



Quantum Design

LATIN AMERICA

Raising The Science

Materials Science

Spectroscopy

Cryogenics

Optics

Nanoscience

Sample Synthesis

Biotechnology & Chemistry

Industries

Microscopy

Quantum Technology

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Since 1961 Janis Research Company has been providing the scientific and technical community with the highest-quality cryogenic equipment for research, characterization, and industrial applications. Over the years, the family of customers has grown to include some of the world's largest corporations and best-known research centers and institutions. The reasons for this record of success are simple: precision engineering and quality manufacturing; ease-of-operation; day-after-day reliability and performance; and a level of service and support unmatched in the industry.

Systems for Raman Spectroscopy

Most standard Janis optical cryostats that cool the sample in a vacuum environment are suitable for Raman measurements. For customers that wish to use a closed cycle cryostat, the 10 K CCS-150 and CCS-100/202 are the most affordable choices. The model SHI-4-2 is the most popular 4 K closed cycle system for Raman measurements. For customers that prefer a lower-cost system that uses LHe, the continuous flow ST-100 is the most affordable open-cycle LHe system.

Cryostats for Fourier Transform Infra-Red (FTIR) Spectroscopy

The SuperTran and SuperTran-VP systems for FTIR include a high-efficiency transfer line for low cryogen consumption, and feature additional spacers for minimal vibration. The pulse tube system for FTIR features very low vibrations - particularly on the room temperature housing - allowing the cryostat to be mounted directly on the spectrometer. The flexibility of Janis' design and the range of options available, combined with a reputation for quality, make the Janis FTIR cryostats the ideal choice for efficient and high quality FTIR measurements.

Cryostats for Microscopy Applications

Microscopy applications typically require a short working distance and very low levels of vibration. The sample being studied must be close to the microscope objective lens and must stay within the lens field of view for the duration of the measurement. Janis Research offers a range of cryostats to meet these twin requirements, plus a range of options for maximum versatility.

Micro-manipulated Cryogenic & Vacuum Probe Systems for Chips, Wafers and Device

Janis micro-manipulated probe stations are designed for non-destructive electrical testing using DC, RF, and fiber-optic probes. They are useful in a variety of fields including semiconductors, MEMS, superconductivity, electronics, ferroelectrics, material science, physics and optics. Either LHe/LN2 or a mechanical closed cycle refrigerator provides cooling. Different models locate the sample in ultra-high vacuum (UHV), ultra-high temperature (to 675 K), and magnetic field.

Working in NANO-scale Science and Technology at Low Temperatures?

Janis Research offers systems that cover the entire low temperature range you need, in a variety of environments. They include magnetic fields, optical access, fiber optic cables, shielded high frequency coaxial cables and a variety of other customized options as dictated by your experimental requirements.

Key features:

- Liquid Nitrogen Cryostat
- Liquid Helium Cryostat
- 10 K Closed Cycle Refrigerators (Two-stage Gifford-McMahon [G-M] Refrigerator Systems)
- 4 K Closed Cycle Refrigerators (Two-stage Gifford-McMahon [G-M] Refrigerator Systems)
- 1.5 K Continuous Closed Cycle Refrigerator Cryostat
- Pulse Tube Refrigerators
- Superconducting Magnet Systems
- Micro-manipulated Probe Stations
- Detector Cooling Systems

Most common applications:

- Aerospace and Astronomy
- Fourier Transform Infra-Red (FTIR)
- Hall Studies
- High TC
- Magneto Resistivity
- Materials Characterization
- Microphotoluminescence
- Micro-Raman spectroscopy
- Microscopy
- Mössbauer
- NMR Spectroscopy
- Photoluminescence
- Raman Spectroscopy
- UV, VIS, IR, FTIR

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Cryogenics | Industries
Materials Science | Optics
Microscopy | Quantum Technology



environment by JANIS





Serving the needs of the research community since 1968 Lake Shore has grown its product solutions to keep pace with evolving interests in scientific exploration, from the physics lab to deep space.

The 8600 Series vibrating sample magnetometer raises the bar for magnetometer performance and convenience. These VSMs combine high sensitivity (15 nemu), rapid measurement speed (10 ms/pt), and simple operation for more accurate measurements, faster.

The system's software simplifies control of the VSM. Standard predefined measurement routines are combined with configurable field and measurement loops to provide a flexible data acquisition environment. In addition, the software features an integrated scripting tool, which enables the user to extend the existing routines with an open-ended software scripting language that can be used to perform customized measurement protocols and interface with third-party lab equipment.

Key features:

- 0.15×10^{-7} emu noise floor at 10 s/pt
- 10 ms/pt data acquisition rate
- 10,000 Oe/s field ramp rate
- Rapid, repeatable temperature option exchange
- High stability— $\pm 0.05\%$ per day
- Fields to 3.62 T
- Widest available temperature range—4.2 K to 1273 K
- Includes fully automated FORC data acquisition software
- Kit available for integrating NanoOsc room temperature 2 to 40 GHz FMR sample holder, sense coils, and instruments

Most common applications:

- Natural magnets (rocks, sediments, etc.)
- Nanoscale wires, particles, nano-crystalline alloys, etc.
- Magnetic semiconductors
- Ferrofluids
- Magnetic thin films and multi-layers
- Ferrites and permanent magnets, including rare-earth materials
- Magnetocaloric effect materials

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