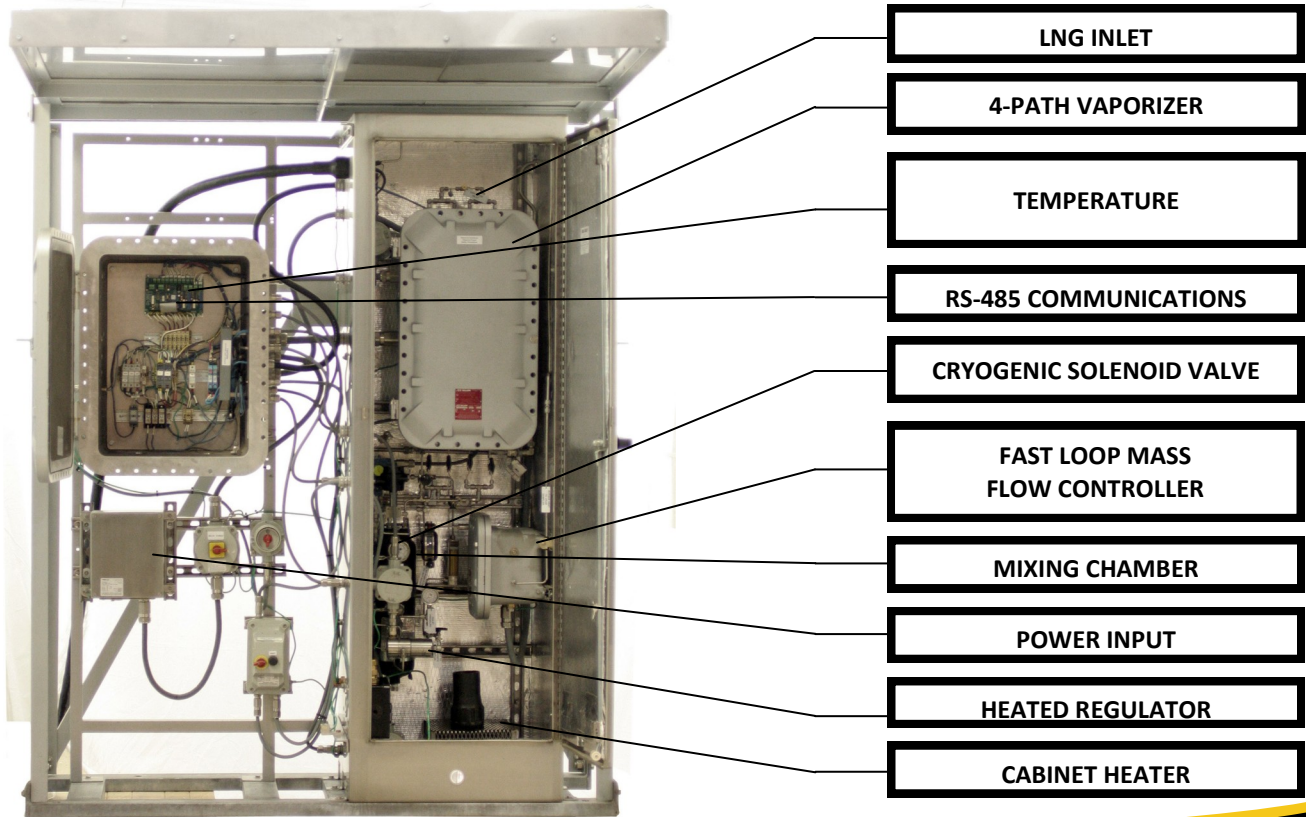


Mustang Intelligent Vaporizer Sampling System® Model 1—ATEX/IECEX Certifiable

U.S. Patent No. 7,484,404

MIV1-I



Analytically Accurate® Technology

The Mustang Intelligent Vaporizer Sampling System® (MIV1 ATEX/IEC Ex Design) is a patented technology designed to vaporize liquid providing a fresh sample to a continuous online analyzer.

