

## REPORT ON MACHINERY.

No. 1444  
WED. 8-SEP. 1915

Received at London Office

Date of writing Report 1 Sept 1915 When handed in at Local Office

Port of Stockholm

No. in Survey held at Stockholm  
Reg. Book. 188  
on the 188Date, First Survey 27th April Last Survey 11th August 1915  
(Number of Visits 13)

Master Built at By whom built When built

Engines made at Stockholm By whom made J. & C. G. Bolinder's Co. Ltd. Lof. nos 10828/29 when made 1915  
Maur. Pollocks order N° 27029)

Boilers made at — By whom made — when made —

Registered Horse Power 120 Owners Port belonging to

Nom. Horse Power as per Section 28 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &amp;c.—Description of Engines Bolinder, two stroke cycle, reversible No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 380 mm Length of Stroke 410 mm Revs. per minute 275 Dia. of Screw shaft as per rule Material of screw shaft as fitted

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight

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 Length of stern bush

Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule 140 mm Dia. of Crank pin 55 mm Size of Crank webs 220 mm Dia. of thrust shaft under

collars 132 mm Dia. of screw Pitch of Screw No. of Blades State whether moveable Total surface

No. of Feed pumps 1 Diameter of ditto 85 mm Stroke 20 mm Can one be overhauled while the other is at work —

No. of Bilge pumps 1 Diameter of ditto 4" Stroke 4" Can one be overhauled while the other is at work —

No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room In Holds, &amp;c.

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room &amp; 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 stokehold 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 the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings 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

Dates of examination of completion of fitting of Sea Connections of Stern Tube Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &amp;c.—(Letter for record ) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

005567-005584-0181



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 27/4, 3/5, 4/6, 3, 6, 7, 12, 2/7, 6, 10, 1/8 1915  
During erection on board vessel - - -  
Total No. of visits 13

Is the approved plan of main boiler forwarded herewith  
" " " donkey " " "

Dates of Examination of principal parts—Cylinders 6, 10/8 1915 Slides — Covers 6, 10/8 1915 Pistons 6, 10/8 1915 Rods —

Connecting rods 27/4, 3/5, 10/8 1915 Crank shaft 4/6, 3/5, 10/8 1915 Thrust shaft 12/2/17, 10/11/8 1915 Tunnel shafts Screw shaft Propeller

Stern tube Steam pipes tested Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements Boilers fixed Engines tried <sup>in shop</sup> under steam 6.8.1915

Air receivers 6.7/1915 Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shaft S.M. Steel Identification Mark on Do. Lloyd's No. 2115 11.8.15 A Material of Thrust shaft S.M. Steel Identification Mark on Do. Lloyd's No. 2115 11.8.15 A

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do.

Material of Steam Pipes Test pressure

Is an installation fitted for burning oil fuel Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case Yes If so, state name of vessel Skm. report No. 1348

**General Remarks** (State quality of workmanship, opinions as to class, &c. The designs of the crank & thrust shafts and the connecting rods of this type and size of Cylinder Motor have been submitted and approved (see Secretary's letter E 73.12)

These shafts and connecting rods have been manufactured at the Sandviken and Björneborg Steel Works in accordance with the Rules. They have been inspected while being rough-turned and finished and found good and sound. Their materials have been tested by the undersigned and found to fulfil the Rule Requirements.

The cylinders of cast iron have been examined and found sound. Thickness of cylinder walls stated to be 26 mm and of water-jackets 14 mm. Both cylinders tested with hydraulic pressure to 529 lbs per sq. inch, or twice the working pressure of 18 atm., and found tight. They have been marked on upper flange of each cylinder Lloyd's test 529 lbs 10.8.15 A. Their water-jackets have been tested to 50 lbs and found tight.

The air receivers and its water-jacket have been tested to 50 lbs. and found tight. It has been marked on flange Lloyd's Test 50 lbs 10.8.15 A.

The air receivers, two in number, of low tensile S.M.S. plates lap-welded by the ordinary "water-gas" method, are manufactured at the Sveta Steelworks who have also manufactured and rolled the steel. Length of receivers 1620 mm, outside diam. 300 mm, plate thickness 6 mm. Plan submitted and approved (see Secretary's letter E of the 24.7.14). The steel material has been tested by the undersigned and found good and the receivers been tested by me with hydraulic pressure to 24 atm. or twice the working pressure and found sound and tight. They have been stamped as follows: Lloyd's Test 24 atm. Working Pr. 12 atm. No. 2017 Skm. 24.8.15 A. and 2018

The motor has been tried in shop under full power in my presence and found to give an effect at normal load and 275 revolutions of 120 B.H.P. It has also been tried with a continuous overload at 132 B.H.P. and found to work well.

The Society's Rules with regard to the details of construction, fitting of valves, lubrication, accessibility etc. have been adhered to so far as concerns the motor itself. The remaining requirements of the Rules will have to be attended to at the fitting of the motor in ship, if a classed vessel.

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 ship to the satisfaction of the Society's local Surveyors. It is respectfully submitted, that the first entry fee be charged on completion of the fitting in ship, if a classed vessel.

The amount of Entry Fee ... £ : : When applied for,  
Special ... £ 8 : 0 : 26th Aug. 1915  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : 19.

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

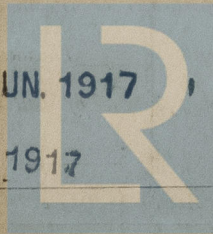
WED. 26 APR. 1916

TUE 5-JUN. 1917

Assigned

See hon. Sec. rpt 78834

FRI. 30 NOV. 1917



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