

CRYO Engineering Co., Ltd.

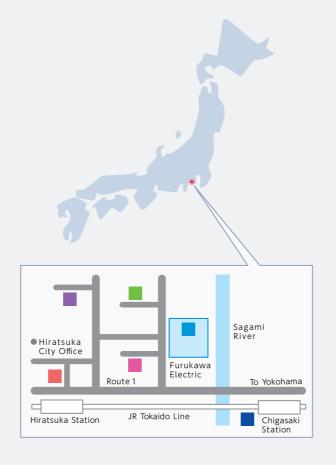
*Please make your inquiries to the Hiratsuka Plant.

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- Shinomiya Plant

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- Yawata Plant
- Administrative Center 24-33-301 Akashicho, Hiratsuka Kanagawa 254-0042 JAPAN
- Head office
 1-8-6-1304 Tomoe, Chigasaki
 Kanagawa 253-0056 JAPAN



Corporate Summary

Representative: Sekai Suzuki

Founded: April 2004 Capital: 10 million yen

Employees:15

Major clients: Furukawa Sangyo Kaisha, Ltd., Tokyo Gas Co., Ltd., JFE Engineering Corporation, CRYO Engineering Service Co., Ltd.



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.



CRYO Engineering Co., Ltd.

COMPANY OVERVIEW



Safety and reliability

Electricity and gas are essential to everyday life.

Two of the sources of that energy are LNG (Liquefied Natural Gas) and LPG (Liquefied Petroleum Gas).

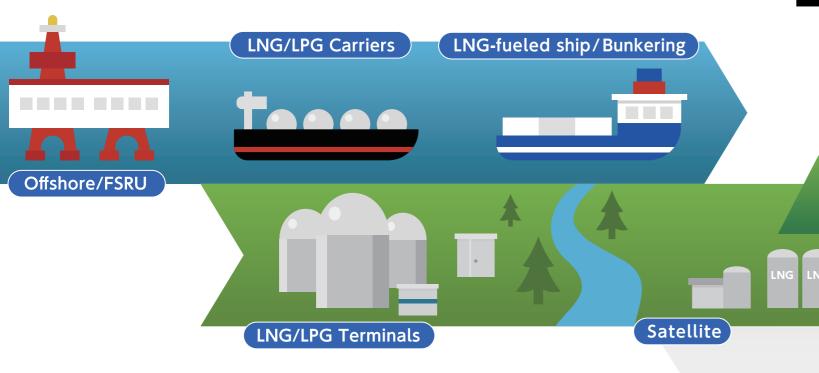
LNG and LPG stored in tanks are moved using pumps.

Those pumps are powered through a product called the Terminal Header.

Because these serve such an important role in supplying energy, stable operation is absolutely crucial.

Safety and reliability ···

We want to expand our role in energy supply beyond Japan to the world.





Terminal Header: Penetration bushings for low temperature cables used with submerged pumps for transferring liquid from LNG/LPG tanks.

CRYO Engineering's Terminal Headers contribute to society's sustainable development in various scenarios within the global energy supply chain.



Station







Business Overview

We provide a sense of security to customers with our total service comprising not only strong technical expertise but design, installation and complete after-sales service.

Continuous supply is essential to the LNG supply chain, and CRYO Engineering is committed to fulfilling that responsibility by providing a sense of security through reliability.

● Design of Terminal Header types suited to rated capacity of pump and equipment-compatible specifications for short pipes, Junction boxes, etc.

Design

- Specification preparation
- Explosion-proof certified design

Manufacturing

- ●Terminal H& La Beimin Recturing
- Manufacturing of Junction boxes and other accessories
- Procurement of parts
- Parts are manufactured in-house up to the cable insulation.
 Our use of FURUKAWA parts employs excellent insulation unique to our cable manufacturer and resist insulation failure.

Testing

- In-house Terminal Header testing (heat cycle, leakage, electricity, etc.)
- Certified by ship classification societies, High Pressure Gas Safety Institute of Japan, etc.
- Rigorous testing of manufactured parts

Our total service structure enables quick, precise responses that ensure your gas pumps continue to operate safely without stoppage.

