

No. 1364-C

STEAM TURBINE ENGINES, &c.—Description of Engines. Whole Impulse type with HP & LP turbine

No. of Turbines Ahead... 1-HP, 1-LP Direct coupled
located in... 1-HP turbine single reduction geared } one
Astern... 1-LP turbine double reduction geared } to... propelling shafts. No. of primary pinions to each set of reduction gearing... 1-HP
Casing... 1-LP } 1-LP

direct coupled to { Alternating Current Generator... phase... periods per second
for supplying power for driving... Direct Current Generator } rated... Kilowatts... Volts at... revolutions per minute;
rated... Kilowatts... Volts at... revolutions per minute. Direct coupled, single or double reduction geared to... propelling shafts.

TURBINE

[illegible]

Tube Shaft, diameter as per rule..... -	Screw Shaft, diameter as per rule..... 537.46	as fitted..... 525 ✓
as fitted..... -	as fitted..... 550 ✓	Is the case screw } shaft fitted with a continuous liner { Yes ✓
Bronze Liners, thickness in way of bushes as per rule..... 24.13	Thickness between bushes as per rule..... 18.1	
as fitted..... 28	as fitted..... 24	Is the after end of the liner made watertight in the
propeller boss..... Yes		

propeller boss..... **Yes**..... 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..... **Yes**
 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..... **No**..... If so, state type..... **-**..... Length of Bearing..... **24**.....

shaft..... NO..... If so, state type..... -..... Length of Bearing in Stern Bush next to and supporting propeller..... 2,160
 Propeller, diameter..... 6,400 Pitch..... 4,900 No. of Blades..... 4 State whether Moveable..... Solid Total Developed Surface..... 18.0 square feet
 If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine..... Yes..... Can the H.P. & L.P. Turbines be run in reverse.....

Condenser..... Yes..... No. of Turbines fitted with astern wheels..... 1..... Feed Pumps } No. and size..... 2-70M³/Hx380Mx5,000R/M, 1-40M³/Hx380M
 1-Bilge pump 30M³/Hx25M 1 } How driven..... Turbine driven Weir's type.....

Pumps connected to the Main Bilge Line		How driven		Weir's type	
No. and size	1-Bilge pump 30M ³ /Hx25M, 1-Fire & General Service pump, 100M ³ /Hx70M, 1-Fire & Bilge pump 100M ³ /Hx70M	Electric Motor,	Electric Motor,	Worthington type	
How driven					

Ballast Pumps, No. and size. 1-100M³/Hx70M ✓ Lubricating Oil Pumps, including Spare Pump, No. and size. 2-120M³/Hx30M ✓

Are two independent means arranged for circulating water through the **Oil Cooler**. Yes **Suctions**, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room, $2\frac{1}{2}"$ (E.R. p.d.S. Center) $7\frac{1}{2}"$ (E.R. p.d.S. Fore mast, E.R. p.d.S. Fore, E.R. p.d.S. Aft. Bilge well) $1\frac{1}{2}"$ (L.P. sludge tanks) In Pump Room, $1\frac{1}{2}"$ (Main Pump room In Holds, &c. $2\frac{1}{2}"$ (E.R. Coll. p.d.S. Fore) $1\frac{1}{2}"$ (E.R. Fore Center) $3\frac{1}{2}"$ (Aft. Pump room)

In Holds, &c. 2x2½" (E.R. off p & S Fore). 1x2½" (E.R. off Aft) 3x3½" (Main Pump room off p & S) 2x3" (Aux. pump room cargo hold p & S) 1x5" (Aux. Pump room off.)

Main Water Circulating Pump Direct Bilge Suctions, No. and size. 1x450

Bilges, No. and size 1x450. 2x6"

Independent Power Pump Direct Suctions to the Engine Room

Bilges, No. and size.....	1x450, 2x6"	Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes.....	Yes
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Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes..... Yes

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..... Yes

Are all Sea Connections fitted direct on the skin of the ship..... Yes Are they fitted with Valves or Cocks..... Yes

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates. Yes Are the Overboard Discharges above or below the deep water

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel. Yes Are the Blow Off ~~8000~~ fitted with a snigot and have

What pipes pass through the bunks. - How are they protected. -

What pipes pass through the deep tanks..... How are they protected.....
Are all Pipes, Cloaks, Hatches..... 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. Yes

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 any other space into the sea? Yes

paces, or from one compartment to another. Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

MILERS, &c.—(Letter for record.....) Total Heating Surface of Boilers..... 793 M² per Boiler

Boilers, &c.—(Letter for record.....) Total Heating Surface of Boilers..... 793 M² per Boiler
 s Forced Draft fitted..... Yes ☒ No. and Description of Boilers..... 2x Two Drum D Type

2x Two Drum D Type
Water tube Boiler

Is a Report on Main Boilers now forwarded? Yes

014784-014793-0257

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Is { a Donkey Boiler fitted? None If so, is a report now forwarded? -
{ an Auxiliary
Is the donkey boiler intended to be used for domestic purposes only 16-5-52
Plans. Are approved plans forwarded herewith for Shafting 3-6-52 Main Boilers 29-4-52 Auxiliary Boilers - Donkey Boilers -
(If not, state date of approval) 19-6-52
Superheaters 29-4-52 General Pumping Arrangements 24-1-53 (KOBEL) Oil Fuel Burning Arrangements 19-6-52
Geared turbines situated aft. Have torsional vibration characteristics of system been approved Yes Date of approval 3-6-52

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes
State the principal additional spare gear supplied 1-Cast iron propeller, 1-Screw shaft with liner, 92-Main Condenser Tubes, 40-73M² Aux. condenser tubes, 5-Heating tubes of Fuel oil heater, 5-Heating tubes of Drain cooler, 3-Cooling tubes of 260M² Aux. Condenser, 13-Heating tubes of 46 M² High press. feed water Heater, 1 set-Main Circulating pump impeller & shaft, 1 set-Main Condensate pump impeller & shaft, 1 set-Lubricating oil pump rotors, 1 set-Aux. circulating pump impeller & shaft, 1 set-Fuel oil service pump rotors, 1 set-Ford draft fan impeller & shaft, 1 set-Main feed pump impeller & shaft, 1 set-Bilge pump impeller & shaft.

