

REPORT ON STEAM TURBINE MACHINERY.

No. 67129

Received at London Office

20 MAY 1943

Date of writing Report

When handed in at Local Office

24.5.43 Port of GLASGOW

No. in Survey held at GLASGOW
Reg. Book.
on the

Date, First Survey 21st July 1943 Last Survey 19th May 1943
(Number of Visits 9)

Tw Sc CLAN URRUHART

Tons Gross 9216
Net 5607

Built at GREENOCK

By whom built GREENOCK DRYD. CO. LD. Yard No.

When built 1944

Engines made at -DO-

By whom made J.G. KINCAID & CO. LD.

Engine No. 746

When made 1944

Boilers made at GLASGOW

By whom made BARCLAY CURLEY & CO. LD.

No. BW80

When made 1943

Shaft Horse Power at Full Power 2500

Owners

Port belonging to

Nom. Horse Power as per Rule 416

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines 2-LP TURBINES WITH D.R. GEARING & HYD. COUPLING

No. of Turbines Ahead 2 Direct coupled, single reduction geared to 2 propelling shafts. No. of primary pinions to each set of reduction gearing ONE
Astern 1 double reduction geared

direct coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;
for supplying power for driving Propelling Motors, Type

rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE BLADING.

H.P.			I.P.			L.P.			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.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
						2.64"	36.77"	ONE			
						3.47"	38.43	"			
						4.29"	40.08	"			
						5.12"	41.73	"			
						5.94"	43.39	"			
						7.12"	45.75	"			
						8.27"	48.03	"			

Shaft Horse Power at each turbine H.P. I.P. L.P. 2500
Revolutions per minute, at full power, of each Turbine Shaft H.P. I.P. L.P. 3175
1st reduction wheel 515
main shaft 92

Rotor Shaft diameter at journals H.P. I.P. L.P. 170 mm
Pitch Circle Diameter 1st pinion 10.4979" 1st reduction wheel 64.7015" Width of Face 1st reduction wheel 280 mm
2nd pinion 17.1395" main wheel 93.1959" main wheel 640 mm

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 610 mm 1st reduction wheel 2165 mm
2nd pinion 940 mm main wheel 1160 mm

TRANSMISSION Flexible Pinion Shafts, diameter 1st 115 mm 2nd -
Pinion Shafts, diameter at bearings External 1st 160 mm 2nd 380 mm diameter at bottom of pinion teeth 1st 9.9213" 2nd 16.5629"

Wheel Shafts, diameter at bearings 1st 280 mm 2nd 880 mm diameter at wheel shroud, 1st 1550 mm Generator Shaft, diameter at bearings
main 2268 mm Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted 381 mm Tube Shaft, diameter as per rule as fitted

Screw Shaft, diameter as per rule as fitted Is the tube screw shaft fitted with a continuous liner Bronze Liners, thickness in way of bushes as per rule as fitted

Thickness between bushes as per rule as fitted Is the after end of the liner made watertight in the propeller boss If the liner is in more than one length are the junctions

made by fusion through the whole thickness of the liner 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 Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Length of Bearing in Stern Bush next to and supporting propeller

Propeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or L.P. Turbine exhaust direct to the Condenser No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven

Pumps connected to the Main Bilge Line No. and size How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room In Holds, &c.

Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room

Bilges, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

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

What pipes pass through the bunkers Have they been tested as per rule

What pipes pass through the deep tanks Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

004662-004667-0121

BOILERS, &c.—(Letter for record)

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Is a Report on Main Boilers now forwarded?

Is { a Donkey } Boiler fitted?
{ an Auxiliary }

If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting
(If not state date of approval)

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Spare Gear.

State the articles supplied:— List attached



FOR BARCLAY, CURLE & CO., LTD.

Alexander Macneil

Chief Engineer

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1943 Jan 21 Mar 2. 18. 24 Apr 2 12. 19 May 6. 19
{ During erection on board vessel --- }
Total No. of visits 9.

Dates of Examination of principal parts—Casings 24-3-43 Rotors 21-1-43 Blading 2-3-43 Gearing 2-4-43

Wheel shaft 2-4-43 Thrust shaft 2-4-43 Intermediate shafts — Tube shaft — Screw shaft —

Propeller — Stern tube — Engine and boiler seatings — Engine holding down bolts —

Completion of pumping arrangements — Boilers fixed — Engines tried under steam —

Main boiler safety valves adjusted — Thickness of adjusting washers —

Rotor shaft, Material and tensile strength S.M. Steel 36.4/48 tons

Identification Mark 7353 936p AJB

Flexible Pinion Shaft, Material and tensile strength —

Identification Mark —

Pinion shaft, Material and tensile strength S.M. Steel 47.2/48 tons

Identification Mark 746 AJB

1st Reduction Wheel Shaft, Material and tensile strength S.M. Steel 32.4 tons

Identification Mark 714p 713s AJB

Wheel shaft, Material S.M. Steel Identification Mark 747x748 AJB Thrust shaft, Material S.M. Steel

Identification Mark 723p 790s AJB

Intermediate shafts, Material — Identification Marks —

Tube shaft, Material —

Identification Marks —

Screw shaft, Material — Identification Marks —

Steam Pipes, Material —

Test pressure —

Date of test —

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 the Rules for carrying and burning oil fuel been complied with —

Is this machinery a duplicate of a previous case Yes

If so, state name of vessel

Barclay Curle's BW 78 GLS Rpt. No 65708

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

This machinery has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been sent to Gruncak for installation in the vessel.

This machinery has been efficiently installed in the vessel & tested under full working conditions. See Main Machinery report.

Charles J. Hunter
Glasgow

The amount of Entry Fee ... £ — : : When applied for,
Special ... £ 41 : 12 : 25 MAY 1943
Donkey Boiler Fee ... £ : : : When received,
Travelling Expenses (if any) £ : : : 19

A. J. Brown.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 25 MAY 1943

Assigned

Deferred for compn

N29



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Foundation