

REPORT ON MACHINERY.

Date of writing Report 7 Dec 1913 When handed in at Local Office 1913 Port of Stockholm Received at London Office TUE. DEC. 9-1913

No. in Survey held at Stockholm Date, First Survey 18th Sept. Last Survey 25 Nov. 1913
Reg. Book. Abdelar Mitchell (Number of Visits 8)

Master James Pollock, Sons & Co's orders no. 22830 Tons 8 Gross
Built at By whom built Net

Engines made at Stockholm By whom made Messrs J. & E. G. Bolinder's Co. Ltd. when made 1913

Boilers made at Borke By whom made when made

Registered Horse Power 50 Owners Port belonging to

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

ENGINES, &c.—Description of Engines 2 Cyl. Bolinder's two stroke cycle, visible. No. of Cylinders 2 No. of Cranks 2

Starboard motor Dia. of Cylinders 270 mm Length of Stroke 280 mm Revs. per minute 375 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 98.4% Dia. of Crank pin 115 Size of Crank webs 150x Dia. of thrust shaft under as fitted 100

collars 92 Dia. of screw Pitch of Screw No. of Blades State whether moveable Total surface

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 100 mm Stroke 70 mm 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, &c.

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & 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

OILERS, &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 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 Thickness of plates 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

Thickness 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

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

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

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



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 -- } 18. 22 & 25 / 9, 2 & 15 / 10, 21 & 25 (two visits) / 11 1913
 { During erection on board vessel --- }
 Total No. of visits 8.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 15 / 10, 21 & 25 / 11 Slides Covers 21 & 25 / 11 Pistons 25 / 11 Rods
 Connecting rods 18 & 22 / 9, 25 / 10 Crank shaft 18 & 25 / 9, 2 & 15 / 10 Thrust shaft 21 & 25 / 10, 25 / 11 Tunnel shafts Screw shaft Propeller
 Stern tube Steam pipes tested Engine and boiler seatings 21 & 25 / 11 Engines holding down bolts 21 / 11
 Completion of pumping arrangements Boilers fixed Engines tried ^{in shops} ~~under steam~~ 21 / 11 1913

Main boiler safety valves adjusted Thickness of adjusting washers
 Material of Crank shaft S.M.S. Identification Mark on Do. Lloyd's no 512 25.11.13 A Material of Thrust shaft S.M.S. Identification Mark on Do. Lloyd's no 67 25.11.13 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 *no*. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *The designs of the crank & thrust shafts and the connecting rods of this Bolinder Motor have been submitted and approved (see Secretary's letters of the 9/10 & 3/11 1913 E.)*

The crank & thrust shafts and the connecting rods have been manufactured at the Bjoernboer Steel Works, all in accordance with the Rules. They have been inspected, while being forged, turned and finished and found good and sound. Their materials have been tested by the undersigned and found to fill the Rule requirements.

The cylinders, of cast iron, have been examined and found sound. Thickness of cylinder walls is 19 mm and of waterjackets 11 mm. The cylinders have been 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. 15.10.13. A. Their waterjackets have been tested to 50 lbs. and found tight. The silencer and its waterjacket have been tested to 50 lbs. and found tight. It has been marked on flange Hydr. test 50 lbs. 15.10.13 A.

The motor has been tried in ship under full power in my presence and found to give an effect at normal load and 375 Revolutions of 50 BHP. It has also been tried with a continuous overload at 55 BHP. and with a temporary overload at 61 BHP. 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 the vessel.

*I am of opinion, that this motor is of superior material and workmanship, as it has been designed and constructed under 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.

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|------------------------------|---|---|---|-------------------|
| The amount of Entry Fee | £ | : | : | When applied for, |
| Special | £ | 8 | 0 | 26.11.1913 |
| Donkey Boiler Fee | £ | : | : | When received, |
| Travelling Expenses (if any) | £ | : | : | 19 |

A. G. Jackson

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

Committee's Minute

Assigned



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