

AUXILIARY REPORT ON OIL ENGINE MACHINERY.

No. 8018.

Received at London Office

24 JUN 1929

Rpt. pt. 4b.

Date of writing Report 21st June 1929. When handed in at Local Office

Port of Copenhagen

Date, First Survey 26th Nov 1928 Last Survey 12th June 1929

Number of Visits 22.

in Survey held at Copenhagen

on the Single Twin Triple Quadruple Screw vessel

(MITSUI 13)

Tons Gross Net

built at Yama, Japan

By whom built Messrs Mitsui Bussan Kaisha

Yard No. 162 When built

engines made at Copenhagen

By whom made Messrs Akt & Burmeister & Wain

Engine No. 1655 When made 1929

Boilers made at 1 off - 53.

By whom made

Boiler No. When made

Horse Power 1 off - 111.

Owners

Port belonging to

Horse Power as per Rule

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Use for which vessel is intended

TYPE OF ENGINES, &c. Type of Engines Vertical Diesel Oil Engines (Solid Injection) 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 39 kg/cm² Diameter of cylinders 310 mm Length of stroke 350 mm No. of cylinders 2 No. of cranks 2

Clearance of bearings, adjacent to the Crank, measured from inner edge to inner edge 362 mm Is there a bearing between each crank

Revolutions per minute 400 Flywheel dia. 1200 mm Weight 2710 kg Means of ignition Air compression Kind of fuel used Crude oil flash point above 150°F.

Crank Shaft, dia. of journals as per Rule 161.8 mm as fitted 170 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 210 mm Mid. length thickness 95 mm Thickness parallel to axis Thickness around eye-hole Solid forged

Propeller Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule

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

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

stern 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 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

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 Means of lubrication

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

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

Working Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Other 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

Other Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size

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

Folds, &c.

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

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

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

How are they protected Have they been tested as per Rule

Do all pipes pass through the deep tanks

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

Number of Air Compressors, No. No. of stages Diameters 210 mm - 176 mm Stroke 216 mm Driven by

Auxiliary Air Compressors, No. 1 to each engine No. of stages 2 Diameters 320 mm Stroke 170 mm Driven by auxiliary engines

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

Number of reversing Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted Please see above.

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

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

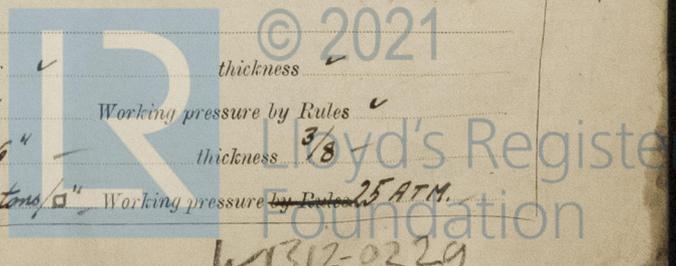
Is there a drain arrangement fitted at the lowest part of each receiver Yes

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

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

Number of starting Air Receivers, No. 1 off Total cubic capacity 250 litres Internal diameter 16" thickness 3/8 Working pressure by Rules 25 ATM.

Are they seamless, lap welded or riveted longitudinal joint Seamless Material SM Steel Range of tensile strength 30.5 tons/sq. inch Working pressure by Rules 25 ATM.



WT312-0229

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting *of aux. eng. crank shafts* receivers
(If not, state date of approval)

Separate Tanks

Donkey Boilers General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR *As per accompanying list.*

The foregoing is a correct description,

**AKTIESELSKABET
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI**

Manufacturer.

Dates of Survey while building { During progress of work in shops - - *16/11, 26/11, 4/12, 28, 14/1, 16/1, 25/1, 26/1, 28/1, 29/1, 3/1-1/2, 2/2, 4/2, 11/2, 26/2, 4/3, 26/3, 9/4, 19/4, 3/5, 28/5, 12/6, 29.*
 { During erection on board vessel - - -
 Total No. of visits *22.*

Dates of Examination of principal parts—Cylinders *and* Covers *14/1, 29/1, 1/2 29.* Pistons *29/1, 2, 26/2 29.* Rods Connecting rods *26/1, 7/12 28.*
 Crank shafts *16/1, 26/1, 4/12, 28, 14/1, 29* 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 shafts Material *S.M. Steel* Identification Mark *LLOYD'S N: 9806 & 9807* *A 16.1.29* 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. *yes.*

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 If so, state name of vessel

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

The 2 auxiliary engines as above described have been constructed under Special Survey and are in accordance with the Society's Rules, the approved plans and the requirements contained in the Secretary's letter E. dated the 3rd Jan. 1929.

The material used in the construction of the engines and the air receiver has been tested as required by the Rules, either by us or as per test certificates produced.

The engines are direct coupled to a 35 H.W. and a 75 H.W. generator respectively and have been tested under full power working condition on the test bed in the shop and found to work satisfactorily.

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 ... £	:	:	When applied for,
Special ... <i>£ 200.00</i>	:	:	<i>22.6.1929</i>
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	<i>3.8.29</i>

A. J. F. J. J.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

