



HelioxVL™

A ³He sample-in-vacuum dipstick insert system compatible with wet cryostats.

Why choose HelioxVL

The **HelioxVL** range of single shot ³He systems allow users to access temperatures below 245 mK for extended periods.

A fully configured **MercuryiTC** provides total control of the **HelioxVL**, automating cool down from room to base temperature and simplifying integration into your measurement setup via a range of standard communication interfaces.

For more specific experimental requirements, we can offer tailored ³He systems designed to meet your needs.

Precise control of magnetic field and temperature

The **HelioxVL** is designed to operate safely and precisely in cryo-magnet systems. It has a wide range of applications, including but not limited to electrical transport measurements, scanning probe microscopy and spintronics. Experimental options such as rotators, optical fibres and high-frequency wirings are also available.

Features

- Superior thermal performance thanks to patented vapour cooled sorption pump
- Requires only 2.7 L of liquid helium to cool from room temperature
- Compact and easy to use with the ^3He gas tank integrated on top of the insert
- Grease cone seal for quick and easy sample exchange
- Automatically pumped IVC using a sorb
- Two spare line-of-sight ports for installation of experimental services
- Compatible with **Integra** and **IntegraAC** magnet systems
- Compact insert design enables rapid thermal cycling – an ideal solution for fast sample characterisation
- Self-contained ^3He sorption pump minimises footprint
- Low maintenance system – the single room temperature pump reduces the cost of ownership

Magnetic Field Configuration

Magnetic field requirement	Configuration	Benefits
Up to 20 T	HelioxVL Integra liquid helium cryostat	<ul style="list-style-type: none">- Higher magnetic fields than a Cryofree system- IntegraAC cryostat offers almost zero liquid helium consumption (at 4.2 K)

Key Specifications

Base temperature	≤ 245 mK for ≥ 90 hrs with no applied heat load
Cooling power	40 μW at ≤ 290 mK with a hold time > 10 hrs
Temperature range	Base temperature to 300 K
Temperature stability	± 3 mK to $T \leq 1.2$ K and ± 0.1 K for $T > 1.2$ K
HelioxVL Sample space	41 mm diameter

Visit nanoscience.oxinst.com/products/helioxvl or email nanoscience@oxinst.com

Main service locations: UK, USA, Germany, China, Japan and India
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