

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 3/12 1924. When handed in at Local Office Ridby Havn 19 24 Port of Copenhagen  
 No. in Survey held at Aarhus, Kalundborg Date, First Survey 5/3 24 Last Survey 20/11 1924  
 Reg. Book. 55875 on the Skul. G. Fr. "FRANKRIG" (Number of Visits 17) Tons { Gross 361.17  
 Net 778.20  
 Built at Ridby Havn By whom built 9/5 Rødbylhavns Dok og Skibsværk. Yard No. 10 When built 1924  
 Engines made at Aarhus By whom made 9/5 Frichs Engine No. 551 when made 1924  
 Boilers made at Herrin By whom made Herrin & Oermærke, A/S. Boiler No. 1892/93 when made 1921  
 Registered Horse Power 650 Owners 9/5 Dansk Engelsk Dampskibsselskab Port belonging to Copenhagen  
 Nom. Horse Power as per Rule 129 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

## ENGINES, &amp;c.—Description of Engines

Vertical triple expansion surface condensing engine  
 Dia. of Cylinders 16 1/2" 25 1/4" 43" Length of Stroke 30" Revs. per minute 90 No. of Cylinders 3 No. of Cranks 3  
 Dia. of Crank shaft journals 8 3/4" as per rule 8 7/16" as fitted 8 3/4" Dia. of Crank pin 8 3/4" Crank webs 8 1/2" Mid. length breadth 16 1/4" Thickness parallel to axis 6 1/8"  
 Diameter of Thrust shaft under collars 8 3/4" as per rule 8 7/16" as fitted 8 3/4" Diameter of Tunnel shaft 8 3/4" as per rule 8 7/16" as fitted 8 3/4" Diameter of Screw shaft 9 1/4" as per rule 9 1/4" as fitted 9 1/4" Is the Screw shaft 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 yes 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 yes  
 If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated yes

Pitch of Propeller 3350 mm No. of Blades 4 State whether Moveable No Length of Stern Bush 92 1/2" 3/4" = 36 1/2" Diameter of Propeller 3600 mm  
 No. of Feed Pumps fitted to the Main Engines 2 Diameter of ditto 3 15/16" Stroke 7" Can one be overhauled while the other is at work yes  
 No. of Bilge Pumps fitted to the Main Engines 2 Diameter of ditto 2 3/4" Stroke 15" Can one be overhauled while the other is at work yes

Total number and size of power driven Feed and Bilge Auxiliary Pumps 1 off 150 x 100 x 150 mm duplex; 1 off 200 x 250 x 290 mm duplex.  
 No. and size of Pumps connected to the Main Bilge Line 2 off 2 3/4" dia x 15" str.; 1 off 200 x 250 x 290 mm; 1 off 150 x 100 x 150 mm.  
 No. and size of Ballast Pumps 1 off 200 x 250 x 290 mm (80% capacity) No. and size of Lubricating Oil Pumps, including Spare Pump 1 off 150 x 100 x 150 mm  
 Are two independent means arranged for circulating water through the Oil Cooler yes No. and size of suction connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 4 off 2 1/2" and in Holds, &c. Fore hold 2 off 2 1/2"; After hold 2 off 2 1/2"; Tunnel well 1 off 2 1/2"; tank suction as per approved plan.

No. and size of Main Water Circulating Pump Bilge Suctions 1 off 4 1/2" No. and size of Donkey Pump Direct Suctions 1 off 2 1/2"  
 to the Engine Room Bilges 1 off 2 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 cocks.  
 Are they fixed 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 yes  
 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 engine top platform (chain disk level)

MAIN BOILERS, &c.—(Letter for record 8) Total Heating Surface of Boilers 2240 sq. ft.

