

Rpt. 4b

REPORT ON OIL ENGINE MACHINERY.

No. 3181.
13 DEC 1929

Date of writing Report 9 Dec 1929 When handed in at Local Office

Port of Stockholm

No. in Survey held at Sickla, S.W. Dist.
Reg. Book, Suppl. No. 10

Date, First Survey 10 Jan. 1929 Last Survey 6 Dec. 1929

Number of Visits 24

39279 on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel Anglo-SwedeTons ^{Gross} 8033
~~4767~~
^{Net} 4767

Built at Newcastle By whom built Sir W. G. Armstrong, Whitworth & Co. Ltd. Yard No. 1048 When built 1929

Engines made at Stockholm By whom made Akkels. Alas Diesel Engine No. 5022 When made 1929

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

Brake Horse Power 3050 Owners Esteriakiet. Tanker Port belonging to Stockholm

Nom. Horse Power as per Rule 848 ✓ 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 MP 277 2 or 4 stroke cycle Single or double acting
 Maximum pressure in cylinders 25 ^{kg/cm²} Diameter of cylinders 210 mm. Length of stroke 1260 mm. No. of cylinders 7 No. of cranks 7
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 976 mm. Is there a bearing between each crank Yes
 Revolutions per minute 100 Flywheel dia. 2170 mm. Weight 8000 kg. Means of ignition Diesel Kind of fuel used Crude Oil
Crank Shaft, dia. of journals as per Rule 450 mm. as fitted 455 Crank pin dia. 455 mm. Crank Webs Mid. length breadth 750 mm. Thickness parallel to axis 388 mm.
 Mid. length thickness 288 shrunk Thickness around eye-hole 204
Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule 450 mm. as fitted 455
Tube Shaft, 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 per Rule 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 port 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 Movable Total Developed Surface sq. feet

Method of reversing Engines manoeuvring cyls. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication
 Thickness of cylinder liners 50 mm. 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. 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 230 mm. Stroke 290 mm. double acting. 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 none ordered. **Lubricating Oil Pumps**, including Spare Pump, No. and size none ordered.

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 connecting 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 4 Diameters 25/640 180/640 530/Stroke 8.0 mm. for LP and 390 mm. for the others. Driven by Main engine

Auxiliary Air Compressors, No. none ordered No. of stages Diameters Stroke Driven by

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

Scavenging Air Pumps, No. 1 Diameter 1200 mm. Stroke 810 mm. Driven by main engine

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

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Manholes

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

High Pressure Air Receivers, No. 3 Cubic capacity of each 350 litres Internal diameter 460 mm. thickness 25 mm.

Seamless, lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 38 kg/mm² as a working pressure by Rules 20.5 kg/mm²

Starting Air Receivers, No. 2 ordered at (*) Total cubic capacity about 1400 cu. feet Internal diameter 6'-9" thickness 3/4" Range of tensile strength 38 kg/mm² as a working pressure by Rules 23.1 kg/mm²

Seamless, lap welded or riveted longitudinal joint Material S.M. Steel Range of tensile strength 38 kg/mm² as a working pressure by Rules 23.1 kg/mm²

Messrs. Wilson, Boilermakers Ltd., Glasgow, of which only one has been delivered to the Akas Diesel Works, Stockholm.

9200-1611M

IS A DONKEY BOILER FITTED? £ $\frac{16}{7}$, $\frac{24}{70}$, $\frac{9}{12}$ 28.

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting £ $\frac{26}{6}$, $\frac{29}{7}$, 29.
(If not, state date of approval)

Receivers £ 5.6.29.

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR as per list approved on the 21st October 1929, will be inspected when machinery is being fitted in ship.

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 10/1, 14/2, 6/5 & 21/3, 19/4, 14/8, 11/21 & 25/9, 8/14 & 17/10, 16/7, 9/11, 12/13, 14 & 21/11, 20/6/12, 1929.
During erection on board vessel - -
Total No. of visits in shop 24.

Dates of Examination of principal parts - Cylinders 25/7, 10/8, 29/9, Covers 21/8, 14/9, 29/9, Pistons 22/5, 8/9, 14/9, 29/9, Rods 21/14, 29/9, Connecting rods 6/19, 14/11, 14/29, Crank shaft 5/19, 14/29, 3/7, 11/29, Thrust shaft 10/14, 13/29, 1/2, 17/29, 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
N.º 8079
PK.15.3.29

LLOYD'S
N.º 8079
PK.15.3.29

Crank shaft, Material S.M. Steel

Identification Mark

LLOYD'S
N.º 8077
PK.15.3.29

Thrust shaft, Material S.M. Steel

Identification Mark

LLOYD'S
N.º 5694
AT.14.2.29

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. ✓

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.)

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 ship to the satisfaction of the Society's Engineer Surveyors.

The amount of Entry Fee ... £

Special survey in shop £ 236.68

Donkey Boiler Fee ... £

Travelling Expenses (if any) £ 135.00

Total £ 224.68

Committee's Minute

FRI, 14 MAR 1930

Assigned

See Nur. J.C. 85442

When applied for,

9 Dec. 1929

When received,

31.12.29

A. Lakson

Engineer Surveyor to Lloyd's Register of Shipping.

Assist. by Mr. A. J. Anderson



Lloyd's Register
Foundation