

pt. 4b.

mm. 684721

# REPORT ON OIL ENGINE MACHINERY.

No. 267

Received at London Office

JUL -7 1938

of writing Report 27.6. 1938 When handed in at Local Office 2.7. 1938 Port of Düsseldorf

in Survey held at Cologne Date, First Survey 18.11.1937 Last Survey 24.6. 1938. Number of Visits 10

on the Single } Screw vessel  
Twin }  
Triple }  
Quadruple }  
M. Guidesman

built at Alblisserdam By whom built N.V. Industr. M. "De Noord" Yard No. 571 When built 1938  
480646/49

engines made at Cologne By whom made Humboldt-Deutzmotoren Engine No. / When made 1938

boilers made at By whom made Boiler No. When made

Indicated Horse Power 200 Owners Port belonging to

nom. Horse Power as per Rule 47 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended

ENGINES, &c. Type of Engines Heavy Oil Engine SV 4 M 345 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 50 kg/cm<sup>2</sup> Diameter of cylinders 280 mm Length of stroke 450 mm No. of cylinders 4 No. of cranks 4

Mean Indicated Pressure 6.6 kg/cm<sup>2</sup> Is there a bearing between each crank yes

Distance between 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 kgs 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 eye-hole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule 140 mm Thrust Shaft, diameter at collars as per Rule as fitted

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

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes 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 not reversible 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 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 one be overhauled while working 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

Ballast Pumps, No. and size Main Engine Driven Lubricating Oil Pumps, including Spare Pump, No. and size at 1400 rev. per min. capacity 40 lts./min.

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 145/60mm 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 No. Position

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

004394-004404-0282



attached to the copy of this report sent to Rotterdam Surveyors

AIR RECEIVERS:—Have they been made under survey  yes Are reports & certificates now forwarded  yes  
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  yes Is a drain fitted at the lowest part of each receiver  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 250 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/cm<sup>2</sup> Working pressure by Rules 29.9 Actual 30 kg/cm<sup>2</sup>

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 212501 25.2.35 Receivers E. 729 3.12.32 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 of Air receivers:

No. 1811 1812  
LLOYD'S TEST  
60 atm.  
W.P. 30 atm.  
L.S. 25. 1. 38.

The foregoing is a correct description,

Humboldt-Deutzmaschinenfabrik Aktiengesellschaft  
Manufacturer.

Dates of Survey while building { During progress of work in shops -- 18.11.1937, 18.2., 22.4., 11.5., 1.6., 3.6., 10.6., 18.6., 22.6., 24.6.1938.  
During erection on board vessel --  
Total No. of visits  
Liners: 1/6, 3/6, 24/6.

Dates of Examination of principal parts—Cylinders 1/6, 3/6 Covers 3/6, 24/6 Pistons 24/6 Rods Connecting rods 22/4, 11/5, 2  
Crank shaft 18/11, 10/6, 24/6 Flywheel shaft Thrust shaft Intermediate shafts 18/2, 24/6 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 on test bed 22.6.38.  
Crank shaft, Material S.M. Steel Identification Mark LLOYD'S 13477 M.B. Flywheel shaft, Material Identification Mark LLOYD'S 18.11.37.  
Thrust shaft, Material Identification Mark Intermediate shafts, Material S.M. Steel Identification Marks 3356 H.B.24.6  
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 no If so, state name of vessel.

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 in accordance with the approved plans and instructions thereto.  
The material used in the construction is good and the workmanship satisfactory. The engine has been tested on the makers' 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 of + 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 the Rotterdam Surveyors.

Additional as per letter attached Rm. 43 .. 22 due Rot } pd loc 3  
The amount of Entry Fee .. \$ 77: 40.- When applied for, 6.7. 1938. Dijslaart 90/12 11511  
Special ... \$ 77: 235.-  
Donkey Boiler Fee ... \$ : : When received, 18.8. 1938. 1/3 of fee credited to Rotterdam account  
Travelling Expenses (if any) \$ 77: 40.-

Engineer (Surveyor) to Lloyd's Register of Shipping.  
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Committee's Minute JUN 20 SEP 1938  
Assigned Lee Rot. 27252

(The Surveyors are requested not to write on or behind the space for Committee's Minute.)