

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 2293

Date of writing Report 24 May 1923 When handed in at Local Office

Received at London Office

MON. MAY. 28 1923

No. in Survey held at Reg. Book

Port of Stockholm

Date, First Survey

Last Survey

19

Single }  
Twin } Screw vessels  
Triple }

Number of Visits

Master Built at

By whom built

Yard No. When built

Engines made at Stockholm

By whom made J. &amp; C. G. Bolinder's Co Ltd

Engine No. 15180/83 When made 1923

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power 160

Owners Astilleros de Gijon

Port belonging to Gijon

Nom. Horse Power as per Rule 46

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

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

Maximum pressure in cylinders 17 kg/cm. No. of cylinders 4 No. of cranks 4 2 or 4 stroke cycle Single or double acting

Length of stroke 310 mm. Revolutions per minute 350 Means of ignition hot bulb Diameter of cylinders 300 mm.

Is there a bearing between each crank yes Span of bearings (Page 87, Section 2, par. 7 of Rules) 600 mm. Kind of fuel used Crude oil

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. as fitted 170 mm. Thickness of ditto as per Rule 68 mm. as fitted 71.5 mm.

Is flywheel fitted at fore end of the crank shaft Diameter of tunnel shaft as per Rule as fitted Diameter of thrust shaft as per Rule 116 mm. as fitted 118 mm.

Diameter of flywheel shaft as per Rule as fitted Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Diameter of screw shaft as per Rule as fitted

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

Does 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

Is the outer gland fitted to stern tube Length of stern bush Diameter of propeller

No. of blades state whether moveable Total surface square feet

Method of 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 the cylinders fitted with safety valves no Means of lubrication pumps Are the exhaust pipes and silencers water cooled or lagged with

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

in 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

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

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

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

Are the main air compressors none fitted No. of stages Diameters Stroke Driven by

Are the auxiliary air compressors No. of stages Diameters Stroke Driven by

Are the small auxiliary air compressors No. of stages Diameters Stroke Driven by

Are the scavenging air pumps Diameter Stroke Driven by

Are the ter 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

Seamless, lap welded or riveted longitudinal joint

Range of tensile strength

Working pressure by Rules

No. of starting air receivers 1

Internal diameter 434 mm.

Cubic capacity 280 litres

Material S. M. Steel

Seamless, lap welded or riveted longitudinal joint lap welded

Tensile strength min 33 tons/kg. inch

Thickness 8 mm.

Working pressure by rules 257 lbs

Is each receiver, which can be isolated.

With a safety valve as per Rule

Can the internal surfaces of the receivers be examined yes

What means are provided for cleaning their

Surfaces manhole door

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

007100 - 007115 - 0140



## 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 .....	16.5.23	17 kg/cm.	37 kg/cm.	LLOYD'S TEST 37 kg At 16.5.23 A	
" " COVERS .....	16.5.23	ditto	ditto		
" " JACKETS .....	16.5.23	-	3.5 kg/cm.		
" PISTON WATER PASSAGES .....	(open pistons)				
MAIN COMPRESSORS—1st STAGE .....	none fitted				
" 2nd " .....					
" 3rd " .....					
AIR RECEIVERS—STARTING .....	16.5.23	15 kg/cm.	30 kg/cm.	No 2234 LLOYD'S TEST 30 kg WP 15 kg At 16.5.23 A	
" INJECTION .....					
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....					
SILENCER .....	16.5.23	-	3.5 kg/cm.	HYDR. TEST 3.5 kg At 16.5.23 A	
" WATER JACKET .....	16.5.23	-	ditto		
SEPARATE FUEL TANKS .....					

PLANS. Are approved plans forwarded herewith for shafting *Secretary's letter* 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

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - { 16.20.23, 2.6.16, 9.16.19 23  
During erection on board vessel - - {  
Total No. of visits 9 in shop

Dates of Examination of principal parts—Cylinders 9.16.23 Covers 9.16.23 Pistons 9.16.23 Rods - Connecting rods 16.6.9.16 23  
Crank shaft 20.6.16 23 Thrust shaft 16.23 2.16.23 Tunnel shafts - Screw shaft - Propeller - Stern tube - Engine seatings  
Engines holding down bolts - Completion of pumping arrangements - Engines tried under working conditions in shops 9.23

Completion of fitting sea connections - Stern tube - Screw shaft and propeller -

Material of crank shaft *S.M. Steel* Identification Mark on Do. *LLOYD'S No 3236 At 16.2.23 A* Material of thrust shaft *S.M. Steel* Identification Mark on Do. *LLOYD'S No 3230 At 2.2.23 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 : 24 May 1923  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : June 1923

Committee's Minute

Assigned

TUES. 2 MAR 1926

*A. Bakson*  
Engineer Surveyor to Lloyd's Register of Shipping.  
Assisted by Mr. H. J. Anderson



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Foundation