

# REPORT ON BOILERS.

No. 12226

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on the Bunniest Waier m/c "ARSENAL II" (for the Portuguese Navy) (Number of Visits 19) Tons { Gross: Net: }

Built at Lisbon By whom built Arsenal do Alfeite Yard No. When built

Engines made at By whom made Eng. No. When made

Boilers made at Copenhagen By whom made Apl. Bunniest Waier Markin. og Skibbyggeri Boiler No. 2078 When made 1947

nominal Horse Power Owners Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Plates: Appledy-Fraighan Steel Co. Ltd. Slays: Colville Ltd.

Tubes: Tube Ltd. Lucas Rivets: Lucas Bros. Exps

Total Heating Surface of Boilers 165 m<sup>2</sup> Is forced draught fitted no Coal or Oil fired exhausters

No. and Description of Boilers 1 off horizontal multitubular Working Pressure 12.6 kg/cm<sup>2</sup>

Tested by hydraulic pressure to 22.5 kg/cm<sup>2</sup> Date of test 4.8.47 No. of Certificate 707 Can each boiler be worked separately yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 off direct spring loaded 56 mm diam

Area of each set of valves per boiler per Rule 1700 mm<sup>2</sup> Pressure to which they are adjusted as fitted 3760 mm<sup>2</sup> Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

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

Largest internal dia. of boilers 2640 mm Length 2500 mm Shell plates: Material S.M. Steel Tensile strength 45.75 kg/cm<sup>2</sup>

Thickness 18 mm Are the shell plates welded or flanged no Description of riveting: circ. seams { end: double 21G-2AG inter: }  
 Pitch of rivets { 600 mm }  
 Diameter of rivet holes in { circ. seams: 22 mm }  
 { long. seams: 21 mm }

Percentage of strength of circ. end seams { plate: 63.4 }  
 { rivets: 55.5 } Percentage of strength of circ. intermediate seam { plate: }  
 { rivets: }  
 Percentage of strength of longitudinal joint { rivets: 85.7 }  
 { combined: 96.5 } Working pressure of shell by Rules 12.7 kg/cm<sup>2</sup>

Thickness of butt straps { outer: 18 mm }  
 { inner: 18 mm } No. and Description of Furnaces in each Boiler

Material Tensile strength Smallest outside diameter

Length of plain part { top: }  
 { bottom: } Thickness of plates { crown: }  
 { bottom: } Description of longitudinal joint

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

Stays in steam space: Material S.M. Steel Tensile strength 41-47 kg/cm<sup>2</sup> Thickness 22 mm Pitch of stays D=505 mm

How are stays secured Secured in both plates, nuts inside & outside Working pressure by Rules 12.8 kg/cm<sup>2</sup>

Front and back plates: Material S.M. Steel Tensile strength 41-47 kg/cm<sup>2</sup> Thickness 22 mm

Minimum pitch of stay tubes in nests alt 216 mm Pitch across wide water spaces 335 & 765 mm Working pressure { front: 14.2 kg/cm<sup>2</sup> }  
 { back: }

Stays to combustion chamber tops: Material Tensile strength Depth and thickness of girder

Centre Length as per Rule Distance apart No. and pitch of stays

Working pressure by Rules Combustion chamber plates: Material

Thickness: Sides Back Top Bottom

Height of stays to ditto: Sides Back Top Are stays fitted with nuts or riveted over

Working pressure by Rules Front plate at bottom: Material S.M. Steel Tensile strength 41-47 kg/cm<sup>2</sup>

Thickness Lower back plate: Material Tensile strength Thickness

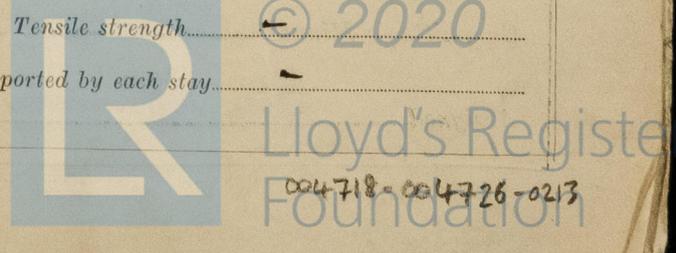
Height of stays at wide water space D=428 mm Are stays fitted with nuts or riveted over Stays used threaded & expanded

Working pressure 12.6 kg/cm<sup>2</sup> Main stays: Material S.M. Steel Tensile strength 44 kg/cm<sup>2</sup>

At body of stay 2 1/4" (57 mm) No. of threads per inch 11 Area supported by each stay 123000 mm<sup>2</sup>

Over threads Working pressure by Rules 12.8 kg/cm<sup>2</sup> Screw stays: Material Tensile strength

At turned off part No. of threads per inch Area supported by each stay



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