

# REPORT ON OIL ENGINE MACHINERY.

Received at London Office 29 MAR 1949

Date of writing Report 19th March 1949. When handed in at Local Office 28th March 1949. Port of Gothenburg.

No. in Survey held at Kalmar Date, First Survey 17th November, 1948 Last Survey 2nd March 1949. Number of Visits 6

Reg. Book. 58963 on the ~~XXXX~~ ~~XXXXXX~~ ~~XXXXXX~~ Single Screw vessel "F E N J A" Tons Gross 601 Net 329

Built at Kalmar By whom built Kalmar Varv Yard No. 361 When built 1949

Engines made at Trollhättan By whom made Nydqvist & Holm A-B. Engine No. 1210 When made 1949

Donkey Boilers made at --- By whom made --- Boiler No. --- When made ---

Brake Horse Power 510 Owners Rederi A-B. Eystrasalt Port belonging to Västervik

M.N. Power as per Rule 136 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended General

**IL ENGINES, &c.** —Type of Engines Heavy oil, trunk piston, MG 8 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders --- Diameter of cylinders 250 mm. Length of stroke 420 mm. No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure --- Ahead Firing Order in Cylinders 1-8-2-6-4-5-3-7 Span of bearings, adjacent to the crank, measured from inner edge to inner edge --- Is there a bearing between each crank --- Revolutions per minute 325

Flywheel dia. --- Weight --- Moment of inertia of flywheel (16lbs. in<sup>2</sup> or Kg.cm.<sup>2</sup>) --- Means of ignition --- Kind of fuel used Diesel oil

Crank Shaft, Solid forged dia. of journals as per Rule --- Crank pin dia. --- Crank webs Mid. length breadth --- Thickness parallel to axis ---  
Semi built as fitted --- Mid. length thickness --- shrunk Thickness around eyehole ---  
All built as fitted ---

Flywheel Shaft, diameter as per Rule --- Intermediate Shafts, diameter as per Rule --- Thrust Shaft, diameter at collars as fitted ---  
as fitted --- as fitted --- as per Rule ---

Tube Shaft, diameter as per Rule --- Screw Shaft, diameter as fitted 145 mm. Is the ~~XXXX~~ shaft fitted with a continuous liner (No)   
as fitted --- tapered at coupling to 140 mm.

Bronze Liners, thickness in way of bushes as per Rule --- Thickness between bushes as fitted --- 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 ---

If 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 --- If 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 tube shaft Yes If so, state type Cedervall's oil gland Length of bearing in Stern Bush next to and supporting propeller 780 mm. Metres

Propeller, dia. 1900 mm. Pitch 1170 mm. No. of blades 3 Material S.M. Steel whether moveable No Total developed surface 1.33 sq. Metres

Moment of inertia of propeller (16lbs. in<sup>2</sup> or Kg.cm.<sup>2</sup>) --- Kind of damper, if fitted None fitted

Method of reversing Engines Compr. air Is a governor or other arrangement fitted to prevent racing of the engine ~~XXXX~~ Yes Means of lubrication Forced Thickness of cylinder liners --- 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 Led to a funnel Cooling Water Pumps, No. 1 & 255 litres per minute ME. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. 1 Diameter 100 mm. Stroke 70 mm. Can one be overhauled while the other is at work ---

Pumps connected to the Main Bilge Line { No. and size 1 ballast & 54 tons/hour, 1 bilge & 15 tons/hour, 1 main cooling & 15 tons/hour  
How driven Belt driven from hot bulb motor. Main engine. Main engine.

Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements ---

Ballast Pumps, No. and size 1 & 54 tons/hour Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 & 80 litres/minute

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces 1 x 2 1/2" In pump room ---

In holds, &c. 1 x 2 3/4", 2 x 2".

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 x 3 3/4" to ballast pump, 1 x 2 1/2" to ME bilge pump.

Are all the bilge suction pipes in holds ~~XXXX~~ fitted with strum-boxes Yes Are the bilge suction in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges. Small plates to be lifted

Are all Sea Connections fitted direct on the skin of the Ship ~~XXXX~~ recesses Are they fitted with valves or cocks Cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Small plates to be lifted Are the overboard discharges above or below the deep water line Above

Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate ---

What pipes pass through the bunkers No coal bunkers How are they protected ---

What pipes pass through the deep tanks No deep tanks Have they been tested as per Rule ---

Are all pipes, cocks, valves and pumps in connection with the machinery ~~XXXX~~ accessible at all times Yes

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 Yes Is the shaft tunnel watertight Mchy aft Is it fitted with a watertight door --- worked from ---

If 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. None No. of stages --- diameters --- stroke --- driven by ---

Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 150/60 mm. stroke 160 mm. driven by main engine

Small Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 95/40 mm. stroke 125 mm. driven by hot bulb motor

What provision is made for first charging the air receivers The small auxiliary air compressor (motor with manual starting)

Scavenging Air Pumps, No. 1 (Double Acting) diameter 610 mm. stroke 420 mm. driven by main engine

Auxiliary Engines crank shafts, diameter as per Rule --- No. 2 Position 1 on each side in the engine room

as fitted --- Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith Photostat copies of reports.

