

## REPORT ON BOILERS.

No. 11879

19 JAN 1928

Received at London Office

Date of writing Report 16<sup>th</sup> January 1928 When handed in at Local Office

19

Port of Hamburg

No. in Reg. Book

Survey held at

Hamburg

Date, First Survey

30<sup>th</sup> Dec. 1927

Last Survey

13<sup>th</sup> January 1928

31006

on the

Steel Twin Sc.

ORAZIO

oil engines

(Number of Visits 4)

Gross

Tons

Net

Built at

Baia

By whom built

Cantiere ed Officine Meccaniche

Yard No.

When built 1927

Engines made at

Frisse

By whom made

Attilamento Technico

Engine No.

When made '927

Boilers made at

Hamburg

By whom made

Deutsche Wurf A.G.

Boiler No.

322/23 When made 1928

Owners

Navigazione Generale Italiana

Port belonging to

Genoa

## VERTICAL DONKEY BOILER.

Made at

Hamburg

By whom made

Deutsche Wurf A.G.

Boiler No.

322/23

When made

1928

Where fixed

Manufacturers of Steel

Guthhoffnungshütte Oberhausen

Total Heating Surface of Boiler

30 m<sup>2</sup>

3x3 ft.

Is forced draught fitted

Coal or Oil fired

oil fired

No. and Description of Boilers

Two vertical Donkey Boilers

Working pressure

7 kg/cm<sup>2</sup> (100 lb)

Tested by hydraulic pressure to

200 lb

Date of test

13<sup>th</sup> January 1928

No. of Certificate

460/61

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

per rule 27.50 m<sup>2</sup>as fitted 31.80 m<sup>2</sup>

Pressure to which they are adjusted

Are they fitted with easing gear

yes

State whether steam from main boilers can enter the donkey boiler

Smallest distance between boiler or uptake and bunkers

or woodwork

Is oil fuel carried in the double bottom under boiler

Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated

Largest internal dia. of boiler

Height

Shell plates: Material

S.M. Steel

Tensile strength

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

Thickness

10.5 mm

Are the shell plates welded or flanged

Flanged

Description of riveting: circ. seams

end lap single

long. seams

lap double

Dia. of rivet holes in

circ. seams 20 mm

long. seams 20 mm

Pitch of rivets

48.3 mm

Percentage of strength of circ. seams

plate 59%

rivets 54.5%

of Longitudinal joint

plate 70%

rivets 72.5%

combined

Working pressure of shell by rules

9 kg/cm<sup>2</sup>

Thickness of butt straps

outer

inner

Shell Crown:

Whether complete hemisphere, dished partial spherical, or flat dished partial spherical Material S.M. Steel

Tensile strength

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

Thickness

20 mm

Radius

1400 mm

Working pressure by rules

12 kg/cm<sup>2</sup>

Description of Furnace:

Plain, spherical, or dished crown partial spherical Material S.M. Steel

Tensile strength

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

Thickness

16 mm

External diameter

top 1050 mm

bottom 1150 mm

Length as per rule

1100 mm

Working pressure by rules

12.7 kg/cm<sup>2</sup>

Pitch of support stays circumferentially

and vertically

Are stays fitted with nuts or riveted over

Diameter of stays over thread

Radius of spherical or dished furnace crown

Working pressure by rule

Thickness of Ogee Ring

16 mm

Diameter as per rule

D 1400 mm

a 1150 mm

Working pressure by rule

7 kg/cm<sup>2</sup>

Combustion Chamber: Material

Tensile strength

Thickness of top plate

Radius if dished

Working pressure by rule

Thickness of back plate

Diameter if circular

Length as per rule

Pitch of stays

Are stays fitted with nuts or riveted over

Diameter of stays over thread

Working pressure of back plate by rules

Tube Plates: Material

front S.M. Steel

back S.M. Steel

Tensile strength

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

Thickness

20 mm

Mean pitch of stay tubes in nests 158 x 176 mm

If comprising shell, Dia. as per rule

front 1150 mm

back 1150 mm

Pitch in outer vertical rows

86 mm

Dia. of tube holes FRONT

stay 70 mm

plain 63.5 mm

Is each alternate tube in outer vertical rows a stay tube

yes

Working pressure by rules

front 21.5 kg/cm<sup>2</sup>back 21.5 kg/cm<sup>2</sup>

Girders to combustion chamber tops: Material

Tensile strength

Depth and thickness of girder at centre

Length as per rule

Distance apart

No. and pitch of stays in each

Working pressure by rule

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Crown stays: Material ☒ Tensile strength ☒ Diameter ☒ { at body of stay, or over threads. ☒

No. of threads per inch ☒ Area supported by each stay ☒ Working pressure by rules ☒

Screw stays: Material ☒ Tensile strength ☒ Diameter ☒ { at turned off part, or over threads. ☒ No. of threads per inch ☒

Area supported by each stay ☒ Working pressure by rules ☒ Are the stays drilled at the outer ends ☒

Tubes: Material mild steel, seamless drawn External diameter { plain 63.5 mm stay 63.5 mm Thickness { 3 mm 8 mm

No. of threads per inch 10 Pitch of tubes 86 mm Working pressure by rules 9 kg/cm<sup>2</sup>

Manhole Compensation: Size of opening in shell plate 300 x 400 mm Section of compensating ring 600 x 700 mm No. of rivets and diameter of rivet holes 14 rivets of 10 mm Outer row rivet pitch at ends 130 mm Depth of flange if manhole flanged ☒

Uptake: External diameter ☒ Thickness of uptake plate ☒

Cross Tubes: No. ☒ External diameters { ☒ Thickness of plates ☒

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes

The foregoing is a correct description,

DEUTSCHE WERFT  
AKTIENGESellschaft

Manufacturer.

Amst 1400 Alchorn

Dates of Survey { During progress of work in shops - 30.12.27, 4.1.28, 9.1.28, 13.1.28 Is the approved plan of boiler forwarded herewith 29.12.27 (If not state date of approval.)

while building { During erection on board vessel - - - Total No. of visits 4

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Donkey Boilers have been built under Special Survey in accordance with the approved plan, the Secretary's letter E 29.12.27 and otherwise in conformity with the requirements of the Rules and the materials and the workmanship are of good quality. The materials used in the construction are made at works recognised by the Committee and tested in accordance with the Rules by the Port Surveyors. When tested by hydraulic pressure to 200 lbs per square inch these Donkey Boilers were found to be light and sound in every respect and showed no signs of weakness. They are eligible in my opinion for notification of "N.D.B. 1.28" subject to examination under steam when fitted on board and safety valves have been adjusted.

Marks on Boilers:

Works No. 322	Works No. 323
No. 460	No. 461
Lloyd's Test	Lloyd's Test
200 lbs	200 lbs
W.P. 100 lbs	W.P. 100 lbs
A.C. 13.1.28	A.C. 13.1.28

These boilers have also been built in accordance with the Rules and the approved plan of the Registro Italiano

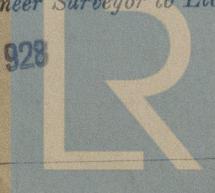
Survey Fee ... £ 8 : 8 : } When applied for, 13.1.1928

Travelling Expenses (if any) £ : 10 : } When received, 19

A. Carstensen  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
Assigned  
TUES. 24 APR 1928  
See Gen Ypt No 10234

FRI. 28 DEC 1928



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