

## Sampling For Every Application

### BASIC LIQUID SAMPLING



### LIQUID SAMPLER FOR HIGHER PRESSURE APPLICATIONS



### LNG & GAS APPLICATIONS



Simplex Samplers, LLC. located in Houston, Texas is a leading manufacturer of closed loop sampling systems designed for process sampling. The unique designs of Simplex Samplers insure that a representative sample of the process is obtained in a safe and simple manner. The Simplex Samplers often referred to as “grab samples” are an important part of process control and optimization. Our customers can be guaranteed that the Simplex Samplers will provide a reliable sample that is safe to the operator and safe for the environment. Please contact Simplex Samplers if we can provide you any assistance.

What are Simplex Samplers about?

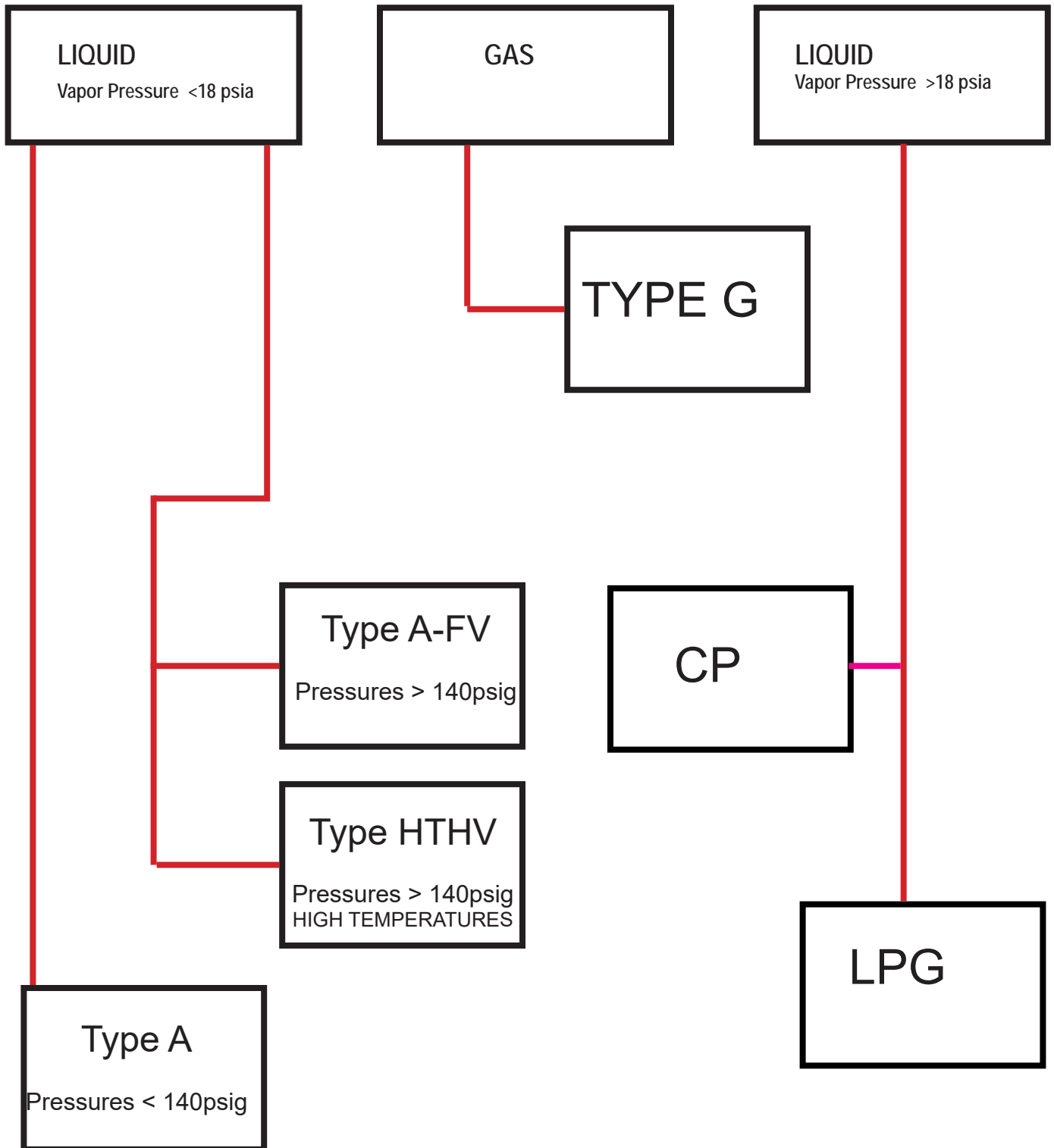
**Safety** - Simplex samplers are emission free and protects the operator from spills

**Environmental** - Simplex Samplers comply with LDAR & MACT requirements and eliminates VOC emissions during sampling.

**Reliability** - Shop designed and tested sample systems are proven performers and reduce the cost of ownership and compliance

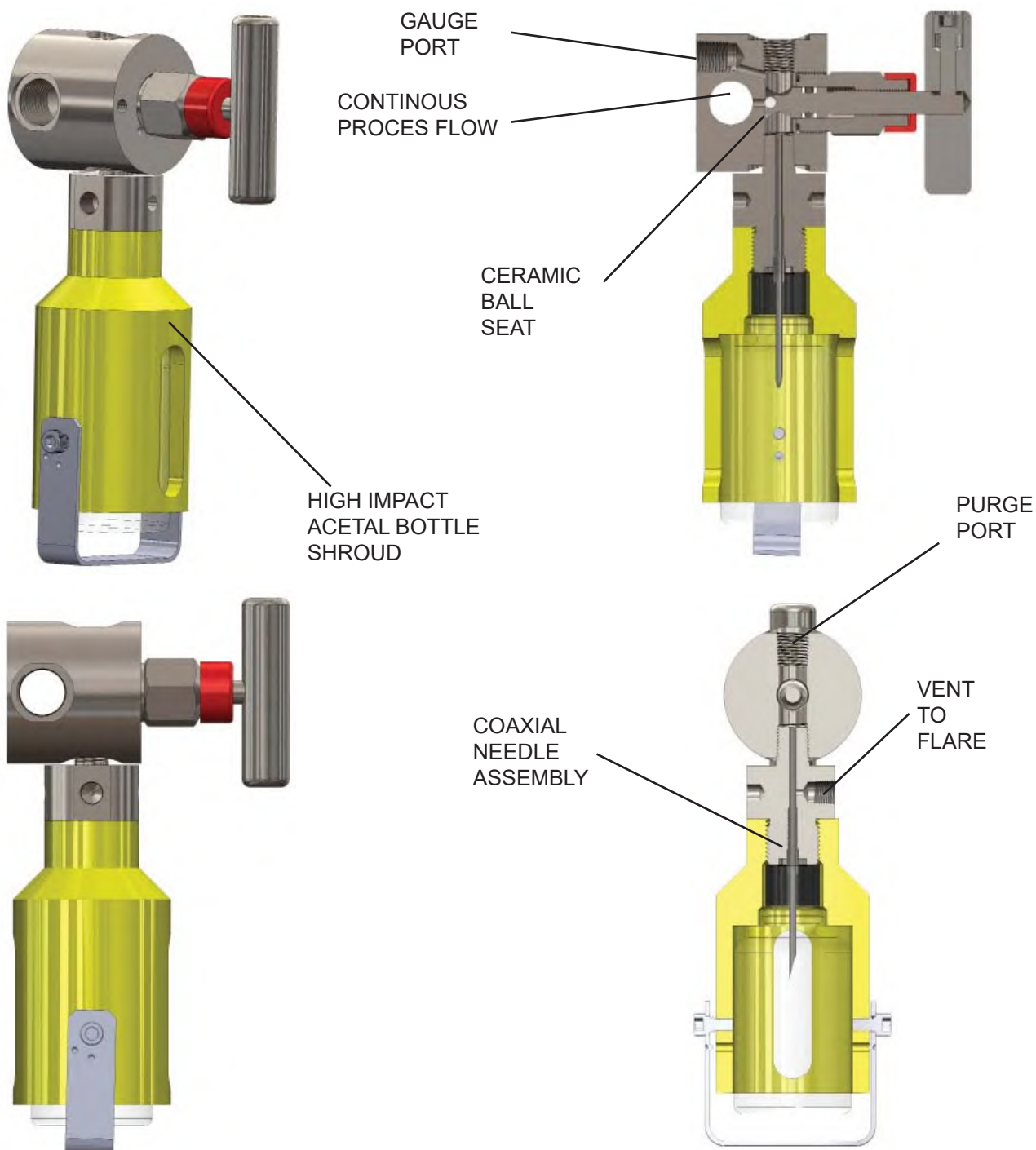
**Quality** - Simplex Samplers unique components are designed to reduce the long term cost of ownership through reduced required maintenance

