

REPORT ON OIL ENGINE MACHINERY.

No. 2774.

Received at London Office

21 FEB 1927

Date of writing Report 17.2.27 When handed in at Local Office 19.27

Port of Stockholm

No. in Survey held at Stockholm

Date, First Survey 30.9.1926

Last Survey 8.2.

19 27.

eg. Book.

Number of Visits 6

Single
on the Twin } Screw vessels
Triple

Tons
Gross
Net

Built at Brighton

By whom built Messrs. Aldous Ltd

Yard No. 18717/18

When built

Engines made at Stockholm

By whom made J. & C.G. Bolinder's Co. Ltd.

Engine No.

When made

Donkey Boilers made at

By whom made

Boiler No.

When made

Brake Horse Power 120

Owners Messrs. James Pollock, Sons & Co. Port belonging to London

Nom. Horse Power as per Rule 34

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

OL ENGINES, &c.—Type of Engines **Bolinder Oil Engine** 2 **13"** 2 **stroke cycle** Single **acting** **13 1/8"**
Maximum pressure in cylinders **18.5 Kg.** No. of cylinders **2** Diameter of cylinders **330 mm.** No. of cranks **2** Length of stroke **340 mm.**
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **387 mm.** Is there a bearing between each crank **yes**
Revolutions per minute **375** Flywheel dia. **710 mm.** Weight **385 Kg.** Means of ignition **hot bulb** Kind of fuel used **Crude Oil**
Crank Shaft, dia. of journals **125 mm.** Crank pin dia. **125 mm.** Crank Webs Mid. length breadth **164 mm.** Thickness parallel to axis **69.5 mm.** Thickness around eye hole **100 mm.**
The flywheel is fitted at the fore end of the crank shaft. Thrust Shaft, diameter at collar as per Rule **115 mm.**
Flywheel Shafts, diameter as fitted Intermediate Shafts, diameter as fitted
Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as fitted 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 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 **Timing** 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 **no** 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 fitted to the Main Engines, No. **none fitted** Diameter Stroke Can one be overhauled while the other is at work

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
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 Engine and Boiler Room
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 Space

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. **none fitted** No. of stages Diameters Stroke Driven by
Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Scavenging Air Pumps, No. **none fitted** Diameter Stroke
Auxiliary Engines crank shafts, diameter as per Rule as fitted
AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule **Yes** What means are provided for cleaning their inner surfaces **Handhole / 280 x 200 mm.**

Can the internal surfaces of the receivers be examined **Yes**
Is there a drain arrangement fitted at the lowest part of each receiver **yes**
High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules **8 mm.**

Starting Air Receivers, No. **1** Total cubic capacity **286 litres** Internal diameter **434 mm.** thickness **18.5 Kg/cm²**
Seamless, lap welded or riveted longitudinal joint **lapwelded** Material **S.M. Steel** Range of tensile strength **36 Kg/cm²** Working pressure by Rules **18.5 Kg/cm²**

W114-0038

Lloyd's Register
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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	8. 2. 27.	18.5 Kg/cm ²	43 Kg/cm ²	Lloyd's Test 43 Kg. A.I. 8.2.27. A	
COVERS	8.2. 27.	ditto	ditto		
JACKETS	8.2. 27		13.5 Kg/cm ²		
PISTON WATER PASSAGES	(Open pistons)				
MAIN COMPRESSORS—1st STAGE	None fitted				
2nd					
3rd					
AIR RECEIVERS—STARTING	8. 2. 27.	15 Kg/cm ²	30 Kg/cm ²	No. 2252 Lloyds Test 30 Kg. W.P. 15 Kg. A.I. 8. 2. 27. A	
INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER	8. 2. 27.		3.5 Kg/cm ²	Hydr. Test 3.5 Kg. A.I. 8. 2. 27. A	
WATER JACKET	8. 2. 27.		ditto		
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for Shafting 16.5.17 & 7.8.21 Receivers E 8.3.16.

Donkey Boilers

General Pumping Arrangements

Separate Tanks

Oil Fuel Burning Arrangements

SPARE GEAR

to be supplied and inspected on delivery.

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building	During progress of work in shops--	30/9, 28/10, 31/12 1926, 17/1, 24/1, 8/2 1927.			
	During erection on board vessel--				
	Total No. of visits	in shop 6			
Dates of Examination of principal parts—Cylinders $\frac{24}{1}, \frac{8}{2}$ 1927 Covers $\frac{24}{1}, \frac{8}{2}$ 1927 Pistons $\frac{8}{2}$ 1927 Rods ✓ Connecting rods $\frac{30}{9}, \frac{28}{10}, \frac{26}{1}, \frac{17}{2}$ 27.					
Crank shaft $\frac{31}{12}, \frac{26}{1}, \frac{17}{1}, \frac{8}{2}$ 1927 Flywheel shaft — Thrust shaft $\frac{30}{9}, \frac{28}{10}, \frac{26}{1}, \frac{17}{2}$ 27 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 24/1 1927					
Crank shaft, Material S.M. Steel Identification Mark Lloyd's No 3332 A.I. 17.1.27. A Flywheel shaft, Material Identification Mark					
Thrust shaft, Material S.M. Steel Identification Mark Lloyd's No 3332 A.I. 17.1.27. A 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 yes If so, state name of vessel See Skm. Report no. 2428.

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

I am of opinion, that this motor 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 vessel to the satisfaction of the Society's Surveyors.

The amount of Entry Fee	£ 273:00	When applied for,	12.2. 27.
Special	£	When received,	Mar 27 1927
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Committee's Minute

FRL 2 SEP 1927

Assigned see minute on Lon. Rpt 91742

Acting Engineer Surveyor to Lloyd's Register of Shipping.



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