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# REPORT ON OIL ENGINE MACHINERY.

No. 263

2 JUN 1948

Received at London Office

Date of writing Report 3.5.48 19 When handed in at Local Office 19 Port of WINTERTHUR 13.6.45

No. in Survey held at Winterthur Date, First Survey 7.3.44 Last Survey 26.4. 1948. Reg. Book. Number of Visits

Single on the ~~Deck~~ ~~Deck~~ ~~Deck~~ Screw vessel Tons { Gross... Net... }

Built at Heusden By whom built De Haan & Oerlemans. Yard No. 250. When built 1948.

Engines made at Winterthur By whom made Sulzer Bros., Ltd. Engine No. 25236. When made 1945.

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

Brake Horse Power 450 Owners Dammers & van der Heide Shipping & Trading Co. Port belonging to Rotterdam

Nom. Horse Power as per Rule 114 Is Refrigerating Machinery fitted for cargo purposes --- Is Electric Light fitted ---

Trade for which vessel is intended ---

OIL ENGINES, &c. —Type of Engine Sulzer Solid Injection 5TS29 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 60 kg/sq. cm. Diameter of cylinders 290 mm. Length of stroke 500 mm. No. of cylinders 5 No. of cranks 5

Mean Indicated Pressure 5.5 kg/sq. cm. Span of bearings, adjacent to the crank, measured from inner edge to inner edge 354 mm. Is there a bearing between each crank Yes

Revolutions per minute 280 Flywheel dia. 1595 kg. Weight 1040 mm. Means of ignition Compression Kind of fuel used Heavy Oil

Crank Shaft, Solid forged dia. of journals as per Rule 27.8.45 as fitted 190 mm. Crank pin dia. 190 mm. Crank webs Mid. length breadth 315 mm. Thickness parallel to axis ---

Flywheel Shaft, diameter as per Rule 27.8.45 as fitted 220 mm. Intermediate Shafts, diameter as per Rule 30.3.48 as fitted 145 mm. Thrust Shaft, diameter at collars as per Rule 27.8.45 as fitted 220 mm.

Tube Shaft, diameter as per Rule --- as fitted --- Screw Shaft, diameter as per Rule 30.3.48 as fitted 150 mm. Is the screw shaft fitted with a continuous liner No.

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 tube shaft ---

Propeller, dia. 1850 mm Pitch 1960 No. of blades --- Material --- whether moveable --- Total developed surface --- sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced Thickness of cylinder liners 21 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes

Back to the engine --- Cooling Water Pumps, No. 1 D.A. 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 D.A. Diameter 85 mm. Stroke 160 mm. Can one be overhauled while the other is at work ---

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 --- Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 Gearwheel pump 19 m<sup>3</sup>/hr.

Are two independent means arranged for circulating water through the Oil Cooler Yes 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 suction 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. 1 No. of stages 1 diameters 95 mm. stroke 300 mm. driven by 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. 1 D.A. Tandem diameter T. 550 mm. B. 450 mm. stroke 300 mm. driven by Engine

Auxiliary Engines crank shafts, diameter as per Rule --- as fitted --- Position ---

Have the auxiliary engines been constructed under special survey --- Is a report sent herewith ---

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7/10/48



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B.V. Survey, Mannesmann, Chumotov.

Retested Winterthur State No. of report or certificate B.V. NN 86.766/D-1

AIR RECEIVERS:—Have they been made under survey  Yes

Is each receiver, which can be isolated, fitted with a safety valve as per Rule.  Yes

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 Actual ---

Starting Air Receivers, No. 2 Total cubic capacity 1000 litres Internal diameter 499 mm. thickness 11 mm.

Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. steel Range of tensile strength --- Working pressure Actual 30 Ats

IS A DONKEY BOILER FITTED --- If so, is a report now forwarded ---

Is the donkey boiler intended to be used for domestic purposes only. --- Separate fuel tanks 500 L

PLANS. Are approved plans forwarded herewith for shafting 27.8.45, 30.3.48. Receivers ---

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. See list

Sulzer Brothers Limited

The foregoing is a correct description Manufacturer. *M. Steyer*

Dates of Survey while building During progress of work in shops - - 7.3.44 to 13.6.45 - 27 visits 18.3.48 to 26.4.48 - 5 visits.

During erection on board vessel - - - - -

Total No. of visits ---

Dates of examination of principal parts—Cylinders 23.1.45 Covers 26.12.44 Pistons 16.1.45 Rods --- Connecting rods 14.3.44

Crank shaft 11.4.44, 17.4.44, 25.5.44, 25.9.44 Steel shaft --- Thrust shaft --- Intermediate shafts --- Tube shaft ---

Screw shaft --- Propeller --- Stern tube --- Engine seatings --- Engine holding down bolts Shop Trial 29.5.45

Completion of fitting sea connections --- Completion of pumping arrangements --- Engines tried under working conditions ---

Crank shaft, material S.M. steel Identification mark No. 1443 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 ---

Identification marks on air receivers. No. 11 T.P. 80 Ats. 25.3.46 No. 35 T.P. 80 Ats. 8,9.3.46. W.P. 40 Ats. 500 Litres W.P. 40 Ats. 500 Litres

C.S.R. 29659 - 29700. C.H. 29660 - 29698.

Is the flash point of the oil to be used over 150°F  Yes

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with ---

Description of fire extinguishing apparatus fitted ---

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 main engine has been constructed under Special Survey in accordance with the requirements of the Rules, the Secretary's letters and the approved plans. Materials and workmanship are good. At the conclusion of the Survey classification was transferred to Bureau Veritas at the request of the Netherlands Ministry of Shipping and Fisheries. The machinery has now been allocated for a vessel as stated with classification reverting to this Society.

Torsional vibration characteristics approved 14.4.48. ✓

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The amount of Entry Fee ... £ : When applied for 19

Special ... £ 310.- : When received 19

Donkey Boiler Fee... £ c. 2484. : ---

Travelling Expenses (if any) £ : ---

Committee's Minute Assigned *In unile su J. R. Rho*

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



FRI. 28 JAN 1949.