

REPORT ON STEAM TURBINE MACHINERY. No. 10380

4a. 12/6/28 15/6/28 Port of Genova  
When handed in at Local Office  
Date, First Survey 29/12/26 Last Survey 7/6/28  
Survey held at Sampierdarena + Genova  
Reg. Book. 446/5  
on the Steel Twin Screw S.S. "AUSONIA"  
Gross 13500 Tons  
Net 13500 Tons  
Built at Sampierdarena By whom built "Ansaldo" S. A. Yard No. 283 When built 1927  
Engines made at Sampierdarena By whom made "Ansaldo" S. A. Engine No. 1927  
Boilers made at Sampierdarena By whom made "Ansaldo" S. A. Boiler No. 1927  
Shaft Horse Power at Full Power 10,000 H.P. Owners Soc. Ital. di Servizi Marittimi Port belonging to Genova  
Nom. Horse Power as per Rule 3250 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes  
Trade for which Vessel is intended Passenger-Cargo Service Mediterranean

STEAM TURBINE ENGINES, &c.—Description of Engines

Parson's Type  
No. of Turbines Ahead 6 Direct coupled, single reduction geared to 2 propelling shafts. No. of primary pinions to each set of reduction gearing 2  
Astern 4 double reduction geared  
Direct coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;  
Direct Current Generator  
Supplying power for driving Propelling Motors, Type  
Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to 2 propelling shafts.

| TURBINE       | H. P.             |                  |              | I. P.             |                  |              | L. P.             |                  |              | H. P. ASTERN.     |                  |              |
|---------------|-------------------|------------------|--------------|-------------------|------------------|--------------|-------------------|------------------|--------------|-------------------|------------------|--------------|
|               | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. |
| 1ST EXPANSION | 26                | 354              | 12           | 42                | 536              | 8            | 280               | 1074             | 1            | 25                | 408              | 1            |
| 2ND           | 27                | 391              | 10           | 56                | 564              | 8            | 280               | 1102             | 1            | 38                | 434              | 1            |
| 3RD           | 30                | 422              | 9            | 40                | 732              | 4            | 280               | 1140             | 1            | 51                | 450              | 1            |
| 4TH           | 38                | 453              | 7            | 50                | 752              | 4            | 280               | 1194             | 1            |                   |                  |              |
| 5TH           |                   |                  |              | 61                | 774              | 4            | 210               | 1632             | 2            |                   |                  |              |
| 6TH           |                   |                  |              |                   |                  |              | 165               | 1720             | 2            | L. P. ASTERN      |                  |              |
| 7TH           |                   |                  |              |                   |                  |              | 130               | 1790             | 2            |                   |                  |              |
| 8TH           |                   |                  |              |                   |                  |              | 86                | 1880             | 3            | 117               | 1142             | 2            |
| 9TH           |                   |                  |              |                   |                  |              | 127               | 2020             | 4            | 117               | 1196             | 2            |
| 10TH          |                   |                  |              |                   |                  |              | 100               | 2020             | 5            | 117               | 1284             | 2            |
| 11TH          |                   |                  |              |                   |                  |              | 90                | 2020             | 5            | 73                | 1284             | 2            |
| 12TH          |                   |                  |              |                   |                  |              | 67                | 2020             | 5            | 46                | 1284             | 2            |

