Technical Selection Criteria

Sampler inlet sizes and missed droplets:

- Inline Probe sampler
- Fastloop sampler
- Jetmix™ sampler

- Missed droplets
- Missed droplets

OTHER KPS PRODUCTS:
- Automatic Gas Sampling
- Online Analyzer Systems

ISO 9001

SCC* (VCA*)
Introduction

KPS is a leading original equipment manufacturer of automatic sampling systems for custody transfer purposes. Established in 1996, and headquartered in the large crude oil hub: Rotterdam, The Netherlands, KPS distinguishes itself through superior designs in terms of reliability and accuracy performances. The automatic sampling systems provided by KPS are designed and build compliant to the ISO 11171 and API chapter 8.2 standards, and rest upon over 20 years of field experience in automatic sampling.

With stronger variations in the oil composition and the worldwide shortage of the product, measuring the quality of the stream is an often underestimated issue that is becoming increasingly important to prevent oil issues. With this said, who would want to pay the price of oil for a barrel of water?

Depending upon your needs, KPS can provide complete certified turnkey systems. Making or verifying a bill of lading using a certified system for the quantity as well as the quality is in the interests of both the buyer and seller. It is an important tool for hydrocarbon accounting and for avoiding possible reputation damage, claims, and paying unnecessary taxes. KPS automatic sampling systems provide a truly representative composite sample, measuring both the user and the client.

Fastloop Sampler

The fastloop sampler provides a high accuracy solution on locations where the flow is already homogenous. The KPS Fastloop Sampling System consists of an external pump and a special designed Take-off/Return probe, as per the picture below. The fastloop is created by circulating a properly conditioned portion of the main stream. In the fastloop, where the innovative and sustainable CS-01 cell sampler is located, grab samples are taken and transferred to the receiver. Another consideration worth noting is the possibility of isolating the sampler or online device installed for maintenance purposes without having to shut down the process.

Inline Probe Sampler

The Probe Sampler is a cost effective solution to check-up on the pipeline contents. The probe is inserted directly into the pipeline and uses a three-step technique to assure that the performance stays unaffected by possible variations in the process. The probes should be installed at a location where the fluid is fully homogenous and is free from dispersed (small droplet size). Furthermore, care should be taken to minimize possible cross contamination between batches.

"We handle more than 50 different crude types and have samplers that have an excellent performance. We went for the KPS made auto samplers because of their performance and the after-sale service." - Superintendent of Operations at TEAM Terminal

"The KPS automated sampling systems installed at AWG and KL4 have been running for several years now after the initial start-up without any need for maintenance." - Metering Expert at MAERSK Oil & Gas

"We were impressed by the steady performance of the KPS samplers when offloading VCCUs. We would not hesitate to recommend them to other storage terminals or refineries to measure the crude oil quality." - Head Metering Services of Shell Upstream International

References

ExxonMobil

MAERSK OIL

TOTAL

"Jetmixer" Sampler

Depending upon the process conditions, inline mixing is commonly required for large pipelines in order to create a homogeneous flow. Traditionally, static mixing devices consisting of a series of baffles or metal plates are installed in the main pipeline and are used to create enough turbulence to get a properly mixed flow. The energy needed for mixing comes from a loss in pressure as fluids flow through the static mixer. With this said, operators find this a less attractive solution because a loss in pressure would mean less throughput. Furthermore, static mixers are designed to operate with a certain turnbroad ratio, providing operators with inaccurate sampling results at the start and end of the batch. The patented "Jetmixer" technology provides the perfect solution for such applications, with no pressure drop in the main pipeline and a homogeneous flow independent upon the flowrate. The KPS "Jetmixer" is an efficient design, consisting of an external pump, mixing nozzle, and a take-off quill, as shown in the figure above. Part of the main stream is pumped around and re-injected into the mainstream using the efficient and certified KPS nozzle mixing device. In the created loop, where the innovative and sustainable CS-01 cell sampler is located, accurate and representative grabs are taken and transferred to receiver cans.