

**Operating Instructions**



These instructions provide information for installation, operation and maintenance of the Heavy Products Sampling System (HPSS). The HPSS sample station mounts directly into a pipe line or fast loop utilizing pipe and flanges where it collects samples of hot heavy products such as resid, asphalt, hot tar, gas and oil, resins, slurries, surfactants and emulsions. The HPSS system has a non-insulated enclosure to prevent splashing or splatter contact with the operator.

The flow-through design of the HPSS sample valve will isolate the sample path from the sample flow line, making it possible to steam purge the sample path independent of the process flow to eliminate plugging. The steam purge clears and potential blockage from the sample path without disrupting the process flowing in the sample line.

The HPSS has a removable/replaceable cartridge system that allows for separating the valve's critical components from the sample line without removing the valve body and pipe spool from the process line in the event of required maintenance. The cartridge can simply be removed from the sample valve body and replaced with a new one.

With the Flush/Purge Adapter the operator can utilize steam to completely flush out the sample valve and steam heated dispense tube in a controlled manner to the drain of the enclosure without creating a mess on the inside of the enclosure from splatter. Replacement parts are available, see page 6.

*Design and specifications are subject to change without notice.*

*For latest revision, go to **SENSOReng.com***

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## Installation

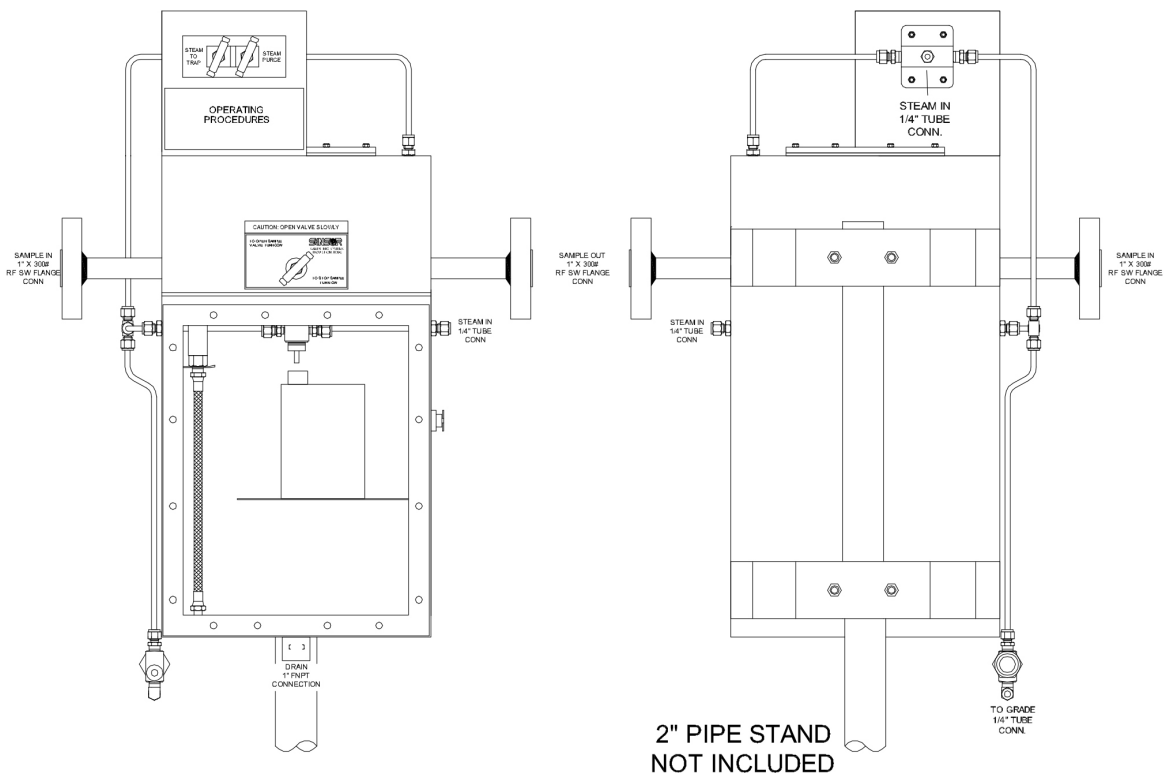
- 1 Visually inspect unit for broken or missing components.
- 2 Install plate on pipe stand with clamps as provided.
- 3 Check all fittings; tighten if needed using 9/16" open-end wrench for 1/4" 7/8" open-end wrench for 1/2"



