

Application Note

● Bag Filter Leak Detection with Sintrol's S300 Series Dust Monitors

Purpose of Application

Coal is separated from the hot air by means of bag filters. Pulverized coal is transferred to the storage tanks and the hot air is released to the atmosphere through the stack. When the bag filter is torn, pulverized coal leaks out to the

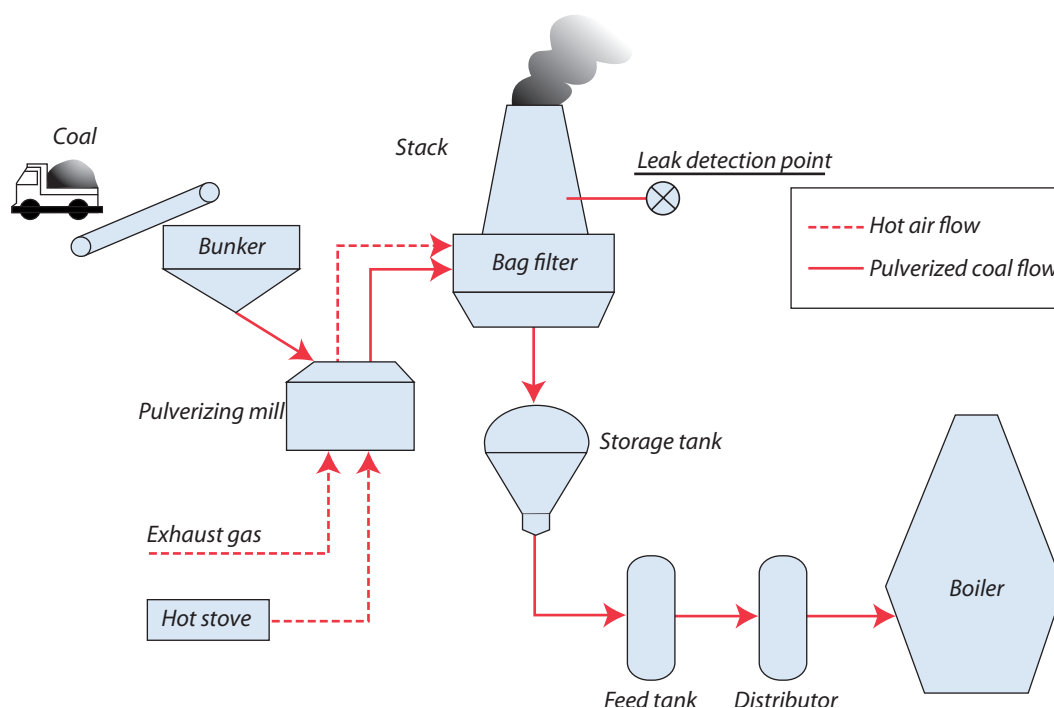
atmosphere. To minimise air pollution, bag filter leak has to be detected quickly. For this purpose, the S300 Dust Monitors are used to detect the increase of pulverized coal downstream of the bag filter.

Process Overview

Pulverized coal injection systems consists of a pulverizing mill, a filtration system, a storage tank and coal injection lines. Coal comes in through a bunker and is pulverized in a mill. Pulverized coal is

dried with hot air and carried through a filtration system (baghouse) to a storage tank. From where it is transferred through a feed tank and a distributor to the boiler.

Process Flow Diagram



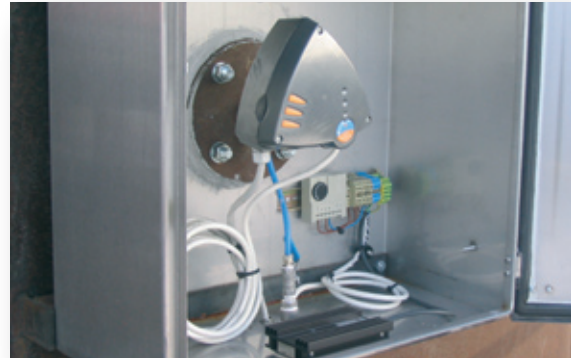
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Installation Example

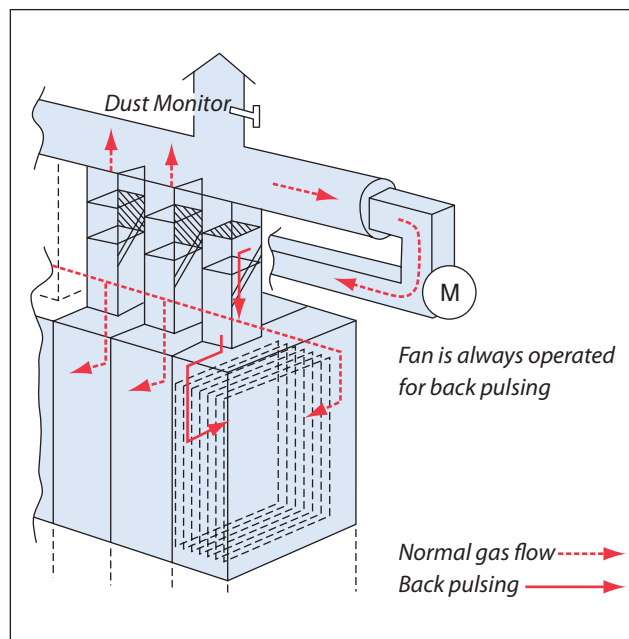
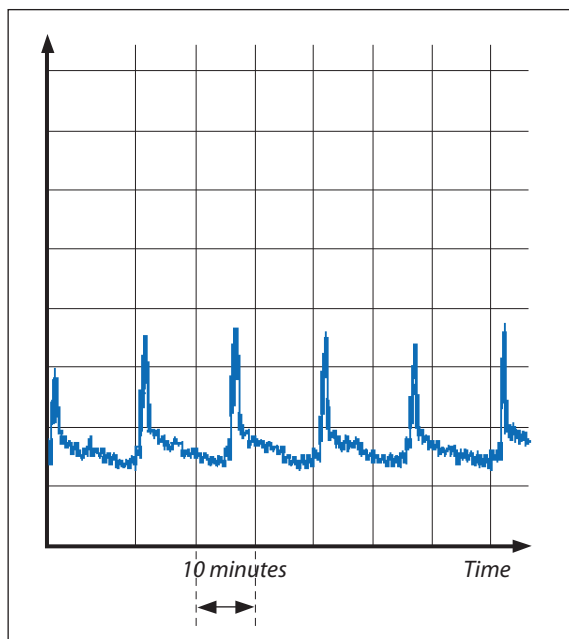


Dust Monitor.



S300 Series Dust Monitor installed downstream of a bag filter.

Measurement Example



PROCESS CONDITIONS:

Dust concentration: 6 g/m^3
(when bag filter is torn)
Particle diameter: 20 micrometer
Velocity: 17 m/s
Humidity: 2 vol%
Temperature: $80\sim 100 \text{ }^\circ\text{C}$

Trend in monitoring data shows that there is a correlation between dust concentration and signal output of the S303 Dust Monitors. These monitors were operated for several months without maintenance.

Distributor:

