

Flow Measurement for Biodiesel Production

Case Study

Tecfluid



APPLICATION

Flow measurement, detection and transmission of glycerin, methyl alcohol, vegetable oil, unsaturated acids and other additives for the manufacture of last generation biodiesel.

CHARACTERISTICS

- Liquids: Different liquids with particular densities and viscosities, such as water, glycerine, vegetable oil, methyl alcohol and sodium methoxide.
 - Different flow directions.
 - Measuring ranges: 5 m³/h, 20 m³/h, 25 m³/h, 40 m³/h, 60 m³/h.

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- Pipe sizes: DN40, DN50, DN80.
- Wetted parts: coated steel, AISI 316L
- Temperature: 40... 60 °C.
- Suitable for extreme pressure and temperature conditions.
- TH7 electric transmitter Exia IIC T4 or T6 (ATEX/IECEX certificated).
- AMM switches Exia IIC T6 and AMD Namur sensors Exia IIC T4/T6 (ATEX/IECEX certificated).

CHALLENGE

Flow measurement in different stages of the production process of biodiesel additives both in safe and hazardous area, with different flow ranges, different flow directions and fluid types with various viscosities and densities.

SOLUTION

Use of Tecfluid target disk flowmeter model DP65 (Series DP), made of coated steel and AISI 316L, of robust construction, available for all flow directions, with low pressure drop, local indication, with the possibility of incorporating switches for hazardous areas.

BEFENITS

The same type of flowmeter can be used in different parts of the installation regardless of flow direction and for different types of fluids as it is a type of meter that is very adaptable to changing process conditions.

Clear local indication for easy control by the plant operator. Good accuracy required by the customer with $\pm 2,5$ % f.s. ($\pm 1,6$ % f.s. on request) and low pressure drop.

Incorporation of AMM switches for safe area applications or hazardous zone (vegetable oil, glycerin, fatty acid...) and AMD Namur sensors for hazardous areas (methyl alcohol, sodium methoxide...).

Possibility of supply of TH7 Exia IIC T4 or T6 electric transmitters (ATEX/IECEX certificated) for process control.

All switches, sensors and transmitters, available with the original supply of the flowmeter or for retrofitting in a later stage. 

