

Simplified and
Safe Sampling
for All Applications



SENSOR Sampling Systems, formed from the core SOR Controls Group competencies, is a leading manufacturer of closed loop sampling systems. These products are easy to use and are an important part of process optimization and safety.

SENSOR sampling systems provide a representative sample that is safe to both the operator and the environment. Our systems are designed to meet Leak Detection Repair (LDAR), Maximum Achievable Control Standards (MACT) and Volatile Organic Compounds (VOC) emission standards. Since no two sampling systems are exactly alike, each of our products is engineered to order.

Customer Satisfaction Comes First

EPA Regulations mandate the use of environmentally safe, closed loop and closed vent sampling systems. Our systems meet these strict EPA requirements while providing a safe, reliable method for collecting representative samples in a manner which minimizes exposure to the operator and the environment. SENSOR SAMPLING is dedicated to providing a simple way to collect a repetitive, quality sample, reduce emissions and create safe conditions in which to work. We offer many different types of systems specifically designed to meet your exact requirements.

Why Closed-Loop Sampling?

- Representative sample
- Provides operator safety
- Prevents emissions
- Regulatory compliance

Why SENSOR Sampling Systems?

- Zero dead volume sampling
- Complete system and application expertise
- Engineered to order systems
- Bottle versatility
- Replaceable needles
- Needle purge
- Easy to use and maintain
- Designed and built to proven SOR® quality system standards



BBSS – Basic Bottle Sampling System

The SENSOR BBSS, is a closed loop liquid sampler that is recommended for processes with pressure less than 150 psig and process temperature less than 135°F. The sample is dispensed into the sample bottle by merely turning a valve. Process pressure forces the sample through the valve and needle assembly into the bottle and with needle purge, zero dead volume is ensured throughout the sample valve assembly.

APPLICATIONS



All hazardous,
low vapor
pressure liquids

Acids, caustics

Chemicals where
O² or H²O exposure
may deteriorate
the sample



- Utilizes a unique needle valve stem design that virtually guarantees the stem will never seize due to process build up
- Utilizes a “pencil point” vent needle that assures the vent will not plug
- Covers a wide range of process pressures and temperatures where continuous “fast loop” flow is desired or where viscous or freezing processes are encountered
- Higher process temperatures can be easily addressed with the addition of optional sample cooler

FVBSS – Fixed Volume Bottle Sampling System

When the process sample pressure is >150 psig, or the application calls for a repeatable fixed volume of sample, the Fixed Volume sampler is recommended. By turning two valves, you can isolate sample pressure from process pressure, purge the sample bottle before dispensing, and verify the vent needle is clear with low pressure nitrogen. A predetermined amount of sample is captured in a fixed volume container.

APPLICATIONS



Liquid sample
streams over
150 psig

Samples where
overflow is an issue,
such as Benzene

Samples for lab
analysis requiring
a specific volume
where additional
handling would
otherwise be
necessary



- High pressure, fixed volume chamber allows isolation of sample from the process prior to dispensing into bottle
- Fixed volume prevents over filling of sample container
- The Fixed Volume Bottle Sampling System can be designed to meet your specific sample volume requirements

LGSS – Liquefied Gas Sampling System

The SENSOR LGSS enables operators to obtain samples of liquids with high vaporization pressures. The sample is captured in a sample cylinder for safe transport to the lab. Cylinder saddles help ensure proper alignment and prevent leakage when connecting the cylinder. The cylinder is safely secured to the plate by the saddles. SENSOR Sampling utilizes robust Double Ended Shut Off (DESO) quick-connects (QC) to help prevent damage to the QC's while in transit.



