



► **fastLOOP SAMPLEX Automatic Sampling System**

Loop-Type Sampling System with
Bypass Pumping

PRECISION & REALIABILITY



Loop-type sampling systems with bypass pumping provide greater and more consistent sampling accuracy than conventional in-line sampling systems. The fastLOOP system is an ideal solution because it is fully isolatable from the main process and does not introduce any pressure drop in the primary process line.

Key Features

- Designed in accordance with API MPMS Chapter 8.2 for the automatic sampling of liquid hydrocarbons.
- Fast-loop circulation circuit engineered to maintain high flow velocity and ensure representative sampling.
- Continuous sample extraction from the main pipeline through a specially designed sampling probe or sampling connection.
- Efficient mixing to ensure homogeneous distribution of water and sediment throughout the sample stream.
- Automatic flow-proportional control for accurate collection of sample increments.
- Sample receivers designed to preserve the integrity of the collected sample.
- Modular configuration adaptable to LACT systems, storage terminals, pipelines, and custody transfer applications.

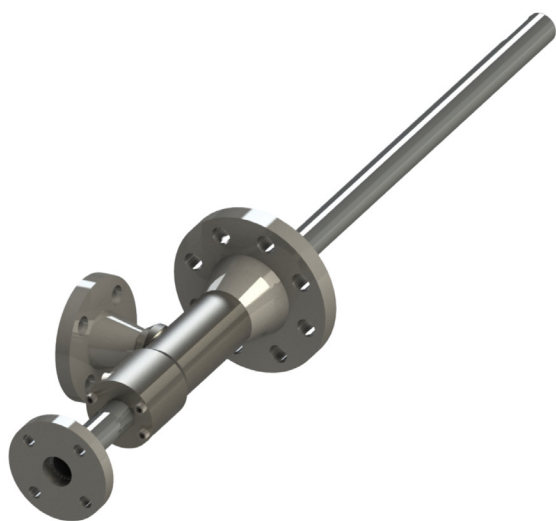
The SAMPLEX fastLOOP Sampling System is designed to obtain representative and reliable samples for custody transfer, fiscal measurement, and quality control applications, in full compliance with the requirements of API MPMS Chapter 8.2.

Using a fast-loop configuration, the system continuously extracts a portion of the main process stream through a high-velocity circulation loop, ensuring thorough mixing and providing a representative sample of the actual process conditions.

The design incorporates advanced flow-conditioning principles to maintain proper dispersion of water and sediment, minimizing errors caused by product stratification and ensuring accurate and repeatable crude oil quality determinations.



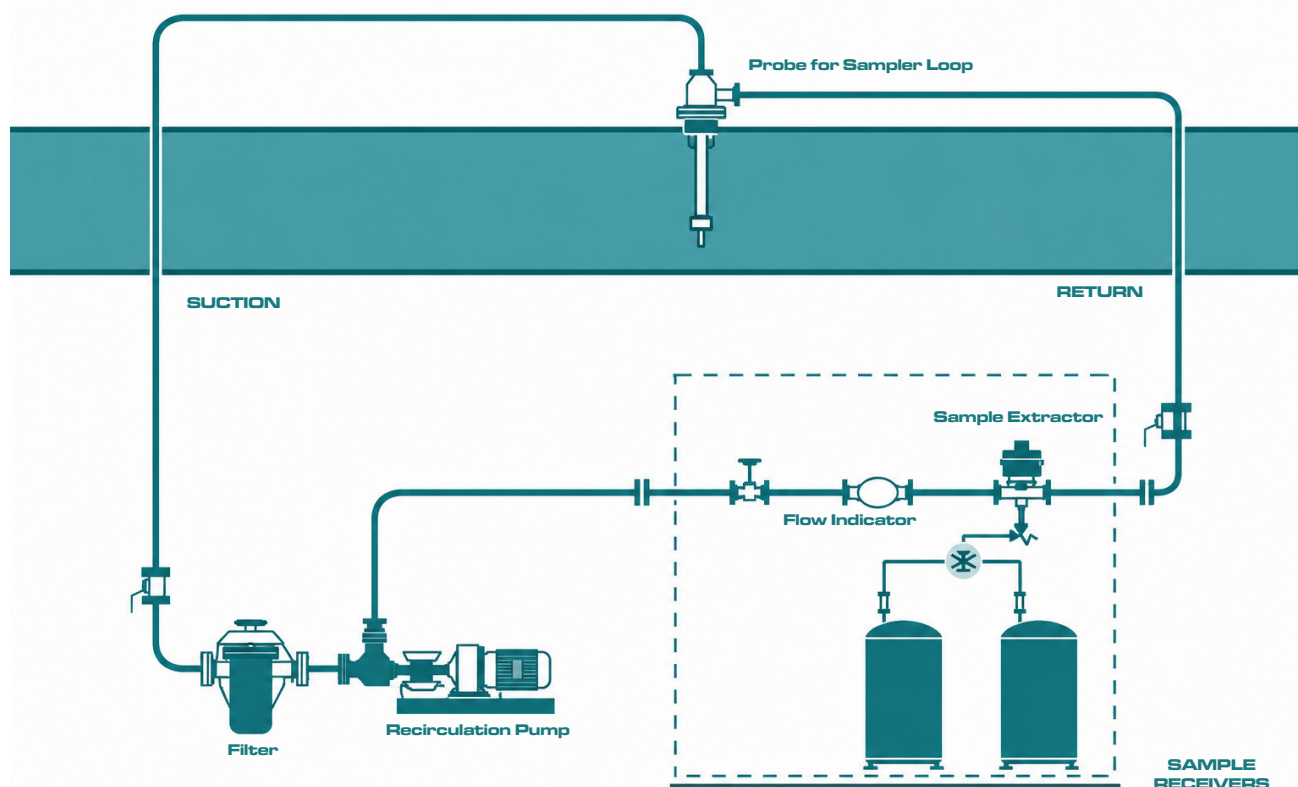
SAMPLEX
Control-X



SAMPLEX
SL15



SAMPLEX
SC15



Typical Schematic of a SAMPLEX fastLOOP Sampling System

It is essential to use the appropriate sample extraction equipment that meets the required accuracy, repeatability, and performance tolerances. Once a homogeneous mixture has been achieved, the automatic sampler must be properly configured to operate in proportion to the main pipeline flow rate in order to obtain representative samples for subsequent analysis.

For this type of sampling system, the SAMPLEX SL15 Loop Sampling Probe is used together with the SAMPLEX SC15 Automatic Sampler, enabling representative sample extraction from the bypass loop sampling circuit.

Flow-Proportional Sampling: In this mode, the sampling frequency automatically varies according to changes in the dynamic process conditions; in other words, the sampling frequency is directly proportional to the pipeline flow rate.

Time-Proportional Sampling: In this mode, samples are collected at a constant sampling frequency over a fixed period of time, regardless of changes in the pipeline flow rate during the custody transfer operation.

Advantages of the Fast-Loop System

- Higher reliability compared with conventional in-line sampling systems.
- Reduced uncertainty in the sampling process.
- Superior performance in applications with varying flow rates.
- Easy access for operation and maintenance.
- Seamless integration with online analyzers, water-cut meters, and process control systems.

Our system provides a robust solution for applications where sampling accuracy, repeatability, and sample representativeness are critical to the measurement, quality determination, and valuation of liquid hydrocarbons.