# Types of Sample Solutions



## TYPE A SAMPLING VALVE & NEEDLE ASSEMBLY

- Multi-turn stem for precise control of flow to the bottle
- Ceramic ball seat for severe service
- 0.41" bore for process fluid prevents pressure drop
- Valve body design has no dead volume
- Valve is purposely built specifically for process sampling



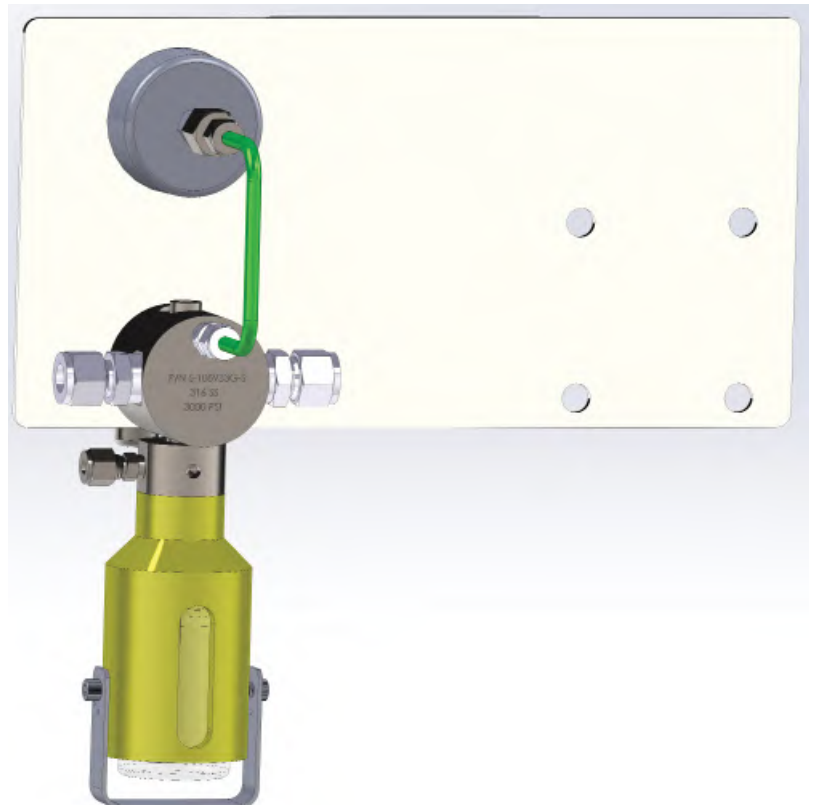


- OPTIONS
- NEEDLE PURGE
  - CARBON FILTER
  - COOLERS
  - ALTERNATE CONNECTIONS

### Features

The Type A is our baseline model yet it is rich in featured not available elsewhere.

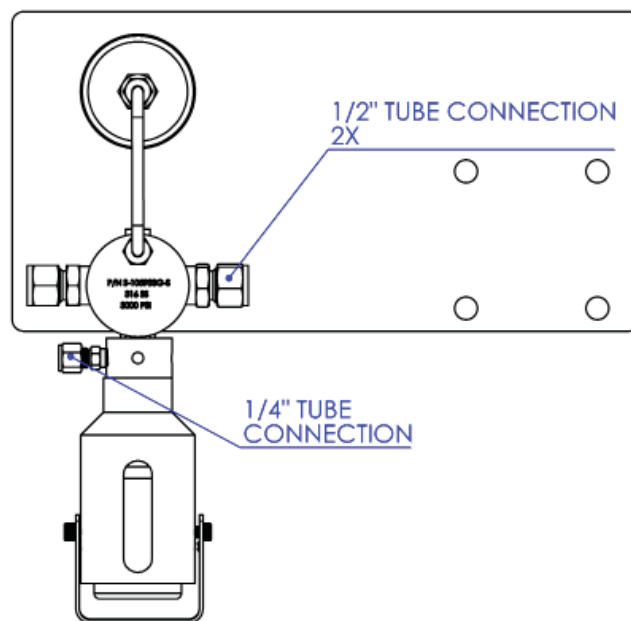
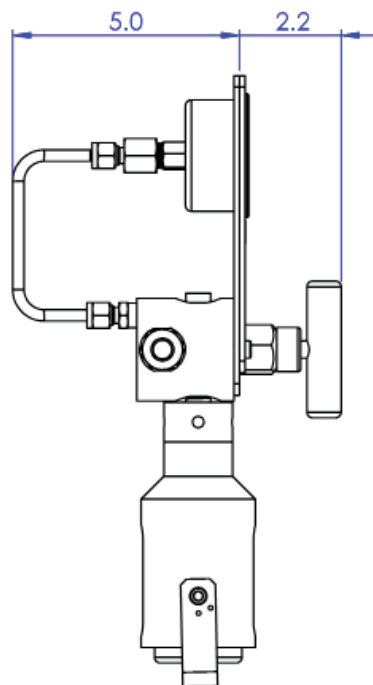
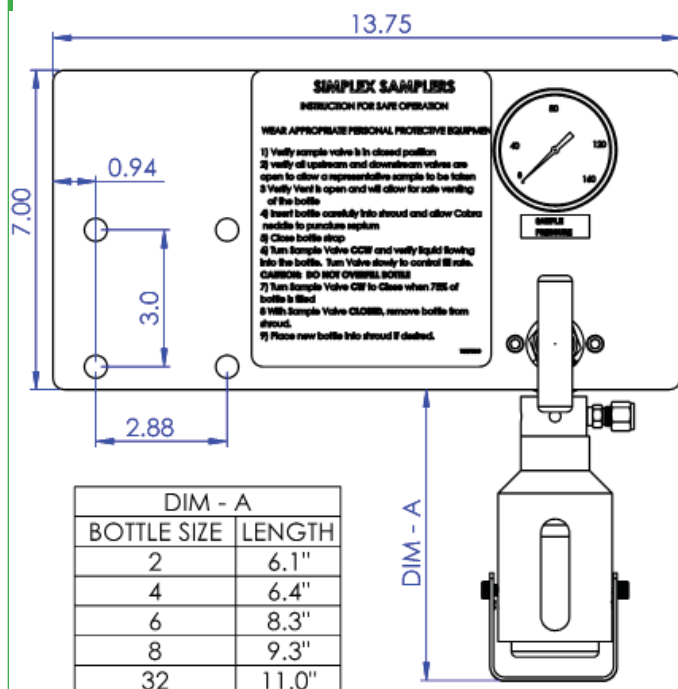
- All connections are tagged for easy hook up
- Standard units come with our special coaxial needle system which prevents bent and broken needles
- All units have our unique flow thru sampling valve. This allows for easy regulation of the liquid flowing into the bottle and reduces the possibility of liquid entering the bottle faster than air and other gases can be removed.





