

REPORT ON MACHINERY.

No. 1219
MON. OCT. 6-1913

Received at London Office

Date of writing Report 29 Sept. 1913 When handed in at Local Office

Port of Stockholm

Survey held at Stockholm

Date, First Survey 4th AprilLast Survey 24th Sept. 1913

g. Book.

(Number of Visits 13)

on the machinery of the vessel no. 586

Tons } Gross
Net

Master

Built at Rotterdam

By whom built Messrs Gebroeders Poot

When built 1913

Engines made at

Stockholm

By whom made Messrs J. & C. G. Bolinder's Co. Ltd.

when made 1913

Boilers made at

By whom made

(Messrs Pollock's Ordnance 21972)

when made

Registered Horse Power

120

Owners

Port belonging to

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

VES, &c.—Description of Engines Bolinder's two stroke cycle reversible No. of Cylinders 2 No. of Cranks 2
Cylinders 380⁷/₁₆ Length of Stroke 410⁷/₁₆ Revs. per minute 275 Dia. of Screw shaft as per rule 142⁷/₁₆ Material of S. M. Steel
Screw shaft fitted with a continuous liner the whole length of the stern tube no, without liners Is the after end of the liner made water tight
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
the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two
are fitted, is the shaft lapped or protected between the liners Length of stern bush 600⁷/₁₆
Tunnel shaft as per rule 140 Dia. of Crank shaft journals as per rule 145 Dia. of Crank pin 155 Size of Crank webs 220⁷/₁₆ Dia. of thrust shaft under
as fitted 132 Dia. of screw 1400⁷/₁₆ Pitch of Screw 1120⁷/₁₆ No. of Blades 3 State whether moveable no Total surface 8000 cm²
Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work
Bilge pumps 1 Diameter of ditto 100⁷/₁₆ Stroke 100⁷/₁₆ Can one be overhauled while the other is at work
Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps
In Holds, &c.

Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size
the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible
connections with the sea direct on the skin of the ship Are they Valves or Cocks
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
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
pipes are carried through the bunkers How are they protected

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

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

Examination of completion of fitting of Sea Connections of Stern Tube Screw shaft and Propeller

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

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

Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
Pressure Tested by hydraulic pressure to Date of test No. of Certificate
boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to
Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
Distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates
Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams
Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
Stages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell
Compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
bottom Thickness of plates bottom
Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
Stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:
Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
Area supported by each stay Working pressure by rules Material of Front plates at bottom
Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays
Girders to Chamber tops: Material Depth and
Working pressures by rules
Length as per rule Distance apart Number and pitch of stays in each
Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked
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
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

of writing Report 29
in Survey held
Book.
on the mo
ster
ines made at
ers made at
See
red Horse Pow
Horse Power as
GINES, &c.—
of Cylinders
the screw shaft fitt
the propeller boss
ween the bearings
ers are fitted, is th
of Tunnel shaft
ars 132 Dia.
of Feed pumps
of Bilge pumps
of Donkey Engine
Engine Room
of Bilge Injections
e all the bilge suction
e all connections w
e they fixed sufficien
e they each fitted wi
hat pipes are carr
e all Pipes, Cocks
e the Bilge Suctio
ates of examinatio
the Screw Shaft
PILERS, &c.
tal Heating Sur
Working Pressur
in each boiler be
h boiler
allest distance bet
ickness
g. seams
r centages of stre
of compensating
ngth of plain pa
orking pressure of
ch of stays to di
aterial of stays
aterial
ameter at smal
ickness M
ameter of tubes
tek across w
ckness of girde
orking pressur
arately
les Pit
stiffened with r
orking pressur

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description	Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safe
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with casing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops --	4, 20, 22, 30, 27, 28, 21, 1, 13, 18, 22, 24 (two visits) 1913
	During erection on board vessel --	4, 5, 6, 7, 8, 9
	Total No. of visits	13

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts	Cylinders 1, 18, 22, 1913	Slides 18, 22, 1913	Covers 18, 22, 1913	Pistons 18, 22, 1913	Rods 18, 22, 1913
Connecting rods	20, 30, 28, 1913	Crank shaft 4, 20, 1, 22, 1913	Thrust shaft 20, 22, 28, 1913	Tunnel shafts 21, 1, 24, 1913	Screw shaft 21, 1, 24, 1913
Stern tube	24, 1913	Steam pipes tested	Engine and boiler seatings 18, 22, 1913	Engines holding down bolts 24, 1913	Propeller 24, 1913
Completion of pumping arrangements		Boilers fixed	Engines tried under steam 18, 1913		
Main boiler safety valves adjusted		Thickness of adjusting washers			
Material of Crank shaft	S.M. Steel Identification Mark on Do. 1.8.13	Lloyd's no. 464	Material of Thrust shaft	S.M. Steel Identification Mark on Do. 1.8.13	Lloyd's no. 464
Material of Tunnel shafts	Identification Marks on Do.		Material of Screw shafts	S.M. Steel Identification Marks on Do. 24.9.13	Lloyd's no. 464
Material of Steam Pipes		Test pressure			

General Remarks (State quality of workmanship, opinions as to class, &c. The designs of the crank-, thrust- and propeller shafts and of the connecting rods of this type and size of Solidus Motor have been submitted and approved (see Secretary's letters E. 7.3.1912 and E. 15.1.1913). The crank shaft has been manufactured at the Sandviken Steel Works and the thrust shaft, propeller shaft and connecting rods at the Björneborg Steel Works, all in accordance with the Rules. The shafts and connecting rods have been also 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. Thickness of cylinder wall stated to be 26 mm and of water jackets 14 mm. Both cylinders tested with hydraulic pressure to 529 lbs. per sq. in. or twice the working pressure of 18 atm., and found tight. They have been mounted on upper flange of each cylinder. Lloyd's Test 529 lbs. 1.8.13. 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. The motor has been tried in shop under full power in my presence and found to give an effect at normal load and 275 revolutions of 120 BHP. The motor has also been tried with a continuous overload at 134 BHP. and a temporary overload at 142 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 ship. I am of opinion, that this motor is of superior material and workmanship and, as it has been designed and constructed under my special survey, I have respectfully to submit, that it will be eligible to be classed **L.M.C.**, as soon as it has been fitted in ship to the satisfaction of the Society's local surveyors. This is respectfully submitted, that the first entry fee be charged on completion of the fitting in ship.

The amount of Entry Fee . £ : :
Special .. £ 8 . 0 : :
Donkey Boiler Fee .. £ : : :
Travelling Expenses (if any) £ : : :
When applied for, 25 Sept. 1913
When received, 1 Sept. 1913

Committee's Minute
Assigned
TUE. JUN. 23. 1914
FRI. JUL. 24. 1914
No action
L. Gw. Ag. 23.6.14
© 2021 Lloyd's Register Foundation