

REPORT ON OIL ENGINE MACHINERY.

Comm. 684739.

Received at London Office SEP 16 1938

Date of writing Report 2.9. 1938 When handed in at Local Office 9.9. 1938 Port of Düsseldorf
 No. in Survey held at Reg. Book. Cologne Date, First Survey 20.1.38. Last Survey 2.9. 1938
 Number of Visits 12

Single }
 on the Twin } Screw vessel *M. Fairingorn*
 Triple }
 Quadruple }
 Built at Capelle By whom built Vuyk & Zoon Yard No. 646 When built 1938
 Engines made at Cologne By whom made Humboldt-Deutzmotoren A.G. Engine No. 486587/94 When made 1938
 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

OIL ENGINES, &c. Type of Engines Heavy oil engine RV8M 345 2 or 4 stroke cycle 4 Single or double acting single
 Maximum pressure in cylinders 50 kg/cm² Diameter of cylinders 280mm Length of stroke 450mm No. of cylinders 8 No. of cranks 8
 Mean Indicated Pressure 6,6 kg/cm² Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 307,5mm Is there a bearing between each crank yes

Revolutions per minute 300 Flywheel dia. 1250mm Weight 2600 kg Means of ignition sol. inject Kind of fuel used on test bed gas oil
 Crank Shaft, { Solid forged as per Rule
 { Semi built dia. of journals as fitted 190mm Crank pin dia. 170mm Crank Webs Mid. length breadth 340mm Thickness parallel to axis
 { All built as fitted 70mm shrunk Thickness around eye Sole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
 as fitted 190mm as fitted
 Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the { tube } shaft fitted with a continuous liner {
 as fitted as fitted screw

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule 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 directly No. of blades Material whether Moveable Total Developed Surface sq. feet
 Method of reversing Engines by 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 25mm Are the cylinders fitted with safety valves yes Are the exhaust pipes ~~water~~ 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 100mm Stroke 100mm Can be overhauled while the vessel 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 ltrs/min at 1400 r.p.m.
 Ballast Pumps, No. and size Main engine Driven Lubricating Oil Pumps, No. and size 1 tooth wheel pump
 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. one No. of stages two Stroke 145/60mm Driven by main engine
 Auxiliary Air Compressors, No. one No. of stages two Stroke 100mm Driven by
 Small Auxiliary Air Compressors, No. No. of stages 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 No. Position
 as fitted
 Have the Auxiliary Engines been constructed under special survey Is a report sent herewith



AIR RECEIVERS:—Have they been made to survey **yes** Are reports/certificates now forwarded **attached to the this report sent to 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** **2x500 lts.** **Internal diameter** **450mm** **thickness** **12mm**

Seamless, lap welded or riveted longitudinal joint _____ **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 **212480 1.9.36.** Receivers **G.O. 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 _____

Identification marks for air receivers:

No. **2303 2299**

LLOYD'S TEST

60 Atm.

W.P. 30 Atm.

L.S. 7.6.38.

The foregoing is a correct description,
Humboldt-Deutzmotoren

Aktiengesellschaft Manufacturer.

Dates of Survey while building

During progress of work in shops-- During erection on board vessel-- Total No. of visits	20.1.7.6.-	14.6.-	1.7.-	13.7.-	19.7.-	20.7.-	22.7.-	19.8.-	30.8.-	31.8.-	2.
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Dates of Examination of principal parts—Cylinders **20.7.** Covers **1.7.** Pistons **31.8.** Rods _____ Connecting rods **14.6. 19**

Crank shaft **25.4.-22.7.** Flywheel shaft _____ Thrust shaft _____ Intermediate shafts **20.1. 2.9.** Tube shaft **2.9.**

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 **30.8. on test**

Crank shaft, Material **S.M. Steel** Identification Mark **LLOYD'S 13782 M.B.** Flywheel shaft, Material _____ Identification Mark _____

Thrust shaft, Material _____ Identification Mark _____ Intermediate shafts, Material **S.M. Steel** Identification Marks **LLOYD'S 3498 H.B.2.9**

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 **Messrs. My. De Noord. Yard No. 559** **Düsseldorf Report 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 plan/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 consecutive 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 condition.

A copy of this report has been sent to the Rotterdam Office.

The amount of Entry Fee .. £ **40.-** When applied for, **July Account 1/2 11746.**

Special £ **470.-** When received, **12.10.38** **1/3 of fees credited to Rotterdam account**

Donkey Boiler Fee £ _____

Travelling Expenses (if any) £ **60.-**

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

Committee's Minute **TUE. 25 OCT 1938**

Assigned **See FT made at R.A. 274/8**



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