

## REPORT ON REFRIGERATING MACHINERY AND APPLIANCES.

(Received at London Office

129 NOV 1948

Date of writing Report 20<sup>th</sup> Nov. 1948 When handed in at Local Office

27 NOV 1948

Port of NEWCASTLE-ON-TYNE

No. in

Reg. Book.

75900

Survey held at ~~Helm~~ ~~on Tyne~~ Date: First Survey 9/3/48 Last Survey 15/11/1948

(No. of Visits 25)

on the Refrigerating Machinery and Appliances of the SS "STANROYAL"

Tons { Gross 9136  
Net 5598

Vessel built at Hamburg By whom built Deutsche Schiff-u-Masch. Yard No. 213 When built 1929.

Owners Stanhope Steamship Co. Ltd. Port belonging to London Voyage

Refrigerating Machinery made by Atlas Werke Machine Nos. 23368 23369 When made 1929

Insulation fitted by The Cork Insulation and Asbestos Co. Ltd. When fitted 1948 System of Refrigeration C.O<sub>2</sub>

Method of cooling Cargo Chambers Brine &amp; air. Insulating Material used Mineral wool &amp; slab cork

Number of Cargo Chambers insulated 5 Total refrigerated cargo capacity 45260 cubic feet.

## DESCRIPTION OF REFRIGERATING MACHINERY. Where placed Engine Room Starboard Side.

Refrigerating Units, No. of Two. No. of machines Two. Is each machine independent Yes.

Total refrigeration or ice-melting capacity in tons per 24 hours 30 at 230 rpm Are all the units connected to all the refrigerated chambers Yes.

Compressors, driven direct or through <sup>single</sup> ~~double~~ reduction gearing. Compressors, single or double acting Double If multiple effect compression No.

Are relief valves or safety discs fitted Safety discs No. of cylinders to each unit One Diameter of cylinders 3 1/16" 90 rpm

Diameter of piston rod 1 23/32" Length of stroke 9 1/16" 230 rpm No. of revolutions per minute 150

Motive Power supplied from 5 Main Boilers (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 One Diameter 10 1/4"

Length of stroke 12 1/2" Working pressure Diameter of crank shaft journals and pins 4 1/16"

Breadth and thickness of crank webs 6 5/16" x 2 5/16" No. of sections in crank shaft Solid forged Revolutions of engines per minute 150

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:—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 Two Cast iron or steel casings Cast Iron Cylindrical or rectangular Rectangular. Are safety valves fitted

to casings Yes No. of coils in each Four Material of coils Copper. Can each coil be readily shut off or disconnected No.

Water Circulating Pumps, No. and size of pumps available One 1 1/2" x 10" S.D. Duplex. how worked Steam Gas Separators, No. of Four.

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

valves fitted Yes No. of coils in each casing Two Material of coils Steel Can each coil be readily shut off or disconnected No.

Direct Expansion or Brine Cooled Batteries, No. of Two. Are there two separate systems, so that one may be in use while the other is being

cleared of snow Yes No. of coils in each battery Five Material of coils Steel Can each coil be readily shut off or

disconnected Yes Total cooling surface of battery coils 3560 square feet. Is a watertight tray fitted under each battery Yes

Air Circulating Fans, Total No. of Two. each of cubic feet capacity, at revolutions per minute

Steam or electrically driven Electrically. 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 Two. 6 1/4" x 10 3/8" S.D. Duplex how worked Steam driven

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

No. of brine sections in each chamber Three sections 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. 11.57.—T. (MADE IN ENGLAND.)



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HYDRAULIC AND OTHER TESTS.

*Have important steel castings and forgings been tested in accordance with the Rules*

**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

SPARE GEAR.

*Has the spare gear required by the Rules been supplied.*

**The foregoing is a correct description of the Refrigerating Machinery.**

*Manufacturer.*

## DESCRIPTION OF INSULATION.

FRAMES OR REVERSE FRAMES, FACE 2 1/4" mineral wool.

BULKHEAD STIFFENERS, TOP mineral wool BOTTOM mineral wool AND FACE mineral wool.

RIBBAND ON TOP OF DECKS 3" pine at 2nd Deck

SIDE STRINGERS, TOP none BOTTOM none AND FACE none

WEB FRAMES, SIDES none AND FACE none

BRACKETS, TOP none BOTTOM none AND FACE none

INSULATED HATCHES, MAIN 6" slab cork in pine frames. BILGE 5" slab cork in pine frames MANHOLE 4" slab cork in pine frames.

