

REPORT ON BOILERS.

No. 23511

Received at London Office

10 APR 1935

Date of writing Report 29.11.34 When handed in at Local Office

192

Port of

Rotterdam

No. in Reg. Book. Survey held at

Rotterdam

Date, First Survey

11th of May

Last Survey

29th of Oct 1935

(Number of Visits

17)

Gross 79.06
Tons Net 47.54

on the Donkey Boiler M.V. "RAPANA"

Master

Built at

Schiedam

By whom built

Wilton Tyenwood

Yard No.

654

When built 1934

Engines made at

Schiedam

By whom made

Wilton Tyenwood

Engine No.

1053

When made 1934

Boilers made at

Rotterdam

By whom made

Rott Drogdoh My

Boiler No.

521

When made 1934

Nominal Horse Power

502

Owners

Pardunm by La Corona

Port belonging to

s. Granphage

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

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record

S

Total Heating Surface of Boilers

2560 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

One multitubular marine boiler

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lb

Date of test

29-10-34

No. of Certificate

965

Can each boiler be worked separately

Area of Firegrate in each Boiler

Oil fuel

Description of safety valves to each boiler

2 spring loaded

Area of each set of valves per boiler

per Rule

19.66 sq ft

as fitted

90 sq ft

Pressure to which they are adjusted

180 lb

Are they fitted with easing gear

Yes

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

No main boilers

Smallest distance between boilers or uptakes and bunkers or woodwork

no woodwork oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

D. boiler in two decks

the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

4400 mm

Length

3468 mm

Shell plates: Material

S.M. Steel

Tensile strength

46.0-52 kg/cm²

Thickness

29 mm

Are the shell plates welded or flanged

Welded at

Description of riveting: circ. seams

end lap 2 x riv

inter.

Pitch of rivets

87 mm

Pitch of rivets

100 mm

long. seams

Double butt 3 x riv

Diameter of rivet holes in

circ. seams

30 mm

long. seams

30 mm

Pitch of rivets

87 mm

Pitch of rivets

100 mm

Percentage of strength of circ. end seams

plate

65.5%

rivets

46.0%

Percentage of strength of circ. intermediate seam

plate

2

rivets

2

Percentage of strength of longitudinal joint

plate

85%

rivets

85%

combined

87%

Working pressure of shell by Rules

12.8 kg/cm²

Thickness of butt straps

outer

25 mm

inner

25 mm

No. and Description of Furnaces in each Boiler

3 Monsons patent

Material

S.M. Steel

Tensile strength

41-47 kg/cm²

Smallest outside diameter

1130 mm

Length of plain part

top

bottom

Thickness of plates

crown

bottom

15 mm

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

13.22 kg/cm²

End plates in steam space: Material

S.M. Steel

Tensile strength

41-47 kg/cm²

Thickness

29.5 mm

Pitch of stays 440 x 450 mm

How are stays secured

Screwed in plates with nuts outside

Working pressure by Rules

12.65 kg/cm²

Tube plates: Material

front

S.M. Steel

back

S.M. Steel

Tensile strength

41-47 kg/cm²

Thickness

23 mm

22 mm

Mean pitch of stay tubes in nests

190 x 300 mm

Pitch across wide water spaces

360 mm

Working pressure

front

15.33 kg/cm²

back

Girders to combustion chamber tops: Material

S.M. Steel

Tensile strength

44-50 kg/cm²

Depth and thickness of girder

at centre

220 x 2 x 19 mm

Length as per Rule

776 mm

Distance apart

220 mm

No. and pitch of stays

in each

3 at 200 mm

Working pressure by Rules

17.27 kg/cm²

Tensile strength

41-47 kg/cm²

Thickness: Sides

18 mm

Back

19 mm

Top

18 mm

Bottom

25 mm

Pitch of stays to ditto: Sides

100 mm

Back

100 x 195

Top

100 x 220

Are stays fitted with nuts or riveted over

riveted over

Working pressure by Rules

15.3 kg/cm²

Front plate at bottom: Material

S.M. Steel

Tensile strength

41-47 kg/cm²

Thickness

23 mm

Lower back plate: Material

S.M. Steel

Tensile strength

41-47 kg/cm²

Thickness

23 mm

Pitch of stays at wide water space

366 mm

Are stays fitted with nuts or riveted over

riveted with nuts

Working Pressure

17.7 kg/cm²

Main stays: Material

S.M. Steel

Tensile strength

44-50 kg/cm²

Diameter

At body of stay,

8 "

or

Over threads

3 1/2 "

No. of threads per inch

9

Area supported by each stay

198000 mm²

Working pressure by Rules

15.5 kg/cm²

Screw stays: Material

S.M. Steel

Tensile strength

41-47 kg/cm²

Diameter

At turned off part,

1 1/8 "

or

Over threads

1 1/2 "

No. of threads per inch

9

Area supported by each stay

400000 mm²

Working pressure by Rules $14.1 \frac{1}{2}$ Are the stays drilled at the outer ends $\frac{1}{2}$ Margin stays: Diameter { At turned off part, $1 \frac{1}{16}$ or Over threads $1 \frac{1}{16}$ }
 No. of threads per inch 9 Area supported by each stay 50091 mds Working pressure by Rules $14.2 \frac{1}{2}$
 Tubes: Material Iron External diameter { Plain $2 \frac{3}{4}$ Thickness $1 \frac{1}{16}$ } No. of threads per inch 9
 Pitch of tubes 98 x 100 mds Working pressure by Rules 215 lbs Manhole compensation: Size of opening in
 shell plate 370 x 470 mds Section of compensating ring 480 x 880 x 32 mds No. of rivets and diameter of rivet holes 54 x 32 mds
 Outer row rivet pitch at ends 120 mds Depth of flange if ^{compensation ring} manhole flanged 100 mds 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 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 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 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, 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*

The foregoing is a correct description,

Stap Manufacturer.

Dates of Survey { During progress of work in shops - 14 30 1 20 29 4 9 20 28 1 13 } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 while building { During erection on board vessel - 14 16 9 18 23 29 } Total No. of visits 17 + 2

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been made in accordance with the approved plan, Society's Rules and Secretary's letters, material tested as required and workmanship good*

This boiler has been fitted on board as required, safety valves adjusted under steam. Height of washers 18.5 mm, aft 19 mm

A.P. Dijk

Survey Fee ... 204.00
 Travelling Expenses (if any) £ : :

When applied for, 192
 When received, 14.3. 1925.

Committee's Minute

FRI. 12 APR 1925

Assigned

See other J.E. Rot. 23602A

J. J. Verhoeven
 Engineer Surveyor to Lloyd's Register of Shipping.



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 Foundation