PERMA PURE
PROTECT LIFE

ME Series Moisture Exchanger

A Simple, Cost-Effective Method forDrying or Humidifying Gas Streams

Perma Pure ME Series moisture exchangers are ideal for both drying or humidifying gas streams to ambient humidity. This device uses Nafion™ membrane tubing technology to transfer water to or from a gas stream. In either application, the moisture exchangers act to achieve equilibrium between the gas inside the tubing and the surrounding atmosphere, without loss of analytes and with no utility requirements.

Key Features

- Removes only water vapor
- Continuously regenerated
- Adjusts to ambient humidity
- No purge gas needed
- Fast response time
- Variety of connectors
- Excellent corrosion resistance
- Lightweight and portable

Principle of Operation

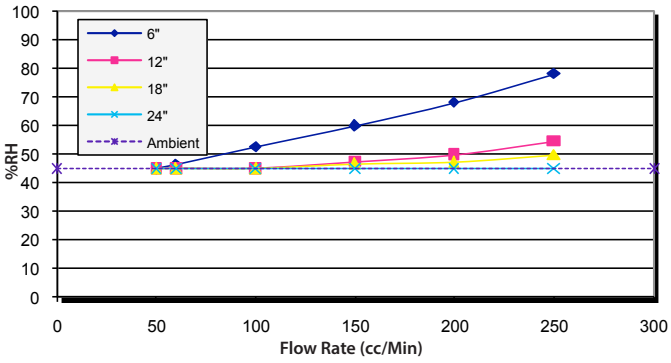
Perma Pure's ME Series moisture exchangers used in drying applications transfer water vapor from a wet gas stream into the surrounding atmosphere. Drying is complete when the sample humidity level is equal to the ambient humidity level. Since drying is accomplished as a first order kinetic reaction, this level can be reached extremely quickly, usually within 100 to 200 milliseconds. Consequently, the ME is ideal for applications involving a very humid or even saturated sample at room temperature. Sample can easily be dried to as low as 10% of its original moisture content using only a short length of Nafion™ tubing. Removal of water from the gas stream can greatly reduce analyzer maintenance.

Humidifying calibration gas allows calibration of analyzers at humidity levels equal to those seen in samples, providing a more consistent calibration/ sample baseline. For humidification, the ME device transfers water vapor from the atmosphere to a dry gas flowing within the tubing in a fraction of a second. This process is very stable and repeatable under constant operating conditions, which is highly desirable for gas calibration applications.

Making Analysis Possible

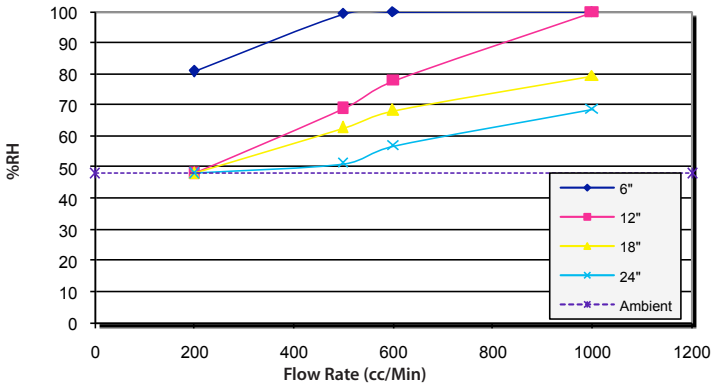
ME-050 Performance

Flow Rate vs Output %RH • Inlet Sample: 100%RH @ 97 deg. F (Saturated Breath)



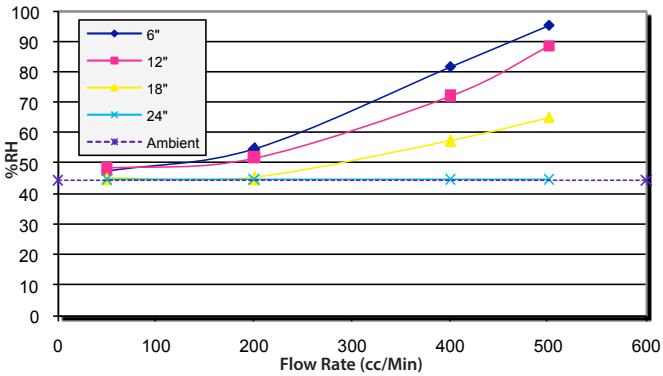
ME-070 Performance

Flow Rate vs Output %RH • Inlet Sample: 100%RH @ 97 deg. F (Saturated Breath)



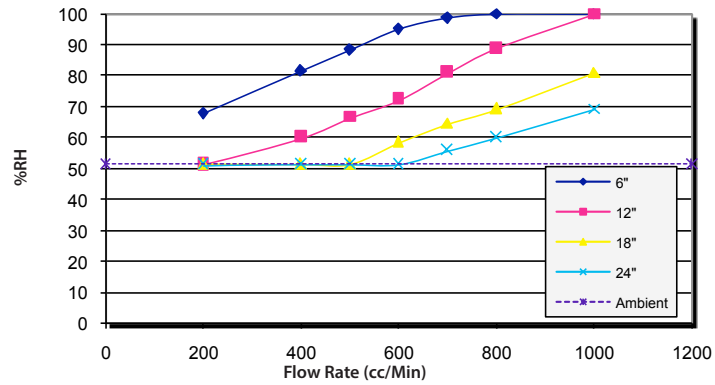
ME-060 Performance

Flow Rate vs Output %RH • Inlet Sample: 100%RH @ 97 deg. F (Saturated Breath)



ME-110 Performance

Flow Rate vs Output %RH • Inlet Sample: 100%RH @ 97 deg. F (Saturated Breath)



Type	Description	Illustration
TT	Thermoplastic tube* with stainless steel coupling (specify length of tube)	
BT	Thermoplastic tube* with nylon barb coupling (specify length of tube)	
B	Nylon barbed fitting	
MB	1/16" Molded barb fitting (not available in ME-070 series)	
ST	Stainless steel tube in molded polypropylene header (specify length of tube)	
COMP-2	1/8" Molded header with stainless steel compression fitting (ME-060 only)	
COMP-4	1/4" Molded header (ME-110 only)	

NOTE: TT and BT tubes are available in polyethylene, polyurethane, PVC or Tygon.

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