

Rpt. 5a.

## REPORT ON BOILERS

No. 1692/1

14 JUL 1926

Received at London Office

Date of writing Report 10<sup>th</sup> July 1926 When handed in at Local Office

192

Port of HAMBURG

No. in Survey held at

HAMBURG

Date, First Survey 13<sup>th</sup> March 26Last Survey 26<sup>th</sup> June 1926

38543 on the

Steel Twin Screw Motor Vessel

CHINESE PRINCE

(Number of Visits 5)

Gross 6734

Tons Net 3656

Master

Built at HAMBURG

By whom built Deutsche Werft A.G.

Yard No. 95

When built 1926

Engines made at

BERLIN

By whom made Allgemeine Electricitäts Gesellschaft

Engine No. 190/91

When made 1926

Boilers made at

HAMBURG

By whom made Deutsche Werft A.G.

Boiler No. 229

When made 1926

Nominal Horse Power

1313

Owners RIO-CAPE-LINE, Ltd

Port belonging to LONDON

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel

Gutehoffnungshütte, Oberhausen

(Letter for Record S)

Total Heating Surface of Boilers

25 m<sup>2</sup>

Is forced draught fitted no

Coal or Oil fired

exhaust gas fired

No. and Description of Boilers

One exhaust gas fired multitubular donkey boiler

Working Pressure 3 kg/cm<sup>2</sup> = 43 lbTested by hydraulic pressure to 6 kg/cm<sup>2</sup> = 86 lb

Date of test 10.4.26

No. of Certificate 424

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 spring loaded

Area of each set of valves per boiler

per Rule 3800 mm<sup>2</sup>as fitted 3926 mm<sup>2</sup>Pressure to which they are adjusted 3 kg/cm<sup>2</sup> = 43 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 non-return valve fitted

Smallest distance between boilers or uptakes and bunkers or woodwork placed in machinery

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 yes

Largest internal dia. of boilers

1800 mm

Length 2000 mm

Shell plates: Material steel

Tensile strength 34-41 kg

Thickness

7 mm

Are the shell plates welded or flanged flange

Description of riveting: circ. seams

end of ring

long. seams

lp. single

Diameter of rivet holes in

circ. seams 20 mm

long. seams 20 mm

Pitch of rivets

47.7 mm

47.8 mm

Percentage of strength of circ. end seams

plate 58%

rivets 99%

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 58.3%

rivets 99%

combined

Working pressure of shell by Rules 3.9 kg/cm<sup>2</sup>

Thickness of butt straps

outer

inner

No. and Description of Furnaces in each Boiler

Material

Tensile strength

Smallest outside diameter

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

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

Working pressure of furnace by Rules

End plates in steam space: Material

steel

Tensile strength 34-41 kg

Thickness 18 mm

Pitch of stays

How are stays secured

Working pressure by Rules 3.1 kg

Tube plates: Material

front

back

steel

steel

Tensile strength

34-41 kg

34-41 kg

Thickness

18 mm

18 mm

Mean pitch of stay tubes in nests 200 x 300 mm

Pitch across wide water spaces

Working pressure

front 8 kg

back 8 kg

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 Rules

Combustion chamber plates: Material

Tensile strength

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

Are stays fitted with nuts or riveted over

Working pressure by Rules

Front plate at bottom: Material

steel

Tensile strength 34-41 kg

Thickness

18 mm

Lower back plate: Material

steel

Tensile strength 34-41 kg

Thickness 18 mm

Pitch of stays at wide water space

Are stays fitted with nuts or riveted over

Working Pressure

5 kg/cm<sup>2</sup>

Main stays: Material

Tensile strength

Diameter

At body of stay,

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,

Over threads

No. of threads per inch

Area supported by each stay

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W1126-0173



Working pressure by Rules Are the stays drilled at the outer ends Margin stays: Diameter { At turned off part, or Over threads }  
No. of threads per inch Area supported by each stay Working pressure by Rules  
Tubes: Material seamless mild steel External diameter { Plain 76 Stay 76 } Thickness { 3 mm 7.5 mm } No. of threads per inch 11  
Pitch of tubes 100 mm Working pressure by Rules 9 kg/cm<sup>2</sup> Manhole compensation: Size of opening  
shell plate 300 x 400 mm Section of compensating ring 600 x 700 x 7 mm No. of rivets and diameter of rivet holes 28 - 20 mm  
Outer row rivet pitch at ends 130 mm Depth of flange if manhole flanged ✓ Steam Dome: Material steel casting  
Tensile strength 40 kg/mm<sup>2</sup> Thickness of shell 15 mm Description of longitudinal joint ✓  
Diameter of rivet holes ✓ Pitch of rivets ✓ Percentage of strength of joint { Plate Rivets }  
Internal diameter 200 mm Working pressure by Rules 90 kg/cm<sup>2</sup> Thickness of crown 20 mm No. and diameter stays  
How connected to shell riveted Inner radius of crown flat Working pressure by Rules 11 kg/cm<sup>2</sup>  
of rivets in outer row in dome connection to shell 23 mm - 58 mm Diameter of rivet holes and pitch

Type of Superheater Manufacturers of Tubes  
Number of elements Material of tubes Steel castings  
Material of headers Tensile strength Internal diameter and thickness of tubes  
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,  
**DEUTSCHE WERFT**  
**AKTIENGESELLSCHAFT.** Manufacturer.  
*Adolf Schröder*

Dates of Survey { During progress of work in shops - - 13.3.26, 23.3.26, 10.4.26, Are the approved plans of boiler and superheater forwarded herewith yes  
while building { During erection on board vessel - - - 21.6.26, 26.6.26 (If not state date of approval)  
Total No. of visits 5

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This gas fired Donkey Boiler has been built under Special Survey in accordance with the approved plan, the Secretary's letter E 15.10.25 and otherwise in conformity with the requirements of the Rules, and the materials and the workmanship are of good quality. The material, used in the construction are made at works recognized by the Committee and tested in accordance with the Rules by the Society's Surveyors. When tested by hydraulic pressure to 86 lbs p. sq. inch, this Donkey Boiler was found to be tight and sound in every respect, and showed no sign of weakness. Under steam it was found tight and its safety valves have been adjusted to 43 lbs p. sq. inch. It is eligible in my opinion for notification of NDB 6.26.

Mark on Boiler:  
No 424  
Lloyd's Test  
W.P. 86 lbs  
A.C 10.4.26

Thickness of washers:  
port 7.5 mm  
starb. 11.5 mm

Survey Fee ... £ 4 : 4 : 0 } When applied for, 28<sup>th</sup> June 1926  
Travelling Expenses (if any) £ : : } When received, 29/7/26

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

Committee's Minute TUES. 20 JUL 1926  
Assigned *See A.C. rpt attached*