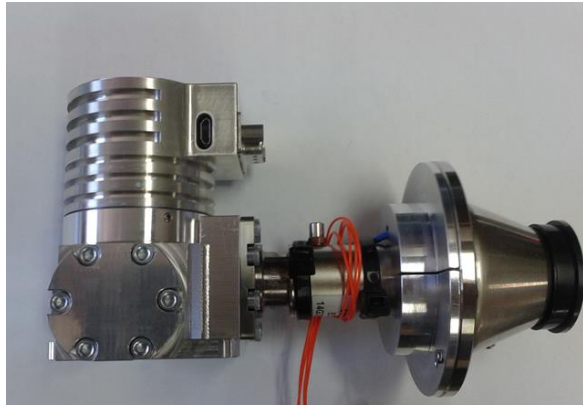


INTEGRAL STIRLING COOLER – SRI474 (0,75W@80K)

The SRI474 cooler is intended to cool the Infra-Red detectors, but can be used also in other applications.



Le-tehnika's Integral rotary Stirling cryocooler model SRI474 was developed for use with the IR detectors which need higher cooling power or working on lower temperatures than 77K. It has a long life time (MTTF) and a good efficiency and low acoustic noise. This model is a member of a new more reliable family of rotary driven Stirling cooler with main improvements on compressor and expander side.

The concept of the direct integration of a Dewar-Detector Assembly on Stirling cooler

(DDCA) is implemented by the design. The operation of the Stirling compressor driven via DC brushless motor is smooth and silent with low vibrations and acoustic noise. Motor windings are outside of the working gas to prevent its contamination and prolong the lifetime and reliability of the cooler.

Small digital electronic driver with an onboard temperature controller is also fully programmable via RS232 port for a customer mission profile. Over-current protection, protection against reverse polarity, standby mode and remote shutdown are available. The electronic board is integrated inside stator housing, which can have arbitrary orientation. Different motor connections are possible from cable to more classical DB9 connector. Also smooth stator is optional, but due to better heat removal fins are preferable to have better efficiency at all environmental conditions.

PERFORMANCE SPECIFICATIONS:

(for an ambient temperature of 23 °C)

Input Voltage: 18 -28 VDC
Typ. Steady State Input Power: (550mW @77K @ 23°C): < 10W Typ.
Cooldown time to 80K (650J): < 7 min
Maximum Input Power Required: 26 W (during cool down)
Operating Ambient Temperature Range: - 40 °C to + 71 °C
Weight: < 600gr
MTBF: > 12.000h (Goal)

Meets Environmental Conditions per MIL-STD-810D

Optional cold finger designs are possible upon request.

