

REPORT ON BOILERS.

No. 137

Received at London Office OCT 14 1938

Date of writing Report 24. 9. 1938. When handed in at Local Office 8th Oct 1938. Port of Danzig

No. in Survey held at Danzig Date, First Survey 6th Dec. 1937. Last Survey 12th September 1938.

Reg. Book. 87015 on the TWIN SCREW M.V. ARENSKERK (Number of Visits 13) Gross 7889 Tons Net 4753.

Built at Danzig By whom built Y. Schichau G.m.b.H. Yard No. 1391 When built 1938.

Engines made at Elbing By whom made Y. Schichau G.m.b.H. Engines No. 3653/4. When made 1938.

Boilers made at Danzig By whom made International S. B. & Co. Ltd. Boiler No. 726 When made 1938.

Owners Verenigde nederlandse Scheepmaats. Port belonging to The Hague.

VERTICAL DONKEY BOILER.

Made at Danzig By whom made International S. B. & Co. Ltd. Boiler No. 726 When made 1938. Where fixed on middle platform at after end of Engine room.

Manufacturers of Steel Stuta Batony Poland. Deutsche Lohmwerke A.G. Werk Thyssen Mulheim Ruhr + Mitteldutsche Stahlwerke Liesa.

Total Heating Surface of Boiler 25 m² Is forced draught fitted yes. Coal or Oil fired Oil

No. and Description of Boilers 1 Vertical multitubular. Working pressure 7 kg/cm²

Tested by hydraulic pressure to 14 kg/cm² Date of test 21. April 1938. No. of Certificate 11

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 Spring loaded

Area of each set of valves per boiler { per rule 1891 mm² as fitted 2 x 1256 Pressure to which they are adjusted 7 kg/cm² Are they fitted with easing gear yes.

State whether steam from main boilers can enter the donkey boiler ✓ Smallest distance between boiler or uptake and bunkers or woodwork ✓ 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 ✓ Largest internal dia. of boiler 1600 mm Height 3980 mm

Shell plates: Material S. M. Steel Tensile strength 44-51 kg/mm² Thickness 11 mm

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

Dia. of rivet holes in { circ. seams 23 mm Pitch of rivets { 57.09 mm Percentage of strength of circ. seams { plate 59.7 rivets 54.2 of Longitudinal joint { plate 67 rivets 88.2 combined.

Working pressure of shell by rules 8.5 kg/cm² Thickness of butt straps { outer ✓ inner ✓

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished ✓ Material S. M. Steel

Tensile strength 41-47 kg/mm² Thickness 16 mm Radius 1280 mm Working pressure by rules 10.4 kg/cm²

Description of Furnace: Plain, spherical, or dished crown Dished ✓ Material S. M. Steel Tensile strength 41-47 kg/mm²

Thickness 15 mm External diameter { top 1500 mm bottom 1500 mm Length as per rule 70 mm Working pressure by rules 10.4 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 1200 mm Working pressure by rule 10.3 kg/cm²

Thickness of Ogee Ring ✓ Diameter as per rule { D ✓ a ✓ Working pressure by rule

Combustion Chamber: Material S. M. Steel Tensile strength 41-47 kg/mm² Thickness of top plate 15 mm

Radius if dished 960 mm Working pressure by rule 10.7 kg/cm² Thickness of back plate 15 mm Diameter if circular 1200 mm

Length as per rule 1030 mm Pitch of stays 300 x 250 mm Are stays fitted with nuts or riveted over Riveted over.

Diameter of stays over thread 33.33 mm Working pressure of back plate by rules 10.2 kg/cm²

Tube Plates: Material { front S. M. Steel back S. M. Steel Tensile strength { 41-47 kg/mm² Thickness { 16 mm Mean pitch of stay tubes in nests 280 mm

If comprising shell, Dia. as per rule { front ✓ back ✓ Pitch in outer vertical rows { 240 mm Dia. of tube holes FRONT { stay 61.16 mm plain 58 mm BACK { stay 57 mm plain 57 mm

Is each alternate tube in outer vertical rows a stay tube no Working pressure by rules { front 8.15 kg/cm² back 8.15 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

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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 *S.M. Steel* Tensile strength *41-47 Kg/mm²* Diameter { at turned off part, ☒ or over threads *33.33 mm* No. of threads per inch *9*
Area supported by each stay *as approved* Working pressure by rules *as approved* Are the stays drilled at the outer ends *no*
Tubes: Material *Steel lap welded* External diameter { plain *57 mm* stay *57 mm* Thickness { *3 mm* *6 mm*
No. of threads per inch *9* Pitch of tubes *80 mm* Working pressure by rules *8 Kg/cm²*
Manhole Compensation: Size of opening in shell plate *320/420 mm* Section of compensating ring ☒ No. of rivets and diameter
of rivet holes ☒ Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged *60 mm*
Uptake: External diameter ☒ Thickness of uptake plate ☒
Cross Tubes: No. ☒ External diameters { ☒ Thickness of plates ☒

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *yes.*

The foregoing is a correct description,
THE INTERNATIONAL
SHIPBUILDING AND ENGINEERING CO. LTD.
(Danziger Werft und Eisenbahnwerkstätten A. G.) Manufacturer.

Dates of Survey { During progress of work in shops - { *1937. Dec. 6. 1938. Feb. 12. 19. 21. 23. 25 March 7. April 21 August 1938* is the approved plan of boiler forwarded herewith *yes.*
(If not state date of approval.)
while building { During erection on board vessel - { *1938. June 24. July 21. Sept. 7. 12.* Total No. of visits *13.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This tanky boiler has been constructed under Special Survey in accordance with the Society's Rules, and approved plans. Materials and workmanship are of good quality.*
The tanky boiler has been satisfactorily fitted on board the vessel and is eligible in my opinion to have record of D.B. 100 lbs.

Survey Fee ... £ *7 : 0 :* When applied for, *20/9/1938* (From Jan 9/1/38)
Travelling Expenses (if any) £ *: 6 :* When received, *15/11/1938*

Committee's Minute *TUE. 25 OCT 1938*
Assigned *See minute on P.E. book.*

R. Shaw
Engineer Surveyor to Lloyd's Register of Shipping.
L Lloyd's Register Foundation