The foregoing is a correct description.

Standing Director of Kawasaki Dockyard, Kobe, Japan.

Takeshi Morimoto

Manufacturer.

Dates of Survey while building During progress of work in shops - - - 29. Oct. 1. 3. 6. 7. 8. 9. 10. 13. 15. 22. 23. 24. 25. 27. 29. 31. Nov. 7. 17. 21. Dec. 18. 20. (79)
During erection on board vessel - - - 16. 21. 22. 23. 93
Total No. of visits 93

Dates of Examination of principal parts - Casings HP 13-8-52 LP 16-6-52 Rotors LP 1-10-52 Blading LP 1-10-52 Gearing 20-8-52 19-9-52 7-10-52 (Spare 25-9-52 (Working 28-11-52 (LP) 3-12-52 (HP) 3-12-52 (SHAFT LINE)

Wheel shaft 19-9-52 Thrust shaft 19-9-52 Intermediate shafts 29-9-52 Tube shaft - Screw shaft 26-11-52 (a) 28-11-52 (LP) 3-12-52 (HP) 3-12-52 (SHAFT LINE)

Propeller 25-9-52 Stern tube 24-9-52 Engine and boiler seatings 26-11-52 Engine holding down bolts 3-12-52 (SHAFT LINE)

Completion of fitting sea connections 4-10-52 Completion of pumping arrangements 14-1-53 Boilers fixed 20-10-52 Engines tried under steam 6-10-52 14-1-53 (a) at sea 16-1-53

Main boiler safety valves adjusted 7-1-53 Thickness of adjusting washers Top 39.4 T/a" LP Bot 38.3 T/a" HP Y-2543 Yk E LP Y-3208 Yk E

Rotor shaft, Material and tensile strength Forged steel HP Bot 37.5 T/a" LP Bot 37.4 T/a" Identification Mark HP Y-2545 Ko E LP Y-2546 Ko E

Flexible Pinion Shaft, Material and tensile strength Forged steel HP 37.5 T/a" LP 37.4 T/a" Identification Mark HP Y-2553 Ko E LP Y-2554 Ko E

Pinion shaft, Material and tensile strength Nickel steel 1st pinion LP 63 T/a" 2nd pinion LP 67 T/a" Identification Mark HP Y-2555 Yk E LP Y-2556 Yk E

2nd LP Y-2556 Yk E ; Chemical analysis HP 0.34 0.35 0.5 0.03 0.023 3.10 0.50 0.36 0.08 LP 0.34 0.35 0.6 0.03 0.023 3.10 0.50 0.36 0.08

If Pinion Shafts are made of special steel state date of approval of chemical analyses, physical properties and heat treatment 27-1-53 HP Y-2545 Ko E LP Y-2546 Ko E

1st Reduction Wheel Shaft, Material and tensile strength Forged steel LP 37.5 T/a" 37.4 T/a" Identification Mark LP Y-2545 Ko E LP Y-2546 Ko E

Wheel shaft, Material Forged steel Identification Mark Y-2571 Yk E Thrust shaft, Material Forged steel Identification Mark Y-2571 Yk E

Intermediate shafts, Material Forged steel Identification Marks 1st KWF 1470 Yk E 2nd KWF 1552 Yk E Tube shaft, Material - Identification Marks -

Screw shaft, Material Forged steel Identification Marks KWF 1389 Yk E (working) KWF 1174 Yk E (Spare) Steam Pipes, Material Steel pipe Test pressure 60 kg/cm²

Date of test Oct. 6, 10, 13, 17 Nov. 7, 17, 21, Dec. 18, 20 Is an installation fitted for burning oil fuel Yes

Is the flash point of the oil to be used over 150°F Yes Have the requirements of the Rules for the use of oil as fuel been complied with Yes

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 No If so, state name of vessel -

General Remarks. (State quality of workmanship, opinions as to class, &c.) These turbines have been constructed under the supervision of the Society's Surveyors in accordance with the Rules, Approved Plans, and Secretary's letters.

The materials were found sound and free from defects and the workmanship is good.

The machinery was examined under working conditions during shop trial and comprehensive sea trial and found satisfactory.

In our opinion, the machinery of this vessel is worthy of a record of + L.M.C.

1, 53, B.S. 1, 53, and T.S. (CL) 1, 53.

(Plans of Engine Room arrangement attached hereto.)

The amount of Entry Fee ... £ 4680.000 When applied for 12. MAY 1953

Special ... £ 20.000 When received

Donkey Boiler Fee ... £ : : 19

Travelling Expenses (if any) £ : : 19

Committee's Minute FRI. 12 JUN 1953

Assigned + L.M.C. 1, 53

FITTED FOR OIL FUEL 153 FLASH POINT ABOVE 150°F. FD CL 2WTB 455/b (SPL 427/b)

Lloyd's Register Foundation