

REPORT ON OIL ENGINE MACHINERY

No. 1013

20 AUG 1931

Received at London Office

Writing Report *20 Aug 1931* When handed in at Local Office

Port of *STETTIN*

Survey held at *Berlin*

Date, First Survey *19th Sept 1930* Last Survey *4th Aug 1931*

Number of Visits *22*

on the *Single* Twin Triple Quadruple Screw vessel

Tons ^{Gross} _{Net}

at *Hamburg*

By whom built *Deutsche Werft AG* Yard No. *146* When built *1931*

Engines made at *Berlin*

By whom made *A. G. Turbinen-Fabrik* Engine No. *222/3* When made *1931*

Boilers made at

By whom made Boiler No. When made

Horse Power *2 x 2250*

Owners Port belonging to

Horse Power as per Rule *984*

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Use for which vessel is intended

ENGINES, &c.—Type of Engines *Brunmeister & Wain* 2 or 4 stroke cycle *4* Single or double acting *Single*

Maximum pressure in cylinders *38 kg/cm²* Diameter of cylinders *440 mm* Length of stroke *1300 mm* No. of cylinders *2 x 6* No. of cranks *2 x 6*

Positions of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute *118* Flywheel dia. *2136 mm* Weight *2000 kgs* Means of ignition *Compr. air* Kind of fuel used *Heavy fuel oil*

Crank Shaft, dia. of journals as per Rule *448 mm* as fitted *460* Crank pin dia. *400 mm* Crank Webs Mid. length breadth *842 mm* shrunk Thickness parallel to axis *290 mm* Mid. length thickness *290* Thickness around eye-hole *201*

Propeller Shaft, diameter as per Rule *448 mm* as fitted *460* Intermediate Shafts, diameter as per Rule *281.2* Thrust Shaft, diameter at collars as per Rule

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

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 boss

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

When 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

When 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

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

Kind of reversing Engines *direct* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *yes* Means of lubrication

Thickness of cylinder liners *50-32 mm* Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers *water cooled* or lagged with insulating 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

Water Pumps, No. *1 each engine 260 x 350 mm* 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 each eng* Diameter *150 mm* Stroke *350 mm* Can one be overhauled while the other is at work

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

Oil Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size *1 each engine, gear wheel pump of 24 m³ p. h.*

Independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

No. and size:—In Machinery Spaces

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces

Are they easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

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

How are they protected

Have they been tested as per Rule

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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

Department to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

When the vessel is a cargo vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. *1 each engine* No. of stages *3* Diameters *150/150 mm* Stroke *460 mm* Driven by *Crank shaft*

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

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

Engines crank shafts, diameter as per Rule as fitted

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes*

Are the internal surfaces of the receivers be examined *yes* What means are provided for cleaning their inner surfaces *Covers on both ends*

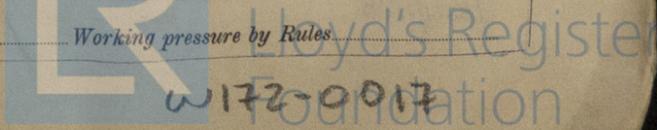
Is there a drain arrangement fitted at the lowest part of each receiver *yes*

Pressure Air Receivers, No. *one each eng* Cubic capacity of each *400 litres* Internal diameter *450 mm* thickness *2 mm*

Are they lap welded or riveted longitudinal joint *Seamless* Material *S.A. Steel* Range of tensile strength *42.7-43 kg* Working pressure by Rules *22.8 kg*

Receiving Air Receivers, No. Total cubic capacity Internal diameter thickness

Are they lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules



W172-0017

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 15.4.30. 29.9.30 Receivers 4.11.30. Separate Tanks

Donkey Boilers. General Pumping Arrangements. Oil Fuel Burning Arrangements.

SPARE GEAR All spare gear required for main engines as per Section 9 of the Rules of Heavy Oil Engines and in addition: 5 cylinder covers, 6 liners, 3 pistons, 2 top end and 2 bottom end braces, 1 piston rod with crosshead and guide shoe and 1 connecting rod have been supplied.

The foregoing is a correct description,
 ALGEMINE ELECTRICITEITS-GESELLSCHAFT
 TURBINENFABRIK.

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- 19.9.23.9. 24.9. 7.11. 12.11. 8.12. 16.12. 22.12. 1930. - 8.1. 14.1. 14.1. 3.2. 9.2. 13.2. 18.2. 25.2. 27.2.
 During erection on board vessel -- 10.3. 20.3. 26.3. 1.4. 9.4. 17.4. 4.5. 7.5. 20.5. 28.5. 3.6. 10.6. 23.6. 1.7. 4.8. 1931.
 Total No. of visits 32.

Dates of Examination of principal parts - Cylinders 2.12.30-1.4.31. Covers 7.11.30-1.4.31. Pistons 7.11.30-4.8.31. Rods 8.1. - 1.7.31. Connecting rods 16.12.30-1.4.31.

Crank shaft 3.2. - 1.4.31. Flywheel shaft 23.6. - 4.8.31. 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 L.H. Steel Identification Mark ES.25.10.30. NK.5.22.30 Flywheel shaft, Material L.H. Steel Identification Mark F.S. 4.5.

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. yes

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.)

These Engines have been constructed under Special Survey in accordance with approved plans and the requirements of the Rules. Materials and workmanship are of good quality.

Full power trials of these Engines were carried out in the makers shop on the 28th May and 23rd June 1931 with satisfactory results.

Certificate (if required) to be sent to the Surveyors to be written on or below the space for Committee's Minute.

(4/5th of total Fee)

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|------------------------------|----------|------------------------------------|
| The amount of Entry Fee | £ 4 : 16 | When applied for, 5th Aug 1931. |
| Special | £ 99 : 4 | |
| Donkey Boiler Fee | £ - : - | When received, 26.8.31 |
| Travelling Expenses (if any) | £ 25 : 2 | |

M. G. H. G.
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned



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