

REPORT ON BOILERS.

No. 2262

Received at London Office AUG 13 1937

Date of writing Report 13th July 1937 When handed in at Local Office 13th July 1937 Port of NAGASAKI.

No. in Reg. Book Survey held at NAGASAKI. Date, First Survey 9th Feb. 1937 Last Survey 30th June 1937
on the Single Screw Motor Vessel "KOZUI MARU" (Number of Visits) See Machy. rpt. Gross 7072 Net 5219 Tons

Built at Nagasaki By whom built Mitsubishi Jukogyo K.K. Yard No. 672 When built 1937
Engines made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Engine No. 672 When made 1937
Boilers made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Boiler No. 672 When made 1937
Owners Takachiho Shosen Kabushiki Kaisha. Port belonging to Kobe

VERTICAL DONKEY BOILER.

Made at Nagasaki By whom made Mitsubishi J.K.K. Boiler No. 672 When made 1937 Where fixed E.R. Upper.
Manufacturers of Steel Nippon Seitetsu K.K. Yawata.

Total Heating Surface of Boiler 31.614 sq.M. Is forced draught fitted Yes Coal or Oil fired Exhaust gas or oil.

No. and Description of Boilers One, Vertical waste heat boiler. (Clarkson Type). Working pressure 8.5 Kg/cm²

Tested by hydraulic pressure to 16.25 Kg/cm² Date of test 16-3-1937 No. of Certificate 1672

Area of Firegrate in each Boiler / No. and Description of safety valves to each boiler Twin spring loaded

Area of each set of valves per boiler { per rule 2268 sq. m/m as fitted 2771 } Pressure to which they are adjusted 8.6 Kg/cm² Are they fitted with easing gear Yes

State whether steam from main boilers can enter the donkey boiler / Smallest distance between boiler or uptake and bunkers

or woodwork / Is oil fuel carried in the double bottom under boiler / Smallest distance between base of boiler and tank top plating

Boiler flat near and deck of B.R. Is the base of the boiler insulated Yes Largest internal dia. of boiler 2000 m/m Height 4.950 m/m

Shell plates: Material Steel Tensile strength 44-55 Kg/cm² Thickness 13 m/m

Are the shell plates welded or flanged No Description of riveting: circ. seams S.R.L. long. seams D.R.D.B.S.

Dia. of rivet holes in { circ. seams 20 m/m Pitch of rivets 45.5 m/m Percentage of strength of circ. seams { plate 56% of Longitudinal joint { rivets 90% combined. } } long. seams " 82.3 + 82.12 m/m { rivets 43.5%

Working pressure of shell by rules 9.86 Kg/cm² Thickness of butt straps { outer 8.5 m/m inner 11.5 m/m

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished Material Steel

Tensile strength 41-48 Kg/cm² Thickness 22 m/m Radius 1800 m/m Working pressure by rules 8.87 Kg/cm²

Description of Furnace: Plain, spherical, or dished crown See Ogee Ring. Material / Tensile strength /

Thickness / External diameter { top / bottom / Length as per rule / Working pressure by rules /

Pitch of support stays circumferentially / and vertically / Are stays fitted with nuts or riveted over /

Diameter of stays over thread / Radius of spherical or dished furnace crown / Working pressure by rule /

Thickness of Ogee Ring / Diameter as per rule { D / d / Working pressure by rule /

Ogee Ring:- Material Steel Tensile strength 41-48 Kg/cm² Thickness of top plate 20 m/m Bot. plate 21 m/m

Radius if dished Bottom, 1500 m/m Working pressure by rule Approved London 8.7 Kg Thickness of back plate / Diameter if circular /

Length as per rule / Pitch of stays / Are stays fitted with nuts or riveted over /

Diameter of stays over thread / Working pressure of back plate by rules /

Tube Plates: Material { front Steel back } Tensile strength { 41-48 Kgs Thickness { 28 m/m Mean pitch of tubes in nests 206.3x177.9 m/m

