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CLIPPER SIRA

HIGH QUALITY DOUBLE HULL 4000 TDW WITH STAINLESS STEEL CARGO TANKS CHEMICAL IMO 2 TANKER FOR WORLD WIDE SERVICES

Builders : Volharding Shipyards New Building BV, Westerbroek, The Netherlands
Owners : Brodrene Klovning Shipping AS

Volharding Shipyards recently completed another high quality chemical IMO II tanker suitable for world wide services - the 'Clipper Sira'. The newbuilding, built for Norwegian based shipowner is suitable for the carriage of both oil products and chemicals.
The double hull tanker with stainless steel cargo tanks has been designed and built to the Rules and Regulations of Det Norske Veritas, notation ✠1A1 tanker for oil products and chemicals ESP ICE - 1B E0 the tanker complies with all relevant international rules in accordance to IMO, SOLAS, MARPOL, OCIMF, ILO, Panama Canal Authorities, Suez Canal Authorities and the regulations of the Norwegian International Ship Register.

Volharding Shipyards

Competitiveness, Quality and Flexibility. These are the main characteristics of Volharding Shipyards in the Netherlands. Founded in 1919, the shipyard has built up a solid reputation. Since the mid nineties, the organization has developed from a one-location shipyard to a powerful and expanding shipbuilding group with locations in the northern Netherlands and strong ties with Turkey, Ukraine and China.
The expansion has been generated by means of a strong focus on efficiency.

- the combined possibilities of the different locations;
- the excellent design, engineering, project management and production experience;
- the strong Dutch environment of supporting industries;
- and cost-effective steel building in Eastern Europe, Turkey and China.

Volharding Shipyards consists of shipbuilding facilities at Foxhol, and Harlingen. Volharding Shipyards employs some 200 people, 50 of whom work in design, engineering and project management.

Between twelve and twenty vessels are delivered yearly with an average turnover of 200 million Euros. Despite the very strong international competitive environment, Volharding Shipyards is expecting further growth in the coming years.
Strategic market segments for Volharding Shipyards are:
– RoRo vessels;
– Tankers;
– General Cargo / container vessels;
– Offshore;
– Special projects & One-Offs.

Design Philosophy

The "Clipper Sira" is a new developed chemical with 10 stainless steel cargo tanks including one slobtank.

Main Characteristics

The "Clipper Sira." is a chemical / oil tanker with stainless steel cargo tanks. The tanker features a double hull and double bottom and carries deepwell pumps in all tanks.
Built under yard number 598, the 'Clipper Sira.' features the following main characteristics.

Principal particulars

Length o.a.	89 m
Length b.p.	84,9 m
Breadth mld.	13,32 m
Depth to main deck	7,7 m
Draught	5,65 m
Deadweight	4053 t

Tank capacities

Gas oil	135 cu.m
Potable water	42 cu.m
Ballast water	1.696 cu.m
Cargo tanks	4.687 cu.m
Techn. FW	187 cu.m

Accommodation

The accommodation has been designed for a complement of eleven. Officers and crew are accommodated in 9 single-berth cabins and 1 double cabin. Each cabin is fitted with a private sanitary unit with shower, water closet and washing basin. The accommodation section includes an mess- and dayrooms, and ship's offices. The complete accommodation section is fully air conditioned by a York AC unit incorporating two 50% capacity compressors.

Hull

The hull is of regular shipbuilding steel and where necessary constructed of high tensile steel. The ballast tanks form part of the construction on the outside of the cargo tanks.
The cargo tanks are separated from each other by vertically and horizontally positioned corrugated bulkheads. Six cargo segregations have been provided, each with individual cross-over at the cargo manifold + 1 collector cross over. The forecastle carries one SEC windlasses with cable lifter, two mooring drums and two warping heads. The aft deck carries a single winch with two mooring drums and two warping head.

