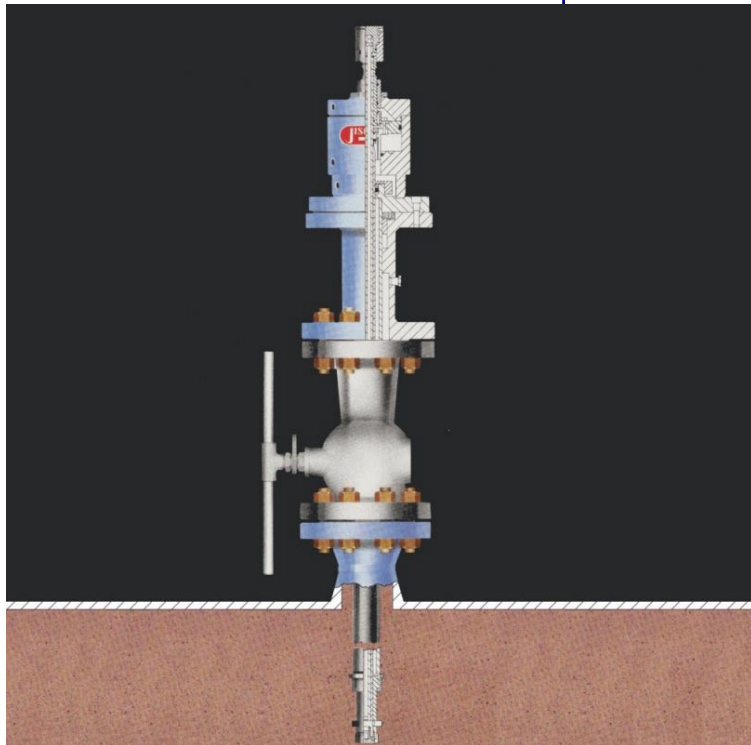




# Sampling Systems



## Introduction

The automatic sampling of pipeline transfers is a key industrial requirement in the accurate assessment of pipeline quality or value. Jiskoot are pioneers in the design of sampling systems specifically for crude oil, refined hydrocarbons and chemicals both land based and shipboard.

A world leader in this highly specialised field Jiskoot have consistently enhanced and extended their product range to cover a wide variety of sampling applications. The reliability of their equipment is universally renowned, with over 600 installations. In fact, most of the world's major oil import/export terminals incorporate Jiskoot systems.

The oil industry has established acceptable methods for accurate sampling of crude oils, a fluid often high in wax, sediment and other impurities. These are detailed in international standards ISO 3171, API chapter 8.2 and the IP Part VI Section 2.



## Inturbine

The Jiskoot Inturbine is a large rotor turbine flowmeter, inserted through a valve into the pipelines from 8" to 52" in diameter, and suitable for the most demanding conditions.

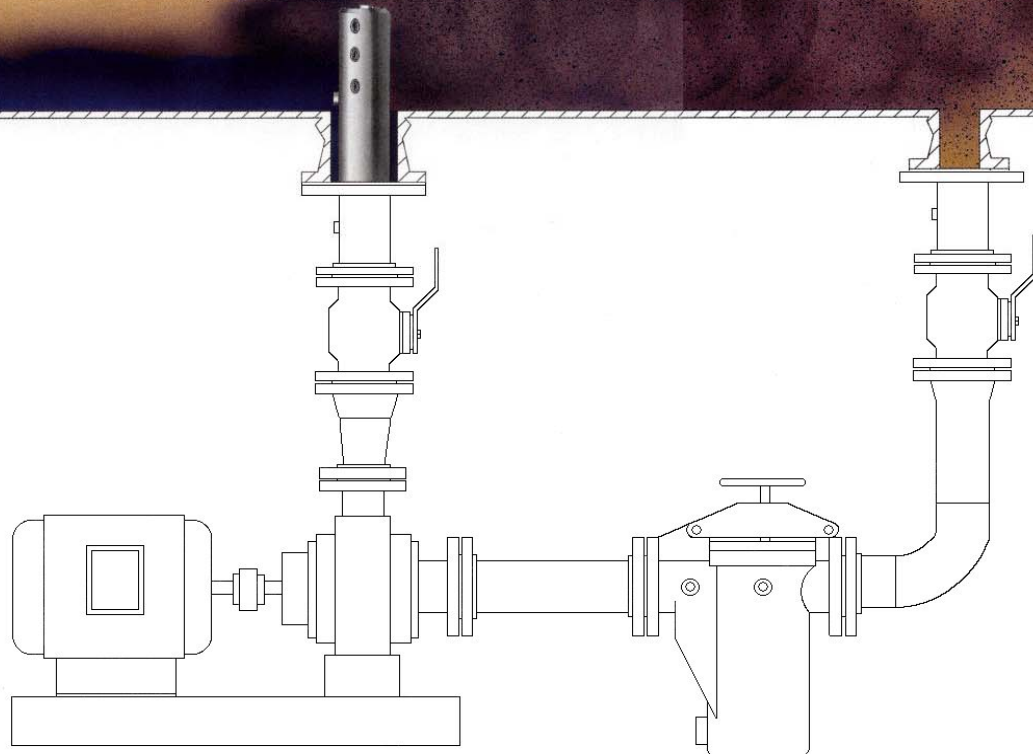
It overcomes the problems associated with providing a flow signal for controlling automatic crude samplers in pipelines which have high turndown ratios and a significant percentage of contaminants, typically wax, sediment, fibre and other solids.

