

REPORT ON BOILERS.

No. 16624

Date of writing Report 2.3.1927 When handed in at Local Office

Received at London Office 25 JUL 1927

Port of Rotterdam

No. in Survey held at Reg. Book.

Rotterdam

Date, First Survey 20.9.26 Last Survey 17.5.1927

on the *Boiler of the Hull Steam Tug "BOSKOOP"*

(Number of Visits 18) Tons Gross 5475 Net 3293

Master *c* Built at *Thuisman & Zoon* By whom built *Thuisman & Zoon Scheepwerf* Yard No. 575 When built 1924

Engines made at *Rotterdam* By whom made *Rot. Droogd. Mij.* Engine No. 154 When made 1924

Boilers made at *Rotterdam* By whom made *"* Boiler No. 450/52 When made 1924

Nominal Horse Power *"* Owners *Thon Ned. Stoom Mij.* Port belonging to *Amsterdam*

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Thuisman & Zoon* (Letter for Record *2*)

Total Heating Surface of Boilers *8220* Is forced draught fitted *Yes* Coal or Oil fired *Oil*

No. and Description of Boilers *3 Single ended Multitubular Marine* Working Pressure *200 lbs*

Tested by hydraulic pressure to *300 lbs* Date of test *17.5.27* No. of Certificate *064* Can each boiler be worked separately *Yes*

Area of Firegrate in each Boiler *2.55* No. and Description of safety valves to each boiler *2 High lifting spring loaded*

Area of each set of valves per boiler *as fitted 6362 mm²* Pressure to which they are adjusted *200 lbs* Are they fitted with easing gear *Yes*

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

Smallest distance between boilers or uptakes and bunkers or woodwork *over 24"* Is oil fuel carried in the double bottom under boilers *Yes*

Smallest distance between shell of boiler and tank top plating *24"* Is the bottom of the boiler insulated *Yes*

Largest internal dia. of boilers *15' 0"* Length *12' 5"* Shell plates: Material *S. M. Steel* Tensile strength *20-32 tons*

Thickness *1 3/8"* Are the shell plates welded or flanged *No* Description of riveting: circ. seams *end 2 x riv*

27 long. seams *Double butt 3 x riv* Diameter of rivet holes in *circ. seams 1 1/16"* Pitch of rivets *4.60"*

Percentage of strength of circ. end seams *plate 69 1/2%* *rivets 42 1/2%* Percentage of strength of circ. intermediate seam *plate c* *rivets c*

Percentage of strength of longitudinal joint *plate 85.4%* *rivets 91 1/2%* *combined 89.5%* Working pressure of shell by Rules *203 lbs*

Thickness of butt straps *outer 1 1/8"* *inner 1 1/4"* No. and Description of Furnaces in each Boiler *3 of bulb suspension*

Material *S. M. Steel* Tensile strength *26-30 tons* Smallest outside diameter *3' 7 1/2"*

Length of plain part *top c* *bottom c* Thickness of plates *crown 1 1/8"* *bottom 1 1/2"* Description of longitudinal joint *Welded*

Dimensions of stiffening rings on furnace or c.e. bottom *c* Working pressure of furnace by Rules *200 lbs*

End plates in steam space: Material *S. M. Steel* Tensile strength *26-30 tons* Thickness *1 1/2"* Pitch of stays *20 x 19"*

How are stays secured *Secured in plates with double nuts* Working pressure by Rules *229 lbs*

Tube plates: Material *front S. M. Steel* *back S. M. Steel* Tensile strength *26-30 tons* Thickness *7/8"*

Lean pitch of stay tubes in nests *12 1/8 x 8 1/4"* Pitch across wide water spaces *14"* Working pressure *front 200 lbs* *back c*

Girders to combustion chamber tops: Material *S. M. Steel* Tensile strength *20-32 tons* Depth and thickness of girder *centre 9 1/4 x 2 x 1 1/16"* *Length as per Rule 2' 9"* *Distance apart 9"* *No. and pitch of stays*

each 3 x 2 1/2" Working pressure by Rules *219 lbs* Combustion chamber plates: Material *S. M. Steel*

