

# Dusty C

Compact sensor for  
broken bag detection



## Application / Function

The Dusty C has been specially developed to monitor treated sides after filters reliably and without time delay for filter breaks.

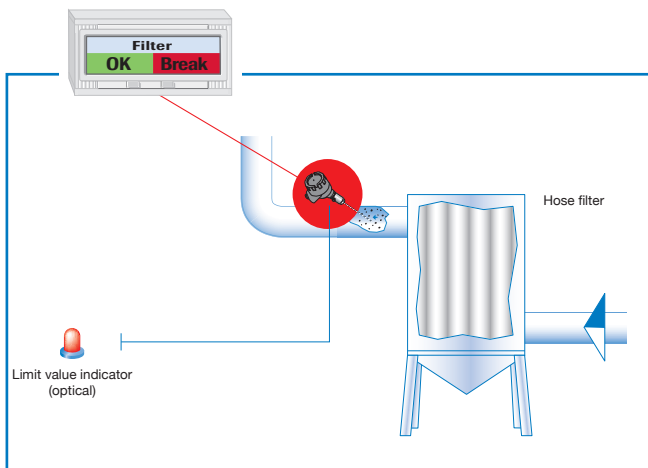
It can be used in metallic ducts in which dust particles are to be detected in the gas flow. Its area of application begins at dust levels of  $0.1 \text{ mg/m}^3$ .

The Dusty C can be used in Ex zones (Dust zone 22 / Gas zone 2). Thanks to its speed and reliability, the Dusty C

can also be used optimally as an alternative and/or extension to the "police filter", as well as an alternative to differential pressure measurement.

The Dusty C works on the basis of the electrodynamic principle. A charge transfer occurs as soon as particles flow past the measuring probe.

A measuring signal is generated from this, which triggers a switching contact as soon as a limit value is reached.



## System

The Dusty C is a compact device that works with a 24 V DC power supply.

The device is supplied precalibrated. The switching point is around 25 mg/m<sup>3</sup> dust\*.

At the current output this value corresponds to an output signal of 12 mA.

The sensor provides the user with the option of defining the alarm thresholds himself. This can be done in a range between approx. 5 mg/m<sup>3</sup> and approx. 150 mg/m<sup>3</sup>.

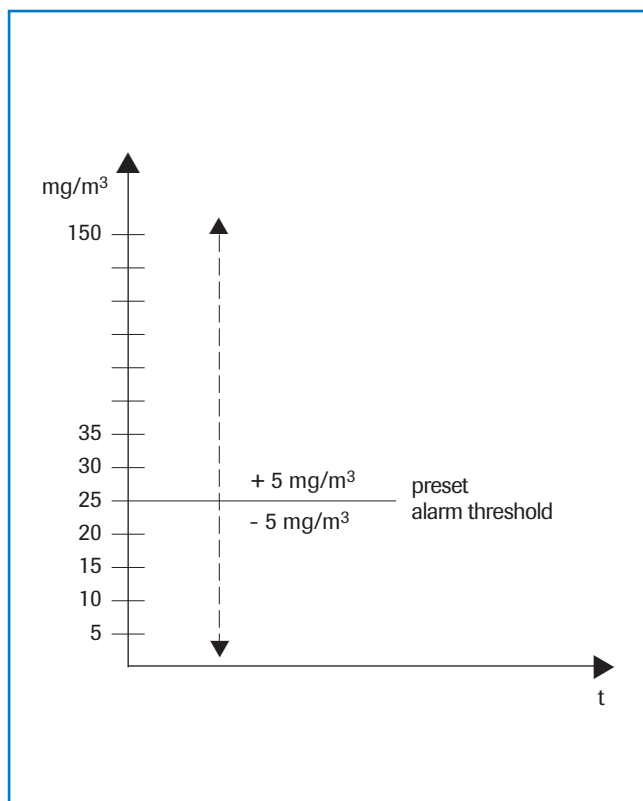
The corresponding switching stage can be changed in approx. 5-mg increments simply by pressing a button.

\* Precalibration is carried out on SWR's in-house test bench with organic dust under the following conditions:

Duct diameter = 250 mm

Air velocity = 14 m/s

Temperature = 25 °C



## Advantages

- Can be used in all pure gas and dust ducts
- All types of dust can be detected
- Simple commissioning (Plug & Play)
- Immediate detection of filter breaks
- Prevention of process-induced dust Ex zones
- Individual choice of alarm threshold
- Rapid and easy retrofitting
- 4 . . . 20 mA output at sensor



certified according to **ATEX**

## Technical data

Sensor	
Measurement items	Solid particles in the gas current
Measurement range	From 0.1 mg/m³
Process temperature	Max. 140 °C, optional 250 °C
Ambient temperature	- 20 ... + 60 °C
Pressure	Max. 2 bar
Flow velocity	Min. 3 m/s
Humidity	95 % RH (non-condensing)
Measurement principle	Electrodynamic
Attenuation time	1 s
Output signals	<ul style="list-style-type: none"> <li>Current output 4 ... 20 mA</li> <li>Relay output, either NC (break contact) or NO (make contact)</li> </ul>
Sensor rod	Total length: 260 mm Stainless steel part: approx. 194 mm
Housing material	Aluminium
Use in Ex zones	Cat. 3 G/D (Zone 2 gas / Zone 22 dust)
Protection type	IP 65
Voltage supply	24 ± 10 % V DC
Rating	1 W
Electrical connection	Screw terminals / Connection chamber
Installation	Via ½" screw-in thread
Weight	Approx. 1 kg

