

September 4th, 2015

Measuring sulfuric acid and oleum strength using sonic velocity meters

Inline measurement, online processing

Monitoring the sulfuric acid and oleum strength (wt%) inline, directly in the process, enhances safety and efficiency of production plants. The measuring results are available online and in real time. Due to the physical properties of sulfuric acid and oleum, the most suitable measuring method for determining the acid strength is sonic velocity measurement. The LiquiSonic[®] analyzer by SensoTech precisely measures with only one single sensor the sulfuric acid and oleum strength in the relevant concentration ranges.

Applications of the analyzer include, for example, the acid production, alkylation, oil refining, syngas drying, fertilizer manufacturing, mineral processing or etching and pickling baths. The LiquiSonic[®] technology is based on sonic velocity measurement providing clear and stable measuring results with an accuracy of up to 0.03 wt%. If the measuring values exceed or fall below critical process thresholds, a signal will be sent immediately ensuring timely countermeasures can be initiated. The real-time information significantly increases work environment safety and product quality and reduces costs caused by acid wastage and failed production.

Made of Hastelloy C-2000, the LiquiSonic[®] sensor is absolutely resistant to corrosion. The robust construction requires neither gaskets nor moving parts, so the sensor is maintenance-free with long-term stability. The installation is done directly into the existing pipe or vessel. The measuring results are updated every second, and for process automation the real-time data can be transferred to process control systems via 4-20 mA signal, digital outputs, fieldbus or Ethernet. The LiquiSonic[®] controller displays and saves the measuring values. The analyzer is delivered as plug&play system, so a simple and fast commissioning is guaranteed.

Sulphur 2015, booth 4a, November 9th - 12th, Sheraton Centre, Toronto, Canada

Product write-up (short version)

Due to the physical properties of sulfuric acid and oleum, the most suitable measuring method for determining the acid strength is sonic velocity measurement. The LiquiSonic® analyzer by SensoTech is successfully used in plants worldwide. The modern and high-end sensor technology provides clear and stable measuring results updated every second with an accuracy of up to 0.03 wt%. Corrosion-resistant material and robust construction ensure a maintenance-free sensor operation with long-term stability. The sensor is installed directly into the pipe or vessel and measures inline. The data is sent online and in real time to process control systems via 4-20 mA signal, digital outputs, fieldbus or Ethernet.

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Image subtitle: The LiquiSonic® analyzer by SensoTech monitors precisely the sulfuric acid and oleum strength and provides the data online and in real time.

Attachment

Image file: G2063_01_02.jpg

SensoTech:

For 25 years SensoTech has been focused on the development, manufacturing and sales of inline analysis systems for process liquids. With worldwide installed, highly precise and innovative measuring systems for monitoring of concentrations, compositions and changes of chemicals as well as properties directly in the process, SensoTech has significantly contributed to the enhancement of the state of the art. In addition to the measurement of concentration and density, the phase interface detection as well as the monitoring of chemical reactions like polymerization and crystallization are typical applications. SensoTech inline analyzers set standards in the technological and qualitative valence, user friendliness and reproducibility of process values. Special calculation methods and sophisticated sensor technologies enable reliable and precise measuring results even under the most difficult process conditions.

The knowledge and the experiences of the highly motivated and committed SensoTech staff are the result of many different applications supported by well-known customers from the chemical and pharmaceutical industry, food technology, semiconductor technology, automotive and metal industry as well as many other industries. In addition, these experiences also open up unimagined solution possibilities for new measuring challenges.

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