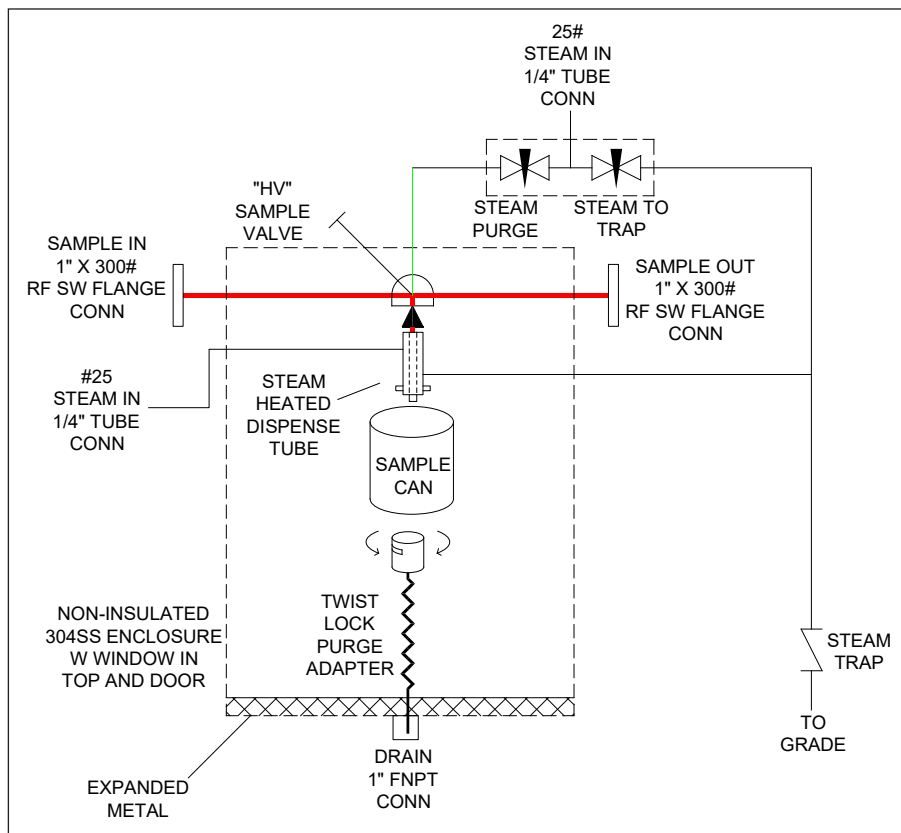
**DO NOT OVER TIGHTEN**

- 4 Before connecting Sample In, Sample Out, Vent or N2 Supply lines; Make sure:  
**SAMPLE valve is CLOSED**  
**STEAM TO TRAP valve is OPENED**  
**STEAM PURGE valve is CLOSED**

- 5 Connect **SAMPLE IN** and **SAMPLE OUT** flanges as labeled, making sure to install appropriate gasket seals and proper bolts.
- 6 Connect **VENT** as labeled on fittings.
- 7 System is ready for sampling.



- 1 Verify:
  - SAMPLE** valve is **CLOSED**
  - STEAM TO TRAP** valve is **OPEN**
  - STEAM PURGE** valve is **CLOSED**
  - SAMPLE CAN IS IN PLACE**
- 2 Turn **SAMPLE** valve **CCW** to **OPEN** and observe sample filling sample can..
- 3 **CLOSE SAMPLE** valve, when desired amount of sample is in can.
- 4 Allow time for can to cool, then remove sample can.
- 5 Install twist lock purge adapter on dispense tube and make sure flex hose end is inserted into **DRAIN**.
- 6 **OPEN STEAM PURGE** valve and allow steam to clean out sample valve and dispense tube down through metal hose to drain.
- 7 **CLOSE STEAM PURGE** valve.
- 8 Twist off purge adapter and hang back up.
- 9 This completes the sampling operation.



