Cryocooler Product Line

Keeping It Cool

Microcooler

Minicooler

High Efficiency Cooler

High Capacity Cooler

NORTHROP GRUMMAN
With more than 20 years' experience developing cryocooler technology, Northrop Grumman has produced and delivered over 50 space-qualified cooler systems to date, more than the rest of U.S. industry combined. Designed to operate over 10 years with unchanged performance, Northrop Grumman coolers have accumulated more than 230 years of on-orbit performance without failure.

Northrop Grumman's reliable, efficient and lightweight pulse tube cryocoolers are designed for cooling scientific instruments, sensors and optics over a wide temperature range from 1.7k to 300k (-456°F to 80°F). The wide temperature and cooling power ranges are produced using four sizes of non-wearing, flexure-bearing compressors and passive (no moving part) pulse tube cold heads that assure longevity without performance degradation. Simple mechanical and thermal interfaces facilitate payload integration.

The four standard scaled compressor designs use a vibrationally balanced, back-to-back configuration. Available configurations include single or multi-temperature linear, coaxial and Joule Thomson cold head versions. Cooling can be provided at distances of 10’s of meters from the cryocooler device.

The range of available cooler configurations and associated control electronics allows for optimal size and mass scaling for the capacity requirement of a particular application. The autonomous control electronics incorporate high stability temperature and active self-induced vibration control as well as fault management.

Northrop Grumman’s space-flight proven cryocoolers and electronics offer scalability, efficient performance and demonstrated reliability to enable critical instrument/optical performance with assured mission success. Northrop Grumman’s cryocoolers are ideal for those space and tactical applications where high reliability, efficiency, and SWaP are required.

Visit us on the web for more information:
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