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Reference List of Cargo Handling System

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3,500m³ LPG/VCM Carrier



Project:

Ship type: 3,500m³ LPG/VCM Carrier

Ship owner: Nanjing oil transportation co.,

Ltd

Shipyard: Bohai Shipbuilding Heavy

Industry Co., Ltd

Year of building: 2007

Hull No.: BH513-1/ -2/ -3/ -4

Vessel Name: Jiashun Classification: CCS

Ship's Principal Dimensions:

Length overall: 99.0m

Length between perpendicular: 92.0m

Breadth moulded: 16.4m

Moulded depth: 7.2m

Design draft: 5.2m

Main engine power(MCR): 2,500kW

Service speed:13.6 Kn

Cargo Handling System Specification:

Type of cargo tank: "C" type cargo tank Cargo tank total capacity: 3,500 m³ Volume of cargo tank: 1,750m3/set Number of cargo tank: two(2) sets Material of cargo tank shell: P690QL

Material of cargo tank head: 15MnNbR

Cargo to be loading: LPG/VCM

Max. Specific Gravity: 970 kg/m³

Cargo tank design temperature: 0-45°C

Cargo tank design pressure: 1.75MPa

Unloading rate: 600m³/hr Cargo pump: 300m³/set×2

Cargo compressor: one(1) set 460 m³/hr

Nitrogen gas generator: 200N m³/hr

Gloryholder's Scope of supply:

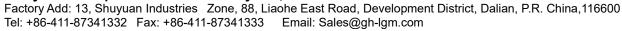
- Engineering design
- P & I diagrams for cargo handling system
- Cargo handling system specification
- Electrical schematic diagram
- Equipment supply (including: Cargo pump/cargo compressor/system valves/ESD system、nitrogen generator/Monitoring system)
- Installation and commissioning
- Instruction manuals
- Crew training
- Spare and maintenance

Delivery Time:

Delivery Time: 8 months

Completion date: September 2007







3,500m³ LPG/VCM Carrier



Project:

Ship type: 3,500m³ LPG/VCM Carrier Ship owner: Shenzhen haihong shipping

co., Ltd

Shipyard: ZheJiang HaiHong Shipyard

Year of building: 2006 Hull No.: HH3600-1/2

Classification: CCS

Ship's Principal Dimensions:

Length overall: 96.6m

Length between perpendicular: 89.0m

Moulded depth: 16.0m
Breadth moulded: 7.2m

Design draft: 5.2m

Main engine power(MCR): 2,500kW

Service speed:13 Kn

Cargo Handling System Specification:

Type of cargo tank: "C" type cargo tank Cargo tank total capacity: 3,500 m³ Volume of cargo tank: 1,750 m³/set Number of cargo tank: two(2) sets Material of cargo tank shell: P690QL

Material of cargo tank head: 15MnNbR Cargo to be loading: LPG/VCM

Max. Specific Gravity: 970 kg/m³ Cargo tank design temperature: 0-45℃ Cargo tank design pressure: 1.72MPa

Unloading rate: 600m³/hr

Cargo pump: 300m³/set×2

Cargo compressor: one(1) set 460m³/hr

Nitrogen gas generator: 100Nm³/hr

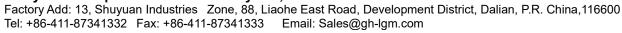
Gloryholder's Scope of supply:

- Engineering design
- P & I diagrams for cargo handling system
- Cargo handling system specification
- Electrical schematic diagram
- Equipment supply (including: Cargo pump/cargo compressor/system valves/ESD system, nitrogen generator/Monitoring system)
- Installation and commissioning
- Instruction manuals
- Crew training
- Spare and maintenance

Delivery Time:

Delivery Time: 10 months Completion date: 2008







3,600m³ LPG/VCM Carrier



Project:

Ship type: 3,600m³ LPG/VCM Carrier

Ship owner: Ningbo Litian Shipping

Co.,Ltd

Shipyard: ZheJiang Tenglong Shipyard

Year of building: 2008 Hull No.: TL3600-1 Classification: CCS

Ship's Principal Dimensions:

Length overall: 99.8m

Length between perpendicular: 92.0m

Breadth moulded: 14.8m

Moulded depth: 7.2m

Design draft: 5.2m

Main engine power(MCR): 2,500kW

Service speed:13.1 Kn

Cargo Handling System Specification:

