

REPORT ON BOILERS.

No. 1392.

10 SEP 1935

Received at London Office

Hand
 Date of writing Report 6th Sept. 1935. When handed in at Local Office 9th Sept. 1935. Port of Mahrö.
 No. in Survey held at Mahrö Date, First Survey 16th Nov. 1934 Last Survey 30th Aug. 1935.
 6239 on the Single Screw Motor Tanker "HAVPRINS" (Number of Visits 35.)
 Tons { Gross 8066
 Net 4754
 Master _____ Built at Mahrö By whom built Kockemms M.V.A.-B. Yard No. 183 When built 1935.
 Engines made at Mahrö By whom made Kockemms M.V.A.-B. Engine No. 107 When made 1935.
 Boilers made at Mahrö By whom made Kockemms M.V.A.-B. Boiler No. 927/8 When made 1935.
 Nominal Horse Power 1166.8 Owners Akties. Havprins Port belonging to Orolo.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. The Steel Company of Scotland, Limited. (Letter for Record S.)

Total Heating Surface of Boilers 2 x 122 = 244 m². Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers Two S.B. Working Pressure 12 kg. cm⁻² = 171 lb.

Tested by hydraulic pressure to 306 lbs. Date of test 15-2-1935 No. of Certificate S. 64 265. Can each boiler be worked separately Yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler Two direct spring loaded.

Area of each set of valves per boiler { per Rule 6871 mm². as fitted 7647 " Pressure to which they are adjusted 175 lbs. Are they fitted with easing gear Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Smallest distance between boilers O.F. side 1050 mm. Is oil fuel carried in the Deep tank bottom under boilers Yes.

Smallest distance between shell of boiler and tank top plating Deep 540 mm. Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 3400 mm. Length etc. 3400 mm. Shell plates: Material Steel Tensile strength 44-50 kg. mm⁻².

Thickness 22.5 mm. Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. inter. ✓

Long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 26 mm. long. seams 23.5 mm. Pitch of rivets { 83 mm. 171.5 mm.

Percentage of strength of circ. end seams { plate 68.6% rivets 46.7% Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 86.3% rivets 86.2% combined 89.8% Working pressure of shell by Rules 12.14 kg. cm⁻².

Thickness of butt straps { outer 17 mm. inner 20 mm. No. and Description of Furnaces in each Boiler Two corrugated.

Material Steel Tensile strength 41-47 kg. mm⁻². Smallest outside diameter 1076 mm.

Length of plain part { top ✓ bottom ✓ Thickness of plates { 13 mm. Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 12.5 kg. cm⁻².

End plates in steam space: Material Steel Tensile strength 41-47 kg. mm⁻². Thickness 22 mm. Pitch of stays 350 x 406 mm.

How are stays secured Std. nuts and washers. Working pressure by Rules 12.9 kg. cm⁻².

Tube plates: Material { front Steel back " Tensile strength { 41-47 kg. mm⁻². 41-47 kg. mm⁻². Thickness { 22 mm. 21 mm.

Mean pitch of stay tubes in nests 240 mm. Pitch across wide water spaces 330 mm. Working pressure { front 14.5 kg. mm⁻². back 17.8 kg. mm⁻².

Girders to combustion chamber tops: Material Steel Tensile strength 44-50 kg. cm⁻². Depth and thickness of girder

at centre 2 (180 x 20) mm. Length as per Rule 735 mm. Distance apart 210 mm. No. and pitch of stays

in each 2 - 228 mm. Working pressure by Rules 15.6 kg. cm⁻². Combustion chamber plates: Material Steel.

Tensile strength 41-47 kg. mm⁻². Thickness: Sides 17.5 mm. Back 18 mm. Top 17.5 mm. Bottom 17.5 mm.

Pitch of stays to ditto: Sides 228 x 210 - 190 Back 216 x 203 mm. Top 228 x 210 mm. Are stays fitted with nuts or riveted over Both

Working pressure by Rules 12.01 kg. cm⁻². Front plate at bottom: Material Steel Tensile strength 41-47 kg. mm⁻².

