



Level



Pressure



Flow



Temperature



Liquid Analysis



Registration



Systems Components



Services



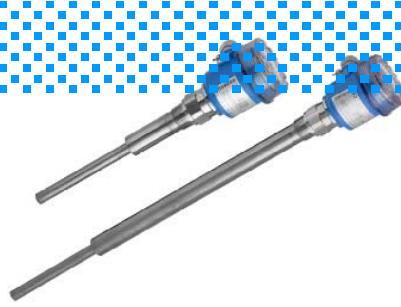
Solutions

Low Level Detection in 33ft High Toothpaste Powder Silo

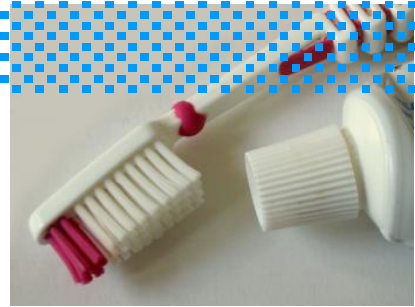
Soliphant T – FTM20 is not affected by high bulk solid column



Truck delivering new production material



Soliphant T
FTM 20, FTM21



Toothpaste for dental care

Soliphant T - FTM20 is used to trigger the re-order process of raw material in a toothpaste production. The weight of the bulk solid in the 33ft (10m) high silo does not affect the measurement.

Customer Profile

The customer is specialized in oral care. These product lines encompass toothpaste, dental rinses, fluids and gels, and toothbrushes. In the plant where the Soliphant T is installed the customer produces toothpaste.

Fieldtest application:

The mono-rod sensor FTM20 is installed in an application that is normally equipped with a Soliphant II tuning fork sensor to test it's performance. The FTM30-A2DA1 works without problems.

Application description

Soliphant T is installed in a silo as low level switch to provide re-order information for the customer's purchasing department. The filling/emptying cycle is about two weeks.

- bulk density: 54 lb/ft³ (870g/l)
- temperature: - 4°F ... + 104°F (- 20°C ... + 40°C)
- process pressure: ambient
- pressurized filling: 13psi (0.9bar)

Application challenges:

- outdoor sensor
- high radial loads
- abrasion

Previous instrument:

Prior to the Soliphant installation a competitor's paddle switches were used. These instruments suffered from constant bearing damage through powder penetration.

Instrument used:

FTM20-AA42A
(thread, DPDT relay, polyester housing)

Measurement results:

FTM20 works without any problems in this application despite the high radial loads due to the silo heights.

Instrument description:

Soliphant T is a robust level limit switch for silos with fine-grained or coarse-grained, non-fluidized bulk solids.

Measuring principle

A piezoelectric drive excites the vibrating rod of Soliphant T to its resonance frequency. If a bulk solid covers the vibrating rod, the rod's vibrating amplitude changes since the vibration is damped. The Soliphant's electronics compare the actual amplitude with a target value and indicates whether the vibrating rod is vibrating freely or whether it is covered by material.



Soliphant T - FTM20 Low Level detection in a 33 ft high toothpaste powder to trigger the re-order process of the material



Soliphant T
FTM20
mono-rod



Outdoor installation of FTM20 with polyester housing

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