

REPORT ON STEAM TURBINE MACHINERY.

No. 49218

Date of writing Report

19

When handed in at Local Office

17. 5. 19

Port of

Received at London Office

11 SEP 1929

Glasgow. 22 MAY 1929

No. in Survey held at
Reg. Book.

Date, First Survey

13. 12. 28

Last Survey

7. May

1929.

on the

S/S "Carysfort"

(Number of Visits 14)

Built at
Engines made atGlasgow
Greenock

By whom built

T. R. Gordon & Co.
H. Beardmore & Co.

Yard No.

826

When built

1929

Boilers made at

Greenock

By whom made

Rankine Black & Co.

Boiler No.

433

When made

1929

Shaft Horse Power at Full Power

600

Owners

A. Crawford & Co.

Port belonging to

Glasgow

Nom. Horse Power as per Rule

100

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Trade for which Vessel is intended

Foreign

STEAM TURBINE ENGINES, &c.—Description of Engines

BAUER WACH INSTALLATION N° 8

Built by Messrs W. BEARDMORE & CO.

No. of Turbines

Ahead

One

Direct coupled,

single reduction geared

to

One

propelling shafts.

No. of primary pinions to each set of reduction gearing

One

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.

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

96 7/8

792 7/8

1

108

816

1

119

838

1

133

866

1

146

892

1

160

920

1

Shaft Horse Power at each turbine

H.P.

I.P.

L.P.

Revolutions per minute, at full power, of each Turbine Shaft

H.P.

I.P.

L.P.

1st reduction wheel

640

Rotor Shaft diameter at journals

H.P.

I.P.

L.P.

Pitch Circle

Diameter

1st pinion

6.642

1st reduction wheel

45.42

main wheel

76.845

Width of

Face

1st reduction wheel

8.47

main wheel

19.1

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

1st pinion

210 7/8

1st reduction wheel

285 7/8

2nd pinion

400 7/8

main wheel

470 7/8

Flexible Pinion Shafts, diameter

1st

2nd

Pinion Shafts, diameter at bearings

External

Internal

1st

2nd

diameter at bottom of pinion teeth

1st

2nd

6.0654

9.7976

Wheel Shafts, diameter at bearings

1st

2nd

diameter at wheel shroud,

1st

2nd

Generator Shaft, diameter at bearings

1st

2nd

Propelling Motor Shaft, diameter at bearings

1st

2nd

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

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

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 I.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

Two - 6 1/2" x 7" x 15"

Are two independent means arranged for circulating water through the Oil Cooler

Yes

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Engine and Boiler Room

In Holds, &c.

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

Independent Power Pump Direct Suctions to the Engine Room

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 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

How are they protected

Have they been tested as per rule

That pipes pass through the bunkers

That pipes pass through the deep tanks

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

apartment to another

Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

Lloyd's Register

Foundation

003549-003555-0231

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) approved 24/1/29

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements
Spare Gear. State the articles supplied:— One set turbine bearing bushes, one each bearing bush
for 1st + 2nd pinions, clutch shaft bearing bush, main wheel bearing
bush, thrust pads, one set each for turbine, 2nd reduction
pinion, propeller thrust. Coupling bolts
Lubricating oil pumps, one set suction + delivery valves etc
1 set piston rings, 1 pump bush
4 tubes for oil cooler.

The foregoing is a correct description FOR WILLIAM BEARDMORE & CO., LIMITED. Robert Love Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1928 Dec 13-17 (1929) Mar 1-7 12-14 22 Apr 3-5 11 18 22 29 May 7
{ During erection on board vessel --- }
Total No. of visits 14
Dates of Examination of principal parts—Casings 5/4/29 Rotors 1/3/29 Blading 7/3/29 Gearing 18/4/29
Wheel shaft 22/4/29 Thrust shaft 22/4/29 Intermediate shafts Tube shaft Screw shaft
Propeller Stern tube Engine and boiler seatings Engine holding down bolts
Completion of pumping arrangements Boilers fired Engines tried under steam
Main boiler safety valves adjusted Thickness of adjusting washers
Rotor shaft, Material and tensile strength S.M. Steel 32.4 to 37.0 tons Identification Mark 8019
Flexible Pinion Shaft, Material and tensile strength Nickel Steel 43.6 to 43.8 tons Identification Mark
Pinion shaft, Material and tensile strength S.M. Steel 37.0 tons Identification Mark 8166 and 8173
1st Reduction Wheel Shaft, Material and tensile strength S.M. Steel 37.0 tons Identification Mark 8168
Wheel shaft, Material S.M. Steel Identification Mark 8167 Thrust shaft, Material S.M. Steel Identification Mark 8167
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 carrying and burning oil fuel 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.)

This L.P. turbine and D.R. gearing and hydraulic coupling have been built under Special Survey in accordance with the approved Plans and the Society's Rules. The materials and workmanship are good.

The installation has been dispatched to Greenock to be used in conjunction with steam engines 2.433 building by Messrs Rankin and Blackmore Ltd.

The amount of Entry Fee ... £ : : When applied for, 21 MAY 1929 A. Campbell
Special ... £ 10 : - : When received,
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : 2nd AUG 1929

Committee's Minute GLASGOW 21 MAY 1929

Assigned Deferred.