

Heliox™

³He systems to suit all applications

HelioxVL

- Base temperature better than 245 mK for more than 90 hours
- 40 μ W of cooling power available at 290 mK for more than 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 ³He sorption pump minimises required footprint
- Low maintenance system – single room temperature pump reduces cost of ownership

HelioxVT

- Base temperature better than 300 mK for more than 40 hours
- 50 μ W of cooling power available at 350 mK for more than 6 hours
- Upgrade your variable temperature insert and access temperatures below 300 mK – compatible with 50 mm diameter VTI's
- Can be configured to remove liquid helium from around the insert – ideal for neutron or x-ray scattering applications
- 1 K pot free design – no additional room temperature pumps make this a simple, self-contained solution

Line-of-sight ports
Universal housing
³He dump
Sliding seal

Line-of-sight port
³He dump
Universal housing

IVC flange

Sorption pump

1.5 K condensing stage

³He pot

Sorption pump

1.5 K condensing stage

IVC flange

³He pot

Why choose **Heliox**?

The **Heliox** range of single shot ^3He systems allows users to access temperatures below 300 mK for extended periods. Advanced design and construction techniques decrease the base temperature, increase available cooling power all while decreasing ^4He consumption and ^3He quantity.

A fully configured **Mercury**iTC provides total control of the **Heliox**, automating cooldown 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 **Heliox**VL and **Heliox**VT are designed to give ultra-low temperatures, while still operating safely in integrated into cryo-magnet systems – allowing access to the lowest temperatures and the highest fields.

The solution to rising helium costs

When deciding on a new system rising liquid helium costs are a key consideration. Through careful design and optimisation, the liquid helium consumption of the **Heliox**VL is minimised; when combined with an **Integra**AC recondensing liquid helium cryostat, this becomes almost zero.

Combining the **Heliox**VT with a **Teslatron**PT completely eliminates the need for liquid cryogenes, giving a turn-key solution offering precise control of temperature and magnetic field for material and device characterisation.



Magnetic field configurations

Field Requirement	Configuration	
Up to 14 T	Heliox VT with Teslatron PT Cryofree [®] superconducting magnet system	<ul style="list-style-type: none">- No requirement for liquid cryogenes (or accompanying infrastructure)- Complete turn-key solution for material characterisation
Up to 21 T	Heliox VL or Heliox VT with 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)

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

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

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