

## Tech update

### Detect the Tiniest Trickle of Flow to Prevent Cross Contamination or Comply with FSMA

**M**any powders and bulks solids are known for behaving badly. Sometimes they flow freely, sometimes not. Slide gates are known to misbehave. When they're supposed to be closed, they may not be entirely closed, allowing material to escape. Feeders and conveyors should be bringing material into a process, but how do you know for sure? These are just a few of the scenarios where flow or no flow indication can make or break a batch of product – or even break a law.

The affordable single-piece Flow Detect 2000 is a flow/no flow detector that houses the sensing element, power and output connections, and user adjustment controls in a single NEMA 4X enclosure. This compact sensor helps prevent cross contamination by ensuring flow has stopped before a new material is introduced into the flow stream. It is ideal for detecting flow conditions of solids and powders in gravity chutes, feeders, pipelines, conveyor belts, or bucket elevators. It prevents downtime caused by blockages, conveyors running empty, no material flow to-and-from a process, or loose slide gates that can cause production loss and equipment failure.

It is suitable for most industries, including the feed, grain, milling, food, cement, mining, power and plastics industries. It is appropriate for solids, granules, pellets, meals, and powdered materials. The Flow Detect 2000 can help prevent potentially dangerous and expensive FSMA, USDA, or FDA compliance issues at facilities producing food for human or animal consumption. Optional North American Class II, Division 1 Groups E, F, & G,



and ATEX Zone 21 hazardous location approvals are available for operations requiring optional protection from explosive dust.

This flow/no flow device is very popular with livestock feed manufacturers who want to ensure that only specific feed additives are added to certain blends of commercial feeds. Additives that are safe for one species are not necessarily beneficial or could potentially be dangerous to another species. If a mistake is made, it could be harmful to animals and could result in USDA fines. The Flow Detect 2000 serves as a preventive control to reduce the risk of cross contamination and ensure the wrong ingredient is not entering the production process.

The Flow Detect 2000 installs easily through a 1-1/4" NPT opening. It is completely non-intrusive and does not come into contact with the flow stream. It uses microwave Doppler technology for highly sensitive motion detection, which is able to pass through non-metallic materials. This

provides the device with the ability to see through a plastic pipe, a glass process seal, or the wall of a wooden chute to detect the material inside the encasement. It includes a switchable filter to reduce the effect of vibration and ensure the detection of moderate and fast-flowing materials. A single analog relay output communicates flow or no flow status to a PLC and has the option of using both normally open (NO) and normally closed (NC) contacts. LED indicator lights inform the end user of the device's status.

#### Know the Flow

Be sure the ingredients intended for one process don't end up in another.

Ensure that flow has stopped completely before beginning a new process.

Comply with regulations preventing cross contamination of ingredients.

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