

# REPORT ON OIL ENGINE MACHINERY

No. 9249

17 MAY 1926

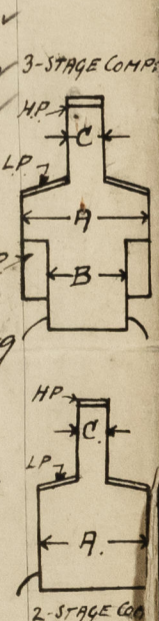
Received at London Office

Date of writing Report 5/5 1926 When handed in at Local Office 26 Port of Copenhagen  
 No. in Survey held at Copenhagen & Naeskov Date, First Survey 17/9 1925 Last Survey 28/4 1926  
 Reg. Book. 7989 on the Single MOTOR "ASTORIA" Tons Gross 4453.75  
 Built at Naeskov By whom built % Naeskov Skibsverft. Yard No. 26 When built 1926  
 Engines made at Copenhagen By whom made % Bunnister & Hain Engine No. 1172 When made 1926  
 Donkey Boilers made at Naeskov By whom made % Naeskov Skibsverft. Boiler No. 4 When made 1926  
 Brake Horse Power 2100 Owners % Dampskibsselskabet Orient Port belonging to Copenhagen  
 Nom. Horse Power as per Rule 541 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

**L ENGINES, &c.**—Type of Engines vertical Diesel oil engines, trunk type 2 or 4 stroke cycle 4 Single or double acting single  
 Maximum pressure in cylinders 35 kg/cm<sup>2</sup> No. of cylinders 2 x 6 Diameter of cylinders 550 mm No. of cranks 2 x 6 Length of stroke 1000 mm  
 Mean of bearings, adjacent to the Crank, measured from inner edge to inner edge 130 mm Is there a bearing between each crank yes  
 revolutions per minute 135 Flywheel dia. 2120 Weight 6820 kg Means of ignition compression Kind of fuel used crude oil, F.P. above 150°  
 Crank Shaft, dia. of journals as per Rule 339.98 mm Crank pin dia. 340 mm Crank Webs shrunk Thickness parallel to axis 213 mm  
 Flywheel Shafts, diameter as per Rule 339.98 mm Intermediate Shafts, diameter as per Rule 9.03" Thrust Shaft, diameter at collars as per Rule 9.48"  
 Tube Shafts, diameter as fitted 340 mm Screw Shaft, diameter as per Rule 9.97" Is the shaft fitted with a continuous liner yes  
 Bronze Liners, thickness in way of bushes as per Rule 0.60" Thickness between bushes as per rule 0.44" Is the after end of the liner made watertight in the  
 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  
 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  
 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 yes Length of Bearing in Stern Bush next to and supporting propeller 4'-3"  
 Propeller, dia. 11'-3" Pitch 9'-3" No. of blades 3 Material bronze whether Moveable No Total Developed Surface 30 sq. feet  
 Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when detached yes Means of lubrication  
forced Thickness of cylinder liners 38 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
 non-conducting material yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine  
tunnel fitted  
 Cooling Water Pumps, No. 2 off, centrifugal, 20 to capacity Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
 Bilge Pumps fitted to the Main Engines, No. 2 Diameter 150 mm Stroke 175 mm Can one be overhauled while the other is at work yes  
 Pumps connected to the Main Bilge Line { No. and Size 1 off 150 to, 1 off 20 to, 2 off 150 mm stroke x 1/8" diam (single act.)  
 How driven Electromotor, Electromotor, main engines  
 Ballast Pumps, No. and size 1 off 150 to (rotary) Lubricating Oil Pumps, including Spare Pump, No. and size 2 off, 40 to, rotary  
 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 Engine and Boiler Room 3 off 2 1/2", 1 off 3 1/2"  
 Holds, &c. No 1 hold: 2 off 3", No 2 hold: 2 off 3 1/2", No 3 hold: 2 off 3", No 4 hold: 2 off 3", 1 off 2 1/2", Tunnel well & top: 1 off 2 1/2"  
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off 3 1/2", 1 off 5"

**2-25** Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the BRANCH Bilge Suctions in the Machinery Space  
**2-24** from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes  
**2-25** Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks valves, except blow off cock  
**2-26** Are they fixed sufficiently high on the ship's side to be seen without lifting the hatch cover plates yes Are the Overboard Discharges above or below the deep water line above  
**2-27** 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  
**2-28** Do all pipes pass through the bunkers None How are they protected —  
**2-29** Do all pipes pass through the deep tanks None Have they been tested as per Rule yes  
**2-30** Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
**2-31** 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 yes Is it fitted with a watertight door yes worked from upper grating  
**2-32** On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork —  
**2-33** Main Air Compressors, No. 2 off No. of stages 3 Diameter 600-540-20 Stroke 320 mm Driven by main engines  
 Auxiliary Air Compressors, No. 2 No. of stages 2 Diameter 225-68 Stroke 220 mm Driven by auxil. Diesel engines  
 Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 2 1/2" L.P. Stroke 5" Driven by Hand  
**2-34** Ventilating Air Pumps, No. — Diameter — Stroke — Driven by —  
**2-35** Auxiliary Engines crank shafts, diameter as per Rule 161.5 mm  
**2-36** as fitted 162 mm

**R RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve yes  
**2-37** Are the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces manhole in starting air receiver  
arrangements made for shaming out H.P. air bottles  
**2-38** Is there a drain arrangement fitted at the lowest part of each receiver yes  
**2-39** High Pressure Air Receivers, No. 2 Cubic capacity of each 250 liters Internal diameter 404 mm thickness 23 mm  
lap welded Material S.M. steel Range of tensile strength 35-45 kg/cm<sup>2</sup> Working pressure by Rules 40.5 kg/cm<sup>2</sup>  
**2-40** Starting Air Receivers, No. 1 off Total cubic capacity 16 m<sup>3</sup> = 565 cu ft Internal diameter 5'-11 1/2" thickness 15/16" & 3/2" Working pressure by Rules 25 kg/cm<sup>2</sup>  
36% riveted Material S.M. steel Range of tensile strength shell 28 to 36, rivets 26



IS A DONKEY BOILER FITTED?

