

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 24176<sup>a</sup>

Received at London Office

Date of writing Report

When handed in at Local Office

Port of Liverpool Hamburg

No. in Survey held at Reg. Book.

Date, First Survey

Last Survey

19

Number of Visits

23490 on the Single Double Triple Quadruple Screw vessel DRUPA

Tons <sup>Gross</sup> 8102 <sub>Net</sub> 4754

Built at Hamburg By whom built Deutsche Werft A.G. Yard No. 218 When built 1939  
Engines made at Augsburg By whom made Maschft. Augsburg-Nurnbg. Engine No. 1939  
Donkey Boilers made at Hamburg By whom made Deutsche Werft A.G. Boiler No. 766 When made 1939  
Brake Horse Power 502 Owners Port belonging to  
Nom. Horse Power as per Rule 502 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES  
Trade for which vessel is intended Carrying Petroleum in bulk

OIL ENGINES, &c. Type of Engines Heavy Oil. M.A.N. K.8.V. 65/140 2 or 4 stroke cycle 4 Single double acting yes  
Maximum pressure in cylinders 49 kgs/cm Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8  
Mean Indicated Pressure 2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank yes  
Revolutions per minute 120 Flywheel dia. 2100 mm Weight 5500 kgs Means of ignition Compression Kind of fuel used Diesel  
Crank Shaft, { Solid forged as per Rule 456 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 870 mm Thickness parallel to axis 267/290 mm  
Semi built dia. of journals as fitted 460 mm Mid. length thickness 267/290 mm shrunk Thickness around eye-hole 204 mm  
All built Flywheel Shaft, diameter as per Rule 456 mm Intermediate Shafts, diameter as per Rule 326 mm Thrust Shaft, diameter at collars as per Rule 342 mm  
as fitted 460 mm as fitted 440 mm as fitted 460 mm  
Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 358 mm Is the screw shaft fitted with a continuous liner yes  
as fitted as fitted 420 mm

Bronze Liners, thickness in way of bushes as per Rule 18.5 mm Thickness between bushes as per Rule 14 mm Is the after end of the liner made watertight in the propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes

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 yes

If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 1650 mm

Propeller, dia. 4725 mm Pitch 3660 mm No. of blades 4 Material Bronze whether Moveable yes Total Developed Surface 6.416 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 45 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled lagged with non-conducting material yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine up funnel

Cooling Water Pumps, No. 1 for cylinders (rotary) 1 spare steam Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes Port 1 Starboard 1

Bilge Pumps worked from the Main Engines, No. 2 Diameter Rotary Chain drive Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line { No. and Size { 2 @ 35 t/h each { 1 @ 75 t/h  
How driven { Main Engine { Steam

Is the cooling water led to the bilges yes If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements yes

Cargo Ballast Pumps, No. and size 4 @ 6x6x6 1/2 drain pumps Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 Gear Pump - Main Eng. 1 spare steam 200x250x200 mm

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 3 @ 90 mm branch, Main pump room 2 @ 80 mm, For pump room 1 @ 50 mm In Pump Room

In Holds, &c. Fore hold 2 @ 50 mm Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 200x200x250 mm & 1 Emergency @ 183 mm

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes 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 yes

Are Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers yes How are they protected

What pipes pass through the deep tanks yes 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 yes

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 yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork yes

Main Air Compressors, No. Solid Injection No. of stages 2 Diameters 210/85 mm Stroke 180 mm Driven by Steam + Diesel

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 210/85 mm Stroke 180 mm Driven by Steam + Diesel

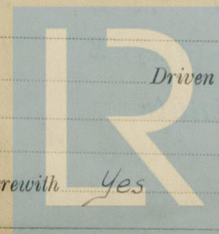
Small Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 210/85 mm Stroke 180 mm Driven by Steam + Diesel

What provision is made for first Charging the Air Receivers

Scavenging Air Pumps, No. 2 Diameter 110 mm Stroke 110 mm Driven by Steam + Diesel

Auxiliary Engines crank shafts, diameter as per Rule No. 2 Position 110 mm

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



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Shd Top. No 1201 LLOYDS TEST  
583 Ch. W.P. 355 Ch. H.R. 17-3  
Shd lower No 1202 LLOYDS TEST  
583 Ch. W.P. 355 Ch. H.R. 17-3 Rpt.

**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. 2 Cubic capacity of each 3.5 Cub ft each Internal diameter 255 mm thickness 6 mm  
Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. Steel Range of tensile strength Working pressure by Rules 30 Kgs/cm<sup>2</sup>  
**Starting Air Receivers**, No. 2 Total cubic capacity 23 Cub. M. Internal diameter 1500 mm thickness 21 mm  
Seamless, lap welded or riveted longitudinal joint T.R. D.B.S Material Steel Range of tensile strength 47-53 Kgs/cm<sup>2</sup> Working pressure by Rules 25 Kgs/cm<sup>2</sup>

**IS A DONKEY BOILER FITTED?** yes If so, is a report now forwarded? yes  
Is the donkey boiler intended to be used for domestic purposes only no

**PLANS.** Are approved plans forwarded herewith for Shafting 18/7/39 Receivers 6/2/37 Separate Fuel Tanks  
(If not, state date of approval) 19/2/37  
Donkey Boilers 13/1/38 3 21/8/34 General Pumping Arrangements 6/11/38 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 1 Solid 4 bladed C. I propeller. 1 Screws shaft.

The foregoing is a correct description,

Manufacturer.

|   |   |                      |  |
|---|---|----------------------|--|
| Dates<br>of Survey<br>while<br>building           | { | During progress of { |  |
|   |   | work in shops - - }  |  |
|   |   | During erection on { |  |
|   |   | board vessel - - }   |  |
|   |   | Total No. of visits  |  |
| Dates of Examination of principal parts—Cylinders |   |                      |  |
| Covers  |   |                      |  |
| Pistons   |   |                      |  |
| Rods  |   |                      |  |
| Connecting rods                                   |   |                      |  |
| Crank shaft                                       |   |                      |  |
| Flywheel shaft                                    |   |                      |  |
| 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 shaft, Material                             |   |                      |  |
| Identification Mark                               |   |                      |  |
| 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             |   |                      |  |

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 If so, state name of vessel

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

|                              |       |   |   |                   |
|------------------------------|-------|---|---|-------------------|
| The amount of Entry Fee      | .. £  | : | : | When applied for, |
| Special                      | ... £ | : | : | 19                |
| Donkey Boiler Fee            | ... £ | : | : | When received,    |
| Travelling Expenses (if any) | £     | : | : | 19                |

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



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

Committee's Minute  
Assigned + Limb. 8.39 oil inf  
50-1800

FRI. 23 FEB 1940