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# REPORT ON BOILERS.

No. 296598

Received at London Office.....

23 DEC 1946

of writing Report..... 18-12-46 When handed in at Local Office..... 19..... Port of..... Rotterdam

Survey held at..... Schiedam Date, First Survey..... 3-6-46 Last Survey..... 8-11-1946

on the..... "DUVENDIJK" ex Curacao ex Vancouver (Number of Visits..... 12) Tons { Gross..... Net.....

ter..... Built at..... Hamburg By whom built..... Deutsche werft Yard No..... When built..... 1930

ines made at..... Hamburg By whom made..... Blohm & Voss Engine No..... 403 When made..... 1923

ers made at..... So By whom made..... do Boiler No..... 1188 When made..... 1928

inal Horse Power..... Owners..... Shell Amvika Rijn Port belonging to..... Rotterdam

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel..... Fried. Krupp, Essen and Rheinisch Stahlw. Duisburg (Letter for Record.....)

al Heating Surface of Boilers..... 510 M<sup>2</sup> Is forced draught fitted..... Yes Coal or Oil fired..... oil

and Description of Boilers..... 2 single ended multitubular Working Pressure..... 213 lb

ted by hydraulic pressure to..... 21.5 kg Date of test..... 20-9-46 No. of Certificate..... Can each boiler be worked separately..... Yes

ea of Firegrate in each Boiler..... No. and Description of safety valves to each boiler..... 2 spring loaded

a of each set of valves per boiler { per Rule..... 30 lb as fitted..... 26.8 lb Pressure to which they are adjusted..... 213 lb Are they fitted with easing gear..... Yes

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

allest distance between boilers or uptakes and bunkers or woodwork..... 1'-0" Is oil fuel carried in the double bottom under boilers..... Yes

allest distance between shell of boiler and tank top plating..... 2'-3 1/2" Is the bottom of the boiler insulated..... Yes

gest internal dia. of boilers..... 46.50 m Length..... 27.40 m Shell plates: Material..... S.M. steel Tensile strength..... 30-35 lb

ickness..... 37 m Are the shell plates welded or flanged..... no Description of riveting: circ. seams { end..... double riveted inter..... lap riveted

seams..... double butt 3 x riv. Diameter of rivet holes in { circ. seams..... 30 m long. seams..... 41 m Pitch of rivets { 111.4 m 254 m

centage of strength of circ. end seams { plate..... 65 % rivets..... 43 % Percentage of strength of circ. intermediate seam { plate..... 65 % rivets..... 64.5 %

centage of strength of longitudinal joint { plate..... 83.75 % rivets..... 104 % Working pressure of shell by Rules.....

combined..... 92 %

ickness of butt straps { outer..... 31 m inner..... 31 m No. and Description of Furnaces in each Boiler..... 3 morison's type

erial..... S.M. steel Tensile strength..... 26-30 lb Smallest outside diameter..... 1225 m 1160 m

th of plain part { top..... bottom..... Thickness of plates { crown..... bottom..... Description of longitudinal joint..... welded

completeness of stiffening rings on furnace or c.c. bottom..... Working pressure of furnace by Rules.....

plates in steam space: Material..... S.M. steel Tensile strength..... 26-30 lb Thickness..... 20-26 m Pitch of stays..... 380 m

are stays secured..... screwed in plates double nut & washer Working pressure by Rules.....

e plates: Material { front..... S.M. steel Tensile strength { 26-30 lb Thickness { 23 m back..... S.M. steel

a pitch of stay tubes in nests..... 110 m Pitch across wide water spaces..... 359 m Working pressure { front..... back.....

ers to combustion chamber tops: Material..... S.M. steel Tensile strength..... 20-32 lb Depth and thickness of girder

entre..... 210 x 25 m Length as per Rule..... 760 m Distance apart..... 190 m No. and pitch of stays

ch..... 3 x 200 m Working pressure by Rules..... Combustion chamber plates: Material..... S.M. steel

ile strength..... 26-30 lb Thickness: Sides..... 19 m Back..... 19 m Top..... 19 m Bottom..... 22 m

of stays to ditto: Sides..... 200 x 190 m Back..... 200 x 190 m Top..... 200 x 190 m Are stays fitted with nuts or riveted over..... fitted with nuts

ing pressure by Rules..... Front plate at bottom: Material..... S.M. steel Tensile strength..... 26-30 lb

ness..... 24 m Lower back plate: Material..... S.M. steel Tensile strength..... 26-30 lb Thickness..... 26 m

of stays at wide water space..... 330 m Are stays fitted with nuts or riveted over..... fitted with nuts

ing pressure..... Main stays: Material..... S.M. steel Tensile strength..... 20-32 lb

eter { At body of stay..... 70 m No. of threads per inch..... 11 Area supported by each stay..... 300 x 300 m Over threads..... 82 m - 76.5 m

ing pressure by Rules..... Screw stays: Material..... S.M. steel Tensile strength..... 21.5-26 lb

eter { At turned off part..... 41.5 m No. of threads per inch..... 11 Area supported by each stay..... 200 x 190 m Over threads.....



Working pressure by Rules. *App.* Are the stays drilled at the outer ends. *no* Margin stays: Diameter { At turned off part. *no* or Over threads. *no*

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

Tubes: Material. *SM steel* External diameter { Plain. *8.3 in* Stay. *8.3 in* Thickness { *4 in* No. of threads per inch. *11*

Pitch of tubes. *110 in* Working pressure by Rules. *App.* Manhole compensation: Size of opening in shell plate. *420 x 320 in* Section of compensating ring. *1040 x 940 x 3/4 in* No. of rivets and diameter of rivet holes. *48 x 30 in*

Outer row rivet pitch at ends. *110 in* Depth of flange if manhole flanged. *20 in* Steam Dome: Material. *no*

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. *please see double in our boiler report.* Manufacturers of { Tubes. Steel forgings. Steel castings.

Number of elements. Material of tubes. Internal diameter and thickness of tubes.

Material of headers. Tensile strength. Thickness. Can the superheater be shut off and 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. forgings and 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 22 inclusive for boilers been complied with.

The foregoing is a correct description, Manufacturer.

Dates of Survey while building { During progress of work in shops - - Are the approved plans of boiler and superheater forwarded herewith. (If not state date of approval.) During erection on board vessel - - - 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 ... £ : : When applied for. 19.....

Travelling Expenses (if any) £ : : When received. 19.....

Committee's Minute. *31 JAN 1947*

Assigned. *See F.E. nuchy. rpt.*

*CH Bourse*  
Engineer Surveyor to Lloyd's Register of Shipping.