

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

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No. in

Reg. Book. Survey held at Southampton Date: First Survey 6 Aug Last Survey 22 Aug 1924

(No. of Visits)

on the Refrigerating Machinery and Appliances of the 8/7 Franconia

Tons { Gross
Net

Vessel built at

Glasgow

By whom built

Yard No.

When built 1923

Owners

Cunard S.S. Co. Ltd

Port belonging to

Liverpool

Voyage

Liverpool

Refrigerating Machinery made by

Liverpool Refrigeration Co. Ltd

Machine No.

When made

Insulation fitted by

When fitted

System of Refrigeration

Method of cooling Cargo Chambers

Insulating Material used Compound flat cork

Number of Cargo Chambers insulated

6 Deck No 1 & 3 holds

Total refrigerated cargo capacity

cubic feet.

DESCRIPTION OF REFRIGERATING MACHINERY.

Where placed To be fitted on Deck 7 side in way of 7th hold

Refrigerating Units, No. of

Single, double, or triple

Cubic feet of air delivered per hour

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

single
double

reduction gearing.

Compressors, single or double acting

No. of cylinders

Diameter of cylinders

Diameter of piston rod

Length of stroke

No. of strokes per minute

Motive Power supplied from

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

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

Electric Motors, type

No. of

Rated

Kilowatts

Volts at

revolutions per minute

Diameter of motor shafts at bearings

Reduction Gearing, maximum shaft horse power at 1st pinion

Revolutions per minute at full power at 1st pinion

2nd pinion

1st reduction wheel

main shaft

Pitch circle diameter, 1st pinion

2nd pinion

1st reduction wheel

Main wheel

Width of face, 1st reduction wheel

Main wheel

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings, 1st pinion

2nd pinion

1st reduction wheel

Main wheel

Flexible pinion shafts, diameter 1st

2nd

Pinion shafts, diameter at bearings, External, 1st

2nd

Internal, 1st

2nd

Diameter at bottom of teeth of pinion, 1st

2nd

Wheel shafts, diameter at bearings, 1st

Main

Diameter at wheel shroud, 1st

Main

Gas Condensers, No. of

Cast iron or steel casings

Cylindrical or rectangular

No. of coils in each

Material of coils

Can each coil be readily shut off or disconnected

Water Circulating Pumps, No. and size of

how worked

Gas Separators, No. of

Gas Evaporators, No. of

Cast iron or steel casings

Pressure or gravity type

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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Where the tanks are closed are they ventilated as per Rule

Steam Condensing Plant. *State what provision is made for condensing steam, in terms of Section 4, Clauses 13 and 14.*

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						
" CONDENSER COILS						
" EVAPORATOR COILS						
" CONDENSER HEADERS AND CONNECTIONS						
" CONDENSER CASINGS						
" EVAPORATOR CASINGS						
NH ₃ CONDENSER, EVAPORATOR AND AIR COOLER COILS AFTER ERECTION IN PLACE						
BRINE PIPING AFTER ERECTION IN PLACE...						

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 air at the snow box and of the return air _____ & _____

or, 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.

ARTICLES REQUIRED BY RULES AND NOT YET SUPPLIED

The foregoing is a correct description of the Refrigerating Machinery.

Manufacturer.

DESCRIPTION OF INSULATION.

[illegible]

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

Coal Bunker Bulkheads, and Brine Outflow and Return Pipes *passing through coal bunkers. Is the insulation, so far as practicable, fireproof*

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. *Where the chambers are situated below the load water line, 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, inside dimensions, main and branch

Are they permanently fixed or collapsible, or portable State position in chambers

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 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

Is the Refrigerating Machinery and Appliances duplicate of a previous case Is 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

Work commenced in connection with Insulating No 1 + 3 Holds on G. Deck.
Now done. Machinery House on F Deck on star. side abreast No 2 Hatch now made
with companion + ladder from E. Deck. Pitch pine beds for machines + evaporators fitted.
Pump room on G. Deck with W.T. trunk + ladder to engine room. Sea Cocks for
Circulating fitted to ships side + controlled from Pump Room.

General Remarks (State quality of workmanship, opinions as to class, &c.)

No 1 Hold on G. Deck. Grounds + Grid bolts fitted for overhauling. Grounds
+ distance pieces fitted in way of Ships sides + bulkheads. 1070 of
under deck Grounds fitted

No 3 Hold G. Deck. Insulation on ships side partly done.

Grounds fitted + 2 slabs of cork each 4" thick fitted covering
slab of 2" partly fitted. Bulkheads insulation partly fitted
+ fitting insulation in overhauling. Underside of deck, grounds
fitted.

It is stated, that nothing more will be done to this until
the vessel is laid up for permanent repairs.

For the Information of the Committee

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	POWER.		INSULATED CARGO CHAMBERS.	
No. and whether Single or Duplex.	Makers.	Date of Construction.	System.	Type.		Cubic feet of air delivered per hour.	Ice melting capacity per 24 hours. Tons.	No.	Capacity.

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

G. A. Dyden Toyns
Surveyor to Lloyd's Register.

Committee's Minute

Assigned see List up
No 2488



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