

Report on Refrigerating Machinery and Appliances.

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 No. in Reg. Book. Survey held at Harlingen Date: First Survey 7-4-54 Last Survey 12-6- 1954.
 (Number of Visits 6)
 on the Refrigerating Machinery and Appliances of the "DRANJEVOLDER" Tons {Gross... Net...
 Vessel built at Waterhuizen (Groningen) By whom built Messrs J. P. J. J. J. Yard No. 219 When built 1954
 Owners... Port belonging to... Voyage...
 Refrigerating Machinery made by Messrs J. P. J. J. J. Machine No. 541523-541524 Made 1954
 Insulation fitted by... When fitted... System of Refrigeration 1. H³
 Method of cooling Cargo Chambers Direct expansion Insulating Material used...
 Number of Cargo Chambers insulated... Total refrigerated cargo capacity... cubic feet

DESCRIPTION OF REFRIGERATING MACHINERY. Where placed...

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... Are all the units connected to all the refrigerated chambers Yes
 Compressors, driven direct or through single 1 belt with electric motor reduction gearing. Compressors, single or double acting Single If multiple effect compression...
 Are relief valves or safety discs fitted Yes No. of cylinders to each unit 2 Diameter of cylinders 3.3464" 4.3307"
 Diameter of piston rod... Length of stroke 3.1496" No. of revolutions per minute 650

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... 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 110V D.C. No. of 2 Rated 10 HP Kilowatts 110 Volts...
 at 1000 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... Cast iron or steel casings... Cylindrical or rectangular... Are safety valves fitted...
 to casings... No. of coils in each... Material of coils... Can each coil be readily shut off or disconnected...

Water Circulating Pumps, No. and size of pumps available... how worked... Gas Separators, No. of...
 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 or ~~Brine Cooled Batteries~~, No. of 2 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 one Material of coils Hammer & Slatford Can each coil be readily shut off or
 disconnected ✓ Total cooling surface of battery coils 2 x 15 H² 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.



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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) ...			600 P.S.I.	500 P.S.I.	LLYD'S TEST 100-500 P.S.I. A.H. 17-5-54	
Gas Compressors ...	17-5-54					
„ Separators ...	10-6-54		500 P.S.I.	250 P.S.I.	LLYD'S TEST 500-250 P.S.I. A.H. 10-6-54	
„ Multiple Effect Receivers ...						
„ Condenser Coils ...	17-5-54		500 P.S.I.	250 P.S.I.	LLYD'S TEST 500-250 P.S.I. A.H. 17-5-54	
„ Evaporator Coils ...	10-6-54		1500 P.S.I.	500 P.S.I.	LLYD'S TEST 1500-500 P.S.I. A.H. 10-6-54	
„ Condenser Headers and Connections ...	22-6-54		600 P.S.I.	300 P.S.I.	LLYD'S TEST 600-300 P.S.I. A.H. 22-6-54	
„ 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 Yes

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

Dates of test..... 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..... &....., 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..... hours 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.

GRANZO'S MACHINEFABRIEKEN N.V.
HERTOGENBOSCH

Manufacturer.

GRANZEPOLDER

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.	F									
Frame No. (After Peak)	A									
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

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.....

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.....

Cargo Battens, Dimensions and spacing, sides..... floors..... tunnel top.....

fixed or portable..... 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. 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.....

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. 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.

GRASSO & MACHIEFABRIEKEN N.V.

's-HERTOGENBOSCH

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.)

This refrigerating machinery has been constructed in accordance with the approved plans
Lloyd's Rules and Lloyd's Rules. Material tested as required and workmanship
found good and in my opinion this machinery merits the approval of the Committee

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.
2	2	1 HP	Grasso Machfabriek 's-Hertogenbosch	1954	Direct expansion	34 Tons.	Yes	1	Cubic ft. 1765
								2	1765

Fee £ 4224.00 (Fee applied for, 26.7.1954)

Travelling Expenses £ 456.00 Received by me, 19.....

A. Hawell
Surveyor to Lloyd's Register.

Committee's Minute..... TUESDAY 10 AUG 1954

Assigned..... Deferred for sample



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