



# Leman Instruments

## HYDRO50LS – HIGH FLOW, HIGH PURITY HYDROGEN GENERATOR



# H<sub>2</sub>

### DESCRIPTION

**LEMAN-Instruments** designed the **HYDRO50LS** product line of **High Flow High Purity Hydrogen Generator** for FID & CARRIER GAS for GC, for research on fuel cell and to fit almost any type of application which needs high flow H<sub>2</sub> production on demand close to the consumer, in an elegant casing with full color display and touchscreen .

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. 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 from **1 to 4 NI/min**. The H<sub>2</sub> output pressure is regulated electronically and can be set from 1 to 10 bar.

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

Due to the software being focused on safety, automatic regulation and intuitive and reliable communications, the **HYDRO50LS High Flow High Purity Hydrogen Generators** are easy to install, reliable, safe and pleasant to operate.

### APPLICATIONS

- ✓ Combustion gas for FID Analyzers
- ✓ Carrier gas for Gas Chromatographs
- ✓ Fuel Cell research, Protection gas

### BENEFITS

- ✓ Reduces in operation costs. Return on investment within 1.5 year.
- ✓ No Maintenance
- ✓ Improves resolution and detection limit versus Helium only usage.
- ✓ Provides High pressure stability.
- ✓ H<sub>2</sub> available on demand 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, H<sub>2</sub>-cell current and voltage limits.
- ✓ No handling and storage of cumbersome gas cylinders. No cylinder rental fee.
- ✓ Extended autonomy with internal 12L water tanks or water distribution network.

# HYDRO50LS HIGH FLOW, HIGH PURITY HYDROGEN GENERATOR

## SPECIFICATIONS

<b>Models</b>	<b>HYDRO50LS-1, HYDRO50LS-2 ,HYDRO50LS-3, HYDRO50LS-4,</b>
H2 Outflow @ 1013/20°C	HYDRO50LS-1 = 1 NI/min ; HYDRO50LS-3 = 3 NI/min ; HYDRO50LS-2 = 2 Nml/min ; HYDRO50LS-4 = 4 NI/min
H2 purity	<b>&gt;99.999% (HC&lt;0.1ppm)</b>
Dew point	< -40°C
Outlet Pressure	From 1 to 10 bar (14 to 142 psig), adjustable by software.
Water quality	High purity distilled + filtered water. TOC free.
Water alimentation	Internal tank, 12L or central distribution network (option)
Water consumption	12L water generates about 12 m <sup>3</sup> Hydrogen
Safety	Low H2 stored volume; over pressure valve; leak test; automatic shut down; maximum current limit, water quality
Sound pressure	< 40 dB(A), measured at 1m
Manual control	Through a 4.3" TFT-LCD color display with touchscreen, located on the front panel. Display of major parameters, functioning status and alarms. Intuitive navigation to functions by menus and sub menus.
Remote control, Communications	<ul style="list-style-type: none"> <li>■ Trough Ethernet 10/100 network</li> <li>■ Trough WLAN network, with PC, I-Phone, I-Pad (option)</li> <li>■ Log book download by USB.</li> </ul>
H2 outlet fitting	Stainless steel 1/4" OD compression
Power supply	Automatic switching from 90VAC to 260VAC, 47 to 63 Hz
Power consumption ( max at full flow)	HYDRO50LS-1: maximum 500W; HYDRO50LS-2: maximum 800W; HYDRO50LS-3: maximum 1000W ; HYDRO50LS-4: maximum 1500W
Dimensions	W=23cm, H=60cm, D=50cm
Net weight, without water	HYDRO50LS-1 : 25Kg; HYDRO50LS-2 : 35Kg; HYDRO50LS-3 : 45Kg ; HYDRO50LS-4 : 55Kg
Certification	CE

## ORDERING NUMBERS

Model	Article #
HYDRO50LS-1	741111
HYDRO50LS-2	741112

Model	Article #
HYDRO50LS-3	741113
HYDRO50LS-4	741114
WLAN Interface option	751183

## LEMAN - INSTRUMENTS SAS

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

[info@leman-instruments.com](mailto:info@leman-instruments.com)

Telephone: +33 4 50 39 49 22

[www.leman-instruments.com](http://www.leman-instruments.com)