

REPORT ON MACHINERY.

No. 597

Date of writing Report 23rd Aug 1924 When handed in at Local Office 23rd Aug 1924 Port of Malmö
 No. in Survey held at Malmö Date, First Survey 28th March, 1923 Last Survey 6th August 1924
 Reg. Book. 88805 on the Steel single screw steamer "FRYKEIN" (Number of Visits 36)
 Master suppl. Built at Malmö By whom built Kockums Mekaniska Varkestad AB When built 1924
 Engines made at Malmö By whom made Kockums Mekaniska Varkestad AB when made 1924
 Boilers made at Malmö By whom made Kockums Mekaniska Varkestad AB when made 1924
 Registered Horse Power 156 Owners Ångbåts AB. Fern Port belonging to Kristinehamn
 Nom. Horse Power as per Section 28 156 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 18 1/2, 29 1/8, 48 Length of Stroke 33 1/16 Revs. per minute 93 Dia. of Screw shaft 280 Material of Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no Is the after end of the liner made water tight
 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 a plastic material insoluble in water and non-corrosive Yes liners fitted If two
 liners are fitted, is the shaft lapped or protected between the liners Lead wall patent protecting box fitted Length of stern bush 1150
 Dia. of Tunnel shaft 233 Dia. of Crank shaft journals 248 Dia. of Crank pin 250 Size of Crank webs 306 Dia. of thrust shaft under
 collars 248 Dia. of screw 3930 Pitch of Screw 3720 No. of Blades 4 State whether moveable no Total surface 4.61 sq. meter
 No. of Feed pumps 2 Diameter of ditto 70 Stroke 420 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 70 Stroke 420 Can one be overhauled while the other is at work yes
 No. of Donkey Engines Three Sizes of Pumps 190 x 125 x 125 No. and size of Suctions connected to both Bilge and Donkey pumps
190 x 200 x 250
150 x 100 x 150
 In Engine Room Four — 2 1/2" In Holds, &c. Four hold — Two — 2 1/2" After
hold — Two — 2 1/2"
 No. of Bilge Injections 1 sizes 5 1/2" Connected to condenser circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 2 1/2"
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible no
 Are all connections with the sea direct on the skin of the ship. yes Are they Valves or Cocks Both
 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 Four hold suction How are they protected Fitted in bilge below ceiling
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from grating level with main deck.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Wm. Beardmore & Co. Parkhead, Glasgow.
 Total Heating Surface of Boilers 2546 sq. ft. Is Forced Draft fitted no No. and Description of Boilers 2 single ended multitubular
 Working Pressure 185 lbs per sq. in. Tested by hydraulic pressure to 328 lbs Date of test 13/5/24 No. of Certificate 43 + 44
 Can each boiler be worked separately yes Area of fire grate in each boiler 34.98 sq. ft. No. and Description of Safety Valves to
 each boiler Two spring loaded Area of each valve 3318 sq. in. Pressure to which they are adjusted 190 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 36.56 in. Length 218.3 in. Material of shell plates Steel
 Thickness 26 in. Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap dble riv.
single riv. dble butt
 long. seams straps of equal width. Diameter of rivet holes in long. seams 27 in. Pitch of rivets 183.5 Lap of plates or width of butt straps 400 in.
 Per centages of strength of longitudinal joint 85.1 Working pressure of shell by rules 13.1 kg Size of manhole in shell 300 x 400 in.
 plate 85.3
 Size of compensating ring 720 x 820 No. and Description of Furnaces in each boiler 2 murrison Material Steel Outside diameter 1160
 Length of plain part 2315 Thickness of plate 14 in. Description of longitudinal joint welded No. of strengthening rings yes
 Working pressure of furnace by the rules 13.2 kg Combustion chamber plates: Material Steel Thickness: Sides 15 Back 15 Top 15 Bottom 17
 Pitch of stays to ditto: Sides 212 x 195 Back 210 x 195 Top 208 x 200 If stays are fitted with nuts or riveted heads Both Working pressure by rules 13 kg.
 Material of stay Steel Area at smallest part 935 in. Area supported by each stay 41600 in. Working pressure by rules 13.5 kg End plates in steam space:
 Material Steel Thickness 25 Pitch of stays 416 x 380 How are stays secured as per plan Working pressure by rules 13 kg Material of stays Steel
 Area at smallest part 3444 in. Area supported by each stay 158080 in. Working pressure by rules 15.9 kg Material of Front plates at bottom Steel
 Thickness 25 in. Material of Lower back plate Steel Thickness 25 in. Greatest pitch of stays as per plan Working pressure of plate by rules
 Diameter of tubes 89 in. Pitch of tubes 120 x 121 Material of tube plates Steel Thickness: Front 25 in. Back 20 in. Mean pitch of stays as per plan
 Pitch across wide water spaces 370 in. Working pressures by rules 14.4 kg. Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 2(176 x 20) Length as per rule 720 in. Distance apart 208 in. Number and pitch of stays in each 2-200 in.
 Working pressure by rules 13.2 kg Steam dome: description of joint to shell yes % of strength of joint -
 Diameter yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes
 Pitch of rivets yes Working pressure of shell by rules yes Crown plates yes Thickness yes How stayed yes

