

# PROCESS

## Volume flow measurement for regulating the air supply of a raw mill

### APPLICATION

In a cement plant, the air flow to a raw mill is monitored. The objective of this monitoring is to achieve the highest possible efficiency of the raw mill. Controlling the supply air to such a vertical mill can also lead to considerable energy savings, as the maximum air volume does not always have to be used, but can be adapted to the process.

Up to now, air velocities have mostly been measured using differential pressure measurements. However, these clog very quickly due to the high dust load in the duct. The clogging of the differential pressure measurement results in a permanently high load on the fan, which in turn leads to wasted energy.

### PROCESS DATA

Customer:	Cement plant (Germany)
Material:	Raw meal
Dust load:	20 g/m <sup>3</sup>
Installation:	In the inlet to the vertical mill
Function:	Control of the air volume for more process reliability and energy savings



### SOLUTION

The AirFlow P is a sensor specially developed for measuring air volumes in dusty applications. The AirFlow P determines the air velocity with the help of the dust particles in the process. The evaluation unit (MSE 300) calculates the measured velocity with an entered line area ( $v \times A = m^3/h$ ). This makes it possible to obtain an air volume in m<sup>3</sup>/h or a velocity measurement in m/s with the AirFlow P. Due to its electrodynamic measuring principle, the sensor measures the discharges of the passing dust particles and correlates the signals from Antenna A and Antenna B.

Thanks to the AirFlow P, the existing differential pressure measurement can be replaced in this application and a permanent and dust-independent control of the process can be implemented.



*AirFlow P*

### CUSTOMER BENEFITS

- Reliable volume flow measurement even with high dust loads in the channel
- Energy savings through regulation of the process
- Cost savings due to reduced maintenance work on the measurement technology

**Monitoring for Powder, Dust & Gas**