Specification Sheet



NMR-262

MANUFACTURED BY

KLINGE CORPORATION

4075 EAST MARKET STREET

YORK, PA 17402 USA

Phone: 1-717-840-4500

https://www.thermoking.com/klinge

© 2026 Trane Technologies. All Rights Reserved

Table of Contents

UNIT INFORMATION 3
UNIT CAPACITY 4
STANDARD INFORMATION 5
UNIT INFORMATION, REFRIGERATION SYSTEM 5
UNIT INFORMATION, ELECTRICAL SYSTEM 7
CONTROL SYSTEM 8
REVISION RECORD 11

© 2026 Trane Technologies. All Rights Reserved

UNIT INFORMATION

Construction	The NMR-262 is a refrigeration unit designed to provide high reliability in extreme ambient temperature. The unit has two complete electrical systems (including thermostats) and two independent refrigeration systems. Each refrigeration system has its own compressor, refrigerant piping, coils, and thermal expansion valve. There are two evaporator fan motors, and condenser fan motors. Dampers make it possible for the unit to operate on one evaporator fan motor should a failure occur. The refrigeration unit frame is constructed of aluminum treated to resist corrosion induced by salt spray atmosphere. All fasteners including bolts, screws, nuts, washers, hinges, are stainless steel.
Equipment Design	To withstand and operate satisfactorily under seagoing and environmental conditions as follows: Ocean environment: Salt laden air, sea spray, high humidity, and severe atmospheric conditions.
Rolling:	Amplitude of 30 degrees on each side, period of 13 seconds
Pitching:	Amplitude of 6 degrees, period of 8 seconds
Permanent list:	10 degrees on each side
Shock:	Longitudinal acceleration of 2g in rail transport
Vibrations:	Of the types encountered on ships, land vehicles and rails
Dimensions:	Width - 83 inches (2108 mm) Height - 50 inches (1270 mm)

© 2026 Trane Technologies. All Rights Reserved

	Depth - 21.5 inches (546 mm) from back of flange 25.5 inches (650 mm) over all
Weight	654 Kg (1442 lbs.)
Power supply Main power: Control circuit:	 50 Hz; 360VAC min. – 460VAC max. 60 Hz; 400VAC min. – 500VAC max. 12/24 Volts A/C
Paint	Powder coated, White
Refrigerant	R-452A
Method of Defrost	Hot gas

UNIT CAPACITY

Unit capacity 60 Hz	Net cooling capacity at 37.7°C (100°F) ambient temperature at 60 Hz power. (Temperatures as low as -25°C in an ambient temperature of 50°C and -35°C in an ambient of temperature of 30°C)

Return Air Temperature	**Net Capacity (One System)**
-17.8°C / 0°F	4890 Kcal/h / 19,500 BTU/Hr

© 2026 Trane Technologies. All Rights Reserved

STANDARD INFORMATION

The unit is built to comply with standards and regulations of major Classification Societies such as:

Machinery complies with International Customs Regulations for Containers.

Machinery complies with relevant ISO Recommendations.

Machinery complies with rules of B.V., ABS and Lloyds, but is certified to ISO 1496-2.

Machinery complies with the requirements of the ATP regulations.
Unit complies with Australia and New Zealand Health Requirements.

UNIT INFORMATION, REFRIGERATION SYSTEM

COMPRESSORS			
Manufacturer:	Bitzer	**Type:**	4C
Cylinders:	4	**HP**	7.0
No. of Compressors:	2	**Oil Charge:**	92 oz.
Valve (Brass):	Suction and Discharge with connection for gauge	**Oil:**	Polyester Oil
Refrigerant:	R-452A	**Charge:**	3.6 kg (each system)
CONDENSER COIL (AIR COOLED)			
Tube Material:	Copper	**Fin Material:**	Aluminum
Fin Space:	10 per inch (3.62 mm)	**Attitude:**	Vertical
Protection:	Surface treated to resist corrosion induced by salt spray atmosphere.	**No. of coils:**	2

© 2026 Trane Technologies. All Rights Reserved

CONDENSER FAN			
Type:	Propeller	**Diameter:**	16.75" (425 mm)
No. of Fans:	2	**No. of Blades:**	10
Blade Material:	Plastic	**Drive:**	Direct on motor shaft
CONDENSER FAN MOTOR			
Nominal HP:	¾ HP (.56 kW)	**Type:**	Totally enclosed, single speed
Speed:	1700 rpm	**Protection:**	Overload relay
Degree of Protection:	IP56		
EVAPORATOR COIL			
Tube Material:	Copper	**Fin Material:**	Aluminum
Fin Space:	6 per inch (4.23 mm)	**Attitude:**	Vertical
No. of coils:	1, Dual Circuited	**Protection:**	Surface treated to resist corrosion induced by salt spray atmosphere.
EVAPORATOR FAN			
Type:	Propeller	**Diameter:**	16" (406.4 mm)
No. of Fans:	2	**No. of Blades:**	4
Blade Material:	Aluminum	**Drive:**	Direct on motor shaft
Air Flow:	1350 CFM (x2)		

