SENSOR
SAMPLING SYSTEMS

IVSS INLINE VALVE SAMPLING SYSTEM

Inline Flanged Valve

The SENSOR Inline Valve Sampling System (IVSS) fits directly into the process piping system without the need to utilize, or create, a pressure differential to collect a sample. It can be designed to fit into 1", 2" or 3" vertical or horizontal piping orientation. The IVSS can be configured to utilize a thread-in bottle or needles for a bottle with cap and septa.

Two Configurations Available

The IVSS can be provided with a wafer or inline flange configuration, providing the ability to be installed in virtually any piping system.

The wafer configuration is designed to be sandwiched between two existing flanges. The inline version includes mating flanges on each end that can be specified to any required face-to-face dimension.

How Valve is Designed

The valve has been designed with the user in mind. The easy to use pull-type lever allows the operator to control the flow of the liquid into the bottle while collecting a sample. Upon release of the handle the valve springs closed forming a tight seal and terminating the sample collection.

Applications

The IVSS was designed for smaller batch processes, typically chemical facilities, where more specialty products are produced. These applications often require a dedicated sample collection system that ensures a homogeneous collection process and eliminates outside contamination of the media and/or exposure to the operator.

Wafer Valve

Features and Benefits

Spring-Loaded Handle	Valve automatically closed off after releasing the handle.
Weep Hole Above Packing	When packing begins to fail, weep hole provides early warning.
Interchangeable Adapter	Several types of adapters can be used to allow for various bottle types with thread-in or needle configuration.
Throttle Handle	Operator has the ability to control the bottle fill rate with the handle.
Lockable Handle with Insertion Pin	To perform maintenance or to prevent accidental opening when not intended to be used.
Wafer or Inline Type Design	The IVSS can fit in any new or existing piping configurations.
Body Materials	Standard is 316SS but available in HC276 to handle corrosive chemicals.

Product Specifications

Materials of Construction

Inline Flanged Valve	316LSS standard, HC276 optional
Wafer Valve	316LSS standard, HC276 optional
Threaded Bottle Adapter	PTFE
Process Needle	316SS standard, HC276 optional
Vent Needle	316SS standard, HC276 optional
O-Ring Material	Viton standard, optional Kalrez
Valve Packing Material	Teflon™ standard
Bottle Shroud	PVC, 2 oz. - 32 oz. standard (other sizes available)
Retaining Strap	Stainless Steel

