

REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office)

Date of writing Report

14 DEC 1943

When handed in at Local Office

14 DEC 1943

Port of London.

No. in

Reg. Book. Survey held at London

Date: First Survey 18th MayLast Survey 26th November 1943

At NWC. 11/10/43 to 24/1/44. Approx 8 weeks

(No. of Visits 13)

on the Refrigerating Machinery and Appliances of the

"UMTATA."

Tons { Gross 7288

Net 3799

Vessel built at Newcastle

By whom built Swan Hunter & Wigham

Yard No. 1740 When built 1943

Owners Pullard King & Co. Ltd.

Port belonging to LONDON

Voyage

Refrigerating Machinery made by J. E. Hall Ltd.

Machine Nos. 11231

When made 1943.

Insulation fitted by

When fitted

System of Refrigeration

Method of cooling Cargo Chambers Air

Insulating Material used CO₂ + brine.

Number of Cargo Chambers insulated 4

Total refrigerated cargo capacity 95,000 cubic feet.

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed Upper deck - midships.

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 4.5 Are all the units connected to all the refrigerated chambers yes.

Compressors, driven direct or through ~~single~~ ^{reduction gearing} Compressors, single or double acting Single If multiple effect compression yes

Are relief valves or safety discs fitted yes No. of cylinders to each unit 2 Diameter of cylinders 3 1/2"

Diameter of piston rod 1 5/8" Length of stroke 7" No. of revolutions per minute 360

Motive Power supplied from (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 2 Diameter H.P. = 7 1/2", L.P. = 15"

Length of stroke 6 1/2" Working pressure 200/225 lb. sq. in. Diameter of crank shaft journals and pins 3 1/2" H.P. = 3 1/2", L.P. = 3 1/2"

Oil Engines, type 2 or 4 stroke cycle Single or double acting B.H.P. 360

No. of cylinders 2 Diameter 10" Length of stroke 16 1/2" 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 1

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

Can the internal surfaces of the receivers be examined What means are provided for cleansing their inner surfaces

Is there a drain arrangement fitted at the lowest part of each receiver If made under survey

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 No. of Rated Kilowatts

Volts at 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 each of Cast iron or steel casings Copper Cylindrical or rectangular cylindrical Are safety valves fitted

Water Circulating Pumps, No. and size of pumps available 1-10 x 9 x 24 single how worked Steam, direct Gas Separators, No. of 4

Gas Evaporators, No. of 2 Cast iron or steel casings Steel Pressure or gravity type pressure If pressure type, are safety

Direct Expansion or Brine Cooled Batteries, No. of 4 twin type 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 6 in each of 3 twin type Material of coils Steel Can each coil be readily shut off or

disconnected yes Total cooling surface of battery coils 7250 sq. ft. Is a watertight tray fitted under each battery yes

Air Circulating Fans, Total No. of 2-35" each of 23,000 cubic feet capacity, at 1570/1050 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 3-3 1/2" vent. centri. how worked electrically

Brine Cooling System, closed or open closed. Are the pipes and tanks galvanised on the inside no

No. of brine sections in each chamber No. 1 M.T. dk. Coolers = 6, No. 2 M.T. dk. Coolers = 8

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.

(PRINTED IN ENGLAND.)

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Lloyd's Register Foundation

Manufacturer.

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. (Boiler Room)	F									
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		BOTTOM		AND 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					
Are insulated plugs fitted to provide easy access to bilge suction roses.					
Are insulated plugs fitted to ventilators.					
Is the insulation of the lower hold floor and tunnel top in way of the hatchways protected.					
Oil Storage Tanks, where oil is stored in 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 bulkheads 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.					
Are screens fitted over the air inlets of chamber sides.					
Thermometer Tubes, No. and position in each chamber.					
Protection of Pipes. Are all pipes, including air and sounding pipes, which pass through or into insulated chambers, well protected.					
Drainage 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					

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. Are the arrangements satisfactory and in accordance with the approved plans

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 Minimum thickness 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 (If not, state date of approval)

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

General Remarks (State quality of workmanship, opinions as to class, &c.) The refrigerating machinery was constructed under special survey and the materials and workmanship are good and it will be eligible for the notation + Lloyd's R.M.C. (with date) when the installation and testing have been satisfactorily completed.

This Refrigerating Machinery has been efficiently fitted in the Vessel, tried under working conditions & found satisfactory.

For particulars of Insulation, Cooling down tests, etc., please see Newcastle Report 17. - Herewith.

A. Watt
Newcastle on Tyne 24/1/44

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.					System of (1) Refrigerating (2) Insulating the Chambers.	Ice melting capacity per 24 hours. Tons.	Is Refrigerating Machinery Electrically Driven?	INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.				No.	Capacity. Cubic ft.
2	4	Carl. Aubrey	J. E. Hall Ltd.	1943	(1) Air	45		4	95,000

Fee £12.0.0

Travelling Expenses £

Fee applied for, 2 FEB 1944

Received by me, See Mgmt Rpt.

D. Gemmell & R. Minton,
Surveyor to Lloyd's Register.

Committee's Minute

FRI. 11 FEB 1944

Assigned

see minute
on Nov. 10/850.



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