

# REPORT ON OIL ENGINE MACHINERY.

No. 8165

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in Survey held at Trollhättan & Gothenburg Date, First Survey 8th May Last Survey 10th Dec 1930

Book (S.P.L.E.M.) on the <sup>Single</sup> Twin <sup>Triple</sup> Screw vessel "NORDANVIK" Tons Gross 8232.89 Net 4808.31

built at GOTHEMBURG By whom built AKT. GÖTAVERKEN Yard No. 438 When built 1930  
Engines made at GOTHEMBURG By whom made AKT. GÖTAVERKEN Engine No. When made 1930  
Boilers made at TROLLHÄTTAN By whom made NYDQVIST & HOLM A.B. Boiler No. 1009 When made 1930  
Horse Power Owners NORRÖPINGS REDERIAKTIEBOLAG Port belonging to NORRÖPING  
Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended General

ENGINES, &c.—Type of Engines One auxiliary diesel oil engine 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 55 kg/cm<sup>2</sup> Diameter of cylinders 210 mm Length of stroke 320 mm No. of cylinders 2 No. of cranks 2

Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 298 mm Is there a bearing between each crank

Revolutions per minute 400 Flywheel dia. 1050 mm Weight 700 kgs Means of ignition Diesel System Kind of fuel used Diesel fuel oil.

Crank Shaft, dia. of journals as per Rule 135 mm Crank pin dia. 135 mm Crank Webs Mid. length breadth 180 mm Thickness parallel to axis  
as fitted 135 mm Mid. length thickness 74 mm Thickness around eyehole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collar's as per Rule  
as fitted as fitted as fitted

Propeller Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner  
as fitted as fitted as fitted

Brass Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule Is the after end of the liner made watertight in the

propeller boss If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

Does the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

Are two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube

Shaft If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Overboard Thickness of cylinder liners 22 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Boiling Water Pumps, No. One 2600 l/h. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Bilge Pumps connected to the Main Bilge Line No. and Size How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size One 600 l/h.

Are there two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces

Are there Holds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

and from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

Do that pipes pass through the bunkers How are they protected

Do that pipes pass through the deep tanks Have they been tested as per Rule

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

compartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

For a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. Solid injection No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. one Diameter 410 mm Stroke 120 mm Driven by Red. engine

Auxiliary Engines crank shafts, diameter as per Rule as fitted

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined What means are provided for cleaning their inner surfaces

Is there a drain arrangement fitted at the lowest part of each receiver

High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. Total cubic capacity Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 27. 3. 30  
(If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR 2 fuel valves complete with 2 extra valves & 2 extra seats for same, 1 starting valve, 1 safety valve, 1 scavange air valve, 1 set of valves for the water pump, 1 piston complete with piston rings and in addition 10 extra piston rings, 2 gudgeon pins with 2 bushes for same, 8 cylinder cover studs & nuts, 2 crank pin bearing bolts & 1 set of crank pin brasses, 1 set of journal brasses, 1 fuel oil pump complete with 1 extra plunger spring and 2 extra delivery valve springs, 1 complete set of all springs and packings and 1 length of steel pipe with unions.

The foregoing is a correct description,

**HYDQVIST & HOLM AKTIEBOLAG**

Manufacturer.

Dates of Survey while building  
During progress of work in shops - May 8, July 9, 26, Aug 5.  
During erection on board vessel - Dec. 8, 10  
Total No. of visits 6 visits.

Dates of Examination of principal parts - Cylinders  $\frac{8}{5}$   $\frac{26}{7}$  - 30 Covers  $\frac{8}{5}$   $\frac{26}{7}$  - 30 Pistons  $\frac{7}{8}$  - 30 Rods  Connecting rods  $\frac{5}{8}$  - 30  
Crank shaft  $\frac{26}{7}$  - 30 Flywheel shaft  Thrust shaft  Intermediate shafts  Tube shaft   
Screw shaft  Propeller  Stern tube  Engine seatings  Engines holding down bolts   
Completion of fitting sea connections  Completion of pumping arrangements  Engines tried under working conditions   
Crank shaft, Material S. M. Steel Identification Mark LLOYDS No. 660 CB 26.7.30 Flywheel shaft, Material  Identification Mark   
Thrust shaft, Material  Identification Mark  Intermediate shafts, Material  Identification Marks   
Tube shaft, Material  Identification Mark  Screw shaft, Material  Identification Mark

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo  If so, have the requirements of the Rules been complied with

Is this machinery duplicate of a previous case Yes If so, state name of vessel M/S FOSTA.

General Remarks (State quality of workmanship, opinions as to class, &c.)

This auxiliary engine has been built under special survey.

All the Rules requirements have been complied with. The workmanship is good.

Certificate (if required) to be sent to  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ... £ : :  
Special ... £ 100:00 : : 23<sup>rd</sup> Dec 1930  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ 32:60 : : 19.1.31

By Alexander S. Beronius  
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

**FRI. 16 JAN 1931**

Assigned

See fol. 76. 8165



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