

NEWCASTLE-ON-TYNE

on the S.S. IKAUNA

Tons } Gross
Net

L.P. TURBINE
Boilers made at Newcastle on Tyne
F.H. / S.M. TURBINE

Port belonging to *S. ...*

Is Electric Light fitted

Ассу донна

L.R. Sub. Stem Turbine with D/p Gearing & Hydr. Coupling

No. of Turbines Ahead One ✓ Direct coupled
Astern — single reduction geared to One ✓ propelling shaft. No. of primary pinions to each set of reduction gearing One ✓
double reduction geared

direct coupled to { Alternating Current Generator _____ phase _____ periods per second }
 { Direct Current Generator _____ } 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

[illegible]

<p> Shaft Horse Power at each turbine </p>	<p> EXH. STN. </p>	<p> H.P. </p>	<p> EXH. STN. </p>	<p> H.P. </p>	<p> 1st reduction wheel </p>	<p> 466. </p>
<p> Revolutions per minute, at full power, of each Turbine Shaft </p>	<p> I.P. </p>	<p> I.P. </p>	<p> I.P. </p>	<p> I.P. </p>	<p> main shaft </p>	<p> 81 </p>

Rotor Shaft diameter at journals { L.P. 1163 ✓ H.P. _____ F.P. _____ Pitch Circle Diameter { 1st pinion 206.3614 M.M. 1st reduction wheel 1629.1687 M.M. Width of Face { 1st reduction wheel 280 M.M.

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings

Flexible Pinion Shafts, diameter 1st 115 M.M. Pinion Shafts, diameter at bearings External 1st 150 M. 2nd 350 M.M. diameter at bottom of pinion teeth 1st 191.716 M.
2nd — Internal 1st — 2nd 285 M.M. 2nd 357.076 M.

Wheel Shafts, diameter at bearings { 1st 250 $\frac{M}{M}$; 260 $\frac{M}{M}$ ✓ diameter at wheel shroud, { 1st 1550 $\frac{M}{M}$ Generator Shaft, diameter at bearings —
main 500 $\frac{M}{M}$ ✓ main 2015 $\frac{M}{M}$ Propelling Motor Shaft, diameter at bearings —
12.50 with Pin + 1 P. 3.00 ✓

Intermediate Shafts, diameter as per rule 13.57 13" with keeping alone Thrust Shaft, diameter at collars as per rule 13.65
as fitted $365 \text{ mm} = 14.37"$ ✓

Tube Shaft, diameter *as per rule* ✓
as fitted

Screw Shaft, diameter *as per rule* ✓
as fitted

Is the { tube } shaft fitted with a continuous liner { screw } ✓

Bronze Liners, *thickness in way of bushes* *as per rule* *Thickness between bushes* *as per rule* *Is the after end of the liner made watertight in the*
as fitted *as fitted*

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 ☐

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

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

Condenser	No. of Turbines fitted with astern wheels	Feed Pumps	How driven
✓	✓	✓	✓

Pumps connected to the Main Bilge Line	No and size	<i>V-8 inch dia</i>	<i>600 gals discharge per min</i>	<i>Stn Cylr</i>
	How driven	<i>" "</i>	<i>" "</i>	<i>" "</i>

Ballast Pumps, No. and size ✓ **Lubricating Oil Pumps, including Spare Pump, No. and size** Two 4" x 8" x 18 Stroke
See time independent means arranged for circulation 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 Pump Room

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

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

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Are 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 compartment to another. Is the Shaft Tunnel watertight Is it fitted with a watertight door worked *Control over*

015483-015495-015497

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} ~~an Auxiliary~~ Boiler fitted?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

Plans. Are approved plans forwarded herewith for ^{Thrust} ~~Shafting~~ ^{13/6/39} Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

1 Bearing of each axle fitted
1 set of Thrust Pads for each Thrust Bearing
1 spring & 1 set washers for Emergency Governor,
etc.

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

The foregoing is a correct description,

G. J. Sweeney
DIRECTOR

Manufacturer.

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

1939 Dec 29 1940 Feb 22, 27 Mar 5, 13, 25, May 7, 16, 17, 20, 21, 24 June 4, 14, 27, 28.

Dates of Examination of principal parts—Casings 16/5/40 Rotors 11/3/40 Blading 28/6/40 Gearing 24/5/40
Wheel shaft 24/5/40 Thrust shaft 24/5/40 Intermediate shafts Tube shaft Screw shaft

Propeller Stern tube Engine and boiler seatings Engine holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Boilers fixed LPTURBINE on TEST BED. Engine tried under steam (NO LOAD) 27/6/40

Main boiler safety valves adjusted Thickness of adjusting washers

Rotor shaft, Material and tensile strength OH. 7 Steel 36.2 tons 44.2 tons (Y.P. 32 tons)

Identification Mark 8791 HAI. 488.

Flexible Pinion Shaft, Material and tensile strength Forged Nickel Steel 43.75 tons (Y.P. 31.69 min.)

Identification Mark 8791 HAI. L. 98

Pinion shaft, Material and tensile strength ditto

Identification Mark 25/70 T.S. D.R.W.

1st Reduction Wheel Shaft, Material and tensile strength OH.F.S. 29.4 tons

Identification Mark 8791 HAI. 481

Wheel shaft, Material OH.F.Steel Identification Mark 8791 HAI. 488

Thrust shaft, Material OH.F.S.

Identification Mark 8791 HAI. 490.

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

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery a duplicate of a previous case

If so, state name of vessel Wm Grays Yard No

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

1102 = 3/5
1103 = 3/5
1105 = 3/5

This Exhaust Steam Turbine & D/R bearing has been constructed under special survey in accordance with the Society's Rules & approved plan, and the materials and workmanship are good. The Turbine was satisfactorily tested under steam (no load) in the works.

The machinery has been sent to W. Hartlepool for installation

This turbine installation has been satisfactorily fitted on board and tried under working conditions

The amount of Entry Fee ... £
Special ... £ 19-8/-
Donkey Boiler Fee ... £
Travelling Expenses (if any) £

When applied for, 11 JUL 1940
When received, 22nd July 1940

Arthur W. Oxford.
West Hartlepool.
A. Watt.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See Hpl. J.E. 18121



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