

Report on Refrigerating Machinery and Appliances.

Received at London Office

Date of writing Report 3-11-52. When handed in at Local Office 6-11-52. Port of GLASGOW

No. in Reg. Book. Survey held at GLASGOW. Date: First Survey 21ST MAY, Last Survey 3RD NOV. 1952.

(Number of Visits 5)

on the Refrigerating Machinery and Appliances of the M.S. "PLASSY." Tons Gross 285 Net 259

INSTALLATION HULL. By whom THE DRYPOOL ENGRS CO. LTD. Yard No. 1941-44 VESSEL When built 1941-44

Owners Limerick S.S. Co. Ltd. Port belonging to LONDON Voyage

Refrigerating Machinery made by L. STERNE & CO. LD. Machine Nos. 4349 & 4350 When made 1952

Insulation fitted by ✓ When fitted ✓ System of Refrigeration FREON 12

Method of cooling Cargo Chambers ✓ Insulating Material used ✓

Number of Cargo Chambers insulated ✓ Total refrigerated cargo capacity 24600 cubic feet

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed ✓

Refrigerating Units, No. of TWO. No. of machines TWO. Is each machine independent yes

Total refrigeration or ice-melting capacity in tons per 24 hours 8.6 * 2 = 17.2 Are all the units connected to all the refrigerated chambers yes

Compressors ELECT driven through BELT DRIVE. Compressors, single or double acting Single multiple effect compression yes

Are relief valves or safety discs fitted yes. No. of cylinders to each unit THREE. Diameter of cylinders 5"

Diameter of piston rod TRUNK TYPE. Length of stroke 4". No. of revolutions per minute 600

Motive Power supplied from ✓ (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 ✓ Diameter ✓

Length of stroke ✓ Working pressure ✓ Diameter of crank shaft journals and pins ✓

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

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 receivers 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 STEEL. Cylindrical or rectangular CYLINDRICAL. Are safety valves fitted

to casings ✓ No. of TUBES in each 60. Material of coils BRASS. Can each coil be readily shut off or disconnected NO

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

Gas Evaporators, No. of NONE. Cast iron or steel casings ✓ Pressure or gravity type ✓ If pressure type, are safety

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

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 ✓

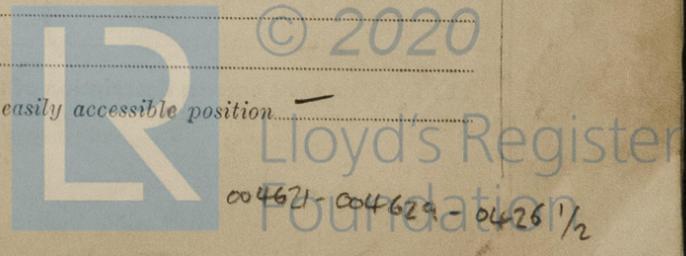
Brine Circulating Pumps, No. and size of, including the additional pump ✓ how worked ✓

Brine Cooling System, closed or open ✓ Are the pipes and tanks galvanised on the inside ✓

No. of brine sections in each chamber ✓

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

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



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Are thermometers fitted to the outflow and to each return brine pipe. Where the tanks are closed are they ventilated as per Rule.
 Where the tanks are not closed is the compartment in which they are situated efficiently ventilated.
 Are the number and capacity of the machines and the number of pumps and sea connections in accordance with Section 2, Clause 1 of the Rules.
 Is the exhaust steam led to the main and auxiliary condensers.

HYDRAULIC AND OTHER TESTS.

DESCRIPTION.	Date of Test.	Working Pressure.	Hydraulic Test Pressure.	Air Test Pressure.	Stamped.	REMARKS.
COMP. CRANKCASES. Engine Cylinders (if tested)	22-5-52.	-	400 lb.	200 lb.	R.W.S.	
Gas Compressors	22-5-52.	-	600 lb.	300 lb.	R.W.S.	
Separators	-	-	-	-	-	
Multiple Effect Receiver	14-7-52	-	600 lb.	300 lb.	R.W.S.	
Condenser TUBES.	14-7-52.	-	350 lb.	200 lb.	R.W.S.	
Evaporator Coils	-	-	-	-	-	
Condenser Headers and Connections	-	-	-	-	-	
Condenser Casings	14-7-52	-	350 lb.	200 lb.	R.W.S.	
Evaporator Casings	-	-	-	-	-	
NH ₃ Condenser, Evaporator and Air Cooler Coils after erection in place	-	-	-	-	-	
Brine Piping after erection in place.	-	-	-	-	-	

Have important steel castings and forgings been tested in accordance with the Rules. **yes.**
 Cooling Test. Has the refrigerating machinery been examined under full working conditions, and found satisfactory.
 Dates of test. Density of Brine by hydrometer
 Temperatures (when the cargo chambers are cooled down to the required test temperatures) of delivery and return air at direct expansion or brine cooled batteries & outflow and return brine &
 atmosphere cooling water inlet and discharge & gas in condensers and evaporators
 the average temperature of the refrigerated chambers and the rise of temperature in these chambers upon the expiration of hours
 time after the machinery and cooling appliances have been shut off

SPARE GEAR.

