

Market Share: 80% of the Japanese market, 70% of LNG Carriers.

(*1)

CRYO Engineering Co., Ltd. fulfills customers' diverse needs with an extensive lineup that includes the trusted Double-seal Terminal Header used by so many of our customers.

(*1) Share of Japanese companies using LNG submerged pumps that use CRYO's products

(*2) Share of LNG carriers currently in operation that use CRYO's products

Ever since we first developed our Terminal Headers 30 years ago in 1987, we have provided a sense of security and reliability to our customers. Not only we have developed products compatible with a wide range of pumps, but also expanded maintenance services and investigated the degradation of products in use that are approaching their end-of-life in order to verify safety. CRYO Engineering Co., Ltd. will continue to provide these trusted products, used by so many of our customers, to help supply energy around the world.

Lineup of Terminal Header

Double-seal Terminal Header	P2
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Selection of Terminal Header

We offer various types of Terminal Headers, depending on your needs.

- 1) Type of Gas
- 2) Design pressure/Flange size
- 3) Rating; output, voltage, and current

We can recommend the most suitable Terminal Header for your specific application.

《Contact Information》

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<https://cryo-eng.co.jp>

The CRYO Group and CRYO Engineering Co., Ltd. take care of the entire Terminal Header process from order reception from Furukawa Electric Industrial Cable to delivery and installation.

(*2)



Double-seal Terminal Header

Double-seal type

Design pressure :

Standard type Up to 4.5 MPa

High-pressure type Up to 6.5 MPa

Rating: Up to 6600V/400A

Flange size : At least 4 inches

Applicable facilities : LNG/LPG Terminals, Offshore
(for high-pressure applications such as re-gas pumps)

A safe product even in the event of a gas leak

In 1987, Furukawa Electric Co., Ltd. and Tokyo Gas Co., Ltd. joined forces to develop a Terminal Header that would prevent any leakage whatsoever. The result was the world's first Double-seal Terminal Header. Based on the concept of a failsafe in the form of another seal in the case of single seal leaks, it employs a double seal. It is a trusted, proven standard product.



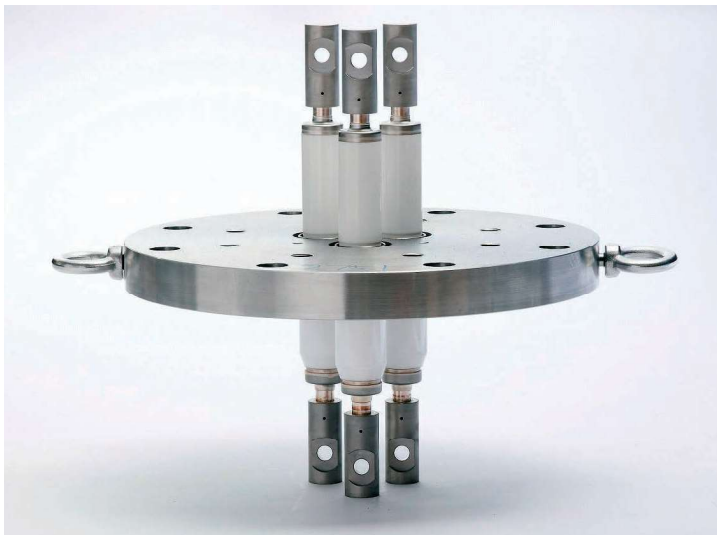
Double-seal Terminal Header (For Gas Carrier)

Double-seal type

Design pressure: Up to 1.0 MPa
Rating: Up to 6600V/400A
Flange size: At least 4 inches
Applicable facilities: LNG/LPG/Ethylene Carriers,
Offshore(F-LNG), LNG-fueled ships, Bunkering ships



Low-voltage, multi-core types also compatible



Because the pressure on Terminal Headers on LNG/LPG carriers is low, regular Terminal Headers can be overbuilt.

This product was developed for low-pressure pump applications without compromising the double seal functionality.

It is currently used in 90% of new LNG carriers and 100% of new Japanese LPG carriers. CRYO Engineering Co., Ltd. use certified materials and provides installation.

Double-seal Terminal Header (For Low voltage)

Double-seal type

Design pressure: Up to 2.5 MPa
Rating: Up to 440V/200A
Flange size: At least 3.5 inches
Applicable facilities: Satellites, LNG stations,
LNG-fueled ships, Bunkering facilities.



For pumps with low voltage and low discharge pressure, we have small Terminal Headers that preserve the high performance of our double seal. They are suitable for small-scale equipment such as satellites.

Terminal Header for LNG-fueled

Single-seal type

Design pressure: Up to 1.0 MPa
Rating: Up to 440V/50A
Flange size: At least 2.5 inches
Applicable facilities: satellites, LNG stations,
LNG/LPG-fueled ships, Bunkering facilities.



Designed for the LNG-fueled ships of the future, this Terminal Header is for small, low-pressure pumps such as those on gas-fueled ships. With a track record of installation on numerous LNG ships, CRYO's unique responsiveness to customers delivers a sense of security and reliability.

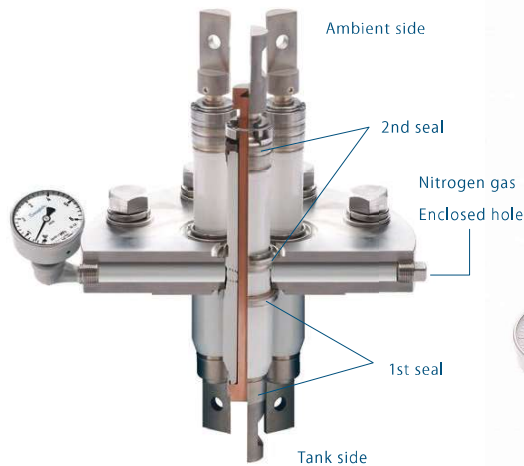


Double-seal Terminal Header with Check port

Double-seal type

Design pressure: Up to 4.5 MPa
 Rating: Up to 6600V/400A
 Flange size: At least 5 inches
 Applicable facilities: LNG/LPG Terminals, Offshore (for high-pressure applications such as re-gas pumps)

This product was developed in response to calls for the ability to detect when a gas leak occurs. We added a nitrogen gas-filled space inside the flange that enables detection of irregularities in either seal while retaining the double seal functionality. More compact than the Dual type Terminal Header, it saves space on the tank stage, greatly helping pipe configuration design.



Dual type Terminal Header

Single-seal type

Design pressure: Up to 10.0 MPa
 Rating: Up to 6600V/400A
 Flange size: At least 5 inches
 Applicable facilities: LNG/LPG Terminals

This product is particularly popular with overseas customers. It consists of two single-seal Terminal Headers with a short pipe containing nitrogen gas. In the event of a leak, the change in the nitrogen gas pressure of the short pipe makes it possible to detect whether the irregularity is in the first or second Terminal Header.



CRYO offers this Dual type Terminal Header for high pressure pumps exceeding 6.5 MPa.

