

# REPORT ON STEAM TURBINE MACHINERY.

No. 99128  
Received at London Office 2 SEP 1933

L. 4a.

Date of writing Report 1<sup>st</sup> Sept<sup>r</sup> 1933 When handed in at Local Office 19 Port of London  
To. in Survey held at Rugby Date, First Survey 20<sup>th</sup> June 1933 Last Survey 30<sup>th</sup> August 1933  
Reg. Book. 4813 on the S.S. SEROOSKERK  
Built at Schiedam By whom built New Waterway S.B. Co. Yard No. - When built 1922/2  
Engines made at Rugby By whom made British Thomson-Houston Co. Ltd. Engine No. - When made 1922.  
Boilers made at Rugby By whom made British Thomson-Houston Co. Ltd. Boiler No. - When made 1933  
Shaft Horse Power at Full Power 5000 Owners N.V. Vereenigde Nederl. Scheepv. Maats Port belonging to The Hague  
Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
for which Vessel is intended

## M TURBINE ENGINES, &c.—Description of Engines New H.P. and L.P. Rotors.

Turbines Ahead 2 Direct coupled, single reduction geared to the propelling shafts No. of primary pinions to each set of reduction gearing  
Astern 2 double reduction geared  
Coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;  
Supplying power for driving Propelling Motors, Type  
Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

	H.P.			H.P. astern			L.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.
EXPANSION	1.20"	2'-8.29"	1	1.25"	2'-11.47"	1	2.35"	3'-1.64"	1	3.53"	3'-5.54"	1
"	1.20"	2'-3.40"	1	1.25"	2'-8.27"	1	2.00"	3'-4.22"	1	4.90"	2'-8.94"	1
"	1.22"	2'-4.98"	1	2.39"	3'-0.97"	1	4.40"	3'-7.64"	1	6.18"	3'-8.74"	1
"	1.36"	2'-7.19"	1				6.04"	3'-11.95"	1			
"	1.46"	2'-9.02"	1				8.05"	4'-4.96"	1			
"	1.78"	3'-11.42"	1									
"												
"												
"												
"												
"												
"												
"												
"												

Horse Power at each turbine H.P. 2220 Note: Gearing efficiency 93.6%  
I.P. 3120  
L.P. 3120  
Revolutions per minute, at full power, of each Turbine Shaft  
H.P. 4025 1st reduction wheel  
I.P. 4025 main shaft  
L.P. 4025  
Shaft diameter at journals H.P. 5" Pitch Circle Diameter 1st pinion 1st reduction wheel  
I.P. 5" 2nd pinion main wheel  
L.P. 5" Width of Face 1st reduction wheel  
main wheel

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 1st reduction wheel  
2nd pinion main wheel

Pinion Shafts, diameter at bearings External 1st 2nd diameter at bottom of pinion teeth 1st 2nd  
Internal 1st 2nd  
Generator Shaft, diameter at bearings  
Propelling Motor Shaft, diameter at bearings

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

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

Space between bushes 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  
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  
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

Appliance fitted at the after end of the tube shaft Length of Bearing in Stern Bush next to and supporting propeller  
Boiler, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.  
Angle 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

Number of Turbines fitted with astern wheels Feed Pumps No. and size How driven  
Pipes connected to the Main Bilge Line No. and size How driven  
Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size  
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  
Holds, &c. Independent Power Pump Direct Suctions to the Engine Room  
No. and size 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

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

Pipes pass through the bunkers How are they protected  
Pipes pass through the deep tanks Have they been tested as per rule  
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

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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:—

THE BRITISH THOMSON-HOUSTON CO. LTD

The foregoing is a correct description,

per W. J. Belsey

Dates of Survey while building { During progress of work in shops -- 1933 June 20. July 14. August 1, 24. 28. - 5 Visits.  
{ During erection on board vessel ---  
Total No. of visits

Dates of Examination of principal parts—Casings Rotors 20/6/33 - 24/8/33. Blading 24/8/33 - 30/8/33 Gearing

Wheel shaft Thrust shaft 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 4.2. H.P. 33.8 Ton. L.P. 32.6 Ton. Identification Mark H.P. 9262-94  
L.P. 9264-94

Flexible Pinion Shaft, Material and tensile strength Identification Mark

Pinion shaft, Material and tensile strength Identification Mark

1st Reduction Wheel Shaft, Material and tensile strength Identification Mark

Wheel shaft, Material Identification Mark Thrust shaft, Material Identification Mark

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 the use of oil as fuel been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo If so, have the requirements of the Rules 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. Workmanship good.

These new turbine rotors, one H.P. and one L.P. have been specially surveyed during construction. The materials used have been made at works approved by the Committee and tested as required by the Rules. They have now been dispatched to Rotterdam for fitting onboard.

These new rotors are intended to give 5000 H.P. at a turbine speed of 1400 R.P.M. (original turbines 4000 & 3600 R.P.M.) It is understood that the original

gearing and shafting will be used, but a new propeller fitted and hull of vessel altered to Main

Special Certificate. 1 for Rotor, 1 for new throttle valves. attached hereto  
Hanging Certificate 16 m. N° attached hereto.

The amount of Entry Fee ... £ : : When applied for, 28 Aug 33.  
Special ... £ 10 : 10 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : 19 Oct 1933.

Geo. A. Farrington  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 14 NOV 1933

Assigned

See Rot 224919



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