ISO 9001 Certificate No. A 0858
ISO 14001 Certificate No. B 0110
OHSAS 18001 Certificate No. C 0082
AS9100 Certificate No. FM568558
WORLD CLASS 300

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40th ANNIVERSARY 1980-2020

▶▶ Cryogenic Heat Exchanger and System Engineering Global Leader

DH-FGSS

MEGI / XDF / DFDE



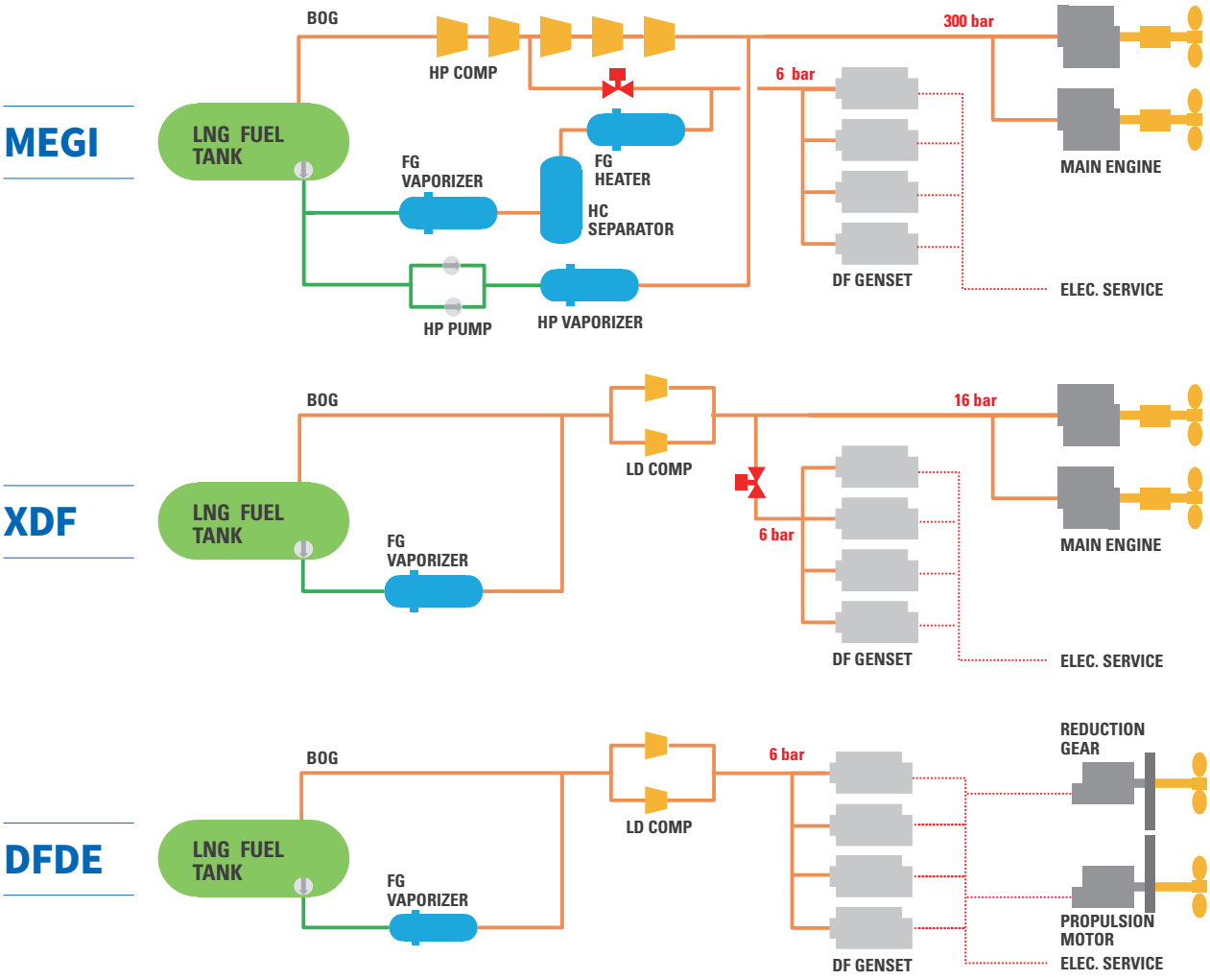
DH-FGSS PACKAGE

* HP unit for main propulsion engines
  - High pressure pump
  - High pressure vaporizer
* LP unit for generator engines
  - Fuel gas vaporizer
  - Separator
  - Fuel gas heater
* Glycol water heating unit
  - Glycol Water Tank
  - Glycol Water Pump
  - Glycol Water Heater

