

## Report on Refrigerating Machinery and Appliances.

Received at London Office

Date of writing Report July 14, 1947 When handed in at Local Office July 23 1947 Port of Baltimore, Md.

No. in Reg. Book. Survey held at Baltimore, Md. Date: First Survey April 21st, Last Survey April 23rd 1947  
81465 (Number of Visits 3)on the Refrigerating Machinery and Appliances of the S.S. "Nikobar" (ex "Rushville Victory") Tons { Gross 7604  
Net 4549

Vessel built at Baltimore, Md. By whom built Bethlehem Fairfield Shipyard, Inc. Yard No. 2965 When built 1945

Owners A/S Det. Ostasiatiska Kompagni Port belonging to Copenhagen Voyage -

Refrigerating Machinery made by Doyle &amp; Roth Corp. Machine Nos. - When made 1945

Insulation fitted by Bethlehem Fairfield Shipyard, Inc. When fitted 1945 System of Refrigeration Freon 12

Method of cooling Cargo Chambers Direct-Expansion Coils Insulating Material used Glass wool blankets &amp; Cork Board

Number of Cargo Chambers insulated Five (5) Total refrigerated cargo capacity 14720 cubic feet

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed Freon 12, Unit 1 Engine Room, 4, No. 2  
Tween Deck (P.S.)

Refrigerating Units, No. of Five (5) No. of machines Five (5) Is each machine independent Yes

Total refrigeration or ice-melting capacity in tons per 24 hours 75 tons Are all the units connected to all the refrigerated chambers Yes

Compressors, driven direct or through Motor Belt Drive Compressors, single or double acting Single If multiple effect compression No

Are relief valves fitted relief valves No. of cylinders to each unit 2 units 3 cylinders 3 cylinder units 3 1/4" bore  
3 cylinder units 3" 2 cylinder units 2" 4" boreDiameter of piston rod Length of stroke 2" 4" No. of revolutions per minute 3 cylinder units 600 RPM  
2 " 750 RPM

Motive Power supplied from Two (2) 3) K.W. Turbine Generators - Direct Current

(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

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 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 Direct Current No. of Five (5) Rated 7 1/2 and 10 H.P. Kilowatts 240 Volts

at 1200 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 5 Steel pipe shell: Tube sheet 1" steel 35 sq. ft. Marine type: Water heads cast iron  
Cast iron or steel casings 312" wall Cylindrical or rectangular Cylindrical Are safety valves fitted  
to casings Yes No. of coils in each 44/5/8" Material of coils Cupro Nickel Can each coil be readily shut off or disconnectedWater Circulating Pumps, No. and size of pumps available Two 10" x 11" x 12" how worked Steam Gas Separator No. of 5-10x42" Heads 5/16" thick  
Receivers 312" Wall Steel P&D

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 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

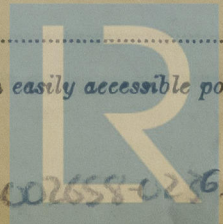
Direct expansion Cooling System, closed or open Cooling Coils Are the pipes and tanks galvanised on the inside No

No. of sections in each chamber Four (4) Sets in each Chamber

Can each section be readily shut off or disconnected Yes Are the control valves situated in an easily accessible position Yes

NOTE.-THE WORDS WHICH DO NOT APPLY SHOULD BE DELETED.

Im. 7/44. (PRINTED IN U.S.A.)



© 2020

Lloyd's Register  
Foundation.

002653-002655-02261

See alterations 570.150  
Amended out later (9496)



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.....  
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....**Yes**  
Is the ~~chamber~~ **freon 12, units installed**

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 . . . . .						
„ Multiple Effect Receivers . . . . .						
„ Condenser Coils . . . . .						
„ Evaporator Coils . . . . .						
„ Condenser Headers & Connections . . . . .						
„ Condenser Casings . . . . .						
„ Evaporator Casings . . . . .						
NH <sub>3</sub> 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 **To American Bureau of Shipping**

**Cooling Test.** Has the refrigerating machinery been examined under full working conditions, and found satisfactory.....**Yes**

Dates of test **April 22nd, 1947** 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.....**64° F**.....cooling water inlet and discharge.....**55° F**.....&.....**60° F**.....gas in condensers.....and evaporators.....

the average temperature of the refrigerated chambers.....**4° F**.....and the rise of temperature in these chambers upon the expiration of.....**12**.....hours

time after the machinery and cooling appliances have been shut off.....**9 1/2° F**

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:—.....**No extra supplied**

The foregoing is a correct description of the Refrigerating Machinery.

