

REPORT ON OIL ENGINE MACHINERY.

No. 7093.

Received at London Office

14 SEP 1925

Date of writing Report 7th September 1925 When handed in at Local Office

Port of Copenhagen

Date, First Survey 11th December 1924 Last Survey 28th August 1925No. in Survey held at
Reg. Book.

Copenhagen

Number of Visits 68.

30817. on the ^{Single} ^{Motor} ^{Screw} ^{Vessel} "PROMETHEUS."Tons { Gross 6250
Net 3820

Built at Greenwich

By whom built Scott's Shipbuilding & Engineering Co. (Ld) Yard No. 597 When built 1925

Engines made at Copenhagen

By whom made Aktieselskabet Danmarks Maskinfabrik Engine No. 1133 When made 1925

Donkey Boilers made at

By whom made Boiler No. When made

Brake Horse Power 3700

Owners Ocean S. S. Co. Ltd. (A. Holt & Co) Port belonging to Liverpool.

Nom. Horse Power as per Rule 950

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

OIL ENGINES, &c. Type of Engines Vertical Diesel Oil Engines. 2 or 4 stroke cycle 4. Single or double acting Double

Maximum pressure in cylinders 35 kg/cm² No. of cylinders 2 x 8 = 16 Diameter of cylinders 630 mm = 24 7/8" No. of cranks 2 x 8 Length of stroke 1100 mm = 43 1/3"

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 Flywheel dia. 2620 Weight 8.3 Tons Means of ignition Air compression Kind of fuel used Gas & point above 150° F.

Crank Shaft, dia. of journals as per Rule 394 mm as fitted 398 mm Crank pin dia. 398 mm Crank Webs Mid. length breadth 760 mm Mid. length thickness 266 mm Thickness parallel to axis 266 mm Thickness around eye hole 178 mm

Flywheel Shafts, diameter as per Rule 394 mm as fitted 398 mm Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule 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 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 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 Direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of 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

Cooling Water Pumps, No. 2 off. Capacity 150 Tons each Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps fitted to the Main Engines, No. 2 off. Diameter 160 mm Stroke 196 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size How driven Lubricating Oil Pumps, including Spare Pump, No. and size 4 off. rotary, Capacity 40 Tons each.

Ballast Pumps, 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 the Bilge Suctions in the Machinery Space

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are they fitted with Valves or Cocks

Are all Sea Connections fitted direct on the skin of the ship Are the Overboard Discharges above or below the deep water line

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Blow Off Cocks fitted with a spigot and brass covering plate

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel How are they protected

What pipes pass through the bunkers Have they been tested as per Rule

What pipes pass through the deep tanks 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. 2 off No. of stages 3 Diameters A = 750 mm B = 750 mm C = 750 mm Stroke 360 mm Driven by the main engines

Auxiliary Air Compressors, No. 4 off No. of stages 3 Diameters A = 318 mm B = 318 mm C = 318 mm Stroke 220 mm Driven by the auxiliary oil engines

Small Auxiliary Air Compressors, No. 1 off No. of stages 2 Diameters A = 106 mm B = 34 mm Stroke 80 mm Driven by a steam engine.

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as approved 170 mm as fitted 170 mm

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

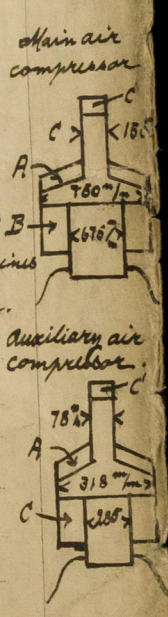
Is there a drain arrangement fitted at the lowest part of each receiver Yes I = 450 Litres II = 225 " III = 30 " Internal diameter I = 17 3/4" II = 15 3/4" III = 7 1/4" thickness I = 3/8" II = 3/8" III = 3/8"

High Pressure Air Receivers, No. I = 2 off II = 2 off III = 4 off Cubic capacity of each I = 450 Litres II = 225 " III = 30 " Range of tensile strength 28.6 to 31.5 Tons Working pressure by Rules 1118.6 " = 78.8 " 1367.0 " = 95.8 "

Seamless, lap welded or riveted longitudinal joint Seamless Material S.M. Steel Internal diameter thickness

Starting Air Receivers, No. Total cubic capacity Range of tensile strength Working pressure by Rules