Tensile strength *26-30 tons* Thickness: Sides *2 1/2"* *Back 2 1/2"* *Top 2 1/2"* *Bottom 1"*

Pitch of stays to ditto: Sides *4 1/2 x 9"* *Back 9 x 8 1/4"* *Top 9 x 7 1/2"* Are stays fitted with nuts or riveted over *fitted with nuts*

Working pressure by Rules *201 lbs* Front plate at bottom: Material *S. M. Steel* Tensile strength *26-30 tons*

Thickness *7/8"* Lower back plate: Material *S. M. Steel* Tensile strength *26-30 tons* Thickness *1 1/8"*

Pitch of stays at wide water space *14"* Are stays fitted with nuts or riveted over *Fitted with nuts*

Working Pressure *239 lbs* Main stays: Material *S. M. Steel* Tensile strength *20-32 tons*

Diameter *At body of stay, 2 1/8"* *Over threads 3 1/4"* No. of threads per inch *9* Area supported by each stay *380 in²*

Working pressure by Rules *203 lbs* Screw stays: Material *Iron* Tensile strength *21 1/2 tons (Min)*

Diameter *At turned off part, 1 7/8"* *Over threads 1 7/8"* No. of threads per inch *9* Area supported by each stay *74 in²*

Working pressure by Rules *205 lb* Are the stays drilled at the outer ends *No* Margin stays: Diameter *At turned off part. 1 1/16*
 No. of threads per inch *9* Area supported by each stay *100 sq in* Working pressure by Rules *245 lb*
 Tubes: Material *Iron* External diameter *Plain 3 1/2* Thickness *EN 8 3/16 - 5/16* No. of threads per inch *9*
 Pitch of tubes *4 1/8* Working pressure by Rules *250 lb* Manhole compensation: Size of opening in
 shell plate *10 x 22* Section of compensating ring *9 1/2 x 2 5/16* No. of rivets and diameter of rivet holes *54 x 1 1/16*
 Outer row rivet pitch at ends *9 7/8* Depth of flange if *ring* flanged *3* 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* Manufacturers of *Tubes — Steel castings —*
 Number of elements *3 x 85* Material of tubes *Steel* Internal diameter and thickness of tubes *10. 2 1/2 mm*
 Material of headers *Cast steel* Tensile strength *40-46 kg* Thickness *25-35 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 *1963 cm²* Are the safety valves fitted with easing gear *Yes* Working pressure as per
 Rules *—* Pressure to which the safety valves are adjusted *200 lb* Hydraulic test pressure:
 tubes *43 Atm* castings *43 Atm* and after assembly in place *40 kg* Are drain cocks or valves fitted
 to free the superheater from water where necessary *Yes*
 Have all the requirements of Sections 14 to 27 inclusive for boilers been complied with *Yes*

The foregoing is a correct description,
 ROTTERDAMSCH DROOGMAATSCHAPPIJ Manufacturer.

Dates of Survey *During progress of work in shops — 1926 20/12 24/12 29/12 20/1 27/1 16/2 4/3 9/3 16/3* Are the approved plans of boiler and superheater forwarded herewith *No.*
 while building *During erection on board vessel — 20/12 1927 7/1 7/3 7/3 18/3 7/4 9/4 20/4 17/5* (If not state date of approval.) *5-7-26*
 Total No. of visits *10*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *Then boiler have been made in accordance to the Society's Rules, approved plans and Secretary's letters, material tested as required and workman ships good.*

Survey Fee ... *Charged on* When applied for, 192
 Travelling Expenses (if any) *Much report* When received, 192

Committee's Minute *FRI. 29 JUL 1927*
 Assigned *See P.B. rpt. attached*

J. J. Ochoa
 Engineer Surveyor to Lloyd's Register of Shipping.