

Report on Refrigerating Machinery and Appliances.

Received at London Office 25 MAY 1956

Date of writing Report 9-4-1956 When handed in at Local Office 9-4-1956 Port of Groningen

No. in Reg. Book. Survey held at Markenshoek Date: First Survey 12-12-1955 Last Survey 16-3-1956

(Number of Visits 15)

on the Refrigerating Machinery and Appliances of the MR. HOLMGREN Tons (Gross 484.62 Net 201.48)

Vessel built at Markenshoek By whom built Bodenscheepwerf Yard No. 415 When built 1956

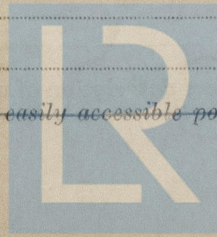
Owners Holm Shipping Co. Bda Port belonging to Wellington Voyage —Refrigerating Machinery made by Highfoot Ref. Co. Ltd. Machine Nos. E 31859/160 When made 1956Insulation fitted by Messrs. de Boer When fitted 1956 System of Refrigeration Direct expansionMethod of cooling Cargo Chambers dry air cooling Insulating Material used carb.Number of Cargo Chambers insulated one Total refrigerated cargo capacity 6000 cubic feetDESCRIPTION OF REFRIGERATING MACHINERY. Where placed deck house midshipsRefrigerating Units, No. of 2 No. of machines 2 Is each machine independent yesTotal refrigeration or ice-melting capacity in tons per 24 hours 48 Are all the units connected to all the refrigerated chambers yesCompressors, driven direct through V-belts Compressors, single or double acting single If multiple effect compression noAre relief valves or safety discs fitted yes No. of cylinders to each unit 2 Diameter of cylinders 3 1/4"Diameter of piston rod H-shape Length of stroke 3 3/4" No. of revolutions per minute 370Motive Power supplied from 2 generators @ 40 kW, 10 20 kW, 10 16.5 kW.

(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 Cons 745 g. No. of 2 Rated 3.7 Kilowatts 220 Voltsat 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 cast steel Cylindrical or rectangular cylindrical Are safety valves fittedto casings yes No. of coils in each — Material of coils brass Can each coil be readily shut off or disconnected yesWater Circulating Pumps, No. and size of pumps available 10 1 1/2" how worked electric Gas Separators, No. of —Gas Evaporators, No. of — Cast iron or steel casings brass pump space Pressure or gravity type — If pressure type, are safetyvalves 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 beingcleared of snow yes No. of coils in each battery 60 Material of coils steel Can each coil be readily shut off ordisconnected yes Total cooling surface of battery coils 645.8 sq ft Is a watertight tray fitted under each battery yesAir Circulating Fans, Total No. of 2 each of 1765 7/8 cubic feet capacity, at 1550 revolutions per minuteSteam or electrically driven electrically Where spare fans are supplied are these fitted in position ready for coupling up yes~~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.

(MADE AND PRINTED IN ENGLAND.)



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Are thermometers fitted to the outflow and to each return brine pipe. yes Where the tanks are closed are they ventilated as per Rule. yes
Where the tanks are not closed is the compartment in which they are situated efficiently ventilated. yes
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 exhaust steam led to the main and auxiliary condensers. yes

HYDRAULIC AND OTHER TESTS.

DESCRIPTION.	Date of Test.	Working Pressure.	Hydraulic Test Pressure.	Air Test Pressure.	Stamped.	REMARKS.
Engine Cylinders (if tested) ...						
Gas Compressors ...	18.10.55		300 lbf	200 lbf	JSP	
„ Separators ...						
„ Multiple Effect Receivers ...	2-1-56		25 lbf	14.5 lbf	JSP	
„ Condenser Coils ...	18.10.55		350 lbf	200 lbf	JSP	
„ Evaporator Coils ...						
„ Condenser Headers and Connections ...						
„ Condenser Casings ...						
„ 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 yes
Cooling Test. Has the refrigerating machinery been examined under full working conditions, and found satisfactory yes
Dates of test. 15/16-3-56 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: —

The foregoing is a correct description of the Refrigerating Machinery.