Thickness 22 mm. Lower back plate: Material Steel Tensile strength 41-47 kg. mm⁻². Thickness 22 mm.

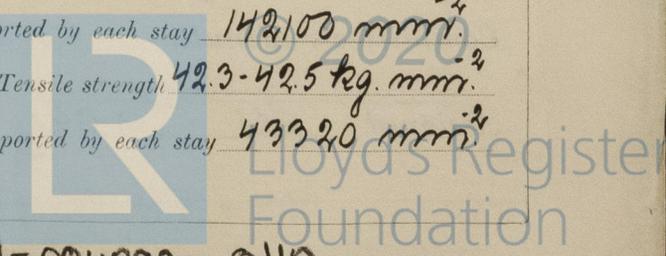
Pitch of stays at wide water space 330 x 216 mm. Are stays fitted with nuts or riveted over Margin stays with nuts.

Working Pressure 17.8 kg. cm⁻². Main stays: Material Steel Tensile strength 45.4-48.2 kg. mm⁻².

Diameter { At body of stay, 2 3/8" & 3" No. of threads per inch 6 Area supported by each stay 142100 mm².

Working pressure by Rules 12.6 kg. cm⁻². Screw stays: Material Steel Tensile strength 42.3-42.5 kg. mm⁻².

Diameter { At turned off part, 34 & 37 mm. No. of threads per inch 9 Area supported by each stay 43320 mm².



Working pressure by Rules 12.1 kg. cm^{-2} Are the stays drilled at the outer ends Margin stays: Diameter $34 \text{ \& } 37 \text{ mm}$.
 No. of threads per inch 9 Area supported by each stay 57560 mm^2 Working pressure by Rules 12.1 kg. cm^{-2}
 Tubes: Material *Steel* External diameter $2\frac{1}{2}"$ Thickness 3.25 mm No. of threads per inch 9
 Pitch of tubes $89 \text{ \& } 92 \text{ mm}$ Working pressure by Rules P. 12.5 and S. 15 12.1 kg. cm^{-2} Manhole compensation: Size of opening in shell plate $400 \times 500 \text{ mm}$ Section of compensating ring 12000 mm^2 No. of rivets and diameter of rivet holes $44 - 26 \text{ mm}$.
 Outer row rivet pitch at ends 190 mm Depth of flange if manhole flanged 85 mm Steam Dome: Material
 Tensile strength Thickness of shell Description of longitudinal joint
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays
 Inner radius of crown Working pressure by Rules
 How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell
 Type of Superheater Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$
 Number of elements Material of tubes Internal diameter and thickness of tubes
 Material of headers Tensile strength Thickness Can the superheater be shut off and the boiler be worked separately
 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
 Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per Rules
 Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes, castings and after assembly in place Are drain cocks or valves fitted to free the superheater from water where necessary
 Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with

The foregoing is a correct description,
KOCKUMS MEKANISKA VERKSTADS
AKTIE-BOLAG Manufacturer.
T. A. ...

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops} \\ \text{while building} \end{array} \right.$ $\left\{ \begin{array}{l} \text{11/11, 21/11, 27/11, 4/12, 11/12, 18/12, 27/12, 1935. 2/1, 4/1, 5/1, 9/1, 11/1, 14/1.} \\ \text{17/6, 26/7, 1/8, 2/8, 12/8, 16/8, 19/8, 27/8, 24/8, 30/8-1935.} \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith $15-1-1934$
 (If not state date of approval.) Total No. of visits 35 .

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These donkey boilers have been built under special survey in accordance with the Rules and the approved plans.
 The materials used in the construction have been tested as per Rules and the workmanship is good.

Survey Fee ... £ See Rpt. 4.6. } When applied for, 192
 Travelling Expenses (if any) £ : : } When received, 192

Aelundén
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 20 SEP 1935**

Assigned *See Machy. J.E. Report.*

