

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 27 June 1929 When handed in at Local Office 19 Port of Copenhagen
 No. in Survey held at Elsinore Date, First Survey 15 January 1929 Last Survey 26 June 1929
 Reg. Book. on the Steel S.S. ARIEL (Number of Visits 35) Tons { Gross 2197.69
 Net 1241.32
 Built at Elsinore By whom built Helsingørsk Maskinfabrik & Maskinbyggeri Yard No. 188 When built 1929
 Engines made at Elsinore By whom made Helsingørsk Maskinfabrik & Maskinbyggeri Engine No. 263 when made 1929
 Boilers made at Elsinore By whom made Helsingørsk Maskinfabrik & Maskinbyggeri Boiler No. 746 when made 1929
 Registered Horse Power 1325 IHP Owners Frøka Singsbys Skibolag Port belonging to Helsingørsk
 Nom. Horse Power as per Rule 2293.230 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion
 Dia. of Cylinders 20" 32" 53" Length of Stroke 36" Revs. per minute 90 No. of Cylinders 3 No. of Cranks 3
 Dia. of Crank shaft journals as per rule 10.65" Dia. of Crank pin 11" Crank webs Mid. length breadth 22" Thickness parallel to axis 6 7/8"
 as fitted 11" Mid. length thickness 6 7/8" shrunk Thickness around eye-hole 5 1/4"
 Diameter of Thrust shaft under collars as per rule 10.65" Diameter of Tunnel shaft as per rule 10.14" Diameter of Screw shaft as per rule 11.84" Is the Screw shaft
 as fitted 11 1/32" as fitted 10 1/2" as fitted 13 1/2" 13 3/8"
 fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made watertight in the propeller boss Yes
 If the liner is in more than one length are the joints burned The liner is in one length If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with 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 appliance fitted at the after end of the shaft to permit
 of it being efficiently lubricated No Length of Stern Bush 4' 5 1/2" Diameter of Propeller NICKEL STEEL 13' 3"
 Pitch of Propeller 12' 9" No. of Blades 4 State whether Moveable No Total Surface 58.31 square feet.
 No. of Feed Pumps fitted to the Main Engines ✓ Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 No. of Bilge Pumps fitted to the Main Engines 2 Diameter of ditto 4 1/4" Stroke 18" Can one be overhauled while the other is at work Yes
 Total number and size of power driven Feed and Bilge Auxiliary Pumps 2 off vertical simplex 6" diam, 15" stroke, 8 1/2" diam. of steam cyl. Clark Chapman
 No. and size of Pumps connected to the Main Bilge Line 2 off engine bilge pumps 4 1/4" x 18", 1 off ballast pump 9" dia x 10" stroke, 8" dia of steam cyl. Clark Chapman
 No. and size of Ballast Pumps 1 off 9" dia x 10" stroke Cap. 125 tons per hour No. and size of Lubricating Oil Pumps, including Spare Pump ✓
 Are two independent means arranged for circulating water through the Oil Cooler ✓ No. and size of suction connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room 2 off 3 1/2", 2 off 2 1/2", 1 off 5 1/2" and in Holds, &c. Forehold 2 off 3", Afterhold 2 off 3"
 Tunnel 1 off 2 1/2"

No. and size of Main Water Circulating Pump Bilge Suctions 1 off 5 1/2" No. and size of Donkey Pump Direct Suctions
 to the Engine Room Bilges 1 off 3 1/2" 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 connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves except boiler blow off cock
 Are they size sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line above
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes
 What Pipes are carried through the bunkers None How are they protected ✓
 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 one
 compartment to another Yes Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from deck

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 4003.5 square feet
 Is Forced Draft fitted No No. and Description of Boilers 2 off single ended return multibore Working Pressure 200 lbs per sq. in.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? YesIS A DONKEY BOILER FITTED? NoIf so, is a report now forwarded? ✓PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers ✓ Donkey Boilers ✓
 (If not state date of approval)General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements ✓

