

MDH™-Series Gas Dryers

Dry Condensing Gas Samples to Protect Moisture-Sensitive Equipment

- Dries continuously
- Removes only water vapor
- Achieves low dew points
- Accepts high water content
- Maintenance-free operation
- No moving parts
- Excellent corrosion resistance
- Short residence time

Perma Pure MDH™-Series gas dryers dry gas samples with dew points higher than ambient temperature without requiring additional heating elements or insulation. Their proprietary Nafion® technology selectively removes only water from sample gases, leaving the rest of the gases unaffected.

Principle of Operation

MDH-Series gas dryers incorporate a single-tube MD™-Series dryer into a compact heated enclosure. The MD-Series dryer contains a strand of Nafion® tubing surrounded by an inert shell tube. Water vapor in the gas flowing inside the Nafion tubing selectively permeates through the Nafion wall, evaporating into a dry purge gas stream flowing between the outside of the Nafion tube and the inert shell. The water concentration differential between the two gas streams drives the reaction, quickly drying the gas.

MDH-Series dryers must accept gases whose water concentration is so high that water will condense if the gas is allowed to cool. To prevent condensation until the gas is dried, the integral enclosure heats the sample inlet and the initial portion of the dryer to keep the gas hot until the water is removed. As the gas dries, it also cools, exiting the dryer at ambient temperature and a low dew point. MDH-Series dryers have a built-in thermostat to control the temperature. Only electrical power and dry purge air are needed for operation.

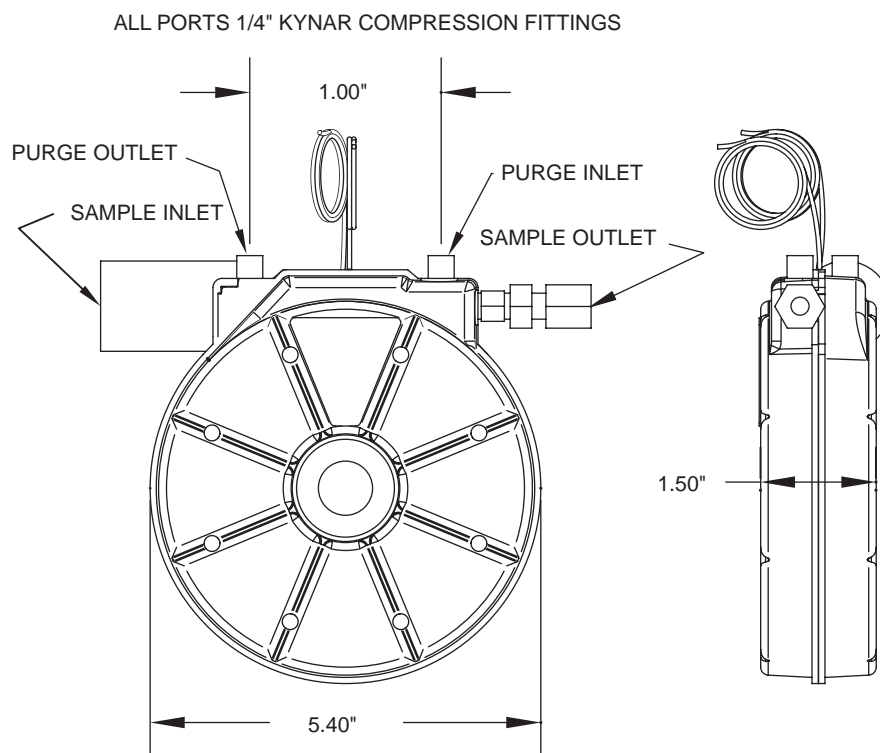
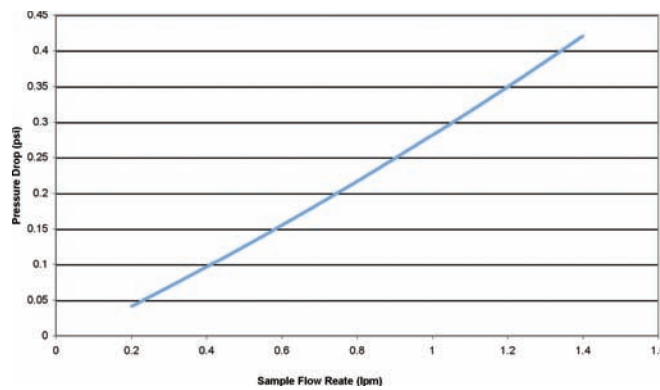
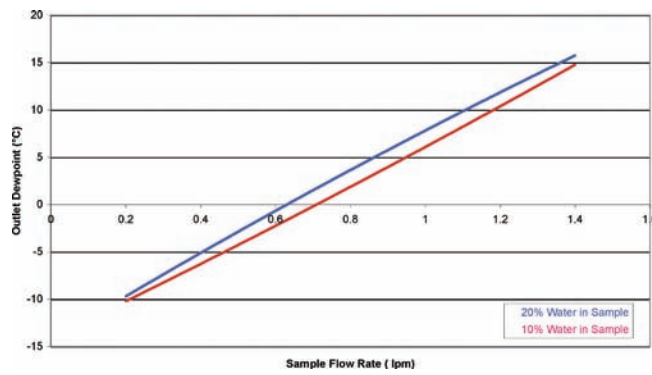
Designed to handle gas flows of up to 1 lpm, the heated MD-Series gas dryers can remove as much as 30% water by volume. The compact design can be easily incorporated into analyzer cabinets or used as a stand-alone device. These dryers require 110 VAC and an instrument-air quality purge gas.



Model Number	MDH-110-96
Nafion Tube O.D.	0.108"
Nafion Tube I.D.	0.086"
Available Lengths	96"
Factory Set Temperature	80°C



Drying Performance and Pressure Drop Curves for MDH-110-96



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