## Type A Basic Dimensions

See the technical data sheet of each build for exact specifications



## TYPE A SAMPLE SYSTEM

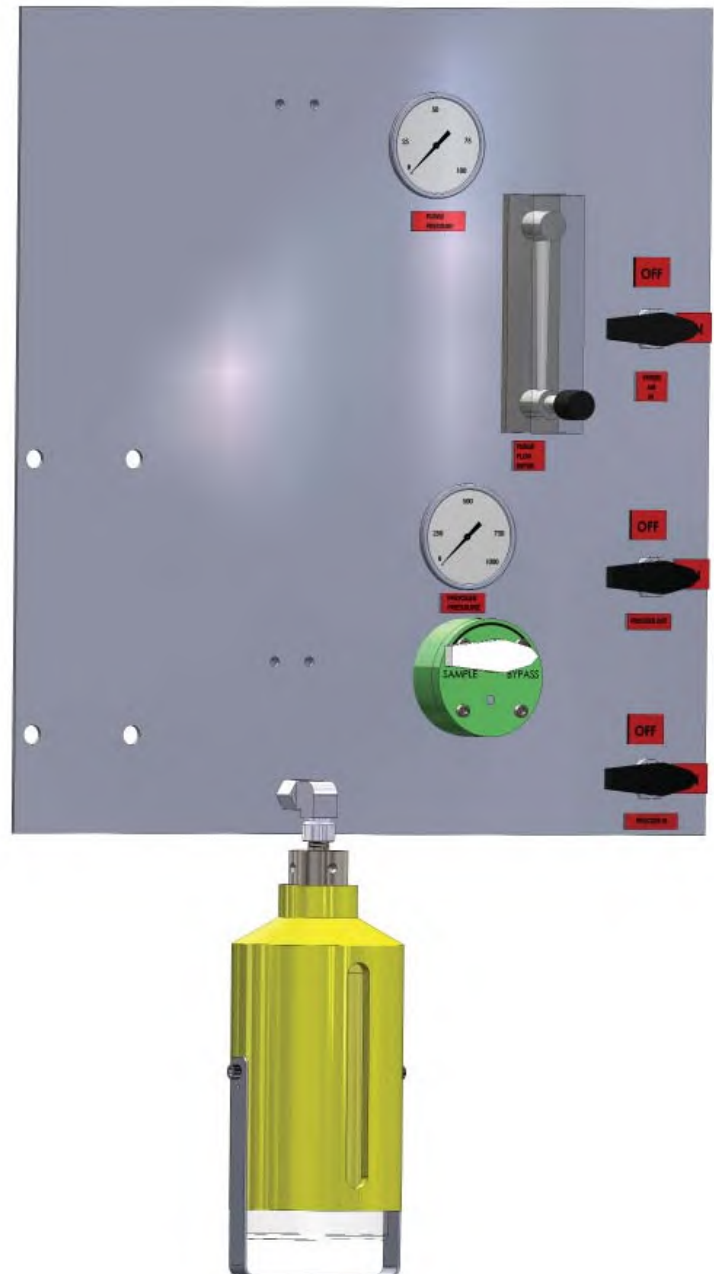
Material of Construction	
S	Stainless Steel
Q	Special (please specify)
Bottle Sample Size	
2	2 oz. Boston Round
4	4 oz. Boston Round
8	8 oz. Boston Round
16	16 oz. Boston Round
32	32 oz. Boston Round
Q	Custom
O-Ring Material	
V	Viton
K	Kalrez
Q	Other
Compression Fitting	
S2	Standard (1/2") * Vent Connection 1/4"
W2	Swagelok (1/2") * Vent Connection 1/4"
Vent Type	
S	Vent to Flare
EF	Vent to Emission Filter
Process Temperature	
S	Standard ( Process Temperature < 140F
C	Cooler Required ( Process Temperature >
Process Pressure Range	
1	0-100 psi Inlet Pressure Gauge
2	0- 200psi Inlet Pressure Gauge
Q	Other ( please specify)
Shroud Material	
DR	Delrin
SS	Stainless Steel
Options	
NP	Needle Purge
PS	PipeStand ( 2")
PBI	Process Isolation
PBR	Process Isolation
DS	Dual Pipe Stand for
ENC	Mounted in
PX	No Process Return (

## TYPE A-FV Fixed Volume Liquid Samplers

- CONNECTIONS ARE LABELED FOR EASY INSTALLTION
- COAXIAL NEEDLE SYSTEM IS TO PREVENT BENT OR BROKEN NEEDLES
- SIMPLE ACTUATION DESIGN ONLY REQUIRES OPERATOR TO MOVE LEVER FROM RIGHT TO LEFT. ALL OPERATIONS ARE AUTOMATIC
- CAN BE SIZED TO DROP ANY

- CAN EASILY BE AUTOMATED TO DROP SAMPLES OR MULTIPLE SAMPLES AT SPECIFIC DATES AND TIMES
- OPTIONS INCLUDE:

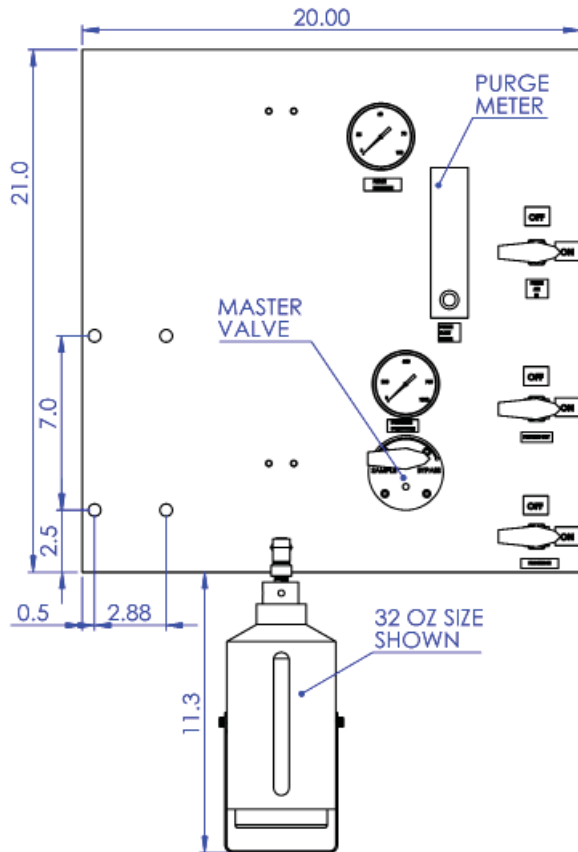
- COOLING COOLS
- CARBON CANNISTERS
- HIGH NICKEL ALLOYS
- AUTOMATION



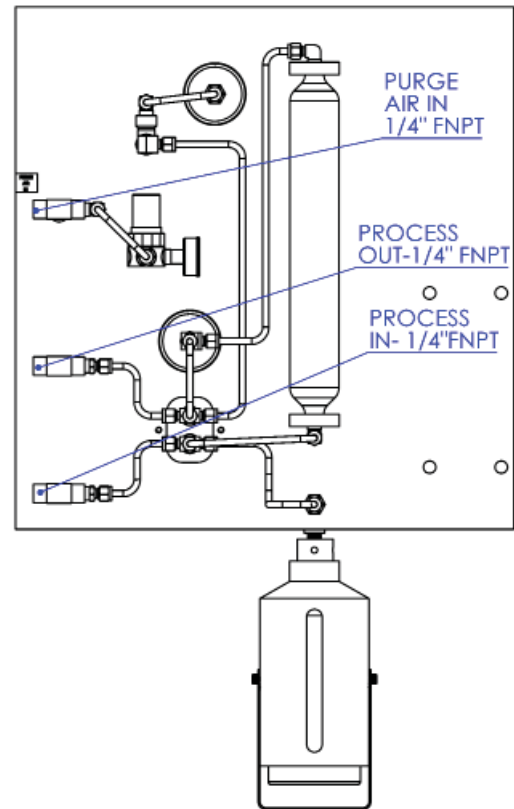


## Type A-FV Basic Dimensions

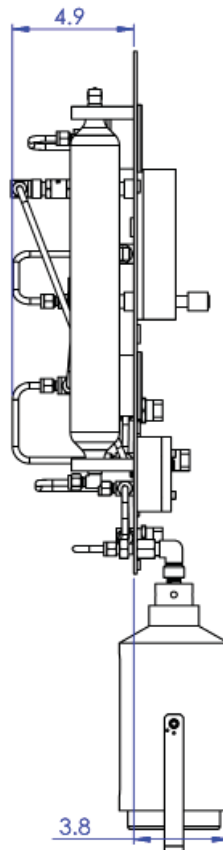
See the technical data sheet of each build for exact specifications