Are the working parts of the machines, pumps and motors respectively, interchangeable. **yes.**
 Has the spare gear required by the Rules been supplied. **yes.**
 Additional Spare Gear Supplied: **None.**

The foregoing is a correct description of the Refrigerating Machinery.

For L. STERNE & COMPANY LIMITED.

Manufacturer.
 Marine Manager.

DESCRIPTION OF INSULATION.

	IN LOWER HOLD CHAMBERS.					IN 'TWEEN DECK CHAMBERS.				
	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.	Air Space.	Outer Lining.	Non-conducting Material.	Thickness of ditto.	Inner Lining.
Frame No. (Fore Peak)	A									
Frame No.	F									
Frame No.	A									
Frame No.	F									
Frame No.	A									
Frame No. (Boiler Room)	F									
Frame No. (Engine Room)	A									
Frame No.	F									
Frame No.	A									
Frame No.	F									
Frame No.	A									
Frame No. (After Peak)	F									
Sides										
Overheading										
Floors of Chambers										
Trunk Hatchways										
Thrust Recess, Sides and Top										
Tunnel Sides and Top										
Tunnel Recess, Front and Top										
Frames or Reverse Frames, Face										
Bulkhead Stiffeners, Top		Bottom								and Face
Ribband on Top of Decks										
Side Stringers, Top		Bottom								and Face
Web Frames, Sides										and Face
Brackets, Top		Bottom								and Face
Insulated Hatches, Main		Bilge								Manhole.
Hatchway Coamings, Main		Bilge								
Hold Pillars										
Masts		Ventilators								
Are insulated plugs fitted to provide easy access to bilge suction roses										tank, air, and sounding pipes
and manhole doors of tanks										heels of pillars.
Are insulated plugs fitted to ventilators										and side lights.
Is the insulation of the lower hold floor and tunnel top in way of the hatchways protected										if so, how.
Oil Storage Tanks, where adjacent to the insulated chambers, state what provision has been made for ventilating the air space between the insulation and the bulkhead plating										
and for draining the tank top										
Fireproof Insulation. Is the insulation and woodwork fireproof in way of bunkers or any surfaces exposed to excessive heat										Where
Cooling Pipes pass through watertight bulkheads or deck plating, are the fittings and packing of the stuffing boxes both watertight and fireproof										
Cargo Battens, Dimensions and spacing, sides										floors
fixed or portable										tunnel top
Are screens fitted over the brine grids at chamber sides										hinged or permanently fixed
Thermometer Tubes, No. and position in each chamber										
diameter										are they fitted in accordance with Section 3, Clause 8.
Protection of Pipes. Are all pipes, including air and sounding pipes, which pass through or into insulated chambers, well insulated										
Draining Arrangements. What provision is made for draining the inside of the chambers										
Where sluices, scupper pipes, and drain pipes are fitted are means provided for blanking them off										
What provision is made for draining the refrigerating machinery room										
brine return room										fan room
Are all air spaces behind insulation arranged to drain to the bilges, bilge wells, or gutterways of the respective chambers										water circulating pump room

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 8, Clause 11
 Are all wood linings tongued and grooved..... 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...... Minimum thickness..... Are they galvanised externally.....
 How are they arranged in the chambers.....
Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers.....
 The foregoing is a correct description of the Insulation and Appliances.

Builders.....

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery *Yes* and Insulation *No.*
 (If not, state date of approval)
 Is the Refrigerating Machinery and Appliances duplicate of a previous case. *No.* 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. *See body of report.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The refrigerating machinery of this vessel, has been built under special survey, in accordance with Rule requirements and the approved plans. The materials used, and the workmanship, were found to be good. Upon completion of installation on board the vessel, will be eligible, in my opinion, for record of LLOYDS R.M.C. (with date).

*8mm
6/11/52*

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	Ice melting capacity per 24 hours. Tons.	Is Refrigerating Machinery Electrically Driven?	INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.				No.	Capacity. Cubic ft.
<i>2.</i>	<i>6</i>	<i>FREON.</i>	<i>L. STERNE & Co. LD.</i>	<i>1952.</i>	<i>D. E.</i>	<i>17.2.</i>	<i>Yes.</i>	<i>TWO.</i>	<i>24,600.</i>
		<i>12.</i>	<i>CROWN/IRON WORKS. GLASGOW.</i>						

Fee *MACHY.* £ *21 : 17 : 6* Fee applied for, *11 NOV 1952*
 Travelling Expenses £ : : Received by me, 19.....
R. W. Skinner
 Surveyor to Lloyd's Register.

Committee's Minute.....
 Assigned *Deferred for completion*
 GLASGOW 11 NOV 1952
 TUES. 30 DEC 1952
 58859
 Lloyd's Register Foundation

7-1-53.
 Certificate to be sent to