DIHYDRO50L

Ultra-High-Purity Deuterium Generator

Leman Instruments

DESCRIPTION:

LEMAN Instruments designed the DIHYDRO50L product line of Ultra-High-Purity Deuterium Generators to supply anything related to the use of ultra-high purity D2 close to the consumer, in an elegant compact bench table casing with a full-color touchscreen.

Based on a technology of membrane separation and high-quality Heavy Water. After production, D2 is dried and purified by 2 different permeation techniques, allowing the dew point to reach the best level, followed by a final particular dryer to remove all the other elements. This process can be started on demand without a caustic solution.

The instrument could be alimented directly from an external Heavy Water reservoir (option).

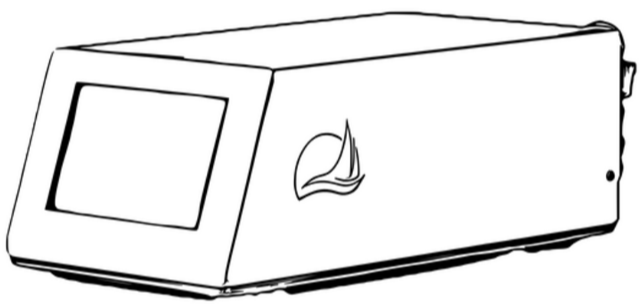
The produced Deuterium is available 24/7 with a constant purity of 99.999% at an output flow of 0.300 NL/min. The D2 output pressure is regulated electronically and can be set from 0.5 to 10 bar (7 to 145 psig).

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



APPLICATION TYPES:

- Optical fiber manufacturing (deuterium loading)
- Semiconductor annealing and surface passivation
- Deuterated pharmaceuticals and labelled standards
- Catalytic D2 reduction for deuterated drug synthesis
- Deuterated internal standards for LC-MS and NMR
- Deuterium arc lamps for UV-Vis and HPLC detectors



FEATURES:

- Reduces operation costs — rapid ROI. No maintenance.
- D2 available 24/7 at constant purity, in a compact bench-top footprint.
- Independent source of Deuterium. 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, no storage, no cylinder rental fee.
- Extended autonomy with an adaptable external Heavy Water glass tank.

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MODEL	DIHYDRO50L
D2 Outflow @1013 / 20°C	0.300 LPM
D2 purity	Chemical >99.999% · isotopic ≥99.8 atom % D
Dew point	-50°C
Outlet Pressure	From 0.5 to 10 bar (7 to 145 psig)
Water source	2L glass external tank · 5L generates ≈6,000L D2
Dimensions cm / in	L: 43cm / l: 23.5cm / H: 16cm (17in / 9in / 6.2in)
Net weight (kg/lbs)	12kg / 26lbs

Water quality	High-purity Heavy Water (D2O)
Safety	Low D2 stored volume · overpressure valve · internal leak test · auto shut-down · current, water-quality and temperature monitoring
Manual control	Through a 7″ TFT-LCD color display with a touchpad located on the front panel. Intuitive navigation by menus and sub-menus.
Remote control, Communications	RJ45 · USB · RS485 · Ethernet 10/100 · Logbook download by USB
D2 outlet fitting	Stainless steel 1/8″ OD compression
Power supply	Automatic switching from 90 to 260 VAC, 47 to 63 Hz
Power consumption	Maximum 150W
Ambient Temperature	+5 to +35°C, non-condensing

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