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

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

yes

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, 6 coupling bolts, 2 bridge and 2 feed pump valves, 16 piston springs, 3 H.P. piston rings, 3 I.P. piston rings, 1 L.P. piston ring. A quantity of assorted bolts and nuts. Iron of various sizes. 1 propeller, 1 set of chuck valves, 6 cylinder cover bolts, 10 junk ring bolts, 4 slide valve chest cover bolts, 7 boiler tubes, 20 condenser tubes with 20 glands, 2 safety valve springs, 35 fire bars.

The foregoing is a correct description,

KOCKUMS MEKANISKA VERKSTAD

AKTIE-BOLAG

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 28/3, 21/4, 27/4, 28/4, 8/10, 29/11, 10/12 1923 11/1, 16/1, 21/1, 24/1, 12/2, 9/3, 8/4, 17/4, 24/4, 30/4, 13/5, 19/5, 27/5, 31/5, 1924
During erection on board vessel -- 5/6, 13/6, 16/6, 27/6, 2/7, 5/7, 12/7, 19/7, 21/7, 23/7, 1/8, 2/8, 4/8, 5/8, 6/8 1924
Total No. of visits 36
Is the approved plan of main boiler forwarded herewith? retained in London. yes.

Dates of Examination of principal parts—Cylinders 21/4, 27/4, 5/10 1923 11/1, 16/1, 21/1, 24/1, 12/2, 9/3, 8/4, 17/4, 24/4, 30/4, 13/5, 19/5, 27/5, 31/5, 1924
Connecting rods 12/6, 27/24 Crank shaft 11/1, 16/6 Thrust shaft 27/5, 30/5, 16/6 Tunnel shafts 30/5, 16/6 Screw shaft 27/5, 30/5, 16/6 Propeller 21/2, 30/5, 5/6
Stern tube 12/2/24 Steam pipes tested 4/8 5/8 1924 Engine and boiler seatings 10/12/23 4/8/24 Engines holding down bolts 12/7, 4/8
Completion of pumping arrangements 4/8 6/8/24 Boilers fixed 4/8/24 Engines tried under steam 6/8/24
Completion of fitting sea connections 1/8/24 Stern tube 5/6 1/8/24 Screw shaft and propeller 5/6 + 1/8/24.
Main boiler safety valves adjusted 5/8/24 Thickness of adjusting washers Double nuts fitted.
Material of Crank shaft M/Steel Identification Mark on Do. Lloyd's No. 6564 No. 333, 334, 335
Material of Thrust shaft M/Steel Identification Mark on Do. Lloyd's No. 6082, 6083, 6084, 6085
Material of Tunnel shafts M/Steel Identification Marks on Do. Lloyd's No. 341, 342, 343, 344
Material of Screw shafts M/Steel Identification Marks on Do. Lloyd's No. 341, 342, 343, 344
Material of Steam Pipes Steel Test pressure 560 lbs per sq. inch.
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 Section 49 of the Rules been complied with yes

Is this machinery duplicate of a previous case yes If so, state name of vessel S.S. Ormö (Boilers somewhat modified)

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery and boilers of this vessel have been constructed under the usual conditions of Special Survey in accordance with the approved plans. Forgings and castings examined and tested as per rule. Workmanship good. Engines tried under steam and found working satisfactorily.

The machinery of this vessel is eligible in my opinion to be classed in the Society's Register Book with notation of LMC 8.24. Boiler pressure 185 lbs per sq. inch.

It is submitted that this vessel is eligible for THE RECORD. + LMC 8.24. OG.

28/8/24

The amount of Entry Fee ... \$K 54:60
Special ... \$K 709:80
Donkey Boiler Fee ... £
Travelling Expenses (if any) £ 140:--
Exam. of forgings
Committee's Minute
Assigned

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation