Kenics™ LACT/Fiscal Mixing

Application

Kenics static mixers are widely used in the oil and gas industry. Solutions and designs are offered to accurately determine the water content in crude oil and hydrocarbon streams.

Determining the amount of BS&W in hydrocarbon streams is an important aspect in custody transfer. Inaccuracies can result in significant financial loss throughout the process in upstream oil production, and also downstream refining, distribution, and transmission.

At $100/bbl an error of only 0.1% in water content assessment at total flow of 500 bbl/hr (80 m3/h>) results in a discrepancy of approximately $438,000/year.

Mixing of an oil stream is critical if operators want to obtain the highest possible accuracy and repeatability, whether it is in water cut measurement or online sampling of hydrocarbons, spot sampling, or automatic grab sampling.

Design

Our static mixers are highly effective at creating homogeneous liquid/liquid or gas/liquid dispersions. Engineers have extensive knowledge and experience to correctly design and specify mixers for fiscal mixing purposes.

Kenics static mixers are available with integral sampling ports for improved accuracy. This results in the elimination of a separate spool piece to incorporate at your sampling point.

Our approach is to engineer our custody transfer solutions to meet the stringent requirements of the ISO 3171, ASTM D4177, and API 8.2 standards. All too often the focus in providing a solution is the manufacturer’s performance measure, as opposed to the more objective approach which requires compliance to methods and standards.

Mixing Technologies provides the ideal solution for homogenization of bottom sediment and water prior to sampling in custody transfer pipelines.

Customer Benefits

- Predictable and accurate performance for measurement of crude oil water content
- Low cost to install, operate, and maintain compared to Jet mixing
- Designs comply with industry standards
  - ISO 3171
  - ASTM D4177
  - API 8.2
- Simple and effective operation with no maintenance

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ISO 3171—Pipeline Mixing Quality

Comparison Between Kenics Static Mixer and Jet Mixer in Fiscal Mixing Applications

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<tr>
<th></th>
<th>Kenics Static Mixer</th>
<th>Jet Mixer</th>
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<tbody>
<tr>
<td>ISO 3171 Compliance</td>
<td>Complies</td>
<td>Complies</td>
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<tr>
<td>Capital Cost</td>
<td>Low</td>
<td>High</td>
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<tr>
<td>Lifetime Energy Cost</td>
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<tr>
<td>Installation Cost</td>
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<tr>
<td>Installation</td>
<td>As Pipe Spool</td>
<td>Multiple Equipment Install</td>
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<tr>
<td>Ancillary Equipment</td>
<td>N/A</td>
<td>Necessary</td>
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<tr>
<td>Performance Range</td>
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<tr>
<td>Failure/Spares Requirement</td>
<td>N/A</td>
<td>Necessary</td>
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<tr>
<td>Maintenance</td>
<td>None</td>
<td>Regular Requirement</td>
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<tr>
<td>Ease of Operation</td>
<td>Simple and Effective</td>
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