

REPORT ON BOILERS.

No. 13523

SAT. 17 MAY. 1924

Received at London Office

Date of writing Report 9.5.1924 When handed in at Local Office 1924 Port of Rotterdam
 No. in Survey held at Rotterdam Date, First Survey 26.9.1923 Last Survey 1.11.1924
 g. Book. Rotterdam (Number of Visits 14) Gross 2698 Tons Net 2698
 on the Bowling the Steel Twin Screw Steamer MARTINA
 Master Rotterdam Built at Rotterdam By whom built Rot Drogd Mij Yard No. 93 When built 1924
 Engines made at Rotterdam By whom made Rot Drogd Mij Engine No. 96297 When made 1924
 Boilers made at Rotterdam By whom made Rot Drogd Mij Boiler No. 202.85 When made 1924
 Original Horse Power 236 Owners Curacauk Scheep Mij Port belonging to Willemstad

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Elbsen William Beardmore & Co Ltd (Letter for Record S)
 Total Heating Surface of Boilers 4168 sq ft Is forced draught fitted Yes Coal or Oil fired Oil
 No. and Description of Boilers 2 single ended multitubular Marine Working Pressure 180 lb
 Tested by hydraulic pressure to 320 lb Date of test 20-2-24 No. of Certificate 784 Can each boiler be worked separately Yes
 Area of Firegrate in each Boiler 1 No. and Description of safety valves to each boiler 2 high lifting spring loaded
 Area of each set of valves per boiler per Rule Pressure to which they are adjusted 180 lb Are they fitted with easing gear Yes
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No donkey boiler
 Smallest distance between boilers or uptakes and bunkers or woodwork 3' 0" Is oil fuel carried in the double bottom under boilers No
 Smallest distance between shell of boiler and tank top plating No Tank Is the bottom of the boiler insulated Yes
 Largest internal dia. of boilers 13' 0" Length 12' 3" Shell plates: Material SM Steel Tensile strength 28-32 tons
 Thickness 1 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams end lap 2 x riv
 Long. seams Double butt 3 x riv Diameter of rivet holes in circ. seams 1 3/16" Pitch of rivets 8 1/8"
 Percentage of strength of circ. end seams plate 62.9% Percentage of strength of circ. intermediate seam plate 52.5%
 Percentage of strength of longitudinal joint plate 85.4% Working pressure of shell by Rules 195 lb
 Thickness of butt straps outer 7/8" No. and Description of Furnaces in each Boiler 2 Mousons patent
 Material SM Steel Tensile strength 26-30 tons Smallest outside diameter 3' 11 7/8"
 Length of plain part top 1' Thickness of plates bottom 1 1/2" Description of longitudinal joint Welded
 Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 200 lb
 End plates in steam space: Material SM Steel Tensile strength 26-30 tons Thickness 1 1/8" Pitch of stays 17" x 16"
 How are stays secured Secured in plates and nutted outside Working pressure by Rules 210 lb
 Tube plates: Material front SM Steel Tensile strength 26-30 tons Thickness 1 1/16"
back SM Steel Tensile strength 26-30 tons Thickness 3/4"
 Mean pitch of stay tubes in nests 8" - 12" Pitch across wide water spaces 14 1/4" Working pressure front 194 lb
 Girders to combustion chamber tops: Material SM Steel Tensile strength 28-32 tons Depth and thickness of girder back 190 lb
 at centre 8 1/2" x 8 x 3/4" Length as per Rule 2' 7 1/2" Distance apart 8 1/2" No. and pitch of stays
 in each 2 x 10" Working pressure by Rules 298 lb Combustion chamber plates: Material SM Steel
 Tensile strength 26-30 tons Thickness: Sides 7/8" Back 3/4" Top 7/8" Bottom 7/8"
 Pitch of stays to ditto: Sides 9 1/4" x 10" Back 8" x 7 1/4" Top 10" x 8 1/2" Are stays fitted with nuts or riveted over nutted over
 Working pressure by Rules 207 lb Front plate at bottom: Material SM Steel Tensile strength 26-30 tons
 Thickness 1 1/16" Lower back plate: Material SM Steel Tensile strength 26-30 tons Thickness 3/4"
 Pitch of stays at wide water space 15 5/8" Are stays fitted with nuts or riveted over Fitted with nuts
 Working Pressure 312 lb Main stays: Material SM Steel Tensile strength 28-32 tons
 Diameter At body of stay 2 1/2" No. of threads per inch 9 Area supported by each stay 272 sq in
Over threads 2 3/4" Screw stays: Material SM Steel Tensile strength 26-30 tons
 Working pressure by Rules 203 lb Diameter At turned off part 1 1/8" No. of threads per inch 9 Area supported by each stay 91.5 sq in
Over threads 1 1/2"

Working pressure by Rules $\frac{10 \times 22}{21 \times 22}$ Are the stays drilled at the outer ends *OK* Margin stays: Diameter { At turned off part, $1 \frac{1}{8}$ "
 No. of threads per inch 9 Area supported by each stay $84 \frac{1}{2}$ " Working pressure by Rules $216 \frac{1}{2}$
 Tubes; Material *SM Steel* External diameter { Plain $2 \frac{3}{4}$ " Thickness $2 \frac{1}{4}$ " No. of threads per inch 9
 Pitch of tubes 4 " Working pressure by Rules $225 \frac{1}{2}$ Manhole compensation: Size of opening in
 shell plate $20 \frac{3}{4} \times 16 \frac{3}{4}$ " Section of compensating ring $8 \frac{1}{4} \times 1 \frac{1}{8}$ " No. of rivets and diameter of rivet holes 42 at $1 \frac{1}{4}$ "
 Outer row rivet pitch at ends 7 " Depth of flange if manhole flanged $3 \frac{1}{2}$ " Steam Dome: Material *✓*
 Tensile strength *✓* Thickness of shell *✓* Description of longitudinal joint *✓*
 Diameter of rivet holes *✓* Pitch of rivets *✓* Percentage of strength of joint { Plate *✓*
 Rivets *✓*
 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 *None fitted* Manufacturers of { Tubes *✓*
 Steel castings *✓*
 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

Manufacturer.

Dates of Survey { During progress of $23/5/10, 10/10/24, 26/5/13, 18/11/12$ Age the approved plans of boiler and superheater forwarded herewith *OK*
 while building { During erection on board vessel $14/9/14, 1/15$ (If not state date of approval.) $24/11/24$
 Total No. of visits 14

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been built under special survey, material tested as required and workmanship good, tested by hydraulic pressure as required by the Rules and found sound and tight

Survey Fee ... *See* When applied for, 102
 Travelling Expenses (if any) $£$ *Machining up* When received, 102

J. J. Ochoa
 Engineer-Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. MAY. 23 1924*

Assigned



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 Foundation