## Valve Cartridge Removal

In the event the sample pathway in the **HPSS SAMPLE VALVE** becomes obstructed or plugged, it may be necessary to remove the **VALVE CARTRIDGE** assembly from the **HPSS VALVE BASE** in order to clean the valve internals or replace the **CARTRIDGE**. This feature eliminates the need to remove the entire pipe spool from the piping system.



**Before getting started make sure you have done the following:**

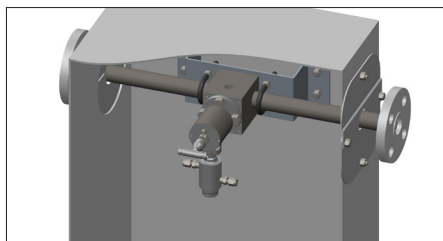
- 1 Confirm **Sample Station** is isolated from process pressure.
- 2 Drain as much process as possible from the **Sample Station** piping Fast Loop.
- 3 Confirm **N2, STEAM** and other utilities are isolated from the **Sample Station** and valves are in the **CLOSED** position.

- 1 Using a 9/16" open ended wrench, disconnect the **STEAM IN** and **OUT** connections on the steam-heated dispense tube assembly.
- 2 Using a 5/16" Allen wrench, loosen the (2) cap screws and remove the steam-heated dispense tube assembly from the lower side of the **VALVE CARTRIDGE** assembly. There is a black **RYTON SEAL** located between the two components. Make sure it is still in place after removing the flanged and heated dispense tube assembly, or replace it.
- 3 Using 5/8" open ended wrench, remove the **STEAM PORT CONNECTOR** from the top of the **HPSS SAMPLE VALVE BASE** (1/8" MNPT thread).
- 4 Using a 5/8" open ended wrench, loosen the (4) flange bolts of the **VALVE CARTRIDGE** assembly and remove the **CARTRIDGE** from the **VALVE BASE**.

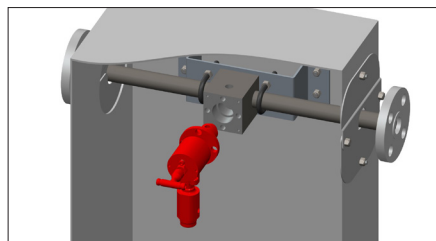


All (4) flange bolts must be completely disengaged to remove the assembly from the base.

Be careful **NOT** to lose the 2-piece **SPLIT RETAINING RING** and the **RETAINING COVER** when you remove the cartridge.

