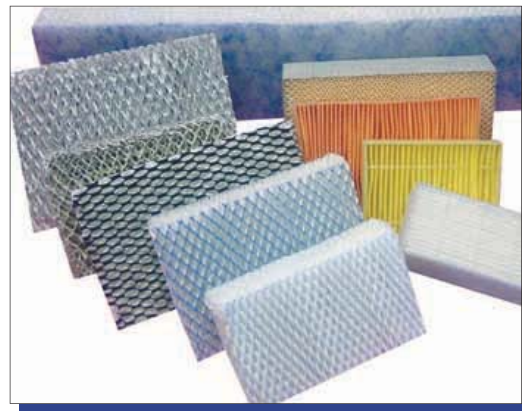


The Customer

The Company is a leading supplier of filter and specialty papers, nonwovens, and advanced composites. The products are used in a wide variety of filtration applications, such as engine filtration, high efficiency air and liquid filtration, battery separators, gasket materials, and specialty and industrial nonwovens.

The Process

The Company uses solvent impregnation on their paper web to make their filter paper. They needed to monitor the concentration levels upstream of their web in order to control the amount of solvent that is applied to their product. The main solvent that is used is Methanol. The solvent level changes depending upon the product that is being produced. Their concentration level is so high that they are monitoring the Lower Oxygen Content (LOC) of the sample stream to ensure safety.



Once the paper is chemically treated on to the web, the customer then uses PreVEx Flammability Analyzers to monitor the %LFL of the varying solvent levels in their dryers in order to stay safe.

The Problem

The Customer wanted to find a way to better understand the solvent levels in their process when the O₂ levels change, allowing them to optimize their process, reduce waste and increase efficiency. Since the concentration levels of Methanol are extremely high prior to being applied to the web, they had to find a way to directly measure the solvent load. Although they have a single solvent, due to other sample constituents (i.e. resins, fibers, particulates and water vapor), they needed a technology that could be heated to keep these compounds from condensing.

Originally, they were looking at FID technology to measure in the ppm range, since it shares the same platform as the PreVEx and uses many of the same spare parts. However, this technology could not handle the high solvent concentrations (in the %UFL Level) that they needed to attain.

The Solution

After looking at available options, the customer chose CIC's CalorVal BTU Analyzer to do the job. It reads high concentration levels in the %UFL range, where there is little or no oxygen present. Its fast response time allows for real-time information to be processed for proper control of their process. It is fully heated to 120°C to keep the entire sample in vapor form, which minimizes downtime. The analyzer consists of a 4-20mA output as well as an RS-485 digital output so that the data could be connected to their process PLC.

Since it also shares the same platform as the PreVEx Flammability Analyzers that they currently use, the customer can share many of the same spare parts and maintenance routine for added ease.

