

# Line-of-sight port Universal housing 3He dump Sliding seal

# **Heliox**VL™

## Why choose HelioxVL?

The **Heliox**VL range of single shot <sup>3</sup>He systems allows users to access temperatures below 300 mK for extended periods.

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

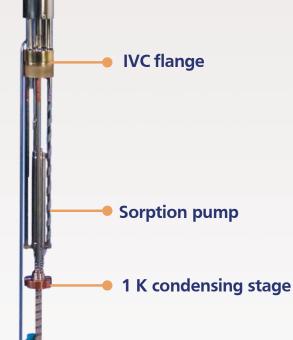
For more specific experimental requirements, we can offer tailored <sup>3</sup>He systems designed to meet your needs.

# Precise control of magnetic field and temperature

The HelioxVL is designed to give ultra-low temperatures, while still operating safely in integrated cryo-magnet systems – allowing access to the lowest temperatures and the highest fields.

Visit nanoscience.oxinst.com or email nanoscience@oxinst.com

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<sup>3</sup>He pot

### **Features**

- Superior thermal performance thanks to patented vapour cooled sorption pump
- Requires only 2.7L of liquid to cool from room temperature
- Compact and easy to use with the <sup>3</sup>He 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
- Base temperature < 245 mK for > 90 hours
- 40  $\mu$ W of cooling power available at 290 mK for > 10 hours
- Compact insert design enables rapid thermal cycling ideal solution for fast sample characterisation
- Large temperature range from 245 mK to 300 K (100 K when used with superconducting magnet)
- Self-contained <sup>3</sup>He sorption pump minimises footprint
- Low maintenance system single room temperature pump reduces cost of ownership.

# **Magnetic Field Configuration**

Magnetic field requirement	Configuration	Benefits
Up to 21 T	HelioxVL Integra liquid helium cyrostat	<ul> <li>- Higher magnetic fields than a Cryofree system</li> <li>- IntegraAC cyrostat offers almost zero liquid helium consumption (at 4.2 K)</li> </ul>

# **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 ≤ 1.2K and ± 0.1 K for T > 1.2 K
HelioxVL Sample space	41 mm diameter