## Jet Mix System

The Jiskoot Jet Mixer is a highly efficient mixing device used to condition pipeline contents for accurate crude oil sampling.

By withdrawing a small portion of crude oil and re-introducing it through a high velocity traverse jet assembly, positioned at the bottom of the pipe, where the flow is likely to be stratified, the Jet Mix finely disperses and uniformly distributes water and sediment over the complete cross section of the pipeline using our patented 2Twincell™ technique.

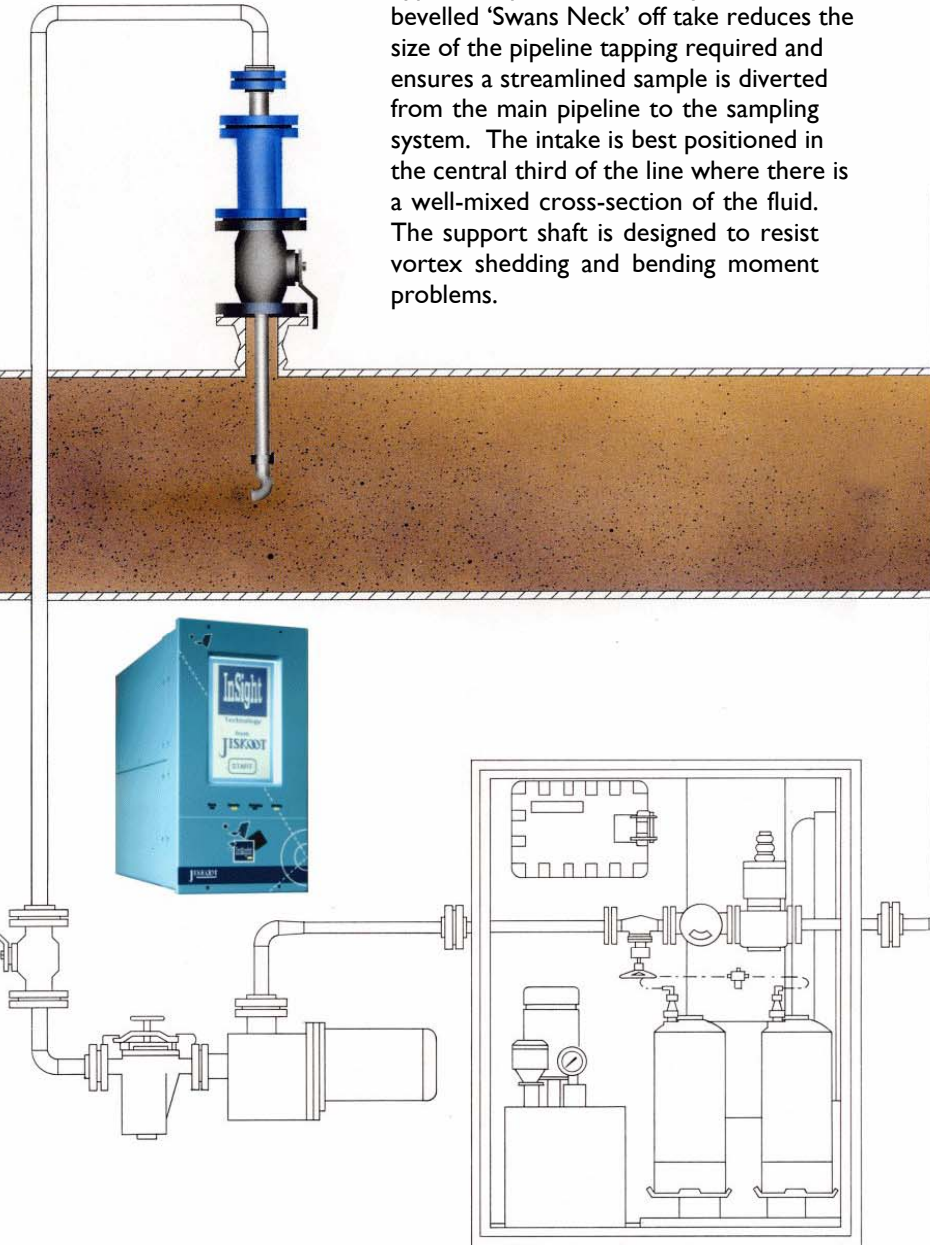
No other method can provide the advantages of a Jiskoot Jet Mix. It offers excellent mixing over a full range of flowrates, is installed without depressurising the pipeline, and is non-obstructive.



