

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 1533.

Date of writing Report 8th March 33 When handed in at Local Office 9th March 33 Port of Bremen
No. in Survey held at 149 Date, First Survey 4th February 32 Last Survey 8th March 19 33
Reg. Book. Number of Visits 110

Single on the Twin Triple Quadruple Screw vessel
Built at Hamburg By whom built Deutsche Werft A.G. Yard No. 149 When built 1932/33
Engines made at Augsburg By whom made M.A.N. Engine No. 330620/630 When made 1932/33
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 2 x 2250 Owners Standard Oil Co. Port belonging to
Nom. Horse Power as per Rule 783 780 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended 235/8 35 7/16

OIL ENGINES, &c.—Type of Engines 2 4 2 60/90 2 or 4 stroke cycle 2 Single or double acting double
Maximum pressure in cylinders 45 atm Diameter of cylinders 600 mm Length of stroke 900 mm No. of cylinders 4 x 2 No. of cranks 4
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 852 mm Is there a bearing between each crank yes
Revolutions per minute 118 Flywheel dia. 2100 mm Weight 7500 kg Means of ignition airless ign. Kind of fuel used
Crank Shaft, dia. of journals as per Rule 390 mm Crank pin dia. 390 mm Crank Webs Mid. length breadth 640 mm Thickness parallel to axis 177.5 mm
as fitted 390 mm Mid. length thickness 240 mm shrunk Thickness around eyehole 240 mm
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
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 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
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 Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication
Thrust 15.4.32 Thickness of cylinder liners 42.5 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material lagged 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. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

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

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size 1, each engine, 20 cbr/h
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. No. of stages Diameters Stroke Driven by

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

Scavenging Air Pumps, No. 1, each engine Diameter 2 x 1080 mm Stroke 760 mm Driven by main engine

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

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. Total cubic capacity Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

002442-002448-0047

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 *yes (Report 1424)* Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

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.
Maschinenfabrik Augsburg-Nürnberg A.-G.

Manufacturer.

Dates of Survey while building

During progress of work in shops -	4.14.25 Feb. 1932; 3.4.17.18 March; 11.14.22.23.24.25 June; 7.11.22.25 July; 2. August; 1.2. Sept. 15-19.21-22
During erection on board vessel -	28-30 November; 1-3, 5-10, 12-17, 19-24, 27-31 December; 2-5, 9-14, 16-21, 23-28, 30, 31 Jan. 1933; 2-4, 6-11, 13-18 Feb. 1933
Total No. of visits	20, 23-25, 28 February; 1-4, 6-8 March

Dates of Examination of principal parts—Cylinders 24.2.32 25.6.32 24.12.32 Covers 3.5.22.28.31.32 19.11.32 2.3.5.9.10.16.27.2.33 Pistons 2.27.32 27.12.32 22.7.32 Rods 12.1.33 Connecting rods 17.12.32

Crank shafts 20.24.27.32 Liners 19.10.31 10.10.31 Flywheel shaft 22.6.32 4.3.32 Thrust shaft Intermediate shafts 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

Crank shafts Material S.M. Steel Identification Mark *LLOYD'S* *ES 1530/31/32/33* 16.21.32 Flywheel shaft, Material Identification Mark

Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks

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 *Deutsche Wulff 148, Report 1424*

General Remarks (State quality of workmanship, opinions as to class, &c.)

These heavy oil engines have been constructed in accordance with the Soc. Rules and Regulations as well as with the approved plans and instructions thereto. The materials used in the construction are good and the workmanship is satisfactory.

In my opinion the vessel for which these engines are intended will be eligible for the notation of *+* LMC [with date] when the whole machinery has been fitted on board and tried under full working conditions.

The consent of the owners has been obtained to employ the following engine parts not tested by a classification Society:— 3 connecting rods, 3 crossheads, 3 telescopic pipe supports, 6 cross-head bearings, 3 guide shoes. See London Letter 27.7.32 and Letter Haried Tankschiff Shredder 31.8.32. A copy of this report has been sent to the Hamburg surveyors

The amount of Entry Fee $\frac{1}{8}$ £ 4 : 16p : When applied for, to be charged on completion of vessel.

Special $\frac{4}{5}$... £ 11 : 6p : When received.

Donkey Boiler Fee ... £ : 1 : 10p :

Travelling Expenses (if any) £ 23 : 1 : 10p : 31.10.1933

Committee's Minute

Assigned

OCT 13 1933

H. J. Brauer
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation