KINGSHOLM

Rpt. 4.

REPORT ON MACHINERY.

No. 1244

Received at London Office TUE. DEC. 9 – 1913

Date of writing Report 7 Dec. 1913 When handed in at Local Office ..... 19 Port of Stockholm

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

on the machinery of the twin screw vessel no. 582 (Messrs James Pol. Lock, Sons & Co.'s order no. 22831)

Master ..... Built at ..... By whom built ..... Tons { Gross ..... Net .....

When built .....

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

Boilers made at ..... By whom made ..... when made .....

~~Registered~~ Brake 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 reversible No. of Cylinders 2 No. of Cranks 2

Port motor

Dia. of Cylinders 270 m/m Length of Stroke 280 m/m Revs. per minute 375 Dia. of Screw shaft as per rule ..... as fitted ..... Material of screw shaft .....

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 ..... as fitted ..... Dia. of Crank shaft journals as per rule 98.4 m/m as fitted 100 " Dia. of Crank pin 115 Size of Crank webs 150 × 57.5 m/m Dia. of thrust shaft under 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 (fitted on starboard motor) ✓ Diameter of ditto ..... Stroke ..... 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 .....

BOILERS, &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 ..... plate ..... 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 ..... bottom ..... Thickness of plates crown ..... bottom ..... 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 .....

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WB72-0110

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, 21×25/11 (two visits) 1913 ; During erection on board vessel - - - } ; Total No. of visits 8

Is the approved plan of main boiler forwarded herewith .....

" " " donkey " " "

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, 25/11 Crank shaft 18×25/9, 2×15/10 Thrust shaft ~~15×25~~ 15/10, 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 ~~under steam~~ in shop 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. 513 25.11.13 A 68 Material of Thrust shaft S.M.S. Identification Mark on Do. Lloyd's no. 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 9/10 & 3/11 1913)

The crank- & thrust shafts and the connecting rods have been manufactured at the Byörne Borg Steel Works, all in accordance with the Rules. They have been inspected while being forged, rough-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 stated to be 19 m/m. and of water jackets 11 m/m. The cylinders have been tested with hydraulic pressure to 529 lbs. per □ 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 water jackets have been tested to 50 lbs and found tight. The silencer and its water jacket 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 Shop under full power in my presence and found to give an effect of 50 BHP. at normal load and 375 Revolutions. 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 and, 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.

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

A Bakson

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

Committee's Minute .....

Assigned .....

Certificate (if required) to be sent to .....

The Surveyors are requested not to write on or below the space for Committee's Minute.)

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