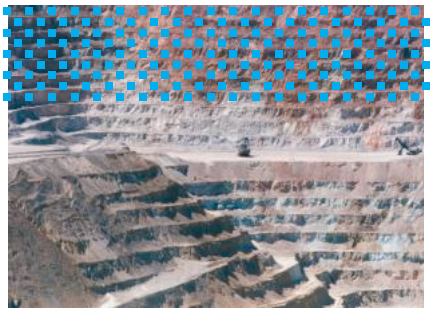
Level | Pressure | Flow | Temperature | Liquid Analysis | Registration | Systems Components | Services | Solutions

FTM20 Controls Discharge Gates in Silica Flour Vessel- Chemical

Soliphant T high level alarm operates vessel that is discharged with pressure bursts



Silica sand is mined in quarries

Soliphant T FTM20 / FTM21

Silica flour is used in ceramics

The Soliphant T FTM20 "mono-rod" sensor outperforms a paddle switch as a high level alarm to control a discharge gate in a silica flour vessel. The pressure bursts in the vessel that convey the bulk solid material are not a problem for the Soliphant T.

Company profile

Supplier of mineral raw materials who operates processing (washing, sieving and classifying) and drying plants in Switzerland. Here the point level measurement was used in silica flour. Silica flour is used in paints, cables, ceramics, abrasives, refractory, glass, etc.

Application

Soliphant T controls the high level alarm for discharging gates on a sending vessel. The filling/emptying cycles of this process takes about 3 minutes.

Material:	Lumped dry silica flour
Bulk density:	37 lb/ft³ (600 g/l)
Temperature:	176°F (80°C)
Pressure:	30 psi (2 bar)

Application challenges

The material is lumpy and is moved using air pressure burst. The system is under constant vibration.
A previous instrument was a competitor's paddle switch which failed often due to powder penetration of the bearing. A Soliphant II with vibrating tines also failed due to lumps of material jamming the forks.

Instrument description

FTM20 single rod, threaded process connection, DPDT relay and polyester housing. The Soliphant T is a robust level limit switch for silos with fine-grained or coarse non-fluidized bulk solids.

A piezoelectric drive excites the probe rod to its resonance frequency. If a bulk solid covers the vibrating rod, the vibrating amplitude changes, which causes a switch point. The electronics compare the actual amplitude with a target value and indicates whether the rod is vibrating freely or whether it is covered by material.

Measurement results

The FTM20 works without any problems despite strong air pressure bursts.

For more information, contact
Endress+Hauser, Inc.
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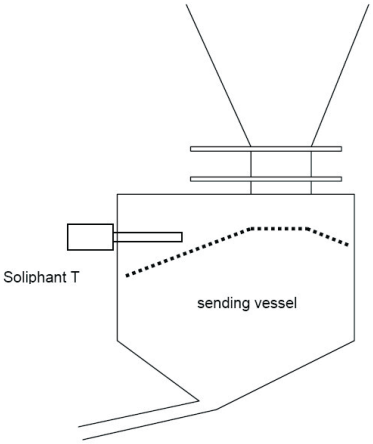
Mounting location of the Soliphant T



Inside vessel view of the mono-rod sensor

ISO 9001:2000 Certified

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