MEASUREMENT SOLUTIONS

JISKOOT CoJetix Sampling System

Combined fast-loop sampling and JetMix system

sensia

Rockwell Automation + Schlumberger

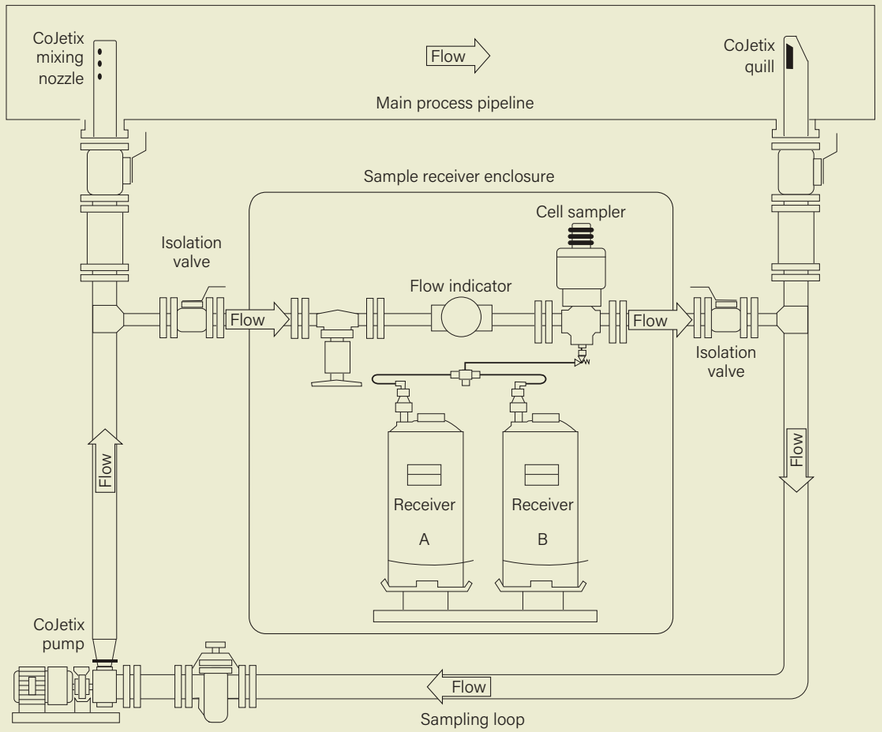
BENEFITS

+ Liquid hydrocarbon sampling
+ 0.025% measurement uncertainty†
+ ISO, EI (IP), API and ASTM compliant
+ Provable to standards by water injection
+ Low inter-batch sample contamination risk
+ Operator friendly and simple to maintain
+ Low installation cost

The Sensia JISKOOT* CoJetix* system is a high accuracy liquid hydrocarbon sampling system. It offers low measurement uncertainty (-0.025%)† and delivers the best return on investment for high value transactions.

A CoJetix is the system of choice for custody-transfer, allocation and quality measurement where mixing is required.

The CoJetix system is a combined fast-loop sampling and JetMix* system. The sampling system is integrated as part of the JetMix loop which provides optimal pipeline mixing without inducing a pressure drop in the main process. It is suitable for applications with a wide turndown of flow rates or where a pressure drop could cause a bottleneck in the process.



Typical systems schematic (Note: Not to scale).

† Based on data from over 200 water injection proving tests

Mixing energy is added to the flow by jets in the nozzle, ensuring the mixing is suitable for sampling at all flow rates.

Flow is extracted into a sampling loop through a large take-off quill inserted into the center of the main pipeline. The quill has a large inlet, which further reduces the sampling systems uncertainty.

The sampling loop is designed to have no water traps and sufficient fluid velocity to maintain sample representativity and homogeneity through the system. The loop passes through a sample receiver enclosure which can be located in a convenient position for the operator. The enclosure can be fully isolated so that any maintenance work can be carried out with no impact on the main process.

The enclosure contains a flow-through cell sampler which discharges 1 cc samples directly into a sample receiver. The short distance travelled by the sample minimizes the risk of cross-contamination between batches.

The enclosure, which can be heated to maintain an even temperature to avoid solid or wax formation, also houses the sample receivers. These can be fixed volume (PR-103, PR-53, PR-23) or constant pressure sample receivers (constant pressure cylinder) with manual or automatic changeover.

Dynamic performance measurement can be achieved by fitting a CanWeigh system for PR receivers or a level-sensor system for constant pressure cylinder receivers. A sampler controller can be installed providing configuration, monitoring and control functions with DCS integration capability.

System components are selected for maximum reliability. Crucial items are mounted outside the main pipeline allowing the system to be easily isolated for maintenance without access to the main line.

The withdrawable nozzle and quill can be installed by hot-tap into either the top or the bottom of the pipeline. Online analyzers such as water-in-oil monitors and densitometers can be integrated as part of the sampling loop ensuring optimum representativity, accuracy, and direct comparison of results.

APPLICATIONS

+ Crude oil
+ Condensate
+ Low temperature liquid hydrocarbons
+ Refined products
+ Hazardous liquids

Fixed nozzel and quill take-off.

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