- Design allows operator to maintain the proper cylinder outage while verifying maximum fill density via the ANSI 600# sight flow indicator
- Excess sample left in the system can be easily vented so that the pressure in the quick connects is reduced, minimizing any potential emissions
- Simple to operate and easy on/off design makes the SENSOR LGSS an excellent choice for any high vaporization liquid application

APPLICATIONS



Light hydrocarbons, such as butanes, propanes and ethylene

Samples that have a vapor pressure greater than 19 psia at sampling temperature

VSS – Vapor Sampling System

The SENSOR VSS has many of the same benefits of the LGSS, but allows for the safe and representative sampling of non-liquid, gaseous samples. On the VSS, the sight glass is eliminated and the flow is reversed to ensure no condensate is left in the cylinder while sampling.



- Can accommodate multiple cylinder sizes and designs
- Designed to eliminate condensate in vapor sample
- Simple to operate and easy on/off design makes the SENSOR VSS an excellent choice for any high vaporization liquid application

APPLICATIONS



Non-condensing gasses such as hydrogen, nitrogen and H₂S

ISS – Inline Sampling System

The SENSOR ISS fits into a piping system without the need to utilize, or create, a pressure differential to take a sample. It can be designed to fit into virtually any diameter piping system and any flange configuration. The ISS uses a special long-body needle valve, or ram valve, and can also be configured as a fixed volume sampler.

