

### Series 100 & Series 200 Genie® Membrane Separators™



- ▶ These separators contain Genie® Membrane Technology™ and are designed to provide sample conditioning and analyzer protection by:
  - ▶ Removal of entrained liquid and fine particles from gas (vapor) streams. (100 Series)
  - ▶ Removal of immiscible liquid (such as water) from liquid hydrocarbon sample streams (such as gasoline and diesel). (200 Series)
  - ▶ Removal of gas bubbles from hydrocarbon liquids (200 Series)
- ▶ A variety of models are available for handling a wide range of applications.

### Genie® Probes™



- ▶ Genie® Probes™ contain Genie® Membrane Technology™ on the probe tip which rejects entrained liquid at flowing pressure and temperature conditions, in compliance with the API 14.1 and GPA 2166 standards, making them suitable for extracting a representative (vapor phase only) spot, composite, or “on-line” gas sample.
- ▶ A variety of portable and permanent models are available that range from 2” in length (designed to install into small, depressurized line) to those that are several feet long (designed to install into an underground main line that cannot be depressurized).

### Genie® Probe Regulators™



- ▶ Genie® Probe Regulators™ contain Genie® Membrane Technology™ on the probe tip which rejects entrained liquid at flowing pressure and temperature conditions, in compliance with the API 14.1 and GPA 2166 standards, making them suitable for extracting a representative (vapor phase only) gas sample.
- ▶ They also contain an internal pressure regulator, located at the lower end of the probe in the flowing stream, to reduce the pressure of the sample before transporting it to an “on-line” analyzer.
- ▶ A variety of portable and permanent models are available that range from 4” in length (designed to install into a small, depressurized line) to those that are several feet long (designed to install into an underground main line that cannot be depressurized).

### Kozy™



- ▶ Insulated pipe blankets, valve covers, and probe jackets to help prevent liquid condensation of the sample by insulating from the extraction point on the pipeline all the way to probe outlet.

### Genie® Regulator



- ▶ The Model GR is a single stage pressure regulator designed to help condition gas samples for analysis.

### In-Sight Tube



- ▶ Provides a safe way to see if liquids are actually present in a gas sample stream.

### Series 30 & 90 Avenger™ Filters



- ▶ These filters provide sample conditioning and analyzer protection by:
  - ▶ Coalescing and removal of liquid droplets, aerosol mist, and solid particles from gas (vapor) streams
  - ▶ Removal of “sticky” particles from liquid streams
- ▶ A variety of models are available for handling a wide range of applications.
- ▶ 30M Series models are also available with phase separation membrane for exclusion of liquids in addition to the particle filter element. A Liquid Block™ feature is also available with this model.

## Glyorb™ Cartridges and Housings



- ▶ Glyorb™ is a proprietary absorbent granule designed to absorb glycol, lube oil, amine, and corrosion inhibitor vapors. This action helps to preserve the integrity of the sample when moisture analysis is being performed and to protect the analyzer.
- ▶ If glycol vapor is allowed to contaminate the moisture analyzer sample system, its adsorption/desorption can affect the moisture analysis.
- ▶ Glycol, lube oil, amine, and corrosion inhibitor vapors can cause damage to certain types of analyzers.
- ▶ The granules are typically packed in a disposable cartridge and then placed in a housing.
- ▶ A variety of cartridge and housing sizes are available

## Genie® Spot Sampling Manifold



- ▶ Incorporates Genie® Membrane Technology™ to eliminate particles and entrained liquid NEAR pipeline conditions of pressure and temperature when collecting spot samples.
- ▶ Provides an absolute liquid shut off when excessive liquid is present in a spot sample.

## Tornado™



- ▶ A continuous, self-cleaning filter that protects analyzers by removing “hard” particles from liquid sample streams.

## Modular Genie®



- ▶ Designed for mounting on ANSI/ISA 76.00.02 1.5” base compliant sampling system substrate to provide sample conditioning and analyzer protection by removal of entrained liquid and fine particles from gas (vapor) streams.

## Modular Avenger™



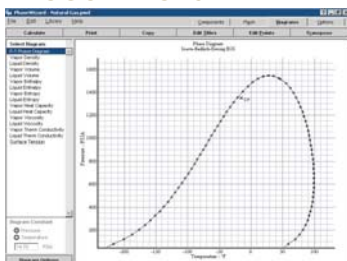
- ▶ Designed for mounting on ANSI/ISA 76.00.02 1.5” base compliant sampling system substrate to provide sample conditioning and analyzer protection by coalescing and removal of liquid droplets and solid particles from gas (vapor) streams requiring low flow rates.

## Moisture and Corrosion Control Packets



- ▶ Humidisorb packets are designed to protect moisture sensitive enclosures and electrical/electronic equipment by absorbing and releasing moisture to maintain a long term, constant relative humidity inside of the enclosure.
- ▶ X-Corrode packets are designed to protect electrical and electronic equipment against corrosion by slowly releasing a corrosion inhibitor which passivates all of the metals commonly found in electrical and electronic circuits.
- ▶ Humidisorb plus X-Corrode is combination packet designed to provide a high level of protection against atmospheric moisture and corrosion caused by atmospheric contaminants.

## PhaseWizard



- ▶ PhaseWizard™ software uses widely accepted Equations of State (EOS) mathematical models to simulate field conditions and predict fluid behavior.
- ▶ It is particularly useful in applications where the sample composition is at or near its hydrocarbon dew point, is a supercritical fluid, or is at a high pressure.
- ▶ Calculation results can be displayed in the form of a phase (P/T) diagram, process diagram, or table.
- ▶ Just a few of the things that can be determined using PhaseWizard™ are:
  - ▶ Hydrocarbon dew point
  - ▶ Heating value
  - ▶ Stream physical properties
  - ▶ Heat tracing requirements
  - ▶ Pressure regulation requirements

