

Rpt. 17.

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office

27 AUG 1934

No. 8118.

Date of writing Report 22nd Aug 1934 When handed in at Local Office 23rd August Port of MANCHESTER
No. in Reg. Book. 82591 Survey held at MANCHESTER Date: First Survey 6th August Last Survey 17th August 1934
(No. of Visits 3)

on the Refrigerating Machinery and Appliances of the S.S. "OUSEL"

Vessel built at Port Glasgow By whom built Lequar Bros (P. & S.) Ltd. Yard No. — When built 1922-1924

Owners British & Continental S.S. Co. Ltd. Port belonging to Liverpool Voyage Continental

Refrigerating Machinery made by The Liverpool Refrigerator Co. Ltd. Machine No. — When made —

Insulation fitted by See Liverpool Report When fitted — System of Refrigeration —

Method of cooling Cargo Chambers See Liverpool Report Insulating Material used —

Number of Cargo Chambers insulated — Total refrigerated cargo capacity — 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 — 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.

Where the tanks are not closed is the compartment in which they are situated efficiently ventilated.

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

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						
" 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 16-17th Aug. 1934. Density of Brine 46° by Swadwell hydrometer

Temperatures (when the cargo chambers are cooled down to the required test temperatures) of air at the snow box and of the return air — & —
or, delivery and return air at ~~direct expansion~~ brine cooled batteries. 17°F & 21°F, outflow and return brine -9°F & -7°F
atmosphere 63°F cooling water inlet and discharge 69°F & 74°F gas in condensers 90°F and evaporators -19°F,
the average temperature of the refrigerated chambers. 20°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 11°F

SPARE GEAR.

CO₂ COMPRESSOR.

ARTICLES SUPPLIED AS PER RULE 5 ADDITIONAL

ADDITION
STEAM ENGINE.

~~ADDITIONAL SPARE GEAR SUPPLY~~

- | SIERRA ENGINE. | SIERRA ENGINE. |
|--|------------------------------------|
| 1. Crankshaft. | 1. Crankshaft |
| 1. Piston & trunk with rings. | 1. Steam piston, rod & rings. |
| 1. Pair main bearings. | 1. Eccentric shaft, strap & rod. |
| 1. Conn. Rod big end bearing. | 1. Pair main bearing frames. |
| 1. " " small " " | 1. Set Conn. Rod frames. |
| 1. Ball Thrust bearing. | 1. Set crosshead crosses. |
| 2. Big end bearing bolts & nuts. | 2. Main bearing studs & nuts. |
| 1. Discharge Valve assembly. | 2. Conn. Rod bolts & nuts. |
| 1. Mega safety springs. | 2. Crosshead " " " |
| 1. Suction Valve assembly. | 1. Steam piston valve, rod & nuts. |
| 2. Pist gland packing. | 1. Set governor springs. |
| 1. Oil level glass. | 1. Set Bore pump valves |
| 1. Oil pump plungers & cushions. | & springs. |
| 1. Ball valve & spring | 1. Fan motor complete & |
| 1. Gland bush. | spare parts for Control gear. |
| 1. Set spring rings | |
| 2. Safety discs | |
| 1. CO ₂ gauge. 3. Lengths tubing & couplings. | |
| 1. Conn. Rod 1 set screwing gear. | |
| 1. CO ₂ stop valve spindle & head | |
| 1. " Mounting " " " " | |

ARTICLES REQUIRED BY RULES AND NOT YET SUPPLIED

The foregoing is a correct description of the Refrigerating Machinery.

Manufacturer.

DESCRIPTION OF INSULATION.

[illegible]

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.

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.

Cargo Battens, *Dimensions and spacing* sides _____ floors _____ tunnel top _____

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 _____

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. *Where the chambers are situated below the load water line, 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.

bring 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

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, 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 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

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

The Refrigerating Machinery & auxiliaries have been examined under working conditions & the cooling test satisfactorily carried out, & also the spare gear has been checked, in accordance with the letter attached hereto.

General Remarks (State quality of workmanship, opinions as to class, &c.) The Refrigerating Machinery & appliances of this vessel are in my opinion eligible to have the notation of \pm Lloyd's R.M.C. 8-34, for temperature 20°F , as recommended in the Liverpool Report.

It is submitted that this vessel is eligible for THE RECORD. \pm Lloyd's R.M.C. 8-34 For temp 20°F .

D.A.
6/9/34

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.

Fee £ : Fee applied for, 19
Travelling Expenses £ : Received by me, 19

Committee's Minute

FRI. 7 SEP 1934

Assigned + Lloyd's R.M.C. 8-34
For Temp. 20°F

A.R. Ludden.
Surveyor to Lloyd's Register.

CERTIFICATE WRITTEN



© 2020

Lloyd's Register
Foundation