FRONT VIEW



BACK VIEW



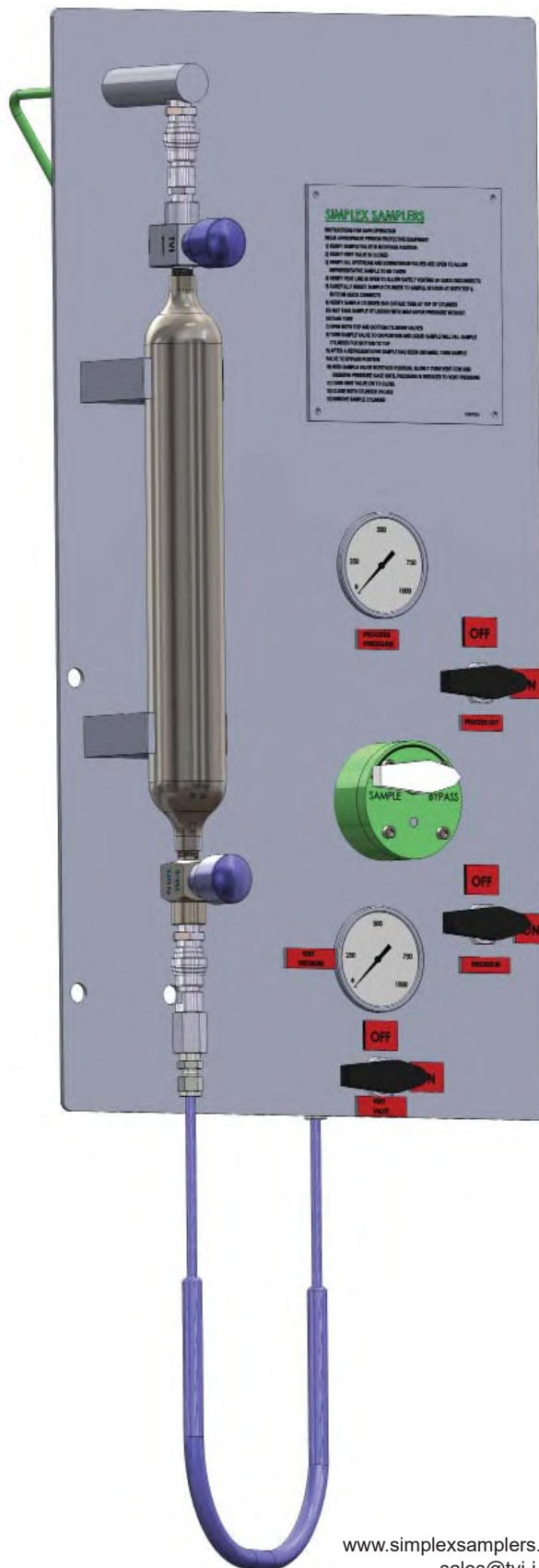
SIDE VIEW

## TYPE A-FV SAMPLER SYSTEM

Material of Construction									
S	Stainless Steel								
Q	Special (please specify)								
Bottle Sample Size									
4	4 oz. Boston Round with 75 cc Fixed Volume Cylinder								
8	8 oz. Boston Round with 150cc Fixed Volume Cylinder								
16	16 oz. Boston Round with 300cc Fixed Volume Cylinder								
32	32 oz. Boston Round with 500cc Fixed Volume Chamber								
Q	Custom								
O-Ring Material									
V	Viton								
K	Kalrez								
Q	Other								
Compression Fittings									
S2	Standard (1/2") * Vent and Purge Connection 1/4"								
W2	Swagelok (1/2") * Vent and Purge Connection 1/4"								
Vent Type									
S	Vent to Flare								
EF	Vent to Emission Filter								
Process Temperature									
S	Standard ( Process Temperature < 140F								
C	Cooler Required ( Process Temperature > 140F								
Process Pressure Range									
1	0-100 psi Inlet Pressure Gauge								
2	0- 200psi Inlet Pressure Gauge								
3	0- 300psi Inlet Pressure Gauge								
4	0- 400psi Inlet Pressure Gauge								
Q	Other (please specify)								
Shroud Material									
DR	Delrin								
SS	Stainless Steel								
Options									
EP	Secondary Isolation Val								
PS	PipeStand ( 2")								
PBI	Process Isolation Valve								
PBR	Process Isolation Valve								
DS	Dual Pipe Stand for mo								
ENC	Mounted in Enclosure								
PX	No Process Return ( Ret								

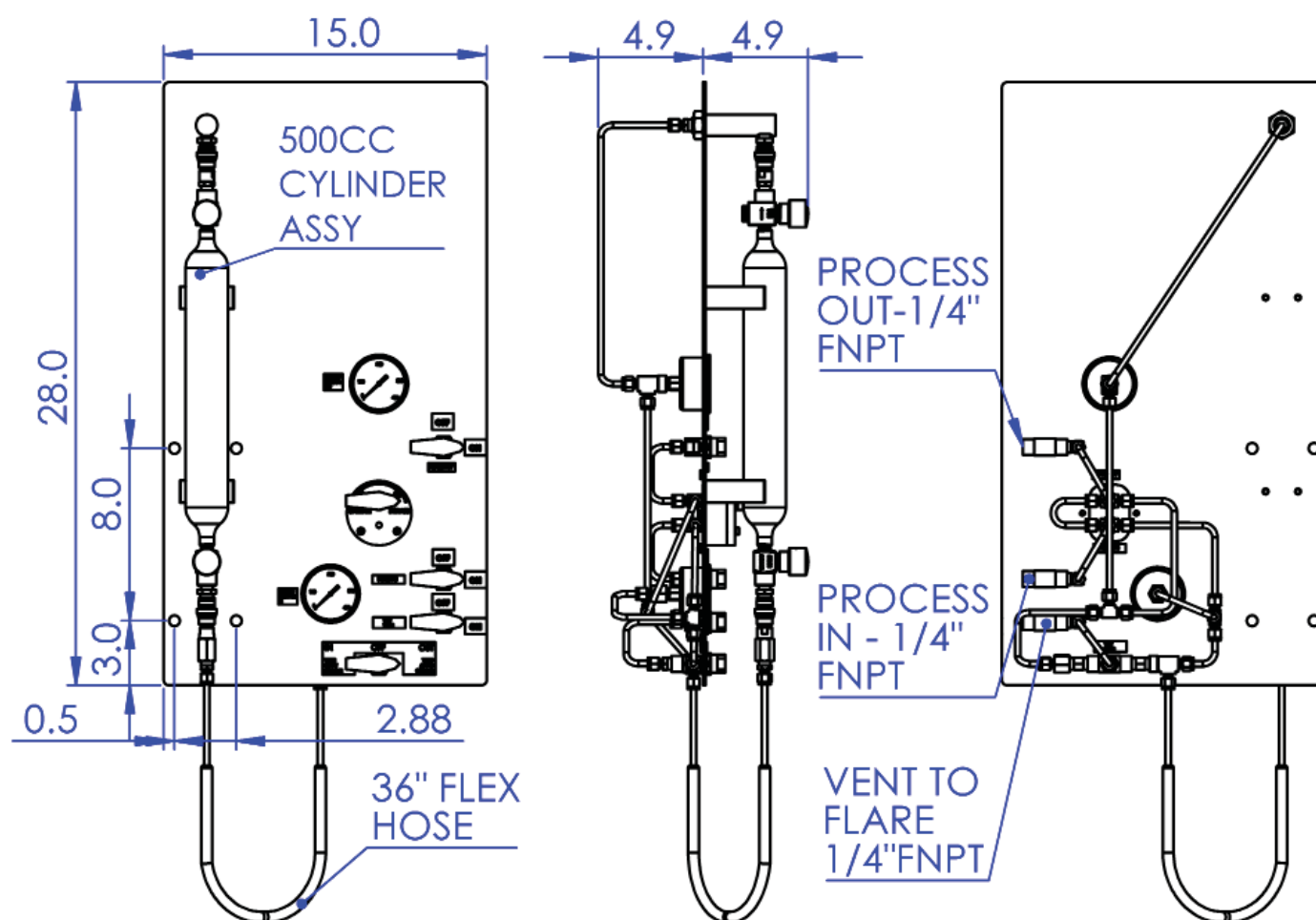
## Type G Sampling Systems High Pressure Gas Samplers

- Multiport valve's 1/2 turn movement delivers a simple sample to bypass operation.
- Quick disconnects for easy installation and removal of sample cylinder
- Stabilization block to support the sample cylinder
- Sight flow indicator to verify gas flow
- All connections tagged for easy installation and maintenance
- Procedure tag insures correct operation
- Vent valve blows down both sides of cylinder and directs excess to the flare



