

Rpt. 17 (a)

Date of writing Report 10-3-1958. Received London Port Aalborg No. ABG 16882.
Survey held at Aarhus No. of visits 6 First date 10-2-58 Last date 6-3-58

REFRIGERATED CARGO INSTALLATION REPORT ON REFRIGERATING MACHINERY

Machinery made by Messrs. A/S Thomas Ths. Sabroe & Co. Machine Nos. 36794-95 When made 1958
Intended for Yard No. or Ship's Name m.v. "THYRA TORM" of Copenhagen
Built on ~~25000~~ at Nakskov By whom A/S Nakskov Skibsværft
OWNERS Torm Tramping Co. Ltd.
Primary refrigerant Dichlorodefluoromethane Medium for cooling chambers (brine, primary refrigerant, etc.) primary refrigerant

PARTICULARS OF REFRIGERATING MACHINES OF EACH SIZE (Including machines (if any) for cooling liquid refrigerant)

RECIPROCATING TYPES

(1) No. of machines 2 No. of cylinders per machine 8 Single or double acting single Single or two-stage single
Diameter of cylinders 65 Vertical horizontal or Vee Vee Diameter of piston rod if double acting
No. of cranks 2 Stroke 50 mm Speed of machines as fitted: Maximum R.P.M. 1245 Minimum R.P.M.
Single speed, set speeds or variable speed single speed Clearance volume as percentage of swept volume 4.6
Swept volume of machine(s) at maximum R.P.M. 101000 How driven (direct, V belt, gearing, etc.) V belt
Prime Movers (steam engine, oil engine, electric motor, etc.) electric motors B.H.P. 16 Maximum R.P.M. 1950

(2) No. of machines No. of cylinders per machine Single or double acting Single or two-stage
Diameter of cylinders Vertical horizontal or Vee Diameter of piston rod if double acting
No. of cranks Stroke Speed of machines as fitted: Maximum R.P.M. Minimum R.P.M.
Single speed, set speeds or variable speed Clearance volume as percentage of swept volume
Swept volume of machine(s) at maximum R.P.M. How driven (direct, V belt, gearing, etc.)
Prime Movers (steam engine, oil engine, electric motor, etc.) B.H.P. Maximum R.P.M.

Material of compressor crankshafts spheriodal graphite cast iron Have they been manufactured and tested in accordance with the Rules and/or Secretary's letters? yes
Tensile strength 83.5 kg/mm² Have other important steel forgings and castings been manufactured and tested in accordance with the Rules? yes
Are safety devices fitted to compressors in accordance with the Rules? yes Are compressors arranged for multiple-effect compression? no

OTHER TYPES (e.g., Centrifugal, steam jet, etc.)

(3)

Where two machines only are provided, are all the working parts interchangeable? yes
Is provision to be made for liquid refrigerant sub-cooling? no If so, state method

PARTICULARS OF GAS CONDENSERS OF EACH TYPE AND SIZE

No. of shell-and-tube type 2 No. of shells in each 1 No. of tubes per shell 76 Material and thickness of tubes al. brass 19/16.6 mm
Cooling medium and No. of passes sea water 4 passes No. of tubes each pass 19 Internal diameter of tubes 16.6 mm
Total No. of tubes per condenser 76 Total external surface of tubes in each condenser 11 m²
No. of coil-in-casing type No. of casings No. of coils each casing Material, external diameter and thickness of coils
External surface of each coil Cooling medium and No. of passes
Total external surface of coils each condenser Can each coil be readily shut off or disconnected?
Other types

PARTICULARS OF EVAPORATORS (BRINE COOLERS) OF EACH TYPE AND SIZE.

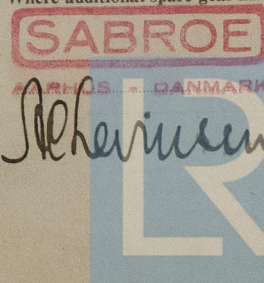
No. of shell-and-tube type No. of shells in each No. of tubes per shell Material and thickness of tubes
No. of passes of brine No. of tubes each pass Internal diameter of tubes
Total No. of tubes per evaporator Total external surface of tubes in each evaporator
No. of coil-in-casing type No. of casings No. of coils each casing Material, external diameter and thickness of coils
External surface of each coil Total external surface of coils in each evaporator Can each coil be readily shut off or disconnected?
Other types

OTHER COMPONENTS, ETC.

