

## REPORT ON BOILERS.

No. 16369

Received at London Office

-8 JUN 1925

Date of writing Report 14<sup>th</sup> May 1925 When handed in at Local Office 1925 Port of Hamburg

No. in Reg. Book. Flensburg Date, First Survey 14<sup>th</sup> July 1924 Last Survey 18<sup>th</sup> April 1925

on the Steel S. S. " Stad Vlaardingen " (Number of Visits 16) Tons { Gross 6325  
Net 3767

Master Flensburg Built at Flensburg By whom built Flensburger Schiffbau Ges. Yard No. 391 When built 1925

Engines made at Flensburg By whom made Flensburger Schiffbau Ges. Engine No. 354 When made 1925

Boilers made at Flensburg By whom made Flensburger Schiffbau Ges. Boiler No. 1065-1068 When made 1925

Nominal Horse Power 699 Owners Halcyon-Lijn Port belonging to Rotterdam

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

Manufacturers of Steel Thyssen & Co. Mülheim a/Ruhr (Rates) & The Lancashire Steel Co. Ltd. Matherwell (Rat.) (Letter for Record S.)

Total Heating Surface of Boilers 10010.4 square feet Is forced draught fitted yes Coal or Oil fired Coal

No. and Description of Boilers 4 single ended multitubular Working Pressure 185 lbs.

Tested by hydraulic pressure to 330 lbs Date of test 17/12.1924 No. of Certificate 362-365 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 53.06 square feet No. and Description of safety valves to each boiler 2 spring loaded

Area of each set of valves per boiler { per Rule 15.52 sq. ft.  
as fitted 29.44 sq. ft. Pressure to which they are adjusted 185 lbs 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 19.68" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 20.86" Is the bottom of the boiler insulated no

Largest internal dia. of boilers 14' 9 1/8" Length 12' 1 1/4" Shell plates: Material Sim. Mart. Steel Tensile strength 28-32 Tons p. sq. in.

Thickness 1 1/4" Are the shell plates welded or flanged flanged Description of riveting: circ. seams { end double  
inter. treble

long. seams double butt treble riv. Diameter of rivet holes in { circ. seams 1.42"  
long. seams 1.42" Pitch of rivets { 4.7"  
8.66"

Percentage of strength of circ. end seams { plate 70.3  
rivets 45.9 Percentage of strength of circ. intermediate seam { plate 70.3  
rivets 68.7

Percentage of strength of longitudinal joint { plate 83.8  
rivets 117.1  
combined 91.2 Working pressure of shell by Rules 178.4 lbs.

Thickness of butt straps { outer 1.10"  
inner 1.10" No. and Description of Furnaces in each Boiler 3 Morrison

Material Sim. Mart. Steel Tensile strength 26-30 Tons p. sq. inch Smallest outside diameter 42.87"

Length of plain part { top 8.26"  
bottom 8.26" Thickness of plates { crown 0.6"  
bottom 0.6" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom yes Working pressure of furnace by Rules 193.7 lbs.

End plates in steam space: Material Sim. Mart. Steel Tensile strength 26-30 Tons p. sq. in. Thickness 1.02" Pitch of stays 14.96"

How are stays secured Riv. washers, double nuts & washers Working pressure by Rules 237.9

Tube plates: Material { front Sim. Mart. Steel  
back Sim. Mart. Steel Tensile strength { 26-30 Tons p. sq. inch  
26-30 Tons p. sq. inch Thickness { 1.02"  
0.9"

Mean pitch of stay tubes in nests 8.66" Pitch across wide water spaces 14.96" Working pressure { front 176.03 lbs  
back 237.0 "

Girders to combustion chamber tops: Material Sim. Mart. Steel Tensile strength 28-32 Tons p. sq. inch Depth and thickness of girder at centre 9.8"-2x0.67" Length as per Rule 32.7" Distance apart 7.5" No. and pitch of stays in each 3=7.9" Working pressure by Rules 238.4 lbs. Combustion chamber plates: Material Sim. Mart. Steel