Shaft Horse Power at each turbine H.P. 2000. I.P. 2500. L.P. 4500. Revolutions per minute, at full power, of each Turbine Shaft H.P. 3840 I.P. 2903 L.P. 1587  
Rotor Shaft diameter at journals H.P. 100 I.P. 130 L.P. 240 Pitch Circle Diameter 1st pinion 1704.5 2nd pinion 665 main wheel 2800.5 1st reduction wheel 463 main shaft 110  
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 232.5 2nd pinion 565 1st reduction wheel 215 main wheel 505  
Flexible Pinion Shafts, diameter at bearings External 1st 100 115 170 230 230 diameter at bottom of pinion teeth 1st 2137, 280, 505 2nd 651.5  
Wheel Shafts, diameter at bearings 1st 230 main 462 diameter at wheel shroud, 1st Generator Shaft, diameter at bearings Propelling Motor Shaft, diameter at bearings  
Intermediate Shafts, diameter as per rule 440 as fitted 440 Thrust Shaft, diameter at collars as per rule 462 as fitted 462 Tube Shaft, diameter as per rule 22 as fitted 22  
Screw Shaft, diameter as per rule 476 as fitted 488 Is the shaft fitted with a continuous liner yes Bronze Liners, thickness in way of bushes as per rule 22 as fitted 22  
Thickness between bushes as per rule 16.5 as fitted 16.5 Is the after end of the liner made watertight in the propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no Length of Bearing in Stern Bush next to and supporting propeller 2010  
Propeller, diameter 5050 Pitch 6000 No. of Blades 4 State whether Moveable yes Total Developed Surface 670 m<sup>2</sup> square feet.  
If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.P. Turbine exhaust direct to the

Condenser No. of Turbines fitted with astern wheels Feed Pumps No. and size 2 @ 452 x 462 x 280 x 610, 2 @ 470 x 280 x 610, 1 @ 210 x 127 x 505. How driven Steam  
Pumps connected to the Main Bilge Line No. and size 2 @ 275 x 275 x 300 How driven Steam  
Ballast Pumps, No. and size 2 @ 275 x 275 x 300 Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 203 x 254 x 457 1 @ 130 x 260 x 200 x 150  
Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
Pumps, No. and size:—In Engine and Boiler Room 4 @ 50; 6 @ 85, 2 @ 140, 2 @ 340  
In Holds, &c. 2 @ 60; 3 @ 85 aft; 3 @ 85 forward  
Main Water Circulating Pump Direct Bilge Suctions, No. and size 2 @ 340 Independent Power Pump Direct Suctions to the Engine Room  
Bilges, No. and size 1 @ 140; 5 @ 85 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes  
Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes  
Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Both  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Overboard Discharges above or below the deep water line Below  
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes  
What pipes pass through the bunkers none How are they protected  
What pipes pass through the deep tanks none Have they been tested as per rule  
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from main deck

W549-0049



BOILERS, &c. (Letter for record *S*) Total Heating Surface of Boilers *2188<sup>2</sup> met*  
Is Forced Draft fitted *yes* No. and Description of Boilers *6 Water tube (Yarrow type)* Working Pressure *28.13 kg/cm<sup>2</sup>*  
Is a Report on Main Boilers now forwarded? *yes*  
Is *a Donkey* Boiler fitted? *yes* If so, is a report now forwarded? *yes*  
*(an Auxiliary)* Plans. Are approved plans forwarded herewith for Shafting *yes* Main Boilers *yes* Auxiliary Boilers *yes* Donkey Boilers *no*  
(If not state date of approval)

Superheaters *yes* General Pumping Arrangements *yes* Oil Fuel Burning Arrangements *yes*  
Spare Gear. State the articles supplied: *2 bolts complete for each size of rotor, main gear wheel, and pinion bearings. 2 sets of coupling bolts. 1/20 of bolts complete for each gear and turbine casing joint. 2 thermometers for circulating system. 1 set of bearing bushes for one gear wheel, rotor and pinion shafts. 1/2 set of packing rings and springs for each gland of rotor shaft. 1 set of pads each for <sup>main</sup> Mitchell thrust block and turbine thrust block. 1 set of adjusting block liners. 1 set of feed pump valves, 1 set of escape valve springs of each size fitted. 1 spare tail shaft complete with nut & key. 8 right & 1 left handed propeller blades. A quantity of assorted bolts, studs and nuts, bars and plates of mild steel and iron, and numerable other spare parts for all branches and sections of the machinery installation on board*

