

REPORT ON BOILERS.

No. 9592.

DOUBLE ENDED

Received at London Office

12 OCT 1926

Date of writing Report 9. Oct 1926 When handed in at Local Office

192

Port of

Genoa.

No. in Survey held at
g. Book.

Genoa.

Date, First Survey 16th Feb. 1925 Last Survey Sept. 22 1926

81459 on the

Quad. Sc. "Roma"

(Number of Visits 43.) Gross 32582.8
Tons Net 19357.69

Master Built at Sestri Ponente, Genoa By whom built Messrs Ansaldo, S.A. Yard No. 244 When built 1926

Engines made at Sanpierandrea, Genoa By whom made Messrs Ansaldo, S.A. Engine No. 441-4 When made 1926

Boilers made at Sanpierandrea, Genoa By whom made Messrs Ansaldo, S.A. Boiler No. 2845 When made 1926

Nominal Horse Power 5553. Owners Navigazione Generale Italiana. Port belonging to Genoa.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Fried. Krupp Akt. Ges. Essen, Germany. (Letter for Record S.)

ALL
Total Heating Surface of Boilers 5500 sqm. (9.08 = 4,500 sqm) Is forced draught fitted Yes. Coal or Oil fired Oil

No. and Description of Boilers 9. D.E. Multitubular Scotch 4 1/2 pr Working Pressure 15.46 kg/cm²

Tested by hydraulic pressure to 26.4 kg/cm² Date of test Oct. 13.25 Nov. 30.15 Certificate No. 161 No. 162 No. 163 No. 164 No. 165 No. 166 No. 167 No. 168 No. 169 No. 170 No. 171 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 3. Spring loaded.

Area of each set of valves per boiler {per Rule 72766 mm² as fitted 25963 mm² Pressure to which they are adjusted 15.46 kg/cm² 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 or woodwork 440 mm Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 605 mm Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 4,900 mm Length 6,450 mm Shell plates: Material Steel Tensile strength 49-55

Thickness 34 mm Are the shell plates welded or flanged Yes Description of riveting: circ. seams {end D.R. Zig Zag, inter. T.R. Zig Zag

Long. seams T.R. Butt Strap Diameter of rivet holes in {circ. seams 40.5 mm, long. seams 40.5 mm Pitch of rivets {116-62 mm, 263 mm

Percentage of strength of circ. end seams {plate 65.3 %, rivets 42.4 % Percentage of strength of circ. intermediate seam {plate 65.3 %, rivets 63 %

Percentage of strength of longitudinal joint {plate 84.6 %, rivets 87.4 %, combined 84 % Working pressure of shell by Rules 15.5 kg/cm²

Thickness of butt straps {outer 33 mm, inner 33 mm No. and Description of Furnaces in each Boiler 6. Morrison Suspension 4 1/2 pr

Material Steel Tensile strength 41-44 Smallest outside diameter 1238 mm

Length of plain part {top 19 mm, bottom 19 mm Thickness of plates {crown 19 mm, bottom 19 mm Description of longitudinal joint welded

Dimensions of stiffening rings on furnace c.c. bottom L 80 x 80 x 15. Plate 15 Working pressure of furnace by Rules 15.8 kg/cm²

End plates in steam space: Material Steel Tensile strength 44-50 Thickness 24 mm Pitch of stays 380 x 390 mm

How are stays secured Screwed thro' plate, double nuts, washer outside Working pressure by Rules 14.9 kg/cm²

Tube plates: Material {front Steel, back Steel Tensile strength {41-44 Thickness {25 mm, 20 mm

Lean pitch of stay tubes in nests 2 1/6 x 2 1/6 mm Pitch across wide water spaces 3 7/6 mm Working pressure {front 14.3 kg/cm², back 20.5 kg/cm²

Girders to combustion chamber tops: Material Steel Tensile strength 44-50 Depth and thickness of girder 2-200 mm - 22 mm

