

Extractive dust concentration monitor

Dust monitor especially for wet flue gases and for the monitoring of blast furnace gas

Features

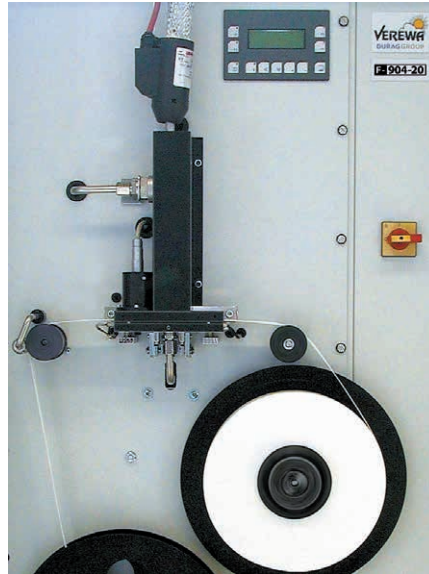
- Automatic zero correction
- Pre-calibrated, unaffected by particle size, colour or moisture
- Isokinetic sampling
- Measurement of very low dust concentrations

Applications

- Emission dust measurement after wet scrubbers or in very wet exhaust gases
- Coal and oil-fired power stations
- Waste incineration plants (municipal waste, industrial waste and hazardous waste)
- Sewage sludge incineration plants
- Heavy metal analysis
- Emission dust measurement in inaccessible flues with small diameter
- Dust concentration measurements in process applications

Approvals

- Suitability-tested by the RW TÜV, test reports 3.5.2/209/88-338529 and 252/740/94577412



System components

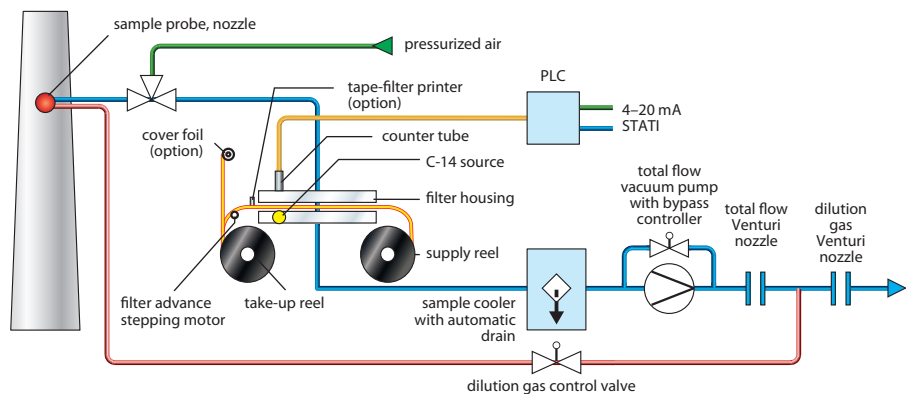
- Measuring device with PLC control in protective cabinet
- Heated sample probe with titanium sample nozzle
- Heated sampling line
- Filter tape in gas-proof filter holder

Options

- Heated dilution line for high dust concentrations or after wet scrubbers
- Dust sampling option for heavy metal analysis
- Special design F-904-20/BFG for measurement of the dust concentration in toxic and explosive blast-furnace or converter gas with shut-off valves for the sample gas during filter transport and with purge gas (usually nitrogen) for line back purging

Measuring principle

Exhaust gas laden with particles is extracted from the duct and diluted. The sampling gas passes a filter. A ¹⁴C source irradiates the particle laden filter spot. The absorption by the dust is measured and compared with the empty filter spot.



measurements	dust concentration	digital outputs	11 relay outputs, permissible load 24 V/ 25 VA
measuring ranges	0 ... 500 mg/Nm ³	digital inputs	2 potential free inputs
measuring principle	beta ray absorption	detection limit	<0.1 mg/Nm ³
flue gas temperature	0 ... 250°C, optional up to 500 °C	power supply	115/ 230 VAC, 50/ 60 Hz
flue gas pressure	-100 ... +100 hPa	dimensions (h x w x d)	1600 x 800 x 800 mm
duct diameter	>0.5 m	weight	250 kg
ambient temperature	0 ... +40 °C	measuring outputs	2x 0/ 4..20 mA/ 500 Ohm
protection	IP43 (with filter blower)	purge air supply	pressurized air 6 ... 8 bar