ANSAALDO, Società Anonima  
STABILIMENTO MECCANICO  
SAMPIERDARENA

IL DIRETTORE

The foregoing is a correct description,

Manufacturer

1926 Dec 29. 1927 Jan 26, Feb 3, March 3, 10, 11, 19, 31, April 7, 11, 19, 21, 26, May 12, 18, 24, 25, June 1, 9, 11, 14, 22, 25, 27, July 4, 9, 17, 18, Aug 1, 4, 11, 16, 18, 25, Sept 5, 8, 9, 14, 16, 26, 27, 30, Oct 4, 10, 13, 17, 18, 21, 22, 29, 30, Nov 10, 15, 16, 17, 26, 27, 29, Dec 1, 7, 12, 14, 15, 19, 20, 22, 24, 27, 28, 29. = 43 trials  
Dates of Survey while building During erection on board vessel --- 1928 Jan 2, 4, 5, 11, 12, 19, 23, 26, 31, Feb 1, 2, 6, 7, 15, 24, 28, March 1, 3, 5, 7, 8, 10, 12, 16, 17, 19, 20, 21, 24, 26, 27, 29, 30, April 2, 3, 4, 5, 6, 11, 13, 14, 16, 17, 18, 19, 20, 23, 24, 25, 26, 27, 28, 29, 30, May 1, 3, 4, 7, 8, 9, 14, 15, 18, 19, 29, 30. = 75 trials  
Total No. of visits *143*

Dates of Examination of principal parts—Casings *7/7/27* Rotors *18/10/27* Blading *7/11/27* Gearing *21/11/27*

Wheel shaft *14/11/27* Thrust shaft *27/9/27* Intermediate shafts *27/9/27* Tube shaft *none* Screw shaft *27/9/27*

Propeller *29/10/27* Stern tube *25/8/27* Engine and boiler seatings *17/10/27* Engine holding down bolts *17/3/28, 31/3/28*

Completion of pumping arrangements *1/6/28* Boilers fired *21/10/27* Engines tried under steam *1/6/28*

Main boiler safety valves adjusted *23/5/28 & 24/5/28* Thickness of adjusting washers *P15 S13, P13 S13, P15 S15, P15 S16, P15 S15 1/2, P13 S14*

Rotor shaft, Material and tensile strength *Steel 53-60 kg/mm<sup>2</sup>* Identification Mark *See separate sheet 2nd*

Flexible Pinion Shaft, Material and tensile strength *none* Identification Mark *none*

Pinion shaft, Material and tensile strength *Steel 63-71 kg/mm<sup>2</sup>* Identification Mark *See separate sheet*

1st Reduction Wheel Shaft, Material and tensile strength *Steel 49-55 kg/mm<sup>2</sup>* Identification Mark *See separate sheet*

Wheel shaft, Material *Steel* Identification Mark *See separate sheet* Thrust shaft, Material *Steel* Identification Mark *See separate sheet*

Intermediate shafts, Material *Steel* Identification Marks *— — — —* Tube shaft, Material *none* Identification Marks *— — — —*

Screw shaft, Material *Steel* Identification Marks *— — — —* Steam Pipes, Material *Steel & copper* Test pressure *84 & 56 kg/cm<sup>2</sup>*

Date of test *March 12, 17, 18 April 5, 12, 18, 24, 25* Is an installation fitted for burning oil fuel *yes*

Is the flash point of the oil to be used over 150° F. *yes* Have the requirements of the Rules for carrying and burning oil fuel been complied with *yes*

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 of this vessel has been constructed under Special Survey of tested materials, and in accordance with approved plans, rule requirements and Secretary's letters. The workmanship is good, and when examined under working condition was found satisfactory*

*In our opinion the vessel is eligible for the record of + LLOYD'S MACHINERY CERTIFICATE (+L.M.C) 6.28, and the notation of T.S.C.L, also "Fitted for oil fuel 6.28 F.P. above 150° F"*

DUAL SURVEY  
L.R. & R.I.