## Byscoop

The Jiskoot Byscoop is a specialised takeoff “quill” which ensures optimum sample representivity for Cell Samplers, Water Monitors, Densitometers and On-Line Analysers.

It is used in conjunction with a bypass loop. Its wide entry, internal bevelled ‘Swans Neck’ off take reduces the size of the pipeline tapping required and ensures a streamlined sample is diverted from the main pipeline to the sampling system. The intake is best positioned in the central third of the line where there is a well-mixed cross-section of the fluid. The support shaft is designed to resist vortex shedding and bending moment problems.



## Cell Sampler

The Jiskoot cell sampler is a device for bypass line and small pipelines from 1” to 4” in diameter. Used for custody transfer, crude oil and NGL sampling, loading gantry, well test and LACT applications, the cell sampler accurately and reliably extracts samples from a loop by use of Jiskoot’s patented three-step sample action.

A variant of the series 210 Cell, the ‘Hi- Temp’, has been developed to provide a safe and accurate method of sampling high temperature products such as Bitumen at pressures of up to 30 bar.

## Controllers

Operation of a sampling system can be a simple or sophisticated control problem.

From basic dividers to powerful networked systems with centralised control, monitoring and reporting, Jiskoot can provide a full range of units suitable for all environments, safe and hazardous.

Jiskoots most recent Controllers incorporate the latest proven technology and features in a format designed for ease of use.