Is Forced Draft fitted No No. and Description of Boilers 2 off single ended, multi-tubular Working Pressure 185 lbs. per sq. in.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes Previous Rpt. No. 492

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? yes

PLANS. Are approved plans forwarded herewith for Shafting yes Main Boilers yes Auxiliary Boilers yes Donkey Boilers yes

General Pumping Arrangements yes Oil fuel Burning Piping Arrangements yes

SPARE GEAR. State the articles supplied:—2 bolts w. nuts for crank pin brasses; 2 bolts with nuts for main bearing brasses; 4 bolts w. nuts for crosshead brasses; 6 coupling bolts; 1 set HP piston packing rings; 1 set IP piston springs; 1 set LP piston springs; 1 set valves & seats for 1 bilge pump; 1 set valves & seats for 1 feed pump; 1 safety valve disc; 2 safety valve springs; 4 feed check valves; 4 plain tubes; 2 stay tubes; 1/2 set fire bars; 6 tube stays; 24 water gauge glasses; 4 india rubber packing rings; 1 cast iron propeller and a number of bolts & nuts, iron of various sizes &c.

The foregoing is a correct description,

P. P. A/S. FRICHS

Manufacturer.

W397-0013



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Dates of Survey while building  
During progress of work in shops --- 5/3. 28/4. 25/7. 20/8. 24.  
During erection on board vessel --- 5/3. 10/5. 26/6. 14/7. 2/9. 22/9. 3/10. 21/10. 7/11. 18/11. 18/11. 19/11. 20/11. 24.  
Total No. of visits 17.

Dates of Examination of principal parts - Cylinders 5/3. 20/8. Slides 5/3. 20/8.  
Covers 20/8. Pistons 5/3. 20/8. Rods 28/4. 25/7.  
Connecting rods 28/4. 25/7. Crank shaft 5/3. 25/7. Thrust shaft 25/7.  
Tunnel shafts 25/7. Screw shaft 2/9. Propeller 2/9.  
Stern tube 25/7. Engine and boiler seatings 5/3. 26/6. 2/9. Engines holding down bolts 2/9. 22/9.  
Completion of pumping arrangements 21/10. Boilers fixed 3/10. Engines tried under steam 18/11. 20/11.  
Completion of fitting sea connections 26/6. Stern tube 2/9. Screw shaft and propeller 22/9. 7/11.  
Main boiler safety valves adjusted 20/11. Thickness of adjusting washers  
Material of Crank shaft S. M. steel. Identification Mark on Do. LLOYDS 805 W. A.T.T. 31.1.24.  
Material of Thrust shaft S. M. steel. Identification Mark on Do. LLOYDS 807 A.T.T. 7.3.24.  
Material of Tunnel shafts S. M. steel. Identification Marks on Do. LLOYDS 806-806 A-806 B. A.T.T. 29.2.24.  
Material of Screw shafts S. M. steel. Identification Marks on Do. LLOYDS 808 A.T.T. 23.4.24.  
Material of Steam Pipes seamless steel. Test pressure 555 lbs. per sq. in. Date of Test 21-10-24.  
Is an installation fitted for burning oil fuel No. 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 duplicate of a previous case No. If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under special survey and in accordance with the Rules, the approved plans and the requirements contained in letters E dated 24/1. 4/3. 16/4 (to Leith), 8/9 and 16/10 1924. The material used in the construction has been examined and tested as required by the Rules - either by us or as per Certificates produced - and found good, and the workmanship is good.  
The boilers are fitted with Schmidt's patent superheaters, constructed by Messrs. G. Tebeck & Co., Garmisch, under the supervision of Bureau Veritas Surveyors; and according to the produced Certificate the superheaters have been tested by hydraulic pressure to 50 kg/cm<sup>2</sup>.  
On the trial the machinery and boilers worked satisfactorily and the manoeuvring of the main engine was tested and found good.

Recommend the vessel's machinery to have notation of **LMC-11-24** C.L. - subject to the port safety valve spring of the port boiler and the starboard safety valve spring of the starboard boiler being removed and all the safety valves adjusted under steam.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11. 24. CL

Subject to the port spring of the port boiler safety valves and the starboard spring of the starboard boiler safety valves being removed and all safety valves adjusted under steam at first opportunity. O. K. H. J. J.

12 = K. 26-16  
The amount of Entry Fee ... £4. 78. 48  
Special ... £. 784. 80.  
Donkey Boiler Fee ... £. 30. 0.  
Travelling Expenses (if any) £. 528. 75.  
When applied for, 20.11.1924  
When received, 21.11.1924

Committee's Minute TUES. 6 JAN 1925  
Assigned + LMC 11. 24 C.L.  
Subject

TUES. 13 OCT 1925



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The Surveyors are requested not to write on or below the space for Committee's Minute.