HYDRO70 L

Ultra High Purity Hydrogen generator

Leman Instruments

DESCRIPTION:

LEMAN Instruments designed the HYDRO70L product line of Ultra High Purity Hydrogen generator, the ultimate grade of the range, to aliment anything related to the use of seven-nines purity H2, close to the consumer in an elegant compact bench table casing with full color 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. After production, H2 is dried by a passive dryer, then passes a maintenance-free PSA module — the additional step that takes it from six nines to seven — allowing the dew point to reach -80°C.

H2 is available 24/7 with constant purity >99.99999%, the cleanest hydrogen LEMAN makes. Output pressure is regulated electronically and could be set from 0.5 to 7 bar. This process can be started on demand and does not require any caustic solution.

Models with outflows of maximum 100, 160, 300 Nml/min H2 are available.

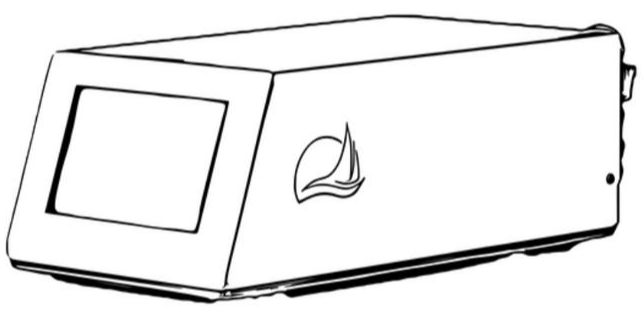
Each instrument is equipped with high performance communication interfaces RS485, USB and Ethernet to create a very flexible gas network with local or central control.

Due to the software being focused on safety, automatic regulation, and reliable communications, the HYDRO70L modules are easy to install, reliable, 100% safe, and pleasant to operate.



APPLICATION TYPES:

- Reaction gas for ICP-MS
- Carrier gas for MOCVD (compound semiconductor epitaxy)
- Any duty where the gas must not appear in the result



FEATURES:

- Reduces in operation costs. Return on investment within one year, then the hydrogen is free.
- No heavy maintenance. PSA module is maintenance-free.
- Seven-nines purity, cleaner than most cylinder grades on the market.
- H2 available 24/7 at constant purity. No contamination.
- Independent source of Hydrogen that does not require complex piping and can be easily moved around the laboratory.
- Remote control
- 100% 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 2L water tank.



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MODELS	HYDRO70 L-100 HYDRO70 L-160 HYDRO70 L-300
LMP Outflow @1013 HPA / 20°C	HYDRO70 L-100: 0.100 LPM HYDRO70 L-160: 0.160 LPM HYDRO70 L-300: 0.300 LPM
H2 purity	>99,99999% (seven nines)
Dew point	-80°C
Outlet Pressure	From 0.5 – 7 bar (7 – 102 psig)
Dimensions cm / in	L: 43cm / l: 23.5cm / H: 16cm (17in / 9in / 6.2in)
Net weight (kg/lbs)	13kg / 29lb

Water quality	• High-purity deionized water (DI water) • TOC free, conductivity < 1µS/cm
Water source	2L external tanks
Water consumption	5L water generates about 6000L Hydrogen
Final purification	Passive dryer + maintenance-free PSA module
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. (option)
Remote control, Communications	• Through Ethernet 10/100 network • Through the WLAN network • Logbook 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)	L-100/160: max 150W · L-300: max 300W
Ambient temperature	+5 to +35°C, non condensing

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