# HYDRO65 LS2

High-Flow, Analytical Grade Hydrogen Generator

Leman Instruments

## DESCRIPTION:

LEMAN Instruments designed the HYDRO65LS2 product line of High-Flow, Analytical Grade Hydrogen Generators, the analytical grade of the range, for GC-MS carrier gas, fuel-cell test benches and any application that needs high-flow, ultra-clean H2 production on demand close to the consumer. The generators are in an elegant casing with a 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 without a caustic solution.

The device is composed of several independent modules connected in parallel and controlled by an RS485 internal bus. In case of failure, each module can be switched off and removed from the device without interrupting the production of other modules.

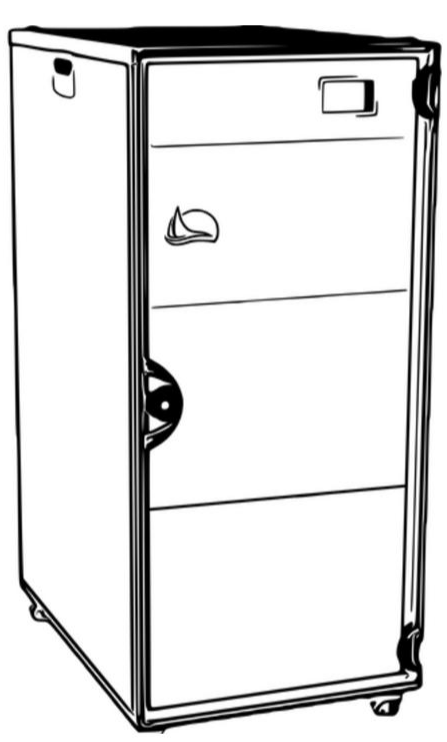
The produced Hydrogen is available 24/7 on demand with a constant purity of >99.99995%, a full order of magnitude cleaner than the standard grade, at output flows of 5, 10 & 15 NL/min. The H2 output pressure is regulated electronically and can be set from 0.5 to 7 bar.

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




## APPLICATION TYPES:

- Carrier gas for GC-MS
- Fuel Cell test benches, research
- Trace analysis, method conversion from Helium



## FEATURES:

- Reduces in operation costs. Return on investment within 2 years.
- No maintenance.
- A full order of magnitude cleaner than the standard grade — built for GC-MS carrier gas and trace work.
- H2 is available on demand 24/7 at constant purity. No contamination.
- An independent, on-demand source of Hydrogen that does not require complex piping and can be easily moved around the laboratory.
- Remote control.
- Very safe operation, internal leak-test, automatic shut-down, over-pressure valve, H2-cell current, and voltage limits.
- Modular construction: a fault reduces output rather than stopping it.
- No handling and storage of cumbersome gas cylinders. No cylinder rental fees.

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|---|---|
| **MODELS** | HYDRO65 LS2-5<br>HYDRO65 LS2-10<br>HYDRO65 LS2-15 |
| **LMP Outflow @1013 / 20°C** | HYDRO65 LS2-5: 5 LPM<br>HYDRO65 LS2-10: 10 LPM<br>HYDRO65 LS2-15: 15 LPM |
| **H2 purity** | >99,99995%<br>NMHC & CH4 <0.05ppm each |
| **Dew point** | -70°C |
| **Outlet Pressure** | From 0.5 – 7 bar (7 – 102 psig) |
| **Dimensions cm / in** | L: 80cm / l: 55cm / H: 120cm (variable)<br>L: 31.4in / l: 21.6in / H: 47.2in (variable) |
| **Net weight (kg/lbs)** | 80–100kg / 176–246lb |

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|---|---|
| **Water quality** | High-purity deionized water (DI water). TOC free |
| **Water source** | Connection to central distribution network or onboard deionized water generator |
| **Water consumption** | 12L water generates about 12m³ of Hydrogen |
| **Safety** | Low H2 stored volume; overpressure valve; internal leak test; automatic shut down; maximum current limit; water quality; over temperature. |
| **Manual control** | Through a 7″ TFT-LCD color display with a touch screen on the front panel. Display of significant parameters, pressure, functioning status, and alarms. Intuitive navigation to functions by menus and sub-menus. |
| **Remote control, Communications** | • Through 2 potential free relay contacts (I/O)<br>• RS485 (Mod-Bus), USB<br>• Through Ethernet 10/100 network |
| **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)** | LS2-5: max 2000W<br>LS2-10: max 2500W<br>LS2-15: max 3000W |
| **Ambient temperature** | +5 to +35°C, non condensing |