

## REPORT ON BOILERS.

No. 29659<sup>F</sup>

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Date of writing Report..... 16.12.1946 When handed in at Local Office..... 19..... Port of RotterdamNo. in Survey held at Schiedam Date, First Survey 3-6-46 Last Survey 8-11-1946  
Reg. Book.on the S.S. DUVENDIJK in CURACAO or VANCOUVER (Number of Visits..... 10.....) Tons { Gross.....  
Net.....Master..... Built at Hamburg By whom built Deutsche werft Yard No..... When built 1930Engines made at Hamburg By whom made Blöhm & Voß Engine No. 403 When made 1923Boilers made at..... By whom made..... Boiler No. 1184-85 When made 1928Nominal Horse Power..... Owners Holland Amerika lijn Port belonging to RotterdamMULTITUBULAR BOILERS MAIN, ~~AUXILIARY~~, OR DONKEY.Manufacturers of Steel Fried. Krupp Essen and Rheinisch Stahlw. Duisburg (Letter for Record.....)Total Heating Surface of Boilers 490 M<sup>2</sup> Is forced draught fitted Yes Coal or Oil fired OilNo. and Description of Boilers 2 Double ended multitubular Working Pressure 213 kg.Tested by hydraulic pressure to 22.5 kg. Date of test 20-9-46 No. of Certificate..... Can each boiler be worked separately YesArea of Firegrate in each Boiler..... No. and Description of safety valves to each boiler 4 spring loadedArea of each set of valves per boiler { per Rule..... as fitted 53.60" Pressure to which they are adjusted 213 kg. Are they fitted with easing gear Yes

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

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-8" Is oil fuel carried in the double bottom under boilers YesSmallest distance between shell of boiler and tank top plating 2'-3 1/2" Is the bottom of the boiler insulated YesLargest internal dia. of boilers 4650 mm Length 6472 mm Shell plates: Material S.M. steel Tensile strength 20-35 t. 0"Thickness 31 mm Are the shell plates welded or flanged no Description of riveting: circ. seams { end double riveted  
inter triple rivetedlong. seams double butt 3x riv. Diameter of rivet holes in { circ. seams 30 mm Pitch of rivets { 114 mm  
long. seams 41 mm 252 mmPercentage of strength of circ. end seams { plate 65% Percentage of strength of circ. intermediate seam { plate 65%  
rivets 43% rivets 64.5%Percentage of strength of longitudinal joint { plate 0.375% Working pressure of shell by Rules..... appx.  
rivets 104% combined 92%Thickness of butt straps { outer 31 mm No. and Description of Furnaces in each Boiler 6 Morrison's type  
inner 31 mmMaterial S.M. steel Tensile strength 26-30 t. 0" Smallest outside diameter 1925 mm 1160 mmLength of plain part { top..... Thickness of plates { crown.....  
bottom..... bottom 17.5 mm Description of longitudinal joint weldedDimensions of stiffening rings on furnace or c.c. bottom..... Working pressure of furnace by Rules..... appx.End plates in steam space: Material S.M. steel Tensile strength 26-30 tons 0" Thickness 20 mm Pitch of stays 380 mmHow are stays secured Screws in plates, double nuts & washers Working pressure by Rules..... appx.Tube plates: Material { front S.M. steel Tensile strength { 26-30 tons 0" Thickness { 20 mm  
back S.M. steel 26-30 tons 0" 30 mmMean pitch of stay tubes in nests 110 mm Pitch across wide water spaces 360 mm Working pressure { front.....  
back..... } appx.Girders to combustion chamber tops: Material S.M. steel Tensile strength 28-32 tons 0" Depth and thickness of girderat centre 310 x 25 mm Length as per Rule 1200 mm 1350 mm Distance apart 190 mm No. and pitch of staysin each 5 x 200 mm Working pressure by Rules..... appx. Combustion chamber plates: Material S.M. steelTensile strength 26-30 t. 0" Thickness: Sides 19.5 mm Back..... Top 19.5 mm Bottom 26 mmPitch of stays to ditto: Sides 200 x 190 mm Back..... Top 200 x 190 mm Are stays fitted with nuts or riveted over fitted with nutsWorking pressure by Rules..... appx. Front plate at bottom: Material S.M. steel Tensile strength 26-30 t. 0"Thickness 24 mm Lower back plate: Material..... Tensile strength..... Thickness.....

Pitch of stays at wide water space..... Are stays fitted with nuts or riveted over.....

Working pressure..... appx. Main stays: Material S.M. steel Tensile strength 28-32 t. 0"Diameter { At body of stay 7.0 mm No. of threads per inch 11 Area supported by each stay 380 x 300 mm  
or 0.2 mm 76.5 mm Over threads.....Working pressure by Rules..... appx. Screw stays: Material S.M. steel Tensile strength 21.5-22 t. 0"Diameter { At turned off part..... No. of threads per inch 11 Area supported by each stay 200 x 190 mm  
or 41.5 mm Over threads.....



Working pressure by Rules *affr* Are the stays drilled at the outer ends *m* 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 *5 m steel* External diameter { Plain *83 mm* *✓* Thickness { *4 mm* *✓* No. of threads per inch *11*  
Stay *83 mm* *✓* *8 mm* *✓*  
Pitch of tubes *110 mm* *✓* Working pressure by Rules *affr* Manhole compensation: Size of opening in  
shell plate *420 x 320 mm* Section of compensating ring *1040 x 940 x 37 mm* No. of rivets and diameter of rivet holes *48* *✓* *30 mm* *✓*  
Outer row rivet pitch at ends *140 mm* *✓* Depth of flange if manhole flanged *65 mm* *✓* Steam Dome: Material *5 m steel*  
Tensile strength *26-32 5/8"* Thickness of shell *20 mm* *✓* Description of longitudinal joint *single strap single rivet*  
Diameter of rivet holes *29 mm* Pitch of rivets *75 mm* Percentage of strength of joint { Plate *62%*  
Rivets *37%*  
Internal diameter *900 mm* *✓* Working pressure by Rules *affr* Thickness of crown *20 mm* *✓* No. and diameter of  
stays *✓* Inner radius of crown *450 mm* *✓* Working pressure by Rules *affr*  
How connected to shell *riveted* 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 *Rheinische Metall-fabr. Düsseldorf*  
Steel forgings *✓*  
Steel castings *Alshen & Voss Hamburg*  
Number of elements *3/2* Material of tubes *5 m Steel* Internal diameter and thickness of tubes *10.5 mm* *32 mm*  
Material of headers *cast steel* Tensile strength *?* Thickness *22.5 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*  
Area of each safety valve *40 mm* *✓* Are the safety valves fitted with easing gear *Yes* Working pressure as per  
Rules *affr* Pressure to which the safety valves are adjusted *214 lb.* Hydraulic test pressure:  
tubes *30 kg* forgings and castings *30 kg* and after assembly in place *30 kg* Are drain cocks or  
valves fitted to free the superheater from water where necessary *Yes*

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

The foregoing is a correct description,

Manufacturer.

Dates { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith  
of Survey while building { During erection on board vessel - - } (If not state date of approval.)  
Total No. of visits *✓*

Is this Boiler a duplicate of a previous case If so, state Vessel's name and Report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

*These boilers have been examined and verified with the approved plans, tested and found in order.*

Survey Fee ... *43* £ : : } When applied for, .....19.....  
Travelling Expenses (if any) £ : : } When received .....19.....

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *See F.E. moly. rpt.*

JAN 31 1947



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