

REPORT ON BOILERS.

No 2176

-9 NOV 1936

Received at London Office

Writing Report 29th Sep 36 When handed in at Local Office 29th Sep 36 Port of NAGASAKI.

Survey held at NAGASAKI. Date, First Survey 4th March 36 Last Survey 18th Sep. 1936

See Machy. Rpt. (Number of Visits) Gross 7386.83

on the Single Screw Motor Vessel "AKAGI MARU" Tons Net 4329.02

Built at Nagasaki By whom built Mitsubishi Jukohyo K. Yard No. 627 When built 1936

Engines made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Engine No. 627 When made 1936

Boilers made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Boiler No. 627 When made 1936

Indicated Horse Power 2,248. Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokyo.

MULTITUBULAR BOILERS—~~MAIN~~AUXILIARY OR DONKEY.

Manufacturers of Steel Nippon Seitetsu K.K. Yawata Steel Wks. Tokyo Kozaki K.K. (Letter for Record S)

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

Description of Boilers One cylindrical Multitubular. Working Pressure 7 Kg/cm²

Tested by hydraulic pressure to 14 Kg/cm² Date of test 30-5-36 No. of Certificate 1395 Can each boiler be worked separately /

No. and Description of safety valves to each boiler 4 spring loaded

Pressure to which they are adjusted 7 Kg Are they fitted with easing gear Yes

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler /

Least distance between boilers or uptakes and tankers or donkey hold bulkhead 420 m/m Is oil fuel carried in the double bottom under boilers /

Least 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

Least 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 Double

Seams D.R. & D.B.S. Diameter of rivet holes in circ. seams 26.5 m/m Pitch of rivets 100.7

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 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

Material Steel Tensile strength 41-48 Kg/sq m/m Smallest outside diameter 1050 m/m

Thickness of plates crown 10 m/m bottom / Description of longitudinal joint Welded

Working pressure of furnace by Rules 9.94 Kg

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

Are stays secured Double nuts and riveted strip. Working pressure by Rules 16.1 Kg & 9.8 Kg.

Stays: Material front Steel Tensile strength 41-48 Kg Thickness 22 m/m back Steel 4-48 Kg 22 m/m

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

Boilers to combustion chamber tops: Material / Tensile strength / Depth and thickness of girder

Centre / Length as per Rule / Distance apart / No. and pitch of stays

Working pressure by Rules / Combustion chamber plates: Material /

Thickness: Sides / Back / Top / Bottom /

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

Are stays fitted with nuts or riveted over /

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

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

Over threads 72 m/m & 4 @ 64 m/m

Working pressure by Rules 7.9 Screw stays: Material / Tensile strength /

At turned off part, / No. of threads per inch / Area supported by each stay /

Over threads /

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** / Stay **83 m/m** / Thickness { **3.25 m/m** / **6.5 & 8 m/m** No. of threads per inch **9 per** /
Pitch of tubes **228 x 222 m/m** Working pressure by Rules **21.6 Kg** Manhole compensation: Size of opening /
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 **Seam E. welded and fitted butt strap.**
Diameter of rivet holes **23 m/m** Pitch of rivets **55.6 m/m** Percentage of strength of joint { Plate **58.6** / Rivets **50.2** /
Internal diameter **800 m/m** Working pressure by Rules **11.5 Kg** Thickness of crown **15 m/m** No. and diameter of rivets in outer row in dome connection to shell **23 m/m x 104 m/m pitch.** 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 from the boiler?
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 /
Rules / Pressure to which the safety valves are adjusted / Hydraulic test pressure /
tubes / , castings / and after assembly in place / Are drain cocks or valves governed?
to free the superheater from water where necessary /

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

NAGASAKI WORKS, MITSUBISHI JUKOGYO KAWASAKI KAISHA

K. Shimidzu
for GENERAL MANAGER

The foregoing is a correct description,

Dates of Survey { During progress of work in shops - - / while building { During erection on board vessel - - - /
Are the approved plans of boiler and superheater forwarded herewith **30-12** (If not state date of approval.)
Total No. of visits **1-**

Is this Boiler a duplicate of a previous case **No** If so, state Vessel's name and Report No. /

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
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 13th August 1936 afterwards an accumulation test carried and all found satisfactory.
Eligible in our opinion to have the record of DBS. 9.-'36 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 plan approved 24-10-35 and tested by hydraulic pressure of 17 Kg/cm² and found sound and tight.
This exhaust gases from the Aux. 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 - ... £
Travelling Expenses (if any) £
When applied for, 19
When received, 19

See Machinery report.

For T. Kunishi - by H.D. Buchanan
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI. 13 NOV 1936**

Assigned

See Nav. J.E 2176



© 2021

Lloyd's Register
Foundation