attocube
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attoCMC

compact, rack mountable cryostat system

CRYOGENIC INSTRUMENTS
cool tools for cold science

Redefining Compact Cryogenics

enabling industrialization of quantum technologies

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Air Cooling & 19” Rack Form Factor

The attoCMC combines the IGLU compressor with a high-performance cryostat and is designed for straightforward integration into 19-inch rack systems. The low heat generation of the IGLU compressor allows the usage in most vented or climatized rooms without additional cooling infrastructure: it does not require cooling water or other external supplies besides the single-phase main power connection.

Turnkey Cryostat for OEM Applications

The compact cryostat package including the IGLU compressor requires no expert installation, and literally runs out-of-the-box: just plug it into a regular wall socket, and it automatically cools down to less than 3 K.

It streamlines the OEM application process by being controlled through simple commands, eliminating the necessity for external electronics or programming to control the cryostat functionalities.

Easy User Access for Fast Integration

The attoCMC is easily accessible through a front-facing sliding coldspace, allowing swift integration and support, even when the system is rack-mounted. Additionally, versatile and easy-to-install feedthrough options minimize the time until the system is fully operational and provide flexibility to the user for his/her specific application.

The attoCMC is effortlessly adaptable to diverse environments while requiring minimal space and electrical power.* This makes it the top choice for a broad spectrum of applications that demand cryogenically cooled sensorics, including SNPSDs, and quantum devices like single photon sources. Its ease of deployment and compactness makes it a scalable solution for various OEM applications and sets a new benchmark in cryostat technology.

Compact Cryogenics for 4K applications

- most compact full 2.3 K cryostat on the market
  → integration of cooled quantum devices in 19” rack systems
- air-cooled, low heat generation (1kW), single phase power
  → autonomous from special infrastructure
- fully automated cooldown & operation
  → user-friendly push button solution

**for detailed information on power consumption and space requirements see specifications at the end of this brochure*

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technical specifications

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System Description	
self-contained compact cryostat	19-inch rack mountable, 10U
integrated air-cooled compressor	speed regulation - interface for remote control
sliding vacuum space for cold plate access	crycogenic vaccum
Temperature performance (base system)	
base temperature	2.3K
cooling power	50 mW @ 2.8 K
integrated thermometer	(4-wire, connected to base wiring)
General Specifications	
dimensions (including compressor)	446 x 443 x 641 mm, 17.5“ x 17.5“ x 25.25“ main body in rack configuration, excluding backside connections
leak rate of vacuum	< 5e-9 mbar l/s
weight	approx. 100kg including compressor
country of origin	Federal Republic of Germany
feedthrough options	5 Feedthrough plates for wiring upgrades 2x KF25 flanges for additional fiber or wire integration
Electrical Specifications	
maximum input power	< 1.4 kW
AC input voltage and line frequency	single phase 230 V, 50 Hz/60 Hz 110 V option with external transformer
remote operation	Ethernet interface (ADS and webserver)

attocube systems GmbH | Eglfinger Weg 2 | 85540 Haar
Germany | info@attocube.com | www.attocube.com

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