

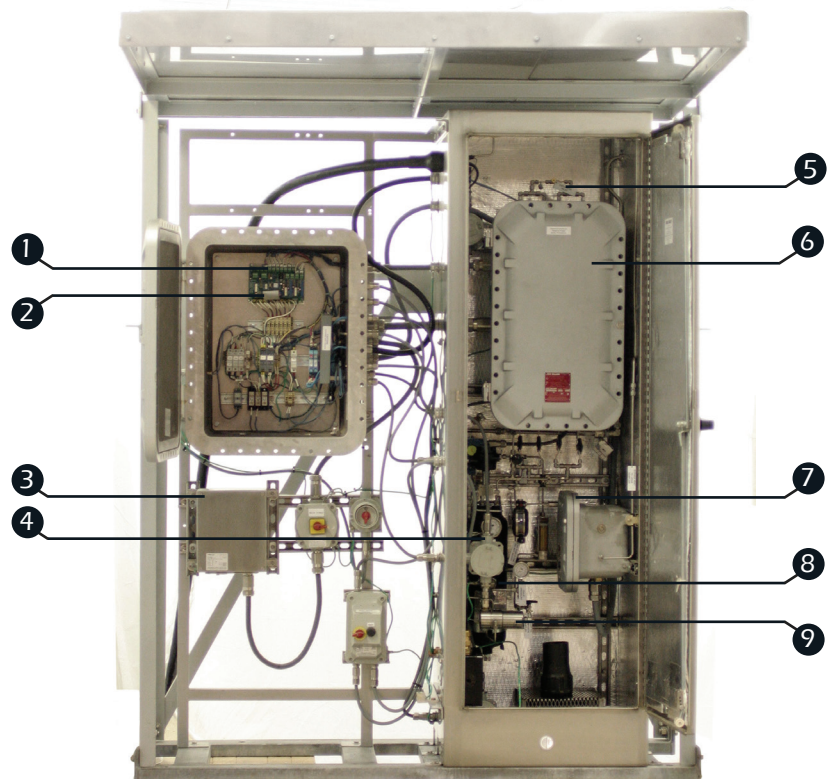
MIV1™

Mustang Intelligent Vaporizer Sampling System® - Model 1



Mustang Sampling®

Item Number	Description
1	Temperature Controller
2	RS-485 Communications
3	Power Input
4	Cryogenic Solenoid Valve
5	LNG Inlet
6	Multi-path Vaporizer
7	Fast Loop Mass Flow Controller
8	Mixing Chamber
9	Heated Regulator



APPLICATION

The Mustang Intelligent Vaporizer Sampling System - Model 1 (MIV1™) is a patented technology system designed to vaporize liquid, providing a fresh sample to a continuous online analyzer. This system is designed with enhanced sample quality, through controlled vaporization, accumulation, and homogenization, accomplished through multiple stages. For the analyzer to meet its stated accuracy, the MIV1 ensures the sample to the analyzer is stable. The multi-path design achieves redundancy in critical areas such as the loading and unloading of ships.



LNG

FEATURES

- Continuous gas flow design
- Integral flow restrictor on inlet
- NEMA 4X Enclosure

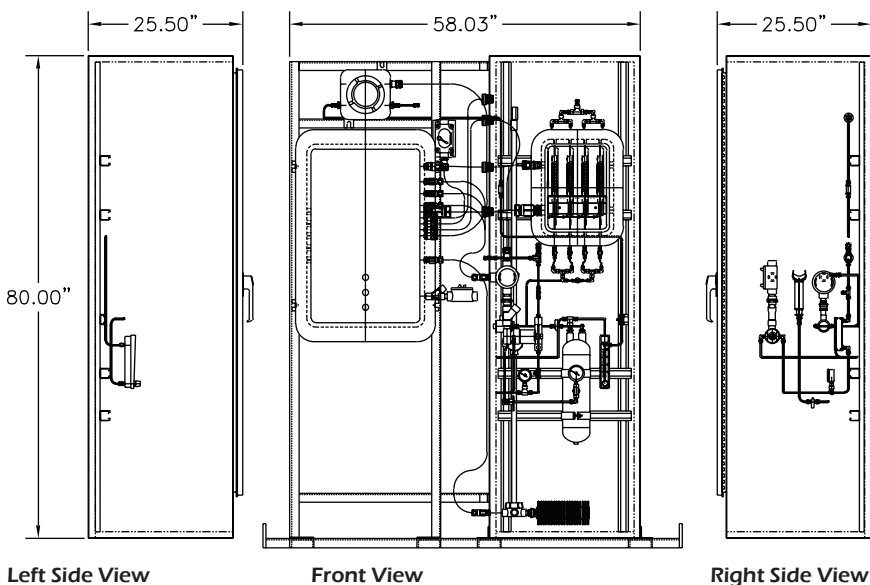
BENEFITS

- Instantaneous vaporization of a liquid sample
- Prevents post-vaporization hydrocarbon liquid dropout
- Provides a homogeneous sample
- Provides an accurate and reliable representative sample to the gas chromatograph
- Easy maintenance
- Supplies samples, including composite and manual grab samples, to multiple analyzers
- Dedicated software platform for operating, monitoring, trending, and reporting (see SoftView® Monitor)

CERTIFICATIONS

- ATEX/IECEX Certifiable
- Conforms to ISO 8943
- CSA approved for New Brunswick Providence

PRODUCT DIMENSIONS



Analytically Accurate®
TECHNOLOGY

PRODUCT SPECIFICATIONS

Maximum Allowable Working Pressure	500 psig at -360°F (35 bar at -218°C)
Proportional Temperature Control Range	0°F to 200°F (-18°C to 93°C)
Thermal Cut-off	Opens at 230°F (110°C)
Port Sizes	1/4" female NPT
Conduit Connection	3/4" female NPT
Electrical Enclosure Classification	Class 1, Division 1 & 2, Groups C, D, T3 (CE Ex II 2 G Ex d II B T3 Gb Zones 1 & 2)
Wetted Materials	Machined parts: 316 stainless steel/NACE compliant All other metal parts: stainless steel/NACE compliant; (other materials available upon request)
Input Supply Voltage Options	208 VAC, 790 Watts, 50/60 Hz, ± 10% 230 VAC, 790 Watts, 50/60 Hz, ± 10%
Certification Options	AI Atex/IECEX Certifiable CE cETLus Certifiable

Use the bold alpha-numeric characters from the table above to build your model number:

MIV1 - -
 Input Supply Voltage / Certification

VAPORIZING: Available in a single-path design. The MIV1 flash vaporizes liquid samples for introduction into gas analysis systems. Liquid samples are maintained near line conditions until reaching a flash chamber within the vaporizer, preventing pre-vaporization. The energy for vaporization is provided by an electric cartridge heater with sufficiently large surface area to maintain a stable gas temperature throughout the process and send the sample to the accumulator for restructuring.

ACCUMULATING: The accumulator cylinder is designed with a special impingement tube to aid in the absorption of pressure pulsations and homogenization of gasified LNG.

A vapor return bypass flow control system is controlled by a Brooks mass flow controller. The pressure regulator upstream is set to meet the requirements of MFC (>= 50 psi differential pressure). The vapor is sent to the vapor return or flare.

PRESSURE REGULATING: A pre- and post-heated pressure regulator designed to prevent hydrocarbon dew point dropout and reduce sample pressure which is then delivered to the gas chromatograph through a heated sample tube.

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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U.S. Patents 7,484,404; 7,882,729; 8,713,995; 8,056,399; 9,057,668; and 9,625,431

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