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules



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 CYLINDER LINER, WATER JACKETS AND COVERS	27/6, 9/7, 27/7, 7/8. 25.	15 lbs per sq"	30 lbs per sq"	LLOYD'S TEST 30 LBS 27/6, 9/7, 25.	Aux. engine cylinders & covers. LLOYD'S TEST 30 LBS. 8 1/2 7/6, 17/8 25 & 9/6, 12/6, 25.
JACKETS	10/3, 16/7. 25.	15 lbs per sq"	30 lbs per sq"	LLOYD'S TEST 50 LBS 10/3, 16/7. 25.	
PISTON WATER PASSAGES	9/2, 17/3. 25.	4 ATM.	100 lbs per sq"	LLOYD'S TEST 100 LBS. 9/2, 17/3. 25.	
MAIN COMPRESSORS—1st STAGE	19/2, 24/2. 25.	16 ATM.	35 ATM.	LLOYD'S TEST 35 ATM. 19/2, 24/2. 25.	
2nd "	13/2, 16/2, 20/2, 13/7. 25.	65 ATM.	150 ATM.	LLOYD'S TEST 65 ATM. 13/2, 16/2, 20/2. 25.	
3rd "					
AIR RECEIVERS—STARTING	14/7. 25.	65 ATM.	130 ATM.	LLOYD'S TEST 130 ATM 14.7.25.	
INJECTION	1/8, 6/8. 25.	25 ATM.	50 ATM.		
AIR PIPES {for starting purpose}		65 ATM.	130 ATM.		
FUEL PIPES {for injection purpose}	9/7. 25.	75 ATM.	130 ATM.		
FUEL PUMPS {Suction space}	18/2, 26/2. 25.	1 ATM.	10 ATM.	LLOYD'S TEST 10 ATM 18/2, 26/2. 25.	
FUEL PUMPS {Delivery space}		75 ATM.	150 ATM.	LLOYD'S TEST 150 ATM 18/2, 26/2. 25.	
SILENCER					
EXHAUST PIPE WATER JACKET	27/6, 3/7, 14/7. 25.	15 lbs per sq"	30 lbs per sq"	LLOYD'S TEST 30 LBS 27/6, 3/7, 14/7. 25.	
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for Shafting for the Crank shafts. Receivers ✓ Separate Tanks ✓
(If not, state date of approval)
Donkey Boilers ✓ General Pumping Arrangements ✓ Oil Fuel Burning Arrangements ✓

SPARE GEAR As per accompanying list, - to be checked when placed onboard.

AKTIESELSKABET
BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI

The foregoing is a correct description.

[Signature]

Manufacturer.

Dates of Survey while building {During progress of work in shops - 11, 13, 16, 19, 20, 29, 31 Decr. 1924. - 3, 6, 9, 19, 20, 21, 22, 23, 30 Jan. - 2, 3, 4, 5, 6, 7, 9, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 30 Feb. - 2, 4, 6, 7, 9, 10, 13, 17, 19
During erection on board vessel - 2 April - 8, 12, 16, 19, 20, 22, 23, 27, 29, June - 1, 3, 9, 13, 14, 21, 24, 27 July - 7, 15, 28 August 1925.
Total No. of visits 68.

Dates of Examination of principal parts—Cylinder 5/2, 7/2, 16/2, 23/2, 4/3, 2/4, 27/6. Covers 9/7, 27/7, 7/8. 25. Pistons 10/3, 17/2, 6/3. 25. Rods 6/1, 29/1, 9/2, 23/2. Connecting rods 13/1, 16/1, 24/1, 20/1, 11/1, 12/1, 24/1, 14/1, 25.

Crank shaft 5/2, 7/2, 16/2, 23/2, 4/3, 2/4, 27/6. 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 ✓

Crank shaft, Material S M i Steel Identification Mark - " - 137672, 767, 17-3-15 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. Yes

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.) In accordance with the Rules for Special Survey we have examined the material and workmanship from the commencement of construction until the test of the main and auxiliary engines with their air compressors etc. under full power working condition on the test bench in the shop and found them to work satisfactorily. -

The material used in construction of the engines have been tested as required by the Rules.

The material used in the construction of the high pressure air receivers have been tested by the Board of Trade as per Certificate produced which has been accepted as per letter E. dated the 7th July 1925.

The dimensions are as specified and in accordance with the Rules, the approved plans and the requirements contained in your letter E dated the 16th Decr.

Recommend the vessel's machinery to have notation in the Register Book of LMC - with date and OIL ENGINES, when the machinery has been fitted onboard the vessel and tested under supervision of the local Surveyors to this Society. -

The amount of Entry Fee ... £ 93.60 When applied for,

Special ... £ 1911.00 19

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 20.10.1925

Committee's Minute GLASGOW 27 OCT 1925

Assigned Sec. Rpt. No. 18465

a.e. Dupich. M. Clausen.
Engineer Surveyors to Lloyd's Register of Shipping.



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Foundation