HYDRO50 LS2

High-Flow, High-Purity Hydrogen Generator

Leman Instruments

DESCRIPTION:

LEMAN Instruments designed the HYDRO50LS2 product line of High-Flow, High-Purity Hydrogen Generators for FID and carrier gas for GC for research on fuel cells and to fit almost any type of application that needs high-flow 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 (approx. 3 L/min by module) connected in parallel and controlled by an RS485 internal bus (cogeneration). In case of failure, each module can be switched off and removed from the device without interrupting the production of other modules.

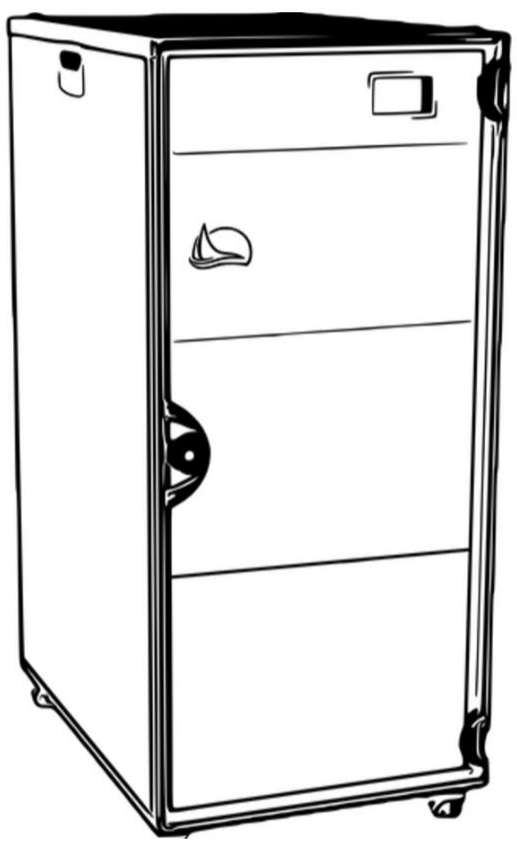
The produced Hydrogen is available 24/7 on demand with a constant purity of 99.9995% at output flows of 5, 10 & 15 NL/min. The H2 output pressure is regulated electronically and can be set from 0.5 to 10 bar.

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:

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



FEATURES:

- 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.
- 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.
- No handling and storage of cumbersome gas cylinders. No cylinder rental fees.



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MODELS	HYDRO50 LS2-5 HYDRO50 LS2-10 HYDRO50 LS2-15
LMP Outflow @1013 / 20°C	HYDRO50 LS2-5: 5 LPM HYDRO50 LS2-10: 10 LPM HYDRO50 LS2-15: 15 LPM
H2 purity	>99,9995% (maximum HC content: 0.1ppm)
Dew point	-50°C
Outlet Pressure	From 0.5 – 10 bar (7 – 145 psig)
Dimensions cm / in	L: 80cm / l: 55cm / H: 120cm (variable) L: 31.4in / l: 21.6in / H: 47.2in (variable)
Net weight (kg/lbs)	80–100kg / 176–246lb

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) • RS485 (Mod-Bus), USB • 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 LS2-10: max 2500W LS2-15: max 3000W
Ambient temperature	+5 to +35°C, non condensing