

JISKOOT ShearMix

Constant-pressure-cylinder mixing station

APPLICATIONS

- Sample mixing

ADVANTAGES

- Sample homogenization at process pressure, ensuring representativity and minimal loss of light ends
- Compatibility with most constant-pressure sample receivers
- Ability to draw top and bottom samples to validate the mixing process at any time
- Laboratory-quality sample homogenization
- Direct withdrawal of samples into a pressurized syringe or through a valve
- Simplified flushing, drainage, cleaning, operation, repair, and overhaul
- Compact design
- Compliance with IP 386, ISO 3171, IP 6.2, and API 8.2 sampling standards (when operated within specification as part of a compliant sampling system)

The JISKOOT ShearMix* constant-pressure-cylinder mixing station is designed to homogenize the contents of a constant pressure sample receiver at the sample collection line pressure to ensure analysis subsample representativity and retention of light ends.

The station is the only integrated mixing system that uses laboratory mixing techniques to homogenize liquid hydrocarbon samples with the repeatability required for Karl Fischer analysis. It complies with the requirements of IP 386 and equivalent standards and will mix water and light hydrocarbons of viscosities ranging from 0.5 to 600 cSt (i.e., light crude oils to condensates).

The JISKOOT ShearMix station is designed for use with JISKOOT CPC* constant-pressure-cylinder sample receivers or those from other vendors with suitable exchange fittings. Subsamples can be withdrawn from the system for analysis through an atmospheric valve or by using a pressurized syringe.

The station offers significantly better sample homogenization than that provided by internal mixing balls or baffles. The system can be used with constant pressure receivers from 0.5 to 4 L.

System operation

A charged constant-pressure cylinder sample receiver, under process conditions, is placed vertically onto the mixing bench station. The combination of valves allows the contents of the receiver to be transferred to the mixing vessel while maintaining process pressure.

Mixing is commenced via electric power. After a predetermined time, mixing is stopped, and a fully homogeneous sample may be extracted as an atmospheric sample or by using a pressurized syringe receptacle.

Upon satisfactory sample analysis, a cleaning process—which involves flushing the mixing vessel, constant-pressure cylinder, and associated pipe work with solvent—is conducted to ensure cleanliness and prevent contamination of further samples.



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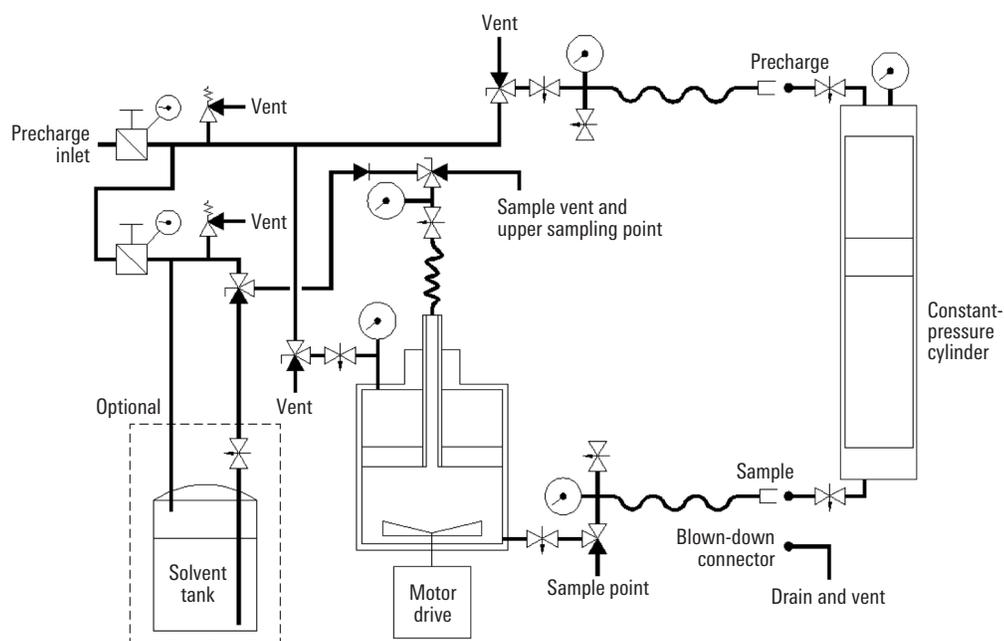
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Specifications

Liquids	Hydrocarbons (condensate to crude oil)
Maximum operating pressure, psi [bar]	2,176 at 212 degF [150 at 100 degC]
Design pressure, psi [bar]	2,176 [150]
Process temperature range, degF [degC]	32 to 104 degF [0 to 40 degC]
Viscosity range, cSt	0.5 to 800
Density range, g/cm ³	0.60 to 0.95
Materials	Corrosion-resistant wetted materials normally in 316 stainless steel Suitable for NACE MR0175 applications
Power requirements	Single phase 115/230 VAC, 50/60 Hz
Dimensions (W × D × H), in [mm]	27.5 × 21.7 × 43.3 [700 × 550 × 1,100]

Options

PED certification	NACE certification
Solvent purge system	Pressurized syringe takeoff



JISKOOT ShearMix station process diagram.

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