

## Report on Refrigerating Machinery and Appliances.

Received at London Office MAY 1956

Date of writing Report 25-3-1956 When handed in at Local Office 28-3-1956 Port of London

No. in Reg. Book. Survey held at London Date: First Survey 20 January Last Survey 27 March 1956  
(Number of Visits 10)

on the Refrigerating Machinery and Appliances of the S.S. HILARY Tons Gross Net

Vessel built at By whom built Yard No. When built

Owners Port belonging to Voyage

Refrigerating Machinery made by J. P. Hall Ltd Machine Nos. 16990 When made 1956

Insulation fitted by When fitted System of Refrigeration F12

Method of cooling Cargo Chambers Insulating Material used

Number of Cargo Chambers insulated Total refrigerated cargo capacity cubic feet

## DESCRIPTION OF REFRIGERATING MACHINERY. Where placed

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

Total refrigeration or ice-melting capacity in tons per 24 hours 3.75 Are all the units connected to all the refrigerated chambers ✓

Compressors, driven direct or through single steam engine double reduction gearing. Compressors, single or double acting Single If multiple effect compression no

Are relief valves or safety discs fitted Yes No. of cylinders to each unit 3 Diameter of cylinders 4"

Diameter of piston rod trunk pin Length of stroke 3 1/2 No. of revolutions per minute 500

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 2" TOUR &amp; PINS

Breadth and thickness of crank webs 6 dia x 1 1/2 No. of sections in crank shaft one Revolutions of engines per minute 500

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 1 Cast iron or steel casings steel Cylindrical or rectangular cylindrical Are safety valves fitted

to casings yes No. of coils in each 36 Material of coils tubes of galvno Can each coil be readily shut off or disconnected no

Water Circulating Pumps, No. and size of pumps available ✓ how worked ✓ Gas Separators, No. of 1

Gas Evaporators, No. of ✓ 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 one Are there two separate systems, so that one may be in use while the other is being

cleared of snow yes No. of coils in each battery 4 Material of coils steel Can each coil be readily shut off or

disconnected yes Total cooling surface of battery coils 2050 sq ft Is a watertight tray fitted under each battery yes

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.

MADE AND PRINTED IN ENGLAND.



9 - MAY 1956

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 fed to the main and auxiliary condensers.

## HYDRAULIC AND OTHER TESTS.

DESCRIPTION.	Date of Test.	Working Pressure.	Hydraulic Test Pressure.	Air Test Pressure.	Stamped.	REMARKS.
Engine Cylinders (if tested)		11 sq in	11 sq in	11 sq in		
Gas Compressors	20.1.56	120	350	200	EMS	
Separators	28.3.56	120	350	200	EMS	
Drankcase	20.1.56	-	200	150	EMS	
Multiple Effect Receivers	13.3.56	15	100	-	EMS	
Condenser Coils and covers	3.2.56	120	350	200	EMS	
Evaporator Coils	17.2.56	120	350	200	EMS	
Evaporator Cooler	24.2.56	120	350	200	EMS	
Condenser Headers and Connections	29.2.56	120	350	200	EMS	
Condenser Casings 7 tubes	6.3.56	120	350	200	EMS	
Evaporator Casings						
NH <sub>3</sub> 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.

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. ✓

Has the spare gear required by the Rules been supplied. Yes

Additional Spare Gear Supplied:

no further spares with this machine, covered by those supplied for the 2 machines already installed.

The foregoing is a correct description of the Refrigerating Machinery.

MANUFACTURER.

## 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)	A									
Frame No. (Engine Room)	A									
Frame No.	F									
Frame No.	A									
Frame No.	F									
Frame No.	A									
Frame No.	F									
Frame No. (After Peak)	F									
Sides										
Overheating										
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										
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 heels of pillars.										
and manhole doors of tanks. Are insulated plugs fitted to ventilators cargo ports 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 tunnel top.										
fixed or portable. 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 water circulating pump room.										
Are all air spaces behind insulation arranged to drain to the bilges, bilge wells, or gutterways of the respective chambers.										

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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..... 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..... 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.....

General Remarks (State quality of workmanship, opinions as to class, &c.).....  
This refrigerating machine and its appliances has been constructed under special survey in conformity with the Sullip Rules Regulations and the Secretary letter. The scantlings and arrangements are in accordance with those shown on the approved plans. The materials and workmanship are good.  
In my opinion this refrigerating machine and its appliances will be eligible for the notation of LLOYDS RMC (with date) when the installation and testing have been satisfactorily carried out.  
This machine and its appliances are additional to the refrigerating machinery already installed.

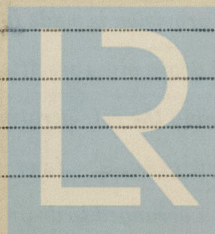
PARTICULARS TO BE ENTERED IN REGISTER BOOK.

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.
1	3	Herbertson	J. E. Hall	1956		3.75	NG		

Fee ..... £ 28 : 0 : 0 (Fee applied for, 28 MAR 1956)  
Travelling Expenses £ - : - : - (Received by me, 19.....) Surveyor to Lloyd's Register.

Committee's Minute.....

Assigned..... See dir 144421



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