Perma Pure Gas Drying Solutions

Monotube Dryer – Heated (MDH) Series

Application

The MDH Heated Gas Dryers from Perma Pure are specifically designed for applications where gas samples with high dew points need to be analyzed. They are ideal for use in continuous emissions monitoring systems (CEMS), ambient air quality monitoring, refinery process control, wastewater treatment, and fuel cell research. Thanks to their ability to dry gas streams with up to 30% water content, they ensure accurate analysis without the loss of water-soluble gases. The compact units can be easily integrated into analyzers or used as stand-alone solutions.

Technology

The MDH series utilizes Perma Pure's proprietary Nafion™ technology, where a selectively permeable membrane tube removes only water vapor from the gas stream. Unlike traditional cooling methods that condense water, the MDH dryer removes moisture directly from the vapor phase. This prevents the loss of water-soluble analytes and enables efficient drying without the need for additional heating or insulation. The dryers maintain a constant operating temperature of 80 °C and are designed for gas flows up to 1.5 L/min.

Functions

The primary function of the MDH Heated Gas Dryers is to selectively remove moisture from gas samples without affecting other analytes. With a fluoropolymer and polycarbonate housing, these devices are corrosion-resistant and suitable for demanding environments. They support an operating pressure of up to 100 psi (absolute) and a maximum temperature of 80 °C, ensuring reliable performance. The units are available with 115 V or 220 V power options and require a dry purge gas stream to efficiently carry away the extracted moisture. These dryers are ideal for a variety of applications, including environmental monitoring, industrial processes, and continuous emissions systems, providing consistent and accurate sample conditioning even in challenging conditions.

- ✔ Dries gas samples containing up to 30% water
- ✔ Prevents loss of water-soluble gases through selective vapor-phase drying
- ✔ No moving parts – low maintenance
- ✔ Operating temperature of 80 °C for optimal moisture removal
- ✔ Maximum flow rate: 1.5 L/min
- ✔ Maximum operating pressure: 100 psi (absolute)
- ✔ Compact design allows easy system integration
- ✔ Available with 115 V or 220 V power input
- ✔ Corrosion-resistant housing for long-term durability
- ✔ Ideal for CEMS, ambient air monitoring, and industrial process control.

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PSG Perfect Sample Gas

Perma Pure
Breathe Easier. Be Healthier.

Technical Data

Model		
Type		MDH-110
Operating		
Max. Flow Rate	lpm	1,5
Max. Operating Temperatures	°C	80
Operating Pressure (absolute)	psi	100
Thermostat Set Point	°C	80
Electrical Data		
Voltages Available		115 or 220 VAC
Power Requirements		0.3 Amps, 30 Watts
Design Data		
Nafion™ Tube O.D.	Inch	0.108
Nafion™ Tube I.D.	Inch	0.086
Standard Dimensions Available	Inch	96
Nafion™ Tubing Dryer Housing		Fluorocarbon
Enclosure		Polycarbonate
Purge Gas Port – End Fitting Size	Inch	1/4, 1/8

Notes:
- 1 Inch = 2,54 cm
- 1 bar = 14,504 psi

Depiction