Radio Holland Netherlands supplied the navigational aids and communications systems

Cargo Tank Section

Total cargo tank capacity is 4.600 cu.m, excluding the slop tank. Total number of tanks is ten. The Stainless steel cargo tanks are suitable for a specific gravity of 1.52 t/cu.m. The cargo tanks are provided with tank washing, heating, and ventilation and closed loading devices.
Each tank is fitted with an electric driven Svanehøj deepwell pump. The speed of these cargo pumps are frequency controlled and they feature a pumping capacity of 150 cu.m/h at 80 mwc. The slop tank is fitted with a deepwell pump with a capacity of 80 cu.m/h at 70 mlc. Electric motors are in explosion proof execution.
All cargo piping and valves are of stainless steel 316L. Tank nrs 2, 3, 4 and 5 are connected with ND 150 pipeline. Common lines and common cross-over is of ND 250. Tank number 1 is connect to a ND 125 pipeline. Each tank is provided with one pressure/vacuum type relief valves with high velocity vent head and one gas freeing vent outlet with flame screen. A central vapour return line leads to the crossovers. One centrally placed electric driven fan of approximately 5,000 cbm have been provided to serve all tanks in common for drying through the cargo lines from the manifold.
Each tank is also provided with two fixed Scanjet tank washing machines. Two portable washing machines and two portable fans are also available for cargo tank washing and drying purposes (One per tank). Tank washing water is heated by a heat exchanger placed in the heat exchanger room.
The heat exchanger is of sufficient capacity for washing three tanks simultaneously. All tanks are provided with radar type ullaging, UTI secondary gauging, high and high-high level alarms, temperature measurement, pressure indications, remote start/stop of cargo pumps, remote control of cargo valves etc. The wheelhouse features mimic panels and VDUs with remote controls and indicators of tank parameters, pumps and valves. An independent loading

The medium-speed four-stroke MaK type 6M25 marine diesel engine

Auxiliary power is derived from two MAN/Stamford generator sets

The RWO oily water separator

View of the manifold sitiated a midships

instrument has also been placed in the wheelhouse. An SEC cargo hose crane serving the cargo manifold has been fitted near the manifold. The crane has a SWL of 1 tons at 15 m outreach.

Thermal Fluid Installation

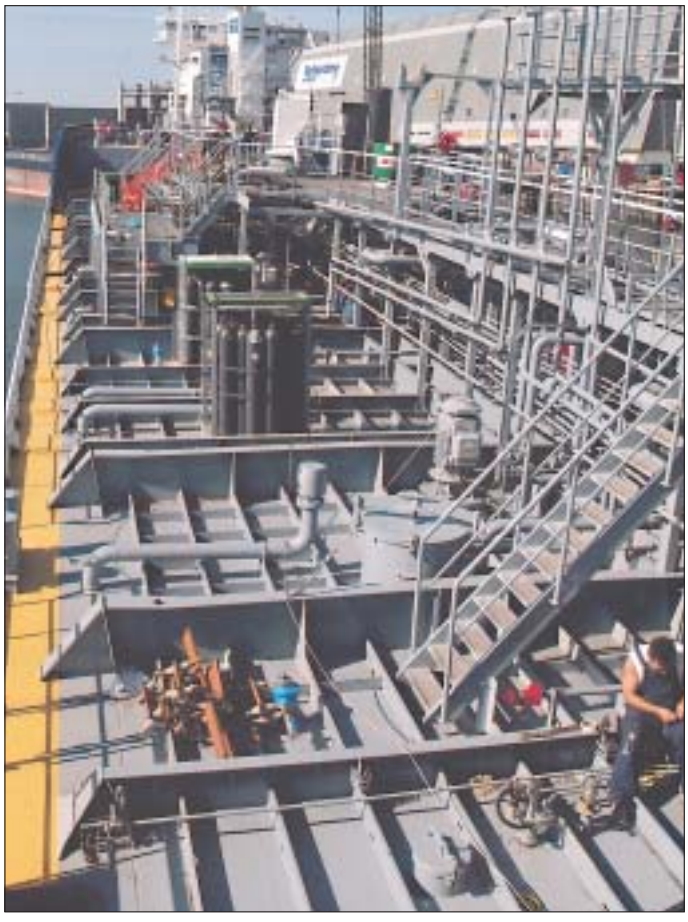
For heating of cargo tanks, tank washing water, a Heatmaster thermal fluid installation has been provided, incorporating one 1,600 kW oil-fired boiler. Cargo tanks and slop tank are provided with 316L heating coils, suitable for a maximum cargo temperature of 65 degrees Celsius.
The system is divided into a primary system for engine room systems and a secondary system which is serving the cargo tanks via a heat exchanger where TO is heating water which heats up the cargo tanks.

