

REPORT ON BOILERS.

No. 11700

Received at London Office

23 NOV 1929

Date of writing Report 30 March 1929 When handed in at Local Office

Port of AMSTERDAM

No. in Survey held at AMSTERDAM

Date, First Survey 30 January Last Survey 16 March 1929

1136 on the Steel Twin Screw Motor Vessel "LION"

(Number of Visits 12) Gross Tons Net

Built at Krimpen a/d.Yssel By whom built C.v.d.Giessen & Zonen's Scheepswerven 1929

Engines made at Amsterdam By whom made Werkspoor Engine No. - When made 1929

Boilers made at Amsterdam By whom made Werkspoor Boiler No. - When made 1929

Nominal Horse Power 712 Owners A/S. Ambra Port belonging to Oslo

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Mannesmannröhrenwerke (Letter for Record 5)

Total Heating Surface of Boilers 2452 sq. ft. Is forced draught fitted Yes Coal or Oil fired oil fuel

No. and Description of Boilers 2 Horizontal main boilers Working Pressure 180 lb

Tested by hydraulic pressure to 320 lb. Date of test 14.5.29 No. of Certificate 352. Can each boiler be worked separately Yes

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

Area of each set of valves per boiler (per Rule 9.44 inch as fitted 9.44 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 No

Smallest distance between boilers or uptakes and bunkers or woodwork Above 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 10' 6" Length 10' 6" Shell plates: Material Steel Tensile strength 29.5/32

Thickness 29/32" Are the shell plates welded or flanged No Description of riveting: circ. seams end butt rivets

Long. seams All butt strap thickness diameter of rivet holes in (circ. seams 1 1/4" long. seams 1 1/4" Pitch of rivets 3/4" 6" 1/16"

Percentage of strength of circ. end seams (plate 70% rivets 38% Percentage of strength of circ. intermediate seam (plate 2% rivets 2%

Percentage of strength of longitudinal joint (plate 85.5% rivets 84.5% combined 88% Working pressure of shell by Rules 198 lb

Thickness of butt straps (outer 53/64" inner 53/64" No. and Description of Furnaces in each Boiler Two main furnaces

Material Steel Tensile strength 26/30 tons Smallest outside diameter 34 1/2"

Length of plain part (top 2" bottom 2" Thickness of plates (crown 1 1/2" bottom 1 1/2" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom 2 Working pressure of furnace by Rules 195 lb

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 63/64" Pitch of stays 15 1/4" x 1 1/4"

How are stays secured All nuts Working pressure by Rules 182 lb

Tube plates: Material (front Steel back Steel Tensile strength 26/30 tons Thickness 63/64" 25/32"

Mean pitch of stay tubes in nests 10" Pitch across wide water spaces 14 3/16" Working pressure (front 183 lb back 186 lb

Orders to combustion chamber tops: Material Steel Tensile strength 28/32 tons Depth and thickness of girder

centre 6 3/8" x 1 1/4" Length as per Rule 25 5/8" Distance apart 4 4/8" No. and pitch of stays

each 2 x 8 1/4" Working pressure by Rules 198 lb Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 8 1/4" x 4 7/16" Back 8 3/8" x 4 7/16" Top 8 1/4" x 4 7/8" Are stays fitted with nuts or riveted over riveted ones

Working pressure by Rules 190 lb Front plate at bottom: Material Steel Tensile strength 26/30 tons

Thickness 63/64" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 63/64"

Pitch of stays at wide water space 13" x 5 7/8" Are stays fitted with nuts or riveted over neither

Working Pressure 330 lb Main stays: Material Steel Tensile strength 28-32 tons

Diameter (At body of stay, or Over threads 2 1/2" No. of threads per inch 8" Area supported by each stay 244 sq. inch.

Working pressure by Rules 183 lb Screw stays: Material Steel Tensile strength 26/30 tons

Diameter (At turned off part, or Over threads 1 1/2" No. of threads per inch 11 Area supported by each stay 62.5 sq. inch.

ter of Shipping

Working pressure by Rules *198 lb* Are the stays drilled at the outer ends *Yes* Margin stays: Diameter *At turned off part, 1 1/2"*
 No. of threads per inch *11* Area supported by each stay *60 sq. inch* Working pressure by Rules *206 lb*
 Tubes: Material *Lap welded* External diameter *2 3/4"* Thickness *5/16"* No. of threads per inch *11*
 Pitch of tubes *3 15/16"* Working pressure by Rules *215 lb* Manhole compensation: Size of opening in
 shell plate *14 1/2 x 10 1/2"* Section of compensating ring *16 sq. inch* No. of rivets and diameter of rivet holes *40 - 1 1/8"*
 Outer row rivet pitch at ends *4 1/2"* Depth of flange if manhole flanged *3"* Steam Dome: Material *Steel*
 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 *None* Manufacturers of *Tubes ✓ 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 *✓*, 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 *Yes*

The foregoing is a correct description,
W. R. [Signature] *W. C. J. [Signature]* Manufacturer.

Dates of Survey *During progress of work in shops - - 30/6 1/7 14/7 24/7 2/8 14/8 16/8* Are the approved plans of boiler and superheater forwarded herewith *Rebany in*
 while building *During erection on board vessel - - 29/10 4/11 4/11 14/11* (If not state date of approval.) *29/10. 28. Lanchester office*
 Total No. of visits *12*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The boilers have been made in accordance with the approved plan and Secretary's letter and Rules, workmanship good. The vessel is in my opinion eligible to be classed with record of + M. D. B. 10.29

Survey Fee ... £ *✓* : When applied for, 192
 Travelling Expenses (if any) £ *✓* : When received, 192

P. N. [Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI, 29 NOV 1929*
 Assigned *See Rob. J. [Signature] attached*