SUNPOWER

AMETEK

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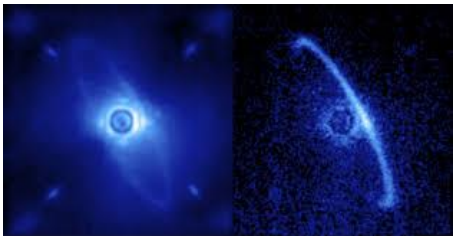
Sunpower cryocoolers are helping find planets that don't want to be found.

The Gemini Planet Imager (GPI) is an instrument built for use on one of the world's largest telescopes: The 8-meter Gemini South Telescope in Chile. It is the world's most advanced instrument for directly imaging and analyzing planets of nearby stars. Direct imaging of planets by detection of infrared radiation can now be done in a minute, where in the past it took upwards of an hour.
Light emitted from stars is thousands of times brighter than the faint light from the planets that orbit them, but GPI overcomes this challenge with the use of advanced adaptive optics to allow direct imaging and integral field spectroscopy. These advanced optics require a cryocooling solution to eliminate infrared light contamination.
The CryoTel GT was selected for GPI due to its many advantages over other cryocooling options. Liquid nitrogen requires the regular handling of a dangerous material and frequent costly refills. The CryoTel GT eliminates the need for handling any cryogens, and its long life and efficiency make it a cost effective replacement of liquid nitrogen over its lifetime. The small form factor makes it easy to integrate into an instrument and does not require attachment to a bulky compressor via long hoses. Additionally, the two CryoTel GT cryocoolers integrated into GPI are equipped with Sunpower's Active Vibration Cancellation (AVC) system which uses a feedback signal to actively cancel vibration of the cryocooler. With the reliability and performance of the CryoTel GT, GPI operators can focus on astronomy and discovering new planets without the burden of instrumentation complications.



CryoTel cryocoolers-

performance. efficiency. reliability.