

Lab Scale Helium Recovery & Liquefaction

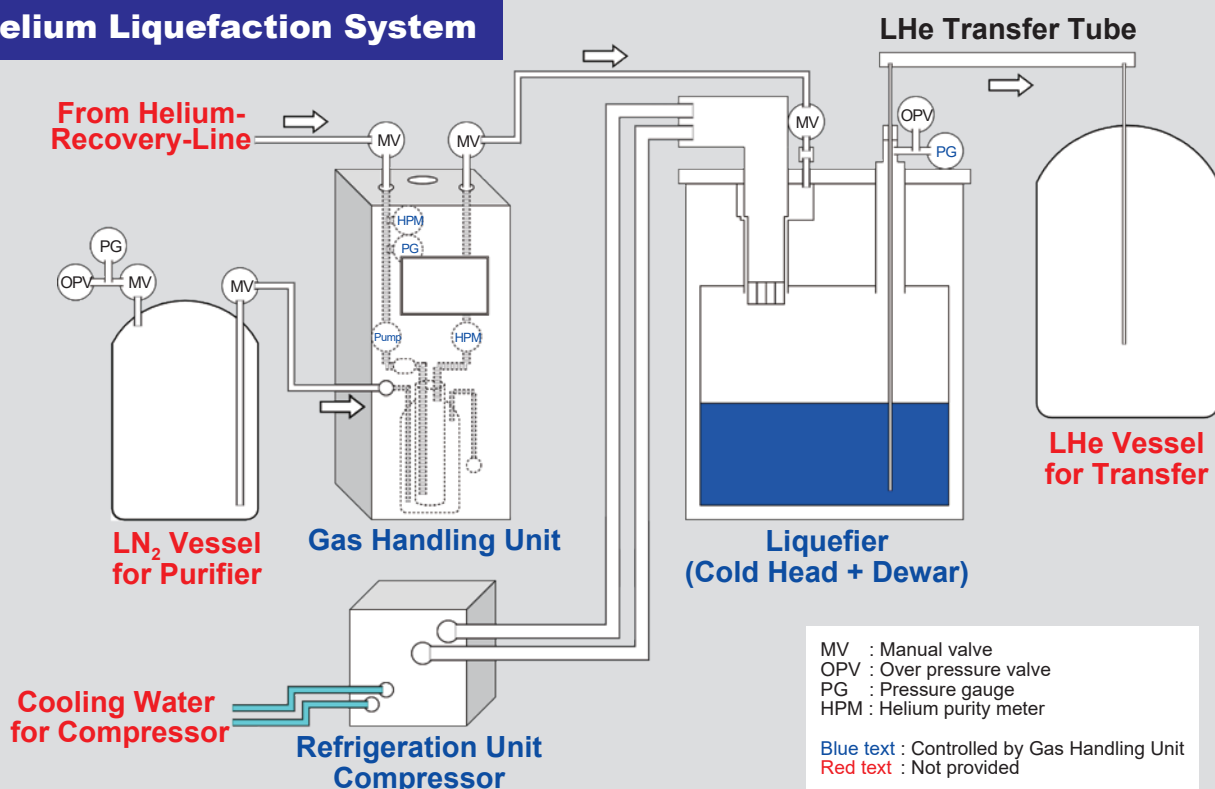
A compact helium reliquefaction system designed for laboratory use—ideal for researchers seeking an easy-to-operate, self-managed solution.

Features

1. Liquefaction rate: Over 22 L/day
2. Liquid storage capacity: 100–250 L (customizable)
3. Automated liquefaction process to reduce operator workload, enabled by:
 - Optimized gas flow rate and pressure control
 - High-precision helium purity monitor for impurity detection
 - Integrated helium purifier
 - Automatic liquid nitrogen supply
 - Automatic purifier cleaning function
4. Designed for low-pressure applications up to +200 kPa (gauge)



