

REPORT ON STEAM TURBINE MACHINERY. No. 11700.

Rpt. 4a.

Date of writing Report 14th April 1945 When handed in at Local Office 10 Port of Copenhagen
 No. in Survey held at Copenhagen and Elinore Date, First Survey 27th January 44 Last Survey 12th April 1945
 Reg. Book. on the Stockholm Elinore Copenhagen
 Built at Stockholm By whom built Trimboda Carl Skibbolaget and No. 332 Tons Gross Net
 Engines made at Elinore By whom made As Helsingørsk Maskinfabrik Engine No. 410 When built 1945
 Boilers made at Copenhagen By whom made As Helsingørsk Maskinfabrik Boiler No. 257 When made 1945
 Shaft Horse Power at Full Power 245.07 Owners REC. ENG. 1325 Port belonging to U.S.
 Nom. Horse Power as per Rule 241 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
 Trade for which Vessel is intended 241

STEAM TURBINE ENGINES, &c.—Description of Engines

Exhaust steam turbine

No. of Turbines Ahead One Direct coupled single reduction geared double reduction geared to one L.P. propelling shaft No. of primary pinions to each set of reduction gearing connected by chain drive to the lowest shaft
 direct coupled to Alternating Current Generator phase periods per second 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							<i>above wheel</i>	<i>4 1/2</i>				
2ND	"							88.5 ✓	781 ✓	1			
3RD	"							133.5 ✓	829 ✓	1.			
4TH	"												
5TH	"												
6TH	"												
7TH	"												
8TH	"												
9TH	"												
10TH	"												
11TH	"												
12TH	"												

Shaft Horse Power at each turbine H.P. I.P. L.P. 350 Revolutions per minute, at full power, of each Turbine Shaft H.P. I.P. L.P. 4000 1st reduction wheel 365 main shaft 2425
 Rotor Shaft diameter at journals H.P. I.P. L.P. 75 3/4 Pitch Circle Diameter 1st pinion 97.25% 1st reduction wheel 1062.75% Width of Face 1st reduction wheel 2425 main wheel 198 3/4
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 204 3/4 1st reduction wheel 180 3/4 2nd pinion 80 3/4 main wheel 180 3/4
 Flexible Pinion Shafts, diameter 1st 2nd Pinion Shafts, diameter at bearings External Internal 1st 2nd diameter at bottom of pinion teeth 1st 89.79 3/4 2nd 130 3/4
 Wheel Shafts, diameter at bearings 1st main diameter at wheel shroud 1st main Generator Shaft, diameter at bearings Propelling Motor 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 Length of Bearing in Stern Bush next to and supporting propeller
 Propeller, diameter Pitch No. of Blades State whether Movable 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 Recirculating 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 Holds, &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 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

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

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

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?

Report on Reciprocating Engine

If so, is a report now forwarded?

Plans.

Are approved plans forwarded with for Shafting

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:—

AKTIESELSKABET ATLAS

727~ 7890 mm pp Peter Guder

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops --
During erection on board vessel ---
Total No. of visits

1944: 27/1-1/3-26/5-7/9-25/9-9/11-14/11 1945 4/1-7/2-14/2-20/2-13/3-12/4

Dates of Examination of principal parts—Casings

26/5

Rotor SHAFT

27/1-1/3-26/5

Blading

1/3-26/5

Gearing

27/1-1/3-26/5-2/4

Wheel shaft

26/5

Thrust shaft

Intermediate shafts

Tube shaft

Screw shaft

Propeller

Stern tube

Engine and boiler seatings

Engine holding down bolts

Completion of pumping arrangements

Boilers fixed

Engines tried under steam

Main boiler safety valves adjusted

Thickness of adjusting washers

ROTOR AND Rotor shaft, Material and tensile strength

S.M. high tensile steel forging 85.4 kg/147"

Identification Mark

26.5.44

Flexible Pinion Shaft, Material and tensile strength

S.M. high tensile steel forging 99.2 kg/147"

Identification Mark

25.9.44

Pinion shaft, Material and tensile strength

" " " " " " 95.5 " " " " " " 73.3 " " " " " "

Identification Mark

25.9.44

1st Reduction Wheel Shaft, Material and tensile strength

" " " " " " 95.5 " " " " " " 73.3 " " " " " "

Identification Mark

25.9.44

Wheel shaft, Material

Identification Mark

Thrust shaft, Material

Identification Mark

26.5.44

Big Chain Wheel

S.M. Steel

Identification Marks

420.2.45

Tube shaft, Material

S.M. Steel

Identification Marks

420.2.45

Intermediate shafts, Material

S.M. Steel

Identification Marks

420.2.45

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

If so, state name of vessel Finnbooda Yard No 331. Skinae Engine No 392.

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

The exhaust steam turbine plant has been built under Special Survey in accordance with the Rules and the approved plans. The material has been tested as required by the Rules and the workmanship is good.

An interim certificate issued as per copy enclosed.

Recommend the notation of "L.P. turbine with S.R. gearing and chain drive" to be made in the Register Book.

The amount of Entry Fee

£

When applied for,

16.4.45

Special

£ 4.30v.

When received,

Donkey Boiler Fee

£

Travelling Expenses (if any)

£

19.

Committee's Minute

FRI. 10 JAN 1947

Assigned

Su F.E. mchly. opt.

L. Clausen, P. Langhild, Jensen
Engineer Surveyors to Lloyd's Register of Shipping



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