

REPORT ON MACHINERY.

No. 12189

Received at London Office TUE. 14 MAR. 1922

Date of writing Report 13-3-22. When handed in at Local Office

19 Port of Rotterdam

No. in Survey held at Rotterdam

Date, First Survey 20 Oct 1921. Last Survey 4-3-1922.

Reg. Book.

(Number of Visits 11.)

9463. on the Steel Screw Steamer "ARENDSKERK"

St. Alban's Abbey.

Tons Gross 7390.

Net 4566.

Master

Built at Rostock

By whom built A.K.G. Neptun

When built 1914

Engines made at Rostock

By whom made A.K.G. Neptun

when made 1914

Boilers made at

By whom made

when made 1914

Registered Horse Power

Owners Koenigsd. Nedell. Scheep. Mij.

Port belonging to Copenhagen

Horse Power as per Section 28 740

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

MACHINES, &c.—Description of Engines

Vertical Triple Expansion. No. of Cylinders 3. No. of Cranks 3.

Dia. of Cylinders 30 3/4" x 40 1/2" x 81"

Length of Stroke 55"

Revs. per minute 60

Dia. of Screw shaft

as per rule 17 1/2" Material of screw shaft

as fitted 17 1/4"

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes

Is the after end of the liner made water tight

the propeller boss Yes 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 8'-7"

Dia. of Tunnel shaft as per rule 15 7/8" Dia. of Crank shaft journals

as per rule 16 5/8"

as fitted 16 3/4" Dia. of Crank pin 16 3/4"

Size of Crank webs 10 3/8" x 7 3/8" Dia. of thrust shaft under

Diameters 16 1/2" Dia. of screw 20"

Pitch of Screw 18"

No. of Blades 4

State whether moveable Yes

Total surface 112 sq. ft.

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work Independent

No. of Bilge pumps 2

Diameter of ditto 4 3/4"

Stroke 27 1/2"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4

Duplex

Sizes of Pumps

330 x 1225 x 610 mm.
230 x 152 x 240 mm.
230 x 260 x 305 mm.

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

Engine Room 4' x 3 3/4" independent tunnel 1' x 3 3/4"

In Holds, &c. Hold No. I 2' x 3 3/4" No. II 2' x 3 3/4" No. III 2' x 3 3/4"

No. of Bilge Injections 1 sizes 10 1/4" Connected to condenser, or to circulating pump Yes

Is a separate Donkey Suction fitted in Engine room & size Yes 4"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

How are they protected

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

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

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

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

Total Heating Surface of Boilers 11128 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 4 single ended boilers.

Working Pressure 205 lb. Tested by hydraulic pressure to 310 lb. Date of test 22-2-22. No. of Certificate

Can each boiler be worked separately Yes Area of fire grate in each boiler 60 sq. ft. No. and Description of Safety Valves to

boiler 2 spring loaded. Area of each valve 11.04" Pressure to which they are adjusted 205 lb. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork over 10" Mean dia. of boilers 15' 4" Length 12'-1" Material of shell plates

Thickness 1 3/8" Range of tensile strength ? Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap 2 x riv.

No. of rivets 4 x riv. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 20 1/16" Lap of plates or width of butt straps 31" x 1 1/8"

Percentages of strength of longitudinal joint rivets 96.2% Working pressure of shell by rules 221 lb. Size of manhole in shell 11 7/8" x 15 3/4"

of compensating ring 8" x 1 5/16" No. and Description of Furnaces in each boiler 3 Morrison's Material ? Outside diameter 40 1/4" 49'-2"

Length of plain part top Thickness of plates crown 7 1/16" Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 231 lb. Combustion chamber plates: Material Thickness: Sides 7/16" Back 1/16" Top 1/16" Bottom 7/8"

Length of stays to ditto: Sides 7 7/8" x 7/8" Back 8" x 7/2" Top 7 1/2" x 7/8" If stays are fitted with nuts or riveted heads fitted Working pressure by rules 240 lb.

