

REPORT ON MACHINERY.

No. 995.

Received at London Office MON. 7 MAY. 1923

Date of writing Report 30 - 4 - 1923 When handed in at Local Office

Port of Cadiz

No. in Survey held at Cadiz.

Date, First Survey 17 - 11 - 1920 Last Survey 28 - 4 - 1923

Reg. Book. 66582 on the Twin S.S. "MANUEL ARNUS"

(Number of Visits 54)

Tons { Gross Net

Master Built at Cadiz By whom built Sociedad Espanola de Construcion Naval When built 1923

Engines made at Barrow By whom made Vickers Ltd. when made 1921

Boilers made at Barrow By whom made Parsons Marine Steam Turbine Co. when made 1921

Registered Horse Power 1173. Owners Cia. Transatlantica Port belonging to Barcelona

Shaft Horse Power at Full Power 6250 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

TURBINE ENGINES, &c.—Description of Engines

Diameter of Rotor Shaft Journals, H.P.	L.P.	Diameter of Pinion Shaft
Diameter of Journals	Distance between Centres of Bearings	Diameter of Pitch Circle
Diameter of Wheel Shaft	Distance between Centres of Bearings	Diameter of Pitch Circle of Wheel
Width of Face	Diameter of Thrust Shaft under Collars	Diameter of Tunnel Shaft
No. of Screw Shafts	Diameter of same	Pitch of Propeller
No. of Blades	State whether Moveable	Total Surface
Thickness at Bottom of Groove, H.P.	L.P.	Revs. per Minute at Full Power, Turbine

PARTICULARS OF BLADING.

	H.P.	L.P.	ASTERN.
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION			
2ND			
3RD			
4TH			
5TH			
6TH			
7TH			
8TH			

No. and size of Feed pumps Low Pressure: 12" diam cylinders, 21" stroke, 9" diam pump.
No. and size of Bilge pumps Two Duplex 7" " 8" " 8" "
No. and size of Bilge suction in Engine Room and Boiler Room 15 - 3 1/2" In Holds, &c. 17 - 3 1/2"

No. of Bilge Injections 2 sizes 13" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size 3 1/2"
Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible
Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks Both
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line Both
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
What pipes are carried through the bunkers Ballast & Bilge How are they protected Sheet metal
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges
Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from Engine Room & Bridge.

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers	Is Forced Draft fitted	No. and Description of Boilers	No. of Certificate
Working Pressure	Tested by hydraulic pressure to	Date of test	No. and Description of Safety Valves to
Can each boiler be worked separately	Area of fire grate in each boiler	Pressure to which they are adjusted	Are they fitted with easing gear
each boiler	Area of each valve	Mean dia. of boilers	Material of shell plates
Smallest distance between boilers or uptakes and bunkers or woodwork	20"	Are the shell plates welded or flanged	Descrip. of riveting: cir. seams
Thickness	Range of tensile strength	Pitch of rivets	Lap of plates or width of butt straps
long. seams	Diameter of rivet holes in long. seams	Working pressure of shell by rules	Size of manhole in shell
Per centages of strength of longitudinal joint	plates	Material	Outside diameter
Size of compensating ring	No. and Description of Furnaces in each Boiler	No. of strengthening rings	
Length of plain part	Thickness of plates	Description of longitudinal joint	
Working pressure of furnace by the rules	Combustion chamber plates: Material	Thickness: Sides	Back
Pitch of stays to ditto: Sides	Back	Top	Bottom
Material of stays	Diameter at smallest part	Area supported by each stay	Working pressure by rules
Material	Thickness	Pitch of stays	How are stays secured
Diameter at smallest part	Area supported by each stay	Working pressure by rules	Material of Front plates at bottom
Thickness	Material of Lower back plate	Thickness	Greatest pitch of stays
Diameter of tubes	Pitch of tubes	Material of tube plates	Thickness: Front
Pitch across wide water spaces	Working pressures by rules	Girders to Chamber tops: Material	Depth and
thickness of girder at centre	Length as per rule	Distance apart	Number and pitch of stays in each
Working pressure by rules	Steam dome: description of joint to shell	% of strength of joint	Diameter
Thickness of shell plates	Material	Description of longitudinal joint	Diameter of rivet holes
Working pressure of shell by rules	Crown plates: Thickness	How stayed	Pitch of rivets

