



Leman Instruments

HYDRO 70R : NO MAINTENANCE ULTRA HIGH PURITY HYDROGEN GENERATOR



H₂

APPLICATION

- ✓ Carrier gas for Gas Chromatographs
- ✓ Fuel Cell research, Protection gas
- ✓ Grow of high purity crystals

DESCRIPTION

LEMAN-Instruments designed the **HYDRO70R** product line of **No Maintenance Ultra High Purity Hydrogen generator** to aliment FIDs & GCs, fuel cell and crystal grow installations, close to the consumer in an elegant 19" 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. After production, H₂ is dried and purified by an exclusive No Maintenance Double Column Purifier module (PSA). H₂ is available 24/7 with constant purity **>99.99999%**. Output pressure is regulated electronically and could be set from 0.5 to 8 bar. This process can be started on demand and does not require any caustic solution.

Models with outflows of **1, 2, 3, 4 NL/min H₂** are available.

Each instrument is equipped with high performance communication interfaces USB, RS485, Ethernet (opt) 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 **HYDRO70R** is easy to install, reliable, safe and pleasant to operate.

BENEFITS

- ✓ Reduces in operation costs. Return on investment within 15 months.
- ✓ Improves resolution and detection limit versus Helium only usage. Provides High pressure stability.
- ✓ H₂ available 24/7 at constant purity. No contamination.
- ✓ **NO Maintenance on dryer and purification module**
- ✓ Independent source of Hydrogen, can be easily moved around the laboratory.
- ✓ Remote control from PC
- ✓ Low functioning noise < 45dB(A).
- ✓ Very 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 20L water tank.

HYDRO70R

SPECIFICATIONS

Models	HYDRO70R-1 ; HYDRO70R-2 HYDRO70R-3 ; HYDRO70R-4
Outflow capacities @ 1013/20°C	HYDRO70R-1 : 1 NI/ min H2 HYDRO70R-2 : 2 NI/ min H2 HYDRO70R-3 : 3 NI/ min H2 HYDRO70R-4 : 4 NI/ min H2
H2 purity	>99.99999%; O2<0.1ppm (maximum HC content: 0.03ppm), <0.03ppm CH4 Dew point <-72°C
Outlet Pressures	H2: from 0.5 to 8 bar (7 to 115 psig), adjustable by software.
Water quality	High purity distilled+filtered water. TOC free. Conductivity < 1µS/cm
Water capacity	10 or 20L external tank.
Safety	Low H2 stored volume; over pressure valve; internal leak test; automatic shut down; maximum current limit, water quality, over temperature.
Sound pressure	< 45 dB(A), measured at 1m
Manual control	Through a 4.3" TFT-LCD color display with touchpad, located on the front panel. Display of major parameters, functioning status and alarms. Intuitive navigation to functions by menus and sub menus.(option)
Remote control, Communications	<ul style="list-style-type: none">■ USB. RS485 (Mod-Bus) or Display■ Trough Ethernet 10/100 network (option)■ Log book download by USB.
Outlet fittings	Stainless steel 1/4" OD compression .
Ambiant temperature	From 5+ to +35°C, non condensing.
Power supply	Automatic switching from 90VAC to 260VAC, 47 to 63 Hz
Power consumption (max at full flow)	HYDRO70R-1 to HYDRO70R-4 : 350W by liter H2
Dimensions	W=483mm, H=177mm (4U), D=550mm
Net weight	HYDRO705R-1 : 33 Kg; HYDRO70R-4: 50 Kg
Certification	CE

ORDERING NUMBERS

Model	Article #
HYDRO70R-1	721501
HYDRO70R-2	721502

Model	Article #
HYDRO70R-3	721503
HYDRO70R-4	721504

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