



3 years
comprehensive
warranty

OXFORD
INSTRUMENTS

The Business of Science®

Triton™

The new generation
Cryofree® dilution refrigerator

NEW design features for easiest operation and highest reliability

- Single person operation
- Software control
- Easy access to cold stage

NEW cooling power and competitive base temperature

- 500 μ W at 100 mK, 20 μ W at 20 mK
- <10 mK base temperature

Complete magnet integration

- Fully designed, built, tested and guaranteed by Oxford Instruments
- Easily demountable current lead connections

Fast sample exchange and maximum sample size

- Unique bottom-loading sample puck design for wiring capability and sample change

NEW large experimental space

- Patented, unique top and bottom-loading sample puck
- Four line-of-sight ports for wiring and services into large experimental volume
- Large space between cold plates giving increased capacity for wiring, filtering, attenuators and other signal chain components, plus easier access into these spaces

Why choose **Triton**?

With even more experimental space and enhanced cooling power, **Triton** is easier to use than ever before.

The **Triton** family of cryogen free dilution refrigerators has led the way in ultra-low temperature experiment-readiness with its leading-edge superconducting magnet integration, sample loading mechanisms and sample wiring options.

With over 300 systems installed worldwide, **Triton** is used in world-leading science across quantum technology, spintronics, optics and many other cutting-edge applications of condensed matter physics.

Unique superconducting magnet integration

Oxford Instruments offers in-house design, manufacturing and support for both the dilution refrigerator and the superconducting magnet. This enables you to have access to our unique service and support capabilities for all aspects of your system.

- A wide range of **Cryofree** solenoid magnets from 0.3 T to 14 T
- Multi-axis vector magnets including our industry standard 6/1/1 T, 90 mm bore design
- Split pairs and multi-axis vector magnets with optical access
- Active shielding options to reduce magnetic footprint, and cancellation coils to minimise eddy current heating in swept-field experiments
- Demountable magnet current leads (no soldering necessary)
- Easy field setting with Magnet Field Control software, even with vector magnets in three dimensions



All **Triton** systems come with 3 years comprehensive warranty including all supplied third party components, such as the pulse-tube cooler, pumps and electronics – all backed by our expert regional service teams.

Sample wiring

New extra wiring capability gives even more signal access in and out of the sample or device.

- Four line-of-sight ports for direct access from the top plate to the sample plate, giving capacity for 32 typical RF coax lines (such as UT85) with SMA connectors
- Eight non line-of-sight ports for flexible wiring and magnet current leads
- Space for 100's of DC lines



Sample puck loading

Our superior, patented, bottom-loading mechanism comes with a choice of 42 mm or 72 mm sample space.

- Proven 10 mK sample temperatures with multiple semi-rigid coaxes
- Supports a wide range of sample wiring configurations: 14 RF connections (40 GHz SMP) plus 50 DC connections supplied as standard, and up to 28 RF plus 100 DC available on request
- Compatible with piezo nanopositioning stages
- Specialised low eddy-current designs
- Fast cool down times
- Sample protected from ESD (make-before-break) via sample grounding or biasing before puck docks with mixing chamber plate

Top-loading sample exchange is also available, allowing integration with optical table and other site-specific requirements.

Low vibration

To ensure low vibration, the PTR coldhead is isolated at the system top plate and at intermediate and 4 K stages.

The new, more rigid support structure reduces the amplitude of low frequency modes, resulting in low vibration within the sample space.

Optics

Demonstrated capability for multiple optical window configurations.

- Customised optical magnet solutions such as 2/2/2 T optical 3-axis vector rotate magnet
- Special optical access sample pucks

Visit www.oxinst.com/triton or email nanoscience@oxinst.com

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

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