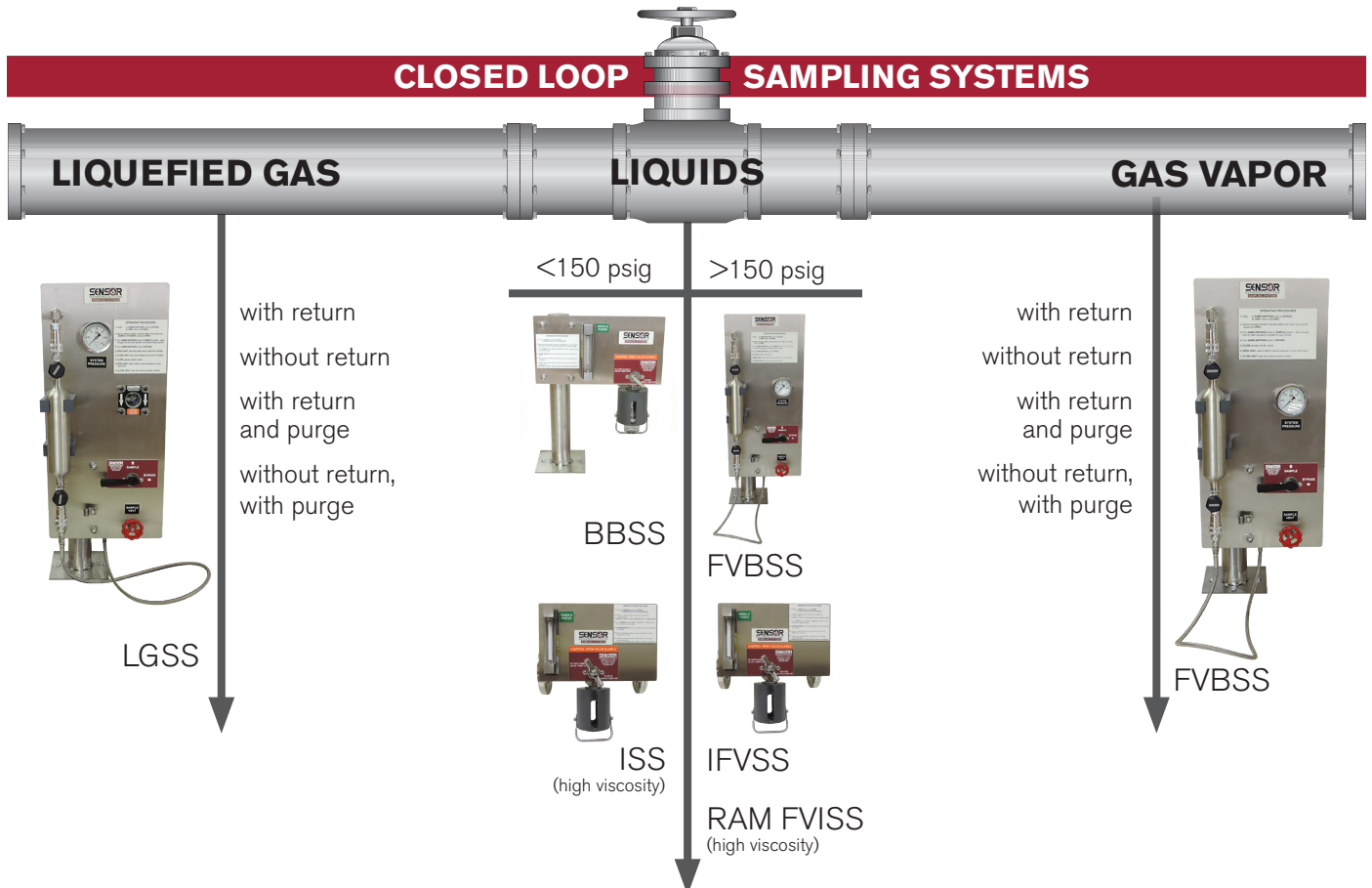
APPLICATIONS



Resid area of a refinery where the high temperature, highly viscous process media like tar are sampled, requiring steam heating and purging to prevent plugging



- Can be provided in virtually any material to match the piping system in which it is installed
- Available with fixed volume, model IFVSS
- Available with ram valve, model RAM FVSS



- Needles**
 - Easily replaced
 - Each needle can be replaced independently of the other, unlike some competitors whose needle assemblies are welded as one piece or concentric in design
 - Wide variety of sizes; available in Hastelloy C
 - Design allows zero dead volume
 - Pencil point vent needle to prevent plugging
- Bottles**
 - Bottle Shroud can be designed to accommodate virtually any type of sampling container
 - Standard sizes range from a 2oz. to 32oz. – other sizes available
 - Can be purchased with caps and septas
 - Caps and septas can be purchased separately
- Needle Purge**
 - Removes residual process from valve and needle assemblies to eliminate drips and plugging
 - Rotameter verifies vent needle is not plugged to ensure safe operation
 - Purges sample container
 - Zero dead volume. No process left in the system after sampling
 - Reduces maintenance cost by eliminating corrosion and plugging
- Sensor Samplers**
 - Offer a wide variety of systems that can be used for high temperature and high pressure applications
 - A wide range of materials available to accommodate the customer's individual applications
 - All SENSOR Sampling Systems come with safety tags, operating instructions on an engraved tag attached to the system, installation and operation manuals
- Coolers**
 - Can be designed to meet virtually any process parameters
 - Fixed volume coolers available to prevent cooling the "loop"
 - Air coolers available
- Carbon Canisters**
 - Absorb vent gases when no vent to flare is available
 - Disposable design
- Enclosures**
 - Available with or without heating options
 - Back plate design for ease of maintenance
 - Windows available
 - Insulation available
- Optional Testing**
 - X-Ray
 - Dye penetrant
 - Hydro static pressure test per ASME Sec VIII
 - PMI

TOO many more to list . . . If you don't see what you are looking for, just ask!

See our full line of Sampling Systems at **SENSOReng.com**

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Basic Bottle Sampling System

- Simple, flow-thru valve design
- Zero dead volume
- Replaceable process and vent needles
- Available with SENSOR Needle Purge



BBSS



ISS

Fixed Volume Bottle Sampling System

- Guarantees repeatable sample volume
- Zero dead volume
- Replaceable process and vent needles
- Suitable for high process pressures
- SENSOR needle purge standard



FVBSS

Inline Sampling System

- Available in wide variety of piping materials and end connections
- Suitable for high temperature, high viscosity service
- Available with open tube "stinger" or process needle

Liquefied & Vapor Gas Sampling Systems

- Safe, simple methodology for sampling high pressure liquefied gasses and process gasses
- Single handle operation
- Panel mounted pressure gauge
- Sight glass ensures safe cylinder outage on LGSS
- Ability to depressurize quick connects before removing cylinder

LGSS & VSS





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