

## REPORT ON BOILERS.

No. 27514<sup>c</sup>

Received at London Office NOV 14 1938

Date of writing Report 28.10.1938 When handed in at Local Office

192

Port of Rotterdam

No. in Survey held at

Rotterdam

Date, First Survey

15.10.37

Last Survey

5.5.1938

Reg. Book.

on the

Donkey boiler MV. "CLAUSINA"

(Number of Visits 11)

Gross 8018

Net 4721

Master

Built at

Rotterdam

By whom built

Rott. Droogd. Hg.

Yard No. 203

When built 1930

Engines made at

Amsterdam

By whom made

Weeksma

Engine No. 721

When made 1930

Boilers made at

Rotterdam

By whom made

Rott. Droogd. Hg.

Boiler No. 549

When made 1930

Nominal Horse Power

502

Owners

Petr My. La Corona

Port belonging to

Gronnhage

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

Manufacturers of Steel

The Steel Co. of Scotland

(Letter for Record 5)

Total Heating Surface of Boilers

2566 m<sup>2</sup>

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

One multitubular marine boiler

Working Pressure 100 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

5-5-38

No. of Certificate

1009

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 spring loaded

Diam. of each set of valves per boiler

per Rule

as fitted

90 mm H<sup>2</sup>

Pressure to which they are adjusted

Yes

And 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

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

4400 mm H.

Length

3400 mm H.

Shell plates: Material

S.H. steel

Tensile strength 460-52 kg/cm<sup>2</sup>

Thickness

29 mm H.

Are the shell plates welded

Yes

Description of riveting: circ. seams

end lap 2 riv.

long. seams

Double butt straps 3 riv.

Diameter of rivet holes in

circ. seams 30 mm H.

Pitch of rivets

87 mm H.

Percentage of strength of circ. end seams

plate 65%

rivets 50%

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85%

rivets 85%

combined 87%

Working pressure of shell by Rules

12.0 kg/cm<sup>2</sup>

Thickness of butt straps

outer 25 mm H.

inner 25 mm H.

No. and Description of Furnaces in each Boiler

3 morrison's patent

Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Smallest outside diameter

1130 mm H.

Length of plain part

top

bottom

Thickness of plates

crown 15 mm H.

bottom

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

13.22 kg/cm<sup>2</sup>

End plates in steam space: Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Thickness

29.5 mm H.

Pitch of stays 440-450 mm H.

How are stays secured

Screwed in plate with nuts outside

Working pressure by Rules

12.65 kg/cm<sup>2</sup>

Tube plates: Material

front S.H. steel

back S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Thickness

13 mm H.

Working pressure

front 17.0 kg/cm<sup>2</sup>

Mean pitch of stay tubes in nests

200 x 294 mm H.

Pitch across wide water spaces

360 mm H.

Working pressure

back

17.0 kg/cm<sup>2</sup>

Girders to combustion chamber tops: Material

S.H. steel

Tensile strength

44-50 kg/cm<sup>2</sup>

Depth and thickness of girder

at centre

120 x 2 x 19

Length as per Rule

776 mm H.

Distance apart

220 mm H.

No. and pitch of stays

in each

3 at 200 mm H.

Working pressure by Rules

17.2 kg/cm<sup>2</sup>

Combustion chamber plates: Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Thickness: Sides

10 mm H.

Back

19 mm H.

Top

10 mm H.

Bottom

25 mm H.

Pitch of stays to ditto: Sides

250 mm H.

Back

200 x 195 mm H.

Top

200 x 220 mm H.

Are stays fitted with nuts or riveted over

Riveted over

Working pressure by Rules

15.3 kg/cm<sup>2</sup>

Front plate at bottom: Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Thickness

23

Pitch of stays at wide water space

366 mm H.

Are stays fitted with nuts or riveted over

Fitted with nuts

Working Pressure

17.7 kg/cm<sup>2</sup>

Main stays: Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Diameter

At body of stay, 3"

Over threads 3 1/4"

No. of threads per inch

9

Area supported by each stay

190000 mm H<sup>2</sup>

Working pressure by Rules

15.5 kg/cm<sup>2</sup>

Screw stays: Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Diameter

At turned off part, 1 3/8"

Over threads 1 1/2"

No. of threads per inch

9

Area supported by each stay

40000 mm H<sup>2</sup>

Working pressure by Rules

15.5 kg/cm<sup>2</sup>

Screw stays: Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Diameter

At turned off part, 1 3/8"

Over threads 1 1/2"

No. of threads per inch

9

Area supported by each stay

40000 mm H<sup>2</sup>

Working pressure by Rules

15.5 kg/cm<sup>2</sup>

Screw stays: Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Diameter

At turned off part, 1 3/8"

Over threads 1 1/2"

No. of threads per inch

9

Area supported by each stay

40000 mm H<sup>2</sup>

Working pressure by Rules

15.5 kg/cm<sup>2</sup>

Screw stays: Material

S.H. steel

Tensile strength

41-47 kg/cm<sup>2</sup>

Diameter

At turned off part, 1 3/8"

Over threads 1 1/2"

No. of threads per inch

9

Area supported by each stay

40000 mm H<sup>2</sup>



Working pressure by Rules *14, 1 kg/cm<sup>2</sup>* Are the stays drilled at the outer ends *Yes* Margin stays: Diameter { At turned off part, *1 1/16"* or Over threads *1 5/8"*  
No. of threads per inch *9* Area supported by each stay Working pressure by Rules *14, 1 kg/cm<sup>2</sup>*  
Tubes: Material *Iron* External diameter { Plain *2 3/4"* Stay *2 3/4"* Thickness { *1 9/16"* - *2 1/16"* No. of threads per inch *9*  
Pitch of tubes *90 x 100 m H.* Working pressure by Rules *215 lbs* Manhole compensation: Size of opening in shell plate *370 x 470 m H.* Section of compensating ring *700 x 000 x 32 m H.* No. of rivets and diameter of rivet holes *54 a 32 m H.*  
Outer row rivet pitch at ends *220 m H.* Depth of flange if manhole flanged *100 m H.* 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

DE ROTTERDAMSCH E DROOGDOCK MIJ.  
Director

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - - *15/11 16/11 21/11 27/11 28/11 29/11 30/11 1/12 2/12 3/12 4/12 5/12 6/12 7/12 8/12 9/12 10/12 11/12 12/12 13/12 14/12 15/12* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *Returned as per letter verzijnd*  
while building { During erection on board vessel - - - *On machinery report* Total No. of visits *10*

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

Survey Fee ... *204.80* When applied for, *12. 11. 1928*  
Travelling Expenses (if any) £ : : When received, *2/12 1928*  
*MR 3/12*

*J. J. Schoo*  
Signature of Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 18 NOV 1938*  
Assigned *See FE machy rpt.*