



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



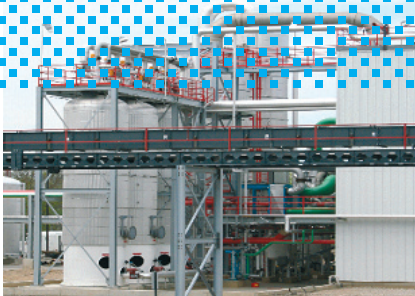
Services



Solutions

Promass 83A in Evaporation Column Flow Measurement- Renewable Fuel

Monitor the evaporation phase in ethanol production to increase efficiency and throughput



Ethanol plant



Promass 83A Coriolis flow meter



Renewable fuel source

To improve efficiency and throughput during Ethanol production, evaporation columns require accurate flow measurement for final proof.

Company profile

Ethanol plant located in northern Indiana.

Application

Ethanol production in the United States requires the measurement of final proof to judge evaporation column efficiency.

During this process, the media exceeds the water cut, reducing the column efficiency and requires more energy to produce Ethanol. Active measurement increases efficiency and throughput.

Solution

Provide a measurement to monitor the evaporation phase and produce a grade of product for a target of 195 and 200 proof.

An Endress+Hauser Promass 83A was tested for proof measurement to replace liquid chromatography measurement in this application.

Process:

Fluid:	Ethanol, from 186 to 200 proof (93 to 100%)
Pressure:	< 10 psig
Temperature:	73 to 77°F (23 to 25°C)

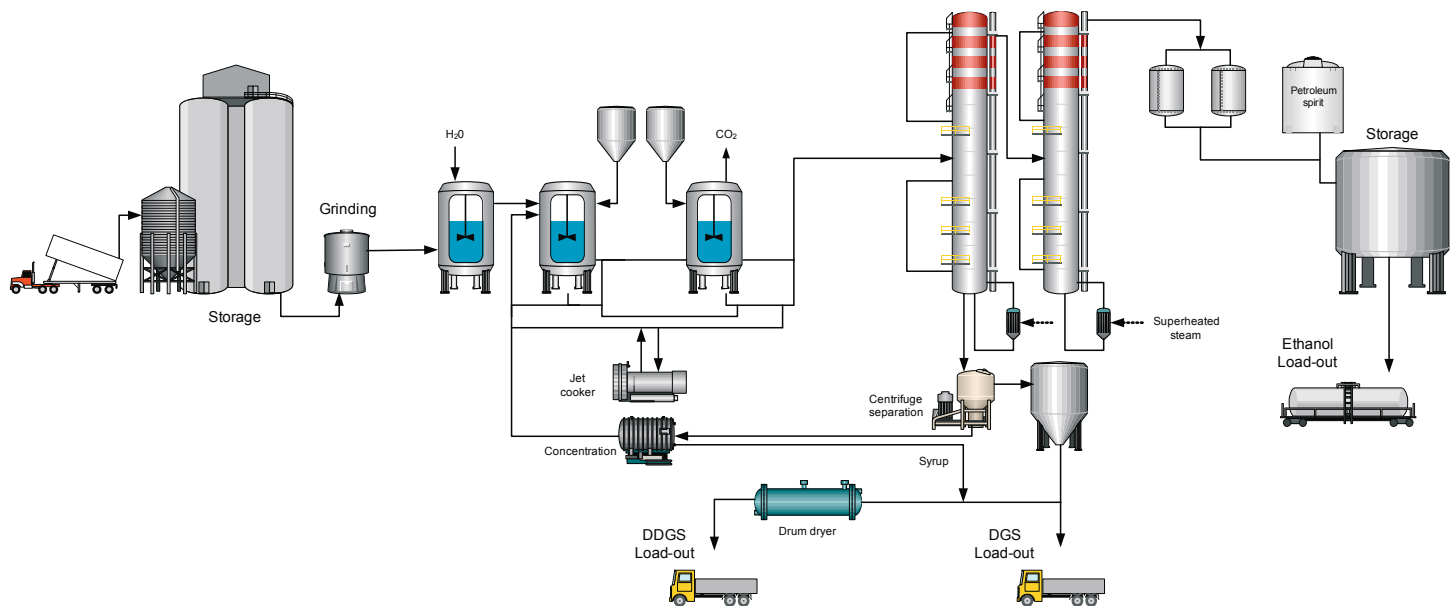
Instrument selected: Promass 83A, 1/8" line size, VCO process connection and 904L SS lining. Operation via HART 4 to 20mA and two 4 to 20 mA outputs.

Key success factors

Technical service support provided by Endress+Hauser to evaluate the meter and create custom density to proof tables and expansion coefficient from CRC data.

The resulting tests conducted by a local University proved meter validity and repeatability over the measurement range compared to an LC standard.

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