



EMP6 Particulate Emission Monitor

The EMP6 utilises AC Coupled Triboelectric technology. As particles travel through the process they develop a charge. This charge is transferred as the particle passes or impacts the sensing element. The resulting current is amplified, filtered, rectified and further filtered looking only at the AC component, giving a linear representation of the concentration or mass flow rate of the particles in the gas stream.

The reason for measuring the AC component is that, compared to the DC component, the electronics are more sensitive. The AC signal is substantially less affected by influences such as amplifier noise and process parameters, which includes the build-up of process dust on the sensing rod.

The EMP6 remote sensing head totally filters out any 50 Hz or 60 Hz frequencies related to mains supply. The amplified signal is then sent via data cable to the control unit for further processing and display.

What It Does:

- Continuously monitors for filter leakage.
- Indicates and transmits relative condition of bags.
- Provides 4-20mA and 0-10VDC output designed to feed a PLC or other display device.
- Continuously monitors particulate flow, primarily emissions from process plants.
- Can be calibrated for mg/m³ (gr/ft³) or mg/s (gr/s) following calibration to Iso-kinetic sample.
- Acts as a preventative maintenance tool.

Benefits:

- Detects most particles regardless of composition
- Very sensitive due to AC coupled technology
- Can monitor extremely small particles eg. galvanising fume ($\sim 0.1 \mu\text{m}$).
- Can be calibrated for large range of concentrations or mass flow rates $0.01\text{mg}/\text{m}^3$ to $800\text{mg}/(4 \times 10^{-6}\text{gr}/\text{ft}^3$ to $0.35\text{gr}/\text{ft}^3$).
- A seamless interface with industry standard PLC, data logger or SCADA.
- Can dramatically reduce plant downtimes when interfaced into existing plant monitoring equipment.