DongHwa Entec

DH-FGSS FUEL GAS SUPPLY SYSTEM for MEGI / XDF / DFDE

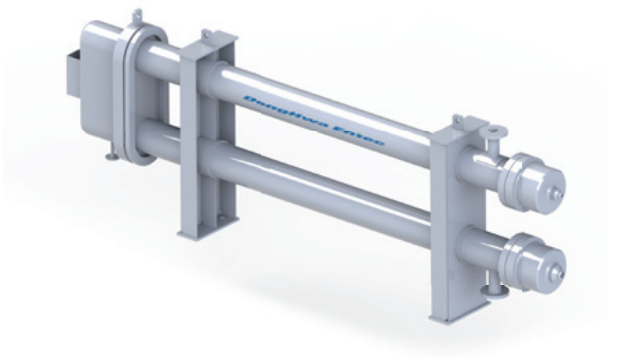
● Schematic Diagram



● Type of Vaporizer

A. Hairpin type High Pressure Vaporizer

Already field proven shell & tube type can be opened for maintenance biggest installation area needed



B. PCHE

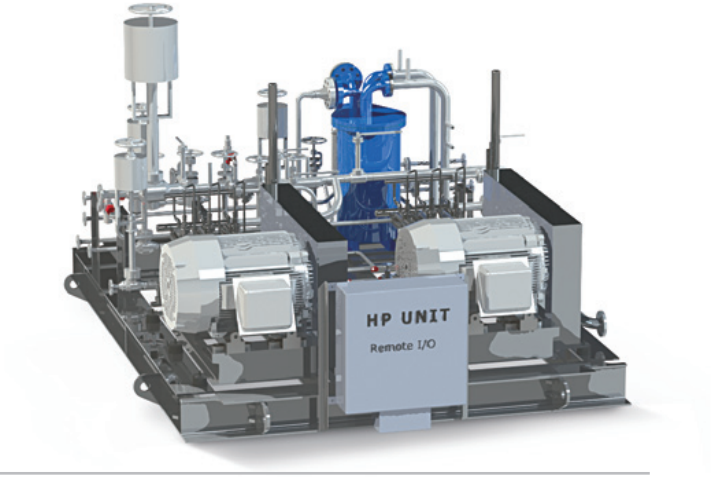
Printed Circuit Heat Exchanger (Diffusion bonded Compact Heat Exchanger)

Diffusion bonding under high pressure and temperature after etching of channel form on the plate



HP FGSS

Fuel gas supply system for MEGI engine.



High pressure pump

- Pressure control of 300 bar according to Engine load using VFD

• Reciprocating type

High pressure vaporizer

- Vaporization of LNG into NG
- Temperature control
- Minimum thermal stress design

• Hair pin type • PCHE type

LP FGSS

Fuel gas supply system for XDF & DFDE, DF GENSET
(FG Heater & Separator are optional equipment of engines)



Fuel gas vaporizer

- Controlled vaporization to accomplish high methane number

• Shell & tube type • PCHE type

Separator

- Separation of heavy hydro carbons and light hydro carbons to supply high methane number gas

• Vessel type

Fuel gas heater

- Fuel gas heating to meet the inlet temperature of gas for generator engines

• Shell & Tube type
• PCHE type

Glycol Water Heating System for FGSS

Supply heat source for vaporizers and fuel gas heater



Glycol Water Tank

- Container of Glycol Water • Vessel type

Glycol Water Pump

- Circulating Glycol Water from tank to Glycol Water heater • Centrifugal pump

Glycol Water Heater

- Heating Glycol Water using steam with automatic temperature control

• Shell & tube type

Automatic Control System

- PLC based controller (Low cost)
- Fail safe redundant system design
  Dual CPU, UPS
- Automatic control with manual control override
- Designed with safety function
  Safety factors : Icing, tube fracture, gas leakage
- Energy saving operating algorithm
  No Glycol Water circulation during cool down sequence
- User friendly GUI and monitoring system
- Precise pressure control of HP unit
  1st step : HP pump speed control
  2nd step : Liquid side pressure control valve
  3rd step : Vapor side pressure control valve

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Head Office and Factory (Land Area: 15,574 m^2 / Building Area: 13,845 m^2)



Hwajeon Office and Factory (Land Area: 20,127 m^2 / Building Area: 20,087 m^2)



Energy. Environmental Tec. Lab. (Land Area: 4,465 m^2 / Building Area: 3,365 m^2)


DongHwa Entec (Shanghai) Co., Ltd. (Land Area: 33,350 m^2 / Building Area: 18,457 m^2)

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DH No. 202010