

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 or ~~rebuilt~~ 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/mm<sup>2</sup> 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 m<sup>2</sup>  
 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

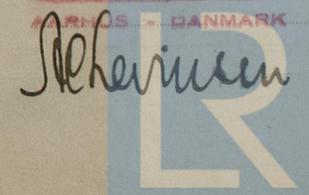
OTHER COMPONENTS, ETC.

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 m<sup>2</sup>  
 Air cooler coil assemblies, total No. 6 Length of pipe and No. of coils of each size 185 m total surface each cooler 100 m<sup>2</sup>  
 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.



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 003567-003571-0061

PRESSURE TESTS AT WORKS

DESCRIPTION	Working Pressure	Hydraulic Pressure kg/cm <sup>2</sup>	Date of Test	Air Test Pressure kg/cm <sup>2</sup>	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	Crankcases 99875	22-10-56	Cylinders	
Filters		Separators Oil 92108	6-2-58	Liquid receivers 114197	6-2-58
Evaporators		Strainers		Float regulators	
Condensers 112151 - 92905	6-2-58	Driers 115175	6-2-58	Brine heaters	
Air coolers 116283	18-2-58				
Other pressure parts					

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	Prime Movers	electric DC Motors
Total B.H.P. of all compressor prime movers	32	Refrigerant	Dichlorodifluoromethane
Makers	Messrs. A/S Thomas Ths. Sabroe & Co.	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.)

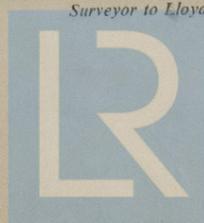
4. ak  
7.5.58  
Mr. :490,00  
Travelling expenses Mr. :39,00

Fee applied for, 10/3 19 58  
Received by me, [Signature]

Date of Committee FRIDAY -2 MAY 1958  
Minute + Lloyd's RMC 3.58

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

CERTIFICATE WRITTEN.



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