HATCHWAY COAMINGS, MAIN Pine sheathed with .15" galv steel BILGE Pine, unsheathed.

HOLD PILLARS 3" slab cork & 1/2" reinforced cement, with 3/16" galvanised protection plates.  
1 @ 5" dia fts to lower hold embedded in shell insulation

MASTS steps at upper deck. VENTILATORS 2 @ 19" dia / 18" square trunked  
1 @ 5" dia fts to lower hold - 3" slab cork in 7/8" T&G pine trunks

Are insulated plugs fitted to provide easy access to bilge suction roses yes tank, air, and sounding pipes yes heels of pillars no.

and manhole doors of tanks yes Are insulated plugs fitted to ventilators yes cargo ports none and side lights none

Is the insulation of the lower hold floor and tunnel top in way of the hatchways protected yes if so, how 2" hardwood sheathing on hold floor  
1 1/2" hardwood lining on tunnel with 3/4" 3" hardwood  
bulkheads spaced 18" apart

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 steel cofferdam between oil tanks and insulated chambers ✓

and for draining the tank top drains into cofferdam ✓

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 yes

Cargo Battens, Dimensions and spacing, sides 2"x2" spaced 12" floors 2"x2" spaced as required tunnel top 3"x3" sp. 18"

fixed or portable portable on deck only Are screens fitted over the brine grids at chamber sides yes hinged or permanently fixed permanently fixed.

Thermometer Tubes, No. and position in each chamber 2. At aft end's corners & hold pillars in side chambers & fore corner in centre chamber.

diameter 3/4" 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 Suppress to bilges ✓

Where sluices, scupper pipes, and drain pipes are fitted are means provided for blanking them off no ✓

What provision is made for draining the refrigerating machinery room in Engine Room ✓

brine return room none fan room drains to Engine room bilge water circulating pump room in Engine Room ✓

Are all air spaces below insulation arranged to drain to the bilges, bilge wells, or gutterways of the respective chambers. no air spaces.

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 pump room in Engine Room ✓  
 no air spaces. ✓  
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Sounding Pipes, No. and position in each chamber situated below the load water line *1 to tank top pos from tunnel fitted with weighted cock 1 to helges pos from shelter deck*

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* *asphalt & cement facings reinforced with expanded steel lattice* *yes*

How is the expanded metal secured in place *embedded in facings*

How are the cork slabs secured to the steel structure of the vessel *embedded in bitumastic solution*

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 fixed*

Where air trunkways pass through watertight bulkheads, are they fitted with watertight doors *none* Are the door frames efficiently insulated *yes*

Are insulated plugs supplied for the doorways *yes* *Natural vent air trunks led through bulkhead 43 from after side* Insulated compartments *yes*

Cooling Pipes in Chambers, diameter *1 1/2"* Minimum thickness *7 W.G.* Are they galvanised externally *New piping - yes*

How are they arranged in the chambers *at sides and overhead, piping fore and aft: on bulkheads horizontally thwartships* *Original retained piping - paint coated*

Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers. *hot brine circulation*

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

Builders.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery *Noted - 26 July 1948* and Insulation *yes*

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, etc.)

The Refrigerating machinery and appliances were originally fitted in Germany and have now been examined for special survey, reconditioned & part renewed by Messrs J. & E. Hall Ltd. & The Cork Insulation & Asbestos Co Ltd., in accordance with the approved plans and Secretary's letters and are in our opinion eligible for the notation *Lloyds R.M.C. 11.48*

*It is submitted that this vessel is eligible for THE RECORD. - Lloyds R.M.C. 11.48 S.R.M.C.*

*Rur 13.12.48*

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>Two.</i>	<i>Two.</i>	<i>C.O.2</i>	<i>Atlas Werke.</i>	<i>1929</i>	<i>Bureau Air.</i>		<i>30</i>	<i>No.</i>	<i>5</i>	<i>45,260</i>
					<i>(2) Mineral Wool</i>					
					<i>Slab. Cork.</i>					

Fee ..... £ 32 : 0 : 0 { Fee applied for, *not yet* 19

Travelling Expenses £ : : { Received by me, 19

LICENCE SUPERVISION.

Committee's Minute *✓* **FRI. 17 DEC 1946**

Assigned *Lloyds Rmc 11.48*

CERTIFICATE WRITTEN.  
(RMC & SRMC)  
dated 31.12.48



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