

Ambient air dust concentration monitor

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

Features

- EN15267 certified PM2.5 or PM10 measurement
- Cost efficient due to low filter tape consumption
- Extended serial interface Bayern-Hessen protocol
- Pre-calibrated measuring device allows accurate results without on-site calibration
- Easy integration into existing air quality monitoring networks
- Collected particles available for compositional analysis
- Cost savings through low maintenance requirements and remote access

Applications

- Ambient air measuring systems for monitoring fine dust
- Mobile air pollution monitoring
- Indoor dust measurement
- Measurement and collection of dust particles for compositional analysis
- Long-term background studies of ambient dust concentration
- Dust measurement and collection at inherited waste sites and repositories
- Dust measurement in supply air- and exhaust ducts

Approvals

- TÜV Rheinland suitability tested. Complying with 2008/50/EC, EN15267 regular surveillance, ID 0000040337 (PM2.5) and ID 0000043528 (PM10)

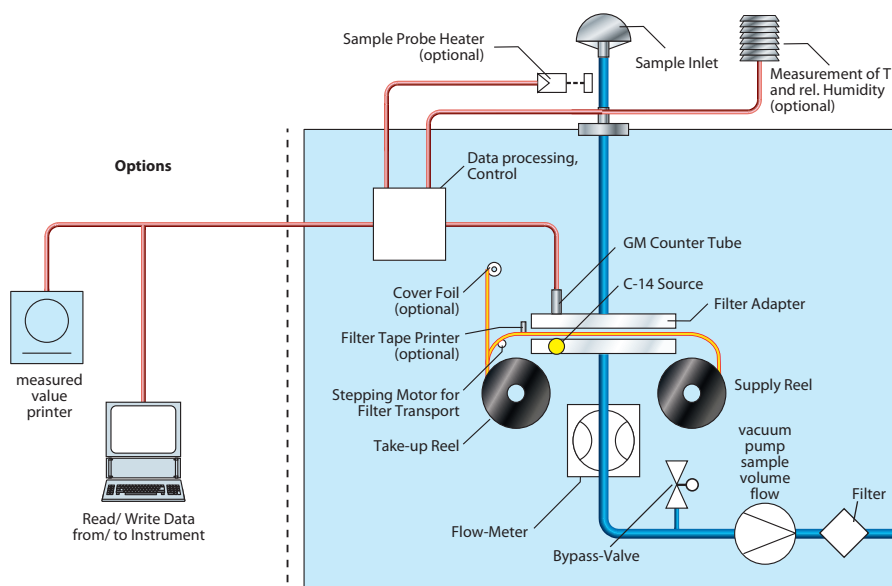


Measuring principle

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 count 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 count rate of the loaded filter tape is measured. The difference between the two count rates is evaluated in the device and displayed as dust concentration in $\mu\text{g}/\text{m}^3$.

Sampling heads

- PM 2.5, choice of
- EN14907:2005
 - EN12341:2014
 - US EPA 40CFR p.50
- PM 10, choice of
- EN12341:1999
 - EN12341:2014
 - US EPA 40CFR p.50
- Total dust
- VDI 2463



measurements	dust concentration in ambient air PM2.5, PM10, TSP	digital interface	RS 232
measuring ranges	0 ... 10000 $\mu\text{g}/\text{m}^3$	detection limit	<1 $\mu\text{g}/\text{m}^3$
measuring principle	beta-ray absorption	zero point drift	none (relative measurement procedure)
ambient temperature	device: 0 ... +40°C sample inlet: -20 ... 50°C	power supply	230 V, 50/ 60 Hz, 2,9 A 115 V, 50/ 60 Hz, 5,8 A
filter tape	glass fiber, up to 1.5 years per roll	dimensions (h x w x d)	320 x 450 x 500 mm, 19"-rack mount or desk unit
measuring outputs	2x 0/ 4 ... 20 mA/ 500 ... Ohm, Gesytech (via RS232)	weight	31 kg
digital outputs	8 relay outputs, permissible load 24 V, 12 VA	probe tube length	standard 2 m 0.5 ... 3 m possible
digital inputs	3 potential free inputs	data storage	integrated, up to 9 months