



Control Sample Humidity without Particle Losses Perma Pure's MD-700 Large Diameter Nafion® Dryer



The MD-700 has been specifically developed for humidity control in particle measurement and aerosol analysis applications. In order to minimize particle losses, a laminar sample flow should be maintained through the flow path of the dryer. The MD-700 addresses these performance needs while providing the moisture removal necessary to make accurate measurements across a wide range of flow rates. All moisture is removed in the vapor phase with a purge gas flow.

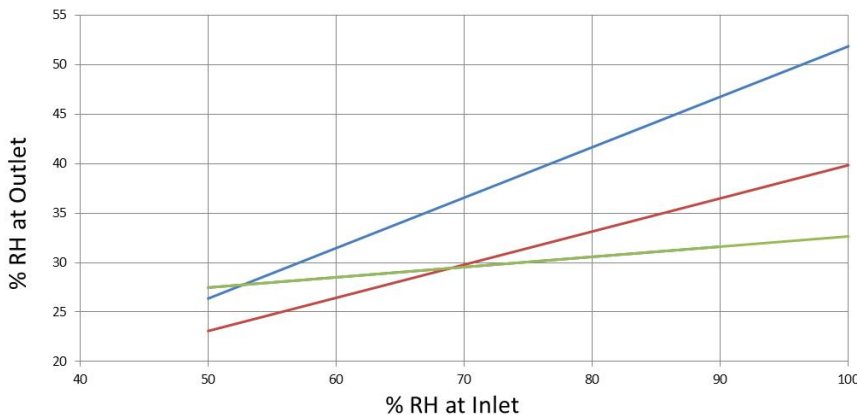
Features and Benefits

- Low Particle Losses** — Large diameter Nafion® tubing maintains a laminar flow of the sample through the dryer.
- Eliminate Heating** — Volatile particulates are preserved in the sample by eliminating the need to heat the sample to control RH.
- Low Service Costs** — Eliminates the need to repeatedly replace desiccant.
- Three Modes of Operation** — Designed for use with instrument air, vacuum purge or partial reflux methods.
- Stainless Steel Construction** — Grounded Stainless Steel construction eliminates build up of static charges in the flow path.
- Long Service Life** — Replaceable Nafion® dryer elements are available to extend service life.

Select the Right Dryer for Your Application

Dryers are selected based on target dryness or moisture level required and flow rate of the sample through the tubing normally defined by the analyzer requirements. Below are performance curves for two common flow rates using the operating conditions shown in the table to the right. Performance

25°C Ambient Conditions



Symbol	Green	Red	Blue
Inlet Flow	2LPM	5LPM	16.7LPM
Dryer Length	12 Inches 15 cm	24 Inches 60 cm	48 Inches 120 cm
Vacuum	23" Hg 779 mbar	20" Hg 677 mbar	23" Hg 779 mbar
Purge Flow	80%	80%	80%

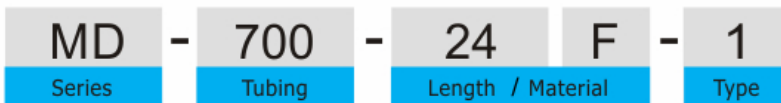


Operating Specifications

Temperature	0-40°C	
Pressure	Maximum 15 psi (1000 mbar) positive differential between sample gas and purge gas	
	Maximum 3 psi (200 mbar) negative differential between sample gas and purge	
Humidity (Inlet)	0-99% RH (non-condensing)	
Shell Material	304 Stainless Steel	
Connector Material	Sample :	316 Stainless Steel
	Purge :	Kynar / 316 Stainless Steel

Size Selection	Flow Rate	Recommended Active Dryer Length
		0-1.5 lpm
	1.5-4 lpm	12"(30cm)
	3-8 lpm	24"(60cm)
	6- 12 lpm	36"(90cm)
	8 - 16.7 lpm	48"(120cm)

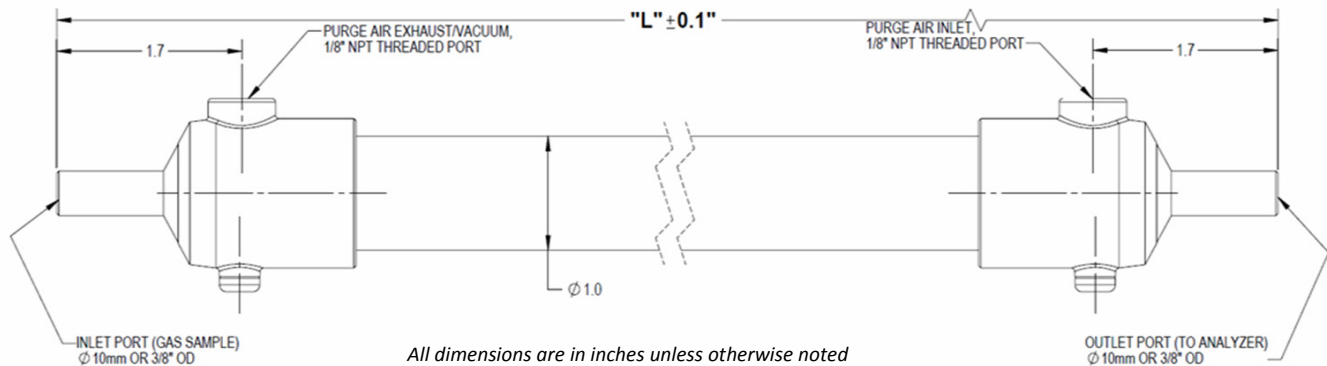
Intelligent Product Numbering System



Series	
MD (Monotube Dryer) Series	MD
Tubing Size	
0.700" Nafion® Tubing	700
Dryer Active Length	
6" (15 cm)	6
12" (30 cm)	12
24" (60 cm)	24
36" (90 cm)	36
48" (120 cm)	48

Purge Connector Material	
Kynar and Stainless Steel	F
Stainless Steel	S
Connection Ends	
Sample Gas Connector Type	
10mm OD Tube End	1
3/8" (9.5mm) OD Tube End	3
3/4"(19mm) OD Tube End	5

Dimensions



Dryer Active Length	6" (15 cm)	12" (30 cm)	24" (60 cm)	36" (90 cm)	48" (120 cm)
Total Length ('L')	9.90" (25.1 cm)	15.8" (40.1 cm)	27.62" (70.1 cm)	39.43" (100.1 cm)	51.24" (130.1 cm)