



Level



Pressure



Flow



Temperature



Liquid  
Analysis



Registration



Systems  
Components



Services



Solutions

# Sulphuric Acid Measurement

Micropilot M FMR 245 is used to measure sulphuric acid in a PTFE lined bypass chamber



Intermediate tower



Micropilot M FMR 245



Chemical plant

The Micropilot M FMR 245 is used to give a reliable measurement of 96% sulphuric acid in a scrubber column. Due to the aggressive nature of the product, the FMR 245 had to be fitted to a PTFE lined bypass chamber.

## Company Profile

Producer of Methyl Methacrylate (MMA) in the north east of England.

MMA is used in many established products, such as paints, plastics, dyes, pharmaceuticals, and in the automotive industry.

## Application

Previous attempts to measure the level using capacitive or differential pressure techniques brought about limited success due to product build-up and blocked impulse lines. A 3" bypass chamber was constructed from readily available PTFE lined pipes and tee-pieces. The FMR 245 flanged unit was the ideal choice as all wetted parts needed to be PTFE.

## Results

The unit was commissioned and monitored for a two week period to ensure reliability. The FMR 245 is now used as the unit to control the acid level system, and has performed exceptionally for three months.

The customer is planning to fit more Micropilot M FMR 245 units on similar applications.

## Special notes

Despite mounting the FMR 245 in a PTFE lined chamber, there was only a minimal increase in noise level (see envelope curve on back page). The high signal strength from the acid ensured that any concerns regarding signal to noise ratio were overcome.

### Instrument settings:

E-distance = 69 inches (1.75 m)

F-distance = 59 inches (1.50 m)

## Instrument description

The Micropilot is a "downward-looking" measuring system, operating based on the time-of-flight method. It measures the distance from the reference point (process connection) to the product surface. Radar impulses are emitted by an antenna, reflected off the product surface and received again by the radar system.

The measurement is not affected by changing media, temperature changes, gas blankets, or vapors.



Envelope curve showing little influence from the top connection and a relatively low noise level



FMR 245 mounting on bypass chamber



PTFE lined bypass chamber

12.04/SCUSA

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