

Report on Refrigerating Machinery and Appliances.

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2-6-48

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23-6-

1948

(Number of Visits

5)

on the Refrigerating Machinery and Appliances of the S.S. ALOUETTE

Tons { Gross.
Net.

Vessel built at

By whom built

Yard No.

When built

Owners

Gen. Shin. Nav. Co. Ltd.

Port belonging to

Voyage

Refrigerating Machinery made by

J.E. Hall, Ltd. Balford

Machine Nos.

13160

13161

When made

1948

Insulation fitted by

When fitted

System of Refrigeration

CH₂CL
Air

Method of cooling Cargo Chambers

Air

Insulating Material used

Number of Cargo Chambers insulated

1

Total refrigerated cargo capacity

5100

cubic feet

DESCRIPTION OF REFRIGERATING MACHINERY.

Where placed

Main deck

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

5.1 tons

Are all the units connected to all the refrigerated chambers

Yes

Compressors, driven ~~direct~~ or through

belt drive

Compressors, single or double acting

Single

If multiple effect compression

No

Are relief valves or safety discs fitted

pressure cut out

No. of cylinders to each unit

2

Diameter of cylinders

4"

Diameter of piston rod

thunk piston

Length of stroke

3 1/2"

No. of revolutions per minute

500

Motive Power supplied from

electric motor through Vee belt drive

(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

2"

Breadth and thickness of crank webs

6" dia x 1 1/2"

No. of sections in crank shaft

one

Revolutions of engine per minute

500

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:—Have they been made under survey

State No. of Report or Certificate

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

Can the internal surfaces of the receivers be examined and cleaned

Is a drain fitted at the lowest part of each receiver

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

Enclosed ventilated

No. of

2

Rated

6 BHP

Kilowatts

220

Volts

at

1500

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

steel

Cylindrical or rectangular

Cylindrical

Are safety valves fitted

to casings

no

No. of tubes

36

Material of coils

Yorcalho

Can each

be readily shut off or disconnected

no

Water Circulating Pumps, No. and size of pumps available

1-1 1/2 cent

how worked

electrically

Gas Separators, No. of

2

Gas Evaporators, No. of

See air cooler below

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

2

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

no

No. of coils in each battery

4

Material of coils

steel 10 d. galvanized tube

Can each coil be readily shut off or disconnected

-

Total cooling surface of battery coils

202 sq ft

Is a watertight tray fitted under each battery

yes

Air Circulating Fans, Total No. of

2-16"

each of

1800

cubic feet capacity, at

2500

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 brine sections in each chamber

8 total - (4 per cooler)

Can each section be readily shut off or disconnected

no

Are the control valves situated in an easily accessible position

yes



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Automatic Control by Thermostat

Are thermometers fitted to the outflow and to each return ~~line~~ pipe no 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) ...	4-6-48	110 □"	110 □"	110 □"		
Gas Compressors ...	2-6-48	90	300	200	EMS	
Separators ...	4-6-48	90	300	200	EMS	
CRANKCASES	2-6-48	15 lb	300	200	EMS	
Multiple Effect Receivers ...	2-6-48	15 lb	300	200	EMS	
Condenser Coils and Cases ...	11-6-48	15/20	60	-	EMS	
D. Exp. AIR COOLERS	12-6-48	90	300	200	EMS	
Evaporator Coils ...						
Condenser Headers and Connections						
Condenser Casings 2 tubes ...	4-6-48	90	350	200	EMS	
Evaporator Casings ...						
NH ₃ Condenser, Evaporator and Air Cooler Coils after erection in place						
Brine Piping after erection in place...						

Have important steel castings and forgings been tested in accordance with the Rules.....

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 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 working parts of the machines, pumps and motors respectively, interchangeable... Yes

Has the spare gear required by the Rules been supplied... Yes

Additional Spare Gear Supplied:—

1 safety head assembly 1 set thermostat regulator valve spares 1 set tools
 1 piston & rings complete 1 bell & bellows for thermostat 2 sets of springs
 1 gland seal & 3 rings 3 sets bellows for Comps 1 set radial measuring disc
 1 set gland packing gland type valves 1-2 lbs tin Calcium 1 charging pipe
 1 impeller & spindles for C.W. pumps 1-10 ft length copper liquid pipe with 2 connections
 1 set bearings for each pump 1 10 ft " " " " 2 "
 1 1/4 inch x 1/2 inch flange for machine connections.

Electrical Spares

Armature

Set of field & interpole coils 1 } for

Set of bearings 1 } motor

For fans
 1 spare motor

1 do fan motor

The foregoing is a correct description of the Refrigerating Machinery.

J. & E. HALL, LTD.

J. H. Halls

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.
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

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