



UOP™ Closed Sampling System

Equipment and Systems

Introduction

The UOP Closed Sampling System provides petroleum refiners, chemical plants, and other processing facilities with a safe means of drawing representative samples directly from process streams. Designed to handle a wide variety of gases, toxic fluids, light and medium distillates, and high pressure liquids and gases, each Closed Sampling System is configured to match the operating parameters of individual applications. Available in flow-through to vent and flow-through to process plus vent configurations, the Closed Sampling System meets UOP Process Specification 835.

Operation

This closed, flow-through Sampling System routes samples directly from the process into a 500cc sample cylinder fitted with dual-sealing quick disconnects that prevent accidental leakage. Dual-seal disconnects not only protect operators and the environment from potentially hazardous materials, but maintain sample integrity by avoiding loss of lighter compounds and ingress of O₂ and N₂.

To reduce hazardous waste, the UOP Closed Sampling System allows unused sample to be returned from the laboratory to the process by simply reconnecting the sample cylinder into the unit. Because sample cylinders are quickly and easily exchanged, both collecting samples and “recycling” samples require very little operator time or training.

Construction features

- **Materials** – All metal fluid-contacting elements are constructed of corrosion resistant 316 austenitic stainless steel. For hydrofluoric acid applications, Monel is used. Pressure gauges, flexible hose and disconnects contain Teflon® chemically resistant elastomer.
- **Welded valve manifold** – The all-welded, proprietary design of the valve manifold assures environmental and product safety, and requires significantly less maintenance than non-welded manifolds.



Flow through to vent (left) and flow-through to vent plus process (right) Closed Sampling Systems. Shown with epoxy-coated carbon steel enclosures.

- **Process connections/flanges** – The UOP Sampling System requires only one process connection for flow-through to vent configurations and two connections for flow-through to process plus vent configurations. With only one or two process connections, the Sampling System is easy to install and minimizes potential leakage points. Standard process connections are 3/4-inch F318 900/1500 lb. RF flanges. For lower pressure applications, 150, 300 or 600 lb. RF flanges may be specified.
- **Pressure gauges** – Pressure gauges are available with maximum pressures of 100 psig (7 barg), 160 psig (11 barg), 400 psig (25 barg), 1000 psig (70 barg), and 2000 psig (140 barg).
- **Pressure ratings** – Each UOP Closed Sampling System is configured to withstand process upset and over-pressure conditions. Systems are typically rated at 1500 psi and each unit is hydrostatically tested to verify operation above its pressure rating pressure.
- **Enclosures/heating** – For protection from extreme operating environments and weather conditions, an optional locking, epoxy-coated carbon steel enclosure is available. The enclosure may be heated with steam.

Closed Sampling System Selection Guide

	<i>Flow-through to vent</i>	<i>Flow-through to process plus vent</i>
316 stainless steel construction	Type A	Type B
Monel construction	Type A-HF	Type B-HF

Specifications

- 1500 psi rating, standard
- 150°F maximum temperature
- 500cc sample cylinder
- Material of construction: type 316 stainless steel or Monel dependent on model. All-welded assembly except for pressure gauges, flexible hose and disconnects.
- 3/4-inch RF flanged inlet, outlet and vent (available sizes)
- Approximate shipping weight: 280 lb. with heated cabinet
- Approximate gross volume: 24 cubic feet, with cabinet

Options

- Sample Unloading Station: allows direct evacuation of a sample cylinder to a laboratory apparatus such as a gas chromatograph or automated distillation unit. Minimum of one station required per laboratory site.
- Locking, epoxy-coated carbon steel enclosure
- Steam heater with controller
- Mounting stand
- Spare parts kit
- 150cc, 300cc, 500cc and 1000cc spare sample cylinder assemblies
- Sample cooler



Sample unloading station (optional)

For more information

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