Type of cargo tank: "C" type cargo tank Cargo tank total capacity: 3,600m³ Volume of cargo tank: 1,800m³/set Number of cargo tank: two(2) sets

Material of cargo tank shell: WDL610E

Material of cargo tank head: WDL610E

Cargo to be loading: LPG/VCM
Max. Specific Gravity: 970 kg/m³
Cargo tank design temperature: 0-45°C
Cargo tank design pressure: 1.72MPa

Unloading rate: 700m³/hr Cargo pump: 350m³/set

Cargo compressor: one(1) set 460m³/hr

Nitrogen gas generator: 100Nm³/hr

Gloryholder's Scope of supply:

- Engineering design
- P & I diagrams for cargo handling system
- Cargo handling system specification
- Electrical schematic diagram
- Equipment supply (including: System valves//Cargo tank monitoring system/ESD system, nitrogen generator/Monitoring system)
- Installation and commissioning
- Instruction manuals
- Crew training
- Spare and maintenance

Delivery Time:

Delivery Time: 8 months

Completion date: February 2010



Reference List of Cargo Handling system

3,600m³ LPG/VCM/LEG/LNG (Multi-Gas) Carrier



Project:

Ship type: 3,600m³ LPG/LEG/LNG Carrier Ship owner: Lauritzan Kosen A/S Shipyard

Shipyard: Yangzhou Kejin Shipyard

Co.,Ltd

Year of building: 2009

Hull No.: KJ07070/1/2/3/5/6(MultiGas)

Classification: NK

Ship's Principal Dimensions:

Length overall: 99.0m

Length between perpendicular: 89.9m

Breadth moulded: 17.0m

Moulded depth: 7.2m

Design draft: 5.2m

Main engine power(MCR): 2,500kW

Service speed: 13 Kn

Cargo Handling System Specification:

Type of cargo tank: "C" type cargo tank Cargo tank total capacity: 3,600m³ Volume of cargo tank: 1,800m³ /set Number of cargo tank: two(2) sets

Material of cargo tank: KD63-M-PV(9Ni)
Cargo to be loading: LPG/VCM/LEG/LNG

Max. Specific Gravity: 970 kg/m³ Cargo tank design temp.: 0(-163)~45 ℃

Cargo tank design pressure: 1.75(0.5)MPa

Unloading rate: 600m³/hr
Cargo pump: 300m³/set×2
Cargo compressor: one(1) set
Nitrogen gas generator: 200Nm³ /hr

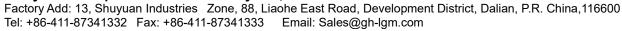
Gloryholder's Scope of supply:

- Engineering design
- Electrical schematic diagram
- Equipment supply (including: Safety valves /Nitrogen generator
- Installation and commissioning
- Instruction manuals
- Crew training
- Spare and maintenance

Delivery Time:

Delivery Time: 10 months Completion date: 2011







5,500m³ LPG/VCM Carrier



Project:

Ship type: 5,500m³ LPG/VCM Carrier Ship owner: Wideshine Shipping Co.,Ltd

Shipyard: Guangzhou Hangtong Shipbuilding & Shipping Co., Ltd.

Year of building: 2011

Hull No.: HT102211/ HT102212

Vessel Name: Hongyu Classification: CCS

Ship's Principal Dimensions:

Length overall: 110.0m

Length between perpendicular: 102.0m

Breadth moulded: 17.8m Moulded depth: 7.80m Design draft: 5.2m

Main engine power(MCR): 2,574kW

Service speed:13.1 Kn

Cargo Handling System Specification:

Type of cargo tank: "C" type cargo tank Cargo tank total capacity: 2,750m³ Volume of cargo tank: 5,500m³/set Number of cargo tank: two(2) sets Material of cargo tank shell: P690QL

Material of cargo tank head: 15MnNbR

Cargo to be loading: LPG/VCM
Max. Specific Gravity: 970 kg/m³
Cargo tank design temperature: 0-45°C
Cargo tank design pressure: 1.75MPa

Unloading rate: 700m³/hr Cargo pump: 350m³/set×2

Cargo compressor: one(1) set 420m³/hr Nitrogen gas generator: 300Nm³/hr

Gloryholder's Scope of supply:

