



Mustang Sampling[®]

Mustang[®] Portable Heated Sample Conditioning System Installation, Operation & Maintenance



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SAFETY WARNINGS



Failure to abide by any of the safety warnings could result in serious injury or death.

- Standard for Safety Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements (ANSI/UL 61010-1, 07/12/2004, Ed. 2).
- Standard for Safety Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements (CAN/CSA C22.2 No. 61010-1, 07/01/2004, Ed. 2).
- Standard for Safety Explosion-Proof and Dust-Ignition Proof Electrical Equipment for Use in Hazardous (Classified) Locations (ANSI/UL 1203, 1028/09, Ed. 4).
- Explosion-Proof Enclosures for Use in Class 1 Hazardous Locations Industrial: Industrial Products (CSA C22.2 No. 30-M1986, (G.I. No. 2, 11/1988)).
- Electrical power must be "OFF" before and during installation and maintenance or personal injury may result. Follow site requirements for Safety Precaution Rules.
- Do not exceed any equipment pressure, or electrical ratings.
- To reduce the risk of fire or explosion, do not install where the marked operating temperature exceeds the ignition temperature of the hazardous atmosphere(s).
- Heated regulator surface temperature will approach temperature limit specified in technical specifications.
- Select a mounting location so that the system will not be subjected to impact or other damaging effects.
- The hazard location information specifying class and group listing of each system is marked on the nameplate.
- Properly ground all equipment to prevent static electric generation.

PRODUCT DESCRIPTION

The Mustang® Portable Heated Sample Conditioning System is designed for spot or portable gas sampling. System installs into a pressurized pipeline through a ½" or ¾" full opening valve without the use of a special insertion device. The adjustable length probe is ideally suited for use with a portable analyzer or when spot sampling is being performed. The tip of the probe is protected from inline contaminants by a shroud.

The Mustang Portable Heated Sample Conditioning system has the means to separate entrained liquid aerosols and droplets of the source gas. Separating liquids in this manner avoids changes in the gas phase composition and complies with current natural gas industry standards' and preserves the sample's integrity from the extraction point to the analyzer.

FEATURES

- Single-stage Mustang® Heated Regulator (MHR®) or multi-stage Mustang® Joule-Thomson Heated Regulator (MJTHR®)
- Portable insertion probe (PIP)
- Quick disconnects
- Pressure gauge
- Outlet isolation valve
- Low volume manifold
- Relief Valve
- 10' PTFE ss hose assembly w/ quick disconnects
- Quick disconnect union between regulator and probe

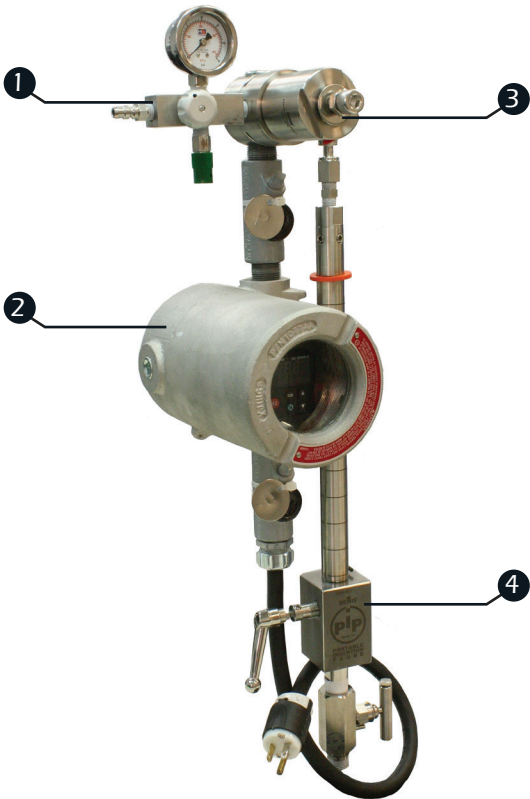
BENEFITS

- Analysis at sample point
- Compact and portable pelican carry case
- Low power requirements
- Helps preserve gas sample integrity
- Thermal insulation with optional removable/reusable flexible insulation cover

