

## REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office)

21 SEP 1942

26 OCT 1942

Date of writing Report

21 SEP 1942

When handed in at Local Office

21 SEP 1942

Port of London

No. in

Reg. Book. Survey held at London

Date: First Survey 19<sup>th</sup> JuneLast Survey 15<sup>th</sup> Sept. 1942

(No. of Visits)

12

on the Refrigerating Machinery and Appliances of the

Tons { Gross  
Net

Vessel built at Port Glasgow

By whom built Lithgows Ltd.

Yard No. 980

When built 1942

Owners

Port belonging to

Voyage

Refrigerating Machinery made by

J. &amp; E. Hall Ltd.

Machine Nos.

11009  
11010

When made 1942

Insulation fitted by

When fitted

System of Refrigeration NH<sub>3</sub> + Air

Method of cooling Cargo Chambers

Air Cooled

Insulating Material used

Number of Cargo Chambers insulated

4

Total refrigerated cargo capacity

224,000

cubic feet.

## DESCRIPTION OF REFRIGERATING MACHINERY.

Where placed 2<sup>nd</sup> dk. Aft main eng. rm.

Refrigerating Units, No. of

2

No. of machines

2

Is each machine independent

yes

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

72

Are all the units connected to all the refrigerated chambers

yes

Compressors, driven ~~direct~~ throughVee belting  
reduction gearing

Compressors, single or double acting

single

If multiple effect compression

✓

Are relief valves or safety discs fitted

yes

No. of cylinders to each unit

2

Diameter of cylinders

8"

Diameter of piston rod

trunk pistons

Length of stroke

8"

No. of revolutions per minute

400

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

2

Diameter

HP = 4", LP = 11"

Length of stroke

5"

Working pressure

180 lb. □"

Diameter of crank shaft journals and pins

NH<sub>3</sub> compr 4 7/8" jls. - 4 1/2" pins  
Steam engine 3 + 2 1/4" jls - 2 3/4" pins

Breadth and thickness of crank webs

NH<sub>3</sub> compr 4 1/8" x 5 7/8" oval  
Steam engines 3 1/2" x 2" + 1 1/8"

No. of sections in crank shafts

one

Revolutions of engines per minute

700/350

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

2

Cast iron or steel casings

Cast iron

Cylindrical or rectangular

cylindrical

Are safety valves fitted

o casings

yes

No. of coils in each

9

Material of coils

S.D. Steel 1" x 1 1/2"

Can each coil be readily shut off or disconnected

yes

Water Circulating Pumps, No. and size of pumps available

1 horiz. 4" centr. how worked elec. - direct

Gas Separators, No. of 2 dely. 1 suet.

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

4

Are there two separate systems, so that one may be in use while the other is being

leared of snow

no

No. of coils in each battery

6

Material of coils

S.D. Steel 1 1/2" bore

Can each coil be readily shut off or

disconnected

yes

Total cooling surface of battery coils

10,000 Sq. ft.

Is a watertight tray fitted under each battery

yes

Air Circulating Fans, Total No. of

4 { 2 - 34 1/2" each of 2 - 45" each of

19,000  
28,000

cubic feet capacity, at

1320/920  
1325/925

revolutions per minute

Steam or electrically driven

electrically

Where spare fans are supplied are these fitted in position ready for coupling up

no

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 sections in each chamber

2 Coolers each with 6 sections - N° 2 Trunk + Hold combined.

No. of sections in each chamber

2

"

"

"

"

6

"

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N° 4

"

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Can each section be readily shut off or disconnected

yes

Are the control valves situated in an easily accessible position

yes

002485-002489-0060

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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.) The refrigerating machinery was constructed under special survey and the materials and workmanship were good and it will be eligible for the notation + Lloyds R.M.C. (with date) when the installation and testing have been satisfactorily completed.

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	Ice melting capacity per 24 hours.	Is Refrigerating Machinery Electrically Driven?	INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.				No.	Capacity.
2	4	Ammonia	J. E. Hall & Co.	1942	W Air	Tons.		4	244,000

Fee £ 14 : 0 : 0 } Fee applied for, 21/9/1942  
Travelling Expenses £ : : } Received by me, 19

D. Gemmell,  
Surveyor to Lloyd's Register.

Committee's Minute

FRI. 30 OCT 1942

Assigned.

See minute on Lrk 22042



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