Enhanced sample quality is accomplished through 4 stages of vaporization and remixing.

In order for the analyzer to meet its stated accuracy, the Mustang Intelligent Vaporizer Sampling System® ensures the sample to the analyzer is in a stable composition. The multipath design (MIV 1) achieves redundancy in critical areas such as the loading and unloading of ships.

- ▶ Stable Sample Time™ System
- ▶ Conforms to ISO 8943
- ▶ ATEX/IECEX Certifiable
- ▶ cETLus Certifiable Design Available
- ▶ CSA Approved for NB Providence
- ▶ Continuous gas flow eliminates post-vaporization hydrocarbon liquid dropout
- ▶ Accurate and reliable component value analysis by your GC
- ▶ Integral Flow Restrictor on Inlet
- ▶ Installs at offloading pipeline and other terminal measurement locations
- ▶ Optional software for operating, monitoring, trending, and reporting (see Soft View® Monitor brochure)

PRODUCT DIMENSIONS

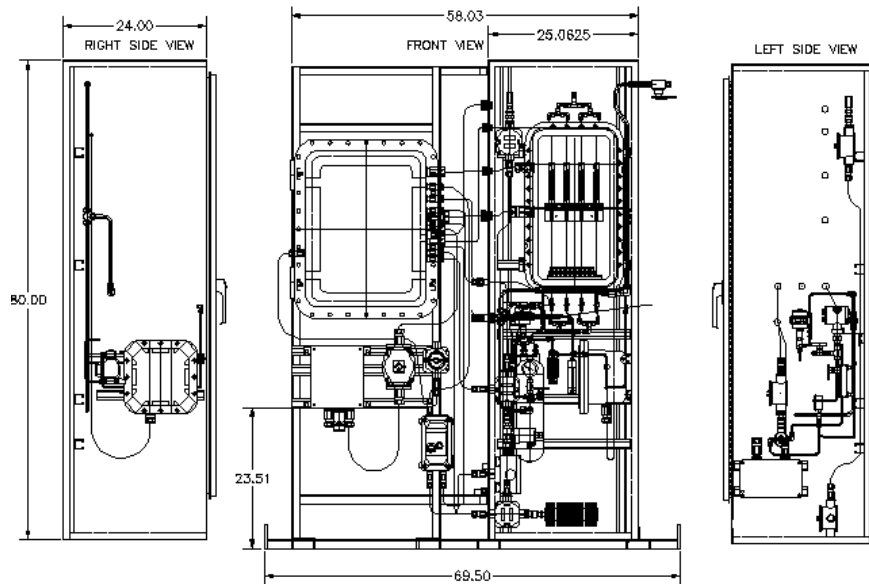


Fig. 1a—Mustang Intelligent Vaporizer Sampling System® Model 1 Certified Version

PRODUCT SPECIFICATIONS

Maximum allowable working pressure	500 psig (35 bar) @ -360°F (-218°C)
Proportional temperature control range	0°F-200°F (-18°C-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, Div 1 & 2, Groups C, D, T3 (CE Ex II 2 G Ex d II B T3 Gb Zones 1 & 2)
Power rating options	208 VAC, 2700 Watts, 50/60 Hz, ± 10% 230 VAC, 2700 Watts, 50/60 Hz, ± 10%
Wetted materials	Machined parts: 316 stainless steel/NACE compliant All other metal parts: stainless steel/NACE compliant; (other materials available upon request)

VAPORIZATION & REMIXING STAGES

- ▶ **STAGE 1**—Available in either a multipath or single-path design (see MIV2 brochure) to vaporize LNG and send the sample to the accumulator for restructuring
- ▶ **STAGE 2**—Accumulator cylinder designed with a special impingement tube to allow the gas components to return to their original composition
- ▶ **STAGE 3**—A pre and post-heated pressure regulator designed to prevent hydrocarbon dew point drop-out and reduce sample pressure which is then delivered to the chromatograph through a heated sample tube
- ▶ **STAGE 4**—Vapor return bypass flow control system



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