

## REPORT ON BOILERS.

No. 20458

Received at London Office 13 JUL 1931

Date of writing Report 8 July 1931 When handed in at Local Office

1931

Port of Rotterdam

No. in Reg. Book.

Survey held at Rotterdam

Date, First Survey 24 Sept 1930.

Last Survey 30 June 1931

1931

(Number of Visits 13)

Gross 8267.60

Net 4867.37

on the

m/v "MACUBA"

Master

Built at Rotterdam

By whom built

Hochstet-Schepman

Yard No. 469

When built 1931

Engines made at Amsterdam

By whom made

Werkspoor N.V.

Engine No.

When made 1931

Boilers made at Rotterdam

By whom made

Hochstet-Schepman

Boiler No. 607-08

When made 1931

Nominal Horse Power 163.4

Owners

Key La Couronne

Port belonging to 2 Greenhage.

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

Manufacturers of Steel Mannesmann Rohrenwerke AG Scherbelmann (Letter for Record 5)

Total Heating Surface of Boilers 2452 m<sup>2</sup>

Is forced draught fitted Yes

Coal or Oil fired oil

No. and Description of Boilers Two marine multitubular boilers

Working Pressure 150 lbs.

Tested by hydraulic pressure to 275 lbs

Date of test 21-1-31

No. of Certificate 944

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler Two spring loaded high lift

Area of each set of valves per boiler (per Rule 72.19 cm<sup>2</sup> as fitted 72.6 ..)

Pressure to which they are adjusted 150 lbs

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 boiler

Smallest distance between boilers or uptakes and bunkers or woodwork 1400 mm

Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating no tank top

Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3200 mm

Length 3200 mm

Shell plates: Material Sll steel Tensile strength 46.8-52

Thickness 20 mm

Are the shell plates welded or flanged no

Description of riveting: circ. seams (end double inter. v)

long. seams double single rivets diameter of rivet holes in (circ. seams 25 mm long. seams 25 mm)

Pitch of rivets (84 mm 130 mm)

Percentage of strength of circ. end seams (plate 70 % rivets 43.3)

Percentage of strength of circ. intermediate seam (plate v rivets v)

Percentage of strength of longitudinal joint (plate 80.8 rivets 78.5 combined 87.8)

Working pressure of shell by Rules 11 kg per 19 cm

Thickness of butt straps (outer 19 mm inner 19)

No. and Description of Furnaces in each Boiler Two horizontal patent

Material Sll steel

Tensile strength 41-47 kg per 17 mm

Smallest outside diameter 872 mm

Length of plain part (top v bottom v)

Thickness of plates (crown 11 mm bottom v)

Description of longitudinal joint Welded

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

Working pressure of furnace by Rules 12.6 kg per 19 cm

End plates in steam space: Material Sll steel

Tensile strength 41-47

Thickness 23 mm Pitch of stays 400 mm

How are stays secured Double nutted

Working pressure by Rules 12.6 kg

Tube plates: Material (front Sll steel back Sll steel)

Tensile strength (41-47 41-47)

Thickness (23 mm 19 mm)

Mean pitch of stay tubes in nests 300 x 200

Pitch across wide water spaces 360 mm

Working pressure (front 10.8 kg back 16.6 kg)

Girders to combustion chamber tops: Material Sll steel

Tensile strength 44-50

Depth and thickness of girder

at centre 160 x 2 x 16 mm

Length as per Rule 650 mm

Distance apart 200 mm

No. and pitch of stays

in each 2 x 210 mm

Working pressure by Rules 11.9 kg

Combustion chamber plates: Material Sll steel

Tensile strength 41-47

Thickness: Sides 17 mm Back 17 mm Top 17 mm Bottom 17 mm

Pitch of stays to ditto: Sides 105 x 210 Back 200 x 210 Top 200 x 210

Are stays fitted with nuts or riveted over nutted in margin

Working pressure by Rules 11.6 kg

Front plate at bottom: Material Sll steel

Tensile strength 41-47

Thickness 23 mm

Lower back plate: Material Sll steel

Tensile strength 41-47

Thickness 23 mm

Pitch of stays at wide water space 460 x 250

Are stays fitted with nuts or riveted over Double nutted

Working Pressure 16 kg

Main stays: Material Sll steel

Tensile strength 44-50 kg

Diameter (At body of stay, 2 3/8" or 2 3/8")

No. of threads per inch 8

Area supported by each stay 1600 sq cm

Working pressure by Rules 11 kg

Screw stays: Material Sll steel

Tensile strength 41-47

Diameter (At turned off part, 31.9 mm or 1 3/8")

No. of threads per inch 11

Area supported by each stay 403 sq cm



Working pressure by Rules 11.3 kg. Are the stays drilled at the outer ends Yes Margin stays: Diameter <sup>(At turned off part)</sup> 35.1 mm  
 No. of threads per inch 11 Area supported by each stay 390 x 70 mm Working pressure by Rules 14.5 kg.  
 Tubes: Material Carbon iron External diameter <sup>Plain</sup> 2 3/4" Thickness <sup>Over threads</sup> 3.65 mm No. of threads per inch 11  
 Pitch of tubes 100 mm Working pressure by Rules 13.4 kg. Manhole compensation: Size of opening in  
 shell plate 400 x 500 mm Section of compensating ring 165 x 25 mm No. of rivets and diameter of rivet holes 20 x 25 mm  
 Outer row rivet pitch at ends 176 mm Depth of flange if manhole flanged 60 Steam Dome: Material none  
 Tensile strength 190 Thickness of shell - Description of longitudinal joint -  
 Diameter of rivet holes - Pitch of rivets - Percentage of strength of joint <sup>Plate</sup> -  
 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 none Manufacturers of <sup>Tubes</sup> -  
 Number of elements - Material of tubes - <sup>Steel castings</sup> -  
 Material of headers - Tensile strength - Internal diameter and thickness of tubes -  
 the boiler be worked separately - Thickness - Can the superheater be shut off and  
 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,  
 N.V. MACHINEFABRIEK & SCHEEPSWERF  
 van P. SMIT Jr., ROTTERDAM, Manufacturer.

Dates of Survey <sup>(During progress of work in shops - -)</sup> 24/9 - 21/10 - 18/11 - 3-17/12 1930 Are the approved plans of boiler and superheater forwarded herewith no  
 while building <sup>(During erection on board vessel - - -)</sup> 17/3 - 19/6 - 30/6 1931 (If not state date of approval.) 24-6-30  
 Total No. of visits 13

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers have been made and fitted in accordance with the approved plans, Society's Rules and Secretary's letters. The workmanship is good and by draughts set as per Rules satisfactory.

Survey Fee ... £ 196.00 When applied for, 10/7 1931  
 Travelling Expenses (if any) £ 5.00 When received, 16.7 1931

A. P. Ryh.  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 21 JUL 1931

Assigned See F.C. Rep.



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Lloyd's Register  
 Foundation

Rpt. 13.

REF

Date of writing Re.

No. in Survey Reg. Book.

on the

Built at

Owners

Electric Light

Is the Vessel

System of D

Pressure of su

Direct or Alt

If alternating

Has the Auton

Generators.

are they over

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series with each

Are all termina

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Position of

is the ventilat

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Switches

Joint B