

REPORT ON BOILERS.

No. 1734.

24 JUL 1930

Received at London Office

Date of writing Report 25th June 1930 When handed in at Local Office 25th June 1930 Port of NAGASAKI.

No. in Survey held at NAGASAKI.

Date, First Survey 9th Sept. 1929. Last Survey 30th May, 1930.

2525 on the Steel Twin Screw Motor Vessel "TERUKUNI MARU".
n Sup. (Number of Plates Rpt. 11979.39
Tons 7184.55

Builder Built at Nagasaki By whom built Mitsubishi Zosen Kaisha Ltd. No. 467. When built 1930
Engines made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Engine No. 467. When made 1930
Boilers made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 467. When made 1930
Nominal Horse Power 2492. Owners Osaka Shosen Kabushiki Kaisha. Port belonging to Osaka.

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

Manufacturers of Steel Mannesmannorhren-Werke Abt. Schulz-Knaudt, Huckingen.
James Dunlop & Co. William Beardmore & Co. D. Colville & Sons. (Letter for Record S.)
The Rivet, Bolt & Nut Co. Stewart & Lloyds, Ltd.

Total Heating Surface of Boilers 1627.34 sq. ft. Is forced draught fitted No Coal or Oil fired Oil

No. and Description of Boilers Two single ended Multitubular Type. Working Pressure 100 lbs.

Tested by hydraulic pressure to 200 lbs Date of test 26-12-29. No. of Certificate 136. Can each boiler be worked separately Yes

Area of Firegrate in each Boiler / No. and Description of safety valves to each boiler Two—Direct spring loaded.

Area of each set of valves per boiler { per Rule 10.61 sq. in. Pressure to which they are adjusted 104 lbs Are they fitted with easing gear Yes
as fitted 10.94 sq. in.

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 22" Is oil fuel carried in the double bottom under boilers /

Smallest distance between shell of boiler and ~~wood~~ flat plating 8 1/2" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 2750 m/m Length 2750 m/m Shell plates: Material Steel Tensile strength 28-35 tons sq. in.

Thickness 14 m/m Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. lap.
inter. /
ing. seams D.R.D.B.S. Diameter of rivet holes in { circ. seams 23 m/m 74.8 m/m
long. seams " " Pitch of rivets { 90 m/m

Percentage of strength of circ. end seams { plate 69.25 %
rivets 54.59 % Percentage of strength of circ. intermediate seam { plate /
rivets 74.45 %

Percentage of strength of longitudinal joint { rivets 101.57 %
combined / Working pressure of shell by Rules 109.5 lbs sq. in.

Thickness of butt straps { outer 12 m/m
inner " No. and Description of Furnaces in each Boiler Two—Morrison's Suspension Bulb.

Material Steel Tensile strength 26 to 30 tons sq. in. Smallest outside diameter 832 m/m

Length of plain part { top /
bottom Thickness of plates { crown 11 m/m Description of longitudinal joint Welded.
bottom

Dimensions of stiffening rings on furnace or e.e. bottom / Working pressure of furnace by Rules 188.4 lbs sq. in.

End plates in steam space: Material Steel Tensile strength 26 - 30 tons Thickness 18 m/m Pitch of stay 370x310 m/m
sq. in.

How are stays secured Double nuts and washers. Working pressure by Rules 124.9 lbs sq. in.

End plates: Material { front Steel. Tensile strength 26 - 30 tons sq. in. Thickness { 18 m/m
back 16 m/m

Lean pitch of stay tubes in nests 203 m/m Pitch across wide water spaces 350 m/m Working pressure { front 119 lbs sq. in.
back 218 lbs "

Orders to combustion chamber tops: Material Steel Tensile strength 28 - 35 tons sq. in. Depth and thickness of girder

Centre Two—140x14 m/m Length as per Rule 530 m/m Distance apart 230 m/m No. and pitch of stays

Each Two—160 m/m Working pressure by Rules 144.4 lbs sq. in. Combustion chamber plates: Material Steel

Tensile strength 26 to 30 tons sq. in. Thickness: Sides 14 m/m Back 14 m/m Top 14 m/m Bottom 14 m/m

Pitch of stays to ditto: Sides 240x205 m/m Back 215x230 m/m Top 160x230 m/m Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules Side 134.5 lbs sq. in. Back 135.2 " Front plate at bottom: Material Steel Tensile strength 26 - 30 tons.

Thickness 18 m/m Lower back plate: Material Steel Tensile strength 26 - 30 tons Thickness 18 m/m
sq. in.

Pitch of stays at wide water space 350 x 215 m/m Are stays fitted with nuts or riveted over Nuts

Working Pressure 154.5 lbs. Main stays: Material Steel Tensile strength 28 to 35 tons sq. in.

Diameter { At body of stay, 48 m/m
or
Over threads No. of threads per inch 6 Area supported by each stay 156.24 sq. in.

Working pressure by Rules 146.2 lbs sq. in. Screw stays: Material Steel Tensile strength 26 to 30 tons sq. in.

Diameter { At turned off part,
or
Over threads 34 m/m No. of threads per inch 9 Area supported by each stay Back 76.65 sq. in.
Side 62.6 "

W283-0135

Working pressure by Rules Back 123.6 lbs sq.in. Side 151.3 " Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part 38 m/m Over threads 38 m/m No. of threads per inch 9 Area supported by each stay 96.7 sq.in. Working pressure by Rules 128.8 lbs sq.in. Tubes: Material Steel External diameter { Plain 76 m/m Stay " Thickness { 10 L.S.G. 8 m/m No. of threads per inch 9 Pitch of tubes 103 x 100 m/m Working pressure by Rules 140 lbs sq.in. Manhole compensation: Size of opening shell plate 300 x 400 m/m Section of compensating ring 125 x 14 x 2 m/m No. of rivets and diameter of rivet holes 44 - 23 m/m Outer row rivet pitch at ends 92 m/m Depth of flange if manhole flanged 85 m/m 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 / Working pressure by Rules / Thickness of crown / No. and diameter stays / Inner radius of crown / Working pressure by Rules / 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 / 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 at 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 raising 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 23 inclusive for boilers been complied with Yes

NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.
S. Motono
for GENERAL MANAGER

Dates of Survey { During progress of work in shops - - See Machinery Report. Are the approved plans of boiler and superheater forwarded herewith Yes while building { During erection on board vessel - - Total No. of visits /

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good. The boilers have been constructed under Special Survey in accordance with the Rules and Approved plans satisfactorily fitted in the vessel and safety valves adjusted under steam as above.

Survey Fee See Machy. Rpt. When applied for 100 Travelling Expenses (if any) # When received 100
Committee's Minute FRI. 1 AUG 1930
Assigned See F. E. Rpt.

George Anderson & K. Kirkigau
Engineer Surveyor to Lloyd's Register of Shipping