

REPORT ON OIL ENGINE MACHINERY.

No. 2603

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Date of writing Report 20 Aug 1925 When handed in at Local Office 10 Port of Stockholm
 No. in Survey held at 1 Slicka, Skm Sista Date, First Survey 28th Oct 1918 Last Survey 12th Aug 1925
 Reg. Book. Number of Visits 9
 on the ^{Single} Twin } Screw vessels (not yet named) Tons { Gross
 Triple } Net
 Master Built at Gothenburg By whom built Aktiebolaget Lindholm & Nord No. 923 When built 1925
 Engines made at Stockholm By whom made Aktiebolaget Atlas - Diesel Engine No. 50047 When made 1925
 Donkey Boilers made at By whom made Boiler No. When made
 Brake Horse Power 1250 Owners A.B. Svenska Ostasiatiska Kompaniet Port belonging to Gothenburg
 Nom. Horse Power as per Rule 358 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

IL ENGINES, &c. Type of Engines Polar Diesel Oil Engine, type A6Z 2 or 4 stroke cycle Single or double acting ✓
 Maximum pressure in cylinders 35 kg/cm² No. of cylinders 6 No. of cranks 6 Diameter of cylinders 630 mm.
 Length of stroke 1000 mm. Revolutions per minute 125 Means of ignition Diesel Kind of fuel used crude oil
 Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 860 mm.
 Distance between centres of main bearings 1300 mm. Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 378 mm.
 as fitted 380 "
 Diameter of crank pins 380 mm Breadth of crank webs as per Rule 505 mm.
 as fitted 720 " Thickness of ditto as per Rule 213 mm.
 as fitted 250 "
 Diameter of flywheel shaft as per Rule 378 mm. (combined with the thrust shaft) Diameter of tunnel shaft as per Rule 275 mm.
 as fitted 380 " as fitted 310 "
 Diameter of screw shaft as per Rule Is the screw shaft fitted with a continuous liner the whole length of the stern tube
 as fitted
 the after end of the liner made watertight in the propeller boss If the liner is in more than one length are the joints burned
 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
 two liners are fitted, is the shaft lapped or protected between the liners If without liners, is the shaft arranged to run in oil
 Type of outer gland fitted to stern tube Length of stern bush Diameter of propeller
 Pitch of propeller No. of blades state whether moveable Total surface square feet
 Method of reversing manoeuvring cyls. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Thickness of cylinder liners 60 mm.
 Are the cylinders fitted with safety valves Yes Means of lubrication gearwheel pumps 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
 No. of cooling water pumps 1 Is the sea suction provided with an efficient strainer which can be cleared
 Main the vessel No. of bilge pumps fitted to the main engines 1 Diameter of ditto 150 mm. Stroke 220 mm (double acting)
 Can one be overhauled while the other is at work No. of auxiliary pumps connected to the main bilge lines How driven
 Number of pumps No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room
 Located in holds, etc. No. of ballast pumps How driven Sizes of pumps
 Is the ballast pump fitted with a direct suction from the engine room bilges State size Is a separate auxiliary pump suction fitted in
 Engine Room and size Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible
 Are the sluices on Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship
 Are they valves or cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates
 Are the discharge pipes above or below the deep water line Are they each fitted with a discharge valve always accessible on the plating of the vessel
 Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Are the bilge suction pipes, cocks and valves arranged so as to prevent any
 communication between the sea and the bilges Is the screw shaft tunnel watertight Is it fitted with a watertight door
 Keel from If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
 Number of main air compressors 1 No. of stages 3 Diameters 630-550/115 Stroke 460 mm. Driven by Main engine
 Number of auxiliary air compressors 1 No. of stages 3 Diameters 320-75/115 Stroke 200 mm. Driven by Electric motor
 Number of small auxiliary air compressors 1 No. of stages 2 Diameters 80/30 Stroke 80 mm. Driven by "Atlas" motor
 Number of scavenging air pumps none fitted Diameter Stroke Driven by
 Number of auxiliary Diesel Engine crank shafts as per Rule Are the air compressors and their coolers made so as to be easy of access yes
 as fitted

