

REPORT ON OIL ENGINE MACHINERY.

No. 2510

3 DEC 1924

Received at London Office

When handed in at Local Office

Port of Stockholm

Date, First Survey 17 April 1918 Last Survey 24 Nov 1924

Number of Visits 8

Survey held at

Sickla, Skm. distr.

suction pipe

large suction

grounding at

Single
Twin
Triple

Screw vessels

Built at

By whom built

Yard No.

When built

made at

Stockholm

By whom made

Mitub. Mas Diesel

Engine No.

When made 1924

Boilers made at

See later dated 4.12.24

By whom made

Boiler No.

When made

Power

360

Owners Grossmotoren-Werke Hamburg-Mannheim

Port belonging to Mannheim

Power as per Rule

92

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

INES, &c.—Type of Engines

Polar Diesel Oil Engine (type P4N)

2 stroke cycle

Single or double acting

Pressure in cylinders

35 kg/cm²

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

Distance between each crank

Yes

Span of bearings (Page 92, Section 2, par. 7 of Rules)

452 mm

Distance between centres of main bearings

750 mm

Is a flywheel fitted

Yes

Diameter of crank shaft journals

as per Rule 218 mm

as fitted 220 "

Pin diameter

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 "

Pin diameter

as per Rule

(to be manufactured in Germany)

Diameter of tunnel shaft

as per Rule

Diameter of thrust shaft

as per Rule

as fitted

Screw shaft

as fitted

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Is the liner made watertight in the propeller boss

If the liner is in more than one length are the joints burned

Is the space between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

Is the shaft lapped or protected between the liners

If without liners, is the shaft arranged to run in oil

Land fitted to stern tube

Length of stern bush

Diameter of propeller

No. of blades

state whether moveable

Total surface

square feet

Is a governor or other arrangement fitted to prevent racing of the engine when declutched

yes

Thickness of cylinder liners none fitted

Are the exhaust pipes and silencers water cooled or lagged with

Means of lubrication

pumps

Are the exhaust pipes and silencers water cooled or lagged with

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 2 Is the sea suction provided with an efficient strainer which can be cleared

No. of bilge pumps fitted to the main engines

1

Diameter of ditto

155 mm

Stroke 68 mm

How driven

No. of auxiliary pumps connected to the main bilge lines

How driven

No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room

No. of ballast pumps

How driven

Sizes of pumps

Is a separate auxiliary pump suction fitted in

State size

Is a separate auxiliary pump suction fitted in

Are all the bilge suction pipes fitted with roses

Are the roses in Engine Room always accessible

Are all connections with the sea direct on the skin of the ship

Are all connections with the sea direct on the skin of the ship

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

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

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Are the bilge suction pipes, cocks and valves arranged so as to prevent any

Are the bilge suction pipes, cocks and valves arranged so as to prevent any

Is the screw shaft tunnel watertight

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

No. of stages

2

No. of stages

2

Diameters

270/75 mm

Stroke

420 mm Driven by main engine

No. of stages

No. of stages

Diameters

Stroke

Driven by

No. of stages

No. of stages

Diameters

Stroke

Driven by

2

Piston Outside

Diameter 580 mm

Stroke 420 mm

Driven by main engine

2

Piston Inside

Diameter 270 "

Stroke 420 mm

Driven by main engine

Are the air compressors and their coolers made so as to be easy of access

Are the air compressors and their coolers made so as to be easy of access

No. of high pressure air receivers

2

Internal diameter 240 and 350 mm Cubic capacity of each 45 and 330 litres

Seamless, lap welded or riveted longitudinal joint

lap welded

Range of tensile strength minimum 23 tons/inch

Working pressure by Rules 1024 and 1014 lbs/inch

No. of starting air receivers

one

Internal diameter

950 mm

Material

S. M. Steel

Seamless, lap welded or riveted longitudinal joint

lap welded

Working pressure by rules

11.5 mm

Working pressure by rules

184 lbs/inch

Is each receiver, which can be isolated,

Can the internal surfaces of the receivers be examined

yes

What means are provided for cleaning their

Is there a drain arrangement fitted at the lowest part of each receiver

yes

manhole

Is there a drain arrangement fitted at the lowest part of each receiver

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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	11.11.24	35 kg/100 sq. cm.	80 kg/100 sq. cm.	LLOYD'S TEST 80 kg. AI 11.11.24 A	
" " COVERS	"	ditto	ditto	ditto	
" " JACKETS	"	—	4 kg/100 sq. cm.		
" " PISTON WATER PASSAGES	open pistons				
MAIN COMPRESSORS—1st STAGE	11.11.24	13 kg/100 sq. cm.	26 kg/100 sq. cm.	LLOYD'S TEST 140 kg. AI 11.11.24 A	
" 2nd "	"	70 —	140 —		
" 3rd "	"			No 5253 LLOYD'S TEST 26 kg. WP 13 kg. AI 12.11.24 A	spare
AIR RECEIVERS—STARTING	12.11.24	13 kg/100 sq. cm.	26 kg/100 sq. cm.		
" INJECTION	12.11.24	70 —	140 —	No 5254 LLOYD'S TEST 140 kg. WP 70 kg. AI 12.11.24 A	No 5255. LLOYD'S TEST 140 kg. WP 70 kg. AI 12.11.24 A
AIR PIPES	12.11.24	70 —	140 —		
FUEL PIPES	12.11.24	70 —	140 —		
FUEL PUMPS	15.11.24	70 —	140 —		
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting (If not, state date of approval) *See Secret. letter E 8.11.1917* Receivers *17/7 12/8 1919* Separate Tanks *✓*
 SPARE GEAR as per list, approved on the 31st Oct. 1924, will be inspected when machine being fitted in ship.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - 17/4.18; 13 & 27, 15 23; 11.12.15 & 24 24;
 During erection on board vessel -
 Total No. of visits 8 on ship
 Dates of Examination of principal parts—Cylinders 15 23; 11 24 Covers 15 23; 11 24 Pistons 11 24 Rods Connecting rods
 Crank shaft 17 18 11 24 Thrust shaft Comp. Tunnel shaft 17 18; 11 19 Screw shaft Propeller Stern tube Engine seating
 Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions in ship
 Completion of fitting sea connections Stern tube LLOYD'S No 1798 17.4.18 A Identification Mark on Do.
 Material of crank shaft S.M. Steel Identification Marks on Do.
 Material of tunnel shafts S.M. Steel Identification Marks on Do.
 Material of screw shafts Identification Marks on Do.

Is the flash point of the oil to be used over 150° F.

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *see Skm. 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 been designed and constructed under my special survey. I have respectfully to submit will be eligible to be classed LMC, as soon as it has been fitted in a class to the satisfaction of the Society's Surveyors.

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

The amount of Entry Fee ... £ : : When applied for,
 Special ... *K 418* : 60 : 29.11.1924
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) *K 38* : 22 : 19
K 456.82

Committee's Minute

Assigned

TUES. 9 JUN 1925

A. Sakson
 Engineer Surveyor to Lloyd's Register of
 Master by Mr. K. J. P. ...



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