

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 1358.

27 APR 1931

Received at London Office

Date of writing Report 16. 4. 1931 When handed in at Local Office 17. 4. 1931 Port of Bremen

No. in Survey held at Augsburg Reg. Book. Single on the Twin Triple Quadruple Screw vessel

Built at Oh-Madri By whom built Harima Zensho Dock Co Yard No. 179 When built 1930/31

Engines made at Augsburg By whom made Masch'fabrik Augsburg-Nürnberg Engine No. 330590 When made 1930/31

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

Brake Horse Power 7200 Owners Yano Shoji Trading Co. Port belonging to

Nom. Horse Power as per Rule 1857 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended 27/16 4/4

Type of Engines D7 Zu 70/120 2 or 4 stroke cycle 2 Single or double acting double

Maximum pressure in cylinders 45 atm Diameter of cylinders 700 mm Length of stroke 1200 mm No. of cylinders 7 No. of cranks 7

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1090 mm Is there a bearing between each crank Yes

Revolutions per minute 113 Flywheel dia. 2100 mm Weight 3120 kg Means of ignition Diesel principle, airless Kind of fuel used Barroco oil (test bed)

Crank Shaft, dia. of journals as per Rule 500 mm Crank pin dia. 500 mm Crank Webs Mid. length breadth shrunk Thickness parallel to axis 320 mm

Flywheel Shaft, diameter as per Rule 500 mm Intermediate Shafts, diameter as per Rule 1618 mm Thrust Shaft, diameter at collars as per Rule

Tube Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

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 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 direct, comp. air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced

non-conducting material air space Thickness of cylinder liners 45 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

Cooling Water Pumps, No. 3 independent gear water rotary 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

Pumps connected to the Main Bilge Line No. and Size How driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 independent rotary, 65 in each

Ballast Pumps, No. and size Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Are two independent means arranged for circulating water through the Oil Cooler In Pump Room

Pumps, No. and size:—In Machinery Spaces

In Holds, etc. 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

led 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

What pipes pass through the bunkers How are they protected

What 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

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. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 105/305/360 mm Stroke 12.5 mm Driven by aux. engines

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

Scavenging Air Pumps, No. 1 blower of 930/950 m³/min Diameter Stroke Driven by electro motor

Auxiliary Engines crank shafts, diameter as per Rule as fitted Position —

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 and cleaned Is a drain 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 Actual

Starting Air Receivers, No. 1 Total cubic capacity 400 m³ Internal diameter 406 mm thickness 17.5 mmSeamless, lap welded or riveted longitudinal joint Scullen Material S.M. steel Range of tensile strength 42-50 kg/mm² Working pressure by Rules Actual 30 atm

W1343-0039

Lloyd's Register Foundation

IS A DONKEY BOILER FITTED?

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 *London letter E 8.7.30* Receivers *8.7.30* Separate Tanks
(If not, state date of approval) *21.2.31, 30.3.31*

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

as per Rules

State the principal additional spare gear supplied

Maschinenfabrik Augsburg-Nürnberg A.G.

The foregoing is a correct description of

*M. Hermann**W. Hermann*

Manufacturer.

Dates of Survey while building

During progress of work in shops - -	<i>27 August; 3.6.13, 20.27 Sept; 4.25.27.28 Oct; 8.10.11.19 Nov; 1.3.8.9.10.16.17.18.23.31 Oct 1930; 5.14.15.16.17.19.20.21 22.30.31 Jan; 23.4.5.9.10.16.17.18.19.23.24.25.26.27.28 Feb. 7.9.10.16.17.18.21.23.24.30.31 March; 1.2.4.10.11.13.14.15.16.18 April 1931</i>
During erection on board vessel - -	
Total No. of visits	

Dates of Examination of principal parts—Cylinders *30.1.31 and 15.4.31* Covers *9.26.2.31 and 14.4.31* Pistons *20.1.31 and 14.4.31* Rods *4/5.2.31 and 14.4.31* Connecting rods *4/5.2.31*

Crank shaft *9.2.31 and 15.4.31* Flywheel shaft *9.3.31* 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 *1/2/10/11 on test bed April*

Crank shaft, Material *S. M. Steel* Identification Mark *LLOYD'S 8842/43 31.8.12.30* Flywheel shaft, Material *S. M. Steel* Identification Mark *LLOYD'S 9.2.31/6 11.11.30*

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

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case

If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *This heavy oil engine and its accessories have been constructed under Special Survey in accordance with the Soc. Rules and Regulations as well as with the approved plans and instructions thereto. The materials used in the construction are good and the workmanship is satisfactory. The engine has been tested under running conditions on the makers test bed and was found working satisfactorily.*

In my opinion the vessel for which this engine and its accessories are intended will be eligible for the notation of \times LMC [with date] when the machinery has been fitted satisfactorily on board and tried under full working conditions

A copy of this report has been sent to the Surveyors at Kobe

The amount of Entry Fee .. £ 4 : 16 : When applied for, *4.3.4. 1931*

Test bed trials Special ... M ... £ 117 : 3 : When received, *13.5.31*

Donkey Boiler Fee ... £ 4 : 4 :

Travelling Expenses (if any) £ 5 : 1 :

Committee's Minute

2 OCT 1931

Assigned

See 7.6. Rpt

Engineer Surveyor to Lloyd's Register of Shipping.



© 2021

Lloyd's Register Foundation