

REPORT ON OIL ENGINE MACHINERY.

No. 2511

Received at London Office

2 DEC 1924

REMARKS Report 29 November 1924 When handed in at Local Office

Port of Stockholm

asl. 1245-25.

Survey held at Sjöklä, Skon distr

Date, First Survey 6 March 1918 Last Survey 28 Nov 1924

Number of Visits 8

on the Twin Screw vessel Grosholm

Tons Gross 1734 Net 1286

Built at Rödby Lavn

By whom built M. Rödby Lavn

Yard No. 1 When built 1920

made at Stockholm

By whom made Metul. Atlas Diesel

Engine No. 50058 When made 1924

boilers made at

By whom made

Boiler No. When made

orse Power 350

Owners Skibs A/S. Grimstad

Port belonging to Christiania

se Power as per Rule 92

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

GINES, &c. Type of Engines Polar Diesel Oil Engine (type 24/2) 2 stroke cycle Single or double acting

Pressure in cylinders 35 kg/sq. cm. No. of cylinders 4 No. of cranks 4 Diameter of cylinders 360 mm

Stroke 530 mm. Revolutions per minute 200 Means of ignition Diesel Kind of fuel used Crude Oil

ring between each crank yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 452 mm

centres of main bearings 750 mm Is a flywheel fitted yes Diameter of crank shaft journals as per Rule 218 mm as fitted 220

ank pins 220 mm Breadth of crank webs as per Rule 290 mm as fitted 300 Thickness of ditto as per Rule 122 mm as fitted 121

and thrust as per Rule 218 mm Diameter of tunnel shaft as per Rule 218 as fitted 220 Diameter of thrust shaft as per Rule as fitted

ew shaft as per Rule 202 mm Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner

of the liner made watertight in the propeller boss yes If the liner is in more than one length are the joints burned

s 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

re fitted, is the shaft lapped or protected between the liners If without liners, is the shaft arranged to run in oil yes

land fitted to stern tube Cedarwalls Length of stern bush 27 1/2 Diameter of propeller 2174 mm

1755 mm No. of blades 3 state whether moveable no Total surface 1,32 square m

recovering cyls. Is a governor or other arrangement fitted to prevent racing of the engine when decoupled yes Thickness of cylinder liners none fitted

s fitted with safety valves yes Means of lubrication pumps Are the exhaust pipes and silencers water cooled or lagged with

material lags If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine led up through funnel

No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared

yes No. of bilge pumps fitted to the main engines 1 Diameter of ditto 155 mm Stroke 68 mm

auled while the other is at work No. of auxiliary pumps connected to the main bilge lines 1 How driven motor skan

in p. 150. 150. 150 mm No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 2, 3

2 in each head, 3 No. of ballast pumps 1 How driven steam Sizes of pumps 190. 200. 250 mm

ump fitted with a direct suction from the engine room bilges yes State size 3 Is a separate auxiliary pump suction fitted in

nd size yes, 3 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine Room always accessible yes

an Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship yes

or cocks valves Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates yes

re pipes 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

cks, valves and pumps in connection with the machinery accessible at all times yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any

between the sea and the bilges yes Is the screw shaft tunnel watertight Is it fitted with a watertight door

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

compressors 2 No. of stages 2 Diameters 270/75 mm Stroke 420 mm Driven by main engine

air compressors 1, original rubber No. of stages Diameters Stroke Driven by

auxiliary air compressors 1, original rubber No. of stages Diameters Stroke Driven by

air pumps 2 Piston Outside Diameter 580 mm Stroke 420 Driven by main engine

Diary Diesel Engine crank shafts as per Rule as fitted Are the air compressors and their coolers made so as to be easy of access yes

IVERS:—No of high pressure air receivers 2 Internal diameter 240 and 350 mm Cubic capacity of each 45 and 330 litres

Steel Seamless, lap welded or riveted longitudinal joint lap welded Range of tensile strength minimum 23 tons/sq. inch

and 21 mm working pressure by Rules 1024 and 1014 lbs/sq. inch No. of starting air receivers 1 Internal diameter 950 mm

city 2300 litres Material S.M. Steel Seamless, lap welded or riveted longitudinal joint lap welded

strength min 23 tons/sq. inch thickness 11.5 mm Working pressure by rules 184 lbs/sq. inch Is each receiver, which can be isolated,

dy valve as per Rule yes Can the internal surfaces of the receivers be examined yes What means are provided for cleaning their

