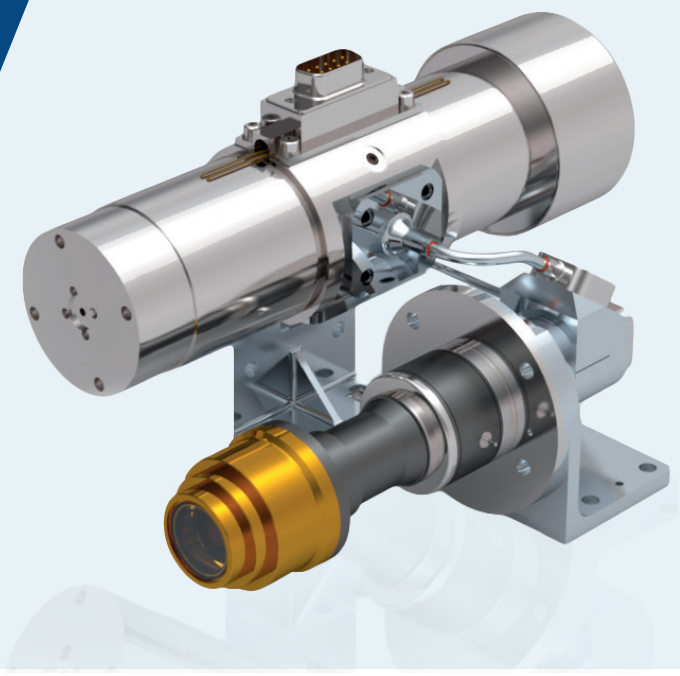
ABSOLUT SYSTEM
INNOVATIVE CRYOGENIC SOLUTIONS

contact@absolut-system.com
www.absolut-system.com

# 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 and a cryostat, it is designed for nanosat and microsat platforms.**

**CRYASSY Focus is an integrated, modular detection subassembly.**

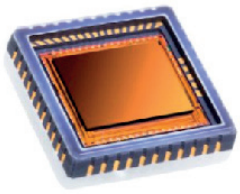
The cryogenic assembly has been designed to accommodate a wide range of detectors up to 1400 x 640 pixels at 20 µm pitch. With its modular focal plane, it can be used for a wide range of applications, from multispectral instruments to hyperspectral instruments from SWIR to MWIR.

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

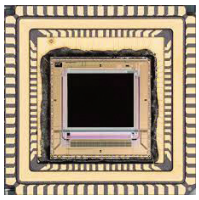
**CRYASSY Focus is the smallest cryogenic assembly in the range developed by Absolut System. It enables cryogenic infrared detectors to be used on nanosats.**

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

**Some examples of compatible detectors:**



*LYNRED Daphnis*



*Leonardo saphira APD*

*LYNRED Cobra S*

## 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: 5 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 opening and pull

### Compressor separation

- Split configuration possible