Engine Room

The prime mover of the ”Clipper Sira.” consists of a medium-speed four-stroke MaK type 6M25 marine diesel engine. The 6-cylinder in-line main engine develops 1.985 kW at 750 rpm and runs on MGO. The main engine is fitted with a Scana Volda reduction gearbox featuring pto and an output speed of 135 rpm.
The propulsion plant drives a 2,800 mm diameter high-skew four-blade Scana Volda controlable pitch propeller, providing the tanker a fully loaded speed of abt. 12 knots at 100% mcr and a disengaged shaft alternator at a draught of 5,4 m. Directional control is with a Promac flap type rudder, controlled by a Promac hydraulically powered steering gear. Manoeuvring capacity at slow speeds is enhanced by a 300 kW Verhaar 3 channel truster unit featuring a fixed pitch propeller. This thruster installation is also used for emergency propulsion. Auxiliary power is derived from two MAN D2876LE 301 diesel-driven generator sets with Stamford HCM 534D1 alternators of approximately 350 kW at 1,800 rpm. Emergency power is generated by a Cummins 6BT6 diesel diesel engine with a Stamford UCM274E1 alternator of 90 kW running at 1,800 rpm. At sea power is derived from a single 340 kW Stamford type HCM534D2 shaft generator. All generator sets and shaft

Directional control is with a Promac hydraulically powered steering gear

The cargo tank section features a common filling/discharge deck line



The deckmachinery was delivered by Ship's Equipment Centre

Life-saving appliances includes a SEC free-fall lifeboat

generator were delivered by De Ruyter Dieseltechniek at Sliedrecht. Shipboard power mains consist of 3 x 415 V/60 Hz, according to class requirements. The electrical systems have been installed by Eekels Elektrotechniek.
Main and auxiliary engines are provided with independent box coolers for closed circulation freshwater cooling. No seawater cooling systems are provided. The bilge/ballast system consists of a remote controlled ballast system situated in the cargo tank/ER section featuring two ballast pumps, galvanized piping and hydraulically operated valves.

Navcom Package

Radio Holland Netherlands supplied and installed the navigational aids and communications systems on board the "Clipper Sira".
The scope of delivery includes the following main components:
– two Furuno radar systems;
– one navigation computer;
– one Furuno radiotelephony installation;
– two Furuno Inmarsat-C installations;
– two mariphones;
– one Furono Navtex;
– one Furuno echo sounder;
– one Furuno Doppler speed log;
– two Jotron eperbs;
– three Jotron portable GMDSS sets;
– four Entel portable radios;
– two Furuno GPS navigators;
– one Tokimec gyro compass;
– one Radio Zeeland autopilot;
– one Radio Zeeland rate-of-turn indicator;
– two Cassens & Plath magnetic compasses;
– one Furuno AIS transponder;
– one Furuno weather chart receiver.

Life-saving Appliances

All fire-fighting systems and life-saving appliances fitted on board are in compliance with SOLAS requirements. Life-saving appliances fitted on deck include a SEC free-fall lifeboat and a man-over-board boat with davit, also make SEC.

