

REPORT ON STEAM TURBINE MACHINERY.

-4 MAR 1925

Received at London Office TUE. 23 OCT. 1923

When handed in at Local Office **Oct. 22nd 1923** Port of **MANCHESTER**
Date, First Survey **May 2nd 1923** Last Survey **Oct 10th 1923**
No. in Survey held at **Manchester**
Reg. Book. on the **Turbine Rotating Parts, Nozzle Boxes & Diaphragms for Rowans Contract No 671.**
Built at **Port Glasgow** By whom built **W. Hamilton & Co. Ltd.** Yard No. **323** When built **1925**
Engines made at **Glasgow** By whom made **D. Rowan & Co. Ltd.** Engine No. **2/864/5** When made
Boilers made at By whom made Boiler No. When made
Shaft Horse Power at Full Power **5500** Owners Port belonging to
Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

AM TURBINE ENGINES, &c.—Description of Engines **Rateau Impulse** No. of Turbines Ahead **2** Astern **2**
direct coupled, single or double reduction geared to propelling shafts. No. of primary pinions to each set of reduction gearing, direct coupled to phase
periods per second, Alternating Current Generator rated Kilowatts Volts at revolutions per minute; for supplying power for driving
Propelling Motors. Propelling Motors, Type
Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

DETAILS OF TURBINE BLADING.

	H. P.			L. P.			L. P. (Continued)			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.
EXPANSION	9 1/16"	4 6 1/16"	2	2 7/16"	4 8 7/16"	1	9 1/16"	5 3 1/16"	1	1 1/8"	4 8 1/16"	2
"	7 3/8"	4 6 3/8"	1	2 1/16"	4 8 1/16"	1	10 1/16"	5 4 5/8"	1	1 1/8"	4 7 3/8"	2
"	1 1/16"	4 7 1/16"	1	3 1/4"	4 9 1/4"	1	11 1/16"	5 6"	1			
"	7 3/8"	4 6 3/8"	1	3 5/16"	4 9 5/16"	1						
"	1 1/16"	4 7 1/16"	1	4 5/8"	4 10 5/8"	1				2"	4 8"	1
"	1 1/8"	4 7 1/8"	1	5 1/16"	4 11 1/16"	1				2 1/4"	4 4 1/4"	1
"	1 3/16"	4 7 3/16"	1	6 3/4"	5 0 3/4"	1						
"	1 1/16"	4 7 1/16"	1	8 1/8"	5 2 1/8"	1						
"	2 5/16"	4 8 5/16"	1									

ft Horse Power at each turbine **2750** Revolutions per minute, at full power, of each Turbine Shaft **1350** 1st reduction wheel
Pitch Circle Diameter, 1st pinion 2nd pinion 1st reduction wheel main wheel
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings,
Flexible Pinion Shafts, diameter 1st 2nd
Propelling Motor Shafts, diameter at bearings
Shafting, diameter of Tunnel Shafting as per rule as fitted diameter of Thrust Shafting as per rule as fitted
Screw Shaft Is the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner
If the liner is in more than one length are the joints burned If the liner does not fit tightly at the
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
ft lapped or protected between the liners Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently
Length of Stern Bush Diameter of Propeller
No. of Blades State whether Moveable Total Surface square feet. If Single Screw, are
arrangements made so that steam can be led direct to the L.P. Turbine, and either the H.P. or L.P. Turbine can exhaust direct to the Condenser
of Turbines fitted with astern wheels **2** Total number of power driven Main and Auxiliary Pumps
and size of Feed Pumps How driven No. and size of Pumps connected to the Main Bilge Line
No. and size of Ballast Pumps No. and size of Lubricating Oil Pumps, including
Are two independent means arranged for circulating water through the Oil Cooler No. and size of suction
connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room and in Holds, &c.
and size of Main Water Circulating Pump Bilge Suctions No. and size of Donkey Pump Direct Suctions
Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes
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
all connections with the sea direct on the skin of the ship Are they Valves or Cocks
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
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
at pipes are carried through the bunkers How are they protected
all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
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
partment to another Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

ILERS, &c.—(Letter for record) Total Heating Surface of Boilers
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?

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

Main Boilers

Auxiliary Boilers

Donkey Boilers

Spare Gear. State the articles supplied:—

The foregoing is a correct description,

METROPOLITAN-VICKERS ELECTRICAL CO. LTD.

Manufacturer.

Snipson, Mech. Eng.

Dates of Survey while building
During progress of work in shops -- 1923. May 2, 10, 13, 17, June, 4, 13, 20, 22, 29, July, 6, 12, 19, Aug, 7, 8, 14, 20, 25, Sept, 3, 12, 29, Oct
During erection on board vessel --
Total No. of visits

Dates of Examination of principal parts—Casings

Rotors 3rd Sept 10th Oct, Blading 8th Aug, 20th Aug, 2nd Oct, Bearing

Wheel shaft

Thrust shaft

Tunnel shafts

Screw shaft

Propeller

Stern tube

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 Mild Steel. H.P. 36 8 $\frac{1}{16}$ $\frac{1}{2}$ L.P. 36 $\frac{1}{16}$ $\frac{1}{2}$

Identification Mark on Do. H.P. 3043.W.L. 558

Material and tensile strength of Flexible Pinion Shaft

Identification Mark on Do.

Material and tensile strength of Pinion shaft

Identification Mark on Do.

Material and tensile strength of 1st Reduction Wheel Shaft

Identification Mark on Do.

Material of Wheel shaft

Identification Mark on Do.

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

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

If so, state name of vessel

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

These rotors, nozzle boxes and diaphragms have been constructed under special survey and the materials listed in accordance with Society's Rules. The materials and workmanship so far as could be seen are sound and good. These parts have been forwarded to Messrs D. Rowan & Co. Ltd, Glasgow for assembling in turbines for this Engine No. 671

The amount of Entry Fee ... £

Special ... £

Donkey Boiler Fee ... £

Travelling Expenses (if any) ... £

When applied for,

When received,

Committee's Minute GLASGOW 8-MAR 1925

Assigned See Gs. Rpt No. 44399



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