

REPORT ON OIL ENGINE MACHINERY.

No. 8242.

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Reg. Book. Number of Visits 57.

on the Single Motor Screw vessel "SIR JAMES CLARK ROSS" Tons Gross Net
✓ on the Twin Triple Quadruple ✓
Built at Middlesbrough By whom built Messrs Furness Shipbuilding Co. Ltd. Yard No. 158 When built ✓
Engines made at Copenhagen By whom made Messrs Akt & Surmeister & Wain's Engine No. 1833 When made 1930
Donkey Boilers made at ✓ By whom made Uaskin og Skibsbjgger Designated "FURNESS" Boiler No. ✓ When made ✓
Brake Horse Power 3800. Owners ✓ Port belonging to ✓
Nom. Horse Power as per Rule 709. Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓
Trade for which vessel is intended ✓

OIL ENGINES, &c.—Type of Engines Vertical Diesel Oil Engines Crosshead type Solid injection. 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 39 kg/cm² Diameter of cylinders 630 mm = 24 3/16" Length of stroke 300 mm = 5 1/16" No. of cylinders 2 x 6 No. of cranks 2 x 6
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 892 mm Is there a bearing between each crank Yes
Revolutions per minute 125 Turning Flywheel dia. 1902 mm Weight 1120 kg. Means of ignition Air compression Kind of fuel used Crude oil flash point
approved Crank Shaft, dia. of journals 404 mm Crank pin dia. 404 mm Crank Webs Mid. length breadth 660 mm Thickness parallel to axis 266 mm
as fitted 404 mm Mid. length thickness 246 mm shrunk Thickness around eye hole 185 mm
Flywheel Shaft, diameter as per Rule ✓ Intermediate Shafts, diameter as per Rule 11.1 mm Thrust Shaft, diameter at collars as per Rule 11.65"
as fitted ✓ as fitted 12 3/4 and 14 1/4 as fitted 15"
Tube Shaft, diameter as per Rule ✓ Screw Shaft, diameter as per Rule 12.22" Is the ✓ shaft fitted with a continuous liner ✓
as fitted ✓ as fitted 15 1/2" Is the ✓ screw ✓ Yes
Bronze Liners, thickness in way of bushes as per Rule 0.774" Thickness between bushes as per rule 0.6" Is the after end of the liner made watertight in the
as fitted 1/8" and 1/16" as fitted 1/16" Yes the liners are fitted
propeller boss Yes. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner in one length.

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 Yes.
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 ✓ If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 7.9"

Propeller, dia. 13'-6" Pitch 10'-6" No. of blades 3 off Material Nickel-steel whether Moveable no Total Developed Surface 43 sq. feet
Method of reversing Engines Direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication

Forced lubrication Thickness of cylinder liners 46 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material lagged 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. 2 off Centrifugal 200 tons each Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓
Bilge Pumps worked from the Main Engines, No. One off to each engine Diameter of trunk 127 mm Stroke 230 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 1 off Rotary pump 150 tons Lubricating Oil Pumps, including Spare Pump, No. and size 2 off Long wheel pumps 90 tons each.

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 Pump 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 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 ✓

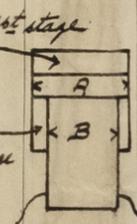
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓
Main Air Compressors, No. ✓ No. of stages ✓ Diameters A. " B. " Stroke ✓ Driven by ✓
Auxiliary Air Compressors, No. 2 off No. of stages 2 Diameters 320 mm = 280 mm Stroke 170 mm Driven by auxiliary engines

Small Auxiliary Air Compressors, No. 1 off No. of stages 2 Diameters 100 " = 45 " Stroke 100 mm Driven by Hand. 2nd stage
Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓
Auxiliary Engines crank shafts, diameter as per Rule 161.8 mm. Auxiliary Diesel Engines: 2 off 450 BHP. 3 Cylinders: 150 BHP each. Cyl. diam = 310 mm Stroke 350 mm
as fitted 170 mm. 400 revolutions per M. Each working a direct coupled 100 KW. Compound wound generator.

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 and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

Emergency Starting High Pressure Air Receivers, No. 1 off Cubic capacity of each 250 Litres Internal diameter 380 mm thickness 11 mm
Seamless, lap welded or riveted longitudinal joint Lap welded Material S.M. Steel Range of tensile strength 37.7 kg/mm² Working pressure by Rules 31.7 kg/cm².
Actual 25 ATM.

Starting Air Receivers, No. 2 off Total cubic capacity 1440 cubic feet Internal diameter 6'-0" and 6'-1 1/16" thickness 1 1/2 3/16 and 1 3/16"
Seamless, lap welded or riveted longitudinal joint double butt straps triple riveted. Material S.M. Steel Range of tensile strength ends 43.5-44.1 " = " Working pressure by Rules 25.1 kg/cm².
Actual 25 ATM.



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