© 2026 Trane Technologies. All Rights Reserved

EVAPORATOR FAN MOTOR			
Nominal HP:	.25 HP (.19 kW)	**Type:**	Single speed
Speed:	1800 rpm	**Protection:**	Internal klixon
Shaft Material:	Stainless Steel	**Degree of Protection:**	Ex d IIB T6

Refrigerant Components			
TX Valve:	Parker or equivalent		
Drier:	Parker or equivalent	**Moisture Indicator:**	Parker or equivalent
Suction Capacity Reduction Valve:	Parker or equivalent	**Receiver:**	Klinge Corp.
Shut Off Valve:	Liquid Line Hand Valve	**Copper Tubing:**	Klinge Corp.

REFRIGERATION SAFETY CONTROLS			
High Pressure Switch:	Cut-out 31 bar (450 psig +/-10 psig) Cut-in 20.7 bar (300 psig +/-10 psig)	**Fusible Plug (Receiver):**	Blow temperature 212°F (100°C)
Pressure blow-off	475 psi (32.75 bar)		

UNIT INFORMATION, ELECTRICAL SYSTEM

ELECTRIC SAFETY CONTROLS	
Compressors	Internal automatic reset and overload relay
Condenser fan motors	Overload relay
Evaporator fan motors	Internal automatic reset
INTERNAL ELECTRIC PANEL COMPONENTS	

© 2026 Trane Technologies. All Rights Reserved

Starters:	Compressor, Condenser Motors	**Display panel**	3 button touch pad
Circuit Breaker:	Main Power Control Circuit	**Transformer:**	Primary 400 volts Secondary 24/12 volts
Contactors:	Phase Changing	**Battery charger**	12 VDC output
Data Logger:	Euroscan	**Phase sensing**	Current transducer
EXTERNAL ELECTRIC PANEL COMPONENTS			
Circuit Breaker:	Control circuit	**Switch:**	Unit On-Off, Manual Defrost
Circuit Breaker	Battery charger		
POWER PLUG			
Type CEE Form 17 ISO 1496/2	4 Pole, 380/460V, 50/60 Hz Ground at 3 o'clock	**Amps:**	32 @460 volts
POWER CABLE			
Length:	64 Ft (19.5m) - 40 Ft. Cont.	**Cable:**	S.O. 10/4
Temperature Range:	-40°F (-40°C) to 194°F (90°C)	**Color:**	Black or Yellow
OPTIONS			
Dual voltage transformer		3 Phase Autotransformer, Input 230 VAC (60 Hz)/190 VAC (50 Hz.), Output 460 VAC (60 Hz)/380 VAC (50Hz) Max. Amp. 19 @ 460 Volts	

CONTROL SYSTEM

General Information

The temperature controller is based on microprocessor technology.

The control system is an electronic solid-state device consisting of three parts (equal for each system):

1. Microprocessor thermostat
2. Temperature select/display panel
3. Defrost, return air, and supply temperature sensors

© 2026 Trane Technologies. All Rights Reserved

All parts are mounted in the control box except the temperature sensors.
The air temperature is controlled by the return air sensor.
Defrost is controlled by a sensor mounted on the suction pipe of the evaporator coil which measures the temperature of refrigerant in the copper pipes.

Microprocessor Thermostat
This device contains all circuits necessary to select the required functions to maintain an accurate temperature. The selection is based on signals received from the sensors and the temperature selector switch.
Accuracy of the microprocessor thermostat is +/- 0.4°F (+/- 0.25°C).

Ten LED indicators are placed in the front of the thermostat and show the unit status as follows:

UNIT ON, ALARM ON, PHASE OK, PRIMARY SYSTEM, COMP FAIL, TEMP FAIL, DEFROST, COOL, HEAT, UNLOAD

Temperature, Selection/Display Panel
The display panel consists of three membrane buttons and a three-position numerical LED display. The display indicates return air temperature. Temperature is indicated in 0.1 degree increments for values above -10.0 and in whole degree increments for values below -9.9.

The set point is entered using the membrane switches on the display panel. The set point is stored in a nonvolatile memory and will always be intact - even in case of power failure.

In order to prevent false entry or changes of values, both the up and down selector buttons must be depressed simultaneously for new settings to be entered into the memory.

Once a set point is entered, the thermostat controls the actions of the NMR-262.

