

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 201.

NOV 24 1937

Received at London Office

Date of writing Report 16.11. 1937 When handed in at Local Office 21.11. 1937 Port of Düsseldorf

No. in Survey held at Cologne Date, First Survey 22.6. 1937 Last Survey 15.11. 1937

Reg. Book. Number of Visits 12

on the ^{Single} Twin ^{Triple} Screw vessel Tons ^{Gross} ^{Net}

Built at Groningen By whom built J. Koster, Hzn., Scheepsw. Yard No. 161 When built 1937

Engines made at Cologne By whom made Humboldt-Deutzmotoren A.G. Engine No. 439483/88 When made 1937

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

Brake Horse Power 300 BHP Owners Port belonging to

Nom. Horse Power as per Rule 71 NHP Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Heavy oil engine R.V.6 M.345 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 50 kg/cm² ✓ Diameter of cylinders 280 mm ✓ Length of stroke 450 mm No. of cylinders 6 ✓ No. of cranks 6 ✓

Mean Indicated Pressure 6,6 kg/cm² ✓ Is there a bearing between each crank yes ✓

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 307,5 mm ✓

Revolutions per minute 300 Flywheel dia. 1250 mm ✓ Weight 2600 kg. ✓ Means of ignition sol. inject. Kind of fuel used on test bed gas oil

Crank Shaft, { Solid forged dia. of journals as per Rule 190 mm ✓ Crank pin dia. 170 mm ✓ Crank Webs Mid. length breadth 325 mm ✓ Thickness parallel to axis shrunk Mid. length thickness 70 mm ✓ Thickness around eyehole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted 190 mm ✓ Thrust Shaft, diameter at collars as per Rule as fitted

Tube 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 {

Bronze 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

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 directly by No. of blades Material whether Moveable Total Developed Surface sq. feet

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

forced Thickness of cylinder liners 25 mm ✓ Are the cylinders fitted with safety valves yes ✓ Are the exhaust pipes and silencers water cooled or lagged with

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

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

Bilge Pumps worked from the Main Engines, No. one Diameter 100 mm Stroke 85 mm Can be overhauled while the engine is at work yes ✓

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

Is the cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements Capacity 80 lts/min. at 1400 rev.p.min.

Ballast Pumps, No. and size Main Engine Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 tooth wheel pump two stages

Are 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 In Pump Room

In 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

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. one No. of stages two Diameters 145/60 Stroke 85 mm Driven by main engine

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

What provision is made for first Charging the Air Receivers

Scavenging Air Pumps, No. Diameter Stroke Driven by

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

Have the Auxiliary Engines been constructed under special survey Is a report sent herewith



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AIR RECEIVERS:—Have they been made under survey ☒ **yes** State No. of Report or Certificate attached to the copy of report being sent to the Rotterdam Office.

Is each receiver, which can be isolated, fitted with a safety valve as per Rule ☒ **yes** Is a drain fitted at the lowest part of each receiver ☒ **yes**

Can the internal surfaces of the receivers be examined and cleaned ☒ **yes**

Injection 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. two Total cubic capacity 2 x 500 lts Internal diameter 450 mm thickness 12 mm

Seamless, lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 38-44 kg/mm² Working pressure by Rules Actual 30 kg/cm²

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 212481 13.2.35. Receivers GO 244 21.7.32. Separate Fuel Tanks.

Donkey Boilers General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

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,

Humboldt-Deutzmotoren

Aktiengesellschaft

Manufacturer.

Dates of Survey while building

During progress of work in shops-- 22.6., 14.8., 6.10., 8.10., 12.10., 13.10., 15.10., 22.10., 25.10., 3.11., 12.11., 15.11.37.

During erection on board vessel--

Total No. of visits

Liners: 6.10., 8.10., 15.11.,

Dates of Examination of principal parts—Cylinders 6.10., 8.10., 15.11. Covers 22.10. Pistons 15.11. Rods Connecting rods 22.6., 14.8., 15.11.

Crank shaft 12.10., 3.11. Flywheel shaft Thrust shaft Intermediate shafts 13.10., 15.11. 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 12.11. on test bed

Crank shaft, Material S.M. Steel Identification Mark Lloyd's 2725 H.B. 12.10.37. Flywheel shaft, Material Identification Mark

Thrust shaft, Material Identification Mark Intermediate shafts, Material S.M. Steel Identification Marks Lloyd's 2762 H.B. 15.11.37.

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Identification Marks on Air Receivers No. 1018 & 1519 LLOYD'S TEST 60 Atm. W.P. 30 atm. V.S. 25.10.37 L.S. 15.10.37.

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 ☒ **yes** If so, state name of vessel Messrs. Goole Shipbuilding & Rep. Co.

General Remarks (State quality of workmanship, opinions as to class, &c. This heavy oil engine has been constructed under special survey in accordance with the Society's Rules and Regulations as well as in

accordance with the approved plans and instructions thereto. The material used in the construction

is good and the workmanship is satisfactory. The engine has been tested on the Makers' test bed

in the presence of the undersigned during 10 hours consecutively running under full load and

10 % overload and was found to be in safe working condition during the trials. After the trials

all working parts of the engine have been opened out for inspection and were found in good

condition. In my opinion the vessel for which this engine is intended will be eligible for the

notation + L.M.C. (with date) when the whole machinery has been fitted satisfactorily on board

and tried under full working conditions.

A copy of this report has been forwarded to Rotterdam.

The amount of Entry Fee .. £RM : 40.- : When applied for, Dusseldorf

Special £RM : 355.- : 22.11. 1927 9c to 10819

Donkey Boiler Fee ... £ : : When received, 22.11. 1927

Travelling Expenses (if any) £RM : 60.- : 21.12.1938

Committee's Minute 15 of the fee to be credited to Rotterdam

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.



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