

## REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office)

4 OCT 1943

Date of writing Report

19

When handed in at Local Office

Port of

No. in

Reg. Book. Survey held at

Date: First Survey

Last Survey

19

(No. of Visits)

on the Refrigerating Machinery and Appliances of the

Ripplingham Grange

Tons { Gross  
Net

Vessel built at

By whom built

Yard No.

When built

Owners

Port belonging to

Voyage

Refrigerating Machinery made by

Machine Nos.

When made

Insulation fitted by

When fitted

System of Refrigeration

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

No. of machines

Is each machine independent

Total refrigeration or ice-melting capacity in tons per 24 hours

Are all the units connected to all the refrigerated chambers

Compressors, driven direct or through <sup>single</sup> } reduction gearing. Compressors, single or double acting

If multiple effect compression

Are relief valves or safety discs fitted

No. of cylinders to each unit

Diameter of cylinders

Diameter of piston rod

Length of stroke

No. of revolutions per minute

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

Can the internal surfaces of the receivers be examined

What means are provided for cleansing their inner surfaces

Is there a drain arrangement fitted at the lowest part of each receiver

If made under survey

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

Cast iron or steel casings

Cylindrical or rectangular

Are safety valves fitted

to casings

No. of coils in each

Material of coils

Can each coil be readily shut off or disconnected

Water Circulating Pumps, No. and size of pumps available

how worked

Gas Separators, No. of

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

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

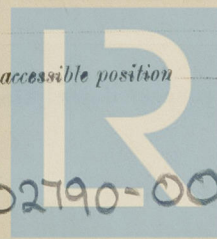
No. of brine sections in each chamber

Are the control valves situated in an easily accessible position

Can each section be readily shut off or disconnected

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

Im. 11.37.—T. (MADE IN ENGLAND.)



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Are thermometers fitted to the out-to- 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.
ENGINE CYLINDERS (IF TESTED)						
GAS COMPRESSORS						
SEPARATORS						
MULTIPLE EFFECT RECEIVERS						
CONDENSER COILS						
EVAPORATOR COILS						
CONDENSER HEADERS AND CONNECTIONS						
CONDENSER CASINGS						
EVAPORATOR CASINGS						
NH <sub>3</sub> CONDENSER, EVAPORATOR AND AIR COOLER COILS AFTER ERECTION IN PLACE						
PRIME 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 **YES**

Dates of test **23RD & 24TH SEP 43** Density of Brine **45°** by **TWADDELL** hydrometer

Temperatures (when the cargo chambers are cooled down to the required test temperatures) of delivery and return air at direct expansion on brine cooled batteries

**NO DELIVERY AIR THERMRS. RETURN AIR 7.5° F.** & , outflow and return brine **-1° F** & **3° F**

atmosphere **58° F** cooling water inlet and discharge **53° F** & **58° F** gas in condensers **78° F** and evaporators **-2° F**

the average temperature of the refrigerated chambers **7° F** and the rise of temperature in these chambers upon the expiration of **12** hours

time after the machinery and cooling appliances have been shut off **6 1/2° F.**

SPARE GEAR.

Are the working parts of the machines, pumps and motors respectively, interchangeable

Has the spare gear required by the Rules been supplied

Additional Spare Gear Supplied:

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.
BULKHEADS.										
FRAME No. (Fore Peak)	A									
FRAME No.	F									
FRAME No.	A									
FRAME No.	F									
FRAME No.	A									
FRAME No.	F									
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.	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 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.										



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.)

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.

Fee £ : : { Fee applied for, 19  
Travelling Expenses £ : : { Received by me, 19

Surveyor to Lloyd's Register.

Committee's Minute

TUES. 5 OCT 1943

Assigned

see minute  
on H. Rmc Rpt.



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