

REPORT ON OIL ENGINE MACHINERY.

No. *11494*
18 JUN 1927

Received at London Office

Date of writing Report *13th June 1927* When handed in at Local Office *10* Port of *Hamburg*

No. in Survey held at *Hamburg* Date, First Survey *5th May 1927* Last Survey *13th June 1927*
Reg. Book. Number of Visits *8*

on the *Single* as stated intended to be fitted on a *motor vessel*
Twin Screw vessel *in Hongkong, Engines purchased by Messrs. Fehrmann & Co. Hongkong.*
Triple Tons { Gross
Quadruple Net

Built at _____ By whom built *Großmohren Werke Hamburg* Yard No. _____ When built _____

Engines made at *Hamburg* By whom made *Mannheim* Engines No. *2315* When made *1926*

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

Brake Horse Power *2 x 220* Owners _____ Port belonging to _____

Nom. Horse Power as per Rule *2 x 91.5* Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

Trade for which vessel is intended _____

ENGINES, &c.—Type of Engines *Diesel Engine Type P. 4. K. Henschelmann* 2 or 4 stroke cycle *2* Single or double acting *single*

Maximum pressure in cylinders *35-41 kg/cm²* Diameter of cylinders *290 mm* Length of stroke *430 mm* No. of cylinders *4* No. of cranks *4*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *362 mm* Is there a bearing between each crank *yes*

Revolutions per minute *230* Flywheel dia. *1300 mm* Weight *1800 kg* Means of ignition *Diesel principle* Kind of fuel used *Gas oil*

Crank Shaft, dia. of journals as per Rule *174 mm* Crank pin dia. *175 mm* Crank Webs Mid. length breadth *235 mm* Thickness parallel to axis *shrunk*
as fitted *175 mm* Mid. length thickness *95 mm* Thickness around eye-hole

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

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

Does the liner do 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 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 _____

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 *direct reversible* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *yes* Means of lubrication
forced Thickness of cylinder liners *no liner* Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers water cooled or lagged with
water cooled non-conducting material *at engine* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine _____

Boiling Water Pumps, No. _____ Is the sea suction provided with an efficient strainer which can be cleared within the vessel _____

Large Pumps worked from the Main Engines, No. *1 for each engine* Diameter *125 mm* Stroke *58 mm* Can one be overhauled while the other is at work *yes*

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 belt wheel pump to each engine*

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 _____

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
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 sized 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 _____

Are all pipes pass through the bunkers _____ Have they been tested as per Rule _____

Are all pipes pass through the deep tanks _____

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

Is there an 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 _____

Are all wood vessels, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork _____

Number of Air Compressors, No. *2 to each engine* No. of stages *2* Diameters *215/65 mm* Stroke *330 mm* Driven by *main engine*

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

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

Revolving Air Pumps, No. *2 to each engine* Diameter *425/215 mm* Stroke *330 mm* Driven by *main engine*

Auxiliary 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 *removable covers*
Are there a drain arrangement fitted at the lowest part of each receiver *yes*

Pressure Air Receivers, No. *4* Cubic capacity of each *2 of 0.050, 2 of 0.110 m³* Internal diameter *190 mm* *300 mm* thickness *7.5 mm* *12 mm*
less, lap welded or riveted longitudinal joint *seamless* Material *steel* Range of tensile strength *58 kg/cm²* Working pressure by Rules *61* *68 kg/cm²*

Revolving Air Receivers, No. *2* Total cubic capacity *2 x 1.5 m³* Internal diameter *750 mm* thickness *10 mm*
less, lap welded or riveted longitudinal joint *seamless* Material *steel* Range of tensile strength *41-49 kg/cm²* Working pressure by Rules *10.3 kg/cm²*

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, but not yet approved Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR The number of spare parts, now delivered with the engines, are not as required by the Rules and must be checked over when completely delivered.

The foregoing is a correct description of

Motoren-Werke Hennrich A.-G.
von Banz, am Stationär Motorenbau
Verkehrsstraße Hamburg
Manufacturers.

Dates of Survey while building
 During progress of work in shops -- 5/5 9/5 11/5 13/5 20/5 21/5 24/5 - 13/6 1927
 During erection on board vessel --
 Total No. of visits 8

Dates of Examination of principal parts—Cylinders 5/5 9/5 Covers 5/5 9/5 Pistons 5/5 9/5 Rods Connecting rods 13/5

Crank shafts 13/5 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 steel Identification Mark GJL A.C. 331 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.

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 built under the survey of the

Germanischer Lloyd and the materials used in the construction have been tested by that Society. In completion the motors tried on test bed and a certificate certifying that the results of these trials were carried over a period of six hours with satisfactory results was issued by the Germanischer Lloyd. (Copies are attached)

Now all the working parts of the engines have been opened out, and cooling water chambers hydraulically tested and found all in good condition. The marks on crank shafts and air receivers are in accordance with the test certificates of the Germ. Lloyd. The air receivers have been hydraulically tested as required by the Rules.

These engines are in my opinion of good quality and the workmanship is good. In the event of being installed in a vessel classed with this Society in accordance with the requirements of the Rules, they will be eligible to have record of L.M.C. with date when completed.

For identification purpose these engines are marked:

Starb. engine	Port engine
No. 2315	No. 2316
Lloyd's A.C.	Lloyd's A.C.
21. 5. 27	21. 5. 27

The amount of Entry Fee	£ 3 : -	When applied for,
Special	60% £ 24 : 9	15. 6. 1927
Donkey Boiler Fee	£ - : -	When received,
Travelling Expenses (if any)	£ - : 11	16. 6. 1927

Committee's Minute

FRI. 10 FEB 1928

Assigned

See minute on Hkg Rpt 6225 attached

FRI. 9 NOV 1928

FRI. 30 NOV 1928

A. Carstensen
Engineer Surveyor to Lloyd's Register of Shipping.



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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.)

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