



E. M. C. No. 51912

No. 13308

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office)

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Date of writing Report 31 Oct 1934 When handed in at Local Office

Port of Amsterdam

No. in

Reg. Book.

Survey held at Amsterdam

Date: First Survey 24 April

Last Survey 23 Oct.

1934

(No. of Visits 14)

on the Refrigerating Machinery and Appliances of the Tonn. Ser. M.V. "BLOEMFONTEIN" Tons

Gross 10075
Net 6755Vessel built at Amsterdam By whom built N.Y. Nedel Schepb. M⁴ Yard No. 220 When built 1934Owners Veren Nedel Schepb. M⁴ Port belonging to is Gravenhage VoyageRefrigerating Machinery made by A. Borsig Maschinenbau M⁴ Machine No. 3745/p When made 1934Insulation fitted by N.Y. Nedel Schepb. M⁴ When fitted 1934 System of Refrigeration Ammonia

Method of cooling Cargo Chambers Wet air Insulating Material used Cork

Number of Cargo Chambers insulated 2 Total refrigerated cargo capacity 40460 cubic feet.

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed

Refrigerating Units, No. of Single, double, or triple Cubic feet of air delivered per hour

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

Compressors, driven direct or through single } reduction gearing. Compressors, single or double acting No. of cylinders

Diameter of cylinders Diameter of piston rod Length of stroke No. of strokes per minute

Motive Power supplied from

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

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 See plans Are the pipes and tanks galvanised on the inside

No. of brine sections in each chamber How air cooling

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



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Steam Condensing Plant. *State what provision is made for condensing steam, in terms of Section 4, Clauses 13 and 14*

DESCRIPTION.	Date of Test.	Working Pressure.	Hydraulic Test Pressure.	Air Test Pressure.	Stamped.	REMARKS.
ENGINE CYLINDERS (IF TESTED)						
GAS COMPRESSORS						
" SEPARATORS						
" CONDENSER COILS						
" 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...						

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

Dates of test *21. and 22. Sept 34* Density of Brine *24°* by *Beaumi'* hydrometer
liquid brine column

Temperatures (when the cargo chambers are cooled down to the required test temperatures) of air at the ~~same~~ *same* ~~box~~ and of the return air *-12.5°C* & *-11.5°C*,
or, delivery and return air at direct expansion or brine cooled batteries *-* & *-*, outflow and return brine *-17.5°C* & *-17°C*
atmosphere *20°C* cooling water inlet and discharge *14°C* & *20.5°C* gas in condensers *24°M* and evaporators *25°M* *28.0°C*,
the average temperature of the refrigerated chambers *-11.5°C* 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 *-4°C*

ARTICLES REQUIRED BY RULES AND NOT YET SUPPLIED

The foregoing is a correct description of the Refrigerating Machinery.

Manufacturer.

[illegible]

FRAMES OR REVERSE FRAMES, FACE	225 m M	25 m M	
BULKHEAD STIFFENERS, TOP	150 m M	BOTTOM	AND FACE 80 at top 52 at bottom
RIBBAND ON TOP OF DECKS	50 x 50 m M		
SIDE STRINGERS, TOP	✓	BOTTOM	✓ AND FACE ✓
WEB FRAMES, SIDES	✓	AND FACE	✓
BRACKETS, TOP	320 m/gz cork	BOTTOM	320 m/gz cork AND FACE ✓
INSULATED HATCHES, MAIN	110 m/gz cork 24 m M redwood 32 m M orange pine	BILGE	✓ MANHOLE ✓
HATCHWAY COAMINGS, MAIN	orange pine as per plan	BILGE	✓
HOLD PILLARS	50 m/gz cork 24 m M redwood		
MASTS	✓	VENTILATORS	230 m/gz cork 2 x 25 m/gz redwood

Are insulated plugs fitted to provide easy access to bilge suction roses ✓ 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 no 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. *None*

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 *Yes*

Cargo Battens, Dimensions and spacing, sides 50x50 spaced 12" floors 50x50 spaced 12" tunnel top 50x50 spaced 12" fixed or portable fixed 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 held = 1 far & 1 aft. Beside & distance therm in each Aired*
 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. *Where the chambers are situated below the load water line, what provision is made for draining the inside of the chambers*

2-2 1/2" Scuppers Where sluices, scupper pipes, and drain pipes are fitted are means provided for blanking them off *Yes*

What provision is made for draining the refrigerating machinery room tunnel

brine return room ☒ fan room scuppers 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 *four - 2 fore. 2 aft*
Diameter *2 1/2"* Are all sounding pipes in way of insulated chambers fitted in accordance with Section 3, Clause 11 *yes*
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 *no cork slabs*
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 *bore pipe with holes, diam 1/2"* Are they galvanised externally *yes*
How are they arranged in the chambers *row of bore pipes with holes where the air is forced through*
Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers *no snow farming*

The foregoing is a correct description of the Insulation and Appliances.

N.V. NEDERLANDSCHE SCHEEPSBOUW-MAATSCHAPPIJ
H. J. van der Meer
Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery *✓* and Insulation *5-12-33*
(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.)

This vessel's refrigerating Machinery have been placed aboard in a good & efficient manner
Insulation fitted in accordance with the approved plans & Secretary's letters.

Cooling down test held as per report & given
Machinery working satisfactorily

She is eligible in my opinion for the approval of the Committee to have the record of ~~4~~ 44040's RMC 10.34 for temp 30°F

Please attach to Litten report 1060.

It is submitted that
this vessel is eligible for
THE RECORD.

44040's RMC 10.34
25/1/35

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.
<i>One Unit 4 Comps</i>								<i>8</i>	<i>40460</i>

Fee *100-* { Fee applied for, *✓*
Travelling Expenses *£* : { Received by me, *23. 11. 34*
3/12

Buradoff
Surveyor to Lloyd's Register.

Committee's Minute *TUE. 5 FEB 1935*

Assigned

+ Lloyd's Rmb. 10.34

CERTIFICATE WRITTEN.



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