

REPORT ON BOILERS.

No. 5958.

Received at London Office

APR 26 1937

Date of writing Report 19/12/ 19 36 When handed in at Local Office 19/12/ 19 36 Port of YOKOHAMA

YOKOHAMA

No. in Survey held at Reg. Book.

Date, First Survey 7/4/36

Last Survey 20th Oct. 19 36.

on the Ship No. 250.

N^o.

(Number of Visits 19)

Tons { Gross
Net

D.W. 3800

Master

Built at Hikoshima

By whom built Mitsubishi Jukogyo K.K. Hikoshima Dock.

Yard No. S250 When built

Engines made at

By whom made

Engine No. When made

Boilers made at Yokohama

By whom made Mitsubishi Jukogyo K.K. Yokohama Dock.

Boiler No. M584 When made

Nominal Horse Power

Owners U.S.S.R.

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Calvilles Id., & Asano S.B. & Co. Ltd.,

(Letter for Record)

Total Heating Surface of Boilers 84.97 square meter.

Is forced draught fitted No. ✓

Coal or Oil fired Oil. ✓

No. and Description of Boilers One - Marine cylindrical boiler.

Working Pressure 7 kg/cm² ✓Tested by hydraulic pressure to 14kg/cm² Date of test 20-10-36

No. of Certificate No. 47 ✓

Can each boiler be worked separately X

Area of Firegrate in each Boiler X

No. and Description of safety valves to each boiler X

Area of each set of valves per boiler { per Rule X
as fitted

Pressure to which they are adjusted X

Are they fitted with easing gear X

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

Smallest distance between boilers or uptakes and bunkers or woodwork X

Is oil fuel carried in the double bottom under boilers X

Smallest distance between shell of boiler and tank top plating X

Is the bottom of the boiler insulated X

Largest internal dia. of boilers 3050 m/m ✓

Length 3200 m/m ✓

Shell plates: Material

Steel

Tensile strength 44-55kg/mm² ✓

Thickness 16 m/m

Are the shell plates welded or flanged flanged

Description of riveting: circ. seams { end X
inter. X

long. seams double butt & double rivet.

Diameter of rivet holes in { circ. seams 26.5 ✓
long. seams 23. ✓Pitch of rivets { 80 ✓
95 ✓Percentage of strength of circ. end seams { plate 66.9%
rivets 66.4%Percentage of strength of circ. intermediate seam { plate X
rivets XPercentage of strength of longitudinal joint { plate 75.7%
rivets 83.9%Working pressure of shell by Rules 8.2 kg/cm²Thickness of butt straps { outer 16 ✓
inner 16 ✓

No. and Description of Furnaces in each Boiler Two plain furnaces with Adamson joints.

Material steel

Tensile strength 41-47 kg/mm² ✓

Smallest outside diameter 924

Length of plain part { top 730 ✓
bottom 785 ✓Thickness of plates { crown 14 ✓
bottom 14 ✓

Description of longitudinal joint welded. ✓

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

Working pressure of furnace by Rules 9.66 kg/cm²

End plates in steam space: Material Steel

Tensile strength 41-47 kg/mm² ✓

Thickness 18 ✓

Pitch of stays 330-350 ✓

How are stays secured double nuts. ✓

Working pressure by Rules 8.3 kg/cm² ✓Tube plates: Material { front Steel
back steelTensile strength { 41-47 kg/mm² ✓
41-47 kg/mm² ✓Thickness { 16 ✓
14 ✓

Mean pitch of stay tubes in nests 204 ✓

Pitch across wide water spaces 224 ✓

Working pressure { front X
back 7.9 kg/cm² ✓

Girders to combustion chamber tops: Material steel

Tensile strength 44-55 kg/mm² ✓

Depth and thickness of girder

at centre 190 x 14 ✓

Length as per Rule 712mm ✓

Distance apart 285 ✓

No. and pitch of stays

in each two x 220 ✓

Working pressure by Rules 8.4 kg/cm² ✓

Combustion chamber plates: Material steel ✓

Tensile strength 41-47 kg/mm² ✓

Thickness Sides 14 ✓

Back 14 ✓

Top 14 ✓

Bottom 14 ✓

Pitch of stays to ditto: Sides 250 ✓

Back 250 ✓

Top 220 x 285 ✓

Are stays fitted with nuts or riveted over nuts. ✓

Working pressure by Rules 7.26 kg/cm² ✓

Front plate at bottom: Material Steel

Tensile strength 41-47 kg/mm² ✓

Thickness 16 ✓

Lower back plate: Material steel

Tensile strength 41-47 kg/mm² ✓

Thickness 16 ✓

Pitch of stays at wide water space 240 ✓

Are stays fitted with nuts or riveted over nuts. ✓

Working Pressure 7.5 kg/cm² ✓

Main stays: Material steel

Tensile strength 44-55 kg/mm²Diameter { At body of stay, 44 ✓
or Over threads X

No. of threads per inch 6 ✓

Area supported by each stay 1137.5 sq. cm. ✓

Working pressure by Rules 9.8 kg/cm²

Screw stays: Material steel

Tensile strength 44-55 kg/mm²Diameter { At turned off part, X
or Over threads 1 1/2" x 1 3/8"

No. of threads per inch 9 per inch

Area supported by each stay 600 sq. cm. ✓

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Working pressure by Rules 7.6 kg/cm² Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, X
Over threads 1 1/2" & 1 5/8"
No. of threads per inch 9 per inch Area supported by each stay 725 sq. cm. Working pressure by Rules 7.8 kg/cm²
Tubes: Material steel External diameter { Plain 3" Thickness { 9 L.S.G. No. of threads per inch 9 per inch
Stay 3" 5/16"
Pitch of tubes 102x112 Working pressure by Rules 7.5 kg/cm² Manhole compensation: Size of opening in
shell plate 305 x 407 Section of compensating ring oval flanged. No. of rivets and diameter of rivet holes 40 rivets. 23φ
Outer row rivet pitch at ends 140 Depth of flange if manhole flanged 80 Steam Dome: Material X
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 of
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 X 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 Working pressure as per
Rules 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,
(Signed) N. Hattori, Manufacture

Dates { During progress of 7/4/36 to 20/10/36 (19 visits) Are the approved plans of boiler and superheater forwarded herewith 19-3-36
work in shops - - -
while building { During erection on 11-1-37 to 25-3-37 (27) Total No. of visits
board vessel - - -
(If not state date of approval.)

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the Rules and Approved plan. Material and Workmanship good.
This boiler has now been sent to Hikoshima and will be fitted on board the vessel No.250, now being built by Messrs. Mitsubishi Jukogyo Kaisha, Hikoshima Dock.
This boiler has now been installed on board, and accumulation test carried out with satisfactory results. The safety valves were adjusted to blow at 7 kg/cm² on 16th February 1937.
Feed water is supplied by a Worthington duplex pump (5 1/4"x3 1/2"x5") and a steam injector.
Feed pump & Injector tried under working condition and found satisfactory.
This boiler is oil fired, oil pressure pipes tested in place to 400 lbs/sq.in., and found good and sound.
All the requirements of Section 20 of the Rules (1935-36) have been complied with.

Survey Fee ... £ 11 : 9 : 0 } When applied for, 21-12-1936.
Travelling Expenses (if any) £ : 3.00 } When received, 19
Telegram ¥ 1.45

Committee's Minute FRI 30 APR 1937

Assigned See Ref. 2224

H. Buchanan
Engineer Surveyor to Lloyd's Register of Shipping.



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