

Rpt. 17.

N^o 3 LOWER HOLD INSTALLATION

No. 40738

Report on Refrigerating Machinery and Appliances.

23 JAN 1956

Date of writing Report 10.1.1956 When handed in at Local Office 19 Port of Rotterdam

No. in

Reg. Book. Survey held at Rotterdam Date: First Survey 8th June Last Survey 30th December 1955

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(Number of Visits 18)

Refrigerating Machinery and Appliances of the M. V. "DONGEDYK" Tons Gross 1094 2 Net 6553

built at Rotterdam By whom built Wilton's Eng. & Shipyard No. When built 1929

s. Nederl.-Amerik. Stoom. Maatschappij Port belonging to Rotterdam Voyage

Refrigerating Machinery made by N. V. GRASSO MACHINEFABRIEK Machine Nos. 55184324 When made September 1955

tion fitted by HERTEL & Co. When fitted December 1955 System of Refrigeration FREON 12

d of cooling Cargo Chambers DIRECT EXPANSION & AIR Insulating Material used SLAB CORK

er of Cargo Chambers insulated ONE Total refrigerated cargo capacity 27,320 cubic feet

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed ENGINE ROOM, STARBOARD SIDE

Refrigerating Units, No. of 2 No. of machines 2 Is each machine independent YES

refrigeration or ice-melting capacity in tons per 24 hours Are all the units connected to all the refrigerated chambers NO

Compressors, driven direct or through VEE BELTING reduction gearing. Compressors, single or double acting SINGLE If multiple effect compression NO

safety discs fitted YES No. of cylinders to each unit 3 Diameter of cylinders 110 mm (4.33")

Length of stroke 80 mm (3.1496") No. of revolutions per minute 960

Power supplied from 4 Diesel driven electric generators (State number of boilers, oil engines or electric generators supplying the motive power.)

Engines, high pressure, compound, or triple expansion, surface condensing. No. of cylinders Diameter

Working pressure Diameter of crank shaft journals and pins

Revolutions of engines per minute

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

Diameter Length of stroke Span of bearings as per Rule

Diameter of crank shaft journals and pins

Revolutions of engine per minute

Receivers: Have they been made under survey State No. of Report or Certificate

each receiver, which can be isolated, fitted with a safety valve as per Rule

Is a drain fitted at the lowest part of each receiver

Cubic capacity of each Internal diameter thickness

Material Range of tensile strength Working pressure by Rules

No. of 1 for each amp Rated 26 H.P. Kilowatts 220 Volts

Diameter of motor shafts at bearings

Pitch circle diameter, pinion Main wheel Width of face

Main wheel

Main wheel shaft, diameter at bearings

Cast iron or steel casings STEEL Cylindrical or rectangular CYLINDRICAL Are safety valves fitted

Material of TUBES AL-BRASS Can each coil be readily shut off or disconnected

how worked ELECTRIC MOTOR Gas Separators, No. of

Pressure or gravity type If pressure type, are safety

Can each coil be readily shut off or disconnected

Are there two separate systems, so that one may be in use while the other is being

Can each coil be readily shut off or

Is a watertight tray fitted under each battery YES

cubic feet capacity, at 1800 revolutions per minute

Where spare fans are supplied are these fitted in position ready for coupling up YES

how worked

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

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 ...	20-9-55		350 PSI	200 PSI	LLOYDS TEST ROTT 20-9-55 200 PSI	
Oil Separators ...	21-7-55			350 PSI	LLOYDS TEST GRD 25 KG 5 PM 21-7-55	
Multiple Effect Receivers ...						
Condenser Coils SHELL & TUBE...	28-9-55		350 PSI	350 PSI	LLOYDS TEST GRD 25 KG 5 PM 28-9-55	
Evaporator Coils RECIPIERS ...	7-10-55		350 PSI	200 PSI	LLOYDS TEST ROTT 7-10-55 200 PSI	
Condenser Headers and Connections	11-11-55		500 PSI	250 PSI	LLOYDS TEST ROTT 11-11-55 250 PSI	
Condenser Casings ...						
Evaporator Casings ...						
Condenser, Evaporator and Air Cooler Coils after erection in place	16-12-55		150 PSI			
Brine Piping after erection in place...						

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

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

Dates of test 27TH to 30TH December 1955 Density of Brine by hydrometer

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 2.5°F & 5°F, outflow and return brine &

atmosphere 46°F cooling water inlet and discharge 45.5 & 49°F gas in condensers 50°F and evaporators -15°F

the average temperature of the refrigerated chambers 5°F and the rise of temperature in these chambers upon the expiration of 6 hours time after the machinery and cooling appliances have been shut off 4°F

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.

