

REPORT ON BOILERS.

No. 330

Received at London Office 7-JUL 1954

Date of writing Report 23 March 1954 When handed in at Local Office 19 Port of Shimonoseki

No. in Reg. Book Survey held at Nagasaki Date, First Survey 21 May 1953 Last Survey 4 Feb 1954

on the Steel Twin Screw motor vessel "AKI-MARU" (Number of Visits 29) (Gross 7732.60 Tons) (Net 4316.41 Tons)

Built at Nagasaki By whom built Nagasaki Works, Mitsubishi Zosen K.K. Yard No. 1438 When built 1954.2.10

Engines made at Nagasaki By whom made Nagasaki Works, Mitsubishi Zosen K.K. Engine No. 2614262 When made 1953.10.10

Boilers made at Nagasaki By whom made Nagasaki Works, Mitsubishi Zosen K.K. Boiler No. 1384 When made 1953.10.10

MN as per Rule Owners Nippon Yusen Kaisha Port belonging to Tokyo

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Yawata Iron & Steel Works

Total Heating Surface of Boilers 268.5 sq meter Of Superheaters

Total for Register Book Is forced draught fitted Yes Coal or Oil fired Oil and Exhaust

No. and Description of Boilers one Multitubular cylindrical dry combustion Working Pressure 7 kg/cm²

Tested by hydraulic pressure to 14 kg/cm² Date of test 15 Oct 1953 No. of Certificate 10633 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler one set - 2 valves full bore type

Area of each set of valves per boiler { per Rule 51.2 cm² as fitted 56.5 cm² Pressure to which they are adjusted 7 kg/cm² 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 and bunkers or woodwork 6 Meters Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 6 Meters Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3800 mm Length 2658 mm Shell plates: Material Boiler quality steel Tensile strength 28-35 T/D

If fusion welded, state name of welding Firm Have all the requirements of the Rules for Class I vessels been complied with Thickness Are the shell plates welded or flanged Description of riveting: circ. seams { end Double zigzag inter 3.8 mm 10.2 mm

long. seams Double zigzag Diameter of rivet holes in { circ. seams 26.5 mm long. seams 26.5 mm Pitch of rivets { plate 69.9 rivets 53.8

Percentage of strength of circ. end seams { plate 74 rivets 87.7 combined

Percentage of strength of longitudinal joint { plate 74 rivets 87.7 combined

Thickness of butt straps { outer 13 mm inner 16 mm No. and Description of Furnaces in each Boiler one Morrison corrugated

Material Boiler quality steel Tensile strength 26-30 T/D Smallest outside diameter 874 mm 1080 874

Length of plain part { top bottom Thickness of plates 14 mm Description of longitudinal joint Butt fusion welded from both sides

Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material Boiler quality steel Tensile strength 26-30 T/D Thickness 22 mm Pitch of stays 400 mm

How are stays secured With nuts inside and outside of end plates

Tube plates: Material { front Boiler quality steel back Boiler quality steel Tensile strength { 26-30 T/D Thickness { 22 mm 22 mm

Mean pitch of stay tubes in nests 318 mm Pitch across wide water spaces 340 mm

Girders to combustion chamber tops: Material Dry back Tensile strength Depth and thickness of girder at centre Length as per Rule Distance apart No. and pitch of stays in each

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

Front plate at bottom: Material Boiler steel flanging quality Tensile strength 26-30 T/D Thickness 22 mm

Lower back plate: Material Boiler steel flanging quality Tensile strength 26-30 T/D Thickness 22 mm

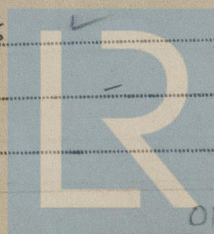
Pitch of stays at wide water space Are stays fitted with nuts or riveted over

Main stays: Material Longitudinal stay Tensile strength 28-35 T/D

Diameter { At body of stay 65 mm or Over threads No. of threads per inch 6

Screw stays: Material Tensile strength

Diameter { At turned off part or Over threads No. of threads per inch



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Are the stays drilled at the outer ends..... Margin stays: Diameter { At turned off part..... or Over threads.....

No. of threads per inch.....

Tubes: Material *Boiler tube* External diameter { Plain..... *76.2 mm* ✓ Thickness { *4 mm* ✓ No. of threads per inch *9* ✓
Stay..... *76.2 mm* ✓

Pitch of tubes *Vert. 105 mm* ✓ *Horiz. 107 mm* ✓ Manhole compensation: Size of opening.....

shell plate *405 mm* X *305 mm* Section of compensating ring *19 X 160 X 160 mm* No. of rivets and diameter of rivet holes *36 X 26.5 mm*

Outer row rivet pitch at ends *122.7 mm* ✓ Depth of flange if manhole flanged *85 mm* ✓ Steam Dome: Material.....

Tensile strength..... Thickness of shell..... Description of longitudinal joint.....

Diameter of rivet holes..... Pitch of rivets..... Percentage of strength of joint { Plate..... Rivets.....

Internal diameter..... Thickness of crown..... No. and diameter of stays.....

How connected to shell..... Size of doubling plate under dome..... Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell.....

Type of Superheater..... Name..... Manufacturers of { Tubes..... Steel forgings..... 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.....

Pressure to which the safety valves are adjusted..... Hydraulic test pressure.....

tubes..... forgings and castings..... and after assembly in place..... Are drain cocks.....

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,

J. Matsushita
NAGASAKI WORKS

Manufacturer

Dates of Survey while building { During progress of work in shops - - } *1953 May 21, Jun 16, 17, July 23, Aug 13, 12, 18, 26, 31, Sep 10, 14, 24, 26, 30, Oct 2, 9, 15.* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

{ During erection on board vessel - - - } *1953 Nov 20, 28, Dec 5, 11, 16, 1954 Jan 6, 12, 18, 28, Feb 2, 4.* Total No. of visits..... *29*

Is this Boiler a duplicate of a previous case..... Yes..... If so, state Vessel's name and Report No..... *T.M.T. "PRITHA-MARU"*

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

The Donkey Boiler of this vessel has been constructed under Special Survey in accordance with the Rules Approved plans and Secretary's letter.

The material and workmanship are good.

The Donkey Boiler has been examined under steam, the Safety valves were adjusted to 7 Kg per sq. cm. and found satisfactory.

Survey Fee \$ *775.000* :

Travelling Expenses (if any) *See Rpt. 1:*

When applied for..... *JUN 25 1954* 19.....

When received..... 19.....

Peter Manson Yamada

Engineer Surveyor to Lloyd's Register of Shipping

TUESDAY 31 AUG 1954

Committee's Minute.....

Assigned *See Rpt. 4 b*



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