

REPORT ON BOILERS.

No. 18207

Received at London Office 13 AUG 1928

Date of writing Report *19th Jan., 29* 6th Aug. 1928 When handed in at Local Office *19th Jan., 29* 10 Port of *Hamburg - Malmo*

No. in Reg. Book *91106* Survey held at *Hamburg* Date, First Survey *7.12.28* 26th June 28 Last Survey *12.1.1929* 3rd Aug. 1928
(Number of Visits *44*) Tons {Gross *5820* Net *3291*

Built at *Malmo* By whom built *Rockniss Mek. Verkstad Akt. Yard No. 158* When built *1929*
Engines made at *Malmo* By whom made *Rockniss M. V. Aktieb.* Engine No. *25426* When made *1929*
Boilers made at *Hamburg* By whom made *Deutsche Wurf A. G.* Boiler No. *338* When made *1928*
Owners *Dr. Max Albrecht Kommanditgesellschaft* Port belonging to *Hamburg*

VERTICAL DONKEY BOILER.

Made at *Hamburg* By whom made *Deutsche Wurf A. G.* Boiler No. *338* When made *1928* Where fixed *on UD in the motor casing*

Manufacturers of Steel *Mess. Guss- und Schmiedewerke A. G. of Oberhausen* Total Heating Surface of Boiler *28 m²* Is forced draught fitted *No* Coal or Oil fired *oil fired* *also with exhaust gases*

No. and Description of Boilers *one vertical donkey boiler* Working pressure *10.5 kg/cm² (150 lbs)*
Tested by hydraulic pressure to *275 lbs* Date of test *3rd August 1928* No. of Certificate *468*

Area of Firegrate in each Boiler *✓* No. and Description of safety valves to each boiler *2 spring loaded safety valves*
Area of each set of valves per boiler {per rule *1785 mm²* as fitted *2 x 1257 mm²* Pressure to which they are adjusted *10.5 kg/cm²* Are they fitted with easing gear *yes*

State whether steam from main boilers can enter the donkey boiler *No* Smallest distance between boiler or uptake and bunkers *daily*
fuel oil tank on woodwork *1800 mm* Is oil fuel carried in the double bottom under boiler *✓* Smallest distance between base of boiler and tank top plating *✓*

Is the base of the boiler insulated *yes from deck* Largest internal dia. of boiler *1400 mm* Height *3410 mm*

Shell plates: Material *S. M. steel* Tensile strength *41-47 kg/cm²* Thickness *15 mm*

Are the shell plates welded or flanged *flanged* Description of riveting: circ. seams {end *single lap* long. seams *double lap* inter. *✓*

Dia. of rivet holes in {circ. seams *23 mm* long. seams *23 mm* Pitch of rivets {*57 mm* *79 mm* Percentage of strength of circ. seams {plate *59.8%* rivets *42.7%* of Longitudinal joint {plate *71%* rivets *61.2%* combined *✓*

Working pressure of shell by rules *11.85 kg/cm²* Thickness of butt straps {outer *✓* inner *✓*

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat *dished partial spherical* Material *S. M. steel*
Tensile strength *41-47 kg/cm²* Thickness *18 mm* Radius *1100 mm* Working pressure by rules *13.7 kg/cm²*

Description of Furnace: Plain, spherical, or dished crown *part spherical* Material *S. M. steel* Tensile strength *41-47 kg/cm²*
Thickness *21 mm* External diameter {top *1050 mm* bottom *1150 mm* Length as per rule *1135 mm* Working pressure by rules *12.45 kg/cm²*

Pitch of support stays circumferentially *✓* and vertically *✓* Are stays fitted with nuts or riveted over *✓*
Diameter of stays over thread *✓* Radius of spherical or dished furnace crown *1100 mm* Working pressure by rule *11.7 kg/cm²*

Thickness of Ogee Ring *21 mm* Diameter as per rule {D *1400 mm* a *1150 mm* Working pressure by rule *11.8 kg/cm²*

Combustion Chamber: Material *✓* Tensile strength *✓* Thickness of top plate *✓*
Radius if dished *✓* Working pressure by rule *✓* Thickness of back plate *✓* Diameter if circular *✓*

Length as per rule *✓* Pitch of stays *✓* Are stays fitted with nuts or riveted over *✓*
Diameter of stays over thread *✓* Working pressure of back plate by rules *✓*

