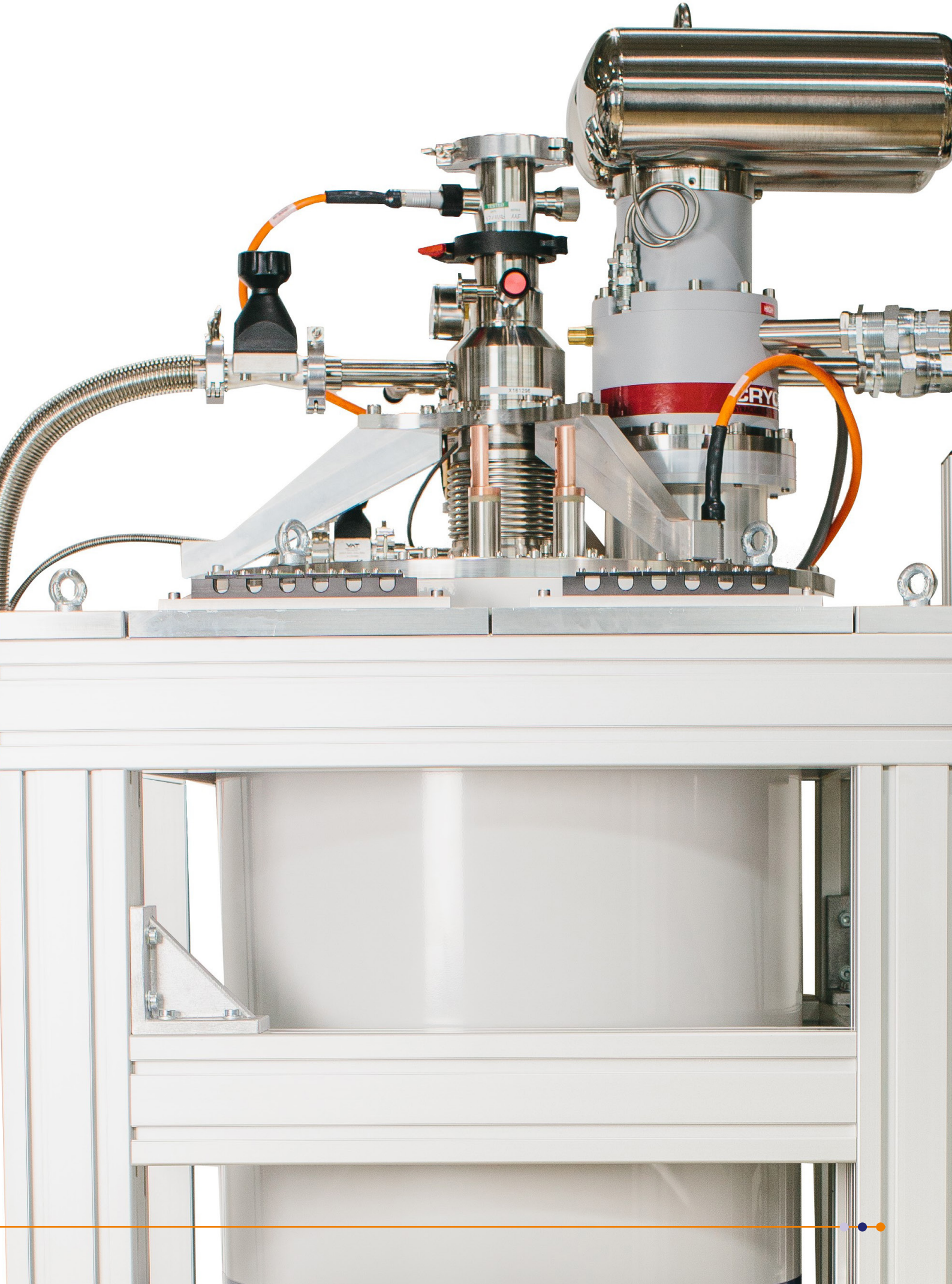
TeslatronPT™

Integrated Cryofree®
superconducting
magnet system



Applications

Electrical Transport Measurements

High magnetic fields and low temperatures for Hall effect and quantum Hall effect measurements.

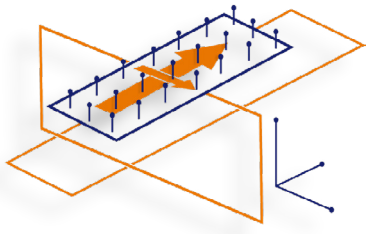
Low Dimensional Physics

Investigate the effect of low temperature and high field on low dimensional materials; nanowires, nanotubes, quantum dots and 2D electron gases.

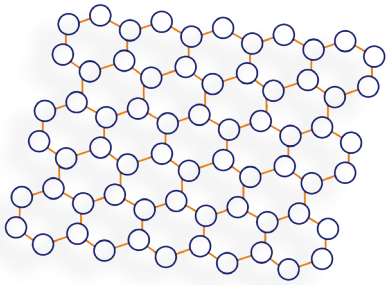
Spintronics

Spin processing and data storage studies using high magnetic fields and low temperatures.

