

# GENIE<sup>®</sup> 123

Supreme Membrane Separator



U.S. Patent 5,476,586; Patents Pending

## Genie<sup>®</sup> Supreme<sup>™</sup> Model 123 Installation & Operation Instructions

### Manufacturing Contact Information

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### Safety Warnings

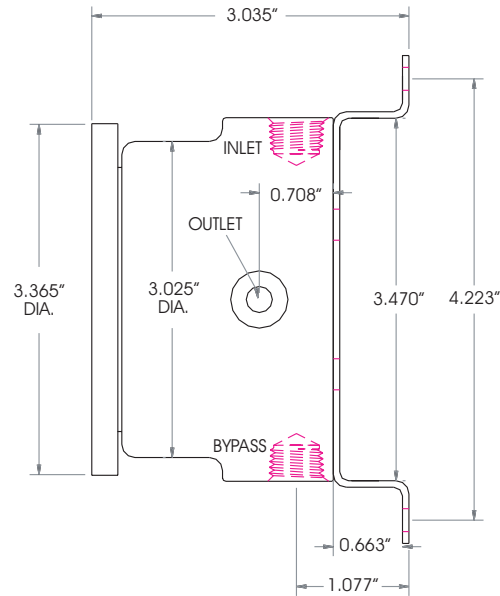
- ⚠ Failure to abide by any of the safety warnings below may result in equipment failure and serious injury or death.
  - ▶ For models containing Liquid Block<sup>™</sup>: Slowly open the supply pressure so that the minimum differential pressure required to shut-off the Liquid Block<sup>™</sup> is not met or exceeded.
  - ▶ Valve off the sample flow before installation.
  - ▶ Do not exceed any equipment pressure ratings.

### Tools Required

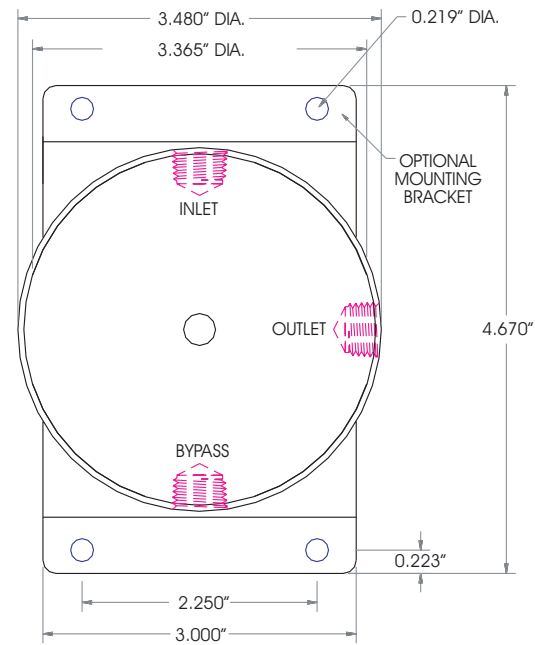
- ▶ Four #10 screws for mounting bracket to panel.
- ▶ Screwdriver for mounting bracket to panel.

## Dimensions

Side View



Front View



## Mounting Instructions Without Optional Bracket

Note: Separate instructions for mounting using the optional bracket will be included with bracket. The **Genie<sup>®</sup> Supreme<sup>™</sup>** is designed to be back mounted to hold it stationary for quick and easy servicing. The optional bracket makes installation easier. The **bypass port** must face downward for the **Genie<sup>®</sup>** to function properly.

### Step 1. Position the Genie<sup>®</sup> on the panel

- ▶ Position the **Genie<sup>®</sup>** so that the final position of the **bypass port** will be facing downward. **Bypass port** positioning is important for draining the rejected liquids.

### Step 2. Mount

- ▶ Affix the **Genie<sup>®</sup>** to the panel surface.
- ▶ Fasten the **Genie<sup>®</sup>** to the panel using two 1/4" diameter screws.

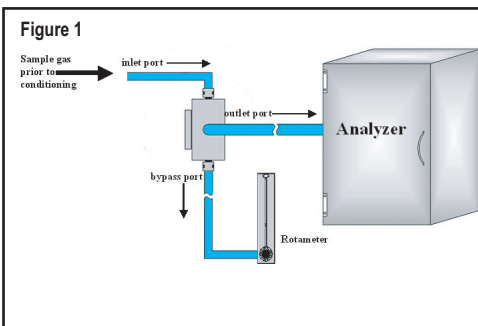
## Installation Instructions

### Step 1. Depressurize the system

- ▶ Valve off the sample flow prior to installation of the **Genie<sup>®</sup> Supreme Membrane Separator<sup>™</sup>**.
- ▶ If the supply pressure is above the **Genie<sup>®</sup> maximum recommended supply pressure** or above the pressure rating of any component in the sample system, then a pressure regulator should be installed upstream of that component before the sample flow is started.

