attocube
WITTENSTEIN group

IGLU Compressor

helium compressor for closed-cycle cryocoolers

CRYOGENIC INSTRUMENTS
cool tools for cold science

Pushing industrial cryogenics to the next level.

infrastructure autonomy for sub-4K applications

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To enable the mobility of sub-4K applications, compact, autonomous, and low-power cryogenics are a key enabling requirement. With the IGLU compressor, attocube offers exactly that: The compressor allows to avoid the hassle of cooling water and high-power requirements, thus liberating the user from previous severe constraints in terms of infrastructure, space, and energy costs.

Driving Industrial Cryogenics

The patented IGLU technology revolutionizes the compression of the refrigerant for cryogenic systems. In a clean and robust process, pure compression of helium takes place without the previously common admixture of oil. For the control of usual closed-cycle cryostats the system can integrate a single-phase driver or a filtered three phase driver.

Robust & Reliable for Mobile Application

The first Helium compressor system for sub-4K applications that allows truly mobile application. It not only offers easy portability without transport locks, but can be moved, tilted and can even resist light shocks during operation.

Air Cooling & Full Rack Integration

The compressor system is fully designed for the integration into 19-inch racks. The low heat generation allows the usage in most vented or climatized rooms without additional cooling infrastructure. The system does not require cooling water.

Smart & Autonomous

The compressor is controlled by an embedded system that allows for versatile application, deep diagnostics and remote control. The cryocooler including the three-phase motor driver can be adjusted in the cooling power to allow for energy saving operation (detailed specifications see last page) and standby modes enhancing the lifetime of the full compressor and the coldhead.

Revolutionary compressor technology for mobile 4K applications

- orientation-free operation, robust against shocks
  → enabling mobile applications of cryogenic technologies
- air-cooled, low heat generation (1kW), single phase power
  → autonomous from special infrastructure
- compact, 19'' rack compatible
  → improving system-level integration of cryogenic hardware

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technical specifications

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System Description	
helium compressor for closed-cycle cryocoolers	
orientation free operation	speed regulation - „adaptive power“
air cooling	ethernet interface for remote control
Electrical Specifications	
maximum input power	< 1.3kW
AC input voltage and line frequency	single phase 230V, 50Hz/60Hz 110V option with external transformer
inverter driven pump incl. EMC filter	
General Specifications	
pressure range	0..25 bar / 0..362 psi
ambient temperature	10..30 °C (non-condensing)
dimensions rack configuration	446 x 266 x 641 mm (483 mm front panel), 17.5“ x 10.5“ x 25.25“
dimensions stand-alone configuration	446 x 336 x 755 mm (483 mm front panel), 17.5“ x 13.2“ x 29.7“ (including wheels and handles)
weight	approx. 70kg
country of origin	Federal Republic of Germany

attoCMC

Ultra-compact, complete 2.3K cryostat system. Designed for easy integration, OEM supply and industrial applications.

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