

3 years  
comprehensive  
warranty

OXFORD  
INSTRUMENTS

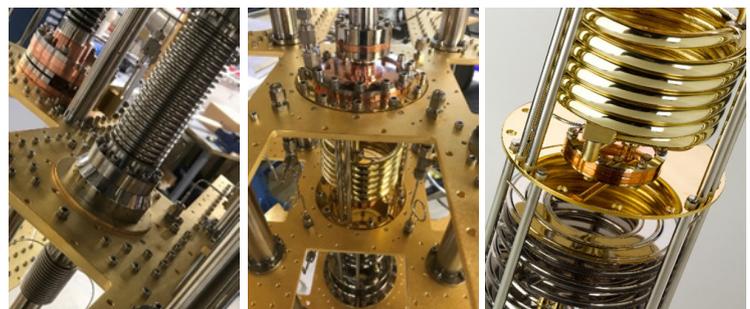
*The Business of Science®*

## Triton™XL-Q

Large capacity modular **Cryofree®** dilution refrigerator positioned for the most demanding scale up quantum computing applications

**Triton™XL-Q is our newest and now largest Cryofree® dilution refrigerator, designed for scale-up quantum computing applications. With large payload, cooling capacity and GHz input/output line availability it will grow with your qubit scaling & development.**

- Base temperature: < 7 mK
- High cooling power: 25  $\mu$ W at 20 mK and 850  $\mu$ W at 100 mK
- Up to 4 PTR for increased cooling as required
- Sample temperature control up to 30 K
- Temperature stability  $\pm 1$  mK < 100 mK,  $\pm 1\%$  > 100 mK
- Cool-down time to base temperature: < 28 hours
- 3 years warranty which covers all supplied components
- Supported by regional customer service teams based in UK, Germany, USA, China, Japan and India



## Why choose **Triton**XL-Q?

**Triton**XL-Q is a highly configurable, scalable high capacity large scale Cryofree dilution refrigerator designed for scale up quantum computing applications in both the academic research and Industrial prototyping sectors. It is designed for large payloads, high cooling capacity at both 4 K and mK and integration of large numbers of signal lines, using easily exchanged, patented\* experimental wiring secondary inserts.

\* US6758059

### Designed for quantum computing

#### Scalable & Modular

- Large volume mK region >10<sup>5</sup> cc
- Open access petals for HD coax
- Expansion slots for LT electronics & RF components
- Volume for cold logic circuits
- Capacity for over 1000 co-axial lines

#### High cooling capacity

- Up to 4 off PTR (1, 1.5, 2 W)
- < 7 mK base temperature
- 25  $\mu$ W cooling power at 20 mK
- 850  $\mu$ W cooling power at 100 mK

#### Flexible & Robust

- Open architecture
- Rapid thermal cycle with large payloads
- Scalable capacity depending on qubit heatload
- Rigid superstructure
- Minimised joint count

#### Designed for Service, Integration & Uptime

- Multiple condensing lines
- Upgradable coax solution and low temperature logic expansion slots
- Electrical isolation from cryostat to all peripheral components
- Dust-free circulation pumps

### Wiring and control lines

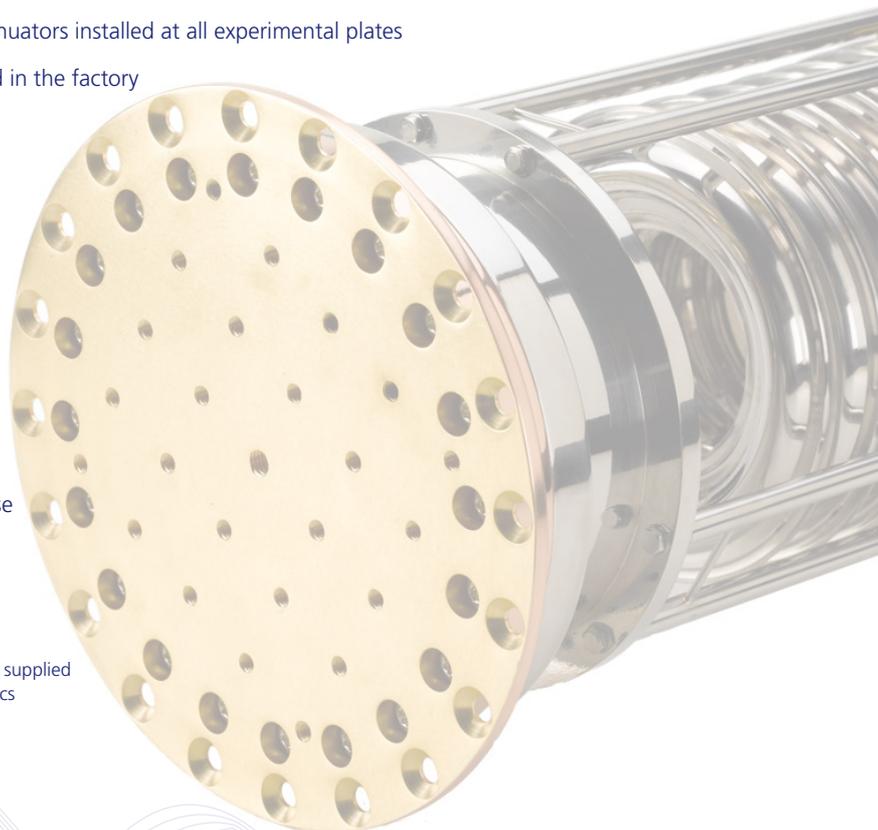
#### Quantum computing Input/Output control lines:

- Heat sinking using bulk-head connectors and optional attenuators installed at all experimental plates
- All coax assemblies are cryogenically cycled and VNA tested in the factory
- Patented easy exchange secondary wiring inserts
- UT47 coax with SMA or SMP connectors
- Stainless-steel and NbTi coaxial cables

#### Flexible wiring options

- 24-way twisted pair DC looms with Constantan, Copper or NbTi conductors
- Flexible coaxial (S1) lines – for use up to 500 MHz
- Single-mode and multi-mode optical fibres
- Thermo-coaxes for effective filtering of high-frequency noise

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.



Visit [www.oxinst.com/tritonxl-Q](http://www.oxinst.com/tritonxl-Q) or email [nanoscience@oxinst.com](mailto:nanoscience@oxinst.com)

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

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