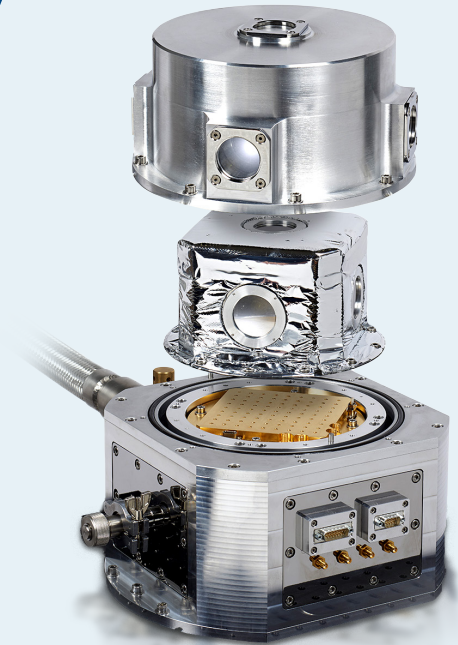


## ACE-CUBE

*Advanced Cryogenic Equipment  
for low temperature Science*



**ACE-CUBE is a cryogenic platform operating in a closed cycle. Versatile, it is designed for low-temperature scientific instrumentation.**

The flexible supercritical cryogenic helium loop is a high-performance flexible line filled with pressurised Helium, minimizing the vibrations on the instrument.

**This solution has double advantage:**

- ▶ **To move the cooler away from the instrument while minimizing the footprint occupied on the optical table.**
- ▶ **To reduce the mechanical coupling with the cooler and therefore to minimize exported low frequency disturbances induced by the cryogenic system.**

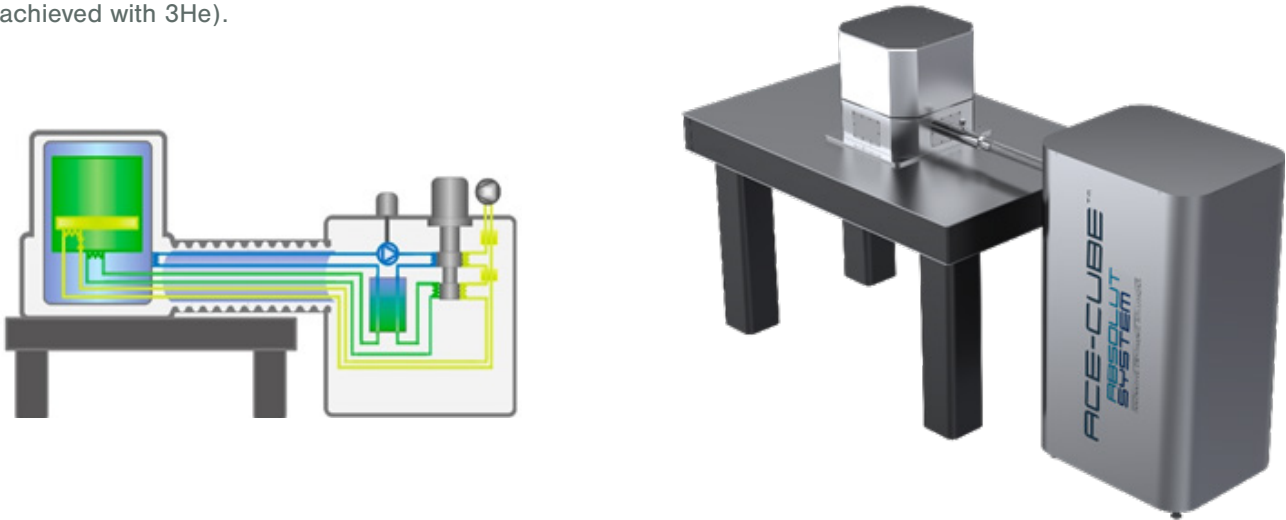
The key components are a cryogenic fan and high efficiency heat exchangers, developed and matured by Absolut System. By mastering the components, Absolut System can provide the cryogenic solutions that meets your application specifications.

**This vibration-free solution can be totally customized depending on your requirements: experimental volume, cryogenic power and cold temperature.**

- ▶ **Highly modular cooling system**
- ▶ **Minimized optical table footprint**
- ▶ **Reduced mechanical coupling**
- ▶ **Very low exported low-frequency disturbances**

## »»» Simplified design

By adding a Joule Thomson (JT) stage temperature in the range of 2K can be achieved using 4He (subK achieved with 3He).



## »»» Application fields

<b>Scientists</b>	Optics, materials testing...
<b>Electronics</b>	CMOS-type Qbits / Qbits control.
<b>Superconduction</b>	SQUIDS, RSFQ...
<b>Cold temperatures</b>	High-resolution spectroscopy, THz or mm-wave imaging.

## »»» Technical information

### ACE-CUBE is a versatile cryogenic platform:

- ▶ It uses remote coupling between the 2 stages Pulse Tube (PT) cryocooler and the application with a supercritical helium cooling loop.
- ▶ A Joule-Thomson (JT) cooler stage is added for low temperature applications: temperature & cooling power are driven by the pump/compressor and the gas.

### This Cryogenic circulator is providing:

- ▶ High efficient thermal coupling with the cryocooler
- ▶ Integrated heat exchangers on both stages
- ▶ Thermal intercept on 4 K Pulse-Tube (Patented)

### Compact recuperative heat exchangers:

- ▶ Multitubes technology
- ▶ Additive fabrication process

Base Temperature	2 K	4 K	10 K
T° range	2 - 40K	4 - 40K	6 - 300K
Available power	100mW @ 2K	1 W @ 4.5K	1 W @ 10K
Cooldown time	<10h	<5h	<4h
Technology	PT Cryocooler JT Cooler 2K	PT Cryocooler JT Cooler 4K	PT Cryocooler SC-Loop