

Report on Refrigerating Machinery and Appliances.

Date of writing Report 23-5-51 When handed in at Local Office 6-6-51 Port of GENOA Received at London Office 12 JUL 1951

No. in Reg. Book. 53776 Survey held at GENOA Date: First Survey 19-4-51 Last Survey 17-5-51

(Number of Visits 11) HOMELAND Tons 10,043
on the Refrigerating Machinery and Appliances of the TRIPLE SCREW STEAMER BRASIL NOW Gross 10,043
Net 5789

Vessel built at GLASGOW By whom built A. STEPHEN & SONS Yard No. ✓ When built 1905-4

Owners MEDITERRANEAN LINES INC. Port belonging to PANAMA Voyage NEW YORK - BREMEN - HAMBURG.

Refrigerating Machinery made by HASLAM FNDRY & ENG CO LD DERRY Machine Nos. 828 When made 1904

Insulation fitted by UNKNOWN When fitted UNKNOWN System of Refrigeration BRINE

Method of cooling Cargo Chambers BRINE GRIDS Insulating Material used CHARCOAL

Number of Cargo Chambers insulated 4 IN TWEEN DECK Total refrigerated cargo capacity 10,290 cubic feet

CARB. ANHY
DESCRIPTION OF REFRIGERATING MACHINERY. Where placed ENG RM FLAT OFF ENG. CASING PORT SIDE

Refrigerating Units, No. of 1 No. of machines 1 Is each machine independent YES

Total refrigeration or ice-melting capacity in tons per 24 hours UNKNOWN Are all the units connected to all the refrigerated chambers YES

Compressors, driven direct or through simple reduction gearing. Compressors, single or double acting D.A If multiple effect compression NO

Are relief valves or safety discs fitted SAFETY DISCS No. of cylinders to each unit TWO Diameter of cylinders 2 7/16"

Diameter of piston rod 1" Length of stroke 9" No. of revolutions per minute 100

Motive Power supplied from 3 SINGLE ENDED SCOTCH BOILERS FOR AUX. PURPOSES W.P 180 lb/sq"
(State number of boilers, oil engines or electric generators supplying the motive power.)

Steam Engines, high pressure, compound, or triple expansion, surface condensing. No. of cylinders TWO Diameter H.P-8 1/2", L.P-13"

Length of stroke 8 3/4" Working pressure 180 lb/sq" Diameter of crank shaft journals and pins 82 3/4" x 115 1/4" L

Breadth and thickness of crank webs 110 1/2" x 5 7/8" No. of sections in crank shaft 1-SOLID Revolutions of engines per minute 100

Oil Engines, type ✓ 2 or 4 stroke cycle ✓ Single or double acting ✓ B.H.P. ✓

No. of cylinders ✓ Diameter ✓ Length of stroke ✓ Span of bearings as per Rule ✓

Maximum pressure in cylinders ✓ Diameter of crank shaft journals and pins ✓

Breadth and thickness of crank webs ✓ No. of sections in crank shaft ✓ Revolutions of engine per minute ✓

Air Receivers:—Have they been made under survey ✓ State No. of Report or Certificate ✓

Is each receiver, which can be isolated, fitted with a safety valve as per Rule ✓

Can the internal surfaces of the receiver be examined and cleaned ✓ Is a drain fitted at the lowest part of each receiver ✓

No. of Receivers ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓

Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

Electric Motors, type ✓ No. of ✓ Rated ✓ Kilowatts ✓ Volts ✓

at ✓ revolutions per minute. Diameter of motor shafts at bearings ✓

Reduction Gearing ✓ Pitch circle diameter, pinion ✓ Main wheel ✓ Width of face ✓

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings, pinion ✓ Main wheel ✓

Pinion shafts, diameter at bearings ✓ Main wheel shaft, diameter at bearings ✓

Gas Condensers, No. of TWO Cast iron or steel casings CAST IRON Cylindrical or rectangular RECTANGULAR Are safety valves fitted to casings YES

No. of coils in each THREE Material of coils COPPER Can each coil be readily shut off or disconnected YES

Water Circulating Pumps, No. and size of pumps available 3 how worked STEAM Gas Separators, No. of 2

Gas Evaporators, No. of TWO Cast iron or steel casings STEEL Pressure or gravity type GRAVITY If pressure type, are safety valves fitted ✓

No. of coils in each casing TWO Material of coils STEEL Can each coil be readily shut off or disconnected YES

Direct Expansion or Brine Cooled Batteries, No. of ✓ Are there two separate systems, so that one may be in use while the other is being cleared of snow ✓

No. of coils in each battery ✓ Material of coils ✓ Can each coil be readily shut off or disconnected ✓

Total cooling surface of battery coils ✓ Is a watertight tray fitted under each battery ✓

Air Circulating Fans, Total No. of ✓ each of ✓ cubic feet capacity, at ✓ revolutions per minute