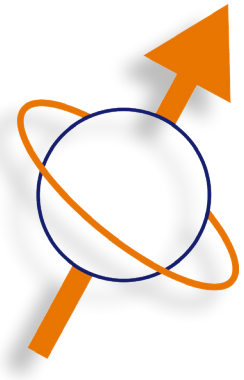
Electrical Transport Measurements



Low Dimensional Physics



Spintronics



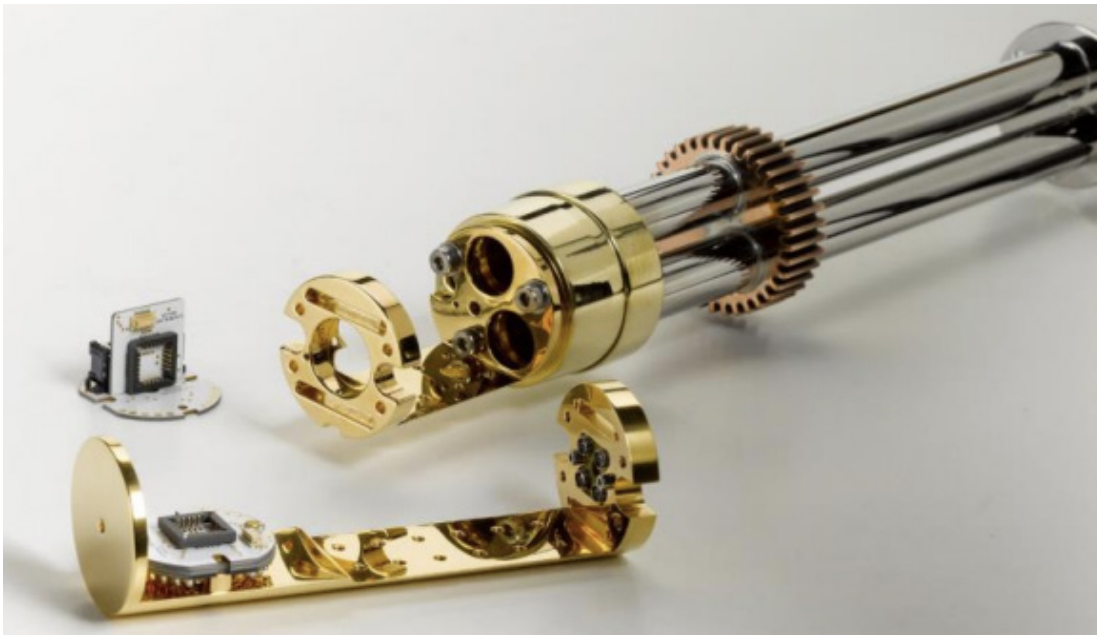
TeslatronPT Platform

Features / Benefits

- Large sample space
- Low temperature inserts available – down to 25 mK
- Low-noise, ESD protected measurement probes
- Integrated variable temperature insert with static exchange gas around the sample, providing sample temperatures between 1.5 and 300 K while operating the magnet
- Wide range of standard magnets with fields up to 14 T with vector magnet geometries available
- Fine filament Nb_3Sn superconducting wire offers the minimum field hysteresis via remnant field, and reduces flux jumping at low fields
- Intelligent control of cryogenic and magnetic environments with MercuryiTC temperature controller and MercuryiPS magnet power supply

Insert features and options:

- DC and RF wiring to the sample
- < 300 mK with the HelioxVT ^{3}He refrigerator
- < 25 mK with the cryogen free KelvinoxJT dilution refrigerator system
- LCC sample carriers with universal interface, easily demountable for quick sample exchange. Compatible with low temperature inserts.




HIGH
LOW

Key Specifications

Temperature range	< 1.5 K to 300 K
Standard sample probe temperature stability	50 mK
System cooldown	60 hours from room temperature to 4 K
Standard sample probe cooldown	< 2h from room temperature to < 5 K (standard probe loaded into cold VTI)
Magnetic field	8, 12, 14 and 6-1-1 T
Variable temperature insert sample space diameter	50 mm

Service Support

Our support to you

Because Oxford Instruments is unique in designing and manufacturing the complete system, we offer unrivalled support and expertise for your TeslatronPT system through our regional Customer Support teams backed by unmatched factory expertise.

Related Products

HelioxVT

This sample-in-vacuum ^{3}He refrigerator achieves less than 300 mK for more than 40 hrs or can provide 50 µW of cooling power at 350 mK for over 6 hrs. The HelioxVT uses a cold gas environment with a 50 mm access, therefore no need for a 1 K pot on the insert.

KelvinoxJT

The Kelvinox®JT is a small, dipstick-style, dilution refrigerator, which features a Joule-Thomson condensation stage. It means the KelvinoxJT can operate in any 4 K environment – wet or dry – as it does not rely on a 1 K pot.

MercuryiTC

Cryogenic programmable intelligent temperature controller.

MercuryiPS

Superconducting intelligent magnet power supply.

Sample Protect

Protect sensitive samples from electrostatic discharge.

Nanonis Tramea

Fully integrated measurement ready solution for quantum transport.

Visit **nanoscience.oxinst.com/dry-systems/products/teslatronpt** or email **nanoscience@oxinst.com**

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

For more product information please contact your regional office:

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