ABSOLUT SYSTEM
INNOVATIVE CRYOGENIC SOLUTIONS

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Remote Helium Cooling Loop

RHCL

Remote Helium Cooling Loop (RHCL) is a remote cryogenic system to cool down applications over a wide temperature range from 300 K to 15 K.

Absolut System proposes a wide range of Remote Helium Cooling Loops (RHCL) product. Pressurized pure Helium gas is used as the heat transfer fluid for cooling your application in a closed-cycle Helium loop

Cold helium gas is circulated by our cryogenic circulators (Cryofan). The heat load dissipated from the application is absorbed on the cryocooler cold head heat exchanger.

The cooling power delivered by the RHCL can range from a few watts to several hundred watts, depending on the configuration and application temperature.The cooling system can be fully configured, making it simple and cost-effective.

The RHCL adapts to all types of environment and can be skid-mounted, making it modular to your application. In addition, its flexible connections limit exported vibrations and provide access to cooling for sensitive applications.

Features

- Operating pressure
- Open or closed loop operation
- Bayonnet style or any other fitting type's terminations
- Robust and reliable Gifford-McMahon cryocoolers
- User friendly control unit

Cryofan - Absolut System

Our customers

AIRBUS Nexans LYNRED BY SOFRADIR & ULIS Commonwealth Fusion Systems esa ONERA THE FRENCH AEROSPACE LAB

Closed-cycle helium loop 20 K - Nexans

Closed-cycle helium loop 40 K - ESA

Technical information

The RHCL is designed to meet your needs and constraints. Here are a few examples:

Number of cryocoolers	Cryocooler type	Helium Pressure (barA)	Cryogenic power	Remote length (m)	Electrical power consumption (kW) - 50Hz
1	AL230	15	35W @ 42 K 50W @ 50 K	7	4,5
1	AL325	15	18W @ 25 K 28.5W @ 30 K	6,5	10,4
2	AL325	20	55W @ 25 K 100W @ 30 K 185W @ 40 K	15	20,8
1	AL630	10	100W @ 25 K	3	11,7
2	AL630	10	125W @ 20 K	4	23,4
4	AL630	20	250W @ 20 K	0,5	46,8

All you need to operate is electrical power, cooling water and high-pressure Helium gas cylinders (for open loop operation).

Application fields

Today, these products are used in innovative scientific and industrial applications such as:

- High-temperature superconducting (HTS) magnets: Cyclotron, Tokamak, Stellarators, MRI
- Low-temperature superconducting magnets (with the addition of a helium bath)
- Superconducting cable (HTS) and superconducting motor (HTS)
- Superconducting current limiter (HTS)
- Infrared detectors and vibration-sensitive sensor's cooling
- Thermal shield and cold trap for various enclosures
- Cryogenic thermal cycling and cryogenic mechanical test bench
- Cold traps for cryopumping