The SENSOR Fixed Volume Bottle Sampling System (FVBSS) provides a repeatable fixed volume of sample during each sampling process without stopping flow of the process fast loop. As a safety precaution, it helps prevent overfilling of bottle. It utilizes the same sample valve as the Basic Bottle Sampling System (BBSS), with the addition of a needle valve to control the flow of the fixed volume into the sample bottle. No external tubing is required for the fixed volume chamber. The fixed volume chamber will be sized to meet the exact requirements of your sampling application. FVBSS is recommended when process pressure exceeds 150 psig or when a repeatable, defined volume of sample is desired. SENSOR Needle Purge (SNP) is included in the fixed volume design.

Features and Benefits

- Eliminate the possibility of overfilling a sample bottle
- Automatically purges process needle of any residual process thru SENSOR Needle Purge (SNP)
- Positive indication of free-flowing system; no plugged sample or vent needles
- Isolates sample bottle from process pressure
- 316L wetted parts standard
- Viton/Teflon seals standard
- Fixed volume sizes: 2oz. - 32oz. (60mL – 1000mL) other sizes available
- Operation & Installation Manual included
Product Specifications

Materials of Construction
- Sample Loop: 316L Stainless Steel (SS)
- Sample Valve: 316L; 1/2” flow port
- Process Needle: 316SS; 0.083” - 0.148” OD
- Vent Needle: 316SS; 0.083” OD
- O-Ring Material: Viton standard; optional Kalrez
- Seal Material: Teflon
- Bottle Shroud: PVC; 2 oz. - 32 oz.
- Retaining Strap: Stainless Steel
- Mounting Plate: Stainless Steel

Operating Pressure: 2000 psig @ 70°F
Operating Temperature: 135°F maximum without cooler; 800°F maximum with cooler and graphoil valve packing

Optional Equipment
- Emissions Filter: Canister with activated carbon for use when no vent to flare is available; also available with indication crystals which change color to indicate saturated absorbent media
- Isolation Valves: Isolation valves on sample inlet & outlet to allow for easy serviceability
- Sample Coolers: For use when process temperature exceeds 135°F
- Secondary Isolation Valve: Complies with double-block safety requirements
- Enclosures: Enclosures, available insulated or uninsulated and with steam or electric heater elements
- Mounting: 2” X 60” pipe stand; galvanized
How to Order

Below is the quick select model number tree that provides you with all the options to configure and order a sampling system for your application.

- You must select a designator for each component
- You must supply a completed Application Data Sheet shown on pages 4 and 5

**Shroud Size**

- 2 oz. 02
- 4 oz. 04
- 8 oz. 08
- 16 oz. 16
- 32 oz. 32
- None NN
- Special (please specify) XX

**Process Connection**

- 02 1/2" Tubing (standard)
- 04 1/4" Tubing
- 08 3/8" Tubing
- FF Flanged (specify size and rating)

**Fixed Volume Size**

- Fixed Volume Size (please specify) typically 75% of bottle size
- XX

**Needle Size**

- .083" Process/.083" Vent (standard)
- .109" Process/.083" Vent
- .148" Process/.083" Vent
- .250" Sample Tube (stinger)

**Model**

- Fixed Volume Bottle Sampling System FVBSS

**Optional Equipment**

- IB Isolation Valves In/Out (Ball Valves)
- CC Emission Filter (Activated Carbon w/ Indication Crystals)
- CF Emission Filter (Activated Carbon)
- DB Double Block Valve
- EB Bottle Enclosure
- EE Enclosure w/ Electric Heater
- EN Enclosure (Non-Insulated)
- ES Enclosure w/ Steam Heater
- KZ Kalrez O-Rings
- PC Process Cooler
- PS 2" Pipe Stand w/ Base
- SL Silconert Internal Coating
- XX Other Options (please specify)

Example Model No.: FVBSS - B XX 04 25 KZ
Bottle System Application Data Sheet

<table>
<thead>
<tr>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Company/Location</td>
</tr>
</tbody>
</table>

### PROCESS DATA

<table>
<thead>
<tr>
<th>Media</th>
<th>Tag Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Pressure Inlet</td>
<td>Pressures over 150 PSI, Fixed Volume System is recommended</td>
</tr>
<tr>
<td>*Fast Loop Outlet Pressure</td>
<td></td>
</tr>
<tr>
<td>*Vapor Pressure</td>
<td>Vapor Pressures &gt; 19 psi, recommended sampled in Sample Cylinder</td>
</tr>
<tr>
<td>*Viscosity (CP) at Sampling Temperature</td>
<td></td>
</tr>
<tr>
<td>*Temperature</td>
<td>Temperatures over 135 °F, Process Cooling is recommended</td>
</tr>
<tr>
<td>Particles in Sample</td>
<td>Yes  No</td>
</tr>
<tr>
<td>Micron Size</td>
<td>(%) if &gt;100 micron, y-strainer recommended</td>
</tr>
</tbody>
</table>

### MATERIALS OF CONSTRUCTION

<table>
<thead>
<tr>
<th>Wetted Parts</th>
<th>316SS (std.)</th>
<th>Monel 400</th>
<th>Hastelloy C276</th>
<th>Other *specify</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-Ring Material (Elastomer)</td>
<td>Viton (std.)</td>
<td>Kalrez</td>
<td>Other *specify</td>
<td></td>
</tr>
</tbody>
</table>

| Valve Packing Material | Teflon (std.) | Graphoil (Hi. Temp) |

### CONNECTION AND MOUNTING

| Sample Inlet/Outlet Connection Size (1/4" Tube Standard) |
| Sample Inlet/Outlet Connection Type (specify tube, NPT, Flange) |
| Flare Vent Pressure | Vent to Flare | Vent to Carbon Absorber | Tell Tale Crystals |

### SAMPLE CONTAINER

| Size Container |
| Material of Container | Glass | Plastic | Safety Coated Glass | Other *specify |
| Method of Sampling | Septum Bottle (closed loop, captured vent) | Open Top Bottle |
| Type of Container | Boston Round | Customer (provide sample for manufacturing) |

### OPTIONS (please check if needed)

- Sample Cooler Additional Data Needed, Please complete heat transfer document
- PipeStand for Mounting System
- SENSOR Needle Purge
- Secondary Sample Isolation Valve
- Enclosure Type Insulated Yes No Heated Yes No if yes, Steam or Electric if electric, Volts
- Process Block Valve Sample Inlet Sample Outlet Both
- Check Valve on Vent
- Steam Stinger
- Fixed Volume Size oz. mL (if applicable)

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

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.

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

**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

**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 gases and process gases
- Single handle operation
- Panel mounted pressure gauge
- Sight glass ensures safe cylinder outage on LGSS
- Ability to depressurize quick connects before removing cylinder

**RAM 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
- Can be provided with a variety of connections to mate up to existing piping or vessel

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.