## Type G Basic Dimensions

See the technical data sheet of each build for exact specifications





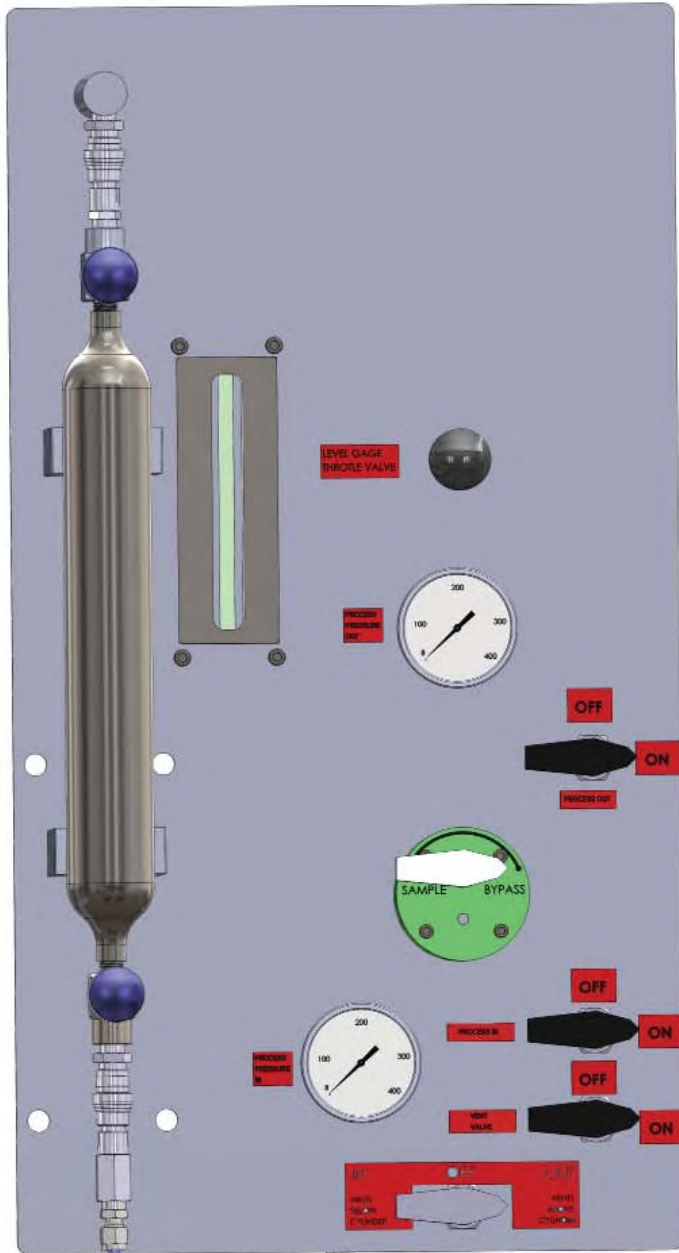
## TYPE G SAMPER SYSTEM

<b>Media</b>	
G	Gas or Vapor
<b>Sample Cylinder Size</b>	
3	300cc Sample Cylinder
5	500cc Sample Cylinder
Q	Other (please specify)
<b>O-Ring Material</b>	
V	Viton
K	Kalrez
Q	Other
<b>Compression Fitting</b>	
S2	Standard (1/2") * Vent Connection 1/4"
W2	Swagelok (1/2") * Vent Connection 1/4"
<b>Quick Disconnect Type</b>	
SW	Swagelok QC Compatible
<b>Vent Type</b>	
S	Vent to Flare
EF	Vent to Emission Filter
<b>Process Temperature</b>	
S	Standard (Process Temperature < 140F)
C	Cooler Required ( Process Temperature > 140F )
<b>Process Pressure Range</b>	
1	0-100 psi Inlet Pressure Gauge
2	0- 200psi Inlet Pressure Gauge
3	0- 300psi Inlet Pressure Gauge
4	0- 400psi Inlet Pressure Gauge
Q	Other (please specify)
<b>Materials of Construction</b>	
S	Stainless Steel
Q	Special (please specify)
<b>Options</b>	
PS	PipeStand ( 2")
PBI	Process Isolation Valve (Inlet)
PBR	Process Isolation Valve (Return)
DS	Dual Pipe Stand for mounting cooler
ENC	Mounted in Enclosure
PM	Sample Pump
PX	No Process Return ( Return to Vent)



## LPG Sampling Systems

### Liquid Samplers

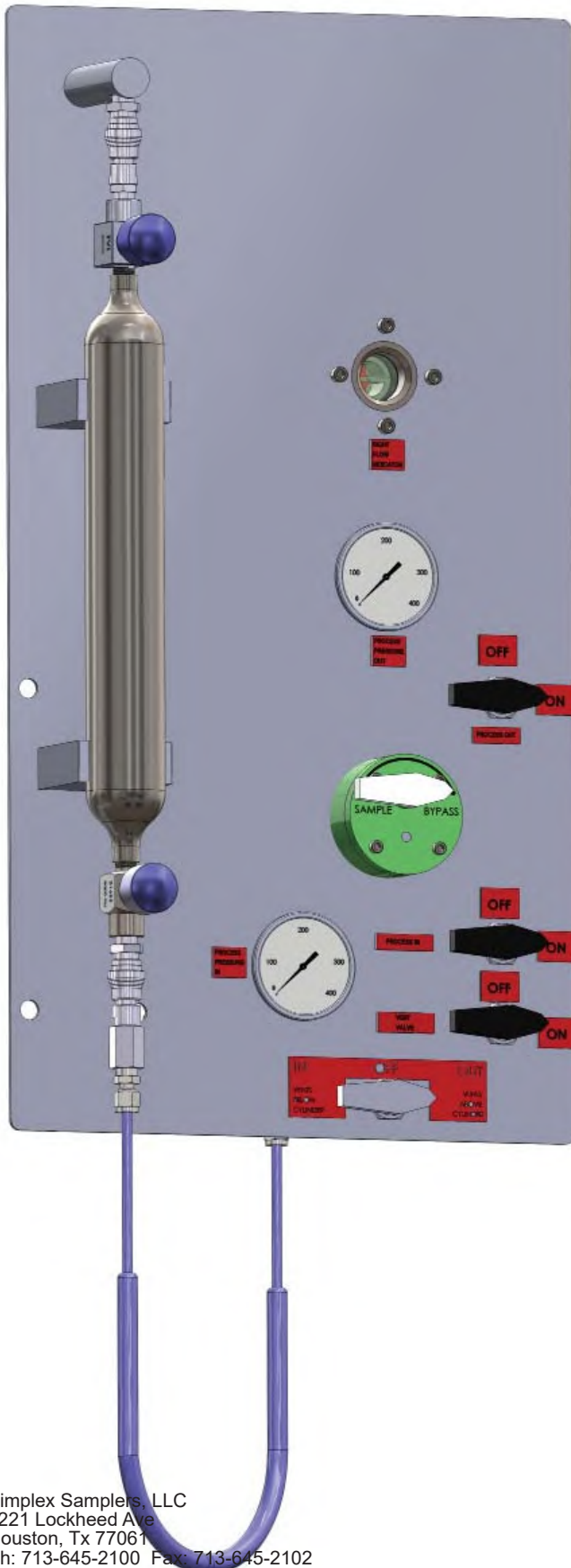


TYPE L SAMPLER  
 WITH  
 LEVEL GAGE

- Multiport valve's 1/2 turn movement delivers a simple sample to bypass operation.
- Quick disconnects for easy installation and removal of sample cylinder
- Stabilization block to support the sample cylinder
- Liquid level indicator allows for actually observing the level of liquid in the sample cylinder
- Flow meter regulated flow to the sampler cylinder
- All connections tagged for easy installation and maintenance
- Procedure tag insures correct operation
- Vent valve blows down above and below cylinder and directs excess to the flare

## LPG Sampling Systems

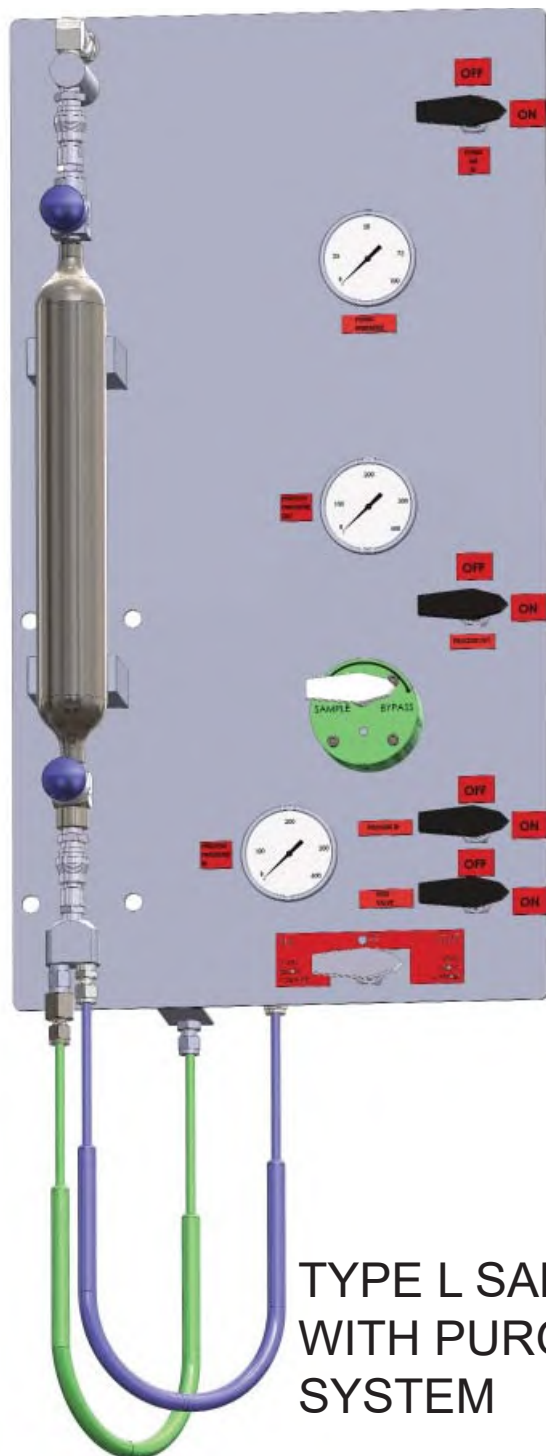
### Liquid Samplers



- Multiport valve's 1/2 turn movement delivers a simple sample to bypass operation.
- Quick disconnects for easy installation and removal of sample cylinder
- Stabilization block to support the sample cylinder
- Flow indicator allows for actually observing flow through the system
- All connections tagged for easy installation and maintenance
- Procedure tag insures correct operation
- Vent valve blows down above and below cylinder and directs excess to the flare

