

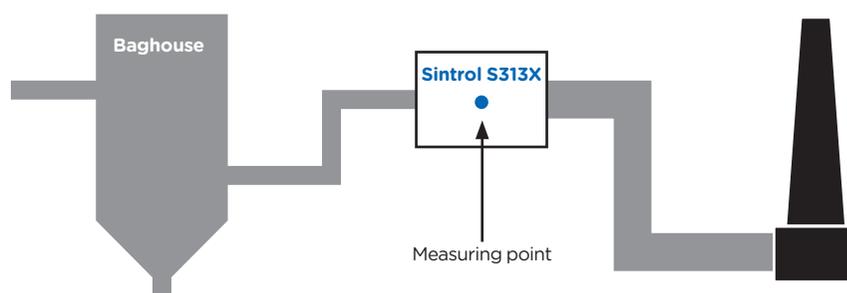
# Process Monitoring Chemical Industry

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At Sintrol, we are committed to implementing solutions for our customer's problems. Our products are based on our unique Inductive Electrification technology and developed using a flexible modular based platform that allows us to tailor our products for the customer. While many dust monitoring systems are tailored towards the government regulated emissions limits, there are intermediary measurement points that can be just as critical to the costs and regulatory compliance of the end user. Managing the filtration systems is not only good for emissions, but also a strong indicator to help with maintenance and overall plant costs.



#### Objective

Monitor filter bag compartment in an Atex 22 zone to identify any breakages in the filters or increase in dust loss.

#### Problem

An Italian plant of a global chemical company needed to measure the performance of its baghouses for environmental control. The operator wanted an alarm to be notified of bag breakages as well as a continuous signal to measure the relative dust concentrations. The challenge was that the measurement point was in a hazardous Atex 22 environment and the safe zone was over 200 m away. The company was looking into several options on how to solve this problem.

#### Solution

A custom designed Sintrol S313X was created and sent to the end user. Instead of the traditional set up, all barriers and the signal processing unit were placed into an explosion proof certified box. This eased the installation and commissioning by only creating one adaptor for the connection. Using this solution, the customer was able to have two adjustable alarm relays for his process as well as a continuous 4-20 mA output to identify any changes in the dust concentrations. The biggest competitors were opacity solutions that were far more expensive and also much less flexible. This application has been a positive reference for the end user's other plants that are now looking to implement a similar solution with our monitors.

## Principle of Operation:

Sintrol dust monitors are based on a unique Inductive Electrification technology. The measurement is based on particles interacting with an isolated probe mounted into the duct or stack. When moving particles pass nearby or hit the probe a signal is induced. This signal is then processed through a series of Sintrol's advanced algorithms to filter out the noise and provide the most accurate dust measurement output.

Classic triboelectric technology is based on the DC signal, which is caused by particles making contact with the sensor to transfer charges. Compared to DC based measurements, the Inductive Electrification technology is more sensitive and minimizes the influence of sensor contamination, temperature drift and velocity changes. By using the Inductive Electrification technology it is possible to reach dust concentration measurement thresholds as low as 0.01 mg/m<sup>3</sup>.