# Compact High Performance Linear Coolers for Harsh Environments

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## ABSTRACT

Minimum size, weight and power (SWaP) is a key requirement for state-of-the-art high performance IR Integrated Detector Cooler Assemblies (IDCA). In the past, the cryocooler was predominantly impact all of the three SWaP characteristics. High operating temperature (HOT) detectors allowed the development for dedicated HOT cryocoolers with significantly improved SWaP. Power consumption for instance, can now be in the same order of magnitude as the detector electronics.
AIM developed a family of linear cryocoolers to meet the demands for HOT, SWaP applications. The coolers are also optimized to meet Harsh Environments. Methods to meet such requirements will be discussed for different designs like single and dual piston compressors. Performance data for new cooler models will be presented.

### KEYWORD LIST

Cryocooler, Stirling, SWaP, HOT, long life