- Engineering design
- P & I diagrams for cargo handling system
- Cargo handling system specification
- Electrical schematic diagram
- Equipment fabricating and supply (Including: System valve/Emergency shutdown system/Cargo tank monitoring system/Nitrogen generator/Monitoring & alarm panel)
- Installation and commissioning
- Instruction manuals
- Crew training

Delivery Time:

Delivery Time: 8 months

Completion date: October 2012



3,940m³ LPG Carrier



Project:

Ship type: 3,940m³ LPG Carrier

Shipowner: Meghna Fresh LPG Limited

Shipyard

Meghna Shipbuilders & Dockyard Ltd.

Year of building:2017

Hull No.: MSD58

Classification: RINA

Ship's Principal Dimensions:

Length overall: 99.99m

Length between perpendicular: 94.35m

Breadth moulded: 17.5m Moulded depth: 8.00m

Design draft:4.0m

Main engine power(MCR): 1,040kW

Service speed:12.0 Kn

Cargo Handling System Specification:

Type of cargo tank: "C" type cargo tank Cargo tank total capacity: 3,940m³ Volume of cargo tank: 1,970m³/set Number of cargo tank: two(2) sets Material of cargo tank: 07MnNiVDR

Cargo to be loading: LPG

Max. Specific Gravity: 650 kg/m³
Cargo tank design temperature: -50°C
Cargo tank design pressure: 1.8MPa

Unloading rate: 600m³/hr Cargo pump: 300m³/set×2

Gloryholder's Scope of supply:

- Engineering design
- P & I diagrams for cargo handling system
- Cargo tank & insulation design
- Cargo handling system specification
- Electrical schematic diagram
- Cargo tank supply
- Equipment fabricating and supply (Including: System valve/Emergency shutdown system/Cargo tank monitoring system/Nitrogen generator/Monitoring & alarm panel)
- Installation and commissioning
- Instruction manuals
- Crew training

Delivery Time

2018



3,940m³ LEG/LPG Carrier



Project:

Ship type: 3,940m³ LEG/LPG Carrier Shipowner: Meghna Fresh LPG Limited

Shipyard

Meghna Shipbuilders & Dockyard Ltd.

Year of building: 2017

Hull No.: MSD59

Classification: RINA

Ship's Principal Dimensions:

Length overall: 99.99m

Length between perpendicular: 94.35m

Breadth moulded: 17.5m Moulded depth: 8.00m

Design draft:4.0m

Main engine power(MCR): 1,040kW

Service speed:12.0 Kn

Cargo Handling System Specification:

Type of cargo tank: "C" type cargo tank Cargo tank total capacity: 3,940m³ Volume of cargo tank: 1,970m³/set Number of cargo tank: two(2) sets Material of cargo tank: 5Ni-steel Cargo to be loading: LPG/LEG Max. Specific Gravity: 650 kg/m³ Cargo tank design temperature:-104°C Cargo tank design pressure: 1.8MPa

Unloading rate: 600m³/hr Cargo pump: 300m³/set×2

Gloryholder's Scope of supply:

- Engineering design
- P & I diagrams for cargo handling system
- Cargo tank & insulation design
- Cargo handling system specification
- Electrical schematic diagram
- Cargo tank supply
- Equipment fabricating and supply (Including: System valve/Emergency shutdown system/Cargo tank monitoring system/Nitrogen generator/Monitoring & alarm panel)
- Installation and commissioning
- Instruction manuals
- Crew training

Delivery Time

2018



3,940m3 LEG Carrier



Project:

Ship type: 3,940m³ LEG Carrier

Shipowner: Meghna Fresh LPG Limited

Shipyard

Meghna Shipbuilders & Dockyard Ltd.

