ABSOLUT SYSTEM
INNOVATIVE CRYOGENIC SOLUTIONS

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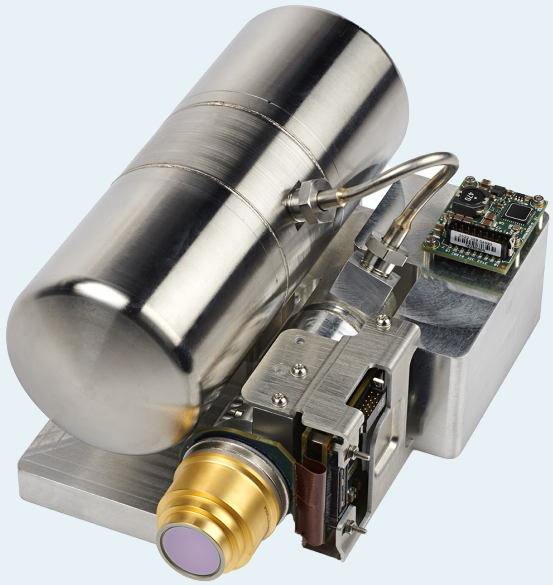
CRYASSY Focus

Miniaturized cryogenic assembly developed for Earth observation space applications.



CRYASSY Focus is a miniaturized IDCA (Integrated Dewar Cooler Assembly) cryogenic assembly. Comprising a miniaturized pulse tube, detector and cryostat, it is designed for nanosat and microsat platforms.

CRYASSY Focus is an integrated, modular detection subassembly.

The cryogenic assembly has been designed to accommodate a wide range of detectors up to 1400 x 640 pixels at 20 µm pitch. With its modular focal plane, it can be used for a wide range of applications, from multispectral instruments to hyperspectral instruments from swir to lwir.

The Dewar is customizable, with the possibility to integrate filters and optics.

CRYASSY Focus, developed for miniaturized satellite platforms, is particularly **well suited to Earth observation constellations.**

CRYASSY Focus is the smallest cryogenic assembly in the range developed by Absolut System. It enables cryogenic infrared detectors to be used on nanosats.

- **Infrared from swir to lwir.**
- **Miniaturized Pulse-Tube for reliability and low vibration.**
- **Multispectral and hyperspectral observation.**
- **IDCA fully welded and vacuum-sealed.**

Application fields

Environment	Greenhouse gas quantification, vegetation water content measurement vegetation, fire detection.
Geosciences	Mineral mapping, mineral exploration.
Agriculture	Soil health, crop monitoring.
Maritime	Bathymetry.
Security & Defense	Panoramic surveillance, optronic ball, periscope, recognition, identification.

Technical data

Mechanical characteristics

- Total mass : 1.5 kg
- Footprint: 1000 cm³
- Low vibration level

Electrical data

- Maximum cryocooler electrical power: 25 W
- Electrical interface: customizable

Thermal characteristics

- Available cooling capacity: 1 W @ 80 K @ 20°C
- Control stability: 20 mK
- Service life: 7 years
- Operating T° range: -40°C ; 71°C
- Non-operating T° range: - 54°C ; 71°C
- Radiation: 30 krad

Sensor interface

- Molybdenum cold table, Ø12 mm
- Sensors up to 1400 x 640 pixels
- Customizable apperture

Compressor separation

- Split configuration possible