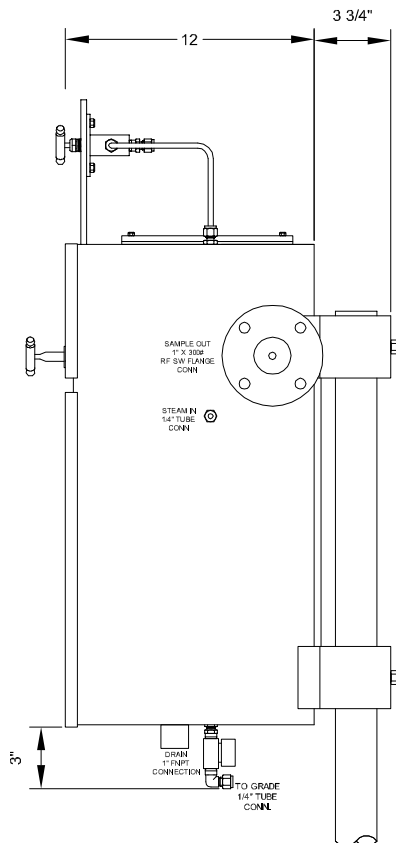
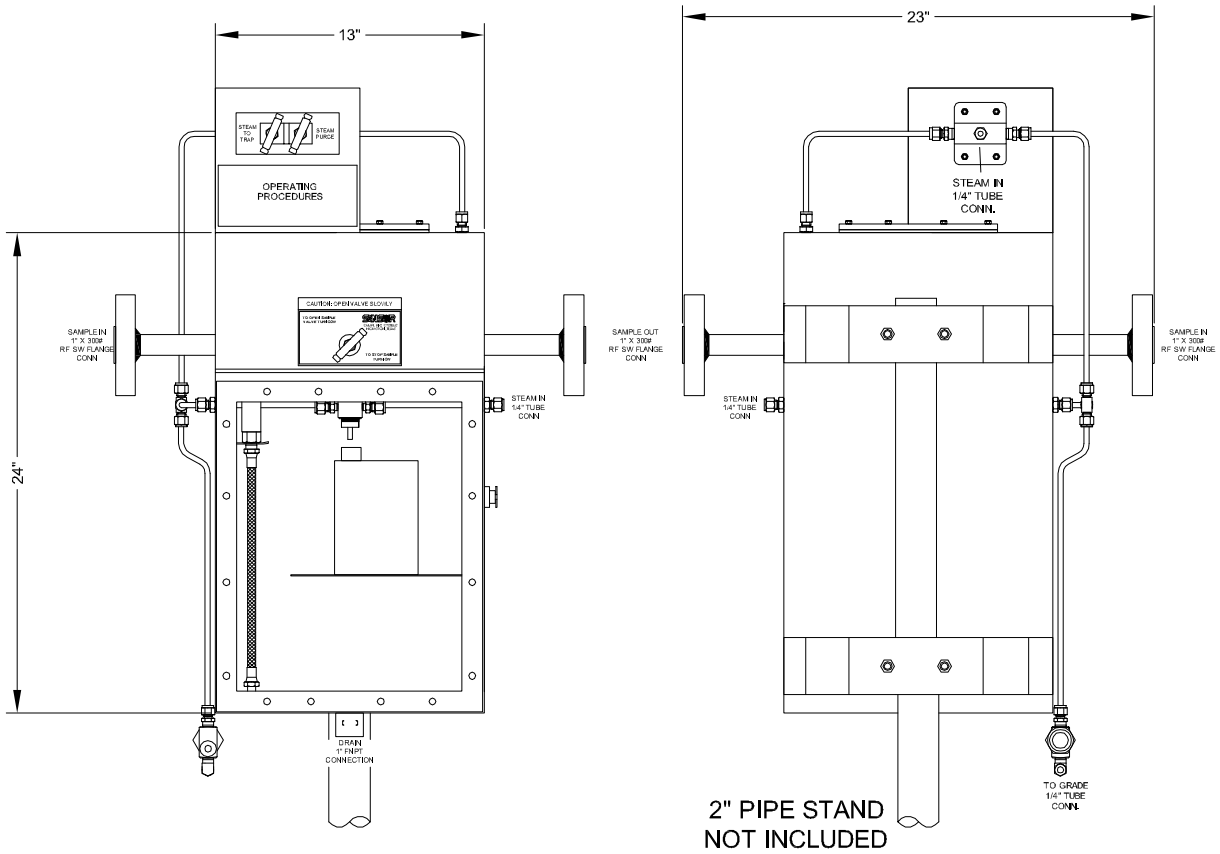