Subcontractors and suppliers of equipment fitted on board the 'Clipper Sira'
(partial list)

Alfa Laval Benelux, Breda . . .: fuel oil separator
Ariston, Porsgrunn, Norway . .: cargo tank gauging system
Atlas Copco Ketting Marine Center, IJmuiden . . . . . .: starting & working air compressors
Besi , Bremen . . . . . .: hydraulic ballast,- and cargo valve operating system
Börger Machinefabriek, Hoogezand . . . . . .: all stairs and ladders, railings, supports and foundations, aft. mast and fore mast, ventilation goose necks and ventilation grills, stainless steel platform for magn. compass, all entrance-, SOS- and escape hatches
Caldic Techniek, Rotterdam . . . . . .: *Stamford* generators
Dijkstra Metaalbewerking, Harlingen . . . . . : small iron works
Derustit, Heerenveen . . . . . .: cargo tank treatment
Eekels Elektrotechniek, Kolham . . . . . .: electrical installation; ships alarm system; bridge console; MCC cabinets & switchboards; lighting installation; fire alarm installation
Friamco, Winsum (Fr) . . . . . .: sanitary installation
Hakvoort Horeca, Groningen : galley equipment
Hamworthy KSE, Rotterdam .: *Svanehøj* deepwell cargo pumps
Heatmaster, H.I. Ambacht . . .: heating installation
Imtech Marine & Offshore, Rotterdam . . . . . .: *Mitsubishi Electric* circuit-breakers; *Aluminox* galley equipment
Intersona, Heerde . . . . . .: noise and vibration calculations & measurements
Kostabo, Harlingen . . . . . .: nautical inventory
Lubrafil, Barendrecht . . . . . .: *Boll & Kirch* fuel,- and lubricating oil filters
Maas Marine & Industrial Equipment, Alblasserdam . . .: *Scanjet* tank cleaning equipment
MaK (Nederland), Dordrecht .: main engine
Marine Service Noord, Westerbroek . . . . . .: engine room- and cargo handling installation
Metalix, Kinderdijk . . . . . .: steel package
MME Group, Ridderkerk . . . . .: design and supply of cathodic protection system; marine growth prevention system; *Harbinger* gangway; non destructive testing
Mx Brandbeveiliging, Almere . . . . . .: fixed CO_2 system for the engine room; fixed local application watermist system for several objects in the engine room; fixed tankdeck foam system; fixed fire protection system for the deep fat fryer in the galley
Napa, Helsinki (FIN) . . . . . .: cargo loading computer
Outokumpu, Amsterdam . . . .: stainless steel
Promac, Zaltbommel . . . . . .: *Promac-Stuwa* hydraulic steering gear and ruddersystem; *Promac Scana Volda* reduction gear & CP propeller
Radio Holland Netherlands, Delfzijl . . . . . .: navigation- & communication systems
Reikon, Spijkenisse . . . . . .: *Azcue* pumps
Ruyter Dieseltechniek, De, Sliedrecht . . . . . .: generator sets , shaft generator
Scheen, Harlingen . . . . . .: upholstery & furniture
Ship's Equipment Centre (SEC), Groningen . . . . . .: deck machinery; lifeboat; mooring equipment ; hose handling crane
SGS, Antwerpen, Belgium . . .: cargo tank calibration.
Theunissen, Malden . . . . . .: *Pesch Seematz* searchlights; *SeaTeleCom* communication equipment
Verhaar, Jan, Oegstgeest . . . .: *Omega* bow thruster
Vuyk Engineering Rotterdam, Capelle a/d IJssel . . . . . .: basic design; detail engineering
Welsec, Harlingen . . . . . .: painting
Winel, Assen . . . . . .: tank hatches; tank cleaning hatches; WT steel and GRP *Musketeer* doors
Wingerden en Zonen, H.K. van, Vuren . . . . . .: *Wigo*® windows
YORK International, Dordrecht : HVAC system

GENERAL ARRANGEMENT