Tensile strength 26-30 Tons p. sq. inch Thickness: Sides 0.67" Back 0.63" Top 0.67" Bottom 0.98"

Pitch of stays to ditto: Sides 7.87x7.48" Back 7.87x7.68" Top 7.87x7.48" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 227.7 lbs. Front plate at bottom: Material Sim. Mart. Steel Tensile strength 26-30 Tons p. sq. inch

Thickness 1.02" Lower back plate: Material Sim. Mart. Steel Tensile strength 26-30 Tons p. sq. inch Thickness 0.88"

Pitch of stays at wide water space 24.41" 14.96" Are stays fitted with nuts or riveted over double nuts & washers

Working Pressure 210.8 lbs. Main stays: Material Sim. Mart. Steel Tensile strength 28-32 Tons p. sq. inch

Diameter { At body of stay, 2.99"  
or 3.3" No. of threads per inch 6 Area supported by each stay 14.96" x 14.96"

Working pressure by Rules 371.8 lbs. Screw stays: Material Sim. Mart. Steel Tensile strength 26-30 Tons p. sq. inch

Diameter { At turned off part, 1.35"  
or 1.49" No. of threads per inch 9 Area supported by each stay 7.8" x 7.7"



Working pressure by Rules 205 4 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 35" or Over threads 1 49" }  
 No. of threads per inch 9 Area supported by each stay 7 8" x 7 8" Working pressure by Rules 202 8 lbs  
 Tubes: Material Liem. Mart. Std External diameter { Plain 3 3" Stay 3 3" } Thickness 0 16" No. of threads per inch 9  
 Pitch of tubes 4 3" Working pressure by Rules 227 lbs Manhole compensation: Size of opening in shell plate 16 5" x 12 6" Section of compensating ring 33 86" x 29 9" x 12" No. of rivets and diameter of rivet holes 14/14 - 1 42" diam.  
 Outer row rivet pitch at ends 6 3" Depth of flange if manhole flanged not flanged 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's Pat. - Howden Type Manufacturers of { Tubes Linke-Hofmann Lauchhammer ct. S. of Pies Steel castings Atlaswerke ct. S. of Bremen }  
 Number of elements 240 Material of tubes seamless drawn steel Internal diameter and thickness of tubes 0 75" - 0 12"  
 Material of headers Steel Castings Tensile strength 26-35 Temp. 240° Thickness 0 79" 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 7 78 sq" Are the safety valves fitted with easing gear yes Working pressure as per Rules 1290 8 lbs. Pressure to which the safety valves are adjusted 185 lbs. Hydraulic test pressure: tubes 710 lbs. castings 710 lbs. and after assembly in place 710 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 yes

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - } 19/12/24 - 30/1 - 27/8 - 19/9 - 8/10 - 11/11 - 27/11 - 12/12/24 - 7/1/25 Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)  
 { During erection on board vessel - - } 22/1/25 - 10/2 - 18/2 - 10/3 - 24/3 - 18/4 - 25/4/25 Total No. of visits 16

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) Material and workmanship of Boilers and Superheaters are of good quality. The material used in the construction is made at Works recognised by the Committee and tested in conformity with the requirements of the Rules. Boilers and superheaters were found to be tight and sound when tested by hydraulic pressure to 330 lbs and 710 lbs. respectively.

### Thickness of adjusting Washers

| Position       | Port   | Starboard | Superheater |
|----------------|--------|-----------|-------------|
| Forward Boiler | 0.925" | 1.003"    | 1.141"      |
| Port Boiler    | 0.925" | 1.043"    | 1.023"      |
| Centre "       | 0.748" | 0.964"    | 1.338"      |
| Stb. "         | 1.102" | 0.925"    | 1.259"      |

Survey Fee Please see attached Report When applied for, 192  
 Travelling Expenses (if any) £ on Machinery When received, 192

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 12 JUN 1925

TUES. 16 JUN 1925

Assigned

See other rpt



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