Temperature Sensors
The temperature sensing probe is a thermistor placed in an epoxy filled metal tube, which is connected to a two-conductor shielded cable. The temperature signal from the probe is relayed to the controller through this cable.

Thermostat Sequence
The two independent cooling sequences are the same for both systems. The capacity of each system is sufficient to hold temperatures in the most extreme conditions. If the primary system should fail to hold temperature or shutdown due to various alarm conditions or power failure to the control circuit, the unit will automatically switch to the secondary or back up system.

For cargoes where it is desired to have the support of the back up system, both systems must be turned on. The first system to be energized will automatically become the primary system. The secondary system will not operate unless it becomes necessary due to failure of or malfunction in the primary system.
The other condition to cause a switch over of systems is at the conclusion of defrost cycle.

The actual temperature control point is determined by the setting on the temperature selector.

© 2026 Trane Technologies. All Rights Reserved

Each thermostat must be set to the same desired control point. The sequence of events or cycles of the unit are governed by the controller in conjunction with one of the temperature probes and the set point selected on the operator panel.

Alarm

The alarm system has many features such as indicator lights on the thermostat, large alarm lights located on each control box door of the refrigeration unit, as well as a numeric readout on the touch pad, which are visible from far away. Each system also has its own alarm horn. If desired, a socket can be provided for remote alarm monitoring.

The alarm circuit is 12 VDC which is separate from the normal control circuit. The 12VDC power is supplied by the generator set battery or independent battery. The battery has its own charging system.
By activating the Manual Defrost/Horn Silence switch, the horn will be de-energized. The horn will come on again if the malfunction is not repaired timely.

The alarm light will flash during all alarm conditions.

Defrost

The defrost cycle can only be activated automatically by the system which is the PRIMARY system.
Defrost will be initiated automatically when the temperature difference between the sensor measuring the refrigerant temperature in the evaporator (one for each system) and the probe measuring the return air exceeds preset limits. The limits vary depending on the container temperature. As an added security, defrost can be started via a timer which initiates a defrost cycle if 24 cumulative compressor running hours have gone by since previous defrost. The timer will be reset if the system has been powered OFF for greater than one hour.

When the unit is on defrost, the hot gas solenoid valve changes so that the vapor from the high-pressure side of the compressor goes directly to the evaporator coil.
The defrost cycle is terminated by the defrost probe when the temperature in the evaporator coil rises to approximately 100°F (38°C). If the defrost cycle is not finished within one hour, the thermostat will stop the defrost cycle and go to normal operation.

If the defrost sensor is opened or shorted defrost will be initiated every 24 hours, maximum time for defrost will be set to one hour, and the LED defrost light will start flashing.
The defrost cycle can also be manually activated. To manually activate defrost, hold the MANUAL DEFROST switch ON (in the up position) for five seconds.
If the defrost is initiated twice within the same hour, the LED light defrost will start flashing.
At the conclusion of the defrost cycle the primary system will switch to help maximize even compressor run time.

Function Test

The thermostats have an automatic function test which energizes the compressor motor, condenser motor, evaporator motor, alarm lamp, alarm horn and probe/selector. Step time is eight seconds.
Activate the Function Test by holding the manual defrost switch in the ON position when you turn the unit on.
The unit also has a built-in hardware check that will run at each startup.

Independent Recorder/Backup Alarm System

© 2026 Trane Technologies. All Rights Reserved

The recorder is specifically configured for this application. There are (3) temperature probes configured and activated. One probe is for ambient temperature, one probe records evaporator air discharge and the other measures supply air temperature. The evaporator air discharge probe provides protection of a temperature sensitive load by triggering an alarm if the air temperature exceeds set limits.
The recorder has (3) other temperature inputs and (4) digital inputs that are not used. The digital inputs can be used to record door openings and defrost cycles.
The temperature measurement range is -40°C to +50°C.
The recorder receives DC power from the generator set battery when the refrigeration unit is turned off.
Storage time depends on the frequency of readings. Storage time for a sampling rate of two temperatures at 15 minute intervals is 2 years.
A printer is supplied with the recorder.
The recorder is certified in accordance with TUV in Germany.

REVISION RECORD

Rev	Description	Date	Approved

© 2026 Trane Technologies. All Rights Reserved

A	Corrected refrigerant charge, was 4.3kg, pg 4	11/21/2018	BES
B	Corrected Power Cable length, was 60ft. (18m), pg 5	6/25/2019	BES
C	Added (32.75 bar) at Pressure Blow-off pg 5	11/22/2024	BES
D	Added new low temp range in reduced Ambient	12/19/2024	JCF
E	Added NMR-262-55 & -56 models	10/30/2025	BES

© 2026 Trane Technologies. All Rights Reserved