

High Field Superconducting Magnets

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DESCRIPTION

This superconducting magnet comprises a superconducting wire wound in adjacent turns about a mandrel to form the superconducting magnet; a thermally conductive potting material configured to fill interstices between the adjacent turns; and a voltage limiting device disposed across each end of the superconducting wire, and is configured to prevent a voltage excursion across the superconducting wire during quench of the superconducting magnet. The thermally conductive potting material and the superconducting wire provide a path for dissipation of heat.

FEATURES AND BENEFITS

- The magnet has a very high field-to-current ratio of ≥ 1.1 Tesla/Ampere, is small and light-weight magnets capable of achieving high magnetic field strengths at low currents, can be cooled down rapidly without risk of damaging the wiring, can be ramped up and down in field at very high rates, generates a minimum amount of hysteresis heat, and has minimized heat load upon a cryogenic system from the leads because less current is required to generate a given magnetic field.

APPLICATIONS

- MRI Machines
- Mass Spectrometers
- Particle Accelerators

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-15552-1, please contact:

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