SPARE GEAR. State the articles supplied:—2 connecting rod top end bolts and nuts, 2 connecting rod bottom end bolts and nuts.
2 main bearing bolts, 1 set of coupling bolts, 1 set of feed pump valves, 1 set of bilge pump valves and seats, 1 set of piston
springs for HP-IP & LP pistons, 1 propeller, 1/2 set of jacking bolts, 1 main ship valve spindle complete, 1 pair of main bearing
brasses, 1 pair of connecting rod bottom end brasses, 1 pair of connecting rod top end brasses, 1 set of air pump
valves, 1 set of steam piston rings for following pumps: feed pumps, ballast pump, fresh water pump, general
service pump and circulating pump, 1 set of connecting rod top and bottom end brasses and bolts
and 1 impeller with shaft for the circulating pump, 5% of tubes for the main condenser and 5%
ditto for the auxiliary condenser, 1 set of feed check valves and seats, 1 set of boiler safety valve springs
1 dozen of water gauge glasses, 5% of boiler tubes, 50% of fire bars, A quantity of assorted bolts
and nuts, Iron of various sizes.

The foregoing is a correct description,
ACTIESELSKABET

HELSINGØRS JERNSKIBS- OG MASKINBYGGERI

Kp. T. Thomsen

Manufacturer.



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Lloyd's Register
Foundation

1929 Jan. 15-21-31 Feb. 7-20-25 March 7-11-15-23-27 April 4-13-16-19-23-27-29
 May 3-7-10-11-17-18-23.
 1929 May 7-10-11-17-18-23-29-30 June 1-6-7-18-19-22-23
 During progress of work in shops --
 During erection on board vessel --
 Dates of Survey while building
 Total No. of visits 35.

Dates of Examination of principal parts - Cylinders 1929: 21/1 - 31/1 - 20/2 - 7/3 - 23/3
 Covers 20/2 - 25/2 - 23/3
 Connecting rods 15/1 - 13/4 - 29/4
 Tunnel shafts 25/2 - 15/3 - 23/3
 Stern tube 27/4 - 3/5 - 18/6
 Engine and boiler seatings 7/5 - 10/5 - 29/5
 Completion of pumping arrangements 7/5 - 10/5 - 23/5 - 11/6 - 25/6
 Completion of fitting sea connections 27/4 - 18/6
 Main boiler safety valves adjusted 24/6
 Material of Crank shaft Siemens Martin Pigot Steel
 Material of Thrust shaft Siemens Martin Pigot Steel
 Material of Tunnel shafts Siemens Martin Pigot Steel
 Material of Screw shafts Siemens Martin Pigot Steel
 Material of Steam Pipes Steel
 Test pressure 600 lbs per sq. in.
 Is an installation fitted for burning oil fuel No
 Have the requirements of the Rules for carrying and burning oil fuel been complied with
 Is this machinery duplicate of a previous case No
 Is the flash point of the oil to be used over 150°F.

Identification Mark on Do. HP No 4919, MP No 8232, LP No 492
 Identification Mark on Do. LLOYD'S No 13503 H 7.5.29
 Identification Marks on Do. LLOYD'S No 13471-13488-13489 H 15.3.29
 Identification Marks on Do. LLOYD'S No 13472-13490 H 23.3.29
 Identification Marks on Do. LLOYD'S No 13566 H 7.6.29
 Date of Test 19.6.1929

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery has been built under Special Survey in accordance with the Rules, the approved plans, and the requirements contained in the Secretary's letter E dated 1/8 - 7/9 - 3/12 - 1928.

The material used in the construction has been tested as required by the Rules as per certificates produced, and the workmanship is of good description throughout.

On the trial trip the machinery and the boilers were tested under full working power and found to work satisfactorily.

The vessel has been strengthened for navigation in ice and the special requirements of the Rules have been complied with.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 6.29. C-L.

Strengthened for Nav. in Ice

J. 57/24

Recommend the vessel's machinery to have notation of L.M.C. 6.29 C.L. and to have record of STRENGTHENED FOR NAVIGATION IN ICE

The amount of Entry Fee ... £ 72.80 :
 Special ... £ 104.31 :
 Donkey Boiler Fee LATE FEE 30.00 :
 Travelling Expenses (if any) £ 141.50 :
 When applied for, 2.7.1929
 When received, 8.8.29

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 9 JUL 1929
 Assigned

CERTIFICATE WRITTEN