



# Leman Instruments

## HYDRO50LS2 – HIGH FLOW, HIGH PURITY HYDROGEN GENERATOR



# H<sub>2</sub>

### DESCRIPTION

**LEMAN-Instruments** designed the **HYDRO50LS2** 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 touch screen .

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 device is composed of several independent modules (app 5 L/min by module), connected in parallel and controlled by an RS485 internal bus (cogeneration). In case of failure, each module could be switched off and removed from the device, without interrupting the production of other modules.

The instrument could be alimented directly from a bi-distilled water distribution network. (option)

The produced Hydrogen is available 24/7 on demand with constant purity of **99.999%** at output flows of **5, 10, 15 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 **HYDRO50LS2** 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 2 years.
- ✓ 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 and on demand 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 connection to water distribution network.

# HYDRO50LS2 HIGH FLOW, HIGH PURITY HYDROGEN GENERATOR

## SPECIFICATIONS

|  |  |
|--|--|
| <b>Models</b>                            | <b>HYDRO50LS2-5, HYDRO50LS2-10, HYDRO50LS2-15,</b>   |
| H2 Outflow<br>@ 1013/20°C                | HYDRO50LS2-5 = 5 NI/min ; HYDRO50LS2-10 = 10 NI/min<br>HYDRO50LS2- 15= 15 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:30L, or connection to central distribution network (option)<br>On board Deionized water generator (highly recommended 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;<br>maximum current limit, water quality   |
| Sound pressure                           | < 45 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<br>( max at full flow) | HYDRO50LS2-5 : maximum 2000W; HYDRO50LS2-10: maximum 2500W<br>HYDRO50LS2-15: maximum 3000W;  |
| Dimensions                               | W=55cm, H=120cm, D=80cm (depending the model)  |
| Net weight, without water                | HYDRO50LS2-5: 100Kg; HYDRO50LS2-10: 150Kg; HYDRO50LS2-15: 200Kg;   |
| Certification                            | CE   |

## ORDERING NUMBERS

| Model                 | Article # |
|-----------------------|-----------|
| HYDRO50LS2-5          | 751510    |
| HYDRO50LS2-10         | 751512    |
| WLAN Interface option | 751583    |

| Model                              | Article # |
|------------------------------------|-----------|
| HYDRO50LS2-15                      | 751514    |
| On Board Deionized water generator | 751584    |

## 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)