

REPORT ON MACHINERY. No. 55233

Received at London Office 7 FEB 1922

Date of writing Report 7 FEB 1922 When handed in at Local Office 7 FEB 1922 Port of London

No. in Survey held at Rugby & West Drayton Date, First Survey 22nd June 1920 Last Survey 9th January 1922

Reg. Book. on the Turbine No. 1048 in 1/2 No. 115 1/2 "TENBERGEN" (Number of Visits 19)

Master Built at Rotterdam By whom built New Waterway Shipbuilding Co When built

Engines made at Rugby & West Drayton By whom made The British Thomson Houston Co Ltd when made 1922

Boilers made at By whom made when made

Registered Horse Power Owners Port belonging to

Shaft Horse Power at Full Power 2500 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

TURBINE ENGINES, &c. Description of Engines Turbine Curtis Impulse No. of Turbines 2

Diameter of Rotor Shaft Journals, H.P. 5" L.P. 5" Diameter of Pinion Shaft 5" + 8 1/2"

Diameter of Journals 5" - 8 1/2" Distance between Centres of Bearings 30" - 56" Diameter of Pitch Circle 7" - 13.2"

Diameter of Wheel Shaft 1 1/2" Distance between Centres of Bearings 5" - 6 1/2" Diameter of Pitch Circle of Wheel 45" - 106.35"

Thickness of Face 18" - 26" Diameter of Thrust Shaft under Collars Diameter of Tunnel Shaft as per rule as fitted

Diameter of Screw Shafts Diameter of same as per rule as fitted Diameter of Propeller Pitch of Propeller

State whether Moveable Total Surface Diameter of Rotor Drum, H.P. L.P. Astern

Revs. per Minute at Full Power, Turbine 3850 Propeller 45

PARTICULARS OF BLADING.

EXPANSION	H. P.			L. P.			HP ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
.....	1.85 - 1.5"	2'-7.68"	Two	2.15"	3'-2.06"	one	1.23 - 2.03"	2'-11.39"	Two
.....	.94"	2'-4.18"	one	3.09"	3'-4.71"	one			
.....	1.06"	2'-6.23"	one	5.1"	3'-9.56"	one			
.....	1.33"	2'-8.4"	one	7.0"	4'-2.3"	one			
.....	1.62"	2'-10.66"	one						
.....							3.06 - 5.443"	3'-4.6" - 3'-7"	Two

Size of Feed pumps

Size of Bilge pumps

Size of Bilge suction in Engine Room

In Holds, &c.

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

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

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

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

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

MANUFACTURERS OF STEEL

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

Working Pressure 180 lbs Tested by hydraulic pressure to Date of test No. of Certificate

Can 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

Working pressure of shell by rules Size of manhole in shell

No. and Description of Furnaces in each Boiler Material Outside diameter

Thickness of plates crown bottom Description of longitudinal joint No. of strengthening rings

Combustion chamber plates: Material Thickness: Sides Back Top Bottom

If stays are fitted with nuts or riveted heads Working pressure by rules End plates in steam space

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

Thickness Pitch of stays How are stays secured Working pressure by rules

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

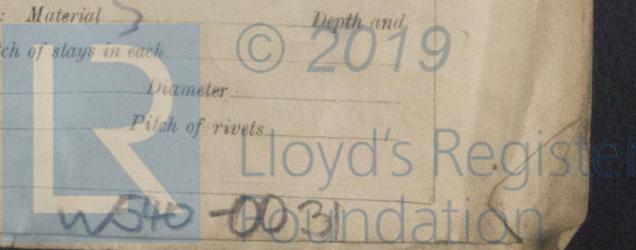
Working pressures by rules Girders to Chamber tops: Material Depth and

Length as per rule Distance apart Number and pitch of stays in each

Steam dome: description of joint to shell 1/10 of strength of joint Diameter

Description of longitudinal joint Diameter of rivet holes Pitch of rivets

Crown plates: Thickness How stayed



SUPERHEATER. 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

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

THE BRITISH THOMSON-HOUSTON CO. LIMITED.

Manufacturer.

per W. Halliwell.

Dates of Survey while building: During progress of work in shops, 1920: June 22, Sep 25, 1921: Jan 5-28, Feb 10-25, Mar 8-23, Apr 19, May 25, June 1-14, July 2; During erection on board vessel, Aug 8, Sep 4, Nov 4-12, Dec 30, 1922: Jan 9; Total No. of visits, 19.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts: Casings 8.8.21, Rotors 8.8.21, Blading 8.8.21, Gearing 29.8.21

Rotor shaft 8.8.21, Thrust shaft, 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 under steam

Main boiler safety valves adjusted, Thickness of adjusting washers.

Material and tensile strength of Rotor shaft: Steel 44/46 tons, Identification Mark on Do. JRB

Material and tensile strength of Pinion shaft: Steel 45 tons, Identification Mark on Do. 75787 P

Material of Wheel shaft: Steel, Identification Mark on Do. Y303R P, Material of Thrust shaft, Identification Mark on Do.

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 a duplicate of a previous case, If so, state name of vessel

General Remarks: Constructed under survey, material tested, workmanship good. Casings tested to 123 lbs, nozzle & passages to 360 lbs. Stop valves to 360 lbs hydraulic & found tight & sound. Turbines examined on test bench running & found satisfactory - Revs 3850, Overload for 10 minutes 4445. Also tested Astern & satisfactory. Only Turbines made, no shafting supplied. Reduction (double) gear made by Power Plant Co. test bench examined during construction & also on test bench running - satisfactory. Forwarded to Rotterdam for fitting on board of 7115 building by The New Waterway Shipbuilding Co.

The amount of Entry Fee ... £ 7 : 10 6

Special Reductions ... £ 7 : 10 6

Donkey Boiler Fee ... £ :

Travelling Expenses (if any) ... £ 10 : 14 : 0

BT H Rugby, Power Plant Dept. Drayton 16-9

Committee's Minute

Assigned

When applied for, 14 Feb. 1922, When received, 18.4.22 paid 7.3.22, 19.7.3 paid 29.3.22

Thomas Blackie & W. Hornish, Engineer Surveyors to Lloyd's Register of Shipping.

FRI. 6 OCT. 1922, See Ref. 38 12518