RODWEY'S SHEEPSWERYEN N.Y.

J. M. Rodwey

Manufacturer.

DESCRIPTION OF INSULATION.

25 MAY 1956

25 MAY 1966

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					timber					
Frame No. 28 { F			cork	150 mm	2819 mm					
	A									
Frame No. 44 { F			cork	150 mm	2819 mm					
	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 ...			cork	180 mm	2819 mm					
Overheading ...			"	"	"					
Floors of Chambers ...			cork	150 mm						
			concrete	100 mm						
Trunk Hatchways ...								cork	200 mm	timber 1x19 mm
Thrust Recess, Sides and Top										
Tunnel Sides and Top										
Tunnel Recess, Front and Top										

Frames or Reverse Frames, Face Δ 127 x 75 x 8
Bulkhead/Stiffeners, Top 100 x 75 x 8 Bottom — and Face —
Ribband on Top of Decks —
Side Stringers, Top — Bottom — and Face —
Web Frames, Sides frame 31839 - 400 x 9 and Face flange 200 x 13
Brackets, Top 355 x 255 x 7 Bottom — and Face —
Insulated Hatches, Main Macgregor Bilge 25 cm wood Manhole 25 cm wood
Hatchway Coamings, Main 450 x 10 Bilge —
Hold Pillars —
Masts — Ventilators —
Are insulated plugs fitted to provide easy access to bilge suction roses yes tank, air, and sounding pipes yes heels of pillars —
and manhole doors of tanks yes Are insulated plugs fitted to ventilators yes cargo ports — and side lights —
Is the insulation of the lower hold floor and tunnel top in way of the hatchways protected yes 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 all wood floors 50 x 25 galij tunnel top —
fixed or portable portable Are screens fitted over the brine grids at chamber sides — hinged or permanently fixed —
Thermometer Tubes, No. and position in each chamber 4, in each corner of chamber
diameter 2 1/2" are they fitted in accordance with Section 3, Clause 8 yes
Protection of Pipes. Are all pipes, including air and sounding pipes, which pass through or into insulated chambers, well insulated yes
Draining Arrangements. What provision is made for draining the inside of the chambers 2 drainpipes to approved plan
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 *one on each side of*
Diameter *1 1/2"* 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 *yes*
How is the expanded metal secured in place *-*
How are the cork slabs secured to the steel structure of the vessel *bitumen*
Air Trunkways in Chambers. Are the arrangements satisfactory and in accordance with the approved plans *yes*
Are they permanently fixed or collapsible, or portable *permanently*
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 *2 1/2 mm* Are they galvanised externally *yes*
How are they arranged in the chambers *-*
Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers *circulation of ambient air over air cooling battery*
The foregoing is a correct description of the Insulation and Appliances.

RODNEY & CO. SHEEPSWYCH N.B.

R. Rodwell

Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery *17.11.55* and Insulation *17.11.55*
(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 *-*

General Remarks (State quality of workmanship, opinions as to class, &c.)

This installation was constructed and fitted under special survey in accordance with the approved plans, Society's Rules and Surveyor's letter. The workmanship was found good. The machinery has been tested under full working conditions and found working satisfactorily. An insulation test was held to satisfaction. In my opinion the machinery merits the approval of the Committee and be recorded in the Society's Register Book + Lloyd's RMC 3-56.

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.
<i>2</i>	<i>(2)</i>	<i>diffusion</i>	<i>Highport</i>	<i>1956</i>	<i>drilled cork slabs</i>	<i>48</i>	<i>yes</i>	<i>1</i>	<i>6000</i>
		<i>diffusion</i>	<i>Ref. Co. Ltd</i>						

Fee *£250.-* (Fee applied for *23.5-1956*)
Travelling Expenses *£74.-* (Received by me *19*)

R. Rodwell
Surveyor to Lloyd's Register.

Committee's Minute *TUESDAY 24 JULY 1956*

Assigned *+ Lloyd's RMC 3.56*

*to maintain temp. 30°F with sea temp
86°F maximum.*

CERTIFICATE WRITTEN.



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