## LPG Sampling Systems

### Liquid Samplers

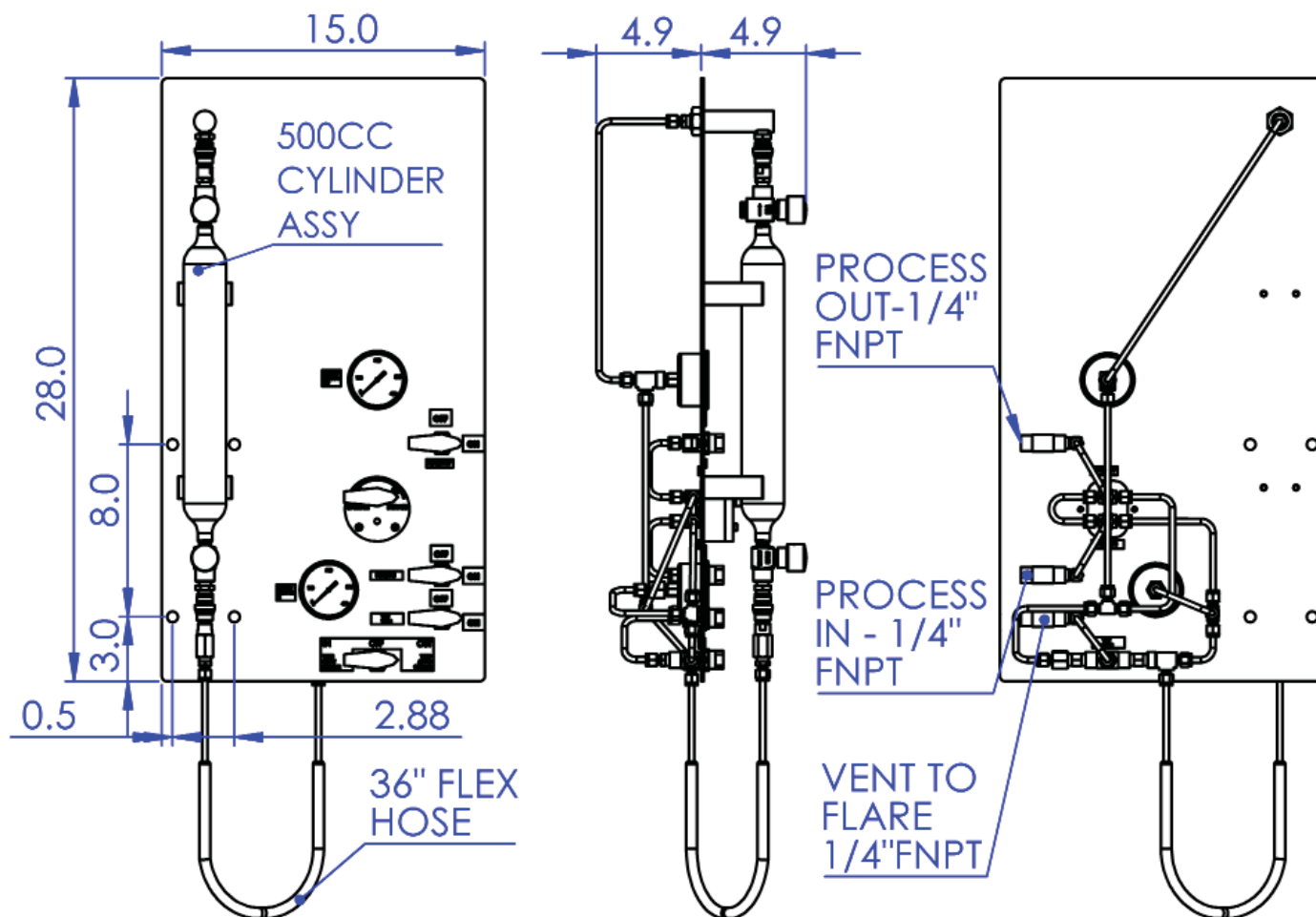


TYPE L SAMPLER  
WITH PURGE  
SYSTEM

- Multiport valve's 1/2 turn movement delivers a simple sample to bypass operation.
- Quick disconnects for easy installation and removal of sample cylinder
- Stabilization block to support the sample cylinder
- Purge system provides for evacuation of the sampler lines prior to cylinder removal.
- All connections tagged for easy installation and maintenance
- Procedure tag insures correct operation
- Vent valve blows down above and below cylinder and directs excess to the flare

## Type L Basic Dimensions

See the technical data sheet of each build for exact specifications

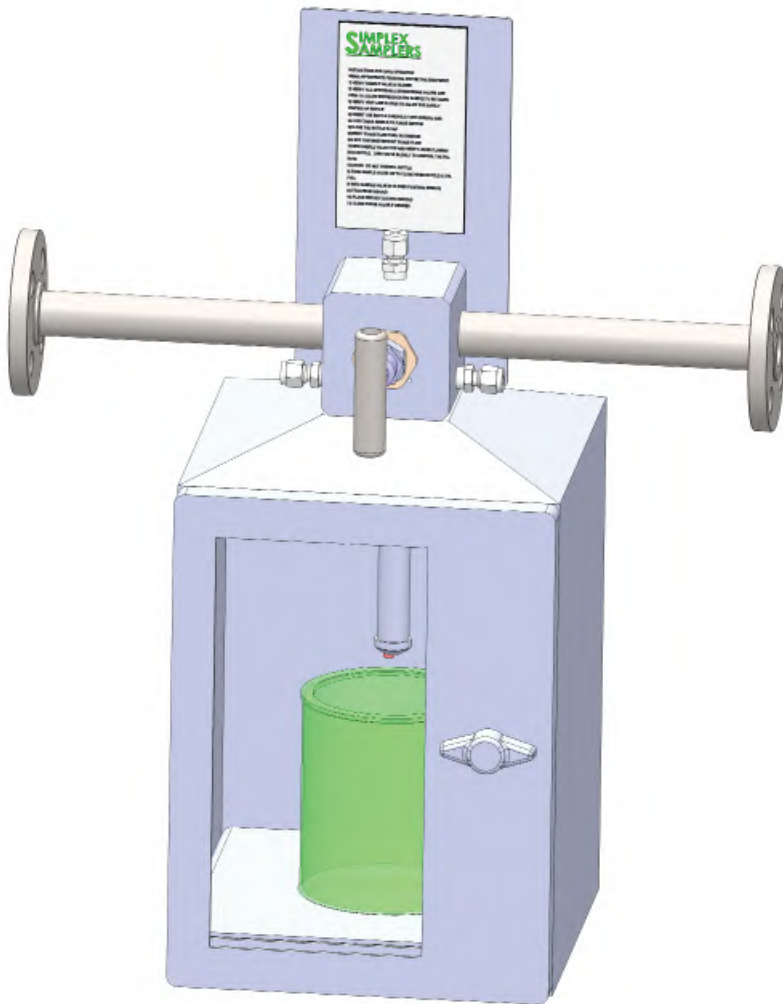


## TYPE L SAMPER SYSTEM

<b>Media</b>	
L	Liquid Service
<b>Sample Cylinder Size</b>	
3	300cc Sample Cylinder
5	500cc Sample Cylinder
Q	Other (please specify)
<b>O-Ring Material</b>	
V	Viton
K	Kalrez
Q	Other
<b>Compression Fitting</b>	
S2	Standard (1/2") * Vent Connection 1/4"
W2	Swagelok (1/2") * Vent Connection 1/4"
<b>Quick Disconnect Type</b>	
SW	Swagelok QC Compatible
<b>Vent Type</b>	
S	Vent to Flare
EF	Vent to Emission Filter
<b>Process Temperature</b>	
S	Standard (Process Temperature < 140F)
C	Cooler Required ( Process Temperature > 140F )
<b>Process Pressure Range</b>	
1	0-100 psi Inlet Pressure Gauge
2	0- 200psi Inlet Pressure Gauge
3	0- 300psi Inlet Pressure Gauge
4	0- 400psi Inlet Pressure Gauge
Q	Other (please specify)
<b>Materials of Construction</b>	
S	Stainless Steel
Q	Special (please specify)
<b>Options</b>	
PS	PipeStand ( 2")
PBI	Process Isolation Valve (Inlet)
PBR	Process Isolation Valve (Return)
DS	Dual Pipe Stand for mounting cooler
ENC	Mounted in Enclosure
PM	Sample Pump
PX	No Process Return ( Return to Vent)