### Step 2. Connect the Genie<sup>®</sup>

- ▶ The **Genie<sup>®</sup>** ports are labeled **inlet**, **outlet**, and **bypass**. Connect tubing from the sample stream to the **Genie<sup>®</sup> inlet port**. The **bypass port** must be facing downward for the **Genie<sup>®</sup>** to function properly (Figure 1).
- ▶ Connect tubing from the **Genie<sup>®</sup> outlet port** to the analyzer or next device in the sample system. The **Genie<sup>®</sup>** should be located as close to the analyzer as possible to prevent the sample gas temperature from decreasing; otherwise, condensation could occur downstream of the **Genie<sup>®</sup>** and the sample integrity would be affected.
- ▶ Connect the **Genie<sup>®</sup> bypass port** to a valve. A rotameter containing a valve may be installed at the **bypass port**, but only if the **inlet port** pressure is below the rotameter pressure rating. The **bypass port** allows rejected liquid and particulate to be drained. Do not plug the **bypass port** or leave it open to the atmosphere.



## Maintenance Note

Note: **Genie<sup>®</sup> Supreme Membrane Separators<sup>™</sup>** are virtually maintenance free. On occasion, the membrane and o-rings will need replacing. Replacement instructions are shipped with replacement membrane and o-ring parts.

## Operating Instructions

Note: The distance between the **Genie<sup>®</sup>** and the analyzer should always be minimized. If the sample dewpoint is typically above ambient temperature, then heat tracing may also be required in order to maintain sample integrity. **PhaseWizard<sup>™</sup>** software is available to aid in representative sampling by simulating sampling conditions and determining if composition changes occur.

### Step 1. Getting started

- ▶ Establish the minimal **bypass** port flow that will bring fresh sample quickly yet allow for continuous removal of separated liquids.


### Step 2. Points to consider during operation

- ▶ Avoid “blowing down” the sample from the **bypass port**; otherwise, the **inlet** port pressure may drop below the **outlet** port pressure resulting in internal reverse flow.
- ▶ Maintain the lowest possible **inlet port** sample pressure consistent with good overall system operation in order to prevent excessive membrane differential pressure.
- ▶ Maintain the sample flow rate through the **Genie<sup>®</sup> outlet port** below the **maximum recommended flow rate**. When the flow rate is below the maximum recommended, then the **membrane differential pressure** will typically be below 2 psi, providing that all of the membrane area is available for flow. Accumulation of liquid or particulate on the membrane surface could decrease the membrane area available for gas flow, which would result in an increase of **membrane differential pressure**. Very few liquid components will flow through the membrane when the **membrane differential pressure** is below 2 psi. Some applications allow for a much higher **membrane differential pressure**.

## Model Numbering & Additional Part Numbers

### Model Numbering & Additional Part Numbers

Your model number is determined by your specific needs. Choose options below.

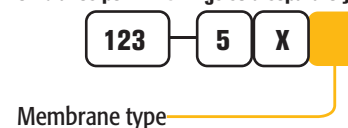
<b>Sealing material</b> 	0 = fluoroelastomer	1 = perfluoroelastomer	(other materials available upon request)
<b>Membrane type</b>	6 = Type 6/BTU	7 = Hi-Flow Backed	
<b>Mounting bracket accessory</b>	Part # 123-509-SS (sold separately)		
<b>O-ring replacement</b>	Part # 123-500 (sold separately)		


#### How to build the model number:



#### How to build the replacement membrane kit number:

(Five membranes per kit. O-rings sold separately)



 We cannot recommend specific sealing materials due to the complex nature of sample stream compositions. Temperature and pressure also may be factors. Unless specified otherwise, the product will ship with our standard sealing materials and materials of construction stated in the technical specifications section of the corresponding Product Sheet. Please refer to [www.dupontelastomers.com](http://www.dupontelastomers.com) for sealing material recommendations and advice. It is the user's responsibility to specify the sealing materials of construction for their application.