

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office)

24 OCT 1929

Date of writing Report

1929

When handed in at Local Office

Port of London

No. in

Reg. Book. Survey held at

Date: First Survey

24 Apr 1929

Last Survey

23 May 1929

1929

(No. of Visits)

Tons

Gross

Net

on the Refrigerating Machinery and Appliances of the

Vessel built at Rotterdam

By whom built Wilton's Engineering & Shipway Co.

Yard No. 318

When built 1929

Owners

Holland Amerika Line Port belonging to

Voyage

Refrigerating Machinery made by

J. E. Hall Ltd.

Machine No.

4920

4921

4922

When made 1929

Insulation fitted by

When fitted

System of Refrigeration CO₂ + Brine

Method of cooling Cargo Chambers

Insulating Material used

Number of Cargo Chambers insulated

15/19

Total refrigerated cargo capacity 155470 cubic feet.

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed

Refrigerating Units, No. of

3

Single, double, or triple

Single

Cubic feet of air delivered per hour

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

99

Are all the units connected to all the refrigerated chambers

Compressors, driven direct

through

reduction gearing

Compressors, single or double acting

double

No. of cylinders 1 per mach.

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 motors, 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" + 6" (flywheel end) 5 1/2" pins

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

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.

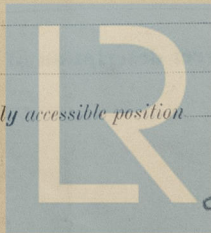
TED CARGO

MBERS.

Capacity.

Register.

Im 9.8.1-T.



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004541-004542-0195 1/2

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 _____

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)	29-4-29					
GAS COMPRESSORS	8-5-29	1000 lbs. a	3000 lbs. a	1500 lbs. a	Pl.	
6 SEPARATORS	23-5-29	do.	do.	do.	Pl.	
6 LIQUID RECEIVERS.	24-4-29	do.	do.	do.	Pl.	
6 CONDENSER COILS	3-5-29	do.	do.	do.	Pl.	
EVAPORATOR COILS						
CONDENSER HEADERS AND CONNECTIONS						
CONDENSER CASINGS						
EVAPORATOR CASINGS						
NH, 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 SUPPLIED AS PER RULE.

ADDITIONAL SPARE GEAR SUPPLIED.

1 set spring rings for each compressor
3 pistons and rods for compressor.
2 bolts & nuts for big end of connecting rod.
2 do. do. crosshead
2 do. do. main bearing
18 lubricator gland leather
18 do. piston do.
1 set of 2 leather moulds.
2 sets of copper joint rings for each compressor
2 sets of special metal packing rings for each compressor
1 liner for compressor

3 sets of 4 valves, seats & springs for compressor
18 addl. valve springs
1-1/8" CO₂ valve & 3 spare pipes
2 springs for CO₂ safety valve
1 hand pump for lubricator
12 safety discs
1 fitted box for compressor joints.

ARTICLES REQUIRED BY RULES AND NOT YET SUPPLIED

The foregoing is a correct description of the Refrigerating Machinery.

W. & E. HALL, LTD
Chichestre
Manufacturers.

DESCRIPTION OF INSULATION.

IN LOWER HOLD CHAMBERS.						IN 'TWEEN DECK CHAMBERS.					
BULKHEADS.		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									
		{ A									
	FRAME No.	{ F									
		{ A									
	FRAME No.	{ F									
		{ A									
	FRAME No. (Boiler Room)	{ F									
		{ A									
FRAME No. (Engine Room)	A										
FRAME No.	{ F										
	{ A										
FRAME No.	{ F										
	{ A										
FRAME No.	{ F										
	{ 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

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

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 machines have 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 Duplex.	Makers.	Date of Construction.	System.	Type.		Cubic feet of air delivered per hour.	Ice melting capacity per 24 hours. Tons.	No.	Capacity.
3 Single	J. & E. Hall Ltd.	1929	Carl.	Aulby Hall.			99	15	142,000

Fee £ 6.0.0 Fee applied for, 19

Travelling Expenses £ 15.11 Received by me per Recd. 23/1/30 J. H. W. Jc 1

Committee's Minute FRI. 25 OCT 1929

Assigned See other rpt. No. Amb. 34716

D. Gemmell.
Surveyor to Lloyd's Register.



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Foundation