

REPORT ON OIL ENGINE MACHINERY.

No. 2248.

MON. JAN. 29 1923

Date of writing Report 22 Jan 1923 When handed in at Local Office

Port of Stockholm

No. in Survey held at Stockholm

Date, First Survey 29 Sept. 1922

Last Survey 14 Jan 1923

Reg. Book. Single }
on the Twin } Screw vessels
Triple }

MS. C8

Number of Visits 10

Tons } Gross 3144
Net

Master Built at Bilbao

By whom built Soc. Española de Constr. Naval

Yard No. 23. When built 1923.

Engines made at Stockholm

By whom made J. C. G. Bolinder Co. Ltd

Engine No. 15152 When made 1923

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power 160

Owners Sociedad Española de Construcción Naval

Port belonging to Bilbao

Nom. Horse Power as per Rule 46

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

OIL ENGINES, &c.—Type of Engines Bolinder Oil Engine

2 stroke cycle Single or double acting

Maximum pressure in cylinders 17 kg/cm

No. of cylinders 4

No. of cranks 4

Diameter of cylinders 300 mm

Length of stroke 310 mm

Revolutions per minute 350

Means of ignition Hot bulb

Kind of fuel used Crude Oil

Is there a bearing between each crank Yes

Span of bearings (Page 87, Section 3, par. 1 of Rules) 600 mm

Distance between centres of main bearings 600 mm

Is a flywheel fitted Yes

Diameter of crank shaft journals as per Rule 121 mm

Diameter of crank pins 128 mm

Breadth of crank webs as per Rule 161 mm

Thickness of ditto as per Rule 68 mm

Diameter of flywheel shaft as per Rule

Diameter of tunnel shaft as per Rule

Diameter of thrust shaft as per Rule 116 mm

Diameter of screw shaft as per Rule

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

Is 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

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

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

Type of outer gland fitted to stern tube Guard Ring

Length of stern bush 400 mm

Diameter of propeller 1105 mm

Pitch of propeller 1524 mm

No. of blades 3

state whether moveable

Total surface 37.16 DCM²

Method of reversing Timing

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

Thickness of cylinder liners as per Rule

Are the cylinders fitted with safety valves

Means of lubrication Pumped

Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material

If the exhaust is led overhead near the waterline, what means are arranged to prevent water from being syphoned back to the engine

within the vessel

No. of bilge pumps fitted to the main engines 1

Diameter of ditto 100 mm

Stroke 50 mm

Can one be overhauled while the other is at work

No. of auxiliary pumps connected to the main bilge lines

How driven

Sizes of pumps

No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps

In engine room

and 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

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

No. of main air compressors none fitted

No. of stages

Diameters

Stroke

Driven by

No. of auxiliary air compressors one

No. of stages

Diameters 38"

Stroke 3"

Driven by Hand wheel 3' 0"

No. of small auxiliary air compressors

No. of stages

Diameters

Stroke

Driven by

No. of scavenging air pumps

Diameter

Stroke

Driven by

Diameter of auxiliary Diesel Engine crank shafts as per Rule

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

AIR RECEIVERS:—No of high pressure air receivers

Internal diameter

Cubic capacity of each

material

Seamless, lap welded or riveted longitudinal joint

Range of tensile strength

thickness

working pressure by Rules

No. of starting air receivers

Internal diameter 434 mm

Total cubic capacity 280 litres

Material S.M. Steel

Seamless, lap welded or riveted longitudinal joint lap welded

Range of tensile strength min. 23 tons

thickness 8 mm

Working pressure by rules 257 lbs

Is each receiver, which can be isolated,

fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined

What means are provided for cleaning their

inner surfaces manhole door

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	22.12.22	17 kg/sq. cm.	37 kg/sq. cm.	LLOYD'S TEST 27 KG AT 22.12.22 A	
COVERS	22.12.22	ditto	ditto		
JACKETS	22.12.22		3.5 kg/sq. cm.		
PISTON WATER PASSAGES	(open piston)				
MAIN COMPRESSORS—1st STAGE					
2nd	none fitted				
3rd					
AIR RECEIVERS—STARTING	7.1.23	15 kg/sq. cm.	30 kg/sq. cm.	Nº 2227 LLOYD'S TEST 30 KG WP 15 KG AT 4.1.23 A	
INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER	22.12.22		3.5 kg/sq. cm.	HYDR. TEST 3.5 KG AT 22.12.22 A	
WATER JACKET	22.12.22		ditto		
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting E 7.11.22
(If not, state date of approval)

Receivers starting E 8.3.16

Separate Tanks

SPARE GEAR to be supplied and inspected on delivery. — 2-top end bolts and nuts 2-7/8. bearing studs & nuts, 1-disc valve for bridge & pump and one disc valve; 3 studs for ignition bulb; 1 stud for cylinder; 1 bolt for thrust bearing; 1 bolt for lubricating apparatus; 1-bolt for feed pump eccentric; 1-bolt for oscillating lever; 1-bolt for governor weight; 2-disc valves for fire pump; 2-disc valves for fire pump, and two coupling bolts and nuts.

The foregoing is a correct description,

SOCIEDAD ESPAÑOLA DE CONSTRUCCION NAVAL

D. A. Fullerton

Manufacturer

During progress of work in shops -- 29 19.1.22 30.4.19.21.22 1922. 14/1923
During erection on board vessel -- 15.12.22 Feb. 5.22.23 Jan. 23.23 Mar. 1.2.6.4.12.16.23 Apr. 12.26.23 May. 23.23 June 4.19. July 12.
Total No. of visits 10 in shop 16 in vessel.

Dates of Examination of principal parts — Cylinders 19.22 22 Covers 19.22 22 Pistons 19.22 22 Rods 19.22 22
Crank shaft 29.19 19.22 Thrust shaft 15.12.22 Tunnel shafts 19.22 22 Screw shaft 22.2.23 Propeller 12.3.23 Stern tube 2.3.23 Engine seatings 2.3.23
Engines holding down bolts 4.3.23 Completion of pumping arrangements 12.4.23 Engines tried under working conditions in shop 19.21.22
Completion of fitting sea connections 2.3.23 Stern tube 6.3.23 Screw shaft and propeller 4.3.23
Material of crank shaft L.M. Steel Identification Mark on Do. LLOYD'S Nº 3214 AT 19.10.22 A Material of thrust shaft L.M. Steel Identification Mark on Do. LLOYD'S Nº 3222 AT 22.11.22 A
Material of tunnel shafts Identification Marks on Do. Material of screw shafts Steel Identification Marks on Do. 13.23.1.23.
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 Skm. Report no. 2247 - Borep. 12.23.

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

I am of opinion, that this motor 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 to the vessel, to the satisfaction of the Society's Surveyors.
This machinery has been securely fitted on board, the materials and workmanship are good and has been tried under working conditions and found satisfactory.
In my opinion it is eligible to be classed with record of L.M.C. 4.23.

The amount of Entry Fee ... £ : : When applied for, 19.1.19.23
Special survey in shop 12 : 0 : 0 450 pts. 7.5.23.
Donkey Boiler Fee ... £ : : When received, 3/13/23
Travelling Expenses (if any) £ : 6 pts. 8/8/23

Committee's Minute

FRI. 14 SEP. 1923

Assigned

+ L.M.C. 7.23.

Thomas Miller A. Baker
Engineer Surveyor to Lloyd's Register of Shipping.
assisted by Mr. K. J. Anderson.

CERTIFICATE WRITER



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