

REPORT ON BOILERS.

No. 139

Received at London Office

12 JUL 1950

Writing Report 3-5-1950 When handed in at Local Office 19... Port of Kobe

Survey held at MAIZURU, JAPAN Date, First Survey 7-4-50 Last Survey 13-5-1950

on the STEEL SINGLE SCREW STEAMER "NICHINAN MARU" (Number of Visits 6) Gross 5296.28 Tons Net 2884.54

Built at YOKOHAMA By whom built EAST JAPAN HEAVY IND. LTD. YOKOHAMA SHIP YARD Yard No. 5405 When built SEP 1942

made at TOKYO By whom made ISHIKAWAJIMA HEAVY IND. LD. Engine No. I.T. 2136 When made SEP 1942

made at YOKOHAMA By whom made EAST JAPAN HEAVY IND. LD. YOKOHAMA SHIP YARD Boiler No. When made SEP 1942

Horse Power 652-760 MN. Owners IINO KAIUN K. K. Port belonging to TOKYO

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel NIPPON IRON & STEEL MFG. CO. LD. YAWATA WORKS. (Letter for Record)

Heating Surface of Boilers 270.8 M² x 3 = 812.4 M² Subtract 17.7 M² for end plate = 794.7 M² Is forced draught fitted Yes Coal or Oil fired oil

1-4 Description of Boilers 3 multitubular Dry Combustion Boilers Working Pressure 17.5 Kgs/cm²

5-4 Hydraulic pressure to 29.75 Kgs/cm² Date of test 25-4-50 No. of Certificate ✓ Can each boiler be worked separately Yes

4-4 Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 Spring loaded

each set of valves per boiler per Rule 79.0 cm² as fitted 113.5 cm² Pressure to which they are adjusted 18 Kgs/cm² Are they fitted with easing gear yes

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

distance between boilers or uptakes and bunkers or woodwork 500 mm Is oil fuel carried in the double bottom under boilers No

distance between shell of boiler and tank top plating 250 mm Is the bottom of the boiler insulated Yes

internal dia. of boilers 4,600 mm Length 2,585 mm Shell plates: Material Mild steel Tensile strength 45 Kgs/mm²

43 mm Are the shell plates welded or flanged No Description of riveting: circ. seams { end 2 rows inter ✓ }
Double butt, 3 rows Diameter of rivet holes in { circ. seams 43.5 mm }
with outer rows double pitch { long. seams 43.5 mm } Pitch of rivets { 112.2 mm }
✓ { 148 mm + 296 mm out row }
✓ { No seam }
✓ { No seam }

Percentage of strength of circ. intermediate seam { plate No seam rivets No seam }

Working pressure of shell by Rules 18.4 Kgs/cm² at 43 mm thick

Strength of strength of circ. end seams { plate 61.4 rivets 68.0 }
✓ { plate 85.4 rivets 89.8 }
✓ { combined 88.6 }

Working pressure of longitudinal joint { plate 85.4 rivets 89.8 }
✓ { combined 88.6 }

Strength of butt straps { outer 33 mm inner 36 mm }
✓ { 33 mm }
✓ { 36 mm }

No. and Description of Furnaces in each Boiler 3 conagated ✓

Tensile strength 41~48 Kgs/mm² Max: 1210 mm Smallest outside diameter 1210 mm

Thickness of plates { crown 20 mm bottom 20 mm } Description of longitudinal joint Butt electrical weld

Working pressure of furnace by Rules 18.23 Kgs/cm²

Stays in steam space: Material mild steel Tensile strength 41~48 Kgs/mm² Thickness 33 mm Fore 35 mm Aft. Pitch of stays 425 mm Long. 2 450 mm Vertical

Stays secured By nuts from in & out sides Working pressure by Rules 18.08 Kgs/cm² at 33 mm thick

Material { front mild steel back mild steel } Tensile strength { 41~48 Kgs/mm² } Thickness { 33 mm }
✓ { 41~48 Kgs/mm² } { 35 mm }

Pitch of stay tubes in nests 273 mm Pitch across wide water spaces 330 mm Working pressure { front 17.5 Kgs/cm² back 17.5 Kgs/cm² }

