



## Chrysalis® II Mistral LC/MS Nitrogen Generators



"Mistral LCMS"



"LCMS M-0"

**Description**

The Chrysalis® II Mistral LC/MS Nitrogen Generator is specifically designed to deliver the larger capacity flow rates required for LC/MS instrument operation. The Chrysalis® II Mistral LC/MS utilizes an integral membrane based system to transform standard compressed air into a continuous stream of high purity dry nitrogen. The Mistral LC/MS can produce flow rates from 0 Lpm up to 35 Lpm, with purities ranging from 96 to 99.9%. An optional PUR-Gas™ UHP purification system is available to increase outlet nitrogen purity to 99.9999%, for flow rates up to 20 Lpm.

The Chrysalis® II Mistral LC/MS Nitrogen Generator incorporates an integral oil-free direct drive air compressor system to continuously supply the air to the gas generator inlet. Caster wheels for floor mobility are standard.

The design of the Chrysalis® II Mistral LC/MS Nitrogen Generator is based on hollow fiber membrane technology. Pressurized air is directed through a series of hollow fiber membrane tubes where, due to their high diffusion rates, oxygen, water vapor and carbon dioxide molecules diffuse rapidly out of the stream through the membrane walls. Nitrogen, which has a low diffusion rate through the membrane, is predominantly retained inside the membrane flow stream.

The first membrane stage eliminates most of the moisture and oxygen from the air stream. The pre-purified nitrogen then passes through a second membrane stage where more moisture, water vapor and carbon dioxide are removed. In the delivery stage, the nitrogen stream passes through a third membrane for final purification.

The nitrogen pressure out of the third membrane stage is then elevated from 45 psig to a standard discharge pressure of 115 psig. Operating the membranes at a lower initial pressure and then boosting the pressure downstream results in extending membrane life compared to traditional designs that utilize a single

compressor to operate throughout the entire pressure range. This also serves to extend the operating life of the air compressor components and significantly reduces routine maintenance requirements and costs.

The Mistral LC/MS Nitrogen Generator is also available without an integral air-compressor (the M-0 model) and operates from an external compressed air source. The Chrysalis® II Mistral LC/MS M-0 is capable of producing flow rates up to 60 Lpm. The Mistral LC/MS M-0 model is compact, lightweight, economical and is wall mountable.

**Applications**

- Nebulizing gas for LC/MS and ELSD instruments
- Purge and drying gas for ICP instruments
- Carrier and make-up gas for GC-ECD instruments
- Make-up gas for GC-NPD instruments
- Compatible for use with Atmospheric Pressure Chemical Ionization and Electrospray Ionization interfaces
- Specific solvent evaporations
- Low purity purge gas requirements

**Product Features**

- Flow capacities range from 0 Lpm to 60 Lpm
- Warranty is 2 years or 8,000 hours of operation (whichever occurs first)
- Flow control valve allows variable flow rates and nitrogen purity levels (Mistral)
- Pressure indication provided for the outlet nitrogen supply
- Integral Oxygen Sensor monitors purity (Mistral)
- Integral oil-free direct drive air compressor for "turn key" operation is standard (Mistral)
- Caster (self-locking) wheels provide mobility for installation (Mistral)
- Optional PUR-Gas™ purifier increases N<sub>2</sub> purity to 99.9999%
- Power cord included
- CE & CSA Approved



## Chrysalis® II Mistral LC/MS Nitrogen Generators - *continued*

### Operating and Physical Specifications

	Mistral Model	M-0 Model
Nitrogen Flow Rate:	0-35 Lpm	0-60 Lpm*
Nitrogen Purity:	96-99.9%	98-99%
Nitrogen Outlet Pressure (max):	115 psig	132 psig
Pressure Drop:	none	8 psig (25 Lpm) 13 psig (60 Lpm)
Air Inlet Connection:	none	1/4" NPT
Nitrogen Outlet Connection:	1/4" FPT	1/4" NPT
Air Inlet Pressure (min. / max.):	none	65/145 psig
Integral Air Compressor	Yes	No
Operating Noise Level:	< 58 dB	< 45 dB
Power Source:	110 VAC / 60 Hz 230 VAC / 50 Hz	none none
Dimensions:	12"W x 27"H x 35"D	11"W x 32"H x 5"D
Weight:	204 lbs	70 lbs
Warranty:	2-years (or 8,000 hrs of operation)	

\*Note: To determine air requirements, the M-0 model requires a compressed air volume at the inlet of approximately '8' to '10' times that of the desired nitrogen volume (flow). Consult factory for assistance.

### Nitrogen Purity Flow Chart (Mistral model)

Purity, %	99.9	99.7	99.5	99.3	99.1	99	98	97	96
Flow, Lpm	0-8	12	13	15	17	19	25	28	35

### Ordering Information

Model Number	Description	Flow Capacity
LCMS-M430-AC60	Nitrogen Generator With Air Compressor, 60Hz	0-35 Lpm
LCMS-M430-AC50	Nitrogen Generator With Air Compressor, 50Hz	0-35 Lpm
LCMS-M025	Nitrogen Generator Without Air Compressor	0-25 Lpm
LCMS-M060	Nitrogen Generator Without Air Compressor	0-60 Lpm
PUR-0232	Optional PUR-Gas™ LC/MS Purification System	0-20 Lpm
CTG-0055	PUR-Gas™ LC/MS Purifier Replacement Cartridges	
M430-FILT-KIT	Annual Internal Filter Replacement Kit (Mistral Model)	
M430-O2-SEN	Oxygen Analyzer Replacement Sensor (Mistral Model)	
M025-FILT-KIT	Annual Internal Filter Replacement Kit (M-0/25 Lpm Model)	
M060-FILT-KIT	Annual Internal Filter Replacement Kit (M-0/60 Lpm Model)	



*PUR-Gas™ LC/MS Nitrogen Gas Purification System.  
Unique 2-Position System achieves 99.9999% hydrocarbon removal  
of the nitrogen gas produced from the LC/MS Nitrogen Generator.*

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