

REPORT ON MACHINERY.

Received at London Office

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 "FRYKEN" (Number of Visits 36)
 Master suppl. Built at Malmö By whom built Kockums Mekaniska Verkstads AB When built 1924
 Engines made at Malmö By whom made Kockums Mekaniska Verkstads AB when made 1924
 Boilers made at Malmö By whom made Kockums Mekaniska Verkstads 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

Tons { Gross 1477
 Net 1031

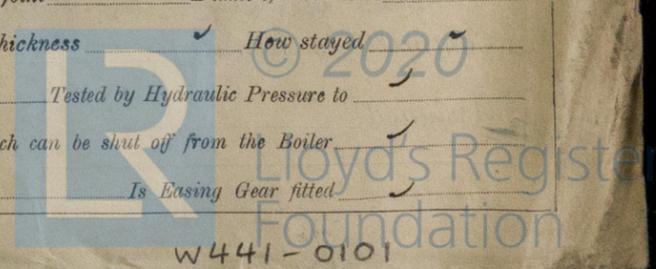
ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 18 1/2, 29 1/8, 48 Length of Stroke 33 1/16 Revs. per minute 93 Dia. of Screw shaft 280 as per rule 280 as fitted 280 Material of (screw shaft) Steel
 Is the screw shaft fitted with a continuous 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 No liners fitted If two liners are fitted, is the shaft lapped or protected between the liners Lead walls patent protecting box fitted Length of stern bush 1150
 Dia. of Tunnel shaft 233 as per rule 233 as fitted 233 Dia. of Crank shaft journals 248 as per rule 248 as fitted 248 Dia. of Crank pin 250 Size of Crank webs 376 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, 190 x 200 x 250, 150 x 100 x 150 No. and size of Suctions connected to both Bilge and Donkey pumps
 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 3656 Length 2183 Material of shell plates Steel
 Thickness 26 Range of tensile strength 28-32 tons Are the shell plates welded or flanged n Descrip. of riveting: cir. seams lap dble riv. long. seams straps of equal width. Diameter of rivet holes in long. seams 27 Pitch of rivets 183.5 Lap of plates or width of butt straps 400
 Per centages of strength of longitudinal joint rivets 85.1 plate 85.3 Working pressure of shell by rules 13.1 kg Size of manhole in shell 300 x 400
 Size of compensating ring 720 x 820 No. and Description of Furnaces in each boiler 2 Morrison's Material Steel Outside diameter 1160
 Length of plain part 2315 Thickness of plates 14 Description of longitudinal joint welded No. of strengthening rings ✓
 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 Area supported by each stay 41600 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 Area supported by each stay 158080 Working pressure by rules 15.9 kg Material of Front plates at bottom Steel
 Thickness 25 Material of Lower back plate Steel Thickness 25 Greatest pitch of stays as per plan Working pressure of plate by rules
 Diameter of tubes 89 Pitch of tubes 120 x 121 Material of tube plates Steel Thickness: Front 25 Back 20 Mean pitch of stays as per plan
 Pitch across wide water spaces 370 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 Distance apart 208 Number and pitch of stays in each 2 - 200
 Working pressure by rules 13.2 kg Steam dome: description of joint to shell ✓ % of strength of joint -
 Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓

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 ✓

IF THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.

If not, state whether, and when, one will be sent.



IS A DONKEY BOILER FITTED? *no* ✓

If so, is a report now forwarded? ✓

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 bilge 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 check 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, 21/9, 27/9, 28/9, 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, 28/5; 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 3/6. Is the approved plan of main boiler forwarded herewith? *yes*. *(a copy of)* retained in London.

Dates of Examination of principal parts: Cylinders 21/9, 27/9, 5/10 1923 11/1. Slides 30/4/24. Covers 30/4/24. Pistons 13/6, 2/7/24. Rods 13/6, 2/7/24. Connecting rods 13/6, 2/7/24. 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, 4/8/24. 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 *Mild steel* Identification Mark on Dg. Lloyd's No. 6564 No. LR 2017.5.23 No. 333,334,335. Material of Thrust shaft *Mild steel* Identification Mark on Do. Lloyd's No. 6082, 6083, 6081, 6084 No. LR 2017.5.23 No. 341,342,343,344,345. Material of Tunnel shafts *Mild steel* Identification Marks on Do. Lloyd's No. 2017.5.23 No. 341,342,343,344,345. Material of Screw shafts *Mild steel* Identification Marks on Do. Lloyd's No. 2017.5.23 No. 341,342,343,344,345. 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 ✓ Is this machinery duplicate of a previous case *yes* ✓ If so, state name of vessel *S.S. Ormø (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.

Handwritten signature and date: 28/8/24

The amount of Entry Fee ... \$Kw : 54:60 When applied for, 20/8 1924.
Special ... \$Kw 709:80
Donkey Boiler Fee ... £ : : When received.
Travelling Expenses (if any) £ 140:--
Exam. of forgings
Committee's Minute

Engineer Surveyor to Lloyd's Register of Shipping.

Assigned + LMC 8.24



Certificate (if required) to be sent to Surveyors Office, Malindi.

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