**CARTRIDGE INSTALLED**



**CARTRIDGE REMOVED**

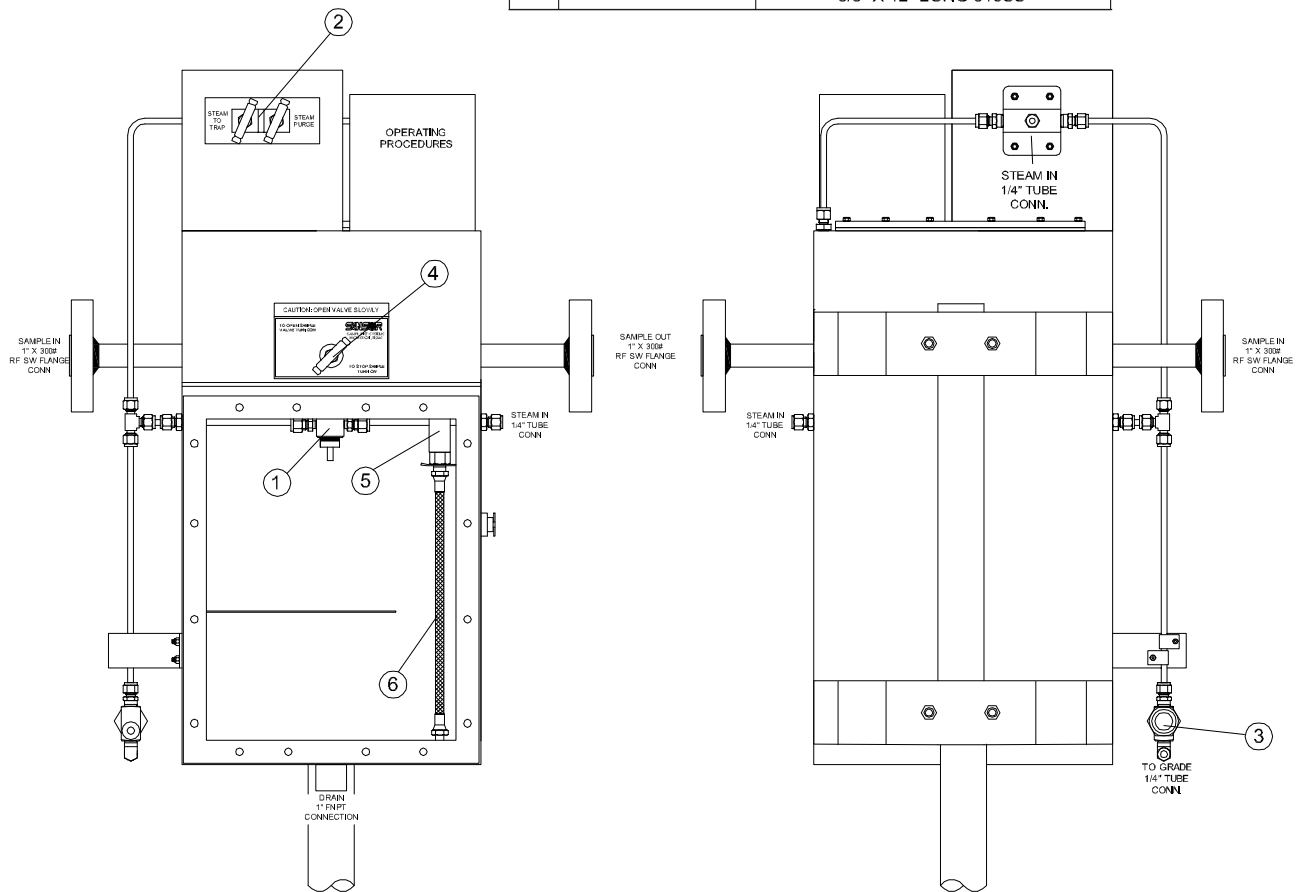
- 5 Using a small screw driver or o-ring picking tool, remove the black **RYTON SEAL** from inside the **VALVE BASE** and **REPLACE** with a **NEW RYTON SEAL**.
- 6 **CLEAN** the **CARTRIDGE** assembly and **CLEAR** plugged areas, or using new cartridge, install **CARTRIDGE** back into the **VALVE BASE**.
- 7 Carefully align the **CARTRIDGE** with the **N2/STEAM PORT** opening in the **VALVE BASE** and thread the **N2/STEAM PORT** connector back into the **CARTRIDGE** assembly using high temperature thread sealant. Assemble the remaining components being **CAREFUL NOT** to gall the threads or over-tighten tubing fittings on any of the reusable parts.



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SPARE PARTS

SYM.	PART NUMBER	SPARE PARTS DESCRIPTION
①	SMPHPVSDAMSTA	STINGER ASSEMBLY 3/8" 316SS
②	SMPV3SDAMSTM4F	3-WAY STEAM NEEDLE VALVE 316SS
③	SMPSTS4T	STEAM TRAP
④	SMPHPVSDAMUP	HEAVY PRODUCTS SAMPLE VALVE OUTBOARD ASSY 316/GRFL
⑤	SMPHPVSDAMFLSH6F	FLUSH ADAPTER 316SS
⑥	SMPHFSSHI6M6T12MTL	ALL METAL FLEX HOSE 3/8" X 12" LONG 316SS



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