

Report on Refrigerating Machinery and Appliances.

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No. in Reg. Book. Survey held at Helsingborg Date: First Survey 31/1 Last Survey 11/3 1948
37814 (Number of Visits 6)

on the Refrigerating Machinery and Appliances of the M/S "SOMMEN". Tons (Gross 3927 Net 2608)

Vessel built at Richmond, Cal. By whom built Kaiser Cargo Inc. Yard No. 68 When built 1945

Owners Rederi A/B Sigyn Port belonging to Helsingborg Voyage -

Refrigerating Machinery made by General Electric Machine Nos. 44700211/-212/-247/-249. 1945

Insulation fitted by - When fitted 1945 System of Refrigeration Direct expansion

Method of cooling Cargo Chambers Direct expansion Insulating Material used Spun Glass

Number of Cargo Chambers insulated 3 Total refrigerated cargo capacity 9830 cubic feet

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed 2nd deck starboard aft

Refrigerating Units, No. of 4 No. of machines 4 Is each machine independent Yes

Total refrigeration or ice-melting capacity in tons per 24 hours approx. 13-0 tons Are all the units connected to all the refrigerated chambers Yes

Compressors, driven ~~XXXXXX~~ through ^{single} ~~XXXXXX~~ reduction gearing. Compressors, single or double acting Single multiple effect compression

Are relief valves or safety discs fitted - No. of cylinders to each unit 2 Diameter of cylinders 4"

Diameter of piston rod - Length of stroke 4" No. of revolutions per minute 2 a 680 2 a 510

Motive Power supplied from Electric driven; Motive power from 2 x 250 KW generator.
(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 Electr. Mach. MFG. Comp. / Type T No. of 4 Rated 2 fwd 7 1/2 2 aft 10 ~~XXXXXX~~ HP 240 Volts

at Aft 1310/1750. Fwd 1750 revolutions per minute. Diameter of motor shafts at bearings 10 HP=1.10/16". 7 1/2 HP=1.4/16"

Reduction Gearing Belt driven 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 4 Cast iron or steel casings Cast iron Cylindrical or rectangular Cylindrical Are safety valves fitted

to casings Yes No. of coils in each - Material of tubes Brass Can each coil be readily shut off or disconnected -

Water Circulating Pumps, No. and size of pumps available 1 a 22.7 t/h low worked El. driven Gas Separators, No. of 4

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

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

Direct Expansion ~~XXXXXX~~ Batteries, No. of 16 8 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 - Material of coils Galv. steel Can each coil be readily shut off or

disconnected Yes Total cooling surface of battery coils - Is a watertight tray fitted under each battery batter.

Air Circulating Fans, Total No. of 8 each of 1900 cubic feet capacity, at 1140 revolutions per minute

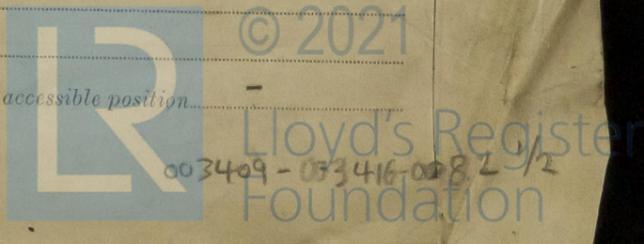
Steam or electrically driven Electrically Where spare fans are supplied are these fitted in position ready for coupling up Yes

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 -



CERTIFICATE
NOTICE - THE WORDS WHICH DO NOT APPEAR SHOULD BE DELETED
Inspected the vessel "SOMMEN" Messrs. Helge
of the vessel
in accordance
Complete
Committee
stating that
have been
Recommend
BA, & DMG
made
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idT
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the
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to

101, 11, 12. (MADE AND PRINTED IN ENGLAND.)

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

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 ...						
„ Multiple Effect Receivers ...						
„ 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...						

Have important steel castings and forgings been tested in accordance with the Rules... -
 Has the refrigerating machinery been examined under full working conditions, and found satisfactory... **Yes**
 Dates of test... Density of Brine... by... hydrom...
 Temperatures (when the cargo chambers are cooled down to the required test temperatures) of delivery and return air at direct expansion or brine cooling 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... ho...
 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.

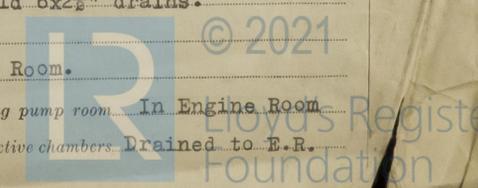
DESCRIPTION OF INSULATION.

