

REPORT ON MACHINERY.

No. 2048

Date of writing Report 13 May 1921
When handed in at Local Office 19
Port of Stockholm

No. in Survey held at Tinspong Km District
Date, First Survey 8 Sept 1919
Last Survey 26 April 1921
Reg. Book.
on the

Received at London Office WED. 4 MAY. 1921

Master
Engines made at Tinspong
Boilers made at
Registered Horse Power
Shaft Horse Power at Full Power 1150

Built at Copenhagen
By whom built Battica Tærftet No 2
By whom made Svenska Turbinfabriksaktiebolaget
By whom made
when made 1921

When built 1921
when made 1921
when made
Port belonging to Copenhagen
Is Refrigerating Machinery fitted for cargo purposes
Is Electric Light fitted

TURBINE ENGINES, &c.—Description of Engines Ital Turbomechanic Machinery No. of Turbines one

Diameter of Rotor Shafts Journals H.P. 74.49 mm
Diameter of Pinion Shafts First gears 1606 mm; Second gears 255.142 mm hollow shaft.
Diameter of Journalse First gears 109.87 mm Distance between Centres of Bearings Second gears 240.00-142 mm
Diameter of Wheel Shafts First gears 135 mm Distance between Centres of Bearings Second gears 360 mm
Width of Face First gears two 100 mm Diameter of Thrust Shaft under Collars
Diameter of Tunnel Shaft as per rule.

No. of Screw Shafts
Diameter of same as fitted
Diameter of Propeller
Pitch of Propeller

No. of Blades
State whether Moveable
Total Surface
Diameter of Rotor Drum, H.P. L.P. astern
Thickness at Bottom of Groove, H.P. L.P. Astern
Revs. per Minute at Full Power, Turbine 3615 Propeller 80

PARTICULARS OF BLADING. See enclosed plan TIV 767887

H.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.
1ST EXPANSION									
2ND "									
3RD "									
4TH "									
5TH "									
6TH "									
7TH "									
8TH "									

No. and size of Feed pumps
No. and size of Bilge pumps
No. and size of Bilge suction in Engine Room.
In Holds, &c.

No. of Bilge Injections. sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size
Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible
Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks.
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes 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 are carried through the bunkers How are they protected
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges
Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers
Working Pressure
Can each boiler be worked separately
each boiler
Smallest distance between boilers or uptakes and bunkers or woodwork
Thickness
long. seams
Per centages of strength of longitudinal joint
Size of compensating ring
Length of plain part
Working pressure of furnace by the rules
Pitch of stays to ditto: Sides
Material of stays
Material
Diameter at smallest part
Thickness
Diameter of tubes
Pitch across wide water spaces
thickness of girder at centre
Working pressure by rules
Thickness of shell plates
Working pressure of shell by rules

Is Forced Draft fitted
Tested by hydraulic pressure to
Area of fire grate in each boiler
Area of each valve
Pressure to which they are adjusted
Mean dia. of boilers
Length
Material of shell plates
Descrip. of riveting: cir. seams
Lap of plates or width of butt straps
Working pressure of shell by rules
Size of manhole in shell
No. and Description of Furnaces in each Boiler
Material
Outside diameter
No. of strengthening rings
Description of longitudinal joint
Combustion chamber plates: Material
Thickness: Sides
Back
Top
Bottom
If stays are fitted with nuts or riveted heads
Working pressure by rules
End plates in steam space
How are stays secured
Working pressure by rules
Material of Front plates at bottom
Greatest pitch of stays
Working pressure of plate by rules
Material of Lower back plate
Thickness
Girders to Chamber tops: Material
Depth and
Distance apart
Number and pitch of stays in each
Diameter
Pitch of rivets

No. and Description of Boilers
Date of test
No. of Certificate
No. and Description of Safety Valves to
Are they fitted with easing gear
Material of shell plates
Are the Blow Off Cocks fitted with a spigot and brass covering plate
How are they protected
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges
Is the Screw Shaft Tunnel watertight
Is it fitted with a watertight door
worked from

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____

IS A DONKEY BOILER FITTED? ~ If so, is a report now forwarded? ~

SPARE GEAR. State the articles supplied. — for Turbomechanic machinery, see enclosed specifications. The spare gear will be inspected, when the machinery is being fitted in ship.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 8/9. 2. 16. 21/12 1919. 24/1. 17/3. 15/4. 3/6. 13/7. 27/8. 19/9. 19/10. 9. 27. 28/11. 15. 16. 17/12 1920. 3/1. 16/3. 8.
{ During erection on board vessel --- }
Total No. of visits at steel works and in shop 22 Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Casings 3/1. 26/4. 21 Turbomachines " " " donkey " " "
Rotor shaft 8/9 19 Thrust shaft 26/4 21 Rotors 26/4 21 Blading 26/4 21 Gearing 8. 26/4 21
Stern tube Steam pipes tested Tunnel shafts Screw shaft Propeller
Engine and boiler seatings Engines holding down bolts
Completion of pumping arrangements Boilers fixed Engines tried under steam in ship 8. 4. 21
Main boiler safety valves adjusted Thickness of adjusting washers

Material and tensile strength of Rotor shafts Turbine Chrome Nickel Steel 93.1 kg/cm² Identification Mark on Do. A no space admitted for other
Material and tensile strength of Pinion shafts First gear for Chrome Nickel Steel 90.0 kg/cm² Identification Mark on Do. (First gear for LLOYD'S No 3161 SKM 17.3
Second gear for " " 84.7 kg/cm² Identification Mark on Do. Second " LLOYD'S No 3103 SKM 17.3
Material of Wheel shafts For S.M. Steel Identification Mark on Do. LLOYD'S No 3303 SKM 3.6.20A
Second wheel S.M. Steel Identification Mark on Do. LLOYD'S No 2993 SKM 2.4.1.20A
Material of Tunnel shafts S.M. Steel Identification Marks on Do. LLOYD'S No 3100 2.12.19 A
Material of Screw shafts Identification Marks on Do.

Material of Steam Pipes _____ Test pressure _____
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 Section 49 of the Rules 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 steam turbine has been constructed under special survey in accordance with the Society's Rules and as approved in correspondence. The materials of the shafting are Siemens Martin Steel and Chrom Nickel Steel, tested and found to agree with the approved specifications of materials. The condenser has been tested with water pressure to 3 kg/cm² and found tight. The workmanship is good. The machinery has been tried under full power in shop and found to work well. I am of opinion that this machinery is eligible to be classed **RLMC** as soon as it has been fitted in ship in accordance with the Society's Rules for fitting.

The amount of Entry Fee	£	:	:	When applied for,
Special	£ 51	:	3	19.
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£ 36	:	5	30.6. 21
Total	£ 77	:	8	66.

Committee's Minute FRI. 16 DEC. 1921

Assigned

L. J. Andersson
Acting Engineer Surveyor to Lloyd's Register of Shipping.