Combustion chamber tops: Material ✓ Tensile strength ✓ Depth and thickness of girder ✓

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

Working pressure by Rules ✓ Combustion chamber plates: Material BRICK WORK ✓

Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓

Stays to ditto: Sides ✓ Back ✓ Top ✓ Are stays fitted with nuts or riveted over ✓

Pressure by Rules ✓ Front plate at bottom: Material mild steel Tensile strength 41 Kgs/cm²

27 mm Lower back plate: Material mild steel Tensile strength 41~48 Kgs/cm² Thickness 26 mm

Stays at wide water space ✓ Are stays fitted with nuts or riveted over Nuts

Pressure ✓ Main stays: Material mild steel Tensile strength 44~55 Kgs/mm²

At body of stay 75 mm No. of threads per inch 6 Area supported by each stay 42.5 x 45 = 1913 cm²

Over threads 82 mm Screw stays: Material ✓ Tensile strength ✓

Pressure by Rules 18.4 Kgs/cm² No. of threads per inch ✓ Area supported by each stay ✓

At turned off part ✓

Over threads ✓

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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 *mild steel* External diameter { *83 mm (60 mm water tube)* ✓ Thickness { *4.5 mm* ✓ No. of threads per inch. *9* ✓
Pitch of tubes. *110 mm horizontal* ✓ *108 mm vertical* ✓ Working pressure by Rules. *smoke tube 19.7 kg/cm²* ✓ *water tube 18.0 kg/cm²* ✓ Manhole compensation: Size of
shell plate. *600 mm x 485 mm* ✓ Section of compensating ring. *225 x 43 t* ✓ No. of rivets and diameter of rivet holes. *36 x 43.5 mm* ✓
Outer row rivet pitch at ends. *240 mm* ✓ Depth of flange if manhole flanged. *100 mm* ✓ Steam Dome: Material. *None* ✓
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. ✓ Working pressure by Rules. ✓ Thickness of crown. ✓ No. and d
stays. ✓ Inner radius of crown. ✓ Working pressure by Rules. ✓
How connected to shell. ✓ Size of doubling plate under dome. ✓ Diameter of rivet holes
of rivets in outer row in dome connection to shell. ✓

Type of Superheater *Howden Johnson*

Manufacturers of

Tubes. *Iron metal* ✓
Steel forgings. ✓
Steel castings. ✓

Number of elements. *2* Material of tubes. *mild steel* Internal diameter and thickness of tubes. *15.6 mm x 3.2* ✓
Material of headers. *mild steel E welded* Tensile strength. *41-50 kg/mm²* Thickness. *26 mm* Can the superheater be sh
the boiler be worked separately. *Yes* Is a safety valve fitted to every part of the superheater which can be shut off from the boiler. *Yes*
Area of each safety valve. *3 square inch* Are the safety valves fitted with easing gear. *Yes* Working pres
Rules. *17.5 kg/cm²* Pressure to which the safety valves are adjusted. *18 kg/cm²* Hydraulic tes
tubes. ✓ forgings and castings. ✓ and after assembly in place. *35 kg/cm²* Are dra
valves fitted to free the superheater from water where necessary. *Yes*

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

The foregoing is a correct description, ✓

Dates of Survey while building { During progress of work in shops - - ✓ April 10, 14, 15, 25, 30
During erection on board vessel - - - May 13
Are the approved plans of boiler and superheater forwarded herewith. (If not state date of approval.) ✓
Total No. of visits. *6*

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.)

The Boilers of this vessel have been examined throughout in accordance with the Rules, approved plans & Secretary's letters for classification. The workmanship & material are sound and good. The boilers have been examined under steam and safety valve adjusted to 17.5 kg/cm² and found satisfactory.

Survey Fee ... (Included in Machy Rpt.) ... £ : : When applied for, ... 19...
Travelling Expenses (if any) £ : : When received, ... 19...

Mr. Samakura
Engineer Surveyor to Lloyd's Register of

Committee's Minute *FRI. 25 AUG 1950*

Assigned *Su. F.E. machy. rpt.*



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