General Description

General

The vessel is to be designed and built as a single screw, low speed diesel engine driven Chemical / Product oil tanker with duplex stainless steel cargo tanks for world-wide service transporting product oil and/or chemicals IMO type 2, 3, subject to the technical condition in this specification.

Accommodation, navigation space and machinery space to be located aft. Four (4) tiers of deck houses aft are arranged on poop deck. A ballast pump room for ballast pumps to be arranged in front of engine room.

Two (2) continuous side bulkheads, one (1) centreline bulkhead and six (6) transverse bulkheads within cargo tank area divide cargo tank area into six (6) pairs of cargo oil tanks (P&S) and one (1) pair of slop tanks (P&S). Two (2) residual tanks are to be arranged on main deck.

The cargo tanks are to be segregated in fourteen (14) grades.

Intended Cargoes

The vessel is to be designed as an oil / chemical tanker IMO type2, 3, suitable to carry oil products and MARPOL category X, Y, Z, cargoes.

Dimensions

Length Overall Abt. 119.50 m
Length between Perpendicular 117.00 m
Breadth Moulded 18.50 m
Depth Moulded 9.50 m
Designed Draft 7.20 m
Scantling Draft 7.20 m

Deadweight

At Scantling draft Abt. 8,500 t

Speed and endurance

Service speed (at designed draft): Abt. 13.50 Kn at CSR with 15% S.M
Endurance: Abt. 8,000 n miles
Main engine
Main Engine: MITSUBISHI 6UEC33LSE-C2 TII
M.C.R.: 3300 kW x 127 RPM
C.S.R.: 2270 kW x 112.1 RPM

Fuel oil consumption
Approx. 9.2 t/day on the economical speed of 13.5 kn at 68.8% SMCR with fuel 42,700kJ/kg, under ISO conditions for main engine, without shaft generator.
Approx. 7.96 t/day on the economical speed of 13 kn at 60% SMCR with fuel 42,700kJ/kg, under ISO conditions for main engine, without shaft generator.

Complement
22 persons + 6 suez

Classification & Regulations
CLASS: ABS+A1, Chemical Oil Carrier, Ice Class D0, AMS, ACCU, CPS, ESP, BWT, UWILD, VEC, ENVIRO
Flag: The vessel is to be registered under the flag of Hongkong.

Capacity
Cargo oil tanks (including slop tanks) abt. 9,570 m3
Slop tanks total abt. 650 m3
Heavy fuel oil tanks total abt. 370 m3
Diesel oil tanks total (including M.G.O.) abt. 90 m3
Lubrication oil tanks abt. 30 m3
Fresh water tanks abt. 70 m3
Technical fresh water tanks abt. 230 m3
Boiler fresh water tank abt. 20 m3
Segregated water ballast tanks (including fore and aft peak tanks) abt. 3,800 m3

Cargo tank
Cargo and slop tank compartments are to be divided into twelve (12) cargo tanks and two (2) slop tanks with double hull construction. Transverse bulkhead and center longitudinal bulkhead to be of vertical corrugated type in cargo tank area. scantlings of cargo tanks are to be suitable for cargoes with the specific gravity up to 1.35 t/m3 in homogeneous condition (fully filled), 1.54 t/m3 in alternate condition (partially filled), max pressure 0.025 MPa, max cargo temperature 80°C.

Mild steel and high tensile steel are to be used for all hull construction of this vessel. The duplex stainless steel S32205 is to be used for all the boundary plates of cargo tanks and all the corrugated bulkheads in cargo tanks.

Paint and cathodic system
Secondary steel surface treatment shall be in accordance with paint manufacturer's recommendation.
Dry film thickness shall be modified slightly according to paint manufacturer's recommendation.

Cargo Oil Tanks (including Slop Tanks): No painting.
One (1) set of impressed current catholic protection system shall be provided for under water shell.
Marine growth protection system shall be provided of sea chest.

Rudder
- One (1) semi-balance type streamline rudder shall be provided.
- Rudder stock shall be of forged with stainless steel sleeve.
Mooring outfits
Bower anchor: Two (2) sets, of abt. 3540 kg, cast steel, stockless SPEKE type
Anchor chain One (1) set, Grade 3, with stud. Joining shackle 46mm x 522.5m
Mooring rope: Eight (8) pieces, L=200m, polyamide multi filament by 8 strands
(MBL.270kN)
Anchors, chain cables and mooring fittings to be equipped in accordance with rule requirements

Deck machinery
Windlass: 2x Electrical Hydraulic type, one (1) gypsy wheel (abt. 100.5KN x 9m/min), two (2) hawser drums with split (abt. 75 KN x 15m/min), one (1) warping head
Mooring winch (Stern): 2x Electrical Hydraulic type, two (2) hawser drum with split (abt. 75 KN x 15m/min), one (1) warping head
Hose handling crane: 1x 5tons x 14m working radius, single arm type, electro-hydraulic pump actuating, slewing and luffing function to be provided.

