

Rpt. 4b.
Comm. No. 684547

REPORT ON OIL ENGINE MACHINERY.

No. 175

JUN 17 1937

Received at London Office

Date of writing Report 10.6. 1937 When handed in at Local Office 12.6. 1937. Port of D ü s s e l d o r f.

No. in Survey held at C o l o g n e Date, First Survey 3.3.1937. Last Survey 8.6. 1937.
Reg. Book. Number of Visits 9

on the Single } Screw vessel
Twin }
Triple }
Quadruple }

Built at B o l n e s By whom built N.V. Boele's Scheepswerven Yard No. 866 When built 1937.
en Machine Fabriek. 427223/30

Engines made at C o l o g n e By whom made Humboldt-Deutzmotoren A.G. Engine No. / When made 1937.

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

Brake Horse Power 400 Owners Port belonging to

Nom. Horse Power as per Rule 94 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended 17 1/2

IL ENGINES, &c.—Type of Engines Heavy oil engine R.V.8 M 345 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 50 kgs/cm² Diameter of cylinders 280 mm Length of stroke 450 mm No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 6.6. kgs/cm² Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 307.5 mm Is there a bearing between each crank yes

Revolutions per minute 300 Flywheel dia. 1250 mm Weight 2600 kgs. Means of ignition solid inj. Kind of fuel used on test bed gas oil

Crank Shaft, dia. of journals as per Rule 190 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 340 mm Thickness parallel to axis shrunk
as fitted Mid. length thickness 70 mm Thickness around eyehole

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

Tube Shaft, diameter as per Rule 190 mm Screw Shaft, diameter as per Rule 190 mm Is the { tube } shaft fitted with a continuous liner {
as fitted as fitted screw

Bronze Liners, thickness in way of bushes as per Rule 25 mm Thickness between bushes as per Rule 25 mm Is the after end of the liner made watertight in the
as fitted as fitted 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 directly by hand Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication
forced at present

Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves none Are the exhaust pipes water cooled or lagged with
water cooled non-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

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. 1 Diameter 100 mm Stroke 100 mm Can be overhauled while 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

Ballast Pumps, No. and size Main Engine Driven Lubricating Oil Pumps, including Spare Pump, No. and size Capacity 80 lts/min.
1 tooth wheel pump
& 1 spare of same type

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

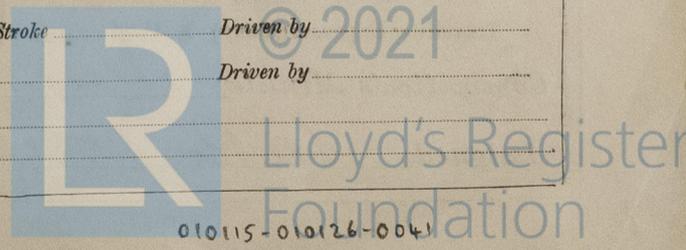
Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. one No. of stages two Diameters 145/60 Stroke 100 mm Driven by main engine

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

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule No.
as fitted Position



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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

Starting Air Receivers, No. **two** **Total cubic capacity** **2 x 500 lts.** **Internal diameter** **450 mm** **thickness** **12 mm** Actual

Seamless, lap welded or riveted longitudinal joint **lap welded** **Material** **S.M. Steel** **Range of tensile strength** **38-44kg/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 **212 480** **1.9.36** Receivers **GO 244** **21.7.32** Separate Fuel Tanks. (If not, state date of approval)

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-- } **3.3.37., 12.3.37., 5.4.37., 28.4.37., 22.5.37., 24.5.37., 5.6.37., 7.6.37., 8.6.37.**
 { During erection on board vessel-- }
 Total No. of visits

Dates of Examination of principal parts—Cylinders **24.5.37.** Liners **24.5.37.** Covers **24.5.37.** Pistons **8.6.37.** Rods **8.6.37.** Connecting rods **12.3.37.**
5.4.37. Crank shaft **24.5.37.** Flywheel shaft Thrust shaft Intermediate shafts **28.4.37.** Tube shaft **8.6.37.**

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 **7.6.37. on test bed**

Crank shaft, Material **S.M. Steel** Identification Mark **LLOYD'S 2305 HB 5.4.37.** Flywheel shaft, Material Identification Mark

Thrust shaft, Material Identification Mark Intermediate shafts, Material **S.M. Steel** Identification Marks **LLOYD'S 2394 HB 28.4.37**

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 **yes** If so, state name of vessel **Maatsch. DE NOORD, Yard No. 559**
Düsseldorf Report No. 122

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 Maker's 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 these trials. After the ~~xxxx~~ 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 of + L.M.C. (with date) when the whole machinery has been fitted satisfactorily on board and tried under full working conditions. It has been recommended that safety valves are to be fitted to the cylinder heads. A copy of this report has been forwarded to the Society's Rotterdam Surveyors.

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

The amount of Entry Fee .. **RM : 40.-** When applied for,
 Special **RM : 40.-** **15.6.1937** **Düsseldorf**
 Donkey Boiler Fee : : When received, **9/10 No 10261**
 Travelling Expenses (if any) **RM : 60.-** **16.7.37** **17/7**

H. Brüggenmann
 Engineer Surveyor to Lloyd's Register of Shipping.



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 Foundation

Committee's Minute **1/5 of the fees credited to Rotterdam**

FRI 30 JUL 1937

Assigned **See Rot 25804**