
JANIS

JANIS RESEARCH COMPANY, INC.

2 Jewel Drive, Wilmington, MA 01887-0696

TEL: (978) 657-8750 FAX: (978) 658-0349

EMAIL: sales@janis.com WEB: www.janis.com

Custom Engineered Systems

In addition to our complete line of laboratory cryogenic equipment, Janis Research offers a wide range of award winning custom system design capabilities. With in-house computing facilities, computerized designs and manufacturing capabilities, Janis' experienced physicists and engineers are readily available to discuss your special requirements for any type of cryogenic application. Typical examples of custom engineered projects include:

- Cryogenic Cold Traps with single or multiple chambers for adsorption of noble gases, oxygen, nitrogen, carbon dioxide, water vapor, etc.
- Solid or liquid Neon shielded helium cryostats for Adiabatic Demagnetization Refrigerator (ADR) and superfluid helium experiments.
- Ruggedised cryostats designed for space shuttle flights / micro-gravity experiments and balloon borne cosmic microwave studies.
- Focal plane array and detector cooling dewars for operation in any orientation.
- Ultra high vacuum cryostats and superconducting magnet systems for scanning probe, atomic force and scanning tunneling microscopes.
- Cryostats that operate from liquid helium temperatures to high temperatures (750 K or higher).

Janis Research supports the particle accelerator community with individually configured cryostats for individual sites. Janis has provided cryostats for the University of Washington and the Brookhaven National Laboratory for their applications. Applications / configurations include wigglers, resonators, and bundlers. New technological advances in mechanical refrigeration allow the adaptation of recondenser cold heads to extend the service interval far beyond the realm of earlier designs. Janis is the exclusive North American distributor for the SHI 4 K refrigerator systems, a mature and effective system for extended life applications. The combination of the reliable cryostat technology and the reliable recondensing cold heads produce a unique and premier product.

- Custom vibration isolated systems.
- Tensile testing and high-pressure diamond anvil cell cryostats.
- Dewars designed to ASME code, with complete structural, stress and thermal analysis.

A few custom engineered systems are mentioned above, and many more are currently being designed and manufactured. Be sure to have Janis assist with your custom cryogenic system.

JANIS

JANIS RESEARCH COMPANY, INC.

2 Jewel Drive, Wilmington, MA 01887-0696

TEL: (978) 657-8750 FAX: (978) 658-0349

EMAIL: sales@janis.com WEB: www.janis.com

Who is the leader in custom cryogenics?

Janis Research, demonstrably!

As a worldwide leader in laboratory cryogenics, Janis has developed many custom cryogenic configurations. Many of these have been refined into a standard product line and are available from inventory.

What about your requirements? Aren't research and standard products contradictory? Your project is special and special equipment is often required.

Janis Research has the track record to back up its claim as the leader in custom cryogenics.

Over the course of the past four years, Janis has received three major awards. In 1996, Janis received a NASA Public Service Group Achievement Award for the SIRTf test cryostat, delivered to the Jet Propulsion Laboratory for characterization of mirrors at liquid Helium temperatures. In 1998, Janis was awarded a R&D 100 Award for the development of a capillary cooling cryostat, allowing the disciplines of FLNS and capillary electrophoresis to be combined for the first time. The trend continued in 2000, with Janis receiving **another NASA Public Service Group Achievement Award**, again from the Jet Propulsion Laboratory. This time it was for Janis' performance on the FACET program, the development of a cryostat to comply with the Shuttle Hitchhiker program and providing a platform for microgravity experimentation. This second PSGAA, for a small company, is without precedent in the history of the JPL program and perhaps in all of NASA.

In May of 2001, Janis received a letter of commendation from the US Air Force Special Operations Forces (AFSOF) for the work accomplished in connection with the famous Spectre Gunship. Janis was able to support the Gunship, to keep it mission worthy, through to the next configuration.

This commendation cites, among other things, that due to the Janis team's "tenacity, dedication, and expertise the United States Air Force Special Operations Forces (AFSOF) keystone aircraft, the AC-130H Spectre Gunship, continued to be supportable through the transition from the old LLLTV System to the new modified version." As a result of the Janis team's actions, "SOF operators were never deprived of their ability to complete their mission and return home safely."

The combination of these awards clearly states, in a manner no publicity rhetoric can, that Janis has the capability, the track record, and the will to go beyond the commonplace and provide what others cannot. The Janis Research staff has the experience and the knowledge to help even the most challenging program.

Call Janis to discuss your particular custom cryogenic problem. We will work with you to find the solution.

JANIS

JANIS RESEARCH COMPANY, INC.

2 Jewel Drive, Wilmington, MA 01887-0696

TEL: (978) 657-8750 FAX: (978) 658-0349

EMAIL: sales@janis.com WEB: www.janis.com



Soon after it was established in 1961, Janis Research started providing complete superconducting magnet systems with variable temperature inserts and optical access to the high field region. Our superconducting magnet systems are now found in practically every major facility in the United States and across the world. Magnetic fields as high as 17 tesla are now routinely supplied with quick sample exchange into a flowing helium vapor, a static helium vapor or a UHV environment. Independent variable temperature inserts provide temperatures from a few milliKelvin up to several hundred K, in various types of cryostats. Standard systems use liquid helium cooling for the magnet and the insert, and can also incorporate a mechanical cooler to reduce the helium consumption. Cryogen free magnet systems have recently been added to our standard systems for use in facilities where liquid helium is either unavailable or too costly.