Centre 2 - 200 mm - 22 mm Length as per Rule 463.5 mm Distance apart 190 mm No. and pitch of stays each 3 - 190 Working pressure by Rules 14.6 kg/cm² Combustion chamber plates: Material Steel

Tensile strength 41-44 Thickness: Sides 14.5 mm Back 14.5 mm Top 14.5 mm Bottom 25 mm

Pitch of stays to ditto: Sides 190 x 190 Back 190 x 190 Top 190 x 190 Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 20 kg/cm² Front plate at bottom: Material Steel Tensile strength 41-44

Thickness 25 mm Lower back plate: Material Steel Tensile strength Thickness

Pitch of stays at wide water space 381 x 190 mm Are stays fitted with nuts or riveted over nuts

Working Pressure Main stays: Material Steel Tensile strength 44-50

Diameter {At body of stay, 63 mm, Over threads 40 mm No. of threads per inch 6 Area supported by each stay 148200 mm²

Working pressure by Rules Screw stays: Material Steel Tensile strength 41-44

Diameter {At turned off part, 35 mm, Over threads 40 mm No. of threads per inch 9 Area supported by each stay 361.00 mm²

Working pressure by Rules *14.4 kg/cm²* Are the stays drilled at the outer ends *Yes* Margin stays: Diameter { At turned off part, or Over threads } *✓*

No. of threads per inch *✓* Area supported by each stay *✓* Working pressure by Rules *✓*

Tubes: Material *Steel* External diameter { Plain *46 mm* Stay *46 mm* Thickness *4 mm* } No. of threads per inch *9*

Pitch of tubes *108 x 108 mm* Working pressure by Rules *14.5 kg/cm²* Manhole compensation: Size of opening in shell plate *430 x 360* Section of compensating plate *950 x 1090 x 33* No. of rivets and diameter of rivet holes *18, 40.5 mm*

Outer row rivet pitch at ends *263 mm* Depth of flange if manhole flanged *110 mm* 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

How connected to shell Inner radius of crown Working pressure by Rules

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* Manufacturers of { Tubes *Società An. Stab. di. Dalmunz* Steel castings *Messa Ansaldo. Cornigliano Genova* }

Number of elements *144 each blv* Material of tubes *Solid drawn steel* Internal diameter and thickness of tubes *16 mm - 3 mm*

Material of headers *Cast Steel* Tensile strength *41-55* Thickness *19 mm* 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 *1940 mm² 58 mm dia* Are the safety valves fitted with easing gear *Yes* Working pressure as per Rules *15.46 kg/cm²* Pressure to which the safety valves are adjusted *16 kg/cm²* Hydraulic test pressure: tubes *46.5 kg/cm²*, castings *46.5 kg/cm²* and after assembly in place *30 kg/cm²* 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, *H. Direttore* Manufacturer.

Dates of Survey { During progress of work in shops - - - 1925 Feb. 16. 23. Mar. 5. 24. Apr. 2. 18. MAR 23. 28. Jun. 5. 18. July 2. 8. 9. 11. 24. Aug. 10. 25. SEP. 11. 21. OCT. 16. 28. 31. Nov. 10. 23. 30. DEC. 9. 22. 29. } Are the approved plans of boiler and superheater forwarded herewith *Yes*

{ During erection on board vessel - - - 1926 MAR 3. 11. Apr. 6. 16. May 18. 27. Jun 5. 15. } (If not state date of approval.)

Total No. of visits *43*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This vessels boilers have been constructed under special survey in accordance with the Society's Rules, Approved plans, Tested Materials and Secretaries Letters.

The material and workmanship are good.

Please see Machinery report and report for Single Ended Boilers P. 9252.

Survey Fee *£ ...* When applied for, *9. 10. 1926.*

Travelling Expenses (if any) *£ ...* When received, *192*

Y. R. Morrison
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 15 OCT 1926*

Assigned *see Minute on attached rpt. Gen 9592*

FRI. 10 DEC 1926

FRI. 21 JAN 1927