

REPORT ON OIL ENGINE MACHINERY.

No. 1240.
13 MAR 1930

Received at London Office

of writing Report *2nd March 1930* When handed in at Local Office *10th March 1930* Port of *Breman*

in Survey held at *Ludwigshafen a/Rh.* Date, First Survey *18th September 1929* Last Survey *1st March 1930*
Book. Number of Visits *16*

Single
on the Twin } Screw vessel
Triple }
Quadruple }

Tons { Gross *4000 1/2*
Net

at *Saireu Nagasaki* By whom built *Mitsubishi Zosen Kaisha* Yard No. *490* When built *1929/30*
Ludwigshafen a/Rh. By whom made *Mitsubishi Dockyard* Cylinder *6125-* When made *1929/30*
Ludwigshafen a/Rh. By whom made *Hebrüder Sulzer A.-G.* Engine No. *6128*

Boilers made at By whom made Boiler No. When made

Horse Power *1500 HP* Owners Port belonging to

Horse Power as per Rule *389* Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

for which vessel is intended

ENGINES, &c.—Type of Engines *4560 331 800 - 331 872* 2 or 4 stroke cycle *2* Single or double acting *single*

Mean pressure in cylinders *38.5 kg/cm²* Diameter of cylinders *600 mm* Length of stroke *1060 mm* No. of cylinders *4* No. of cranks *4 for work. cylin.*

of bearings, adjacent to the Crank, measured from inner edge to inner edge *870 mm* Is there a bearing between each crank *yes*

Revolutions per minute *125* Flywheel dia. *2100 mm* Weight *7955 mm* Means of ignition *air injection* Kind of fuel used *gas oil*

Crank Shaft, dia. of journals as per Rule as fitted *405 mm* Crank pin dia. *405 mm* Crank Webs Mid. length breadth *558 mm* Kind of fuel used *gas oil*
Thrusts) as fitted *405 mm* M.d. length thickness *225 mm* Kind of fuel used *gas oil*
Kind of fuel used *gas oil* Kind of fuel used *gas oil*

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

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

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 stern tube

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

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

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

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 comp. air* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *yes, governor* Means of lubrication

Thickness of cylinder liners *38 mm* Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers water cooled or lagged with insulating material *water cooled* 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 piston cooling pumps fitted to the engine* Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Pumps worked from the Main Engines, No. *one* Diameter *130 mm* Stroke *330 mm* Can one be overhauled while the other is at work *yes*

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

Lubricating Oil Pumps, including Spare Pump, No. and size { *1 pump for bearing lubrication 17.5 m³* }
{ *1 pump for overhead lubrication 4.75 m³* }
{ *1 independent oil pump 12.6 m³* }

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

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

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

Air Compressors, No. *one, fitted* No. of stages *3* Diameters *370-480-150 mm* Stroke *400 mm* Driven by *main crank shaft*

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

Working Air Pumps, No. *one, fitted* Diameter *1270 mm* Stroke *700 mm* Driven by *main crank shaft*

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 and openings on bottom*

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

Pressure Air Receivers, No. *6* Cubic capacity of each *150.16* Internal diameter *300 mm* thickness *16 mm*

Are the joints, lap welded or riveted longitudinal joint *seamless* Material *S.M. Steel* Range of tensile strength *44-50 kg/cm²* Working pressure by Rules *7.5 atm*

Working Air Receivers, No. Total cubic capacity Internal diameter thickness Working pressure by Rules

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



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting yes
(If not, state date of approval)

Receivers yes

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR as per Rules

The foregoing is a correct description,

Gebrüder Sulzer
Aktiengesellschaft

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 18/9.29; 24.9.29; 30.9.29; 11/12.10.29; 28.10.29; 12.11.29; 22.11.29; 9.12.29; 28.12.29; 15.1.30; 27.1.30; 28.1.30; 26.2.30; 1.3.30
{ During erection on board vessel - - }
Total No. of visits

Dates of Examination of principal parts—Cylinders 18/9.29 Covers 18/9.29 Pistons 28.10.29 Rods 28.12.29 Connecting rods 28.12.29
Crank shaft 28.12.29 Thrust and Flywheel shaft 28.12.29 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 S.M. Steel Identification Mark LLOYD'S V.S. 832 Thrust and Flywheel shaft, Material S.M. Steel Identification Mark LLOYD'S V.S. 832
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

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

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. above Diesel engine and its accessories have been constructed under Special Survey in accordance with the approved plans and instructions thereto, as well as with the Rules and Regulations. The materials used in the construction are good and the workmanship is satisfactory. The engine has been tested on the makers test bed and was working satisfactorily.

In my opinion the vessel for which the engine is intended will be eligible for the notation of LMC (with date) provided it will be satisfactory fitted on board the vessel and tested under full working conditions. Max. working pressure in the cylinders not to exceed 38 kg/cm²

For identification the cylinders jackets have been stamped:
LLOYD'S TEST No 832 Gatin P.K. 30.9.29/11.10.29
I.S. 28.10.29

The forgings viz: - crankshaft, flywheel and thrustshaft, compressor and scav. pump throw, connecting rods, piston rods, compressor and scav. pumps piston and connecting rods, which were tested by the Surveyors to the Germanischer Lloyd (please see the Secretary's letter E dated 21.6.29) have been inspected by me and were found free from defects.

A copy of this report has been sent to the District Surveyor.

Fair receivers £ 3 : 13 : 0
The amount of Entry Fee ... £ 4 : 0 : 0 When applied for, 10.3.1930
Special ... £ 67 : 0 : 0
Donkey Boiler Fee ... £ : : : When received, 11/4/30
Travelling Expenses (if any) £ 19 : 12 : 0

Committee's Minute **FRI. 17 [JUL 1930]**
Assigned Sec. F.C. Rpt.

Engineer Surveyor to Lloyd's Register of Shipping.

To avoid danger Rept of 18/9/29

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

Rpt. 5
Messrs.
Messrs.
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IT SM
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OR
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