

# REPORT ON BOILERS.

No. 1882

Received at London Office 26 APR 1933

Date of writing Report 28th Mar 1933 When handed in at Local Office 28th Mar 1933 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 19th Oct. 1932 Last Survey 17th March 1933  
Reg. Book See Machy. Rpt. (Number of Visits 5) Gross 6665.81

on the Steel Screw Motor Vessel "KOSEI MARU". Tons 4765.62 Net

Built at Nagasaki. By whom built Mitsubishi Zosen Kaisha, Ltd. Yard No. 522 When built 1933

Engines made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Engine No. 522 When made 1933

Boilers made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 522 When made 1933

Owners Hiroumi Shoji Kabushiki Kaisha. Port belonging to Kobe.

## VERTICAL DONKEY BOILER.

Made at Nagasaki By whom made Mitsubishi Zosen Kaisha Boiler No. 522 When made 1933 Port side Engine Room.

Manufacturers of Steel Kawasaki Dockyard Co. Ltd.,

Total Heating Surface of Boiler 18.5 Sq. meter. Is forced draught fitted No Coal or Oil fired Oil

No. and Description of Boilers One Vertical multitubular. Working pressure 120 lbs sq. in.

Tested by hydraulic pressure to 230 lbs/sq. in. Date of test 19th December 1932. No. of Certificate 149.

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 3.53 sq. in. Pressure to which they are adjusted 122 lbs Are they fitted with easing gear Yes  
as fitted 3.90 sq. in.

State whether steam from main boilers can enter the donkey boiler / Smallest distance between boiler or uptake and bunkers 2'-9"

4'-3" Is oil fuel carried in the double bottom under boiler No Smallest distance between base of boiler and tank top plating 4'-3"

Is the base of the boiler insulated Yes Largest internal dia. of boiler 1400 m/m Height 3500 m/m

Shell plates: Material Steel Tensile strength 28-32 tons Thickness 10 & 13 m/m

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

Dia. of rivet holes in circ. seams 20 m/m Pitch of rivets 51.3 m/m Percentage of strength of circ. seams plate 61% rivets 48.8 of Longitudinal joint plate 69.6% rivets 76.5  
long. seams 20 m/m 52.8 m/m Max. 65.8 m/m 67.5 m/m Max. combined -

Working pressure of shell by rules 135 lbs. Thickness of butt straps outer / inner /

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

Tensile strength 26-30 tons/sq. in. Thickness 13 m/m Radius 819 m/m Working pressure by rules 137 lbs/sq. in.

Description of Furnace: Plain, spherical, or dished crown Spherical Material Steel Tensile strength 26-30 tons/sq. in.

Thickness 13 m/m External diameter / 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 600 Working pressure by rule 178 lbs

Thickness of Ogee Ring 17 m/m Diameter as per rule D 1400 m/m d 1200 m/m Working pressure by rule 135 lbs

Combustion Chamber: Material / Tensile strength / Thickness of top plate /

Radius if dished / Working pressure by rule / 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 Steel Tensile strength 26-30 tons/sq. in. Thickness 17 m/m Mean pitch of stay tubes in nests 234 x 160 m/m

If comprising shell, Dia. as per rule front 1064 m/m back 1280 m/m Pitch in outer vertical rows 160 m/m Dia. of tube holes FRONT stay 50.8 m/m plain 50.8 m/m BACK stay 56 m/m plain 52 m/m

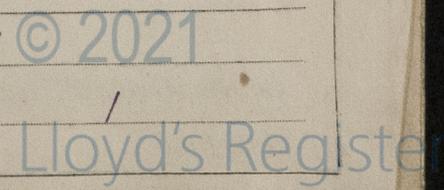
Is each alternate tube in outer vertical rows a stay tube Yes Working pressure by rules front 151.2 lbs/sq. in. back 122 lbs/sq. in.

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 Mild Steel External diameter { plain 50.8 m/m / stay " / Thickness { 10 L.S.G. / 8 m/m /  
 No. of threads per inch 9 Pitch of tubes 78 x 80 m/m Working pressure by rules 215 lbs/sq.in.

Manhole Compensation: Size of opening in steel plate Top end 305x405 m/m Section of compensating ring / No. of rivets and diameter of rivet holes / Outer row rivet pitch at ends / Depth of flange if manhole flanged 90 m/m

Uptake: External diameter 276 x 456 m/m Thickness of uptake plate 13 m/m

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

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,  
 NAGASAKI WORKS, MITSUBISHI SEN KAISHA, LTD.  
 Murota Manufacturer.  
 GENERAL MANAGER.

Dates of Survey { During progress of work in shops - - / while building { During erection on board vessel - - /  
 Is the approved plan of boiler forwarded herewith 4-5-1932. (If not state date of approval.)  
 See Machinery Report.  
 Total No. of visits

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

This boiler has been constructed under Special survey in accordance with the requirement of the Rules and approved plan.

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

The safety valves were adjusted, as stated above, on the 24th February 1933.

The boiler has been efficiently installed on board and eligible in my opinion to have the notation of **DBS. 3-33** in Register Book. Fitted for oil fuel F.P. above 150° F. Section 18.22 of the Rules complied with.

Survey Fee ... £ : : ) When applied for, ..... 19.  
 Travelling Expenses (if any) £ : : ) When received, ..... 19.  
 See Machinery Report.

For T. Kunishi & self H.S. Buchanan  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 28 APR 1933  
 Assigned See other Rpt. Nag. 1883

