

Dust Probe (Broken Bag Detector) RS-DP

APPLICATIONS

The **Dust Probe RS-DP** is a microprocessor based instrument that is designed to detect and measure dust emissions caused by leaks in filtration media. Design characteristics include pre-calibrated digital optically isolated outputs and a set of **LED indicators**.

OPERATING PRINCIPLE

The **Dust Probe** uses the principle of the displacement of the electric charge in the electrode, induced by the electrical charges, carried by dust immersed in a gaseous fluid.

The amount of electric charge dynamically induced on the electrode is proportional to the amount of dust present in the gaseous fluid. An increase in the concentration of dust, causes a proportional increase of the signal that reaches the microprocessor.

Applying sophisticated mathematical algorithms, the individual powder particles are counted so as to be able to calculate their concentration.

The computed values can be stored internally in order to be drafted in the future, or sent via **RS485 serial transmission**, or **PWM 4/20 mA** to an **external control unit** for further analysis.



STANDARD FEATURES

- Min Air Speed: 787 FPM (4m/s)
- Min Particle Size: 0.3µm
- Voltage: 24-30VDC
- Max Working Temperature: 284°F(140°C)
- Enclosure Material: Die-Cast Aluminum
- Protection: IP 65
- Electrode Material: AISI Steel 304
- Electrode dimensions: $\phi = 0.31\text{in}$; L = 9.84in

Model	Resolution	Threshold 1	Threshold 2	Output 4-20mA	Scale @20mA	Autoacquisition	RS485
RS-DP03	10x10 ⁻⁸ oz/cu.ft 0.1 mg/m ³	5x10 ⁻⁶ oz/cu.ft 5 mg/m ³	10x10 ⁻⁶ oz/cu.ft 10 mg/m ³	NO	—	YES	YES
RS-DP05	10x10 ⁻⁸ oz/cu.ft 0.1 mg/m ³	5x10 ⁻⁶ oz/cu.ft 5 mg/m ³	10x10 ⁻⁶ oz/cu.ft 10 mg/m ³	YES	10x10 ⁻⁶ / 5x10 ⁻⁵ oz/cu.ft 10/50 mg/m ³	NO	YES
RS-DP06	10x10 ⁻⁹ oz/cu.ft 0.01 mg/m ³	10x10 ⁻⁷ oz/cu.ft 1 mg/m ³	20x10 ⁻⁷ oz/cu.ft 2 mg/m ³	YES	20x10 ⁻⁷ / 10x10 ⁻⁶ oz/cu.ft 2/10 mg/m ³	NO	YES