# HTHV SAMPLER HIGH TEMPERATURE - HIGH VISCOSITY Closed Loop Manual Sample System

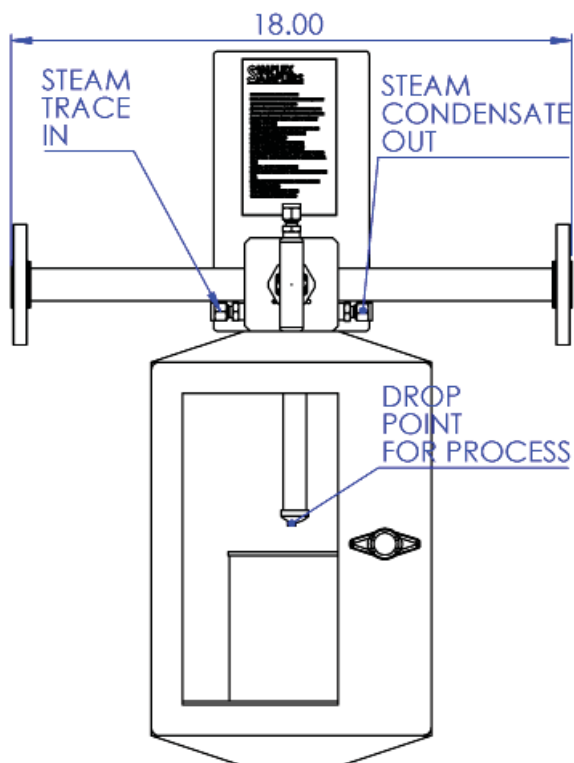


- Provides operator protection for dangerous high temperature applications
- Graphoil packed stem with ceramic ball provides throttling as well as a positive shut off
- The entire sampling process is steam jacketed to prevent clogging
- Enclosure has a window to observe the fill
- Induction evacuation of the enclosure is available
- Double block valving is available

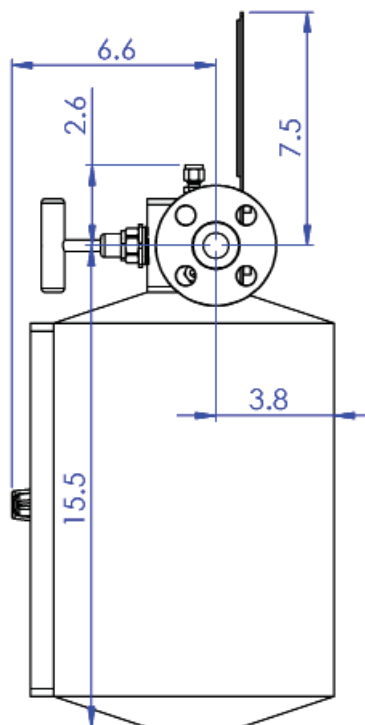
## Applications:

- Vacuum Tower Bottoms
- Hot petroleum products
- Residual Oil
- Slurries

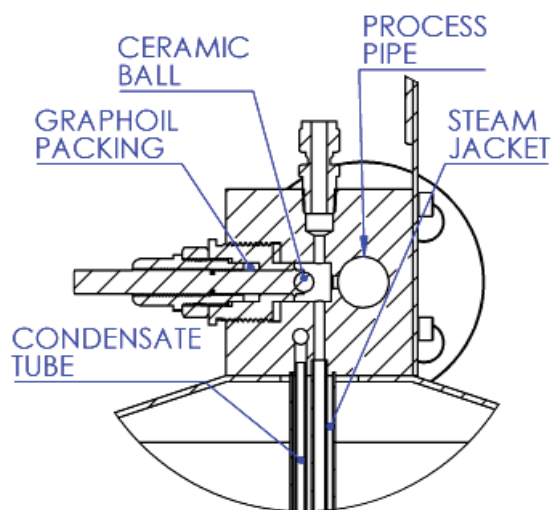
## HTHV SAMPLER HIGH TEMPERATURE - HIGH VISCOSITY GENERAL DIMENSIONS



FRONT VIEW



SIDE VIEW



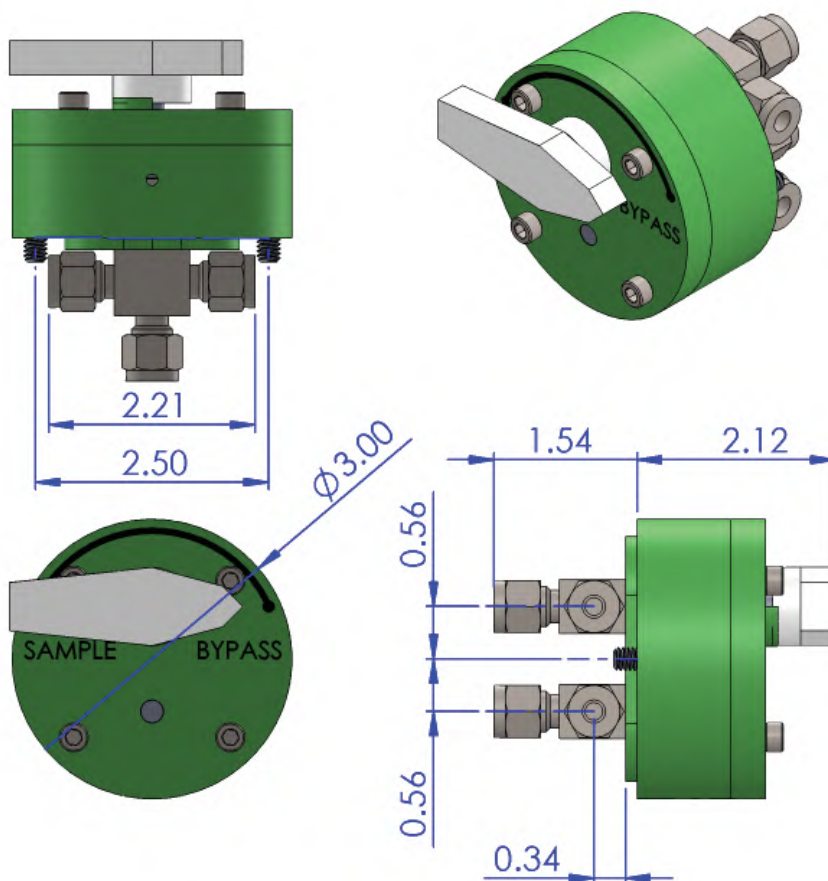
CROSS SECTION OF HTHV VALVE



## TYPE HTHV SAMPLER SYSTEM

Material of Construction	
S	Stainless Steel
Q	Special (please specify)
Connection	
2	1/2" Threaded Connection
4X	3/4" Spool Piece with 150# RF flange to X dimension
Q	Custom
Enclosure	
S	Stainless Steel Enclosure, window, & metal shelf
HI	Steam Heated Coil, Insulated
Container Size	
S	Gallon Container
Q	Custom
Options	
PBI	Process Isolation Valve Inlet
PBR	Process Isolation Valve Return
PS	Pipe Stand ( 2" )

# MULTI PORT SAMPLE VALVE



Designed specifically for sampling to overcome the two main problems with 4 way switching valve.

- 4 way valves have tiny orifices that can make liquids change phase
- 4 way valves can “cross talk” between ports due to restricted size

## FEATURES:

- Single 180 degree turn to actuate the valve mechanism
- Orifices are the same size as ID of tubing to eliminate restrictions and flashing
- Ample space between ball seats eliminates “cross talk” between ports
- Designed for ultra cold liquids -65F(-54C)
- Live load packing can be adjusted with valve in line

