

REPORT ON BOILERS.

No. 2324

Received at London Office

Date of writing Report 11th Dec 1937 When handed in at Local Office 11th Dec. 1937 Port of N A G A S A K I.

No. in Survey held at N A G A S A K I.

Date, First Survey 30th March 37 Last Survey 30th Nov. 1937

37122 on the Single Screw Motor Vessel "A S A K A M A R U"

(Number of Visits) See Machy Rpt. Gross 7398.36 Net 4327.87

Master / Built at Nagasaki By whom built Mitsubishi J.K.K. Yard No. 687 When built 1937

Engines made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Engine No. 687 When made 1937

Boilers made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Boiler No. 687 When made 1937

Nominal Horse Power 2248. Owners Nippon Yusen Kabushiki Kaisha Port belonging to Tokyo.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Nippon Seitetsu K.K. Yawata Seitetsu-sho. (Letter for Record S) and Mitsubishi Jukogyo K.K. Nagasaki Seiko-sho.

Total Heating Surface of Boilers 258.82 sq.M. Is forced draught fitted No Coal or Oil fired Oil & Exhaust gas.

No. and Description of Boilers One Cylindrical Multitubular. DRY UPTAKE Working Pressure 7 Kg/cm²Tested by hydraulic pressure to 14 Kg/cm² Date of test 17-7-37 No. of Certificate 1825 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 m² as fitted 25446.8 m² Pressure to which they are adjusted 7 Kg. 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 & 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 2nd deck level. Is the bottom of the boiler insulated Yes

Largest 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 Double inter. /

long. seams D.R. & D.R.S. Diameter of rivet holes in {circ. seams 26.5 m/m Pitch of rivets {100.7 26.5 m/m 104.4

Percentage 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/cm.

Thickness 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 m/m Smallest outside diameter 1050 m/m

Length of plain part {top / bottom / Thickness of plates {crown 10 m/m Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom / Working pressure of furnace by Rules 9.94 Kg

End plates in steam space: Material Steel Tensile strength 41-48 Kg Thickness 22 m/m Pitch of stays 400 m/m

How are stays secured Double nuts and riveted strip. Working pressure by Rules 16.1 Kg and 9.8 Kg.

Tube plates: Material {front Steel back / Tensile strength {41-48 Kg Thickness {22 m/m

Mean pitch of stay tubes in nests 228x222 m/m Pitch across wide water spaces 340 m/m Working pressure {front 10.8 back /

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 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 Kg.

Thickness 22 m/m Lower back plate: Material Steel Tensile strength 41-48/Kg Thickness 22 m/m

Pitch of stays at wide water space / Are stays fitted with nuts or riveted over /

Working Pressure / Main stays: Material Steel Tensile strength 44-55 Kg.

Diameter {At body of stay, 2 @ 65m/m and 4 @ 57m/m. No. of threads per inch 6 Area supported by each stay 270000 m/m²

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 /
Tubes: Material Steel / External diameter { Plain 83 m/m / Thickness { 3.25 m/m / No. of threads per inch 9 per 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 19 m/m thick / 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 Semi E. welded & fitted with butt strap. /
Diameter of rivet holes 23 m/m / Pitch of rivets 55.6 m/m / Percentage of strength of joint { Plate 58.6 m/m / Rivets 50.2 /
Internal diameter 800m/m / Working pressure by Rules 11.5 Kg / Thickness of crown 15 m/m / No. and diameter of stays /
Inner radius of crown 750 m/m / Working pressure by Rules 16.6 Kg /
How connected to shell Riveted: Single Row. / Size of doubling plate under dome 600 m/m dia x 22 m/m thick. / Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 23 m/m x 104 m/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,

NAGASAKI WORKS, LTD. MANUFACTURER

Dates of Survey { During progress of work in shops - - / See Machy. Rpt. / Are the approved plans of boiler and superheater forwarded herewith 10-11-36 / (If not state date of approval.) /
while building { During erection on board vessel - - - / Total No. of visits /

Is this Boiler a duplicate of a previous case Yes / If so, state Vessel's name and Report No. "Akagi Maru" & "Arima 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/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 7 Kg/cm² on the 28th October 1937 afterwards an accumulation test carried and all found satisfactory.
Eligible in our opinion to have record of DBS. 11.-'37 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, 4th May 1937 and tested by hydraulic pressure of 17 Kg/cm² and found sound & tight. (Reg. Cert No. 1827).
The exhaust gases from the Auxiliary diesel engines are used for heating the feed water in this heater and a relief valves is fitted and adjusted release at 9 Kg/cm².

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

H. Buchanan / & T. R. ...
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FM. 11 FEB 1938

Assigned See other F.E. report



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