

REPORT ON MACHINERY.

No. 1716
MON. OCT. 15 1917.

Received at London Office

of writing Report 24 Sept 1917 When handed in at Local Office 19 Port of Stockholm

in Survey held at Stockholm Date, First Survey 5th July 1916 Last Survey 13th Sept 1917

g. Book. on the motorvessel no. 1

aster Built at Fevig, Arendal, By whom built A.S. Radolfs Verft

gines made at Stockholm By whom made Messrs J. & C. G. Bolinders Co. Ltd. when made 1917

By whom made when made

lars made at

Brake Horse Power 240 Owners A/S. Motorfart Port belonging to Christiania

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

GINES, &c.—Description of Engines Bolinder two stroke cycle reversible No. of Cylinders 4 No. of Cranks 4

Length of Stroke 410 mm Revs. per minute 250 Dia. of Screw shaft as per rule Material of screw shaft

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

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

ers are fitted, is the shaft lapped or protected between the liners Length of stern bush

u. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule 156 mm Dia. of Crank pin 160 mm Size of Crank webs 220 mm Dia. of thrust shaft under

as fitted 160 mm

lars 155 mm Dia. of screw Pitch of Screw No. of Blades State whether moveable Total surface

of Feed pumps 2 Diameter of ditto 85 mm Stroke 28 mm Can one be overhauled while the other is at work

of Bilge pumps 2 Diameter of ditto 110 mm Stroke 130 mm Can one be overhauled while the other is at work

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

Engine Room In Holds, &c.

of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size

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

all connections with the sea direct on the skin of the ship Are they Valves or Cocks

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

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

at pipes are carried through the bunkers How are they protected

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

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

ILERS, &c.—(Letter for record) Manufacturers of Steel

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

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

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

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

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

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

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

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

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

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

bottom

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

ch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules End plates in steam space:

aterial of stays Area at smallest part Area supported by each stay Working pressure by rules Material of stays

aterial Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom

ea at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules

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

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

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

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

Working pressure by rules Steam dome: description of joint to shell % of strength of joint

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

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

UPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

ometer of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

W425-0110 (112)

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 -- 5.24.17, 14.15.25/8, 21.28/9 1916, 22.29/11, 1.9.14/15, 4.14/16, 12.21/29, 4.7.13/19 1917
During erection on board vessel --
Total No. of visits 2/

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 29.8.1917 Slides 29.8.1917 Covers 29.8.1917 Pistons 29.8.1917 Rods 29.8.1917
Connecting rods 14.6.17 Crank shaft 7.9.1917 Thrust shaft 7.9.1917 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 in shops under steam 29.8.1917.

Completion of fitting sea connections Stern tube Screw shaft and propeller

Starting air receiver 7/9 1917 Injection air receiver 7/9 1917
Main boiler safety valves adjusted Thickness of adjusting washers 7/9 1917

Material of Crank shaft S.M. Steel Identification Mark on Do. 7.9.17 Material of Thrust shaft S.M. Steel Identification Mark on Do. 7.9.17

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

Material of Steam Pipes Solid drawn copper Test pressure 60 Atm.
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 (See Mem. report no. 1451)

General Remarks (State quality of workmanship, opinions as to class, &c. (See appended sheet))

Material of compressor crank shaft S.M. Steel Identification mark on ditto 7.9.17

The amount of Entry Fee ... £ : : When applied for,
Special For survey in Lloyd's 8 : 9.10 : 24 Sept. 1917
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 19.

Committee's Minute

Assigned

A. Bakson
Engineer Surveyor to Lloyd's Register of Shipping.

Stockholm

Continuation of Report No. 1716 dated 24 September 1917 on the

CYLINDER 240 B. H. P. motor, Cyl. Nos 12526/29

The designs of the crank & thrust shafts and the connecting rods of this type and size of Bolinder Motor have been submitted and approved (See Secretary's letters E. 19.2.15 & E. 10.15).

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 roughturned and finished and found good and sound. Their materials have been tested by the undersigned and found to fill Rule Requirements.

The cylinders, of cast iron, have been examined and found sound. Thickness of cylinderwalls stated to be 26 mm. and of waterjackets 14 mm. 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 tested on upper flange of each cylinder: Lloyd's Test 529 lbs. 7.9.17. A Their waterjackets have been tested to 50 lbs and found tight.

The compressor cylinders (2 stage) and their waterjackets have been tested: H. P. cyl. to 60 Atm., L. P. cyl. to 16 Atm., or twice the working pressures, and waterjackets to 50 lbs and all found tight.

The starting air receiver, of low tensile S. M. S. plates, lapwelded by the ordinary "water gas" method, is manufactured at the Avesta Steel Works, who have also manufactured and rolled the steel. Length of receiver 2000 mm.; outside diam. 450 mm., platethickness 8 mm. Plan submitted and approved (See Secretary's letter E. 8.3.16). The steel material has been tested by the undersigned and found good, and the receiver been tested with hydraulic pressure to 30 Atm. or twice the working pressure and found sound and tight. It has been stamped as follows:

Lloyd's Test 30 Atm.
Working Pr. 15 Atm.
No. 2/22 Skm. 7.9.17. A

The injection air receiver, of solid drawn S. M. S. tube, is manufactured at the Avesta Steel Works from tube, manufactured at the Storfors Works. Length of receiver 1265 mm., outside diam. 152 mm., platethickness 4.5 mm. Plan submitted and approved (See Secretary's letter E. 15.1.17). The material has been tested by the undersigned and found good, and the receiver tested by me with hydraulic pressure to 60 Atm. or twice the working pressure and found sound and tight. It has been stamped as follows:

Lloyd's Test 60 Atm.
Working Pr. 30 Atm.
No. 2/23 Skm. 7.9.17. A

The motor has been tried in shop under full power in my presence and found to give an effect at normal load and 250 revolutions of B. H. P. It has also been tried with a continuous overload at 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 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 supervision, I have respectfully to submit, that it will be eligible to be classed *LMC as soon as it has been fitted in classed vessel to the satisfaction of the Society's Surveyors.

A. Bakson
Engineer Surveyor to Lloyd's Register of Shipping.

RETAIN

Certificates (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.

4 & Theodorstr. Bldg. - A. - B.

W425-0110 (2/2)