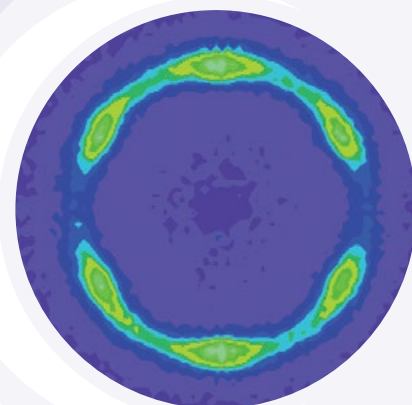


Introducing **Io**: the most **compact** and **easy to use** **Cryofree[®]** cooling solution for **milliKelvin devices**

A continuous cooling, low-vibration solution offering device temperatures down to 50 mK, for key applications in:

- low temperature detectors
- photonics
- qubit characterisation
- neutron scattering



Why choose **Io**?

Io is a compact **Cryofree** system ideal for sub-100 mK research and detector applications, offering **continuous cooling** together with **lower device temperatures** compared to ADR and 3He refrigerators, while retaining key capabilities in sample wiring and superconducting magnet integration.

Io builds on Oxford Instruments' leading expertise in **Cryofree** technology, brought into a new, compact footprint for specific applications.

Because **Io** is built on dilution refrigerator technology, it not only offers the continuous cooling associated with dilution refrigerators but also the space and integration benefits that other techniques cannot offer.

Compact and lightweight

Io is easy to be installed and operated where space comes at a premium, or where the system needs to be frequently moved from one location to another.

- A single 19" control rack contains the pumps, gas handling and control electronics
- A small footprint 355 mm outer diameter, 1284 mm tall cryostat

Easy to use

- Simple, fast, push-button cooldown procedure
- Control of device/sample temperature via standard instrument VIs



Superior experimental integration

Space at 50 K, 4 K, 1 K and 50 mK for mounting of experimental devices and cold signal chain elements

- 150 mm diameter plate at 50 mK
- No magnetic field used in the cooling process, allowing addition of higher experimental magnetic field versus an ADR

Applications

Io comes in application-friendly configuration packs for:

- TES (transition edge sensor) detector development
- Small-scale QIP and qubit characterisation
- KID detector development
- Neutron scattering
- Superconducting single-photon detectors

KID detector pack

- Four UT85 SS coax lines, two with and two without attenuators
- Constantan experimental wiring with 4 K break
- Window tails

TES detector pack

- Window tails
- Cryoperm shield

SPD detector pack

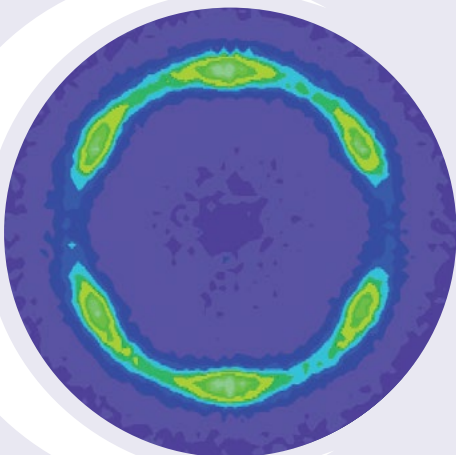
- Cu/Nb experimental wiring with 4 K break
- Two single-mode optical fibres
- Four UT85 SS coax lines, two with and two without attenuators
- 8 Tesla integrated magnet

Qubit characterisation pack

- Four SS-Be UT85 coax to 4 K, NbTi to 50 mK, two with and two without attenuators
- Constantan experimental wiring with 4 K break
- 8 Tesla integrated magnet
- Two multi-mode optical fibres

Neutron scattering pack

- Thinned aluminium neutron tails



Io – the compact **Cryofree** solution for ultra low temperature

Worldwide technical support

Working to ISO 9001:2008 quality standards, our global service team is backed by regional offices, offering rapid support wherever you are in the world.

Our qualified service engineers provide world-wide coverage, from local service hubs in:

UK, USA, Germany, China, Japan and India

Warranty and service options

Your system already comes with one year warranty covering the full system. For even greater peace of mind for your planning and convenience, we offer the following service options –

- **Comprehensive service contract:** On-site preventive maintenance by an OI service engineer, priority access to spare parts from a service stock reserved for comprehensive service contract customers, as well as extended system warranty (if the guarantee has expired)
- **Preventative maintenance contract:** On-site preventive maintenance by an OI service engineer. We will service all pumps and compressors, update software/firmware and do a general health check of the system
- **Preventative maintenance service kits:** Individual factory-serviced exchange pumps and compressor adsorbers are available to purchase as and when required. These service kits are installed by the customer in accordance with OI provided work instructions
- **Extended warranty:** Covers your system beyond the standard one year guarantee



Visit www.oxinst.com/Io or email to nanoscience@oxinst.com

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