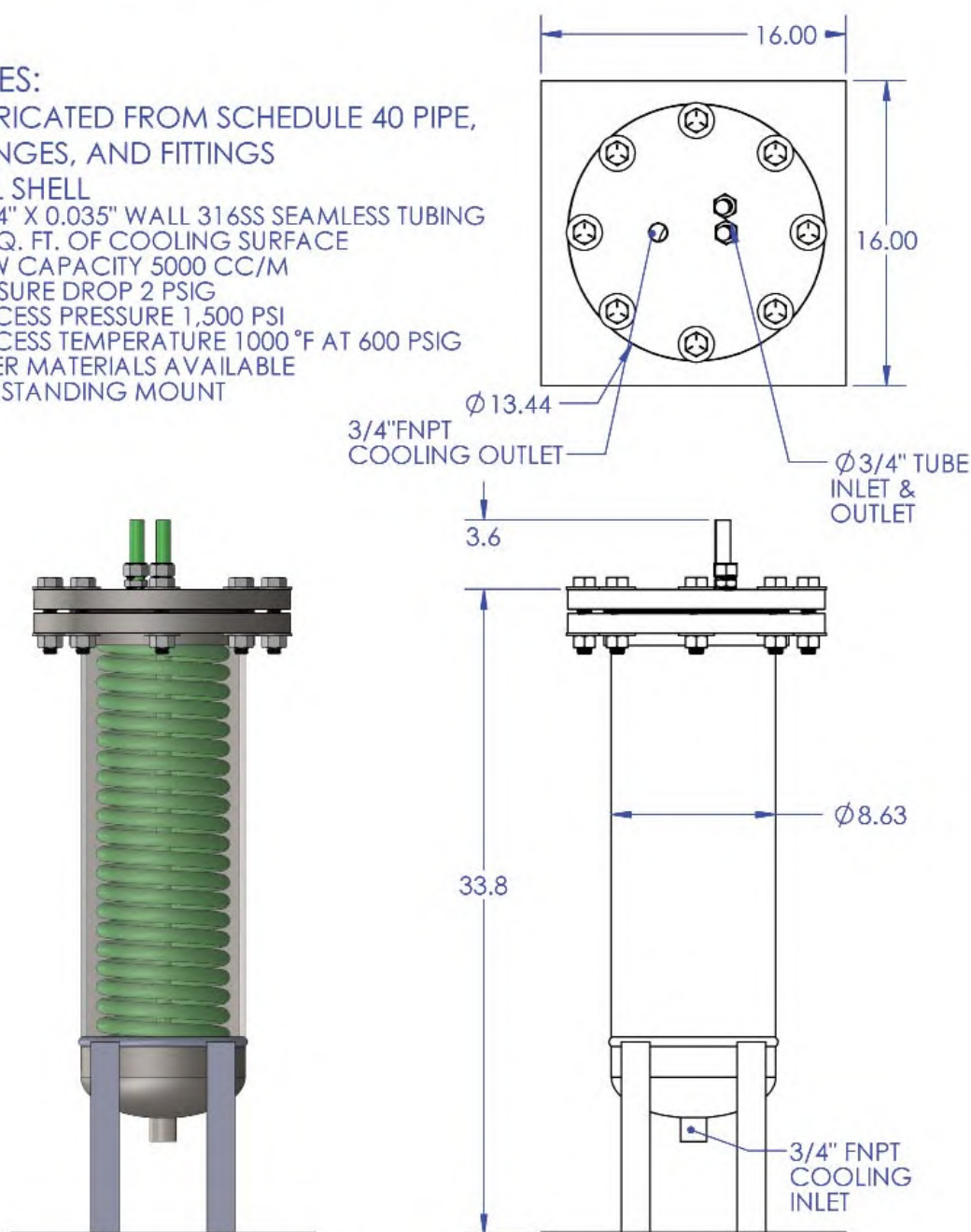
SPECIFICATIONS:	
Materials: 316SS, PFA, VITON	Pressure at 100C – 3,000 psi(207Bar)
Temperature range: -65F to 150F (-54C to 65C)	$C_v$ – 0.90
Orifice size: 0.188” (4.78mm)	Non wetted materials: SS & Anodized Alum.

# PROCESS SAMPLE COOLERS

## LOW PRESSURE DROP FREE STANDING COOLER WITH $\phi 3/4"$ COILED TUBING

### FEATURES:

- FABRICATED FROM SCHEDULE 40 PIPE, FLANGES, AND FITTINGS
- 304L SHELL
- $\phi 3/4"$  X 0.035" WALL 316SS SEAMLESS TUBING
- 3.7 SQ. FT. OF COOLING SURFACE
- FLOW CAPACITY 5000 CC/M
- PRESSURE DROP 2 PSIG
- PROCESS PRESSURE 1,500 PSI
- PROCESS TEMPERATURE 1000 °F AT 600 PSIG
- OTHER MATERIALS AVAILABLE
- FREE STANDING MOUNT





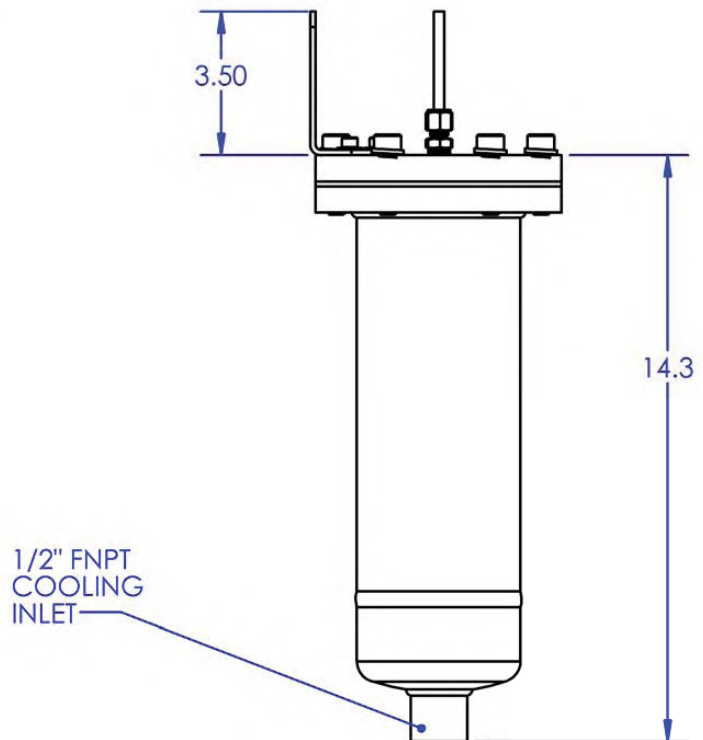
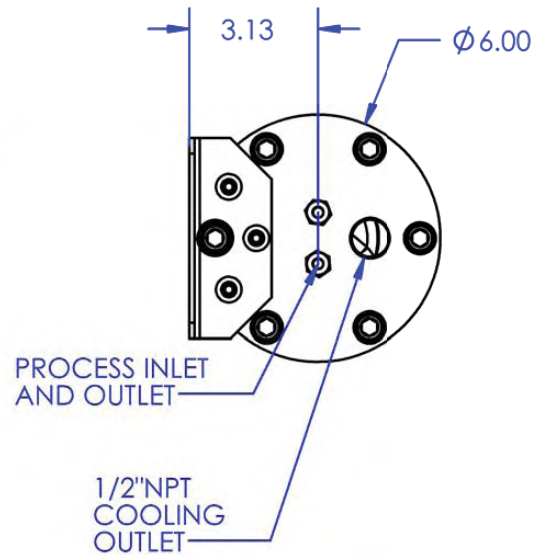
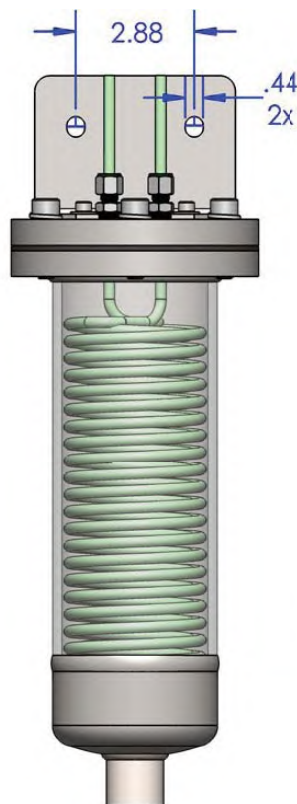
# PROCESS SAMPLE COOLERS

## STANDARD SAMPLE COOLER WITH $\phi 3/8"$ COOLING COIL

### FEATURES:

- FABRICATED FROM SCHEDULE 40 PIPE, FLANGES, AND FITTINGS
- 304L SHELL
- $\phi 3/8"$  X 0.035" WALL 316SS SEAMLESS TUBING
- 2.5 SQ. FT. OF COOLING SURFACE
- FLOW CAPACITY 2200 CC/M
- PRESSURE DROP 5 PSIG
- PROCESS PRESSURE 1,500 PSI
- PROCESS TEMPERATURE 1000°F
- OTHER MATERIALS AVAILABLE
- MOUNTING BRACKET STANDARD

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### APPLICATION DATA SHEET

Name	<input type="text"/>
Phone	<input type="text"/>
Email	<input type="text"/>
Company\Locaton	<input type="text"/>

#### Process Information

Process State - Liquid, Gas, or Vapor	<input type="text"/>	Vapor Pressure	<input type="text"/>
Pressure (Inlet)	<input type="text"/>	Unit-Psi, etc.	<input type="text"/>
Pressure (Outlet)	<input type="text"/>	Min - $\Delta P = 10$ psi	<input type="text"/>
Vent Pressure	<input type="text"/>	Flare or other - specify	<input type="text"/>
Process Temperature	<input type="text"/>	Specify °F or C	<input type="text"/>

#### Special Requirements

#### Materials of Construction

Wetted Parts	<input type="text"/>	316SS
	<input type="text"/>	Other - Please specify
Elastomer	<input type="text"/>	Viton (standard)
	<input type="text"/>	Kalrez
	<input type="text"/>	Other - Please specify

Sample Container Size	2 oz	For Drop Samples Using Bottles
	4 oz	
	8 oz	
	16 oz	
	32 oz	

75cc	For Samples Requiring Cylinders
150cc	
300cc	
500cc	
1000c	

#### Options

Pipe Stand	<input type="text"/>	Isolation Valves	<input type="text"/>
Sample Cooler	<input type="text"/>	Other: Please Specify	
Enclosure	<input type="text"/>	<input type="text"/>	
Purge System	<input type="text"/>		