

REPORT ON OIL ENGINE MACHINERY.

No. 2311.

Received at London Office

MON. 2 JUL. 1923

Rating Report 26 June 1923 When handed in at Local Office

Port of Stockholm

Survey held at Stockholm

Date, First Survey 17 Jan

Last Survey 19 June 1923.

Number of Visits 10

on the ^{Single} ^{Twin} ^{Triple} Screw vessels

Tons ^{Gross} _{Net}

Built at

By whom built

Yard No.

When built

15196/99

made at Stockholm

By whom made J. & C.G. Bolinder's Co. Ltd. Engine No. When made 1923.

Boilers made at

By whom made

Boiler No.

When made

Horse Power 160

Owners Astilleros de Tarragona S.A.

Port belonging to Tarragona

Horse Power as per Rule 46

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

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

2 stroke cycle

Single or double acting

Pressure in cylinders 17 Kg/sq.cm.

No. of cylinders 4

No. of cranks 4

Diameter of cylinders 300 m/m

Stroke 310 m/m

Revolutions per minute 350

Means of ignition

hot bulb

Kind of fuel used crude oil

Span of bearings between each crank

yes

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

600 m/m

Span of bearings between centres of main bearings

600 m/m

Is a flywheel fitted

yes

Diameter of crank shaft journals

as per Rule 121 m/m

as fitted 128 m/m

Diameter of crank pins

128 m/m

Breadth of crank webs

as per Rule

161 m/m

Thickness of ditto

as per Rule 68 m/m

as fitted 71,5 m/m

Diameter of flywheel shaft

The flywheel is fitted at fore end of the crank shaft

Diameter of tunnel shaft

Diameter of thrust shaft

as per Rule

116 m/m

as fitted 118 m/m

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 liner made watertight in the propeller boss

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

Does the liner do 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

Are the liners fitted, is the shaft lapped or protected between the liners

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

Is outer gland fitted to stern tube

Length of stern bush

Diameter of propeller

Area of propeller

No. of blades

state whether moveable

Total surface

square feet

Is reversing timing

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

Thickness of cylinder liners none fitted

Are cylinders fitted with safety valves

no

Means of lubrication

pumps

Are the exhaust pipes and silencers water cooled or lagged with

Is ducting 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 2

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

Is the vessel

No. of bilge pumps fitted to the main engines 1

Diameter of ditto 100 m/m

Stroke 50 m/m

Can be overhauled while the other is at work

No. of auxiliary pumps connected to the main bilge lines

How driven

No. of pumps

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

Is holds, etc.

No. of ballast pumps

How driven

Sizes of pumps

Is ballast pump fitted with a direct suction from the engine room bilges

State size

Is a separate auxiliary pump suction fitted in

Is Engine Room and size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine Room always accessible

Are sluices on Engine Room bulkheads always accessible

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

Are key 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

Is communication between the sea and the bilges

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

Is oil 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

No. of stages

Diameters

Stroke

Driven by

No. of small auxiliary air compressors

No. of stages

Diameters

Stroke

Driven by

No. of scavenging air pumps

Diameter

Stroke

Driven by

No. of auxiliary Diesel Engine crank shafts

as per Rule

as fitted

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

RECEIVERS:—No of high pressure air receivers

Internal diameter

Cubic capacity of each

Is

Seamless, lap welded or riveted longitudinal joint

Range of tensile strength

Is

working pressure by Rules

No. of starting air receivers 1

Internal diameter 434 m/m

Cubic capacity

280 litres

Material

S.M. Steel

Seamless, lap welded or riveted longitudinal joint

lapwelded

Range of tensile strength

min. 23 tons/sq. inch

thickness

8 m/m

Working pressure by rules

257 lbs.

Is each receiver, which can be isolated,

Is fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined

yes

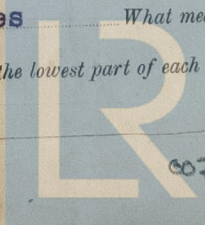
What means are provided for cleaning their

Are surfaces

manhole door

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

yes



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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	7.6.23.	17Kg./sq.cm.	37Kg./sq.cm.	Lloyd's Test 37 Kg. A.I. 7.6.23. A	
COVERS	7.6.23.	ditto	ditto		
JACKETS	7.6.23	—	3,5Kg./sq.cm.		
PISTON WATER PASSAGES	/Open pistons/				
MAIN COMPRESSORS—1st STAGE					
2nd	None fitted				
3rd					
AIR RECEIVERS—STARTING	7.6.23.	15Kg./sq.cm.	30Kg./sq.cm.	No. 2238 Lloyd's Test 30 Kg. W.P. 15 Kg. A.I. 7.6.23. A	
INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER	7.6.23.	—	3,5Kg./sq.cm.	Hydr. Test 3,5 Kg. A.I. 7.6.23. A	
WATER JACKET	7.6.23.	—	ditto		
SEPARATE FUEL TANKS					

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

SPARE GEAR to be supplied and inspected on delivery.

Secretary's letter E.7.11.22. Receivers Starting E.8.3. 16. Separate Tanks

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops --	17, 20 & 31	6, 16, 21 & 26	4, 7 & 19	1923.
During erection on board vessel --	1	2	6	
Total No. of visits	10 in shop			

Dates of Examination of principal parts—Cylinders $\frac{4 \& 7}{6}$ 23 Covers $\frac{4 \& 7}{6}$ 23 Pistons $\frac{4 \& 7}{6}$ 23 Rods Connecting rods $\frac{31, 16 \& 26}{2}$ 23

Crank shaft $\frac{20, 6, 7}{2}$ 23 Thrust shaft $\frac{17, 16 \& 2}{2}$ 23 Tunnel shafts Screw shaft Propeller Stern tube Engine seatings 7/6 23

Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions in shop 4/6 23

Completion of fitting sea connections

Material of crank shaft S.M. Steel Identification Mark on Do. Lloyd's No. 3234 A.I. 6.2.23. A

Material of thrust shaft S.M. Steel Identification Mark on Do. Lloyd's No. 3233 A.I. 16.2.23. A

Material of tunnel shafts 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. 2247.

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 in a classed vessel to the satisfaction of the Society's Surveyors.

The amount of Entry Fee ... £ : : When applied for,

Special Survey in shop £ 12 : 0 : 0 22 June 1923

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : June 1923

Committee's Minute TUE 8. 9 FEB 1926

Assigned

See Bto F.B. 4/1 6822

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



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