

## Extractive beta gauge particulate monitor

**Dust monitor especially for wet flues - emission temperature under dew point - and for the monitoring of blast furnace gas.**

### Features

- Automatic zero correction
- Pre-calibrated, unaffected by particle size, colour or moisture
- Sample gas flow regulated at 1 - 3 m<sup>3</sup>/h
- Isokinetic sampling
- Optional dilution sample probe for high concentrations or after wet scrubbers
- Heavy metal analysis possible
- Special model with measuring chamber purging and CO-TLV monitoring during dust monitoring of blast furnace gas.

### Applications

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

### Approvals

- Suitability-tested by the TÜV Essen, test report 3.5.2/209/88-338529
- Itemized in the list of suitable measuring devices for continuous emission measuring
- Type approval: HH 1/98
- PTB test certificate no. 6.22-R202.

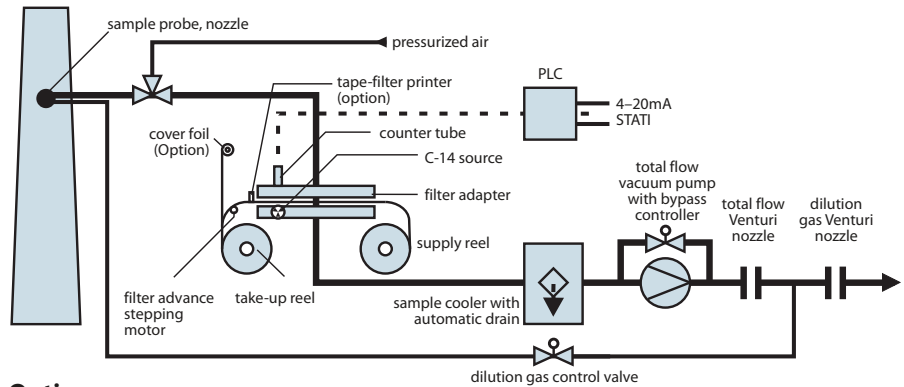


### Measuring principle

Determination of the dust concentration by measuring the absorption of beta rays emitted by a radioactive emitter by particles collected from an exhaust gas flow.

### System components

- Heated sample probe (material 1.4571 or titanium), with or without dilution
- Heated sample line in 1.4571
- Filter tape in gas-tight filter holder
- <sup>14</sup>C emitter and detector (Geiger-Müller counter)
- Sample gas cooler
- PLC control, also for calculating the concentration from the dust content.



### Options

- Special design **F-904-20/BFG** for measurement of the dust concentration in toxic and explosive blast-furnace gas with shut-off valves for the sample gas during filter transport and with purge gas (usually nitrogen) for line back purging. A CO detector is also provided, which closes all gauge connections to the process gas if the CO threshold limit value is exceeded and gives an alarm
- Filter tape printer and protective sheet for specimens in heavy metal analyses.

measurements	dust concentration	detection limit	<0.3 mg/Nm <sup>3</sup>
measuring ranges	0-1 ... 0-1000 mg/Nm <sup>3</sup>	reference point drift	<1% of measuring range/month
measuring principle	beta ray absorption	zero point drift	automatic zero point correction
flue gas temperature	0-250°C, optional up to 500°C	supply voltage	115 / 230 VAC 50 / 60 Hz, 5 kVA
flue gas pressure	-100 up to +100 hPa	dimensions (h x w x d)	1600 x 800 x 800 mm
duct diameter	>0.5 m	weight	300 kg
ambient temperature	0 up to +50°C, cooler optional	purge air supply	pressurized air 6-8 bar
protection	IP43 (with filter blower), upgradable to IP54		
measuring outputs	2 x 0 / 4-20 mA / 450 Ohm		
digital outputs	11 relay outputs, permissible load 24 V / 25 VA		
digital inputs	2 potential free inputs		
accuracy	<5% of measuring range	option	dust monitoring of blast furnace gas

