

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office)

Date of writing Report

19

When handed in at Local Office

No. in

Reg. Book. Survey held at

Dartford

Date: First Survey

Port of London

and Last Survey 16 August 1929

(No. of Visits)

ONE

on the Refrigerating Machinery and Appliances of the

Tons

Gross

Net

Vessel built at

By whom built

Wiltons S.B.C.

Yard No.

318

When built

1929

Owners

Holland Amerika Line

Port belonging to

Voyage

Refrigerating Machinery made by

J. E. Hall Ltd.

Machine No.

8043

When made

1929

Insulation fitted by

When fitted

System of Refrigeration CO₂ + Brine

Method of cooling Cargo Chambers

Insulating Material used

155470.

Number of Cargo Chambers insulated

15-19

Total refrigerated cargo capacity

142,000 cubic feet.

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed

Refrigerating MACHINES

Units, No. of 1 additional Single, double, or triple

Single

Cubic feet of air delivered per hour

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

33 tons

Are all the units connected to all the refrigerated chambers.

Compressors, driven direct or through

single reduction gearing

Compressors, single or double acting

double acting

No. of cylinders one

Diameter of cylinders

4 1/8"

Diameter of piston rod

2"

Length of stroke

12"

No. of strokes per minute 300

Motive Power supplied from

Electric motor, direct coupled

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

5 1/2"

Breadth and thickness of crank webs

8" x 3 1/2"

No. of sections in crank shaft

one

Revolutions of engines per minute

150

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

Electric Motors, type

No. of

one

Rated

80 H.P.

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.

Where the tanks are not closed is the compartment in which they are situated efficiently ventilated

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

HYDRAULIC AND OTHER TESTS.

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.

Are the machines in accordance with Section 4, Clause 2 of the Rules

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

ARTICLES REQUIRED BY RULES AND NOT YET SUPPLIED

The foregoing is a correct description of the Refrigerating Machinery.

Manufacturer.

Chlorob

DESCRIPTION OF INSULATION.

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	

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* _____

fized or portable _____ *Are screens fitted over the brine grids at chamber sides* _____ *hinged or permanently fized* _____

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.

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

(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.)

The refrigerating machine has been constructed under special survey and the materials and workmanship are good.

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 otherwise.	Makers.	Date of Construction.	System.	Type.		Cubic feet of air delivered per hour.	Ice melting capacity per 24 hours. Tons.	No.	Capacity.
	J. & E. Hall Ltd.	1929	Carb. Amby	-			33		

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

D. Gemmell.
Surveyor to Lloyd's Register.

Committee's Minute

Assigned

See other rept. No.

Amby 34716



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Foundation