Rpr 4th No 995

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____

IS A DONKEY BOILER FITTED? *no* ✓

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—

Spares gear, as per Barrow Report and Newcastle Reports, numbers 1900 and 75006 respectively, has now been placed on board. ✓

The foregoing is a correct description, *✓*

Manufacturer. _____

Dates of Survey while building { During progress of work in shops --- 17-11-20, 1921 --- 18 Jan; 1, 22 Feb; 7, 11, 15, 21, 24 March; 24 May; 7 June; 12 Aug; 9 Sept; 2, 12 Nov;
During erection on board vessel --- 7, 30 Dec. 1921 --- 20 Jan; 14, 17, 23 Feb; 10, 16, 20 March; 27 April; 19, 31 May; 9, 19 June; 18 July; 7, 9, 16, 21, 24 Nov; 1, 2, 21 Dec.
Total No. of visits 1923 --- 9, 12, 20 Jan, 2, 6 Feb; 20, 27 March, 3, 6, 9, 14, 24 April
Total No. of visits 51. *Is the approved plan of main boiler forwarded herewith* *✓*
" " " donkey " " " *✓*

Dates of Examination of principal parts—Casings *✓* Rotors *✓* Blading *✓* Gearing *✓*

Rotor shaft *✓* Thrust shaft *✓* Tunnel shafts *✓* Screw shaft *Continuous lineal* Propeller *✓*

Stern tube *24-3-24* Steam pipes tested *March 1922* Engine and boiler seatings *24-5-21* Engines holding down bolts *27-4-23*

Completion of pumping arrangements *7-11-22* Boilers fixed *18-7-22* Engines tried under steam *28-4-23*

Main boiler safety valves adjusted *9-1-23, 20-1-23, 6-2-23* Thickness of adjusting washers *FORD B. P & S 13/32. PORT AFT. B. P 3/8 S 11/32. STARD. AFT. P 13/32 S 13/32. PORT FORD. B. P 13/32 S 3/8. STARD. FORD P 13/32 S 11/32.*
Identification Mark on Do. *✓*

Material and tensile strength of Rotor shaft *✓*

Material and tensile strength of Pinion shaft *✓*

Material of Wheel shaft *✓* Identification Mark on Do. *✓*

Material of Thrust shaft *✓* Identification Mark on Do. *✓*

Material of Tunnel shafts *✓* Identification Marks on Do. *✓*

Material of Screw shafts *✓* Identification Marks on Do. *✓*

Material of Steam Pipes *Steel* *✓*

Test pressure *540 lbs per sq in*

Is an installation fitted for burning oil fuel *no* *✓*

Is the flash point of the oil to be used over 150°F. *✓*

Have the requirements of Section 49 of the Rules been complied with *✓*

Is this machinery a duplicate of a previous case *no* *✓* If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery and boilers, constructed under Special Survey in accordance with Barrow Report No 1900 and Newcastle Report No 75006, having now been efficiently fitted on board this vessel and tried under steam with satisfactory results, is eligible in my opinion to have notation + L.M.C. 4-23.

It is submitted that this vessel is eligible for THE RECORD. + LMC 4. 23. FD. CL.

4 Steam Turbines DR geared to 2 Screw Shafts

The amount of Entry Fee ... £ *9,000.*
Special ... £
Donkey Boiler Fee ... £ *82*
Travelling Expenses (if any) £
When applied for, *28-4-1923*
When received, *30-4-1923*

J.W.D. C.D. 8/5/23. J.W.D. 23rd.
Engineer Surveyor to Lloyd's Register of Shipping.

FRI MAY 11 1923

Committee's Minute

Assigned

*+ L.M.C. 4-23
F.D. C.L.
D.R.*



© 2020

Lloyd's Register Foundation