

# REPORT ON STEAM TURBINE MACHINERY. No. 85267

Received at London Office  
NEWCASTLE-ON-TYNE

Date of writing Report 19 When handed in at Local Office 4/11/29 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Walker Date, First Survey 3 June Last Survey 28 Oct 1929

Reg. Book. on the Gas pressure turbine for the S. S. (Number of Visits 11)

Gross 5884  
Tons Net 3708

Built at South Shields By whom built J. Readhead & Sons Ltd Yard No. 499 When built 1929

Engines made at Walker By whom made Swan Hunter, W. R. & Co Engine No. 1344 When made do

Boilers made at South Shields By whom made J. Readhead & Sons Ltd Boiler No. 499 When made do

Shaft Horse Power at Full Power 1200 (est) Owners Port belonging to

Tom. Horse Power as per Rule 228 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

Trade for which Vessel is intended General Cargo

STEAM TURBINE ENGINES, &c.—Description of Engines One Bauer-Wash Turbine

No. of Turbines Ahead One Direct coupled, single reduction geared to One propelling shafts. No. of primary pinions to each set of reduction gearing One

Direct coupled to Alternating Current Generator phase periods per second Direct Current Generator rated Kilowatts Volts at revolutions per minute;

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 LOADING.	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.
1st EXPANSION							98 1/4"	10 4/6"	6			
2nd "							119 "	10 8/8"	"			
3rd "							140 "	11 3/2"	"			
4th "							161 "	11 4/2"	"			
5th "							191 "	12 3/2"	"			
6th "							250 "	12 9/0"	"			
7th "												
8th "												
9th "												
10th "												
11th "												
12th "												

Shaft Horse Power at each turbine H.P. - I.P. - L.P. 1340

Revolutions per minute, at full power, of each Turbine Shaft H.P. - I.P. - L.P. 2945

Motor Shaft diameter at journals H.P. - I.P. - L.P. 140 mm

Pitch Circle Diameter 1st pinion 255.332 2nd pinion 461.59 mm

1st reduction wheel 1808.34 mm main wheel 2329.4 mm

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 295.340 mm 2nd pinion 505 mm

1st reduction wheel 415.1855 mm main wheel 590 mm

Flexible Pinion Shafts, diameter 1st 110 mm 2nd -

Pinion Shafts, diameter at bearings External 1st 140 mm Internal 1st 140 mm 2nd 355 mm

Wheel Shafts, diameter at bearings 1st 300 mm main 550 mm

diameter at wheel shroud, 1st 1438 mm main 2234 mm

Generator Shaft, diameter at bearings 1531 mm

Propelling Motor Shaft, diameter at bearings 394 mm

Intermediate Shafts, diameter as per rule as fitted

Thrust Shaft, diameter at collars as per rule as fitted

Tube Shaft, diameter as per rule as fitted

Crew 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 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.

Single Screw, are arrangements made so that steam can be led direct to the H.P. Turbine Can the H.P. or I.P. Turbine exhaust direct to the condenser

No. of Turbines fitted with astern wheel

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

Are two independent means arranged for circulating water through the Oil Cooler

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

What pipes pass through the bunkers How are they protected

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

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

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? If so, is a report now forwarded?  
{ an Auxiliary }  
Plans. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers  
(If not state date of approval)  
Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements  
Spare Gear. State the articles supplied:—

as per attached List.

FOR  
SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

E. J. Kennedy

DIRECTOR.

Manufacturer

The foregoing is a correct description,

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

Dates of Examination of principal parts—Casings 13.9.29. Rotors 13.9.29. Blading 13.9.29. Gearing 13.9.29.

Wheel shaft 2.10.29. Thrust shaft 2.10.29. 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 Steel. See attached reports Identification Mark

Pinion Shaft, Material and tensile strength Steel. ~ do ~ Identification Mark

Pinion shaft, Material and tensile strength Steel. ~ do ~ Identification Mark

Intermediate Wheel Shaft, Material and tensile strength Steel. Identification Mark

Wheel shaft, Material Steel Identification Mark

Intermediate shafts, Material Steel Identification Marks

Intermediate shafts, Material Steel Identification Marks

Intermediate shafts, Material Steel Identification Marks

Intermediate shafts, Material Steel Identification Marks

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The amount of Entry Fee ... £ : :  
Special ... £ 22:16 : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 23.1.30  
When received, 30.1.30

Wm. A. Ferguson

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 7 FEB 1930

Assigned

See other Nov 26 Rpt



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Foundation