

Rpt. 5a.

REPORT ON BOILERS.

No. 8786.

Received at London Office -5 NOV 1934

Date of writing Report 8-10-1934. When handed in at Local Office 192 Port of KOBE.

No. in Reg. Book. Survey held at KOBE. Date, First Survey 11-1-34. Last Survey 14-9-1934.

on the SINGLE SCREW MOTOR VESSEL "KIYOSUMI MARU." (Number of Visits 14.) Tons { Gross 6992. Net 3829.

Master Built at KOBE. By whom built KANASAKI DOCKYARD CO. LD. Yard No. 583. When built 1934.

Engines made at NAGASAKI. By whom made MITSUBISHI JUKOGYO KAISHA. Engine No. 556. When made 1934.

Boilers made at KOBE. By whom made KANASAKI DOCKYARD CO. LD. Boiler No. When made 1934.

Nominal Horse Power 2185. Owners KOKUSAI KISEN KABUSHIKI KAISHA. Port belonging to TOKIO.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel KANASAKI DOCKYARD CO. LD. FUKUI PLATE & SHEET MILLS KOBE. (Letter for Record (S) ✓)

Total Heating Surface of Boilers OIL FIRED 123.57 M². EX GAS 125.36 M². Is forced draught fitted NO. Coal or Oil fired OIL OR GAS EXHAUST.No. and Description of Boilers ONE SINGLE ENDED MULTITUBULAR. Working Pressure 7 kg/cm² (100 LBS/IN²) ✓Tested by hydraulic pressure to 14 kg/cm². Date of test 12-7-34. No. of Certificate 4167. Can each boiler be worked separately ✓.

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

Area of each set of valves per boiler { per Rule 29" as fitted 30" 40". Pressure to which they are adjusted 7 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 Is oil fuel carried in the double bottom under boilers BOILER IN TWEEN DECK.

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

Largest internal dia. of boilers 3886 mm. Length 3541 mm. Shell plates: Material STEEL Tensile strength 28-32.

Thickness 22 mm. Are the shell plates welded or flanged NO. Description of riveting: circ. seams { end J. R. LAP JOINT. inter. J. R. LAP JOINT. ✓

long. seams T. R. D. B. S. Diameter of rivet holes in { circ. seams 1 3/16". long. seams 1 1/16". Pitch of rivets { 80 mm. 173 mm. ✓

Percentage of strength of circ. end seams { plate 62. rivets 66. Percentage of strength of circ. intermediate seam { plate 62. rivets 66.

Percentage of strength of longitudinal joint { plate 84.5. rivets 115.5. combined 91.3. Working pressure of shell by Rules 10 kg/cm².

Thickness of butt straps { outer 19 mm. inner 22 mm. No. and Description of Furnaces in each Boiler TWO MORISON TYPE.

Material STEEL Tensile strength 26-30. Smallest outside diameter 1151.6 mm.

Length of plain part { top Thickness of plates { crown 17 mm. bottom 17 mm. Description of longitudinal joint WELDED.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 15.16 kg/cm².

End plates in steam space: Material STEEL Tensile strength 26-30. Thickness 28 mm. Pitch of stays 500 mm.

How are stays secured DOUBLE NUTS & WASHERS. Working pressure by Rules 15.1 kg/cm².

Tube plates: Material { front STEEL Tensile strength { 26-30 Thickness { 22 mm. back STEEL 26-30 19 mm. ✓

Mean pitch of stay tubes in nests 270 mm. Pitch across wide water spaces 350 mm. Working pressure { front 10.86 kg/cm². back 12.45 kg/cm².

Girders to combustion chamber tops: Material STEEL Tensile strength 28-32. Depth and thickness of girder

at centre 180 mm x 22 mm. Length as per Rule 730 mm. Distance apart 270 mm. No. and pitch of stays

in each 2 x 250 mm. Working pressure by Rules 12.56 kg/cm². Combustion chamber plates: Material STEEL.

Tensile strength 26-30. Thickness: Sides 16 mm. Back 15 mm. Top 16 mm. Bottom 19 mm. ✓

Pitch of stays to ditto: Sides 280 x 230 mm. Back 210 x 235 mm. Top 250 x 270 mm. Are stays fitted with nuts or riveted over NUTS.

Working pressure by Rules 15.29 kg/cm². Front plate at bottom: Material STEEL Tensile strength 26-30.

Thickness 22 mm. Lower back plate: Material STEEL Tensile strength 26-30. Thickness 22 mm. ✓

Pitch of stays at wide water space 350 x 210 mm. Are stays fitted with nuts or riveted over MARGIN STAYS NUTS & WASHERS.

Working Pressure 13.12 kg/cm². Main stays: Material STEEL Tensile strength 28-32.

Diameter { At body of stay, 3". Over threads 3 3/4". No. of threads per inch 6. Area supported by each stay 500 x 400 mm.

Working pressure by Rules 15 kg/cm². Screw stays: Material STEEL Tensile strength 28-32.

Diameter { At turned off part, 40 37 47 34 mm. Over threads 1 3/4 1 7/8 2 1/2. No. of threads per inch 9. Area supported by each stay 210 x 235 mm.

Working pressure by Rules 8.72 kg/cm^2 . Are the stays drilled at the outer ends YES. Margin stays: Diameter { At turned off part, 40mm. 37mm. Over threads $1\frac{3}{4}"$ $1\frac{5}{8}"$.
 No. of threads per inch 9. Area supported by each stay $210 \times 292 \text{ mm}$. Working pressure by Rules 15.29 kg/cm^2 .
 Tubes; Material STEEL. External diameter { Plain $2\frac{1}{2}"$ ✓ Stay $2\frac{1}{2}"$ ✓ Thickness { 11 L.S.G. ✓ $5/16"$ ✓ No. of threads per inch 9.
 Pitch of tubes $30 \times 90 \text{ mm}$. Working pressure by Rules 10 kg/cm^2 . Manhole compensation: Size of opening in shell plate $546 \times 445 \text{ mm}$. Section of compensating ring $500 \times 22 \text{ mm}$. No. of rivets and diameter of rivet holes 36. $1\frac{5}{16}"$ ✓
 Outer row rivet pitch at ends 173 mm . Depth of flange if manhole flanged 90 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 { 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 ✓. 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,

S. Agata Manufacturer.

Dates of Survey { During progress of work in shops - - JAN 11, APR 12, MAY 8, JUNE 16, 18, 20, 21 1934. Are the approved plans of boiler and superheater forwarded herewith 2-11-33. (If not state date of approval.)
 while building { During erection on board vessel - - - SEPT 4, 7, 14 1934. Total No. of visits 14.

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

This boiler has been constructed under Special Survey in accordance with the Rules, and approved plans, the materials and workmanship are good.

The boiler was tested by hydraulic pressure to 14 kg/cm^2 , and found sound and tight, afterwards efficiently installed in the vessel, and its safety valves adjusted under steam to 7 kg/cm^2 (100 LBS/10)

This boiler is eligible in my opinion to have the record of D.B. 100 LBS.

Survey Fee ... £ 26 : 16 : 0

When applied for, 9th Oct. 1934

Travelling Expenses (if any) £ : :

When received, 11th Oct. 1934

A. E. Munro

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 9 NOV 1934

Assigned

See Mr J.E. (Moby)
Kob. 8786



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Foundation