Yls. ✓

If so, is a report now forwarded?

Yls. ✓

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....					
"    "    COVERS .....	21/12 - 29/12 25.	10 lbs. per sq. in.	30 lbs. per sq. in.	LLOYD'S TEST 30 lbs. @ 21.12.25; K 29/12.25.	
"    "    JACKETS .....					
"    PISTON WATER PASSAGES .....					
MAIN COMPRESSORS—1st STAGE .....	30/12 25	65 Atm.	130 Atm.	LLOYD'S TEST 130 ATM. @ 30.12.25.	
"    2nd " .....	2/12 25.	16 - -	35 - -	LLOYD'S TEST 35 ATM. @ 2.12.25.	
"    3rd " .....	16/12 - 28/12 25.	4 - -	100 lbs. per sq. in.	LLOYD'S TEST 100 lbs. @ 16.12.25; K 28.12.25.	
AIR RECEIVERS—STARTING .....	12/12 25.	25 - -	39 Atm.	LLOYD'S TEST 39 ATM. WP 25 ATM. K 12.12.25.	
"    INJECTION .....	11/1 26.	65 - -	130 - -	Nº 167-8-9-170-1-2-3. LLOYD'S TEST 130 ATM. WP 65 ATM. @ 11.1.26.	
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....	16/12 - 22/12 25.		10/150 ATM.	LLOYD'S TEST 10/150 ATM. @ 16.12.25 K 22.12.25.	
SILENCER .....					
"    WATER JACKET .....					
SEPARATE FUEL TANKS .....	10/12 25.		10 lbs. per sq. in.	LLOYD'S TEST 10 lbs. K 10.12.25.	

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval)

Yls. ✓

Receivers

Yls. ✓

Separate Tanks

Yls. ✓

Donkey Boilers No. 18/12 24.

General Pumping Arrangements No. 30/1 25.

Oil Fuel Burning Arrangements

SPARE GEAR see accompanying list. ✓

The foregoing is a correct description,

**AKTIESELSKABET  
BURMEISTER & WAINSKIN- OG SKIBSBYGGERI**

Manufacturer.

Dates of Survey while building	During progress of work in shops--	17/9. 23/9. 7/10. 9/10. 19/10. 24/10. 27/10. 30/10. 6/11. 9/11. 11/11. 18/11. 20/11. 23/11. 24/11. 25/11. 26/11. 27/11. 28/11. 30/11. 1/12. 2/12. 3/12. 4/12. 7/12. 8/12. 10/12. 11/12. 12/12. 14/12. 15/12. 16/12.
	During erection on board vessel--	19/12. 21/12. 22/12. 28/12. 30/12. 1925. 4/1. 5/1. 7/1. 8/1. 9/1. 11/1. 12/1. 19/1. 21/1. 22/1. 23/1. 25/1. 26/1. 1/2. 26.
	Total No. of visits	62.

Dates of Examination of principal parts—Cylinders										18/10.	28/10.	2/12.	29/12.	Covers	29/10.	2/12.	29/12.	Pistons	11/12.	30/12.	Rods	✓	Connecting rods	17/9.	7/10.	20/11.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Crank shaft										23/9.	24/10.	6/11.	23/11.	3/12.	Flywheel shaft		✓	Thrust shaft		23/9.	9/10.	9/10.	11/12.	21/12.	Intermediate shafts		24/10.	30/10.	6/11.	23/11.	8/1.	Tube shaft		✓																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Screw shafts										24/10.	6/11.	3/12.	7/12.	1/1.	Propellers		19/1.	Stern tubes		27/11.	30/11.	9/1.	Engine seatings		12/1.	19/1.	Engines holding down bolts		29/1.	17/12.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Completion of fitting sea connections										12/1.	Completion of pumping arrangements										17/2.	Engines tried under working conditions										17/3.	27/4.	28/4.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Thrust shafts Material										S. M. Steel.					Identification Mark										LLOYD'S N <sup>o</sup> 7903-7909.					Intermediate shafts, Material					S. M. Steel.					Identification Marks					K 7.1.26; K 8.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Is the flash point of the oil to be used over 150° F. Yls. ✓

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.)

This machinery has been built under Special Survey and in accordance with the Rules, the approved plans and the requirements contained in the Registrar's letters 2 dated 30/1.23/2.8/4.25/4.27/4.1924. The material has been tested and examined as required, either by us or as per certificates produced and the workmanship is good. The whole of the machinery has been tried under full power working conditions and was found to work satisfactorily, and the manoeuvring of the main engine was tested and found good.

Recommend the vessel's machinery to have notation of **LMC-4-26** OIL ENGINES.

The amount of Entry Fee ...	12 = 14.18.54	111.42
Special	1895.06	
1 STARTING AIR RECEIVER	78.00	
Donkey Boiler Fee	78.00	
FITTING DONKEY BOILER	534.00	
Travelling Expenses (if any)	30.00	
EARLY FEE		

Committee's Minute

Assigned

+d. M.C. 4:26 C.R.  
Oil Engines

When applied for,

When received,

PM. 21 MAY 1926

A. J. Dyball

Engineer Surveyor to Lloyd's Register of Shipping.



© 2020

Lloyd's Register  
Foundation

CERTIFICATE WRITTEN

0069 2/2