



Leman Instruments

HYDRO50R - HIGH PURITY HYDROGEN GENERATOR MODULE



H₂

DESCRIPTION

LEMAN-Instruments designed the **HYDRO50R** product line of **High Purity Hydrogen Generator** modules for FID and CARRIER GAS for GC, to fit almost any type of application which needs H₂ production close to the consumer.

Based on the field proven Solid Polymer Electrolyte (PEM) cell technology, pure Hydrogen is produced at low pressure from electricity and high quality distilled water (ZEROWATER). This process can be started on demand and does not require any caustic solution. The instrument could be alimented directly from a bi-distilled water distribution network. (option)

The produced Hydrogen is available 24/7 with constant purity of **99.999%** at output flows of **100 to 600 Ncc/min** (depending on the model). The H₂ output pressure is regulated electronically and can be set from 0.5 to 7 bar.(7 to 102 psig).

Each instrument is equipped with high performance communication interfaces RS485 and USB as standard (Ethernet, WLAN as option) to create a very flexible gas network with local or central control.

Due to the softwares being focused on safety, automatic regulation and reliable communications, the **HYDRO50R High Purity Hydrogen Generator** modules are easy to install, reliable, safe and pleasant to operate.

BENEFITS

- ✓ Reduces in operation costs. Return on investment within 2 years.
- ✓ Improves resolution and detection limit versus Helium only usage. Provides High pressure stability.
- ✓ H₂ available 24/7 at constant purity. No contamination.
- ✓ Independent source of Hydrogen that does not require any piping and can be easily moved around the laboratory.
- ✓ Remote control from PC, I-phone and I-pad
- ✓ Very safe operation, internal leak-test, automatic shut-down, over-pressure valve, current and voltage limits.
- ✓ No handling and storage of cumbersome gas cylinders. No cylinder rental fee.
- ✓ Extended autonomy with 5L water tank.

HIGH PURITY HYDROGEN GENERATOR MODULE

SPECIFICATIONS

Models	HYDRO50R-100, HYDRO50R-160, HYDRO50R-250, HYDRO50R-500, HYDRO50R-600.
H2 Outflow @ 1013/20°C	HYDRO50R-100 = 100 Nml/min ; HYDRO50R-160 = 160 Nml/min HYDRO50R-250 = 250 Nml/min ; HYDRO50R-500 = 500 Nml/min; HYDRO50R-600 = 600 Nml/min
H2 purity	>99.999% (HC<0.1ppm)
Dew point	-40°C / -45°F
Outlet Pressure	From 0.5 to 7 bar (7 to 102 psig), adjustable by software.
Water quality	High purity deionized+filtered water. TOC free.
Water alimentation	By external 5L tank, or central distribution network (option)
Water consumption	5L water generates about 6000L Hydrogen
Safety	Low H2 stored volume; over pressure valve; internal leak test; automatic shut down; maximum current limit, water quality.
Manual control	ON-OFF power switch
Remote control, Communications	<ul style="list-style-type: none"> ■ By LEMAN-Instruments Gas Network Controller, (communication by RS485), maximum distance to module : 100m ■ Through 2 potential free relay contacts (I/O), ■ RS485 (Mod-Bus), USB. ■ Trough Ethernet 10/100 network (option) ■ Trough WLAN network, with PC, I-Phone, I-Pad (option) ■ Log book download by USB.
H2 outlet fitting	Stainless steel 1/8" OD compression
Power supply	Automatic switching from 90VAC to 260VAC, 47 to 63 Hz
Power consumption (max at full flow)	HYDRO50R-100 to HYDRO50R-250: maximum 150W HYDRO50R-500 and HYDRO50R-600: maximum 250W
Dimensions	W=220mm/8.1ins, H=130mm/5.1ins, D=350mm/13.8ins
Net weight (Kg/lbs)	HYDRO50R-100 to HYDRO50R-250: 8 Kg / 18 Lbs HYDRO50R-500 to HYDRO50R-600: 11 Kg / 23.5Lbs
Certification	CE

ORDERING NUMBERS

Model	Article #
HYDRO50R-100	711101
HYDRO50R-160	711102
HYDRO50R-250	711103
WLAN Interface option	711181

Model	Article #
HYDRO50R-500	711106
HYDRO50R-600	711107

LEMAN - INSTRUMENTS SAS

Archamps Technopole, 60 Avenue Marie-Curie
F – 74160 ARCHAMPS

info@leman-instruments.com

Telephone: +33 4 50 39 49 22

www.leman-instruments.com