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. 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. F										
Frame No. A										
Frame No. F										
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										
Ribband on Top of Decks										
Side Stringers, Top										
Web Frames, Sides										
Brackets, Top										
Insulated Hatches, Main										
Hatchway Coamings, Main										
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.....										
<b>Oil Storage Tanks</b> , 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.....										
<b>Fireproof Insulation.</b> Is the insulation and woodwork fireproof in way of bunkers or any surfaces exposed to excessive heat.....Where										
<b>Cooling Pipes</b> pass through watertight bulkheads or deck plating, are the fittings and packing of the stuffing boxes both watertight and fireproof.....										
<b>Cargo Battens</b> , Dimensions and spacing, sides.....floors.....as required.....tunnel top.....										
fixed or portable.....Are screens fitted over the <del>batts</del> grids at chamber sides.....No.....hinged or permanently fixed.....										
<b>Thermometer Tubes</b> , No. and position in each chamber.....One thermometer bulb & 5" dial indicator with 20" Capillary.....										
<del>Thermometer</del> The thermometer bulb centre of chamber.....are they fitted in accordance with Section 3, Clause 8..... <b>Yes</b> .....										
<b>Protection of Pipes.</b> Are all pipes, including air and sounding pipes, which pass through or into insulated chambers, well insulated.....										
<b>Draining Arrangements.</b> What provision is made for draining the inside of the chambers.....remote control to deck overboard drain.....										
Where sluices, scupper pipes, and drain pipes are fitted are means provided for blanking them off..... <b>Yes</b> .....										
What provision is made for draining the refrigerating machinery room..... <del>Watertight trays fitted under units</del> .....										
brine return room.....fan room.....water circulating pump room.....gutterways.....										
Are all air spaces behind insulation arranged to drain to the bilges, bilge wells, or gutterways of the respective chambers.....										

0236 2



Sounding Pipes, No. and position in each chamber situated below the loadwater line..... Not Fitted  
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..... Yes..... 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..... Used in chamber floors only  
Air Trunkways in Chambers. Are the arrangements satisfactory and in accordance with the approved plans..... Not Fitted  
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 1 1/4" - Minimum thickness 1/8" - Are they galvanised externally..... No  
How are they arranged in the chambers..... At sides and deck head of chambers  
Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers..... Note gas from compressors  
The foregoing is a correct description of the Insulation and Appliances.  
Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery..... Yes..... and Insulation..... Yes  
(If not, state date of approval)  
Is the Refrigerating Machinery and Appliances duplicate of a previous case..... No..... 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..... Complete

General Remarks (State quality of workmanship, opinions as to class, &c.)..... The refrigeration machinery and the insulation of the chambers of this vessel has been built and installed under the supervision of the American Bureau of Shipping, and, as far as now seen, appears to be of good and sound construction and carefully installed. The machinery and insulation has been examined and found in good order and was further examined while subject to working conditions during a six hour cooling down period of chambers and found satisfactory. It is the opinion of the undersigned that the refrigeration installation of this vessel is suitable to be classed with the Society with record of R.M.C. 4,47

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	Freon 12	Doyle & Roth Corp.	1945	Direct Expansion	Tons. -	Yes	2	2710
5	12		New York		Glass wool blanket	20		5	14,720
					Cork board				

Fee ..... \$ \$150.00 { Fee applied for, 11 July 19 47  
Travelling Expenses \$ : 1.75 { Received by me, 19 July 19 47  
Surveyor to Lloyd's Register.

Committee's Minute.....

Assigned LLOYD'S R.M.C. - 4,47.