

REPORT ON OIL ENGINE MACHINERY.

No. 3273.

Received at London Office 12 JUN 1930

Date of writing Report 10 June 1930 When handed in at Local Office 19

Port of Stockholm

No. in Survey held at Sickla Skm. Dist.
Reg. Book.

Date, First Survey 6 Nov. 1929 Last Survey 28 May 1930

Number of Visits 6

Single
on the Twin
Triple } Screw vessel
Quadruple }Tons { Gross
Net

Built at By whom built Yard No. When built
Engines made at Stockholm By whom made Aktie. Atlas Diesel Engine No. 85/45 When made 1930
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 200 Owners Messrs. J. Erickson & Co. Ltd. Port belonging to Glesker
Nom. Horse Power as per Rule 68 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Polar Diesel Oil Engine type M4I 2 or 4 stroke cycle Single or double acting
Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 250 mm Length of stroke 420 mm No. of cylinders 4 No. of cranks 4
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 368 mm Is there a bearing between each crank yes
Revolutions per minute 300 Flywheel dia. 1150 mm Weight 1200 kg Means of ignition Diesel Kind of fuel used Crude Oil
Crank and Thrust Shaft, dia. of journals as per Rule 150 mm Crank pin dia. 160 mm Crank Webs Mid. length breadth 214 mm shrunk Thickness parallel to axis
The flywheel is fitted on after end of thrust shaft as fitted Mid. length thickness 90 Thickness around eyehole
Flywheel Shaft, diameter as fitted Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
Tube Shaft, diameter as fitted Screw Shaft, diameter as fitted Is the tube shaft fitted with a continuous liner
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
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 the tube shaft yes Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. 4' 10 1/2" Pitch 4' 9" No. of blades 3 Material whether Moveable Total Developed Surface sq. feet
Method of reversing Engines by compressed air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication
pumps Thickness of cylinder liners none fitted Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Cooling Water Pumps, No. 1 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 Diameter 90 mm Stroke 100 mm Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line { No. and Size
How driven (of gear wheel type) one for pumping to a dandy supply tank.
Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size one for delivery
and one ditto worked by hand.
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

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 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

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. 1 No. of stages 2 Diameters 175/20 mm Stroke 150 mm Driven by main engine
Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters Stroke Driven by
Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters Stroke Driven by

Scavenging Air Pumps, No. 2 Diameter 390 mm Stroke 120 mm Driven by main engine
Auxiliary Engines crank shafts, diameter as per Rule
as fitted

IR RECEIVERS:—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 yes What means are provided for cleaning their inner surfaces mudhole 250 mm
Is there a drain arrangement fitted at the lowest part of each receiver yes

High Pressure Air Receivers, No. none fitted, solid injection Cubic capacity of each Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules
Starting Air Receivers, No. 2 Total cubic capacity 800 litres Internal diameter 500 mm thickness 4.5 mm
Seamless, lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 38,622 kg/cm² Working pressure by Rules 25.6 kg/cm²

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded ^{See Secretary's letter} herewith for Shafting *E 22.4.26*
(If not, state date of approval)

Receivers *E 6.5.27*

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR as per list, approved on the 8 May 1930, will be inspected when machinery is being fitted in ship.

Regarding one additional water circulating pump and one additional lubricating oil pump, recommended by You in the spare list, above named, the Hlas Diesel Firm state that they, as per contract, have only to deliver the water circulating pump which is fixed on and driven by the engine. The firm also state, that they are delivering, as usual, one lubricating oil pump worked by hand, in addition to the lubricating oil pumps, driven by the engine, which they respectfully submit as satisfactory for this type of engine. As regards one additional water circulating pump, the Diesel Firm have assumed, that, as customary in motor ships, a separate combined bilge- and fire extinguishing pump is fitted in the engine room, independent of the main motor installation, and that this pump is also arranged for water circulation in case of need. As a consequence, an auxiliary additional circulating pump is never included in their contracts.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops - *6/11, 2/12, 29, 5.6.7.28/5, 30*
During erection on board vessel -
Total No. of visits *in shop 6.*

Dates of Examination of principal parts—Cylinders *with* Covers *5.6.7/5, 30* Pistons *7/5, 30* Rods Connecting rods *2/12, 29, 7/5, 30*
Combined Crank shaft *6/11, 29, 7/5, 30* 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 *in shop 5/30*
Combined Crank shaft, Material *S.M. Steel* Identification Mark *LLOYD'S No 5834 A.I. 6.5.30. A* 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.)

*I am of opinion that this engine is of superior material and workmanship, and as it has been designed and constructed under special survey, I have respectfully to submit that it will be eligible to be classed **LMC**, as soon as it has been fitted in a classed ship to the satisfaction of the Society's Surveyors.*

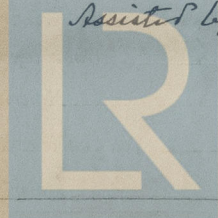
Certificate (if required) to be sent to

The amount of Entry Fee ... £ : : When applied for,
Special ... *£ 309.40* : : *10.6.19.30*
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) *£ 28.00* : : *30.6.19.30*
Total £ 337.40

Committee's Minute

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.
Assisted by Mr. K. J. Andersson.



Lloyd's Register
Foundation