## Auxiliary Equipment

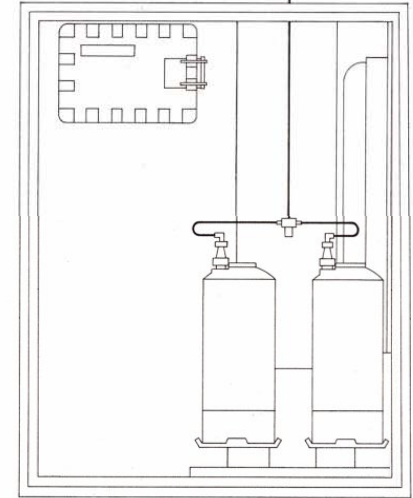
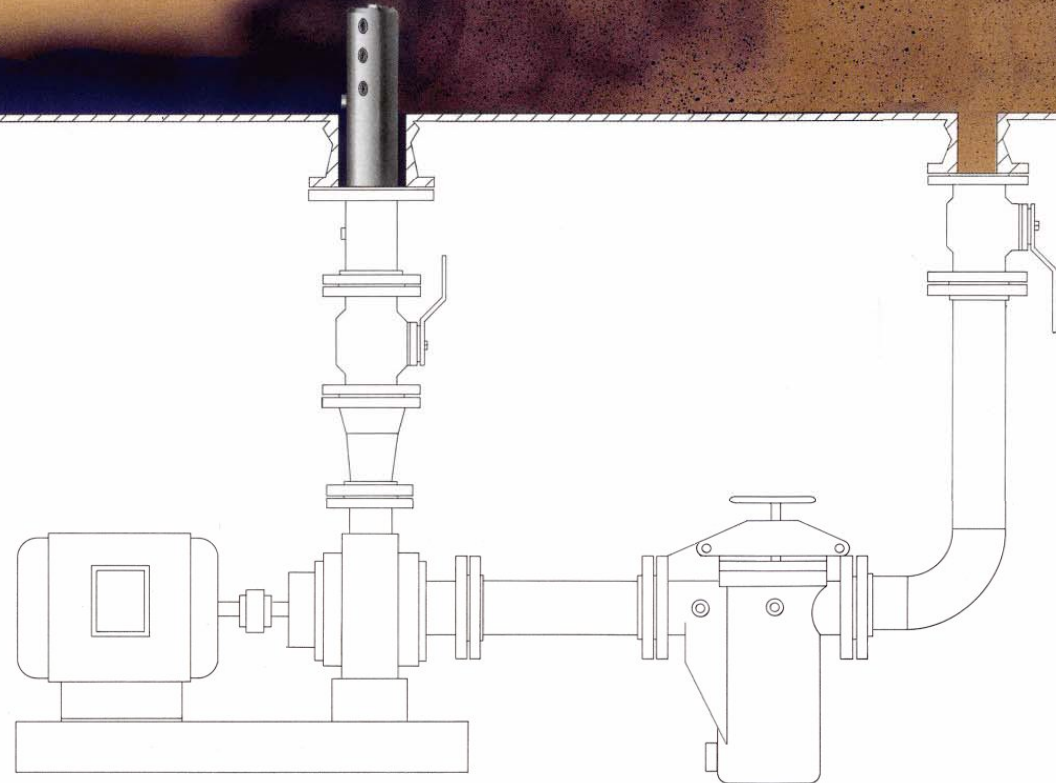
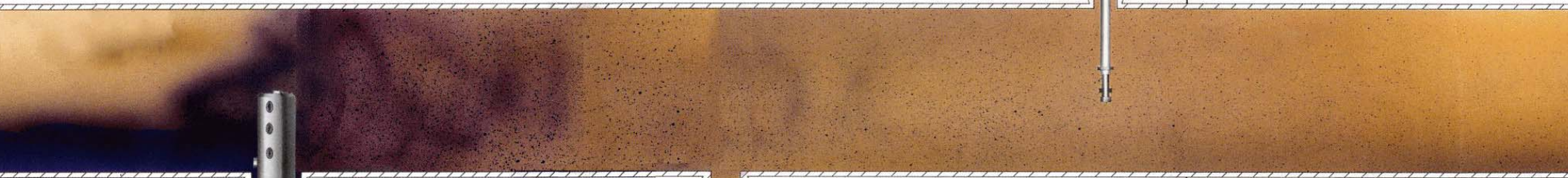
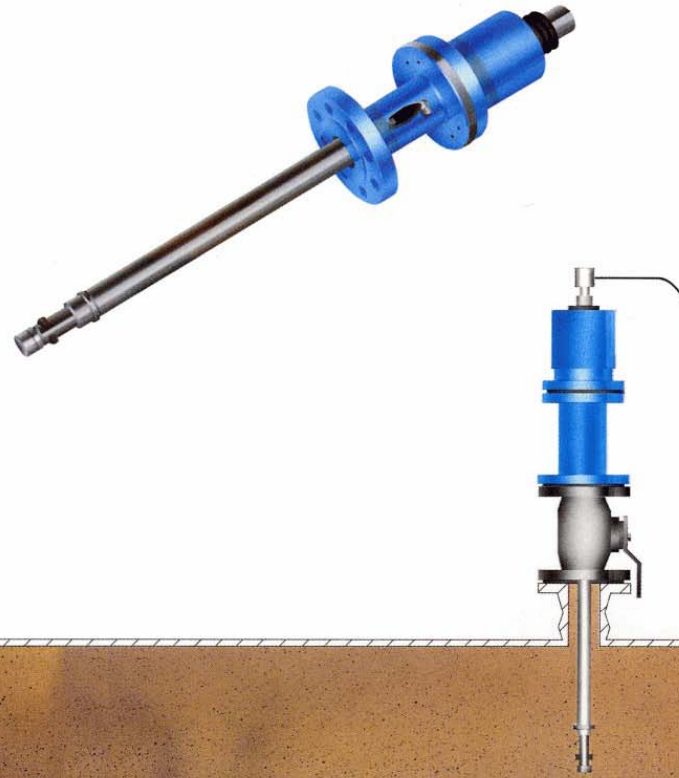
Jiskoot provide a range of sample receivers for both high and low pressures with the associated laboratory mixing systems. They also provide enclosures, monitoring, performance checking and many other accessories required to provide a completely integrated, accurate and reliable system from a single source.

## Sample Probe

The series 210 in-line sample probe is designed to extract samples of crude oil, refined hydrocarbons or chemicals from the central third of pipelines from 8" to 52" in diameter.

The probe has a substantial support shaft to prevent velocity induced stress and vortex shedding, and a profiled head designed to minimise hydraulic interference effects. Use of a forward extending pitot, internally bevelled, enhances sampling accuracy.

The probe is provided with a flanged seal housing to permit insertion and withdrawal under pressure line conditions.



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These are standard design specifications. We operate a policy of continuous development and the information on this sheet may be updated without notice.