Max Operating Pressure 232 psig

Max Operating Temperature 350°F

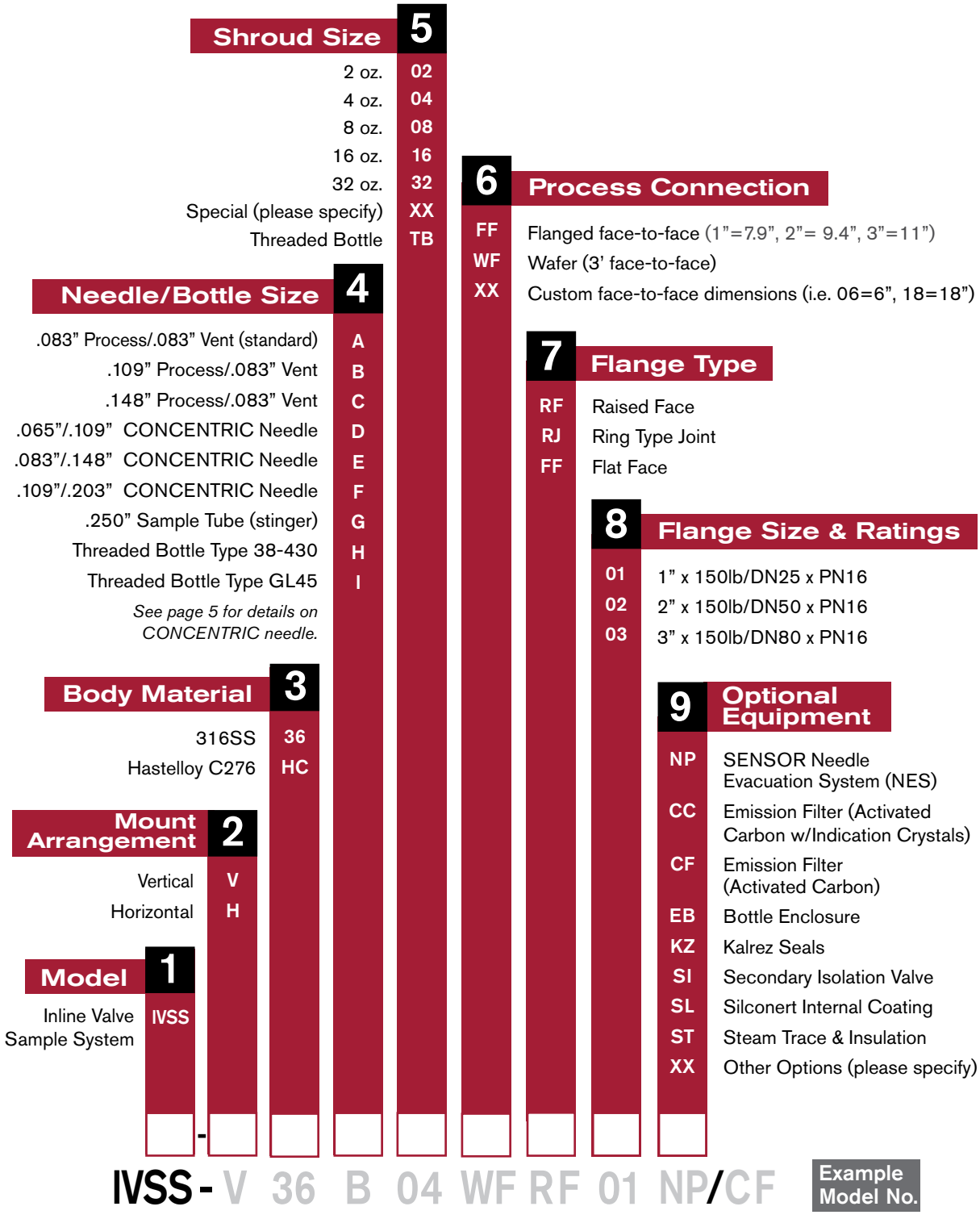
Optional Equipment

SENSOR Needle Evacuation System (NES)	Includes check valve, regulator, rotameter, pressure gauge, and block valve.
Emissions Filter	Canister with activated carbon for use when no vent to flare is available; also available with indication crystals which change color when filter media is saturated.
Bottle Enclosure	Available to house the bottle to protect the operator during collection and prevent outside contamination.
Kalrez® Seals	Kalrez® is offered to provide chemical compatibility when needed.
Secondary Isolation Valve	Available when double-block is required or desired.
Silconert Internal Coating	To prevent adsorption of collected media to the sample valve or needles.
Steam Tracing & Insulation	All components in contact with process are steam traced and insulated to prevent unwanted cooling.

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 6 and 7



Optional Equipment

C◎NCENTRIC **Needle System**

The C◎NCENTRIC Needle design combines the function of the 2-needle system in one concentric combination of two different sized needles, one within the other. Process travels through the inner needle into the bottle and the displaced air and vapors are vented back through the annulus between the two needles and plumbed to a safe area.

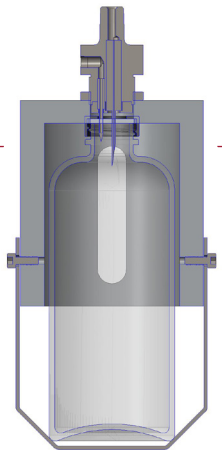
C◎NCENTRIC **NEEDLE FEATURES**

- Aligns the process and venting functions with the center of the sample bottle
- Can be ordered as an OPTION without changing the sample station design
- Can be supplied in the same materials as the dual needle system
- Can improve reliability of the sample station in the field, if utilized for the right applications
- Can be used with vials with crimp-on caps
- Can be used for small sample bottles (less than 1 oz.)

Process vent sizes
.065”/.109”
.083”/.148”
.109”/.203”

Thread-in versus needle adapter.

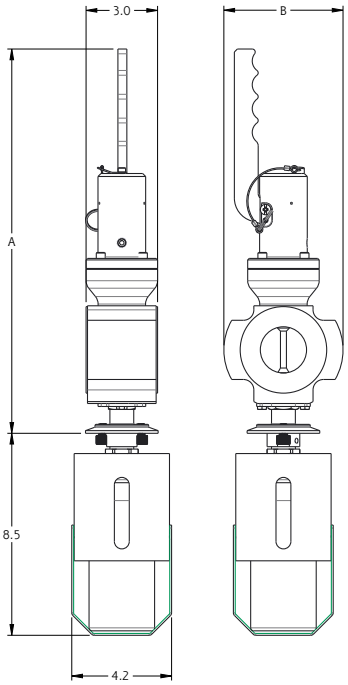
Thread-In Adapter



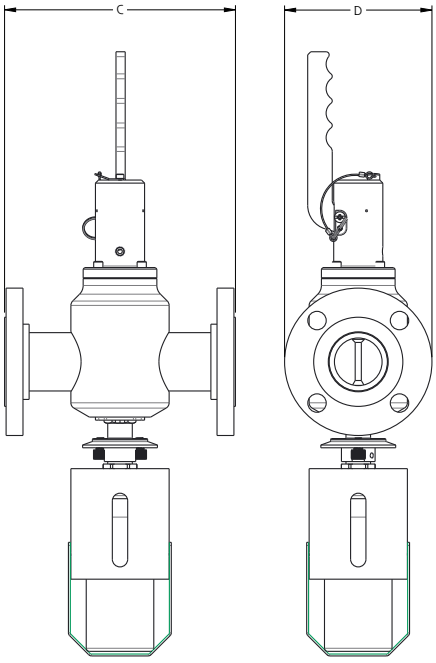
Needle Adapter

Dimensions

Wafer Valve



Inline Flanged Valve



	VALVE SIZE		
DIM	1"	2"	3"
A	15.6"	16.1"	17.4"
B	4.3"	5.0"	6.0"
C	7.9"	9.4"	11.0"
D	4.3"	6.0"	7.5"

This application data sheet needs to be submitted with each quote request.

