
digital outputs	3 relay outputs, permissible load 48 V/ 0.5 A	protection	IP55
digital inputs	1 potential free input		