echOsonix™

Application Case Study

DANGER! DANGER! Proper Mounting

The Application

A power plant found the echOsonix to be an ideal solution for its extraction columns. The plant extracts gypsum used in the production of building materials from plant waste. The columns have a great deal of highly acidic steam. The process has foam and agitation, making it difficult to measure.

The 10kHz echOsonix was applied and found to work great. The customer was very pleased with the performance and placed echOsonix on all four of their columns. Everything worked great for about a year, when suddenly two units indicated a catastrophic failure.

The Problem

On investigation, the customer quickly discovered the problem. On the two columns in question, the sensors were gone with only a smoking hole in the mounting flange supplied by SOR® to indicate where they had been.

What could have happened? Where had the sensors gone? After a little "fishing" expedition, the sensors were found down inside the process, destroyed beyond recovery.

The Results

After consultation with the SOR factory, it was learned that the flanges had been mounted upside down. The General Instructions for echOsonix indicates that the smaller, split flange portion of the mounting flange is to be mounted facing up, out of the process. This split design isolates the vibration of the sound pulses generated from the tank, ensuring a consistent sound profile for the sensors.

When the flange was mounted upside down, the glue joint holding the split flange together was subjected to swirling steam in the process. The glue used is resistant to steam exposure, but can be eroded. Since the steam was free to move around the glue joint, it eroded the glue allowing the smaller split flange, and the sensor attached to it, to fall into the process!

This smaller flange is bigger than the hole in the larger mounting flange. When mounted properly, the sensor cannot fall into the process in the event of glue joint failure. The moral of the story – follow directions and mount units according to factory recommendations, or keep your fishing pole handy.

Contact the factory for more information or alternate product options.
Phone: 913-888-2630 Toll Free: 800-676-6794 Fax: 913-888-0767 www.echOsonix.com