

+ JISKOOT JetLine

Line conditioning, sampling, and analysis system

APPLICATIONS

- + Production and allocation operations
- + Land and offshore applications
- + Transmission and storage
- + Processing and refining

BENEFITS

- + Greater operational visibility to process conditions
- + Negligible pressure loss
- + Minimized operational and financial risk
- + Improvement in the uncertainties associated with line mixing
- + Improved data quality and operational control

FEATURES

- + Complete line conditioning for low viscosity fluids with low pressure drop
- + Easy retrofitting with existing inline and fast loop sampling systems



Creating a homogeneous fluid with light-density, low-viscosity crude oils and condensates has traditionally been a challenge using static mixer and traditional jet-mix technologies that use quills and nozzles to extract and reinject fluids into the pipeline.

Because static mixers create mixed fluids by obstructing the flow of the fluid using plates or baffles within the line, they often cannot add enough turbulence to truly condition the pipeline when mixing ultralight-density and low-viscosity fluids. However, additional obstructions inside the pipeline can create a pressure drop that affects the quality of the fluid that the system is designed to mix.

The compact, dynamic JISKOOT JetLine® line conditioning, sampling, and analysis system provides custody-transfer-quality line conditioning for light-density, low-viscosity fluids in smaller line sizes. Its nonintrusive design eliminates the risk of fluid alteration caused by pressure drop, making it ideal for custody transfer, allocation, and production applications. Whereas static mixers typically have an effective 5:1 turndown, the JetLine system flow rate turndown is infinite.

REDUCED MEASUREMENT UNCERTAINTY THROUGH COMPLETE HOMOGENIZATION

Any pressure drop within the custody-transfer process, requires pumping the fluid at a higher pressure. This requires an increase in energy at the pump and increased operational costs for the life of the project. Additionally, a pressure drop immediately before the sample point can alter the physical properties of the fluid, bringing uncertainty to the fluids appraisal.

In contrast with conventional JetMix and Static mixer technologies, the JetLine system creates a homogenous fluid without obstructing the line before the sample point which equates to a more accurate sample, better analyzer performance and improved measurement uncertainties.

Technical Specifications

Pipeline diameter, in [mm]	3, 4, 6, and 8 [80, 100, 150, and 200]
Process connections	Raised Face (RF) & Ring Type Joint (RTJ)
ANSI pressure rating range	Class 150, 300, 600, 900 (for higher pressure ranges please contact your Sensia Sales Representative)
Temperature	-4 to 212° F [-20 to 100° C]
Density range, lbm/galUS [kg/m³]	5.84-7.9 [700 to 950] (consult Sensia Sales Representative for process conditions outside of this range)
Viscosity cSt	Minimum: 0.65 cSt Maximum: 350 cSt
Water cut range, %	0-50 (consult Sensia Sales Representative for water-cut conditions outside of this range)
Materials	Low temperature carbon steel LF2, 316 stainless steel and 22%CR or 25%CR Duplex stainless steel

INTEGRATED SYSTEM ENGINEERING

The JetLine system can be configured in a JISKOOT JetMix* pipeline mixing system or fast loop configuration.

- + **JISKOOT JetMix system:** The fluid is reinjected via jetted nozzles that are radially mounted within the pipe wall of the JetLine system spool. By jetting the fluid into the flow stream, the system adds energy into the pipeline near the location where the representative sample will be taken. This can be used in front of an existing inline sample probe or fast loop sampling system to improve the representivity of the sample.
- + **JISKOOT JetLine Sampling System:** This configuration is similar to the JISKOOT JetMix system loop design with a pump-driven flow loop, but instead of installing the sampler after the JetLine mixing element, a cell sampler and other analytical devices, such as a densitometer or Water in Oil Meter (WIOM), can be placed into the JetLine system flow loop. This enables operators to receive a representative sample and real-time analytical data of fluid within the pipeline.