GRASSBACH MASCHINENFABRIKEN N.V.
SHERIDAN BOSCH

Manufacturer.

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. 123	F		CORK	1 1/2"	CEMENT					
Frame No. 47	A		CORK	1 1/2"	CEMENT					
Frame No. (Engine Room)	A									
Frame No. (Engine Room)	A									
Frame No.	F									
Frame No.	A									
Frame No.	F									
Frame No.	A									
Frame No.	F									
Frame No. (After Peak)	F		CORK	1 1/2"	CEMENT					
Sides ...			CORK	1 1/2"	CEMENT					
Overheading ...			CORK	1 1/2"	CEMENT					
Floors of Chambers ...	1"	WOOD	CORK	1 1/2"	WOOD	ORIGINAL FITTING				
Trunk Hatchways ...										
Thrust Recess, Sides and Top										
Tunnel Sides and Top										
Tunnel Recess, Front and Top										

Frames or Reverse Frames, Face SIDE GROUNDS 2" CORK OVER

Bulkhead Stiffeners, Top ✓ Bottom ✓ and Face 2" CORK

Ribband on Top of Decks NONE FITTED

Side Stringers, Top ✓ Bottom ✓ and Face ✓

Web Frames, Sides ✓ and Face ✓

Brackets, Top ✓ Bottom ✓ and Face ✓

Insulated Hatches, Main 9 1/2" PLUGS Bilge 14" PLUGS Manhole 9 1/2" PLUGS

Hatchway Coamings, Main Bilge

Hold Pillars 1" FELT 1 1/2" T&G WOOD

Masts ✓ Ventilators ✓

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

and manhole doors of tanks YES 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 YES if so, how T & G WOOD DOUBLE 2 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

and for draining the tank top

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 Batts, Dimensions and spacing, sides 2x2 15" PICEA floors GRATINGS 4x2 tunnel top

fixed or portable FLOOR GRATES Are screens fitted over the brine grids at chamber sides hinged or permanently fixed

Thermometer Tubes, No. and position in each chamber 4 off Port & Starboard forward and after

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 YES

Draining Arrangements. What provision is made for draining the inside of the chambers SCUPPERS BAINSTRAP FITTING

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

brine 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 YES

Sounding Pipes, No. and position in each chamber situated below the load water line 2 - Panel starboard centre, forward
 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 YES Are cement facings reinforced with expanded steel lattice YES
 How is the expanded metal secured in place with GALVANIZED STAPLES
 How are the cork slabs secured to the steel structure of the vessel SECURED BY WOOD GROUNDS
 Air Trunkways in Chambers. Are the arrangements satisfactory and in accordance with the approved plans YES
 Are they permanently fixed or collapsible, or portable FIXED
 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 COOLER BATTERIES HOT GAS FROM COMPRESSOR BY PASSING CONDENSER
 The foregoing is a correct description of the Insulation and Appliances. Dok- en Werf- Maatschappij Wilton-Fijenoord N.V.

Plans. Are approved Plans or Specifications forwarded herewith for the Refrigerating Machinery 24/9/552 Submarine and Insulation 24/9/552
 (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

General Remarks (State quality of workmanship, opinions as to class, &c.) The Refrigerated Cargo Installation of N° 3 lower hold has been fitted in accordance with the approved plans and Secretary's letter, and to the Surveyors' satisfaction, and is in my opinion eligible to be classed
* LLOYDS R.M.C. 12, 55 (N° 3 LOWER HOLD PLANT)
To maintain temperature 25°F, with sea temperature 86°F maximum

PARTICULARS TO BE ENTERED IN REGISTER BOOK.

REFRIGERATING MACHINES.						Is Refrigerating Machinery Electrically Driven?	INSULATED CARGO CHAMBERS.	
No. of Units.	No. of Compressors.	System.	Makers.	Date of Construction.	System of (1) Refrigerating (2) Insulating the Chambers.		No.	Capacity.
<u>2</u>	<u>2-300 R.S.A. 110 mm 80 mm 960 RPM</u>	<u>FREON 12</u>	<u>N.V. GRASSO MACHINE-FABRIEK</u>	<u>12, 55</u>	<u>DIRECT EXPANSION AND AIR. (2) SLAB CORK</u>	<u>YES</u>	<u>ONE</u>	<u>27, 32</u>

Fee Construction £ 2.42 Fee applied for, 17/1 19.56
 Travelling Expenses £ 3.52 Received by me, 19
50.-

Committee's Minute TUESDAY 31 JAN 1956
No. 3 Lower Hold Plant:-
Assigned. + Lloyds R.M.C. 12.55
to maintain temp. 25°F with sea temp.
86°F maximum.

CERTIFICATE WRITTEN.

