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Application note

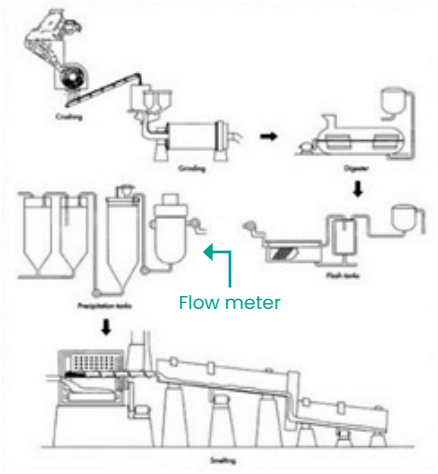
Ultrasonic Clamp-on flow meter for alumina hydrate

Benefits:

- Easy installation
- Longer battery life for continuous measurements
- Easy data logging
- Reliability and performance

Summary

At an aluminum production plant in Guangxi, China, many electromagnetic flow meters were used for alumina slurry measurement. However, sometimes the electromagnetic flowmeter electrodes were found to be coated or damaged by the slurry. The customer wanted to find a simple and reliable measurement solution that would not impact on production.



Challenge

The customer required the following from the check meter:

1. Installation without process interruption
2. Ability to measure slurry flow with stable and reliable data
3. Battery power

Application

- Process step: Precipitation
- Medium: Alumina hydrate
- Pipe material and size: CS and DN400 (16”)
- Pressure: 0.7 MPa (101 psi)
- Temperature: 58°C (136°F)
- Flow: up to 700 m3/h (3,082 GPM)

Solution

A demonstration was run using Panametrics’ Transport PT900 with C-RS 0.5MHz transducer. It was installed on a dual traverse mode despite the technical difficulty it brings with a reflective path on slurry.

Result

The test was successful. The diagnostics exhibited healthy parameters confirming measurement reliability and accuracy.

The customer subsequently replaced several faulty Mag meters with Panametrics Aquatrans AT600 Clamp-on Ultrasonic Flowmeters.

The customer was pleased with the clamp-on flowmeter solution citing:

- Easy installation and set up
- No maintenance
- Limited and universal spare parts
- Large pipe diameters coverage with the same set up
- No need for production downtime

Per avere più informazioni
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