DIHYDRO50LS

Deuterium Generator, Compact Module

Leman Instruments

DESCRIPTION:

Leman Instruments designed the DIHYDRO50LS, the smallest footprint on the market at this flow, to generate ultra-high-purity Deuterium (D2) directly from heavy water, on demand, replacing cylinder deliveries with an on-site utility.

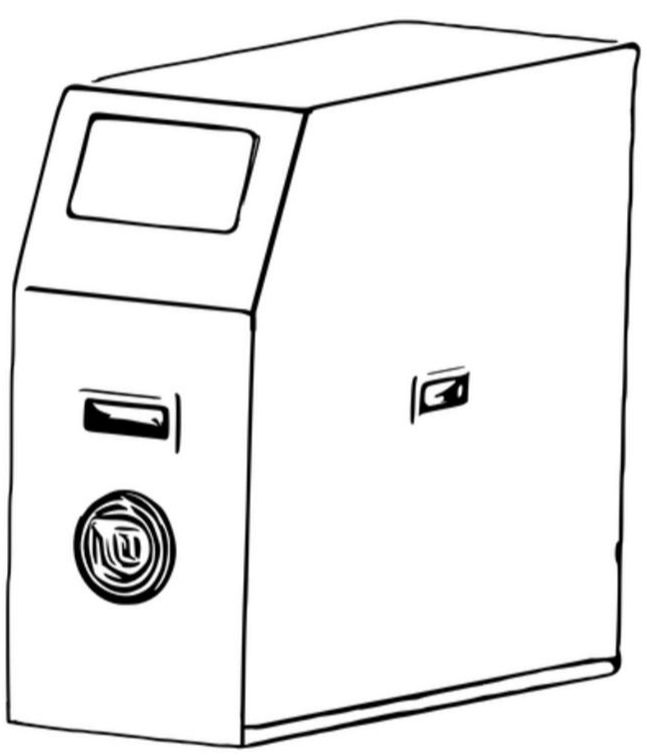
Heavy water is separated by membrane technology without any caustic solution, then dried and purified through two permeation stages down to a dew point of -50°C. D2 is delivered at a chemical purity above 99.9995% (maximum hydrocarbon content 0.1 ppm) and an isotopic purity of ≥99.8 atom % D, with output pressure regulated electronically between 0.5 and 10 bar.

The DIHYDRO50LS delivers up to 1 NL/min, sized for continuous process duty such as optical fibre treatment lines, OLED and pharmaceutical synthesis, and neutron generators.



APPLICATION TYPES:

- Deuterium treatment lines for optical fibre
- Feedstock for deuterated OLED material synthesis
- Catalytic exchange for deuterated drug synthesis
- Feed gas for neutron generator tubes
- 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.
- Remote control by Ethernet or WLAN; logbook download by USB.

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MODEL	DIHYDRO50LS
D2 Outflow @1013 / 20°C	1 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)
Dimensions cm / in	L: 60cm / l: 22.5cm / H: 50cm (23.6in / 8.9in / 19.7in)
Net weight (kg/lbs)	35kg / 77lbs

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	Ethernet 10/100 · WLAN · USB (logbook download)
Outlet fitting	Stainless steel 1/8″ OD
Power supply	Automatic switching from 90 to 260 VAC, 47 to 63 Hz
Water source	External heavy water reservoir · 1L generates ≈1,250L D2
Power consumption	Maximum 500W
Ambient Temperature	+5 to +35°C, non-condensing