

REPORT ON BOILERS.

No. 28311^c

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19

Port of Rotterdam

No. in Survey held at

Rotterdam

Date, First Survey 10.7.38

Last Survey 16-1-1939

Reg. Book.

on the Donkey boiler M.V. PENDRECHT

(Number of Visits 16)

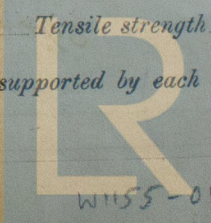
Gross 10746

Tons Net 6367.

Master L Built at Rotterdam By whom built Pott Drooga My Yard No. 212 When built 1939
Engines made at Bengels By whom made Geb. Hork Engine No. 4108 When made 1939
Boilers made at Rotterdam By whom made Pott Drooga My Boiler No. 558 When made 1939
Nominal Horse Power 633 Owners M. Hoorn My "De Abaar" Port belonging to Rotterdam

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Bethlehem Steel Company (Letter for Record 5)
Total Heating Surface of Boilers 180 cb² (1926 sq ft) Is forced draught fitted Yes Coal or Oil fired Oil fired
No. and Description of Boilers One Multitubular Marine Boiler Working Pressure 180 lb
Tested by hydraulic pressure to 320 lb Date of test 16.1.39 No. of Certificate 1018 Can each boiler be worked separately Yes
Area of Firegrate in each Boiler Oil fired No. and Description of safety valves to each boiler 2 spring loaded
Area of each set of valves per boiler per Rule 12.4 Pressure to which they are adjusted 180 lb Are they fitted with easing gear Yes
In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes
Smallest distance between boilers or uptakes and bunkers or woodwork Over 5 feet Is oil fuel carried in the double bottom under boilers No
Smallest distance between shell of boiler and tank top plating Yes Is the bottom of the boiler insulated Yes
Largest internal dia. of boilers 3960 mm Length 3504 mm Shell plates: Material S.M. Steel Tensile strength 44-51 kg/mm²
Thickness 27.5 mm Are the shell plates welded or flanged Butt shape Description of riveting: circ. seams end lap 2 x 2w
long. seams double butt straps 3 x rivets Diameter of rivet holes in circ. seams 50 mm Pitch of rivets 97 mm
Percentage of strength of circ. end seams plate 69% Percentage of strength of circ. intermediate seam plate 85.3%
Percentage of strength of longitudinal joint rivets 95% Working pressure of shell by Rules 12.78 kg/cm²
Thickness of butt straps outer 26 mm No. and Description of Furnaces in each Boiler 2 Morrison patent
Material S.M. Steel Tensile strength 41-47 kg/mm² Smallest outside diameter 1136 mm
Length of plain part top 22 mm Thickness of plates crown 14 mm Description of longitudinal joint Welded
Dimensions of stiffening rings on furnace or c.c. bottom bottom 25 mm Working pressure of furnace by Rules 12.65 kg/cm²
End plates in steam space: Material S.M. Steel Tensile strength 41-47 kg/mm² Thickness 28.5 mm Pitch of stays 432 mm
How are stays secured Secured in plate with nuts and washers outside Working pressure by Rules 13.5 kg/cm²
Tube plates: Material front S.M. Steel Tensile strength 41-47 kg/mm² Thickness 20 mm
back S.M. Steel Tensile strength 41-47 kg/mm² Thickness 19 mm
Mean pitch of stay tubes in nests 204 x 306 Pitch across wide water spaces 374 mm Working pressure front 13.1 kg/cm²
Girders to combustion chamber tops: Material S.M. Steel Tensile strength 41-47 kg/mm² Depth and thickness of girder
at centre 216 x 219 mm Length as per Rule 858 mm Distance apart 216 mm No. and pitch of stays
in each 2 in 254 mm Working pressure by Rules 14.5 kg/cm² Combustion chamber plates: Material S.M. Steel
Tensile strength 41-47 kg/mm² Thickness: Sides 22 mm Back 19 mm Top 22 mm Bottom 22 mm
Pitch of stays to ditto: Sides 254 mm Back 203 mm Top 254 x 216 mm Are stays fitted with nuts or riveted over Riveted over
Working pressure by Rules 20.5 kg/cm² Front plate at bottom: Material S.M. Steel Tensile strength 41-47 kg/mm²
Thickness 20 mm Lower back plate: Material S.M. Steel Tensile strength 41-47 kg/mm² Thickness 19 mm
Pitch of stays at wide water space 396 mm Are stays fitted with nuts or riveted over Fitted with nuts
Working Pressure 15.8 kg/cm² Main stays: Material S.M. Steel Tensile strength 44-51 kg/mm²
Diameter At body of stay, 2 1/2 No. of threads per inch 9 Area supported by each stay 406 x 432 mm
Over threads 2 3/4 Screw stays: Material S.M. Steel Tensile strength 41-47 kg/mm²
Working pressure by Rules 13.9 kg/cm² Diameter At turned off part, 1 7/8 No. of threads per inch 9 Area supported by each stay 203 x 197 mm
Over threads 1 3/4



Working pressure by Rules $20,349 \text{ kg/cm}^2$ Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, $1\frac{1}{8}$ " or Over threads $1\frac{3}{4}$ "
No. of threads per inch *9* Area supported by each stay 59400 mm^2 Working pressure by Rules 13.7 kg/cm^2
Tubes: Material *S M Steel* External diameter { Plain $2\frac{1}{4}$ " Stay $2\frac{1}{4}$ " Thickness { $7 \text{ mm} = 8.5 \text{ mm}$ No. of threads per inch *9*
Pitch of tubes 102 mm Working pressure by Rules $19\frac{1}{2} \text{ kg/cm}^2$ Manhole compensation: Size of opening in shell plate 425×526 Section of compensating ring $421 \times 812 \times 28.5 \text{ mm}$ No. of rivets and diameter of rivet holes $42 \times 30 \text{ mm}$
Outer row rivet pitch at ends 192 mm Depth of flange if manhole flanged 90 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
How connected to shell Inner radius of crown Working pressure by Rules
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

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,

DE ROTTERDAMSCHER DROOGDOEK M.I.J.

Manufacturer.

W. M. A. P. A. P.

Dates of Survey { During progress of work in shops - - - 1938 17/10 16.29/13/10 9.22.22/10 5.18/14 2.8/12 Are the approved plans of boiler and superheater forwarded herewith *Helander* (If not state date of approval.) 15.4.38
while building { During erection on board vessel - - - 1939 2.10.16/1 Total No. of visits 14

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been made in accordance to the Society's Rules, approved plan and Secretary's letter, material tested as required and workmanship good*

Survey Fee ... 153.60 When applied for, 20.6.1939
Travelling Expenses (if any) 1.00 When received, 21/7 1939

J. J. Oelova
Efficient Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See 1-15 machy rpt



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