Material of stays Area at smallest part 207 sq. in. Area supported by each stay 61.4 sq. in. Working pressure by rules 240 lb. End plates in steam space:

Material Thickness 1 1/16" Pitch of stays 15" x 10 1/2" How are stays secured secured Working pressure by rules 260 lb. Material of stays

Area at smallest part 407 sq. in. Area supported by each stay 277.5 sq. in. Working pressure by rules 240 lb. Material of Front plates at bottom

Thickness 1 1/16" Material of Lower back plate Thickness 1" Greatest pitch of stays 13 3/8" Working pressure of plate by rules 221 lb.

Diameter of tubes 3" Pitch of tubes 5 1/2" x 5 7/8" Material of tube plates Thickness: Front 1 1/16" Back 1 1/16" Mean pitch of stays 10 1/4"

Depth across wide water spaces 14 3/8" Working pressures by rules 233 lb. Girders to Chamber tops: Material Depth and

Thickness of girder at centre 2 x 12" x 3/4" Length as per rule 35 7/16" Distance apart 7 1/2" Number and pitch of stays in each 3 x 7 7/8"

Working pressure by rules 310 lb. Steam dome: description of joint to shell % of strength of joint

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

Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Schmidt Date of Approval of Plan Tested by Hydraulic Pressure to

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

Diameter of Safety Valve 2" Pressure to which each is adjusted 220 lb. Is Easing Gear fitted Yes

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IS A DONKEY BOILER FITTED? *na.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *2 top end bolts and nuts, 2 bottom end bolts and nuts, 2 main bearing bolts and nuts, one set of coupling bolts, one set of bilge pump one set of valves for independent pumps (feed), a set of piston springs, 1 eccentric strap complete, 1 air pump rod, 1 valve spindle, 1 spare propeller shaft, 1 crankshaft, 40 condenser tubes and ferrules, 12 boiler tubes, 1 set of safety valves springs, a quantity assorted bolts and nuts and iron of various sizes.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops --
During erection on board vessel --
Total No. of visits

11.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *20-10-21*. Slides *20-10-21*. Covers *20-10-21*. Pistons *20-10-21*. Rods *20-10-21*. Connecting rods *20-10-21*. Crank shaft *20-10-21*. Thrust shaft *0-2-22*. Tunnel shafts *0-2-22*. Screw shaft *0-2-22*. Propeller *0-2-22*. Stern tube *0-2-22*. Steam pipes tested *13-2-22*. Engine and boiler seatings *2-3-22*. Engines holding down bolts *2-3-22*. Completion of pumping arrangements *0-2-22*. Boilers fixed *0-2-22*. Engines tried under steam *2-3-22*. Completion of fitting sea connections *0-2-22*. Stern tube *0-2-22*. Screw shaft and propeller *1-3-22*. Main boiler safety valves adjusted *2-3-22*. Thickness of adjusting washers *2-5/8 in 4-8 in 6-5 in 8-5 in*. Material of Crank shaft *Steel*. Identification Mark on Do. *GL*. Material of Thrust shaft *GL*. Identification Mark on Do. *GL*. Material of Tunnel shafts *Steel*. Identification Marks on Do. *GL*. Material of Screw shafts *Steel*. Identification Marks on Do. *GL*. Material of Steam Pipes *Steel*. Test pressure *620 lbs.*

Is an installation fitted for burning oil fuel *No*

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. *This vessels Machinery has been examined as required by the Rules, scantlings found as per report, boilers tested as required and all found in order, the whole found in a good working condition when tried under steam and I am of Opinion that this vessel is eligible to be recorded in the Society's Register Book with L.M.C. 3-22.*

The amount of Entry Fee ... £ *1600.00* When applied for, 19...
Special ... £ : :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ *4.00* When received, *3/4/22*

Committee's Minute

Assigned

FRI. MAR. 24 1922

L.M.C. 3.22

F.D. C.L.

CERTIFICATE WRITTEN

Engineer Surveyor to Lloyd's Register of Shipping



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