RECEIVERS:—No of high pressure air receivers 2 Internal diameter 400 mm Cubic capacity of each 315 litres
 Material S.M. Steel Seamless, lap welded or riveted longitudinal joint lap welded Range of tensile strength min 38 kg/mm²
 Thickness 23 mm. working pressure by Rules 73 kg/cm² No. of starting air receivers 1 Internal diameter 1900 mm.
 Cubic capacity 13200 litres Material S.M. Steel Seamless, lap welded or riveted longitudinal joint lap welded
 Range of tensile strength 38 kg/mm² thickness 22.5 mm. Working pressure by rules 15 kg/cm² Is each receiver, which can be isolated,
 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
 surfaces man- and mudholes, resp. Is there a drain arrangement fitted at the lowest part of each receiver yes

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 CYLINDERS	(The thickness of the cylinder liners is more than 1/5 of the cyl. diam.)				
"	15.6.25.	-	4 kg/cm ²	LLOYD'S TEST 4 kg. AI 15.6.25. A	
" COVERS water passages	18.6.25	-	ditto	LLOYD'S TEST 4 kg. AI 18.6.25. A	
" JACKETS.....	16.6.25.	-	ditto	LLOYD'S TEST 4 kg. AI 16.6.25. A	
" PISTON WATER PASSAGES.....	20.6.25	4 kg/cm ²	35 kg/cm ²	LLOYD'S TEST 35 kg. AI 20.6.25. A	
MAIN COMPRESSORS—1st STAGE.....	20.6.25.	15 -"	35 -"	LLOYD'S TEST 140 kg. AI 20.6.25. A	
" 2nd ..	12.6.25.	70 -"	140 -"		
" 3rd ..	29.5.25.	15 -"	30 -"	No 5327 LLOYD'S TEST W.P. 15 kg. AI 29.5.25. A	Spare
AIR RECEIVERS—STARTING	30 & 8 25.	70 -"	140 -"	No 5328 LLOYD'S TEST W.P. 140 kg. AI 30.6.25. A	
" INJECTION	20.6.25.	70 -"	140 -"	No 5329 LLOYD'S TEST W.P. 140 kg. AI 30.6.25. A	
AIR PIPES	20.6.25.	70 -"	140 -"	W.P. 70 kg. AI 8.8.25. A	
FUEL PIPES	20.6.25.	70 -"	140 -"	W.P. 70 kg. AI 30.6.25. A	
FUEL PUMPS	24.2.25	-	3.5 kg/cm ²	HYDR. TEST 3.5 kg. AI 24.2.25. A	
SILENCER	(The silencer will be lagged with non-conducting material, when being fitted in ship.)				
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting *See Secretary's letters* E 26.4.20. Receivers E 1.10.24. Separate Tanks
(If not, state date of approval) E 14.9.18. E 6.6.24. E 24.6.24.
SPARE GEAR as per list, approved on the 20 October 1924, 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 - - } 28, 30 18; 27, 6 11; 20 19; 4, 6 24; 24, 25, 27 & 29, 12, 15, 16, 18, 20 & 30, 8 & 12 25.
{ During erection on board vessel - - }
Total No. of visits in shop 19.
Dates of Examination of principal parts—Cylinders 25, 18 & 20 25 Covers 15 & 16 25. Pistons 16 & 18 25 Rods 27, 19, 18 25 Connecting rods 6, 20 19, 16 25
Crank shaft 28, 30 18 Thrust shaft 16, 24, 15 & 16 25 Compr. shafts 4, 24, 15 25 Screw shaft Propeller Stern tube Engine seatings
Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions in shop 25.
Completion of fitting sea connections Stern tube List Screw shaft and propeller
Material of crank shaft I.M. Steel Identification Mark on Do. See appended list Material of thrust shaft I.M. Steel Identification Mark on Do. LLOYD'S No 73
Material of Compr. shafts I.M. Steel Identification Marks on Do. LLOYD'S No 6030-2 AI 4.7.24 A Material of screw shafts Identification Marks on Do. VB. 6.10.24
Is the flash point of the oil to be used over 150° F.?

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 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 the ship to the satisfaction of the Society's Gothenburg surveyors.

The amount of Entry Fee ... £ : When applied for,
Special ... 1145.87 : 21 Aug. 1925
Donkey Boiler Fee ... £ : When received,
Travelling Expenses (if any) £ 76.44 : Sep. 1925

Committee's Minute

Assigned

TUES. 13 OCT 1925

See Got JE 6212

O. Haksoe
Engineer Surveyor to Lloyd's Register of Shipping
Assisted by Mr. K. J. Anderson.



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