TRANS GAS SOLUTION

LIQUEFIED GAS FUELING & BUNKERING SOLUTION

Trans

9 HRAND VIRISO

Engineering Service

TGS provides engineering services for all liquefied gas-related projects such as LNG, LPG, LCO2, LH2, and LNH3.

And, TGS strives to maintain a global-oriented professional experience through long-term relationships with customers amid mutual trust and respect.





Procurement Service

TGS procurement services covers the entire process chain of LNG related project procurement from inquires to orders, technical meetings, quality controls, delivering and commissioning.



Commissioning & Training Service

TGS provides specialized commissioning services with its globally-experienced engineers.

1 2 3

Interface Engineering for CHS & GMS

- Gas Trial Engineering & Attending
- Operator / Engineer Training

LNG Bunkering Shuttle



I Training for Designer / Operator



Consulting for LNG Fueled Vessel Design







For every LNG fueled ship, TGS deliver undergoes an intense period of commissioning and gas trials regardless of vessel types and new build, conversion or overhaul.

Training Simulator for LNG Bunkering & LNG Fuel Supply System (2020 with Korea Register)

- Dynamic Process Simulation for LNG Fueled Bulk Carrier and LNG Bunkering Shuttle
- Control System with HMI and interface with Process Simulation
- Training Service in progress for FGSS Design and LNG Bunkering Operation



CRYOPac is the official brand name of TGS for LNG fuel supply systems.

CRYOPac standardized four types according to the type and load of the ship's propulsion engine, auxiliary engine, and capacity and type of LNG fuel tank, and based on this, it is designed to conveniently configure the system according to customer needs.

Through this standardization, TGS is striving to improve delivery date, quality, and service, and to increase customer value.



Types of LNG Fuel Gas Supply System







3 CRYOPac® - L



1



CRYOPac® - P

4



Combined HP&LP LNG Vaporizer

Integrated LNG vaporizer with excellent heat transfer efficiency, compact, and economical efficiency.

- One combined equipment including HP Vaporizer, LP Vaporizer, Separator with buffer and LP Gas Heater.
- Spiral tube technology to increase the heat transfer efficiency

RENOVA®

- Satisfying Methane Number (MN) of 80 or higher required by the gas fuel engine
- Maintenance free concept with clean LNG and perfect welding

| Pressure | | | Material | Fluid | Construction |
|----------|----|-----------|----------|--------------|---|
| Tube | HP | 350 bar g | STP 316L | HP LNG | - Seamless tube bending - Welded tube to manifold header |
| | XP | 20 bar g | STP 316L | HP LNG | |
| | LP | 10 bar g | STP 316L | LP LNG | |
| Shell | | 5 bar g | STP 304 | Glycol Water | - Welded, Maintenance Nozzle |



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Integrated Automation System

- Hybrid DCS Configuration with Type Approval from Korea Register
- Hot back-up and Redundancy Configuration at CPU, Network, Power Supply
- Including Emergency Shutdown System
- Reference at LNG Bunkering Shuttle
- Remote Cargo Handling including LNG Handling, LNG Bunkering, Fuel Gas Supply to Engine, Boiloff Gas Management (Tank Pressure Control, BOG Compression, Sub-cooling, Gas Combustion), Ballast & Deballast
- Remote E/R Facility Operation
- 3rd Part Interface via Ethernet MODBUS TCP/IP, RS485/422 MODBUS RTU, and etc.

IAS Configuration



Trans Gas Solution



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