SENSOR SAMPLING SYSTEMS

Inline Valve Sampling System (IVSS) Application Data Sheet

Date	
Name	Phone
Company	Email

GENERAL

Media Name	Sample Point/Line #
*Line Pressure _____ psig or kPag (Consult factory for pressures over 150 psig.)	
*Temperature _____ °F or °C	
*Vapor Pressure _____ at collection temperature (Vapor Pressures > 19 psiA recommended sampled in Sample Cylinder)	
*Viscosity (cP) _____ at collection temperature	
Particles in Sample ❍ Yes ❍ No Micron Size ____/____ (%) if >100 micron y-strainer recommended	

MATERIALS

*Wetted Parts ❍ 316SS (std.) ❍ Hastelloy C276 ❍ Other_____ specify	
*O-Ring Material (Elastomer) ❍ Viton (std.) ❍ Kalrez ❍ Other_____ specify	
*Valve Packing Material ❍ Teflon (std.) ❍ Other_____ specify	

MOUNTING AND CONNECTION

*Mounting ❍ Horizontal pipe-line ❍ Vertical pipe-line	
*Connection ❍ Waffer ❍ Inline ❍ Other _____	
*Connection size and class _____	
*Vent Type ❍ Vent to Flare ❍ Vent to Carbon Absorber ❍ Vent to Carbon Absorber with Tell Tale Crystal	
*Vent Conection Size (1/4" Tube Standard) _____	

CONTAINER

Size	
*Material ❍ Glass ❍ Plastic ❍ Safety Coated Glass ❍ Other_____ specify	
*Sampling Method ❍ Needles (Septum Bottle/closed loop) ❍ Open Top Bottle ❍ Open Thread-in Bottle	
*Type ❍ Boston Round (flint glass) ❍ Borosilicate ❍ Other (provide sample for manufacturing)	

OPTIONS

❍ Needle Evacuation System (NES)	
❍ Secondary Sample Isolation Valve	
❍ Heating Jacket (Inline only)	
❍ Container Enclosure Type Insulated ❍ Yes ❍ No Heated ❍ Yes ❍ No if yes, ❍ Steam or ❍ Electric if electric, Volts _____	
❍ Check Valve on Vent	
❍ For needle configuration select process needle size ❍ .083" ❍ .109" ❍ .148" ❍ 1/4" Stinger	
❍ Emission Filter on Vent	

Use page two for any comments/include sketch if available.

*Required information

Form 1894 (04.23) ©SENSOR

SKETCH **PIPING** or **APPLICATION** HERE

COMMENTS

Form 1894 (04.23) ©SENSOR

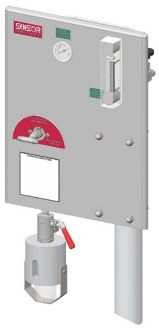
Base Systems

SENSOR Sampling Systems are designed and manufactured for your specific needs. These customizable, high quality systems are required to manage quality, yields and other important aspects of chemical and hydrocarbon processes.

BBSS

Basic Bottle Sampling System

- Simple, flow-thru valve design
- Zero dead volume
- Replaceable process and vent needles
- Available with SENSOR Needle Evacuation System (NES)



PIBSS

Pressure Isolating Bottle Sampling System

- Guaranteed repeatable sample volume
- Zero dead volume
- Replaceable process and vent needles
- Suitable for high process pressures
- SENSOR Needle Evacuation System (NES) standard

LGSS & VSS

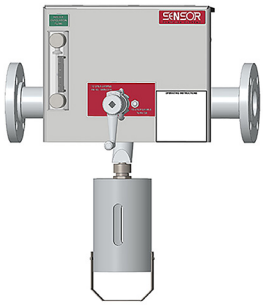
Liquefied & Vapor Gas Sampling Systems

- 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

ISS

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
- Direct mount to process piping



RSS

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
- Variety of connections to mate up to existing piping or vessel

HPSS

Heavy Products Sampling System

- Removable Cartridge Designed Valve allows easy maintenance without removing the entire Flanged Spool Assembly
- Steam Heated Dispense Tube ensures that any residual remains hot and fluidized until it can be purged
- Steam Purge after each sample collection eliminates the chance of plugging
- Condensate-free steam flush assembly with the use of a unique 3-way needle valve and steam trap
- Twist Lock Purge Adapter ensures residual material that is purged out is contained instead of spraying out inside the enclosure

Inline Valve Sampling System IVSS