F-701-20
Beta Gauge Particulate Monitor

A measuring device for the continuous monitoring of the smallest concentration of particles in the ambient air (fine dust).

FEATURES

- C-14 method, no measurable decrease in activity
- Lowest radioactivity of all beta gauges, usable without licence, or disclosure
- Automatic zero correction
- Pre-calibrated, no site-specific calibration required
- Mass-flow controlled sample flow 1m³/h
- Extraction of a constant sample flow, irrespective of the ambient temperature
- Repeated collection on the same spot, collected particles available for heavy metal analysis
- RS-232 interface and analog output, status signals

APPLICATIONS

- Immissions measuring systems for monitoring fine dust
- Mobile immissions-measuring
- Dust measurement in health and safety applications
- Interior dust measurements
- Measurement and collection of dust particles for heavy metal analysis
- Long-term background studies in ambient dust concentration
- Dust measurement and collection at problem sites and repositories
- Dust measurement for secondary emission of repositories (e.g. coal).
- Dust measurement in supply air and exhaust ducts.

APPROVALS

- Type-tested by TÜV.

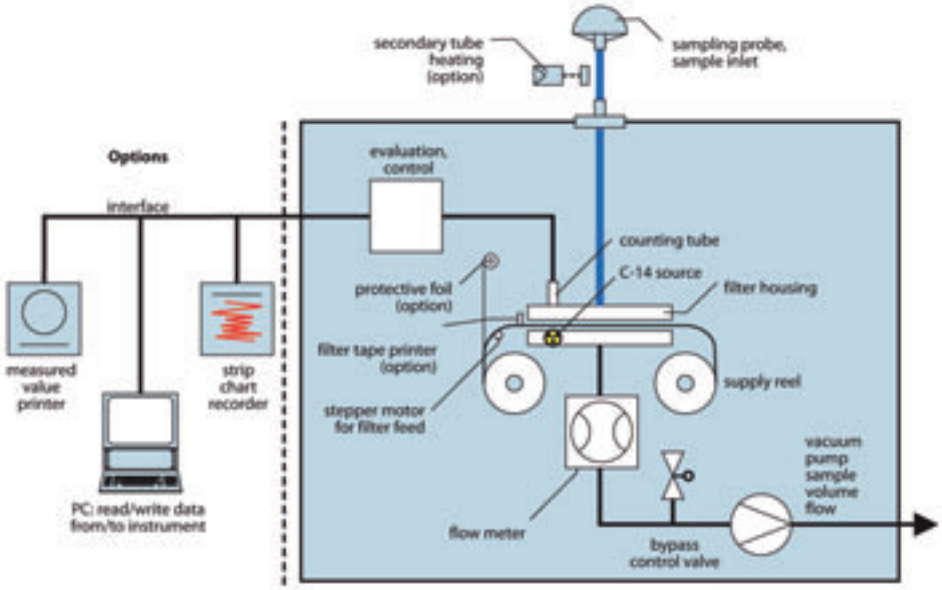
MEASURING PRINCIPLE

The measuring principle of the F-701-20 ambient dust monitor is based on the absorption of the beta rays (electrons) emitted by a radioactive emitter through particles collected from an ambient air flow. In the F-701-20 the pulse rate of the unloaded filter tape is measured before each collecting cycle, then dust is collected on this precise filter spot over a pre-defined period, and finally the pulse rate of the loaded filter tape is measured. The difference between the two pulse rates is evaluated in the device and displayed as dust concentration in µg/m³.

OPTIONS

Further sample inlets:

- PM-2.5 (accordant EN 12341)
- PM-10 (according to EN 12341)
- Total dust (according to VDI 2463)



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Specification	
Measurements	Dust concentration
Measuring ranges	0–0.1 ... 0–10 mg/m³
Measuring principle	Beta-ray absorption
Ambient temperature	0 up to +50°C
Protection	IP20
Measuring outputs	2 x 0 / 4–20 mA / 500 Ohm
Digital outputs	8 relay outputs, permissable load 24 V, 12 VA
Digital inputs	3 potential free inputs
Accuracy	<2% of measuring range
Detection limit	<0.001 mg/m³
Reference point drift	<1% of measuring range/month
Zero point drift	Automatic zero point correction
Supply voltage	230 VAC / 50 Hz, 110 V / 60 Hz, 400 VA
Dimensions (h x w x d)	320 x 450 x 500 mm, 19“-rack mount / desk unit
Weight	26 kg
Probe tube length	Standard 2 m 0.5–5 m possible

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