

## REPORT ON BOILERS.

No. 17903

Received at London Office

22 FEB 1928

10 MAY 1928

Date of writing Report 18<sup>th</sup> Feb. 1928 When handed in at Local Office

19

Port of Hamburg

No. in Survey held at Hamburg

Date, First Survey 13<sup>th</sup> January 1928 Last Survey 11<sup>th</sup> February 1928

8265 on the Steel Twin Sc.

VIRGILIO

oil Engines

(Number of Visits 4)

Gross

Net

Built at Baia

By whom built Cantieri ed Officine Meccaniche

Yard No.

When built 1927

Engines made at Trieste

By whom made Stabilimento Tecnico

Engine No.

When made 1927

Boilers made at Hamburg

By whom made Deutsche Werft A.G.

Boiler No. 324/25 When made 1928

Owners Nav. Gen. Italiana

Port belonging to Genoa

## VERTICAL DONKEY BOILER.

Made at Hamburg By whom made Deutsche Werft A.G. Boiler No. 324/25 When made 1928 Where fixed

Manufacturers of Steel Gutchoffnungsmittel, Borkhausen

Total Heating Surface of Boiler 30 m<sup>2</sup>

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 lbs

Date of test 11<sup>th</sup> February 1928

No. of Certificate 464/65

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

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 1400 mm Height 3140 mm

Shell plates: Material S. M. Steel

Tensile strength 41-47 kg/mm<sup>2</sup> Thickness 10.5 mm

Are the shell plates welded or flanged flanged

Description of riveting: circ. seams

long. seams lap. Double

Dia. of rivet holes in

Pitch of rivets

48.3 mm  
67.0 mm

Percentage of strength of circ. seams

plate 59.0%  
rivets 54.5%

of Longitudinal joint

plate 70.0%  
rivets 78.5%  
combinedWorking 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/mm<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

Crown 20 mm

Thickness 16 mm

External diameter

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

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

Working pressure of back plate by rules

Diameter of stays over thread

Tube Plates: Material

Tensile strength

Thickness

Mean pitch of stay tubes in nests 258 x 172 mm

Pitch in outer vertical rows

86 mm

Dia. of tube holes FRONT

BACK

stay 66 mm  
plain 62.5 mm

Working pressure by rules

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

Is each alternate tube in outer vertical rows a stay tube yes

Tensile strength

Girders to combustion chamber tops: Material

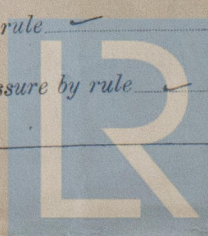
Length as per rule

Depth and thickness of girder at centre

Working pressure by rule

Distance apart

No. and pitch of stays in each



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Lloyd's Register  
W1069-0134  
Foundation

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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 20 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,  
*W. Gruber* *ppa. Neethor* Manufacturer

Dates of Survey { During progress of work in shops - *13.1.28, 27.1.28, 8.2.28, 11.2.28* Is the approved plan of boiler forwarded herewith *yes* (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 notation of  $\nabla$  N.D.B. 2. 28. subject to examination under steam when fitted on board and safety valves have been adjusted. These boilers have also been built in accordance with the Rules and the approved plan of the Registro Italiano.*  
 Marks on Boilers

works No. 324	Works No. 325
No 464	No 465
Lloyd Test	Lloyd Test
200 lbs	200 lbs
W.P 100 lbs	W.P 100 lbs
A.C. 11. 2. 28	A.C. 11. 2. 28

Survey Fee *£ 8 : 8 : -* When applied for, *14. 2. 19 28*  
 Travelling Expenses (if any) *£ - : 10 : -* When received, *Mar. 2. 19 28*

Committee's Minute *FRI. 18 MAY 1928*  
 Assigned *See Gen. Reg. No 10313*