

REPORT ON WATER TUBE BOILERS.

No. 41315.

Received at London Office WFD. 24 AUG. 1921

Date of writing Report 22 Aug 21 1921 When handed in at Local Office 22 Aug 21 1921 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 20th Jan 1920 Last Survey 17th August 1921
 Reg. Bk. 56561 on the Bodius Nos 303 to 307 "S.S. Manoran" Number of Visits 53 Tons { Gross 9250
 Master ✓ Built at Allah By whom built Form S.B. La Lim N°60 When built 1923
 Engines made at Laveauille on Tyne By whom made Sir G.P. Armstrong Whitworth Ltd ME.16 When made 1923
 Boilers made at Glasgow By whom made The Howden Boiler & Armaments Co 303 to 307 When made 1921
 Registered Horse Power 863 Owners Stoom Maatschappij Nederland Port belonging to Amsterdam

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel Sard Colville Sons
 Letter for Record S. Date of Approval of plan 30th October 1919 Number and Description or Type
 Boilers Five Howden Patent 3 blowers Working Pressure 180 Tested by Hydraulic Pressure to _____ Date of Test _____
 No. of Certificate _____ Can each boiler be worked separately yes Total Heating Surface of Boilers 19200 sq ft.
 forced draught fitted yes Area of fire grate (coal) in each Boiler 45 sq ft. Total grate area of boilers in vessel including
 Main and Auxiliary 225 sq ft. No. and type of burners (oil) in each boiler 3. Hallsaid-Howden No. and description of safety valves on
 each boiler double 3 1/2 dia Spring Area of each valve 8.29 sq inches Pressure to which they are adjusted _____
 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 _____ Height of Boiler 16'-6 1/8" Width and Length 12'-10 1/2" x 13'-6 1/2"
 Steam Drums:—Number in each boiler 3 Inside diameter 3'-6" x 30 1/2" D Material of plates Steel Thickness trapper 9/16
 Range of Tensile Strength trapper 28/32 Tube plate 26/30 Are drum shell plates welded or flanged Tube plate flanged Description of riveting:—
 Cir. seams Lap S.R. long. seams Lap. S.R. Diameter of rivet holes in long. seams 7/8 Pitch of Rivets 2-54 ins
 Lap of plate or width of butt straps 4 3/16 Thickness of straps _____ Percentage strength of long. joint:—Plate 65.8 Rivet 74.6
 Diameter of tube holes in drum 2 3/32 Pitch of tube holes 3 3/8 x 5 1/2 Percentage strength of shell in way of tubes _____
 Drum has a flat side state method of staying thick tube plate with girders at end Depth and thickness of girders at centre
 of fitted) 6 3/4 x 1 1/8 x 2 Distance apart 7 1/2 Number and pitch of stays in each 4 at 6 3/4 Working pressure
 Rules 186 Steam Drum Heads or Ends:—Material Steel Thickness 3/16 Radius or how stayed 2'-6" Rad
 Size of Manhole Handhole in trapper 16" x 12" Water Drums:—Number in each boiler 3 Inside Diameter 3'-0 7/8" x 2 1/8" D
 Material of plates Steel Thickness trapper 9/16 Range of tensile strength 26/30 Are drum shell plates welded
 flanged Tube plate flanged Description of riveting:—Cir. seams Lap. S.R. long. seams Lap. S.R. Diameter of Rivet Holes in
 long. seams 7/8 Pitch of rivets 2-65 ins Lap of plates or width of butt straps 4 3/16 Thickness of straps _____
 Percentage strength of long. joint:—Plate 67 Rivet 65.5 Diameter of tube holes in drum 2 3/32 Pitch of tube holes 3 3/8 x 5 1/2
 Percentage strength of drum shell in way of tubes _____ Water Drum Heads or Ends:—Material Steel Thickness 3/4 x 7/8
 Radius or how stayed 21" Rad Size of manhole or handhole 16" x 12" Headers or Sections:—Number _____
 Material _____ Thickness _____ Tested by Hydraulic Pressure to _____ Material of Stays _____
 Area at smallest part _____ Area supported by each stay _____ Working Pressure by Rules _____ Tubes:—Diameter 2" O.D.
 Thickness 6 x 10 Number 1020 Steam Dome or Collector:—Description of Joint to Shell Pressed steel neck
 Percentage strength of Joint 67.2-69 Diameter 2'-6" Thickness of shell plates 3/16 Material Steel
 Description of longitudinal joint Lap S.R. Diameter of Rivet Holes 3/16 Pitch of Rivets 2-52 ins Working Pressure of shell
 Rules 278 Crown or End Plates:—Material Steel Thickness 3/16 How stayed booked to 2'-6"

SUPERHEATER. Type Howden Date of Approval of Plan 17th March 20 Tested by Hydraulic Pressure to 540 lbs
 Date of Test 9/12/20 Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve 2" Pressure to which each is adjusted _____ Is easing gear fitted _____
 Is a drain cock or valve fitted at lowest point of superheater yes Number, diameter, and thickness of tubes 16 tubes 1 1/2 O.D. x 8 Amg.
 Spare Gear. Tubes _____ Gaskets or joints:—Manhole _____ Handhole _____ Handhole plates _____

Survey request forms Nos 2429/2533 attached.
 The foregoing is a correct description,
 for Howden Boiler & Armaments Co. Ltd Manufacturer.
 J. Geddes
 Dates } During progress of work in shops - - - } Is the approved plan of boiler forwarded herewith 3 plans Yes
 while } During erection on board vessel - - - } Total No. of visits 53

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under special survey. The workmanship & materials are of good quality. The separate elements and steam collectors have been tested by water pressure to 320 lbs per square inch in the shop and found sound & tight and are stamped P.M.S. The dates. The boilers will be sent to Laveauville where they will be installed on board the vessel, and relieving pipes fitted, and then tested to 320 lbs per sq inch

Survey Fee ... £ 56 : 10 : } When applied for 23-8-1921
 Travelling Expenses (if any) £ : : } When received 12-10-1921

Committee's Minute _____
 Assigned _____
 Glasgow 23 AUG 1921 WFD. 4 APR. 1923
 TRANSMIT TO LONDON
 Engineer Surveyor to Lloyd's Register of Shipping.
 R
 Lloyd's Register Foundation
 003867-003874-0304