

REPORT ON BOILERS.

No. 5958.

Received at London Office 11 JAN 1937

Date of writing Report 19/12/1936 When handed in at Local Office 19/12/1936 Port of YOKOHAMA

No. in Reg. Book. Survey held at Yokohama Date, First Survey 7/4/36 Last Survey 20th Oct. 1936

on the Ship NO. 250.

h NO. 1

(Number of Visits 19) Tons { Gross Net

Master Built at Hikoshima By whom built Yard No. 5,250 When built

Engines made at By whom made Engine No. When made

Boilers made at Yokohama By whom made Mitsubishi Jukogyo K.K. Boiler No. M.584 When made

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Colvilles Ltd., & Asano S. B. & Co. Ltd., (Letter for Record)

Total Heating Surface of Boilers 84.97 square meter. = 914 sq. ft. Is forced draught fitted no Coal or Oil fired oil.

No. and Description of Boilers One - Marine cylindrical boiler. Working Pressure 7 Kg/cm².

Tested by hydraulic pressure to 14 Kg/cm² Date of test 20-10-36 No. of Certificate NO. 47 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler

Area of each set of valves per boiler { per Rule as fitted Pressure to which they are adjusted Are they fitted with easing gear

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 Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 3050 mm Length 3200 mm Shell plates: Material steel Tensile strength 44-55 Kg/cm²

Thickness 16 mm Are the shell plates welded or flanged flanged Description of riveting: circ. seams { end inter. long. seams double butt & double rivet Diameter of rivet holes in { circ. seams 26.5 long. seams 23 Pitch of rivets { 80 95

Percentage of strength of circ. end seams { plate 66.9% rivets 66.4% Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 75.7% rivets 83.9% Working pressure of shell by Rules 8.2 Kg/cm²

Thickness of butt straps { outer 16 inner 16 No. and Description of Furnaces in each Boiler Two plain furnaces with Adamson joints.

Material Tensile strength 41-47 Kg/cm² Smallest outside diameter 924

Length of plain part { top 730 bottom 785 Thickness of plates { crown 14 12 in plan bottom 14 Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom two on furnace Working pressure of furnace by Rules 9.66 Kg/cm²

End plates in steam space: Material steel Tensile strength 41-47 Kg/cm² Thickness 18 Pitch of stays 330-350

How are stays secured double nut, 2 washers in plan Working pressure by Rules 8.3 Kg/cm²

Tube plates: Material { front steel back steel Tensile strength { 41-47 Kg/cm² Thickness { 16 14

Mean pitch of stay tubes in nests 204 Pitch across wide water spaces 224 350 in plan Working pressure { front back 7.9 Kg/cm²

Girders to combustion chamber tops: Material steel Tensile strength 44-55 Kg/cm² Depth and thickness of girder

at centre 190 x 14 Length as per Rule 712 mm Distance apart 285 No. and pitch of stays

in each two x 220 Working pressure by Rules 8.4 Kg/cm² Combustion chamber plates: Material steel

Tensile strength 41-47 Kg/cm² Thickness: Sides 14 Back 14 Top 14 Bottom 14

Pitch of stays to ditto: Sides 250 x 45 Back 250 x 40 Top 220 x 38 Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 7.26 Kg/cm² Front plate at bottom: Material steel Tensile strength 41-47 Kg/cm²

Thickness 16 Lower back plate: Material steel Tensile strength 41-47 Kg/cm² Thickness 16

Pitch of stays at wide water space 240 350 in plan Are stays fitted with nuts or riveted over nuts

Working Pressure 7.5 Kg/cm² Main stays: Material steel Tensile strength 44-55 Kg/cm²

Diameter { At body of stay, 44 No. of threads per inch 6 Area supported by each stay 1137.5 sq. cm.

Working pressure by Rules 9.8 Kg/cm² Screw stays: Material steel Tensile strength 44-55 Kg/cm²

Diameter { At turned off part, 1 1/2" x 1 3/8" No. of threads per inch 9 per inch Area supported by each stay 600 sq. cm.

Working pressure by Rules $7.6 \frac{\text{Kg}}{\text{cm}^2}$. Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part.} \\ \text{or} \\ \text{Over threads} \end{array} \right. \begin{array}{l} 1\frac{1}{2}'' \text{ \& } 1\frac{5}{8}'' \end{array}$

No. of threads per inch 9 per inch. Area supported by each stay 725 sq. centimet. Working pressure by Rules 7.8 Kg/cm².

Tubes: Material Steel External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. \begin{array}{l} 3'' \\ 3'' \end{array}$ Thickness $\left\{ \begin{array}{l} 9 \text{ L.S.G.} \\ 5/16'' \end{array} \right.$ No. of threads per inch 9 per inch.

Pitch of tubes 102 x 112. Working pressure by Rules 7.5 Kg/cm². Manhole compensation: Size of opening in shell plate 305 x 407. Section of compensating ring oval flanged. No. of rivets and diameter of rivet holes 40 rivets, 23φ.

Outer row rivet pitch at ends 140. Depth of flange if manhole flanged 80. Steam Dome: Material ✓

Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____

Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. \begin{array}{l} \\ 9 \end{array}$

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

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 _____

Area of each safety valve _____

Are the safety valves fitted with easing gear _____

Working pressure as per Rules _____

Rules _____

Pressure to which the safety valves are adjusted _____

Hydraulic test pressure _____

tubes _____

forgings and 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 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,

M. Hattori

Manufacturer

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} \end{array} \right. \begin{array}{l} 7/4/36 \text{ to } 20/10/36 \\ \text{(19 visits)} \end{array}$ Are the approved plans of boiler and superheater forwarded herewith 19-3-36
(If not state date of approval.)

while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} \end{array} \right. \begin{array}{l} \\ \end{array}$ Total No. of visits _____

Is this Boiler a duplicate of a previous case _____

If so, state Vessel's name and Report No. _____

GENERAL REMARKS

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

This boiler has been built under special survey in accordance with the Rules and approved plan. Material and Workmanship good.

This boiler has now been sent to Hikoshima and will be fitted on board the vessel no. 250, now being built by Messrs. Mitsubishi Jukogyo Kaisha, Hikoshima Docks.

Survey Fee £ 11 : 9 : 0

Travelling Expenses (if any) ¥ : 3.00

TELEGRAM ¥ 1.45

When applied for, 21-12-1936

When received, 19

M. Hattori

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

Assigned See other copy

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