

## REDUCTION GEARING

REPORT ON ~~STEAM TURBINE MACHINERY~~

Rpt. 4a.

No. 1935

Received at London Office JUL 28 1937

Date of writing Report 23<sup>rd</sup> July 1937 When handed in at Local Office

19 Port of BREMEN

No. in Survey held at BREMEN &amp; WESERMÜNDE

Date, First Survey 14<sup>th</sup> Aug 1936 Last Survey 21<sup>st</sup> July 1937

Reg. Book.

90466 on the SINGLE SCREW VESSEL TAKORADIAN

(Number of Visits 20)

Tons { Gross 5452  
Net 3106Built at WESERMÜNDE  
REDUCTION GEARING  
Engines made at BREMEN

By whom built DESCHIMAG, WERK: SEEBECK Yard No. 572 When built 1937

By whom made DESCHIMAG, WERK: A.G. WESER Engine No. V.A. 61 When made 1937

Boilers made at ✓ By whom made - Boiler No. - When made -

Shaft Horse Power at Full Power 2300 Owners ELMINA CO LTD. ACCRA. Port belonging to FREETOWN

Nom. Horse Power as per Rule 577 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted ✓

Trade for which Vessel is intended OPEN SEA SERVICE

STEAM TURBINE ENGINES, &amp;c.—Description of MAIN Engines TWO 2 SCRA HEAVY OIL ENGINES, SINGLE REDUCTION GEARED TO

TWO VULCAN OIL COUPLINGS

No. of Turbines { Direct coupled, single reduction geared } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 2

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.

TURBINE  
BLADING.

TURBINE BLADING.		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	.....												
2ND	" .....												
3RD	" .....												
4TH	" .....												
5TH	" .....												
6TH	" .....												
7TH	" .....												
8TH	" .....												
9TH	" .....												
10TH	" .....												
11TH	" .....												
12TH	" .....												

Shaft Horse Power at each turbine { H.P. 1200 ✓ } OIL ENGINE { H.P. 275 } 1st reduction wheel -

PRIMARY { H.P. 330 Z with ✓ } Pitch Circle { 1st pinion 600.655 Z } 1st reduction wheel -

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 490 x 750 Z } 1st reduction wheel -

Flexible Pinion { 1st ✓ } Pinion Shafts, diameter at bearings { 1st 300 Z with ✓ } diameter at bottom of pinion teeth { 1st 584.145 Z }

2 THRUST { 1st ✓ } Wheel Shafts, diameter at bearings { main 330 Z ✓ } diameter at wheel shroud, { 1st ✓ } Generator Shaft, diameter at bearings

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 Screw 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 per rule 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 If so, state type 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.

If Single 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

Condenser No. of Turbines fitted with astern wheels 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 Pump Room

In Holds, &amp;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 fitted 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

That pipes pass through the bunks How are they protected

That 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

apartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

003525-003532-0264

© 2020

Lloyd's Register  
Foundation



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? ✓  
{ an Auxiliary }

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 Shafting *REDUCTION GEARING*  
(If not state date of approval)

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

2 compl sets of thrust bearing brasses for pinion shafts

8 pads & bolts for " " " "

1 compl set of bearing brasses for pinion shafts

2 compl sets of thrust bearing brasses for primary shafts

10 pads & bolts for " " " "

2 compl sets of thrust bearing brasses for Main shaft

12 pads & bolts for " " " "

1 compl set of main shaft bearing brasses

35 dikes for oil covers

a number of bolts, studs & nuts for

primary, pinion, main shaft

bearings.

The foregoing is a correct description

Deutsche Schiff- und Maschinenbau Aktiengesellschaft

Manufacturer.

Dates of Survey while building { During progress of work in shops - - - Aug. 11. 12. 14. 20. 22. Sept. 9. Oct. 2. 14. Dec. 10. 29. Jan. 6. 27. Feb. 2. 4. 15. March 9.  
During erection on board vessel - - - May 25. 28. July 17. 21.  
Total No. of visits 20

Dates of Examination of principal parts—Casings 10/12.36, 2.2.37 COUPLINGS 10/12.36, 29/12.36, 6/1.37 Blading ✓ Gearing 4/2 & 15.2.37  
THRUST 6/1. 4/2. 15/2 PINION shaft 6/1, 4/2, 15.2 Intermediate shafts 6/1. 2/2. 15.2 Tube shaft ✓ Screw shaft ✓  
Propeller ✓ Stern tube ✓ Engine and boiler seatings ✓ Engine holding down bolts 28.5.37

Completion of fitting sea connections ✓ Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam 17 & 21.7.37

Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓

PORT PRIMARY Shaft, Material and tensile strength Piemens Martin Engel Steel 46.4 kg/cm<sup>2</sup> Identification Mark LLOYD'S J.L. 11138. 30.7.36 G.B. 15.2.37

STAR. PRIMARY Shaft, Material and tensile strength " " " " 46.4 kg/cm<sup>2</sup> Identification Mark LLOYD'S J.L. 11139. 30.7.36 G.B. 15.2.37

PORT Pinion shaft, Material and tensile strength Piem. Martin Nickel Steel 67.4 kg/cm<sup>2</sup> Identification Mark LLOYD'S M.B. 12548. 21.9.36 G.B. 15.2.37

STAR. PINION Shaft, Material and tensile strength " " " " 68.6 kg/cm<sup>2</sup> Identification Mark LLOYD'S M.B. 12547. 21.9.36 G.B. 15.2.37

1st Reduction Wheel Shaft, Material and tensile strength LLOYD'S M.B. 12383. 27.7.36 Identification Mark G.B. 15.2.37

THRUST Wheel shaft, Material P.M. Steel Identification Mark G.B. 15.2.37 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 ✓

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 *yes* If so, state name of vessel **GAMBIAN**

General Remarks (State quality of workmanship, opinions as to class, &c.) This single Reduction Gearing with oil couplings have been built under Special Survey in accordance with the approved plans, the Purchaser's letters and in accordance with the requirements of the Rules. The materials have been tested as per Rule, and the workmanship is of good quality. During the vessels trial trip all parts were found working satisfactory in all respects.

included in Rpt. 4b.  
The amount of Entry Fee ... £ :  
Special ... £ :  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ :  
When applied for 19  
When received, 19

FRI 6 AUG 1937

Committee's Minute

Assigned See other F.E. rpt

A. Cantunum J. H. C. Adam  
Engineer Surveyor to Lloyd's Register of Shipping.



© 2020

Lloyd's Register Foundation