The amount of Entry Fee ... *Lr. 600.00* When applied for, *15/6/28*  
Special ... *Lr. 10800.00*  
Donkey Boiler Fee ... *£ —* When received, *23.8.28*  
Travelling Expenses (if any) *Lr 1250.00*

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 21 SEP 1928

Committee's Minute FRI. 31 AUG 1928

Assigned *Thine 6.28*  
*JP CL*

CERTIFICATE WRITTEN

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Lloyd's Register  
Foundation



Steel Twin Sc. Sh. "Ausonia"

Rotor shafts stamped

H.P. 1<sup>st</sup> Reduction pinion shafts stamped

LLOYD'S  
N° 457  
TRM. 24.11.27

LLOYD'S  
N° 458  
GCV. 2.1.28

LLOYD'S  
N° 476  
TRM 21.11.27

LLOYD'S  
N° 477  
TRM. 30.11.27

Rotor shafts stamped

M.P. 1<sup>st</sup> Reduction pinion shafts stamped

LLOYD'S  
N° 472  
TRM. 24.11.27

LLOYD'S  
N° 484  
GCV. 2.1.28

LLOYD'S  
N° 474  
TRM. 21.11.27

LLOYD'S  
N° 475  
TRM. 30.11.27

Rotor shafts stamped

L.P. 1<sup>st</sup> Reduction pinion shafts stamped

LLOYD'S  
N° 519  
TRM. 17.10.27

LLOYD'S  
N° 519  
TRM. 17.10.27

LLOYD'S  
N° 464  
TRM. 30.11.27

LLOYD'S  
N° 465  
TRM. 14.11.27

M.P. 2<sup>nd</sup> Reduction pinion shafts stamped

H.P. & M.P. Reduction wheels stamped

LLOYD'S  
N° 490  
TRM 14.11.27

LLOYD'S  
N° 491  
GCV 2.1.28

LLOYD'S  
N° 523  
TRM 30.11.27

LLOYD'S  
N° 532  
TRM 21.11.27

2<sup>nd</sup> Reduction pinion shafts stamped

L.P. Reduction wheels stamped

LLOYD'S  
N° 488  
TRM 14.11.27

LLOYD'S  
N° 489  
G.C.V. 5.12.27

LLOYD'S  
N° 523  
TRM 30.11.27

LLOYD'S  
N° 532  
TRM. 21.11.27

Thrust shafts stamped

LLOYD'S  
N° 482  
A.S.M. 28.6.27

LLOYD'S  
N° 501  
A.S.M. 28.6.27

Intermediate shafts stamped

|                                |                                 |                                   |
|--------------------------------|---------------------------------|-----------------------------------|
| LLOYD'S<br>N° 416<br>GB 9.9.27 | LLOYD'S<br>N° 425<br>GB. 9.9.27 | LLOYD'S<br>N° 427<br>ASM. 28.6.27 |
|--------------------------------|---------------------------------|-----------------------------------|

|                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|
| LLOYD'S<br>N° 417<br>GB. 9.9.27 | LLOYD'S<br>N° 426<br>GB. 9.9.27 | LLOYD'S<br>N° 430<br>GB. 9.9.27 |
|---------------------------------|---------------------------------|---------------------------------|

|                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|
| LLOYD'S<br>N° 428<br>GB. 9.9.27 | LLOYD'S<br>N° 431<br>GB. 9.9.27 | LLOYD'S<br>N° 434<br>GB. 9.9.27 |
|---------------------------------|---------------------------------|---------------------------------|

|                                   |                                |                                 |
|-----------------------------------|--------------------------------|---------------------------------|
| LLOYD'S<br>N° 432<br>ASM. 28.6.27 | LLOYD'S<br>N° 433<br>GB 9.9.27 | LLOYD'S<br>N° 449<br>GB. 9.9.27 |
|-----------------------------------|--------------------------------|---------------------------------|

Screw shafts stamped

LLOYD'S  
N° 441  
GB 6.9.27

LLOYD'S  
N° 413  
GB. 6.9.27

DUAL SURVEY  
L. R. & R. I.

L. Clark & Co.

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