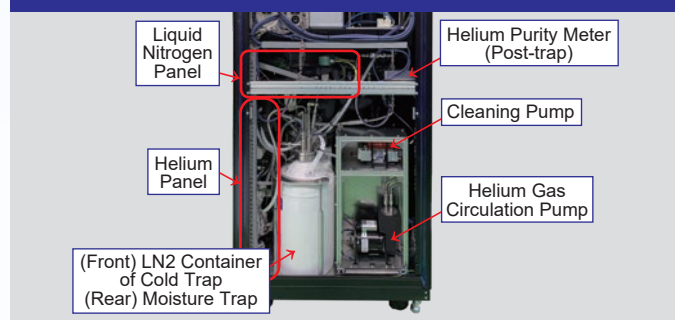
Helium Liquefaction System



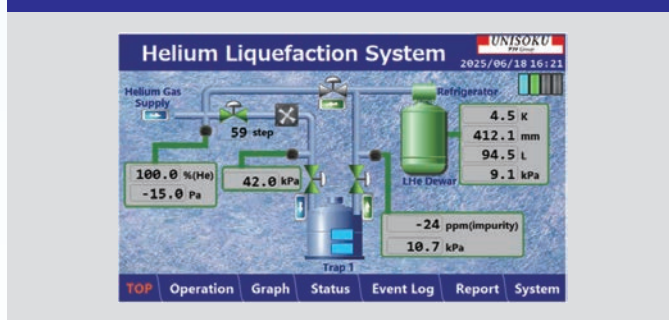
How It Works: Smart Helium Handling

- Helium gas is ingested from the user's recovery line into the system.
- Impurities are removed by a liquid nitrogen trap (purifier).
- Helium gas purity is monitored at ppm levels downstream of the purifier.
- Upon detecting purifier contamination, the system automatically supplies helium to the liquefier from a clean second purifier.
- The contaminated first purifier is heated and cleaned.

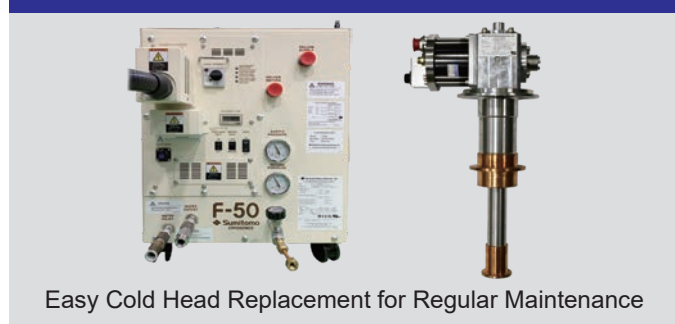
Built-in Automatic Purifier Cleaning



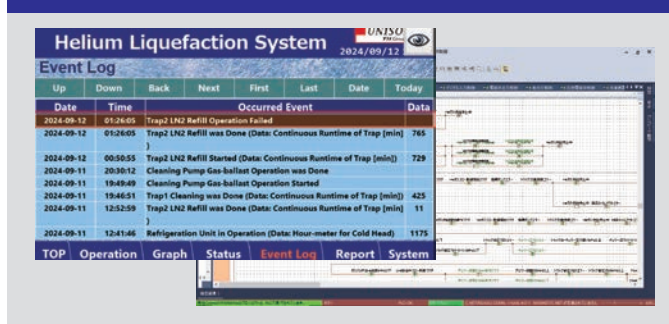
Intuitive Touch Panel Operation



Equipped with a Highly Reliable SHI GM Cryocooler

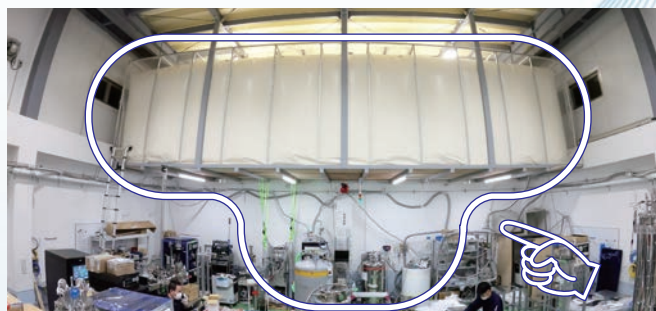


Remote Operating Condition Diagnostics Service Available



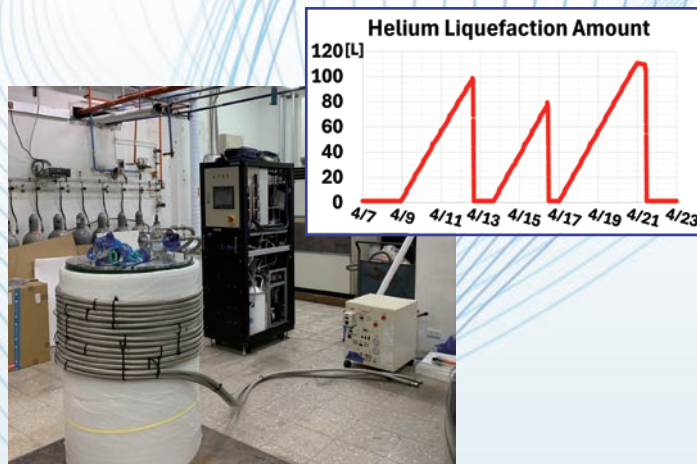
Example Installation

■ UNISOKU's Cryogenic STM Test Lab



- High-Performance Operation:
50 L/day Liquefaction Over 4+ Months
- Supporting Final Testing of
4 ULT-High magnetic field STMs
- System: 1 GHS + 2 Liquefiers
- 8,000 L of Liquid Helium Regenerated Annually (2024)

■ National Tsing Hua University



Full-scale operation to begin in summer 2024
Liquefaction rate of 27 L/day to be achieved

UNISOKU Co., Ltd.



E-mail: info@unisoku.co.jp Web site: <https://www.unisoku.com/>

2-4-3 Kasugano, Hirakata, Osaka 573-0131 Japan

TEL +81-72(858)6456