

## REPORT ON MACHINERY.

No. 5897

Date of writing Report 13 July 1923 When handed in at Local Office 27 July 1923 Port of Trieste  
No. in Survey held at Trieste  
Reg. Book. S.P. Duino  
on the  
Master Built at Trieste By whom built Stahlinenit's Securo Pristinio When built  
Engines made at Trieste By whom made Stahlinenit's Securo Pristinio when made 1923.  
Boilers made at Trieste By whom made Stahlinenit's Securo Pristinio when made 1921.  
Registered Horse Power 345 NHP. Owners Stahlinenit's Securo Pristinio Port belonging to Trieste.  
Shaft Horse Power at Full Power 2050 Is Refrigerating Machinery fitted for cargo purposes ☒ Is Electric Light fitted ☒

TURBINE ENGINES, &c.—Description of Engines Single reduction geared Turbines No. of Turbines 2.  
Diameter of Rotor Shaft Journals, H.P. 130 L.P. 130 Diameter of Pinion Shaft 130  
Diameter of Journals 130 Distance between Centres of Bearings 705.5 Diameter of Pitch Circle 145.123  
Diameter of Wheel Shaft 300 Distance between Centres of Bearings 1518 Diameter of Pitch Circle of Wheel 1932.442  
Width of Face 410 Diameter of Thrust Shaft under Collars 9.42 Diameter of Tunnel Shaft as per rule 9.36  
No. of Screw Shafts 1 Diameter of same as fitted 9.96 Diameter of Propeller 122 Pitch of Propeller 11.5  
No. of Blades 4 State whether Movable No. Total Surface 376 Diameter of Rotor Drum, H.P. 350 L.P. 830 Astern 550  
Thickness at Bottom of Groove, H.P. Solid L.P. 28 Astern Solid Revs. per Minute at Full Power, Turbine 2130 Propeller 160

## PARTICULARS OF BLADING.

## H.P. Reaction

## L.P.

## ASTERN. L.P.

	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	14.25	398.50	13	33.20	896.40	2	32.50	911.00	1
2ND	23.25	396.50	13	42.20	914.40	2	48.50	927.00	1
3RD	30.25	410.50	13	54.20	938.40	2	61.50	943.00	1
4TH	40.15	430.30	13	69.10	968.20	2	Reaction		
5TH	25.15	540.80	6	89.00	1008.00	2	24.00	604.00	4
6TH	34.15	588.30	6	113.90	1054.80	3	48.90	647.80	4
7TH	45.00	610.00	6	153.40	1134.40	2	86.80	423.60	4
8TH	59.00	638.00	6	153.40	1137.40	3	86.80	423.60	4

No. and size of Feed pumps 2 @ 8.66" x 6.3" x 11.8"  
No. and size of Bilge pumps 1 @ 7" x 7" x 8": 1 @ 6" x 6" x 6": 1 @ 5.31 dia with 4.72" stroke driven off shafting by eccentric  
No. and size of Bilge suction in Engine Room 5 @ 2 1/4", 1 @ 2 1/8"  
In Holds, &c. 7 @ 2"

No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump ☒ Is a separate Donkey Suction fitted in Engine Room & size 1 @ 2 1/4".  
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 Above.  
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 Forward suction How are they protected blue culing  
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 upper deck level.

## BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel Withouthe Berphan, Bergh. &amp; Eisen Gen. Withouthe

Total Heating Surface of Boilers 20266 Is Forced Draft fitted ☒ No. and Description of Boilers Two single ended.  
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 12/8/21 No. of Certificate 240 + 241.  
Can each boiler be worked separately ☒ Area of fire grate in each boiler 55.5 ft<sup>2</sup> No. and Description of Safety Valves to  
each boiler 2 direct spring Area of each valve 9.62 Pressure to which they are adjusted 180 Are they fitted with easing gear ☒  
Smallest distance between boilers or stokes and bunkers or woodwork 6'-9" diam. of boilers 156-14 Length 12'-6" Material of shell plates S  
Thickness 1.06 Range of tensile strength 28-32 Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams DR lap.  
long. seams DBS. 5R in pitch Diameter of rivet holes in long. seams 1.12 Pitch of rivets 7.91 Lap of plates or width of butt straps 16.5"  
Per centages of strength of longitudinal joint rivets 87 Working pressure of shell by rules 181 Size of manhole in shell None.  
plates 86  
Size of compensating ring No. and Description of Furnaces in each Boiler 3 Division Material S Outside diameter 40.9"  
Length of plain part top Thickness of plates crown 5.4 Description of longitudinal joint Weld No. of strengthening rings  
bottom Thickness of plates bottom  
Working pressure of furnace by the rules 181 Combustion chamber plates: Material S Thickness: Sides 5.9 Back 5.9 Top 5.9 Bottom 8.6  
Pitch of stays to ditto: Sides 8.26 x 7.91 Back 8.26 x 7.48 Top 8.26 x 7.91 stays are fitted with nuts or ringed heads ☒ Working pressure by rules 183.  
Material of stays S Area at smallest part 1.45 Area supported by each stay 61.7 Working pressure by rules 188. End plates in steam space  
Material S Thickness 1.10 Pitch of stays 18.1 x 16.94 How are stays secured Double end Working pressure by rules 186 Material of stays S  
Diameter at smallest part 6.1 Area supported by each stay 307 Working pressure by rules 203 Material of Front plates at bottom S  
Thickness .94 Material of Lower back plate S Thickness .82 Greatest pitch of stays 13 x 8.26 Working pressure of plate by rules 200  
Diameter of tubes 2.5 Pitch of tubes 3.62 x 3.7 Material of tube plates S Thickness: Front .94 Back .74 Mean pitch of stays 7.32  
Pitch across wide water spaces 13.22 Working pressures by rules 183 Girders to Chamber tops: Material S Depth and  
thickness of girder at centre 8.46 x 1.49 Length as per rule 31.73 Distance apart 8.26 Number and pitch of stays in each 3 @ 7.91  
Working pressure by rules 182 Steam dome: description of joint to shell None 10 of strength of joint Diameter  
Thickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets  
Working pressure of shell by rules Crown plates: Thickness How stayed