Steering gear
Quantity & type: One (1) set rotary vane type or cylinder piston type with two (2) power units
Max. rudder angle: 2 x 35 degrees

Hull fitting
Accommodation ladder No accommodation ladder
Pilot ladder Two (2) set
Embarkation ladder Two (2) sets
Catwalk Steel pipes and sections construction with steel galvanized open grating
Cargo tank ladder
Vertical (400B), inclined (600B) and platform
(800B square type), S32101 or 304L stainless steel

Hatches and manholes
Cargo Tank: Rotating oil tight hatch cover, 850mm, 14pcs

Lifesaving appliance
Life boat: 1x 22 persons, GRP, free fall, totally enclosed fire protected type.
Life Boat davit: 1x 65kN, Launching and recovery appliance
Life raft: 2x 25 persons, inflatable, 1x 6 persons, inflatable
Rescue boat: 1x 6 persons, GRP, open type
Rescue boat davit & crane: 1x Electrical-Hydraulic type, single arm & fixed
Lifebuoy: 10
The other lifesaving equipment to be provided in compliance with the rule and regulation

Fire fighting system
The portable fire extinguishers and personnel protection equipment to be provided in compliance with the rule and regulation
Cargo area: Fixed foam suitable for product cargoes, Sea water

Engine room:
Fixed CO2 fire extinguisher system
Sea water
Portable fire extinguisher
Local Water mist system
Fire detection system

Ballast pump room:
Sea water
Portable fire extinguisher
Fire detection system

Paint store:
Independence CO2 fire extinguisher system
Fire detection system

Accommodation:
Sea water
Portable fire extinguisher
Fire detection system (IC)

Exposed area: Sea water
Others: According to rule requirement

Air-conditioning and ventilation system
Air-conditioning system: Central cooling / heating unit type, electric; R-404A direct expansion, single duct system. Air-conditioning: All cabins, mess room, cargo control room
Design condition
Summer: outside +35°C, 70% relative humidity; Inside +25°C, 50% relative humidity
Winter: outside -15°C, 50% relative humidity; inside +22°C, 50% relative humidity
Engine control room, Galley One(1) set, Independent Air-conditioning system

Refrigerated provision chamber
Fish & Meat room (-18°C) 12.0m3, unit cooler
Vegetable room (+4°C) 15.0m3, unit cooler
Dry provision room(-10°C) 15.0m3, unit cooler
Two (2) ref. compressors and two (2) condensers (each 100%) shall be provided.

Accommodation
Complement 22 persons + 6 Suez crews
Deck covering 2 mm thick vinyl sheet on 8 mm thick latex type deck composition.

Cabin
Captain class (2P): day room/bed room and private lavatory.
Senior officer (2P): day room/bed room and private lavatory.
Junior officer (5P) : single cabin with private lavatory
Crew's cabin (11P) : single cabin with private lavatory
Pilot (1P) : single cabin with private lavatory
Owner (1P) : single cabin with private lavatory
Suez crew (6P) : One cabin
Common space: Galley, Mess rooms, Cargo control room & Ship’s Office, wheelhouse, engine control room, change room, Laundry & Drying RM, etc.

Store & Others: Dry provision store, P&E/T, steering gear room, air condition room, E.F.P room, bonded Store

Entrance door: Entrance door to accommodation area shall be of steel sash door.

Port hole /Square window: At least one port hole/square window in each cabin including day and bed room

Cargo handling system

The cargo handling system is to be consisted of submerged cargo pumps and deck piping for cargo tanks, including two (2) slop tanks.

The cargo pumping system is to be designed to facilitate easy loading and cleaning operations.

The general discharge and loading design criteria to be as follows:

Design pumping criterion: Pressure head: 110 mlc; SG: 0.8 t/m3, viscosity: 1.0 cst

Maximum discharge rate: Total 1000 m3/h at SG 0.8 t/m3, viscosity: 1.0 cst

Design discharge time: About 10-12 hours at design criteria with four (4) pumps running simultaneously, including stripping.

Segregation: Full segregation; Simultaneous loading of fourteen (14) grades over manifolds and direct drop lines to cargo tanks.

1) Cargo pump

Number of units: Ten (10)

Type: Submerged centrifugal pumps, with built on compressed air-purging system

Design capacity: 250 m3/h each

Design pressure head at outlet: 110 mLc, S.G. 0.8 t/m3

Materials, pump impeller, stack: Stainless steel, (AISI 316L)

Drive: Explosion-proof variable frequency motor

Mounting: Vibration damping resilient mount

Seals (O-ring): Teflon

Shaft seal: Mechanical seal and Teflon seal

2) Slop pump

Number of units: Two (2)

Type: Submerged centrifugal pumps, with built on compressed air-purging system.

