

REPORT ON BOILERS.

No. 10903.

Received at London Office

3 FEB 1928

Date of writing Report 1 Feb 1928. When handed in at Local Office 1928 Port of Amsterdam

No. in Survey held at Amsterdam Date, First Survey 11 July 1927 Last Survey 17 January 1928

2356 on the Steel Sc. SS "MANOERAN" (Number of Visits) Gross 9364 Tons Net 5037

Master Built at Alloa By whom built Forth S.B. & F.C. Yard No. When built 1922

Engines made at New Castle By whom made Armstrong Whitworth & Co. Engine No. When made 1922

Boilers made at Amsterdam By whom made Messrs Workson Boiler No. When made 1927

Nominal Horse Power 857 Owners Schoonv. M^r "Nederland" Port belonging to Amsterdam

MULTITUBULAR BOILERS—MAIN, OR

Manufacturers of Steel Beardmore Glasgow (Letter for Record S)

Total Heating Surface of Boilers 17750 sq ft 18750 Is forced draught fitted Yes Coal or Oil fired Coal fired

No. and Description of Boilers 5 Single ended Multitubular Boilers Working Pressure 190 lbs

Tested by hydraulic pressure to 3354 lbs Date of test 7-10-27 16-10-27 No. of Certificate 336/340 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 66 sq ft No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler per Rule See special endorsement as fitted 20 sq ft Pressure to which they are adjusted 190 lbs Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork 21" Is oil fuel carried in the double bottom under boilers no

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

Largest internal dia. of boilers 16' 5" Length 12' 9" Shell plates: Material SMS Tensile strength 29.5-33 ton

Thickness 1 3/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end lap double inter. rivets

Long. seams double butt treble riveted Diameter of rivet holes in circ. seams 1 3/8" long. seams 1 5/32" Pitch of rivets 4 3/16" 9 13/16"

Percentage of strength of circ. end seams plate 67% rivets 42% Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85% rivets 80% combined 80% Working pressure of shell by Rules 195 lbs

Thickness of butt straps outer 1 3/16" inner 1 3/16" No. and Description of Furnaces in each Boiler 3 Dighton patent

Material SMS Tensile strength 25-20 ton Smallest outside diameter 4' 1 3/8"

Length of plain part top bottom Thickness of plates crown 3 1/16" bottom 3 1/16" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 196 lbs

End plates in steam space: Material SMS Tensile strength 25.5-29 ton Thickness 1 1/16" Pitch of stays 10 7/8" x 10 7/8"

How are stays secured double nuts Working pressure by Rules 195 lbs

Tube plates: Material front SMS back SMS Tensile strength 25.5 x 29 ton 24.5 x 20 ton Thickness 15/16" 7/8"

Mean pitch of stay tubes in nests 11 1/4" Pitch across wide water spaces 15 3/16" Working pressure front 210 lbs back 196 lbs

Girders to combustion chamber tops: Material SMS Tensile strength 20-32 ton Depth and thickness of girder

at centre 8 1/16" x 1 3/4" Length as per Rule 2' 7 1/2" Distance apart 8 7/8" No. and pitch of stays

in each 3 - 7 7/8" Working pressure by Rules 197 lbs Combustion chamber plates: Material SMS

Tensile strength 24.5-20 ton Thickness: Sides 4 3/64" Back 4 3/64" Top 4 3/64" Bottom 4 3/64" 18 in.

Pitch of stays to ditto: Sides 7 7/8" x 7 7/8" Back 8 1/2" x 7 3/4" Top 8 7/8" x 7 7/8" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 200 lbs Front plate at bottom: Material SMS Tensile strength 26-29 ton

Thickness 15/16" Lower back plate: Material SMS Tensile strength 26-29 Thickness 15/16"

Pitch of stays at wide water space 15" Are stays fitted with nuts or riveted over with nuts

Working Pressure 213 lbs Main stays: Material SMS Tensile strength 26.5-30 tons

Diameter At body of stay, or Over threads 3 1/8" No. of threads per inch 8 Area supported by each stay 356 sq in

Working pressure by Rules 195 lbs Screw stays: Material SMS Tensile strength 26-29 ton

Diameter At turned off part, or Over threads 1 5/8" No. of threads per inch 11 Area supported by each stay 660 sq in

Working pressure by Rules 206 lbs Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part.} 1 3/4"
No. of threads per inch 11 Area supported by each stay 82.50" Working pressure by Rules 202 lbs
Tubes: Material Iron External diameter ^{Plain} 3 1/4" Thickness ^{No. of threads per inch} 11
^{Stay} 3 1/4" Pitch of tubes 4 1/2" Working pressure by Rules 200 lbs Manhole compensation: Size of opening in
shell plate 14 1/2" x 10 1/2" Section of compensating ring 27 0" No. of rivets and diameter of rivet holes 54 - 1 1/4"
Outer row rivet pitch at ends 8 1/16" Depth of flange if manhole flanged 3" Steam Dome: Material No dome
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 Type Manufacturers of ^{Tubes} Persund Walmark
^{Steel castings} forging
Number of elements 72 Material of tubes Seamless steel Internal diameter and thickness of tubes 4 3/64" x 10 1/20
Material of headers Forged steel Tensile strength 20-32 ton Thickness 1 3/16" 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 1.950" Are the safety valves fitted with easing gear Yes Working pressure as per
Rules ✓ Pressure to which the safety valves are adjusted 200 lbs Hydraulic test pressure:
tubes 600 lbs ^{castings} 600 lbs and after assembly in place 300 lbs 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

The foregoing is a correct description,

WERKSPROOF

M. C. Thugt.

Manufacturer.

Dates of Survey ^{During progress of} 11.15.10.26.29 July 9.10.11. Are the approved plans of boiler and superheater forwarded herewith
^{work in shops - -} 16.24 Aug. 14.24 Sept. 4.15. (If not state date of approval.)
while building ^{During erection on} 24.26 Oct. 7.15 Nov. 3.10 Dec.
^{board vessel - - -} 7.23.30 Dec. 2.5.11.12.17 Jan 1420 Total No. of visits 20.

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

These boilers have been made under special survey in accordance with the Society's Rules, Secretary's letter and approved plan, material tested as required, and workmanship throughout good

Survey Fee ... £860

Travelling Expenses (if any) 12

When applied for, 19 January 1920

When received, 19 January 1920

Burgdorff also for F.N. Bernorke
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 14 FEB 1928

Assigned

See rpt. 9 attached



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Foundation