Assembly/ On-Site Installation

- We assemble the products into units and arrange single shipment. We manage the entire process to keep our quality.
- Upon delivery, we handle installation of the Terminal Headers onboard the ship. In the case of land-based facilities, we provide installation guidance and electrical work.

Maintenance After-Sales Service

- We also offer Terminal Header and accessory maintenance following delivery. This includes regular upkeep, inspection and part replacement to ensure a long lifespan of up to 30 years.
- We inspect Terminal Headers that have reached their lifespan for degradation and to verify safety. We strive to ensure safe long-term usage.
- In the unlikely event of a defect, our total service enables a speedy response that avoids impeding pump operation. In addition to onboard work while the vessel is at sea, we provide global dockand land-based work including upgrades.









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Product Lineup

Terminal Headers

These are suitable for LNG and other types of submerged pumps.







LNG and other carriers. Offshore



LNG-fueled ships. Bunkering facilities



Satellites. LNG stations

Junction Box (Explosion-proof)

We can also deliver Junction boxes with explosionproof certification for each country. These have acquired IECEx and ATEX explosion-proof certification and are eligible for domestic certifications such as India's PESO and South Korea's KCs.









Junction Box (YR Type)

Junction Box (YS Type)

Accessories

The harsh operational environment of ships and land-based facilities, including temperatures as low as-162°C, require insulating parts developed to be sufficiently durable and terminals and other accessories developed in consideration of site construction requirements. With on-site installation included, we reduce the burden on our customers.



Protection Box (Explosion-proof)



Short Pipes



Cable gland



Terminal



Connector for Cryogenic cable

We are the only manufacturer that delivers not only Terminal Headers but cryogenic cables, Junction boxes and other accessories as units, reducing the time you spend on design and procurement.

CRYO's Terminal Header installed by;

(As of July 2019)

LNG/LPG Terminals

Tokyo Gas Co., Ltd. Hokkaido Gas Co., Ltd. TOBU GAS Co., Ltd. Gas Bureau, City of Sendai TOHO GAS Co., Ltd. Osaka Gas Co., Ltd. HIROSHIMA GAS Co., Ltd. Saibugas Co., Ltd. JERA Co., Inc.

Formerly known as;

- · TEPCO
- · CHUBU Electric Power Co., Inc.

Hokkaido Electric Power Co., Inc.

The Kansai Electric Power Co., Inc.

NIHONKAI LNG CO., LTD.

INPEX CORPORATION

JX Nippon LNG Service Company, Limited

SHIMIZU LNG CO., LTD.

CHITA LNG Co., Ltd.

SAKAI LNG Co., Inc.

MIZUSHIMA LNG Co., Ltd.

Sakaide LNG Company, Incorporated Kitakyushu Liquefied Natural Gas CO., INC.

Oita Liquefied Natural Gas Company, Inc.

CPC Corporation, TAIWAN KOREA GAS CORPORATION SHANGHAI GAS CO., LTD. Iran Oil Gas NETWORK etc.

■ For LNG/LPG Terminals Terminal Headers: approx.1,200

LNG/LPG Carriers. FSRU

Mitsubishi Shipbuilding Co., Ltd. Kawasaki Heavy Industries, Ltd. Mitsui E&S Shipbuilding Co., Ltd. IMABARI SHIPBUILDING Co., LTD. Japan Marine United Corporation

Daewoo Shipbuilding & Marine Engineering Co., Ltd. Samsung Heavy Industries Co., Ltd HYUNDAI HEAVY INDUSTRIES Co., LTD. STX Offshore & Shipbuilding Co., Ltd.

Nippon Yusen Kabushiki Kaisha Mitsui O.S.K. Lines, Ltd. Kawasaki Kisen Kaisha, Ltd IINO KAIUN KAISHA, LTD. JX Ocean Co., Ltd. Malaysia International Shipping Corporation

Total carriers of supply LNG carriers: 330 LPG carriers: 80

FSRU: 20

For LNG/LPG Carriers, FSRU

Terminal Headers: Approx. 6,000

Includes new carriers and replacement/repair of MI cables, etc.

Major Clients

FURUKAWA SANGYO KAISHA, LTD. SHINKO IND. LTD. Tokyo Gas Co., Ltd. JFE Engineering Corporation CENTRAL ELECTRIC WORKS COMPANY CRYO Engineering Service Co., Ltd.