Design capacity: 150 m3/h each.

Design pressure head at outlet: 110 mLc, S.G. 0.8 t/m3

Materials, pump impeller, stack: Stainless steel, (AISI 316L)

Drive: Explosion-proof variable frequency motor

Mounting: Vibration damping resilient mount.

Seals (O-ring): Teflon

Shaft seal: Mechanical seal and Teflon seal

3) Emergency cargo discharge

One portable hydraulic driven emergency discharge pump is to be provided for cargo. The pump is to be handled through tank cleaning hatch.

Number of pumps: One (1) set

Type: Submerged centrifugal pumps

Design capacity: 70 m3/h

Design pressure head at outlet: 70 mLc., S.G. 0.8 t/m3

Materials: Acid resistant stainless steel, (AISI 316L)
Drive: Hydraulic driven

Hose for cargo: 2-18 m hose, one is to be hydraulic hose mounted on pump with control valve and quick-coupling, another is to be extending hose with quick coupling.

Hydraulic pipe connection: Three (3) connection valves with blind flanges on hydraulic lines for connection of the portable pump.

Lifting unit: One (1) of tripod with winch for hoisting

Main engine
Maker MITSUBISHI
Type 6UEC33LSE-C2 Til
MCR 3300 kW x 127 RPM
CSR 2270 kW x 112.1 RPM
Boring 330mm
Stroke 1550 mm

Shafting and propeller
Shafting and propeller One (1) set
One (1) propeller 4 blades, Ni-Al-Bronze, Fixed pitch type
PBCF or equivalent to be provided.
Shafting Tail shaft of forged steel
Stern tube of cast steel with oil bath type
Rule’s special To comply with ICE Class IA
A shaft earthing device of silver alloy band type with millivoltmeter shall be provided.

Gearbox for shaft generator
One (1) set of shaft generator should be provided at the free end of main engine. An increasing gearbox of reputable maker will be fitted for this vessel for this shaft generator.

Gear Box Data
Quantity One (1)
Type Vertical offset
Output power 400 kW
Input speed 0~130rpm
Ratio About 1 : 16
Coupling for main engine/gearbox
One (1) set of high elastic coupling with suitable size should be provided between the main engine free end and the gearbox ingoing shaft.
The size and material of the flexible couplings should be decided with regard to torsional vibration analyses.

Shaft Generator and Constant Frequency Constant Voltage
Quantity One(1) set
Type WHZG-400-100/2000-4-B-A-01
Capacity 400 kW, AC 450V, 3 PH, 60 Hz
Rated speed 800～2000 r/min

Aux. diesel generator sets
Diesel engine
Quantity Three (3) sets
Type KTA19-DM1
No. of cylinders 6
Rated revolution 1800
Rated power 485 KW,
Starting method: Compress air start

Generator
Quantity Three (3) sets
Type HCM5C
Capacity 430 kW, AC 450V, 3 PH, 60 Hz

Emergency generator
Emergency generator engine
Quantity One (1) set
Type 6BTA5.9-GM120
No. of cylinders 6
Rated revolution 1800
Rated power 120 KW,
Starting method: DC24V, hand spring
Emergency Alternator: Quantity One (1) set
Type: Capacity 100 kW, AC 450V, 3 PH, 60 Hz

Nautical equipment
1 - Magnetic compass
1 - Gyro compass and autopilot
1 - Echo sounder
1 - Speed log
1 - X-band Radar
1 - S-band Radar
2 - DGPS
1 - Automatic Identification System (AIS)
2 - ECDIS & Information System
1 - Voyage Data Recorder (VDR)
1 - Anemometer
3 - Window wiper
2 - Clear view screen
1 - Air horn
1 - Bridge navigation watch alarm system (BNWAS)

Radio equipment
The following equipment to be provided according to SOLAS and amendments for GMDSS of A1+A2+A3 area
1 - GMDSS radio station including two (2) sets of INMARSAT C earth station and SSAS
1 - INMARSAT fleet broadband system
2 - VHF radiotelephone with DSC and DSC Watch Receiver
1 - NAVTEX receiver
3 - Portable Two-way VHF radiotelephone
2 - Radar Transponder
1 - Satellite EPIRB
1 - Weather Facsimile
6 - Explosion-proof type walkie-talkie

**Interior communication system**
- Sound powered telephone system
- Automatic telephone system
- Hospital calling system
- Refrigeration calling system
- Public address system
- Rudder angle indicator system
- Engine telegraph system
- Electronic crystal clock system

**IMPORTANT:** The Company offers the details of this vessel in good faith but cannot guarantee or warrant the accuracy of this information nor warrant the condition of the vessel. A buyer should instruct their agents, or their surveyors, to investigate such details as the buyer desires validated. This vessel is offered subject to prior sale, price change, or withdrawal without notice.

**4 Units of 8500T DWT Chemical and Product Oil Tanker Images**