echOsonix™

Application Case Study

Measuring Glass Pellets

The Application

Fiberglass is made by melting glass pellets and then spinning the molten glass into strands. The furnaces used to melt the glass must be continuously fed with raw material. If they run out, not only will the process shut down but severe damage to the furnaces could result. Therefore it is critical that the levels of glass pellets in storage bins must be monitored and maintained.

A new fiberglass plant had two glass pellet storage bins that needed to be monitored. They purchased a popular brand of ultrasonic transmitter and installed them prior to plant startup. During the pre-startup testing, it was discovered that they were very unstable and would not read accurately – with the storage bins empty!

A factory representative came to the site and tried to get the transmitters working. He was unsuccessful because, as you can see from the photo here, the bins are stainless steel and have a very long cone at the bottom. The units were not able to read the correct echo in this installation.

The Solution

The local SOR® representative found out about these problems during a call to the plant for another product line. He presented the U71/BKP as an alternate solution. The customer did not want to try ultrasonics again because of his previous experience, but said if we could bring in a test unit he would give us a chance.

A test unit was brought to the site and installed into one of the empty bins. At first it was erratic because the sound was bouncing around too much in the stainless steel vessel. We made one minor change – slowed down the pulse rate so the sound could dissipate completely before the next sensing pulse was sent out. The erratic behavior disappeared and the U71/BKP started reading accurate and stable. The customer decided to go ahead and give this product a try.

The Results

Two units were shipped to the customer with the pulse rate change discovered during the test. They were installed and tested on the empty bins. The initial tests were just as successful as the trial test. When the plant started up, the units tracked the glass pellet levels accurately and reliably without any further adjustments or changes.

After several months of operation, the plant controllers have complete confidence in the level measurement of their glass pellets. Their furnaces have never experienced a loss of material due to lack of glass pellets and the U71/BKP has not given them inaccurate readings. This customer now realizes that ultrasonic technology is not the problem – he just tried the wrong product first!

Ordering Information

Electronics Model **U71-DL7J-ZZ-00-15**
Integral 110VAC/24VDC Line-powered transmitter
2 x SPDT Relays adjustable over entire range
Explosion-proof, Agency-listed electronics housing

Sensor Model **BKP-3A-ZZ-0**
15 kHz Transducer for integral unit
3" NPT Threaded process connection
Explosion-proof, Agency-listed transducer

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Contact the factory for more information or alternate product options.
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