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. 124 F			Spun Glass	11"	2x1" & 2" plywood	3"	-	Spun Glass	10"	2x1" & 2" plywood
Frame No. 136 (After Peak) F			"	9"	"			"	9"	"
des ...			"	10"	"			"	10"	"
overheading ...			"	9"	"			"	10"	"
doors of Chambers ...			"	8"	"			"	6"	"
bulk Hatchways ...									11"	"
bulkhead Recess, Sides and Top ...									8"	4 1/2" wood & asphalt.
tunnel Recess, Sides and Top ...										
tunnel Recess, Front and Top ...										

frames or Reverse Frames, Face -
 Bulkhead Stiffeners, Top - Bottom - and Face -
 Ribband on Top of Decks -
 Side Stringers, Top - Bottom - and Face -
 Side Frames, Sides - and Face -
 Bulkheads, Top - Bottom - and Face -
 Insulated Hatches, Main Plug hatch 7" insul. Bilge - Manhole -
 Hatchway Coamings, Main Wood with galv. stl. pl Bilge -
 Bulkhead Pillars -
 Bulkheads - Ventilators -
 Are insulated plugs fitted to provide easy access to bilge suction roses. No / bilges tank, air, and sounding pipes. None heels of pillars. None...
 Are insulated plugs fitted to ventilators - cargo ports - and side lights. -
 Are insulated plugs fitted to ventilators - cargo ports - and side lights. - Wood lining and asphalt
 Is the insulation of the lower hold floor and tunnel top in way of the hatchways protected. Yes if so, how. 4 1/2"
 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. 2" ventilating pipe p. & s. air space
 Provision for draining ~~xxxxxx~~ 1 1/2" drain pipe p. & s.
 Fireproof Insulation. Is the insulation and woodwork fireproof in way of bunks 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. 1.3/4"x3.1/2"; 9" in way of dir. exp. coils. Elsewhere
 1.3/4"x1.3/4"; 10" tunnel top
 Fixed or portable. Fixed Are screens fitted over the brine grids at chamber sides. - hinged or permanently fixed -
 One in centre of lower chamber. One at side of each
 Thermometer Tubes, No. and position in each chamber. upper chamber. One distance thermometer in each chamber.
 Diameter. 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
 Upper hold p. & s. 2x2 1/2" drains in each
 Draining Arrangements. What provision is made for draining the inside of the chambers. Lower hold 6x2 1/2" drains.
 Are 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. Drained to Engine Room.
 In Engine Room
 In fan room - water circulating pump room. In Engine Room
 Are all air spaces behind insulation arranged to drain to the bilges, bilge wells, or gutterways of the respective chambers. Drained to E.R.



Sounding Pipes. No. and position in each chamber situated below the load water line One at forward end to lower chamber
 Diameter 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 Spruce plywood 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 No air trunkways.
 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 1.5/8" Minimum thickness - Are they galvanised externally Yes
 How are they arranged in the chambers Upper chamber p. & s. 3 grinds and 2 for fans.
Lower hold 4 grinds and 4 for fans.

Thawing Off, what provision is made for removing the snow from the cooling pipes in the chambers By hot gas from the compressors.

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. The cooling test has not been carried out. The Owners' representative states that the survey will be completed at an East American port within 2 months' time from date.

General Remarks (State quality of workmanship, opinions as to class, &c.) The refrigerating machinery was originally built under the special supervision of the Surveyors to the American Bureau of Shipping and classed with that Society but has now been surveyed by me for Classification with this Society.
The condition and standard of workmanship, as now seen, is considered to be good and satisfactory.

The refrigerating machinery of this vessel is eligible in my opinion to be classed in the Society's Register Book with the notations of LLOYD'S RMC (RS) 3,48 and SRMC 3,48, when survey completed.

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.
4	8	Flecon	General Electr.	1945	1/Dir.exp. 2/Spun glass	Tons. 13	Yes	3	9830

Fee Kr. 300:00 Fee applied for 13/3 1948
 Travelling Expenses £ - Received by me - 19

T. O. Fogren
 Surveyor to Lloyd's Register.

FRI, 27 AUG 1948

Committee's Minute FRI, 16 APR 1948

Assigned Deferred

Certificate to be sent to B/MG