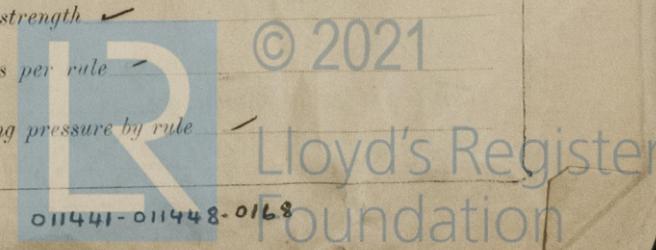
Tube Plates: Material {front *S. M. steel* back *S. M. steel* Tensile strength *41-47 kg/cm²* Thickness {*21 mm* *21 mm* Mean pitch of stay tubes in nests *267 x 178 mm*

If comprising shell, Dia. as per rule {front *1050 mm* back *✓* Pitch in outer vertical rows {*89 mm* *89 mm* Dia. of tube holes FRONT {stay *70 mm* plain *64.5 mm* BACK {stay *65.2 mm* plain *62.5 mm*

Is each alternate tube in outer vertical rows a stay tube *yes* Working pressure by rules {front *14.3 kg/cm²* back *14.2 kg/cm²*

Girders to combustion chamber tops: Material *✓* Tensile strength *✓*
Depth and thickness of girder at centre *✓* Length as per rule *✓*

Distance apart *✓* No. and pitch of stays in each *✓* Working pressure by rule *✓*



Crown stays: Material Tensile strength Diameter at body of stay, or over threads

No. of threads per inch Area supported by each stay Working pressure by rules

Screw stays: Material Tensile strength Diameter at turned off part, or over threads No. of threads per inch

Area supported by each stay Working pressure by rules Are the stays drilled at the outer ends

Tubes: Material *seamless drawn F. M. Steel* External diameter plain 63.5 mm stay 63.5 mm Thickness 3.25 mm 8 mm

No. of threads per inch *11* Pitch of tubes *89 mm* Working pressure by rules *12.5 kg/cm²*

Manhole Compensation: Size of opening in shell plate *300 x 400 mm* Section of compensating ring *150 x 15 mm* No. of rivets and diameter

of rivet holes *28 of 13 mm* Outer row rivet pitch at ends *125 mm* Depth of flange if manhole flanged

Uptake: External diameter Thickness of uptake plate

Cross Tubes: No. External diameters Thickness of plates

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *yes*

The foregoing is a correct description.
 Signature *[Signature]* **WERT AKTIENGESELLSCHAFT.** Manufacturer.

Dates of Survey During progress of work in shops - *20.6.28, 18.7.28, 30.7.28, 3.8.28;* Is the approved plan of boiler forwarded herewith *yes*
(If not state date of approval.)

while building During erection on board vessel - *7/12 1928, 4/1 5/1 12/1 1929* Total No. of visits *4 + 4*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This Donkey Boiler has been built under Special Survey in accordance with the approved plan, the Secretary's letter E. 1st May 1928 and otherwise in conformity with the requirements of the Rules, and the materials and the workmanship are of good quality. The materials used in the construction are made at works recognized by the Committee and tested in accordance with the Rules by the Soc. Surveyors. When tested by hydraulic pressure to 275 lbs per sq. inch this boiler was found to be tight and sound in every respect and showed no signs of weakness at that pressure. This boiler is in my opinion eligible for notation of * N.D.B with date, subject to examination under steam and adjusting of its safety valves, when fitted on board.*

Marks on boiler:

No. 468
Lloyd's Test
275 lbs
W.P. 150 lbs
A.C. 3.8.28.

This boiler has been installed onboard under my supervision and to my satisfaction. The safety valves have been adjusted under steam to 10.5 kg/cm². The boiler is fitted with two means of feed, a pump common for both boilers and a separate injector

Survey Fee *4* ... £ *4 : 4* : - When applied for. *8/8. 19. 28*

Travelling Expenses (if any) £ *- : 6* : + When received. *27. 8. 1928*

[Signature] **A. Carstensen** *[Signature]* **A. Sundin**
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 25 JAN 1929**
 Assigned *[Signature]* **See Memo. J. 9. 1. 29. No 870**

