

Chrysalis® II Hydrogen Generator

High Performance No Maintenance (HPNM) Series

NON-Desiccant Models

Description

The Chrysalis® II "HPNM" (High Performance No Maintenance) Hydrogen Generator represents a superior advance in the technology utilized to generate hydrogen without having to perform routine maintenance. The "HPNM" Hydrogen Generator Models incorporate an advanced dual-column purification system to remove residual moisture from the hydrogen gas produced, and the system automatically regenerates the column to eliminate the need for maintenance. This technology utilizes pure deionized water and does not require the use of chemical solutions to support the electrolytic dissociation process; this completely eliminates the need for a desiccant cartridge as a final purification step. The output of hydrogen is based upon instrument demand. A user-friendly digital display provides system operating status and diagnostic capabilities. The Chrysalis® II "HPNM" Hydrogen Generator produces a reliable continuous output of >99.9999+% pure hydrogen ideal for GC carrier and FID gases. Add a Chrysalis® II ZERO Air Generator to automate the gas supply for GC-FID's.

Applications

- Carrier gas for gas chromatography
- Fuel gas for flame ionization detectors
- Supply gas for shaker devices in hydrogenation labs

Product Features

- Innovative internal adsorption/regenerative purification system removes moisture from the hydrogen and eliminates the need to monitor, change and purchase desiccant cartridges
- Small 9" wide x 14" deep footprint conserves lab bench space
- Manual adjustment of gas delivery pressure
- Delivery pressure to 155 psig suitable for fast GC methods
- Provides continuous LCD indication and monitoring of delivery pressure, hydrogen flow and water quality
- Uses Deionized water for operation (No caustic solutions)
- LCD based display and membrane control pad provide simplified operation
- Universal power (voltage) supply compatibility
- "Cascading" flow control allows multiple units (up to 32) to be connected as a system to provide larger capacity flows
- PC interface permits remote monitoring of selected functions
- Multiple alarms alert user to low water level, poor water quality, low pressure (leak) and power supply conditions
- CE and CSA certified



Operating and Physical Specifications

Electrolysis Cell:	Solid Polymer Membrane Type
H ₂ Purity:	>99.9999+%
Delivery Pressure:	1 - 155 psig
H ₂ Flow Rate:	100 - 160 - 250 - 500 - 1000 ccm
Safety:	Auto shut-off
User Interface:	Set points, system status, flow control, pressure control configuration menu, diagnostic menu
Display:	LCD based with set points, status, alarms
Indicator Lights:	Power ON, System Error
Options:	Cascading Flow Control Auto-Fill Module PC Remote Control (RS-232C) Remote Alarm Indication
Water:	Deionized (2μS or .5 Mohm)
Power Source:	110 - 120 VAC / 60 Hz; 230 VAC / 50 Hz
Dimensions :	9"W x 14"D x 16"H
Net Weight:	45 lbs (20 kg)
Certification:	CE and CSA compliant
Warranty:	1 year



MATHESON

ask. . .The Gas Professionals™

Ordering Information

Model No.	Description	Capacity
High Performance No Maintenance ("HPNM") Series*		
HYC-HPNM100	HPNM Hydrogen Generator	100 ccm
HYC-HPNM160	HPNM Hydrogen Generator	160 ccm
HYC-HPNM250	HPNM Hydrogen Generator	250 ccm
HYC-HPNM500	HPNM Hydrogen Generator	500 ccm
HYC-HPNM1000	HPNM Hydrogen Generator	1000 ccm

*The "HPNM" Models do not utilize a (replaceable) "desiccant" purifier and provide maximum operating efficiency.

High Performance No Maintenance ("HPNM") Series with PC Control Option**

HYC-HPNM100-PC	HPNM Hydrogen Generator w/PC Remote Control Option	100 ccm
HYC-HPNM160-PC	HPNM Hydrogen Generator w/PC Remote Control Option	160 ccm
HYC-HPNM250-PC	HPNM Hydrogen Generator w/PC Remote Control Option	250 ccm
HYC-HPNM500-PC	HPNM Hydrogen Generator w/PC Remote Control Option	500 ccm
HYC-HPNM1000-PC	HPNM Hydrogen Generator w/PC Remote Control Option	1000 ccm

**The PC Remote Control option permits on/off control and review of the operating status of the Hydrogen Generator from a remote location and is furnished with an RS-232C, 15-PIN Interface Cable Connection.

High Performance No Maintenance ("HPNM") Series with Cascading Flow Option***

HYC-HPNM250-CF	HPNM Hydrogen Generator w/Cascading Flow Option	250 ccm
HYC-HPNM500-CF	HPNM Hydrogen Generator w/Cascading Flow Option	500 ccm
HYC-HPNM1000-CF	HPNM Hydrogen Generator w/Cascading Flow Option	1000 ccm

***The Cascading Flow option allows a minimum of '2' units (up to 32) to be connected in parallel operation to deliver a large flow of hydrogen. Each individual unit is set-up for "Cascading Flow" operation and is furnished with an external RS-485 interface cable to coordinate the functions of the individual units. All units operating within a large flow capacity system must be configured with the "Cascading Flow" feature.

Optional Features

Model No.	Description
HYC-PC-HPNM	PC Interface Software with Control I/O Board
AF-RC	Qty (1) Auto-Fill Module for Units with PC & CF Control Features
AF-STD	Qty (1) Auto-Fill Module for Units without Control Features

Spare Parts

Model No.	Description
DI-BAG	Deionizer Bag (replacement)
DI-TBAG	High Performance Deionizer Bag
HYC-BGS-KIT	Auxiliary Back-Up Gas Supply Kit

Warranty: One (1) year parts & labor

Chrysalis® is a registered trademark of Matheson Tri-Gas, Inc.

Equipment Technology Center

166 Keystone Drive

Montgomeryville, PA 18936

Tel: 800-828-4313 Fax: 215-619-0458

Email: Info@mathesongas.com

www.mathesongas.com

Printed in USA TB376 Rev 11 05/10



MATHESON

ask. . .The Gas Professionals™