

## REPORT ON OIL ENGINE MACHINERY.

No. 1421.

Date of writing Report 3rd Jan. 1936 When handed in at Local Office 8th Jan. 1936 Port of Maharr  
No. in Survey held at Maharr Date, First Survey 5th Jan. 1935 Last Survey 2nd Jan. 1936  
Number of Visits 153

on the <sup>Single</sup> ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "ORION"  
Tons Gross 8064 Net 4751  
Built at Maharr By whom built Kockmms M. V. Aktinb. Yard No. 184 When built 1936  
Engines made at Maharr By whom made Kockmms M. V. Aktinb. Engine No. 110 When made 1936  
Donkey Boilers made at Maharr By whom made Kockmms M. V. Aktinb. Boiler No. 929/930 When made 1936  
Brake Horse Power 3450 Owners Smith & Sorenson Sankaradon S. Port belonging to Arundal  
Nom. Horse Power as per Rule 1167 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended 23 1/2 43 1/2

OIL ENGINES, &c. Type of Engines MAN D620 1110 2 or 4 stroke cycle 2 Single or double acting Double  
Maximum pressure in cylinders 45 kg. cm<sup>2</sup> Diameter of cylinders 600 mm Length of stroke 1100 mm No. of cylinders 6 No. of cranks 6  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 860 mm Is there a bearing between each crank Yes  
Revolutions per minute 96-100 Flywheel dia. 2093 mm Weight 6300 kg Means of ignition Diesel syst. Kind of fuel used Heavy oil  
Crank Shaft, dia. of journals as per Rule 397 mm Crank pin dia. 420 mm Crank Webs Mid. length breadth 700 mm Thickness parallel to axis 265 mm  
as fitted 420 mm Mid. length thickness 265 mm shrunk JOURNAL Thickness around eye-hole 200 mm  
Flywheel Shaft, diameter as per Rule 397-362 mm Intermediate Shafts, diameter as per Rule 345 mm Thrust Shaft, diameter at collars as per Rule 362 mm  
as fitted 420-364 mm as fitted 345 mm as fitted 364 mm  
Tube Shaft, diameter as per Rule 381 mm Is the <sup>tube</sup> ~~screw~~ shaft fitted with a continuous liner Yes  
as fitted 390 mm as fitted 390 mm  
Bronze Liners, thickness in way of bushes as per Rule 19.2 mm Thickness between bushes as per rule 14.4 mm Is the after end of the liner made watertight in the  
as fitted 20 mm as fitted 15 mm 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 Yes  
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 Yes Is an approved Oil Gland or other appliance fitted at the after  
end of the tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 1750 mm  
Propeller, dia. 5100 mm Pitch 4132 mm No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 92.57 sq. feet  
Method of reversing Engines MAN method Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication  
forced Thickness of cylinder liners 41.5 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 funnel  
Cooling Water Pumps, No. 2 Each of 190 T/H Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes  
Bilge Pumps worked from the Main Engines, No. 1 Diameter 1 IN MOTOR SPACE: Can one be overhauled while the other is at work IN THE MAIN PUMP ROOM: IN PUMP ROOM FWD: IN  
Pumps connected to the Main Bilge Line No. and Size 2 One 7 1/2" x 8" x 10" Duplex of 100 T/H One of 40 T/H One of 30 T/H 1 1/2" x 6" x 6" of 50 T/H 1 1/2" x 6" x 6" of 30 T/H  
How driven Steam driven Electric driven Steam driven Steam driven  
Ballast Pumps, No. and size 1: 7 1/2" x 8" x 10" Duplex of 100 T/H Lubricating Oil Pumps, including Spare Pump, No. and size 2 Each of 100 m<sup>3</sup>/H  
Are two independent means arranged for circulating water through the Oil Cooler? Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
Pumps, No. and size:—In Machinery Spaces 3-4" 1-4" in the after cofferdam 3-3 1/2" in the main pump room  
In Holds, &c. 2-3 1/2" in the dry cargo hold forward 1-3 1/2" in the pump room forward 1-3 1/2" in the forward cofferdam  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5"  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes 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 Yes  
Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Both  
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes or by lifting special covers Are the Overboard Discharges above or below the deep water line Above  
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes  
What pipes pass through the bunkers How are they protected Yes  
What pipes pass through the deep tanks After cofferdam anchoring pipe Have they been tested as per Rule Yes  
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
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 Yes Is the Shaft Tunnel watertight Not fitted Is it fitted with a watertight door Yes worked from Yes  
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes  
Main Air Compressors, No. None No. of stages 2 Diameters 300-110 mm Stroke 220 mm Driven by Aux. engines  
Auxiliary Air Compressors, No. 2 No. of stages 2 Diameter 300-110 mm Stroke 220 mm Driven by Aux. engines  
Small Auxiliary Air Compressors, No. 1 No. of stages 2 "Beval" T.C.S. 2 of 8 m<sup>3</sup> for air/hmr. Driven by small generator  
Scavenging Air Pumps, No. 2 (Sandram) Diameter 1380 mm Stroke 850 mm Driven by Main engine  
Auxiliary Engines crank shafts, diameter as per Rule 139 mm MARKS: LLOYD'S 9243/4 PK-28-9-34  
as fitted 155 mm

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 Yes  
Is there a drain arrangement fitted at the lowest part of each receiver Yes  
Small starting High Pressure Air Receivers, No. 1 Cubic capacity of each 200 litres Internal diameter 438 mm thickness 9.5 mm  
Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 29.25 T/□ Working pressure by Rules 41 kg. cm<sup>2</sup>  
Starting Air Receivers, No. 1 Total cubic capacity 15 m<sup>3</sup> Internal diameter 1850 mm thickness 30 mm  
Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 44.8-46.8 kg. cm<sup>2</sup> Working pressure by Rules 30.7 kg. cm<sup>2</sup>



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