

REPORT ON OIL ENGINE MACHINERY.

No. 164.
APR -9 1937

Received at London Office

Date of writing Report 30.3. 1937 When handed in at Local Office 30.3. 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 6.1.1937. Last Survey 27.3. 1937.
Reg. Book. Number of Visits 8

on the Single Triple Quadruple Screw vessel
Built at Alblasserdam By whom built N.V. Scheepswerf voorheen Jan Smit, Czn. Yard No. 521 When built 1937.
Engines made at Cologne By whom made Humboldt-Deutzmotoren A.G. Engine No. 397172/79 When made 1937.
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 400 BHP Owners Port belonging to
Nom. Horse Power as per Rule 94 NHP Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended

L 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 atm. Flywheel dia. 1250 mm Weight 2600 kgs. Means of ignition sol. injectors Kind of fuel used on test bed gas
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 Crank pin dia. 170 mm Crank Webs Mid. length breadth 340 mm Thickness parallel to axis
Crank Shaft, dia. of journals as per Rule as fitted 190 mm 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 160
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 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 Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves at present, none Are the exhaust pipes water cooled or lagged with
Non-conducting material water 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 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 Main Engine driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 tooth wheel pump & 1 spare of same type
Ballast Pumps, No. and size 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
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
That pipes pass through the bunkers How are they protected
That 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 145/60mm Stroke 85 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 as fitted No. 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.

two

Total cubic capacity

2 x 500 lits

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 kgs/cm²

30 kgs/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 Shifting

(If not, state date of approval)

212 480. 1.9.36.

Receivers

60.244. 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--

During erection on board vessel--

Total No. of visits

6.1.37

25.1.37

22.2.37

3.3.37

6.3.37

12.3.37

25.3.37

27.3.37

Dates of Examination of principal parts—

Cylinders

22.2.37

Covers

3.3.37

Pistons

27.3.37

Rods

25.1.37

Crank shaft

6.1.37-6.3.37

Flywheel shaft

Thrust shaft

Intermediate shafts

22.3.37

Tube shaft

27.3.37

Screw shaft

Propeller

Stern tube

Engine seatings

Engines holding down bolts

25.3.37 on

Completion of fitting sea connections

Completion of pumping arrangements

Engines tried under working conditions

25.3.37 on

Crank shaft, Material

S.M. steel

Identification Mark

Lloyds 2019 H.B.

Flywheel shaft, Material

Identification Mark

6.1.37

Identification Mark

Lloyds

Thrust shaft, Material

Identification Mark

Intermediate shafts, Material

S.M. steel

Identification Marks

106 V.S.12.

Identification Mark

Identification Mark

Identification Mark

Tube shaft, Material

Identification Mark

Screw shaft, Material

Identification Mark

Identification Mark

Identification Mark

Identification Mark

Identification Mark

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 No. 12

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, 10% overload, and was found to be in safe working condition during these trials. After the trials all working parts of the engine have been opened out for inspection and were found in good condition. In our opinion the vessel for which this heavy oil engine is intended will be eligible for the notation of **L.H.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 Rotterdam Surveyors.

The amount of Entry Fee .. RM. :40.-

Special ... RM. :470.-

Donkey Boiler Fee ... £ :

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

When applied for,

9th April 1937

When received,

20.5.37

J. H. Mac. 46 10034

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Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned Su Rot 25-731



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