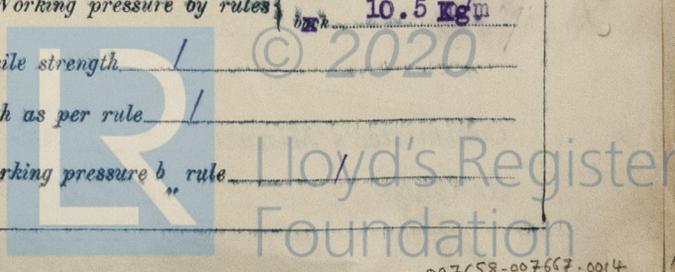
If comprising shell, Dia. as per rule { front / back } Pitch in outer vertical rows { / Dia. of tube holes { 83 m/m BACK } stay /

Is each alternate tube in outer vertical rows a stay tube / Working pressure by rules { 10.5 Kg/m

Girders to combustion chamber tops: Material / Tensile strength /

Depth and thickness of girder at centre / Length as per rule /

Distance apart / No. and pitch of stays in each / Working pressure by rule /



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Crown stays: Material / Tensile strength / Diameter { at body of stay, or over threads. /

No. of threads per inch / Area supported by each stay / Working pressure by rules .

Screw stays: Material / Tensile strength / Diameter { at turned off part, or over threads. / No. of threads per inch /

Area supported by each stay / Working pressure by rules / Are the stays drilled at the outer ends /

Tubes: Material Water circulating tube:- M.S. External diameter { plain Circ. Tube: $\sqrt{75}$ m/m Thickness $\sqrt{4.5}$ m/m
Thimble tube:- M.S. stay Thimble $\sqrt{83}$ m/m Thickness $\sqrt{5}$ m/m

No. of threads per inch / Pitch of tubes / Working pressure by rules Circ. tube: 14 Kg/cm²
 Thimble 15

Manhole Compensation: Size of opening in shell plate 280×380 m/m Section of compensating ring Flanged 16 m/m thick No. of rivets and diameter

of rivet holes 40×19 m/m Outer row rivet pitch at ends 90 m/m Depth of flange if manhole flanged 70 m/m

Uptake: External diameter 1210×772 m/m Thickness of uptake plate 28 m/m. 16 m/m.

Cross Tubes: No. / External diameters { / Thickness of plates /

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description.

MITSUBISHI JUKOGYO KABUSHIKI KAISHA.
K. Shimidzu Manufacturer
 for GENERAL MANAGER.

Dates of Survey { During progress of work in shops - - } Is the approved plan of boiler forwarded herewith 27-8-1936
 while building { During erection on board vessel - - } (If not state date of approval.)

See Machinery Report. Total No. of visits /

Is this Boiler a duplicate of a previous case. Yes If so, state Vessel's name and Report No. "KOTOKU MARU" Nag. Rpt No. 2251

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

This boiler has been constructed under Special Survey in accordance with the Rules & Approved Plan.

The materials have been tested found efficient and the workmanship throughout is good.

A water test of 16.25 Kg/cm² applied to boiler and found sound and tight.

This boiler has now been installed on board, and the safety valves adjusted under steam to 8.6 Kg/cm² on the 2nd June 1937, afterwards an accumulation test carried out and all found satisfactory.

Eligible in our opinion to have the record of DBS. 6-37 in the Register Book.

Fitted for oil fuel F.P. above 150° F.

The oil burning arrangement for Donkey boiler was made by Mitsubishi's Yokohama Dock, and consists of a fan and small electric heater for starting up and 1 small steam heater. (Heater, Enclosed type).

The oil is fed by gravity from an oil fuel tank to the burner where it is forced by steam through the nozzle and the whole carried up through the boiler c.c. by air from fan.

All requirement of the Rules for oil fuel have been complied with as far as they apply.

Survey Fee £ 5-5-0 : } When applied for, 8. 7. 1937

Travelling Expenses (if any) £ : : } When received, 13-10-37

H. Buchanan & *T. Kamishu*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 24 AUG 1937

Assigned See Nag. J.C. 2262

