HelioxVT™

A ^{3}He sample-in-vacuum insert system compatible with ^{4}He variable temperature inserts.

Why choose HeliOxVT

The **Helio**xVT single shot ^{3}He system allows users to access temperatures below 300 mK for extended periods.

A fully configured **Mercury**iTC provides total control of the **Helio**xVT, 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 ^{3}He systems designed to meet your needs.

Precise control of magnetic field and temperature

The **Helio**xVT 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, low dimensional physics and spintronics. Experimental options such as rotators, optical fibres and high-frequency wirings are also available.

Features

- Achieves less than 300 mK for more than 40 hrs and achieves 50 µW of cooling power at 350 mK for over 6 hours
- Fast turnaround time for sample exchange
- HelioxVT uses a cold gas environment with a 50 mm access, therefore no liquid helium is required
- No liquid helium in the sample plane makes the **Helox**VT ideal for neutron or X-ray scattering experiments
- The sample temperature range of a new or existing VTI can be extended below 300 mK
- Compatible with 50 mm diameter VTIs
- 1 K pot free design – a simple, self-contained solution with no additional room temperature pumps

Magnetic Field Configuration

Magnetic field requirement	Configuration	Benefits
Up to 14 T	HelioxVT with TeslatronPT Cryofree superconducting magnet system	- No requirements for liquid cryogens (or accompanying infrastructure) - Complete turn-key solution for material characterisation

Key Specifications

Base temperature	≤ 300 mK for 40 hrs with no applied heat load
Cooling power	< 350 mK for 6 hrs with 50µW applied
Temperature range	300 mK to 300 K
Temperature stability	± 3 mK below 1.2K; ± 0.1 K above 1.2 K
HelioxVT Sample space	43 mm diameter

Visit **nanoscience.oxinst.com/products/helioxvt** or email **nanoscience@oxinst.com**

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