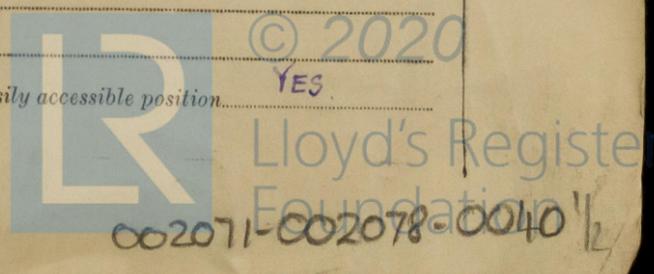
Steam or electrically driven ✓ Where spare fans are supplied are these fitted in position ready for coupling up ✓

Brine Circulating Pumps, No. and size of, including the additional pump STEAM 4" x 5" x 5" (2 Tons/hr) MOTOR 300 litres/MIN. how worked 1-STEAM & 1 MOTOR.

Brine Cooling System, closed or open OPEN Are the pipes and tanks galvanised on the inside NO

No. of brine sections in each chamber TWO SECTIONS 1-ROOF GRIDS & OTHER WALL GRIDS

Can each section be readily shut off or disconnected YES Are the control valves situated in an easily accessible position YES



NOTE—THE WORDS WHICH DO NOT APPLY SHOULD BE DELETED.

CERTIFICATE
The Registrar has received the Report on the Refrigerating Machinery and Appliances of the TRIPLE SCREW STEAMER BRASIL NOW and has certified that the same is in accordance with the Rules of the Society of Lloyd's Register of Shipping.

Sounding Pipes. No. and position in each chamber situated below the load water line. ✓
 Diameter. ✓ Are all sounding pipes in way of insulated chambers fitted in accordance with Section 3, Clause 11. ✓
 Are all wood linings tongued and grooved. **YES** Are cement facings reinforced with expanded steel lattice. ✓
 How is the expanded metal secured in place. ✓
 How are the cork slabs secured to the steel structure of the vessel. ✓
Air Trunkways in Chambers. Are the arrangements satisfactory and in accordance with the approved plans. ✓
 Are they permanently fixed or collapsible, or portable. ✓
 Where air trunkways pass through watertight bulkheads, are they fitted with watertight doors. ✓ Are the door frames efficiently insulated. ✓
 Are insulated plugs supplied for the doorways. ✓ Where are the doors worked from. ✓
Cooling Pipes in Chambers, diameter. **1 3/4"** Minimum thickness. **1/4"** Are they galvanised externally. **No**
 How are they arranged in the chambers. **IN TWO SECTION, 1 - ROOF GRIDS x 1 SIDE GRIDS, BOTH SECTIONS COVERING SIDES & ROOF OF CHAMBERS, ALL GRIDS SECURELY CLIPPED TO ANGLE IRON SUPPORTS.**
Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers. **NONE**
 The foregoing is a correct description of the Insulation and Appliances.

EXISTING PLANT. Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery. ✓ and Insulation. ✓
 (If not, state date of approval)
 Is the Refrigerating Machinery and Appliances duplicate of a previous case. ✓ If so, state name of vessel. ✓
 If the survey is not complete, state what arrangements have been made for its completion and what remains to be done.
COMPLETE

General Remarks (State quality of workmanship, opinions as to class, &c.) The Refrigerating Machinery and Appliances of the Vessel have not been constructed under Special Survey, the CO₂ plant was originally installed when the vessel was built in 1905, the Freon plant was fitted on board at Gottenburg in 1947 and utilises the original brine system of the CO₂ plant. The whole of the Refrigerating Machinery and Appliances have been surveyed for classification in accordance with Sect. 5 of the Rules and the Condensers and Evaporators have been tested in accordance with Sect. 6, clauses 8(b) & (c). The insulation in the four tween deck chambers has been opened up and the scantlings of the grounds, battens, linings and the thickness of insulating material has been checked and found as stated. On completion of the Survey the machinery was tried under working conditions and a cooling down test was carried out with satisfactory results; also please see Rpt 18 attached herewith. The Refrigerating Machinery and Appliances of this Vessel are, in my opinion worthy to be classed in the Society Register Book with the notation **LLOYDS REFRIGERATING MACHINERY CERTIFICATION R.M.C. 5-51.**

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	Ice melting capacity per 24 hours.	Is Refrigerating Machinery Electrically Driven?	INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.				No.	Capacity. Cubic ft.
32	CO ₂ - 2	CARB. ANHYD.	HASLAM FNDRY & ENG CO LD DENBY	1905	BRINE	6.5	No		
2	FREON - 2	DICHLORO-DIFLUORO-METHANE	FRICK CO. WAYNESBORO PA. USA	1947	CHARCOAL	15	No	4	10,290

Fee R.M.C. CLASS. £ 43 : 0 : 0
 CAR FUND - - - £ 2 : 11 : 0
 Travelling Expenses £ 2 : 3 : 0
 (Fee applied for, 7.7.1951 (PAYABLE IN LONDON). Received by me, 19.

J. F. Mansfield
 Surveyor to Lloyd's Register.

AUG. 14 AUG 1951

Committee's Minute. See Rpt 18.
 Assigned.

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