

Rpt. 4.

KINGSHOLM
REPORT ON MACHINERY.

No. 1243

Date of writing Report 7 Dec 1913 When handed in at Local Office

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.

on the machinery of the twin screw vessel no. 582 (Messrs James Pollock, Sons & Co's orders no. 22830)

(Number of Visits 8)

Master

Built at

By whom built

Tons { Gross
Net

When built

Engines made at

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

Boilers made at

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, reversible. 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 98.4^{mm} Dia. of Crank shaft journals as per rule 100^{mm} Dia. of Crank pin 115 Size of Crank webs 150^{mm} 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 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

ang. 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

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

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

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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, 2.15, 21.25 (two visits) 1913
During erection on board vessel -- 9, 10, 11
Total No. of visits 8.

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

Dates of Examination of principal parts—Cylinders 15, 21.25, 11 Slides Covers 21.25, 11 Pistons 25, 11 Rods
Connecting rods 18.22.25, 25, 11 Crank shaft 18.25, 2.15, 10 Thrust shaft 21.25, 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 shop 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 Lloyd's no 25.11.13 A
Material of Tunnel shafts Identification Marks on Do. Material of Thrust shaft S.M.S. Identification Mark on Do. Lloyd's no 67
Material of Steam Pipes Identification Marks on Do. Material of Screw shafts Identification Marks on Do.
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 letter of the 9/10 & 3/11 1913 E.)

The crank & thrust shafts and the connecting rods have been manufactured at The B. J. & Co. Steel Works, all 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 fill the Rule requirements.

The cylinders, of cast iron, have been examined and found sound. The thickness of cylinder walls is 1 1/2 in. and of waterjackets 1 1/4 in. The cylinders have been tested with hydraulic pressure to 529 lbs. per sq. in., 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 shop 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.

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

Committee's Minute

Assigned

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



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