AIR RECEIVERS:—Have they been made under survey... Yes ✓ State No. of ~~XXXXXX~~ certificate... 9210 - 9211

Is each receiver, which can be isolated, fitted with a safety valve as per Rule... Yes ✓

Can the internal surfaces of the receivers be examined and cleaned... Yes ✓ Is a drain fitted at the lowest part of each receiver... Yes ✓

Injection Air Receivers, No. None ✓ Cubic capacity of each... Internal diameter... thickness...

Seamless, welded or riveted longitudinal joint... Material... Range of tensile strength... Working pressure...

Starting Air Receivers, No. 2 ✓ Total cubic capacity... 800 litres Internal diameter... 480 mm. thickness... 11 mm.

Seamless, welded or riveted longitudinal joint El. welded Material S.M. Steel Range of tensile strength 41-47 kg/mm<sup>2</sup> Working pressure by Rules... 25 kg/cm<sup>2</sup> Actual... 25 kg/cm<sup>2</sup>

IS A DONKEY BOILER FITTED No ✓ If so, is a report now forwarded... ---

Is the donkey boiler intended to be used for domestic purposes only... ---

PLANS. Are approved plans forwarded herewith for shafting... 22.12.1948 Receivers... 22.12.1948 Separate fuel tanks... 7.1.

Donkey boilers... General pumping arrangements... 3.9.1948 Pumping arrangements in machinery space... 3.9.1948

Oil fuel burning arrangements... ---

Have Torsional Vibration characteristics been approved... Yes ✓ Date of approval... Sec.ltr. 22.12.1948

SPARE GEAR.

Has the spare gear required by the Rules been supplied... Yes ✓

State the principal additional spare gear supplied... ---

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for torsional vibration characteristics.

KALMAR VARV

Manufacturer.

Dates of Survey while building During progress of work in shops - - - During erection on board vessel - - - 17th November, 1948 - 2nd March, 1949. Total No. of visits 6

Dates of examination of principal parts—Cylinders... Covers... Pistons... Rods... Connecting rods...

Crank shaft... Flywheel shaft... Thrust shaft... Intermediate shafts... Tube shaft...

Screw shaft... Propeller... 24.11.1948 Stern tube... 24.11.48 Engine seatings... 24.11.48 Engine holding down bolts... 25.1.1949

Completion of fitting sea connections... 24.11.1948 Completion of pumping arrangements... 2.3.1949 Engines tried under working conditions... 2.3.1949

Crank shaft, material... Identification mark... 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...

Identification marks on air receivers... Nos. 1767 - 1768 LLOYD'S TEST 41 KG. WP 25 KG. OS 23.10.47

Welded receivers, state Makers' Name... Nydqvist & Holm A.-B., Trollhättan.

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

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

Description of fire extinguishing apparatus fitted... 3 - 9 litres foam apparatus and 1 hose

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... No ✓ If so, have the requirements of the Rules been complied with... ---

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with... Yes ✓

Is this machinery duplicate of a previous case... Yes If so, state name of vessel... "Vestria", "Ivan", "Arne", "Dagny", "In holds, &c.

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

The machinery of this vessel has been fitted on board under my inspection and to my satisfaction and has been tested under full working power on a trial trip and found to work satisfactorily.

A notice board has been fitted at the control station stating that the engine is not to be run continuously between 120 and 145 revolutions per minute.

The auxiliary engines as per Stockholm Surveyors' reports Nos. 6742 and 6964, copies of which are attached. Test sheets of propellers are attached. All pumps have been satisfactorily examined and tested in the yard's shop.

The machinery of this vessel is eligible, in my opinion, to be classed +LMC 3.49. Tail shaft fitted with oil gland.

The amount of Entry Fee ... £ --- : --- : Special ... Kr. 260:00 : When applied for 28th March 19 49.

Aux. Engine Fee... Kr. 50:00 : When received ... 19 --

Travelling Expenses (if any) Kr. 242:00 :

Committee's Minute ... FRI, 29 APR 1949

Assigned ... + LMC 3.49 Oil Eng.

O.G.

Sten Johansson Engineer Surveyor to Lloyd's Register of Shipping.



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

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