# DIHYDRO50LS2

Deuterium Generator, Floor Standing

Leman Instruments

## DESCRIPTION:

Leman Instruments designed the DIHYDRO50LS2 to bring the same ultra-high-purity Deuterium (D2) process to production flow — built to sit in a production cell, not only a laboratory.

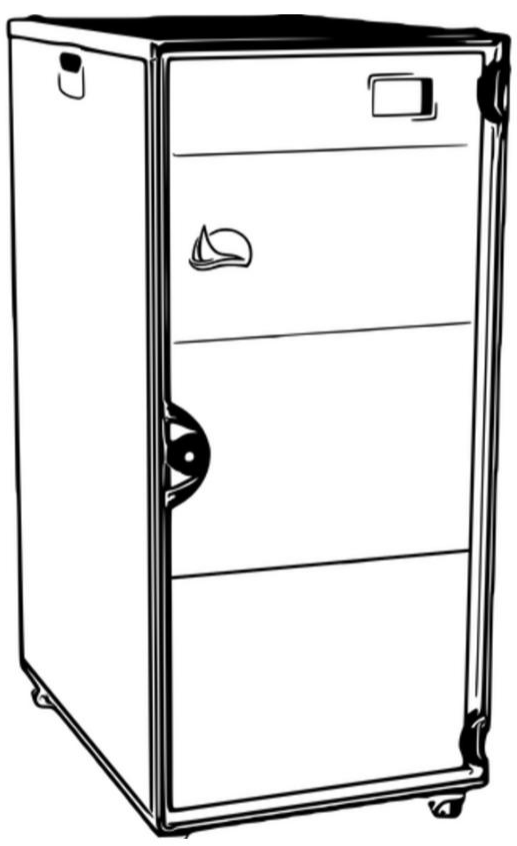
Heavy water is separated by membrane technology without any caustic solution, then dried and purified through two permeation stages down to a dew point of -50°C. D2 is delivered at a chemical purity above 99.9995% (maximum hydrocarbon content 0.1 ppm) and an isotopic purity of ≥99.8 atom % D — five times the flow of the DIHYDRO50LS, at the same purity.

Fed from an external heavy water reservoir, a 12L charge generates around 15 $m^3$ of Deuterium. The DIHYDRO50LS2 delivers up to 5 NL/min, from a floor casing on castors.




## APPLICATION TYPES:

- Bulk deuterium treatment for optical fibre production
- Deuterium annealing of semiconductor devices
- Production-scale deuterated OLED material synthesis
- Continuous or pulsed feed for fusion and neutron sources
- Deuterated internal standards for LC-MS and NMR
- Deuterium arc lamps for UV-Vis and HPLC detectors



## FEATURES:

- Rapid return on investment. No cylinder rental fee, no deliveries.
- D2 available 24/7 at constant purity from heavy water and electricity alone.
- No consumables beyond the heavy water itself. No caustic solution in the process.
- Low stored D2 volume: the gas is made as it is used, not stockpiled under pressure.
- Internal leak test, automatic shut-down, over-pressure valve, current, water-quality, and temperature monitoring.
- Two potential-free relay contacts for integration into a production line's control system.

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|---|---|
| **MODEL** | DIHYDRO50LS2 |
| **D2 Outflow @1013 / 20°C** | 5 NL/min |
| **D2 purity** | Chemical >99.9995%, HC ≤0.1ppm · isotopic ≥99.8 atom % D |
| **Dew point** | -50°C |
| **Outlet Pressure** | From 0.5 to 10 bar (7 to 145 psig) |
| **Water source** | External heavy water reservoir · 12L generates ≈15 m³ D2 |
| **Dimensions cm / in** | L: 80cm / l: 55cm / H: 120cm (31.5in / 21.7in / 47.2in) |
| **Net weight (kg/lbs)** | 80kg / 176lbs |

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|---|---|
| **Safety** | Low D2 volume · leak test · auto shut-down · current, water-quality and temperature monitoring |
| **Manual control** | Through a 7″ TFT-LCD color display with a touchpad. Intuitive navigation by menus and sub-menus. |
| **Communications** | 2 relay I/O · RS485 Mod-Bus · USB · Ethernet |
| **Outlet fitting** | Stainless steel 1/4″ OD |
| **Power supply** | Automatic switching from 90 to 260 VAC, 47 to 63 Hz |
| **Power consumption** | Maximum 2,000W |
| **Ambient Temperature** | +5 to +35°C, non-condensing |

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