

## REPORT ON BOILERS.

No. 2336

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Date of writing Report 22nd Mar 1938 When handed in at Local Office 22nd Mar 1938 Port of NAGASAKI.No. in Survey held at NAGASAKI.Date, First Survey 23rd July 1937 Last Survey 10th March 193871515 on the Steel Single Screw Motor Vessel "A Z U M A M A R U"(Number of Visits) See Maghy Rpt. 6646Tons 5651Master / Built at Nagasaki By whom built Mitsubishi Jukogyo KK Yard No. 700 When built 1938Engines made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Engine No. 700 When made 1938Boilers made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Boiler No. 700 When made 1938Nominal Horse Power 2,248. Owners Nippon Yusen K.K. Port belonging to YokyoMULTITUBULAR BOILERS—~~MAIN, AUXILIARY, OR~~ DONKEY.Manufacturers of Steel Consett Iron Co., Ltd., and Steel Co of Scotland, Ltd.,(Letter for Record S.)Total Heating Surface of Boilers 258.82 sq.M.Is forced draught fitted NoCoal or Oil fired Oil & Exhaust gas.No. and Description of Boilers One Cylindrical Multitubular.Working Pressure 7 Kg/cm<sup>2</sup>Tested by hydraulic pressure to 14 Kg/cm<sup>2</sup> Date of test 10-11-37 No. of Certificate 1924 Can each boiler be worked separately /Area of Firegrate in each Boiler / No. and Description of safety valves to each boiler 4 Spring loaded.Area of each set of valves per boiler per Rule 1531 m/m<sup>2</sup> Pressure to which they are adjusted 7 Kg. Are they fitted with easing gear YesIn case of donkey boilers, state whether steam from main boilers can enter the donkey boiler /Smallest distance between boilers or uptakes and tankers hold bulkhead 420 m/m Is oil fuel carried in the double bottom under boilers /Smallest distance between shell of boiler and tank top plating Located in E.R. at 3rd deck level. Is the bottom of the boiler insulated YesLargest internal dia. of boilers 3700 m/m Length 2650 m/m Shell plates: Material Steel Tensile strength 44-45 Kg.Thickness 19 m/m Are the shell plates welded or flanged No Description of riveting: circ. seams end Doublelong. seams D.R. & D.B.S. Diameter of rivet holes in circ. seams 26.5 m/m Pitch of rivets 100.7Percentage of strength of circ. end seams plate 76.2 rivets 47 Percentage of strength of circ. intermediate seam plate rivets /Percentage of strength of longitudinal joint plate 74.6 rivets 85.6 combined - Working pressure of shell by Rules 8.08 sq/cmThickness of butt straps outer 12 m/m inner 15 m/m No. and Description of Furnaces in each Boiler One, Corrugated.Material Steel Tensile strength 41-48 Kg/sq.mm. Smallest outside diameter 1050 m/mLength of plain part top / Thickness of plates crown 10 m/m Description of longitudinal joint WeldedDimensions of stiffening rings on furnace or c.c. bottom / Working pressure of furnace by Rules 9.94 KgEnd plates in steam space: Material Steel Tensile strength 41-48 Kg Thickness 22 m/m Pitch of stays 400 m/mHow are stays secured Double nuts and riveted strip. Working pressure by Rules 16.1 Kg & 9.8 Kg.Tube plates: Material front Steel. Tensile strength 41-48 Kg. Thickness 22 m/mMean pitch of stay tubes in nests 228x222 m/m Pitch across wide water spaces 340 m/m Working pressure front 10.8Girders to combustion chamber tops: Material / Tensile strength / Depth and thickness of girderat centre / Length as per Rule / Distance apart / No. and pitch of staysin each / Working pressure by Rules / Combustion chamber plates: Material /Tensile strength / Thickness: Sides / Back / Top / Bottom /Pitch of stays to ditto: Sides / Back / Top / Are stays fitted with nuts or riveted over /Working pressure by Rules / Front plate at bottom: Material Steel Tensile strength 41-48 KgThickness 22 m/m Lower back plate: Material Steel Tensile strength 41-48 Kg Thickness 22 m/mPitch of stays at wide water space / Are stays fitted with nuts or riveted over /Working Pressure / Main stays: Material Steel Tensile strength 44-55 KgDiameter At body of stay, 2 @ 65m/m & 4 @ 57m/m. No. of threads per inch 6 Area supported by each stay 270000 m/m<sup>2</sup>Working pressure by Rules 8.05 Kg Screw stays: Material / Tensile strength /Diameter At turned off part, / No. of threads per inch / Area supported by each stay /

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Working pressure by Rules / Are the stays drilled at the outer ends / Margin stays : Diameter { At turned off part, / or / Over threads /  
No. of threads per inch / Area supported by each stay / Working pressure by Rules / 9 per  
Tubes : Material Steel External diameter { Plain 83 m/m Thickness { 3.25 m/m No. of threads per inch 25.4 m/m  
Pitch of tubes 228 x 222 m/m Working pressure by Rules 21.6 Kg Manhole compensation: Size of opening in  
shell plate 405 x 305 m/m Section of compensating ring Flanged No. of rivets and diameter of rivet holes 36 @ 26.5 m/m  
Outer row rivet pitch at ends 128.5 m/m Depth of flange if manhole flanged 90 m/m Steam Dome : Material Steel  
Tensile strength 41-48 Kg Thickness of shell 12 m/m Description of longitudinal joint Seam E. welded & fitted with  
Diameter of rivet holes 23 m/m Pitch of rivets 55.6 m/m Percentage of strength of joint { Plate 58.6  
Internal diameter 800 m/m Working pressure by Rules 11.5 Kg Thickness of crown 15 m/m Rivets 50.2  
stays / Inner radius of crown 750 m/m Working pressure by Rules 16.6 Kg  
How connected to shell Riveted Double Row. Size of doubling plate under dome 600m/m Dia x 22m/m Diameter of rivet holes and pitch  
of rivets in outer row in dome connection to shell 23m/m x 104m/m pitch..

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 22 inclusive for boilers been complied with

Yes

The foregoing is a correct description,

Manufacturer.

Dates { During progress of / work in shops - - /  
of Survey while { During erection on / board vessel - - /  
building

See Machinery Report.

Are the approved plans of boiler and superheater forwarded herewith 4-5-37  
(If not state date of approval.)

Total No. of visits /

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "Awata Maru".

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 14 Kg/cm<sup>2</sup> was applied to the boiler and it was found sound and tight.

The boiler has now been installed on board and the safety valves adjusted under steam to 7 Kg/cm<sup>2</sup>, on  
the 8th February 1938, afterwards an accumulation test carried out and all found satisfactory.

Eligible in our opinion to have record of DBS. 37-38 in the Register Book.

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

Note:- A pressure feed water heater has been fitted, constructed in accordance with Approved plan,  
and tested by hydraulic pressure to 17 Kg/cm<sup>2</sup> and found sound & tight (Nag. Cert No. 1965).  
The exhaust gases from Aux. diesel engines are used for heating the feed water in this heater  
and a relief valves is fitted and adjusted to releases at 9 Kg/cm<sup>2</sup>.

Survey Fee ... £

See Machinery Report.

When applied for, 19

Travelling Expenses (if any) £

When received, 19

H. Buchanan & T. R. R. R.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 26 APR 1938

Assigned

See Val. & E. 2336



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Foundation