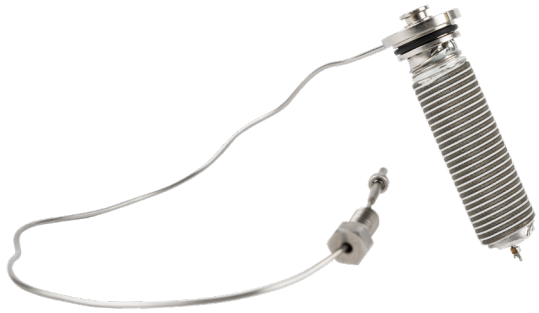
Joule-Thomson cryostat
High-performance miniature cryocooler



Overview

Our miniature Joule-Thomson (JT) cryostats offer a compact rapid cooling capability for infrared systems. Eaton's current production cryostats are dual-flow designs with a temperature-sensing bellows capsule. This technology allows the system to have an initial high flow period to rapidly cool down the focal plane, followed by a reduced flow period to maintain the temperature for the mission duration.

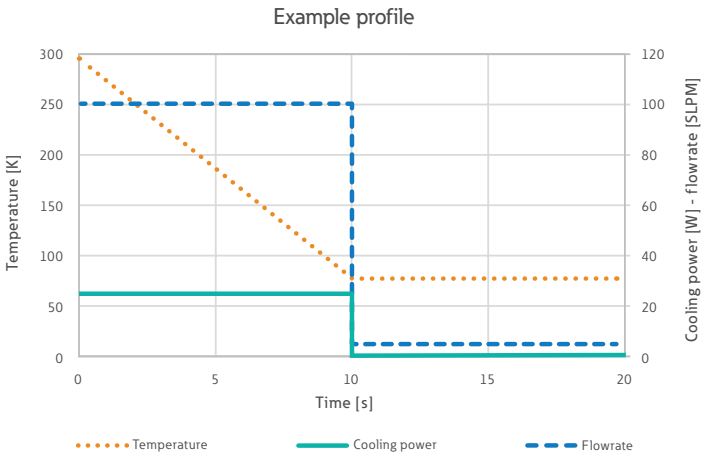
Applications

The miniature JT cryostat is a high-performance cryocooler suitable for infrared seekers for missile platforms. Historical systems include anti-ground, air and armor programs as well as missile interceptors.

Specifications

Dual flow capability: High initial flow for rapid cool-down, low flow for steady state long flight operation

- Temperature controlled charged bellows flow regulator
- Steady state temperature stability < 0.5K/s
- .375" or .440" outer diameter in current production
- Length < 2", weight < 20g
- Single gas system operation, typically nitrogen or argon
- Integrated 5-micron inlet filter(s)
- Customizable inlet configurations



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