Year of building: 2017 Hull No.: MSD60/ MSD61

Classification: RINA

Ship's Principal Dimensions:

Length overall: 99.99m

Length between perpendicular: 94.35m

Breadth moulded: 17.5m Moulded depth: 8.00m

Design draft:4.0m

Main engine power(MCR): 1,040kW

Service speed:12.0 Kn

Cargo Handling System Specification:

Type of cargo tank: "C" type cargo tank Cargo tank total capacity: 3,940m³
Volume of cargo tank: 1,970m³/set
Number of cargo tank: two(2) sets
Material of cargo tank:5Ni-steel

Cargo to be loading: LEG

Max. Specific Gravity: 650kg/m³
Cargo tank design temperature: -104℃
Cargo tank design pressure: 0.4MPa

Unloading rate: 600m³/hr Cargo pump: 300m³/set×2

Gloryholder's Scope of supply:

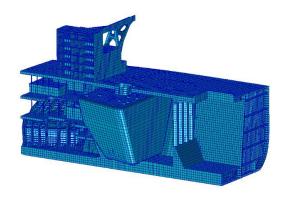
- Engineering design
- P & I diagrams for cargo handling system
- Cargo tank & insulation design
- Cargo handling system specification
- Electrical schematic diagram
- Cargo tank supply
- Equipment fabricating and supply (Including: System valve/Emergency shutdown system/Cargo tank monitoring system/Nitrogen generator/Monitoring & alarm panel)
- Installation and commissioning
- Instruction manuals
- Crew training

Delivery Time

2018



400k VLOC Gas Ready



Project:

Ship type: VLOC LNG Ready

Ship owner: Vale Shipyard: SWS

Year of building: 2016

Hull No.: H1438

Classification: DNV-GL

Ship's Principal Dimensions:

Length overall:360.0m

Length between perpendicular:353.0m

Breadth moulded: 65.0m Moulded depth: 30.4m Design draft:22.0m

Service speed: 14.8 Kn

Main engine: MAN B&W 7G80ME-C9.5
Main engine power(MCR): 29,400kW/set

LNG Storage Tank Specification:

Type of LNG tank: Type "B" tank)

Volume of tank: 12,500m³/set

Number of: one(1) set

Material of tank: 9% Nickel steel
Design temperature of tank:-196℃
Design pressure of tank: 0.7bar G

Gloryholder's engineering scope:

- B Type LNG tank's outline drawing
- Detail drawing for LNG tank (tank's shell//Dome/ladders/fitting/swash bulkheads / support structure/ insulation wood/etc)
- Stress analysis of cargo tank
- Fatigue analysis
- Crack propagation analysis
- Boil off rate calculation
- Capacity calculation for tank's safety valves
- Insulation & second barrier design
- Calculation of terminal insulation
- Calculation of the hull temperature and associated distribution of quality and steel grades

Delivery Time

July, 2018



TRF Shipping 157,500t Oil Tanker Gas Ready



Project:

Ship type: 157,500t Oil Tanker LNG Ready Ship owner: TRF Ship Management AS Shipyard: New times shipbuilding co., Itd

Year of building: 2015

Hull No.: 0315809/10/11/12/13

Classification: LR

Ship's Principal Dimensions:

Length overall: 276.0m

Length between perpendicular: 270.4m

Breadth moulded: 48.0m Moulded depth: 23.2m Design draft: 16.0m Service speed: 14.5 Kn

Main engine: MAN B&W 6G70ME-GI Main engine power(MCR): 15,100kW/set

LNG Storage Tank Specification:

Type of LNG storage tank: Single wall tank with PUF insulation. (IMO type "C" tank)

Volume of tank: 600m³/set Number of: Two(2) sets

Material of tank: Stainless steel
Design temperature of tank:-163℃
Design pressure of tank: 0.35MPa

Outline size : Dia $\,\Phi$ 7,000 X L 17,912 mm

Weight: 62 ton

Gloryholder's engineering scope:

- LNG tank's outline drawing
- Detail drawing for LNG tank (tank's shell//Dome/ladders/fitting/swash bulkheads / support structure/ insulation wood/etc)
- Detail of tank's dome and deck sealing
- Strength calculation for LNG tank
- Boil off rate calculation
- Capacity calculation for tank's safety valves
- Calculation of terminal insulation
- Calculation of the hull temperature and associated distribution of quality and steel grades

Delivery Time

May, 2016



Dynacom Shipping 158K Oil Tanker Gas Ready



Project:

Ship type: 158,000t Oil Tanker LNG Ready

Ship owner: Dynacom Tankers Management

Ltd.