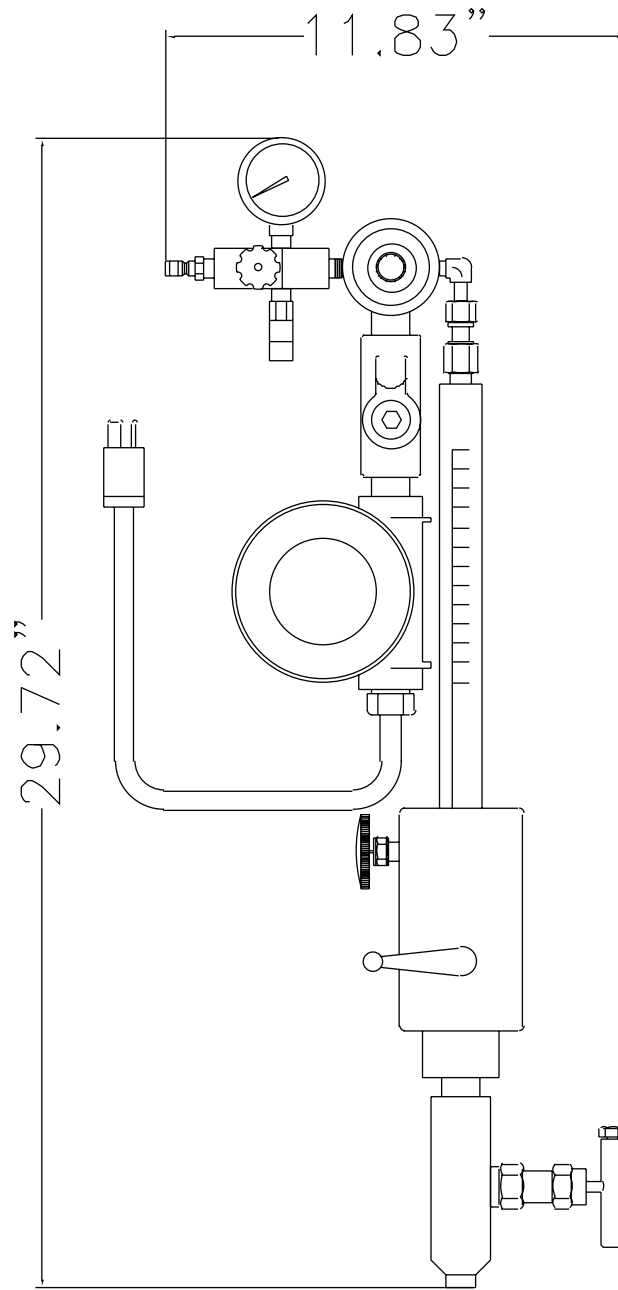
TECHNICAL SPECIFICATIONS

Probe Insertion Depth	0" to 11"
Maximum Recommended Flow Rate	5 L/min
Electrical Enclosure Classification	Class 1, Division 1 & 2, Group B, C, D
Installation Valve Requirement (customer supplied)	1/2" or 3/4" NPT
Wetted Materials	316 SS/NACE Compliant
Regulator	MHR [®] Single Stage Regulator MJTHR [®] Multi-Stage Regulator
Input Supply Voltage Options	120 VAC , 200 Watts, 50/60 Hz, ± 10% 208 VAC , 200 Watts, 50/60 Hz, ± 10% 230 VAC , 200 Watts, 50/60 Hz, ± 10% 24 VDC , 140 Watts

PRODUCT DIMENSIONS & PARTS



Item Number	Description
1	Outlet Isolation Valve
2	Explosion-proof Housing with PID Temperature Controller
3	Mustang [®] Regulator
4	Portable Insertion Probe



Front View

INSTALLATION INSTRUCTIONS

INSTALLATION & SAMPLING INSTRUCTIONS

1. Fully retract probe into housing. The magnetic indicator should read zero on the depth scale located on the probe housing. While retracted, tighten membrane stem screw if equipped with membrane.
2. Tighten & seal probe. Apply thread sealant to 1/2" NPT threads. With the ball valve closed, hand tighten the probe into the 1/2" full open ball valve. Using the large lower wrench flats on the body of the probe, securely tighten and seal the 1/2" NPT threads. The probe may be damaged if over tightening occurs.
3. Connect tubing. Using the 1/4" NPT female ports on the top of the housing, connect the appropriate tube fitting, tubing and block valve.
4. Confirm probe seal. Confirm all threads are securely tightened and the downstream block valve is closed. Slowly open the 1/2" ball valve to pressurize the probe. Confirm there are no leaks from the assembly. If leaks are present, close the ball valve and depressurize the probe by opening the downstream block valve. Reseal the areas of concern. Slowly reopen the ball valve after confirming all threads are securely tightened and the downstream block valve is closed.
5. Insert probe. If there are no leaks present, unlock the hand crank by sliding the handle lock away from the probe exposing the green indicator. Insert the probe into the pipeline by turning the hand crank counterclockwise. Insertion depth of probe can be monitored by watching the magnetic indicator traveling up/down the depth scale located on the probe housing.
6. Prepare probe for sampling. After desired depth is reached, lock the hand crank by sliding the handle lock towards the probe into the locked position. Once handle is locked, open the downstream block valve to allow sample to flow.

RETRACTION INSTRUCTIONS

1. Prepare probe for retraction. After sampling is complete, close the downstream block valve. Unlock the hand crank by sliding the handle lock away from the probe exposing the green indicator. Retract the probe from the pipeline by turning the hand crank clockwise.
2. Retract probe. Once the indicator has reached zero on the depth scale, lock the hand crank by sliding the handle lock towards the probe into the locked position. Next, close the upstream ball valve. Then, vent the gas that is trapped in the probe by slowly opening the downstream block valve.
3. Unthread probe. After the probe has been fully depressurized, use the large lower wrench flats to unthread the probe counterclockwise from the ball valve.

Analytically Accurate® **TECHNOLOGY**

About Mustang Sampling

Mustang Sampling, LLC is the innovator of Analytically Accurate® solutions within sample conditioning systems. We provide custom solutions of products and services globally to the Natural Gas, Natural Gas Liquids (NGL), and Liquefied Natural Gas (LNG) industries. Mustang Sampling continues to pioneer integrated control systems, allowing our customers to maintain phase stability from sample extraction at the source through sample analysis. Our products are continuously improved and subjected to the highest quality standards which provides our customers with the best sample conditioning solutions.

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