manhole 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	18.11.24	35 kg/eq. cm.	80 kg/eq. cm.	LLOYD'S TEST 80 kg AI 18.11.24 A	
" " COVERS	"	ditto	ditto	ditto	
" " JACKETS	"		4 kg/eq. cm.		
" " PISTON WATER PASSAGES	(open pistons)				
MAIN COMPRESSORS—1st STAGE	18.11.24	13 kg/eq. cm.	26 kg/eq. cm.	LLOYD'S TEST 140 kg AI 18.11.24 A	
" 2nd "	"	70 " "	140 " "		
" 3rd "	"			No 5255 LLOYD'S TEST 26 Kg. WP. 13 Kg. AI 28.11.24 A	spare
AIR RECEIVERS—STARTING	28.11.24	13 kg/eq. cm.	26 kg/eq. cm.		
" INJECTION	19.11.24	70 " "	140 " "	No 5256 LLOYD'S TEST 140 Kg. WP. 70 Kg. AI 21.11.24 A	
AIR PIPES	18.11.24	70 " "	140 " "		
FUEL PIPES	18.11.24	70 " "	140 " "		
FUEL PUMPS	19.11.24	70 " "	140 " "		
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting *See Secretary's letters E 27.7.1916*
E 8.11.1917 Receivers $\frac{17}{7}, \frac{12}{8}$ 1919 Separate Tanks
 (If not, state date of approval)

SPARE GEAR as per list, approved on the 3rd Oct. 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: $\frac{6}{3}, \frac{7}{18}, \frac{13}{2}, \frac{27}{19}, \frac{18}{11}, \frac{19}{21}, \frac{21}{28}, \frac{24}{11}$
 During erection on board vessel: $\frac{3}{12}, \frac{19}{24}, \frac{20}{21}, \frac{23}{1}, \frac{13}{2}, \frac{10}{3}, \frac{24}{4}, \frac{14}{4}, \frac{24}{4}, \frac{12}{5}, 1925$
 Total No. of visits: 8 in shop, 11 during erection on board.

Dates of Examination of principal parts—Cylinders $\frac{28}{8}, \frac{18}{11}, \frac{24}{11}$ Covers $\frac{28}{8}, \frac{18}{11}, \frac{24}{11}$ Pistons $\frac{19}{11}, 24$ Rods Connecting rods $\frac{7}{3}, \frac{3}{8}, \frac{18}{11}, \frac{13}{2}, \frac{27}{11}$
 Crank shaft $\frac{6}{3}, \frac{18}{11}, \frac{19}{24}$ Thrust shaft $\frac{6}{3}, \frac{18}{11}, \frac{19}{24}$ Screw shaft $\frac{13}{2}, 25$ Propeller $\frac{14}{4}, 25$ Stern tube $\frac{14}{4}, 25$ Engine seatings $\frac{14}{4}, 25$
 Engines holding down bolts $\frac{14}{4}, \frac{12}{5}, 25$ Completion of pumping arrangements $\frac{12}{5}, 25$ Engines tried under working conditions in shops $\frac{28}{8}, 18$
 Completion of fitting sea connections $\frac{14}{4}, 25$ Stern tube $\frac{14}{4}, 25$ Screw shaft and propeller $\frac{14}{4}, 25$
 Material of crank shaft *S.M. Steel* Identification Mark on Do. *LLOYD'S No 16V3 6.3.18A* Material of thrust shaft *S.M. Steel* Identification Mark on Do. *LLOYD'S No 16V3 6.3.18A*
 Material of *comp.* tunnel shafts *S.M. Steel* Identification Marks on Do. *LLOYD'S No 16V4 6.3.18A* Material of screw shafts *S.M. Steel* Identification Marks on Do. *LLOYD'S No 16V4 6.3.18A*
 Is the flash point of the oil to be used over 150° F. *yes*

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *see item report no 1647*

General Remarks (State quality of workmanship, opinions as to class, &c.)

I am of opinion, that this engine is of superior material and workmanship, and as it has been designed and constructed under my special survey, I have respectfully to submit, that it will be eligible to be classed **LMC*, as soon as it has been fitted in ship to the satisfaction of the Society's surveyors

note This engine fitted on board, examined during the erection and brief under working condition and found to work satisfactory. Recommended that she be classed **LMC 5.25*.

The amount of Entry Fee ... £ : : When applied for,
 Special ... *Nr 418 : 60* : *29.11.1924*
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) *Nr 38 : 22* : *Dec. 24*
Nr 456 : 82

Committee's Minute

Assigned

Engine Surveyor to Lloyd's Register of Shipping.
 Assisted by Mr. K. J. Anderson.

Oslø 23rd May 1925

Reide

Perfian Pär

Lloyd's Register Foundation

Certificate (if required) to be sent to Adm. Office.

(The Surveyors are requested not to write on or below the space for Committee's Minute.)