SUPERHEATER. Type *None* 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: *2 bolts + nuts (or studs + nuts) for each size of rotor bearing. Main gear wheel bearings + pinion bearings. One set of coupling bolts for each size used. 1/20 of total number of bolts + nuts (or studs + nuts) for each gear case joint + turbine casing joint. Steamometer for oil circulating system. One set of bearing bushes for wheel shaft, rotor shaft + pinion shaft. Half set of packing rings for each gland of rotor shafts so fitted. Two thrust brace shoes for main thrust block. Turbine thrust + adjusting bushes with rings complete. Sets of feed + high pressure valves. A quantity of assorted bolts + nuts, studs, base plates. Screw shaft, propeller, relief valves. Two oil pumps fitted. Together with 2 spare buckets. 2 sets of valves and piston rods.*  
The foregoing is a correct description.

*Stabilisatore Tecnico Triestino*  
*Padova - Trieste* Manufacturer.  
*M. Manley* 20/7/23.

Dates of Examination of principal parts—Casings *2/9/20* Rotors *18/2/20* Blading *29/12/20* Gearing *17/9/21*  
Rotor shaft *18/2/20* Thrust shaft *7/19* Tunnel shafts *7/19* Screw shaft *31/12/20* Propeller *22/9/20*  
Stern tube *9/5/21* Steam pipes tested *28/4/22* Engine and boiler seatings *20/12/21* Engines holding down bolts *29/3/22*  
Completion of pumping arrangements *31/5/23* Boilers fixed *28/5/23* Engines tried under steam *28/5/23*  
Main boiler safety valves adjusted *7/7/23* Thickness of adjusting washers *PIB 10.5 S 14: St B2 P + S 6 2/3*  
Material and tensile strength of Rotor shaft *S. Steel 34-3-34-9* Identification Mark on Do *4388*  
Material and tensile strength of Pinion shaft *nickel steel 44-1* Identification Mark on Do *CB-18/1/21. LR.*  
Material of Wheel shaft *S. Steel* Identification Mark on Do *4405-MK-7/19* Material of Thrust shaft *S. Steel* Identification Mark on Do *4407-MK-7/19*  
Material of Tunnel shafts *S. Steel* Identification Marks on Do *4405-MK-7/19* Material of Screw shafts *S. Steel* Identification Marks on Do *4407-MK-7/19*  
Material of Steam Pipes *Solid drawn steel* Test pressure *50 Atmos. 711 lb.*  
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 Section 49 of the Rules 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 built under special Survey and in accordance with the Rules. The materials and workmanship are good. On completion the engines, boilers + auxiliary machinery were examined under working conditions with satisfactory results. A safety valve has been fitted to the HP Turbine receiver and adjusted to lift at 10 Kps per sq. cm. The machinery of this vessel is eligible, in my opinion to be classed with notation of + LMC 7.23. Wireless + electric light fitted.*  
The amount of Entry Fee ... *£ 500.-* When applied for, \_\_\_\_\_  
Special ... *£ 4400.-* \_\_\_\_\_  
Donkey Boiler Fee ... *£* \_\_\_\_\_  
Travelling Expenses (if any) *£ 108.-* When received, *27.11.23*

Committee's Minute *WED. AUG. 8 1923*  
Assigned *L.M.C. 7.23*  
*F.D. S.R.*  
*Letter for oil fuel 7.23*  
*F.P. above 150°F.*  
Certificate (if required) to be sent to \_\_\_\_\_  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)  
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