No. of oil separators 2 No. of filters 2 No. of liquid receivers 2 No. of driers 2 No. of brine heaters
Other pressure vessels, give particulars
Particulars of air cooler coils and cooling grids: Plain coils, external diameter Thickness Material
Extended surface coils, internal diameter 21.95 mm Thickness 2.4 mm Material SM Steel
Pitch of fins 15 mm Dimensions of fins or plates 1.5 x 25 mm Total extended surface per foot of pipe 0.178 m²
Air cooler coil assemblies, total No. 6 Length of pipe and No. of coils of each size 185 m. total surface each cooler 100 m²
Can each coil be readily shut off or disconnected? yes
Cooling grid sections, total No. and length of pipe of each size section

Primary refrigerant piping, internal diameter and thickness of each size
Material How manufactured

Have all components of the refrigerating plant been constructed strictly in accordance with the Rules and approved plans? yes
Has the spare gear required by the Rules been supplied? Where additional spare gear has been supplied a list is to be attached to the Report.
The foregoing is a correct description of the refrigerating machinery.



PRESSURE TESTS AT WORKS

DESCRIPTION	Working Pressure	Hydraulic Pressure kg/cm ²	Date of Test	Air Test Pressure kg/cm ²	Date of Test	Stamped
Compressor cylinders ...		25	10-2-58	14	10-2-58	MN 10-2-58
Compressor crankcases ...		14	10-2-58	10.5	10-2-58	MN 10-2-58
Oil separators, oil rectifiers ...		25	5-3-58	14	5-3-58	MN 5-3-58
Filters ...						
Driers ...		25	5-3-58	14	5-3-58	MN 5-3-58
Strainers ...						
Stop valves and connections ...						
Liquid receivers ...		25	5-3-58	14	5-3-58	MN 5-3-58
Condenser shells or coils ...		25	5-3-58	14	5-3-58	MN 5-3-58
Evaporator (brine cooler) shells or coils ...						
Condenser headers and connections ...						
Condenser coil casings or water ends ...						
Evaporator headers and connections ...						
Evaporator coil casings or brine ends ...						
Air cooler coil assemblies ...		25	5-3-58	14	5-3-58	MN 5-3-58
Chamber grid sections ...						
Float regulators ...						
Brine heaters ...						
Primary refrigerant piping ...						
Other pressure parts ...						

PLANS: Drawing No. and date of approval of each plan concerned.

Compressors, crankshaft. 99209 22-10-56
Filters
Evaporators
Condensers 112151 - 92905 6-2-58
Air coolers 116283 18-2-58
Other pressure parts

Crankcases 99875 22-10-56
Separators Oil 92108 6-2-58
Strainers
Driers 115175 6-2-58

Cylinders
Liquid receivers 114197 6-2-58
Float regulators
Brine heaters

General remarks (state quality of workmanship, opinions as to class, etc.)

The machinery and appliances for the refrigerated cargo installation have been built under Special Survey in accordance with the Rules, the approved plans and specification and the Secretary's letters.

The material used has been tested as required by the Rules and the workmanship is good.

Recommended the installation to have notation + Lloyd's RMC to maintain temp. 5° F with sea temp. 86° F max. when the installation has been erected onboard under Special Survey and a satisfactory balance test carried out.

PARTICULARS OF MACHINERY FOR REGISTER BOOK

No. of units 2
Total B.H.P. of all compressor prime movers 32
Makers Messrs. A/S Thomas Ths. Sabroe & Co.

Prime Movers electric DC Motors
Refrigerant Dichlorodifluoromethane
Date of construction 1958

MACHINERY PARTICULARS:

2 - 8 cyl. SA SS compressors 65 x 50 mm 1245 RPM
2 S & T condensers.

SURVEY FEE (Based on measured cubic capacity on completion of installation.)

4. ak
7.5.58

Mr. 490,00

Fee applied for,

10/3

19 58

Travelling expenses

Mr. 39,00

Received by me,

Surveyor to Lloyd's Register

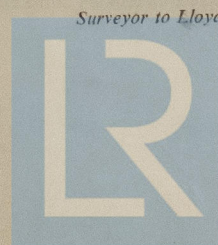
Date of Committee
Minute

FRIDAY -2 MAY 1958

+ Lloyd's RMC 3.58

"to maintain temp. 5° F with sea
temp 86° F. maximum."

CERTIFICATE WRITTEN.



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Foundation