

Rpt. 5a.

REPORT ON BOILERS.

No. 16725

Date of writing Report 27th Feb. 1926

Received at London Office

8 - MAR 1926

When handed in at Local Office

Port of HAMBURG

No. in Reg. Book.

HAMBURG

Date, First Survey 10th July 1925 Last Survey 2nd February 1926

40723 on the Steel S.S. Motor V. RENDSBURG

(Number of Visits 2) Gross 6200 Tons Net 3716

Master Built at HAMBURG By whom built VULCANWERKE A.G. Yard No. 639 When built 1926

Engines made at HAMBURG By whom made VULCANWERKE A.G. Engine No. 639 When made 1926

Boilers made at HAMBURG By whom made VULCANWERKE A.G. Boiler No. 3311 When made 1926

Nominal Horse Power 393 Owners DEUTSCH-ANTRAG-DRUCKMASCHINEN-GES. Port belonging to HAMBURG

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Heubach & Sohn - Hamm

(Letter for Record 3)

Total Heating Surface of Boilers 195 sq. m. 2095 sq. ft.

Is forced draught fitted

Coal or Oil fired

No. and Description of Boilers 1 exhaust gas fired Donkey boiler

Working Pressure 7 kg/cm²Tested by hydraulic pressure to 14 kg/cm² Date of test 2.10.25 No. of Certificate 398

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 as fitted 10050 sq. cm. Pressure to which they are adjusted 7 kg/cm² Are they fitted with easing gear

In case of donkey boilers, state whether steam from main boiler can enter the donkey boiler

Smallest distance between boilers or uptakes and bunkers 2500 mm

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 2700 mm Length 1930 mm

Shell plates: Material Steel Tensile strength 47.54 kg/cm²

Thickness 13 mm Are the shell plates welded or flanged

Description of riveting: circ. seams {end double lap. inter.

long. seams double butt. & bells Diameter of rivet holes in {circ. seams 20 mm long. seams 20 mm

Pitch of rivets {80 mm

Percentage of strength of circ. end seams {plate 69.8% rivets 49%

Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 75% rivets 130% combined 93.4%

Working pressure of shell by Rules 7.75 kg/cm²

Thickness of butt straps {outer 11.5 mm inner 11.5 mm

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 e.c. bottom

Working pressure of furnace by Rules

End plates in steam space: Material Steel

Tensile strength 41-47 kg/cm²

Thickness 20.5 mm Pitch of stays 300-400 mm

How are stays secured double nut & washers

Working pressure by Rules 9.48 kg/cm²

Tube plates: Material {front back Steel

Tensile strength {41-47 kg/cm² 41-47 kg/cm²

Thickness {20.5 mm 20.5 mm

Mean pitch of stay tubes in nests 255 mm

Pitch across wide water spaces 200 mm

Working pressure {front 13.8 kg/cm² back 13.8 kg/cm²

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 41-47 kg/cm²

Thickness 20.5 mm

Lower back plate: Material Steel

Tensile strength 41-47 kg/cm²

Thickness 20.5 mm

Pitch of stays at wide water space 255 mm

Are stays fitted with nuts or riveted over

Working Pressure 11.15 kg/cm²

Main stays: Material Steel

Tensile strength 41-47 kg/cm²

Diameter {At body of stay 51 mm Over threads

No. of threads per inch 6

Area supported by each stay 350-400 mm²Working pressure by Rules 7.65 kg/cm²

Screw stays: Material

Tensile strength

Diameter {At turned off part Over threads

No. of threads per inch

Area supported by each stay

© 2020

Lloyd's Register
Foundation

Working pressure by Rules ☒ Are the stays drilled at the outer ends ☒ Margin stays: Diameter ☒ At turned off part, ☒ Over threads

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

Tubes: Material *Saunders Wild Steel* External diameter ☒ Plain *63.5 mm* ☒ Thickness ☒ *3 mm* ☒ No. of threads per inch *9*

Pitch of tubes *85 mm* ☒ Working pressure by Rules *9 kg/cm²* ☒ Manhole compensation: Size of opening in shell plate *300 x 400 mm* ☒ Section of compensating ring *640 x 40 x 20 mm* ☒ No. of rivets and diameter of rivet holes *40 - 20 mm*

Outer row rivet pitch at ends *100 mm* ☒ Depth of flange if manhole flanged *78 mm* ☒ 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 *Schmidt's Patent* ☒ Manufacturers of Tubes *Lauritzen* ☒ Steel castings *Tulau Werke* ☒

Number of elements *40* ☒ Material of tubes *Saunders Steel* ☒ Internal diameter and thickness of tubes *15 mm - 2.5 mm*

Material of headers *Steel castings* ☒ Tensile strength *41-48 kg/cm²* ☒ Thickness *10 mm* ☒ Can the superheater be shut off and the boiler be worked separately *yes* ☒

Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *yes - 2* ☒

Area of each safety valve *38 mm²* ☒ Are the safety valves fitted with easing gear *yes* ☒ Working pressure as per Rules *94 kg/cm²* ☒

Pressure to which the safety valves are adjusted *7 kg/cm²* ☒ Hydraulic test pressure: tubes *50 kg/cm²* ☒ castings *21 kg/cm²* ☒ and after assembly in place *21 kg/cm²* ☒

Are drain cocks or valves fitted to free the superheater from water where necessary *yes* ☒

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

The foregoing is a correct description,

VULCAN-WERKE

Manufacturer.

Dates of Survey ☒ During progress of work in shops *10/7-25/7-17/8-24/8-31/8-14/9-25/9-5/10/25* ☒ Are the approved plans of boiler and superheater forwarded herewith *yes* ☒ (If not state date of approval.)

while building ☒ During erection on board vessel *6/1-21/1-1/2-2/2/26* ☒

Total No. of visits *12*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This exhaust gas fire donkey boiler has been built under Special Survey in accordance with the approved plan, the Secretary's letter & otherwise in conformity with the requirements of the Rules and material & workmanship is of good quality. The materials used in the construction are made at works recognized by the Society and tested in accordance with the Rules. The Donkey boiler was found to be tight & sound and showed no signs of weakness when tested to 200 lbs per sq. inch (14 kg/cm²) by hydraulic pressure. Under steam it was found to be tight and is eligible in my opinion for record (V.D.B.-26)*

Survey Fee *Please see attached report* ☒ When applied for, *192*

Travelling Expenses (if any) *£ Machinery* ☒ When received, *192*

Friedrich Hill
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 12 MAR 1926*

Assigned *See P. 8 pt on Machinery attached*



© 2020

Lloyd's Register Foundation