

REPORT ON BOILERS.

No. 870

Received at London Office 21 JAN 1929

Date of writing Report 17.1.1929 When handed in at Local Office 19.1.1929 Port of Malmö

No. in Reg. Book. 91106 Survey held at Malmö Date, First Survey 10-8-1929 Last Survey 12-1-1929
Suggest on the Motor Tanker "MAX ALBRECHT" (Number of Visits 28) Gross 5880 Tons Net 3291Master Built at Malmö By whom built Hockums M.V.A.-B. Yard No. 158 When built 1929
Engines made at Malmö By whom made Hockums M.V.A.-B. Engine No. 25486 When made 1929
Boilers made at Malmö By whom made Hockums M.V.A.-B. Boiler No. 889 When made 1929
Nominal Horse Power 584 Owners Dr. Max Albrecht Kommanditgesellschaft belonging to Hamburg

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Mannesmannröhren-Werke AGt Schulz Knaundt (Letter for Record S)
Total Heating Surface of Boilers 2501 sq. feet Is forced draught fitted yes Coal or Oil fired Oil
No. and Description of Boilers One Multitubular Working Pressure 10.5 kg/cm²
Tested by hydraulic pressure to 19.35 kg Date of test 3.11.28 No. of Certificate 54 Can each boiler be worked separately
Area of Firegrate in each Boiler 2 No. and Description of safety valves to each boiler 2 Direct spring loaded
Area of each set of valves per boiler per Rule 14807 mm² as fitted 2x7854 " Pressure to which they are adjusted 105 kg/cm² 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 or uptakes and bunkers or woodwork (APT) 520 mm Is oil fuel carried in the double bottom under boilers
Smallest distance between shell of boiler and tank top plating Boiler fixed on a platform Is the bottom of the boiler insulated yes
Largest internal dia. of boilers 4420 mm Length 3660 mm Shell plates: Material Steel Tensile strength 46.4-51 kg/cm²
Thickness 25.5 mm Are the shell plates welded or flanged None Description of riveting: circ. seams end dbl. lap inter. 81 mm
long. seams dbl. but straps TR Diameter of rivet holes in circ. seams 26 mm long. seams 26 " Pitch of rivets 186 " plate rivets
Percentage of strength of circ. end seams plate 67.8 % rivets 42.1 " Percentage of strength of circ. intermediate seam plate rivets
Percentage of strength of longitudinal joint plate 86 % rivets 85.9 % combined 89.2 " Working pressure of shell by Rules 11.15 kg/cm²
Thickness of butt straps outer 23 mm inner 23 " No. and Description of Furnaces in each Boiler 3 Longitudinal
Material Steel Tensile strength 42.3-45.5 kg/cm² Smallest outside diameter 1020 mm
Length of plain part top bottom Thickness of plates 11 mm Description of longitudinal joint Welded
Dimensions of stiffening rings on furnace or c.e. bottom Working pressure of furnace by Rules 10.9 kg/cm²
End plates in steam space: Material Steel Tensile strength 42.5-44 kg/cm² Thickness 24 mm Pitch of stays 430x510 mm
How are stays secured dbl. nuts and washers Working pressure by Rules 10.6 kg/cm² Thickness 24 mm
Tube plates: Material front Steel Tensile strength 42.5-44 kg/cm² back " Thickness 19 " Working pressure front 10.75 kg/cm² back 16.8 " front back
Mean pitch of stay tubes in nests 216x208 mm Pitch across wide water spaces 378 mm Working pressure front 10.75 kg/cm² back 16.8 " front back
Girders to combustion chamber tops: Material Steel Tensile strength 46 kg/cm² Depth and thickness of girder
at centre 2x28-150 mm Length as per Rule 809 mm Distance apart 203 & 215 mm No. and pitch of stays
in each 2-221 mm Working pressure by Rules 11.3 kg/cm² 10.02 kg/cm² Combustion chamber plates: Material Steel
Tensile strength 44.9-46 kg/cm² Thickness: Sides 16 mm Back 16 mm Top 16 mm Bottom 18 mm
Pitch of stays to ditto: Sides 165x198 mm Back 184x188 mm Top 221x203-215 mm Are stays fitted with nuts or riveted over See app. plan.
Working pressure by Rules 12 kg/cm² Front plate at bottom: Material Steel Tensile strength 42.5-44 kg/cm²
Thickness 24 mm Lower back plate: Material Steel Tensile strength 43.2-44.7 kg/cm² Thickness 21 mm
Pitch of stays at wide water space 366x184 mm Are stays fitted with nuts or riveted over Fitted with nuts
Working Pressure 13.2 kg/cm² Main stays: Material Steel Tensile strength 45.2-47.6 kg/cm²
Diameter At body of stay, 8-2 3/4" 6-2 1/2" 6-2 1/4" No. of threads per inch 6 Area supported by each stay 219300 mm²
Working pressure by Rules 11.7 kg/cm² Screw stays: Material Steel Tensile strength 46.2-46.5 kg/cm²
Diameter At turned off part, 28, 34 & 37.5 mm No. of threads per inch 9 Area supported by each stay 34592 mm²
Diameter Over threads 1 1/4", 1 1/2" & 1 5/8"

Working pressure by Rules 10.65 kg/cm^2 Are the stays drilled at the outer ends *No* Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 34 \text{ mm} \\ \text{or} \\ \text{Over threads } 1\frac{1}{2} \text{"} \end{array} \right.$

No. of threads per inch *9* Area supported by each stay 50968 mm^2 Working pressure by Rules 11.0 kg/cm^2

Tubes: Material *Steel* External diameter $\left\{ \begin{array}{l} \text{Plain } 3\text{"} \\ \text{Stay } 3\text{"} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 3.65 \text{ mm} \\ 7.1479 \text{ mm} \end{array} \right.$ No. of threads per inch *9*

Pitch of tubes $108 \times 104 \text{ mm}$ Working pressure by Rules 13.5 kg/cm^2 Manhole compensation: Size of opening in shell plate $490 \times 390 \text{ mm}$ Section of compensating ring 13000 mm^2 No. of rivets and diameter of rivet holes $36 - 28 \text{ mm}$

Outer row rivet pitch at ends 183 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 $\left\{ \begin{array}{l} \text{Plate } \checkmark \\ \text{Rivets } \checkmark \end{array} \right.$

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 $\left\{ \begin{array}{l} \text{Tubes } \checkmark \\ \text{Steel castings } \checkmark \end{array} \right.$

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 *yes*

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

1928:-
Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - } 10/8, 13/8, 14/8, 18/8, 27/8, 28/8, 1/9, 5/9, 7/9, 12/9, 14/9, 17/9 \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - } 7/12, 11/12, 17/12, 22/12, 1929: 4/1, 5/1, 8/1, 12/1 \end{array} \right. \end{array} \right.$ Plan of the boiler as built forwarded herewith *1, 2, 28*
Are the approved plans of boiler and superheater forwarded herewith *1, 2, 28*
(If not state date of approval.)
Total No. of visits *28*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This donkey boiler has been built under special survey in accordance with the Rules and the approved plan. The materials used in the construction of the boiler has been tested and fulfils the requirements of the Rules. The workmanship is good. The oil fuel burning installation is a single as steam is not required for any essential use at sea.*
A feed pump $7\frac{1}{2} \times 5 \times 7$ " and one injector are fitted

Survey Fee ... *£ See Rpt 4.b* } When applied for, *✓* 192
Travelling Expenses (if any) £ : : } When received, *✓* 192

A. Sundén
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 25 JAN 1929*

Assigned *See Rpt. attached*



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Foundation