Shipyard: New times shipbuilding co., Itd

Year of building: 2016

Hull No.: 0315814/15/16/62/63/64/ BV

Hull No.: 0315817/18/65/ ABS

Hull No.: 0315861/ DNV-GL

Hull No.: 0315866/ **NK**

Ship's Principal Dimensions:

Length overall: 276.0m

Length between perpendicular: 270.4m

Breadth moulded: 48.0m Moulded depth: 23.2m Design draft: 16.0m Service speed: 14.5 Kn

Main engine: MAN B&W 6G70ME-GI Main engine power(MCR): 15,100kW/set

LNG Storage Tank Specification:

Type of LNG tank: Single wall tank with

PUF insulation. (IMO type "C" tank)

Volume of tank: 1,900m³/set

Number of: Two(2) sets

Material of tank: Stainless steel

Design temperature of tank:-163°C

Design pressure of tank: 0.35MPa

Outline size : Dia Φ 9,300 X L 31,065 mm

Weight: 165 ton

Gloryholder's engineering scope:

- LNG tank's outline drawing
- Detail drawing for LNG tank (tank's shell//Dome/ladders/fitting/swash bulkheads / support structure/ insulation wood/etc)
- Detail of tank's dome and deck sealing
- Strength calculation for LNG tank
- Boil off rate calculation
- Capacity calculation for tank's safety valves
- Calculation of terminal insulation
- Calculation of the hull temperature and associated distribution of quality and steel grades

Delivery Time

July, 2017



COSCO(DALIAN) 308,000t VLCC Gas Ready



Project:

Ship type: 308,000t VLCC LNG Ready Ship owner: Dalian Ocean Shipping Co.,

Ltd

Shipyard: Dalian COSCO KHI SHIP

Engineering Co., Ltd Year of building: 2016

Hull No.: DE045 Classification: LR

Ship's Principal Dimensions:

Length overall: 333.0m

Length between perpendicular: 324.0m

Breadth moulded: 60.0m Moulded depth: 30.5m Design draft: 20.5m Service speed: 14.0 Kn

Main engine: MAN B&W 7G70ME-GI
Main engine power(MCR): 31,150kW/set

LNG Storage Tank Specification:

Type of LNG tank: Single wall tank with

PUF insulation. (IMO type "C" tank)

Volume of tank: 6,000m³/set

Number of: Two(2) sets

Material of tank: Stainless steel
Design temperature of tank:-196℃
Design pressure of tank: 0.4MPa

Outline size: Dia ϕ 13,000 X L 49,690mm

Weight: 465 ton

Gloryholder's engineering scope:

- LNG tank's outline drawing
- Detail drawing for LNG tank (tank's shell//Dome/ladders/fitting/swash bulkheads / support structure/ insulation wood/etc)
- Detail of tank's dome and deck sealing
- Strength calculation for LNG tank
- Boil off rate calculation
- Capacity calculation for tank's safety valves
- Calculation of terminal insulation
- Calculation of the hull temperature and associated distribution of quality and steel grades

Delivery Time

March, 2017



COSCO(DALIAN) 319,000t VLCC Gas Ready



Project:

Ship type: 319,000t VLCC LNG Ready

Ship owner: Dalian Ocean Shipping Co.,

Ltd

Shipyard: Dalian Shipbuilding Industry

Corporation

Year of building: 2016 Hull No.: T300K-77/78

Classification: CCS

Ship's Principal Dimensions:

Length overall: 333.0m

Length between perpendicular: 323.6m

Breadth moulded: 60.0m Moulded depth: 30.5m Design draft: 22.5m Service speed: 14.0 Kn

Main engine: MAN B&W 7G70ME-C9.5

Main engine power(MCR): 31,150kW/set

LNG Storage Tank Specification:

Type of LNG tank: Single wall tank with

PUF insulation. (IMO type "C" tank)

Volume of tank: 3,500m³/set

Number of: Two(2) sets

Material of tank: 9% Nickel steel
Design temperature of tank:-196℃
Design pressure of tank: 0.4MPa

Weight: 259.6 ton

Gloryholder's engineering scope:

- LNG tank's outline drawing
- Detail drawing for LNG tank (tank's shell//Dome/ladders/fitting/swash bulkheads / support structure/ insulation wood/etc)
- Detail of tank's dome and deck sealing
- Strength calculation for LNG tank
- Boil off rate calculation
- Capacity calculation for tank's safety valves
- Calculation of terminal insulation
- Calculation of the hull temperature and associated distribution of quality and steel grades

Delivery Time

April, 2017

