Reefervan – RVTC (2020)

Trailer Cooler & Stationary Refrigeration Cooler

Installation Operation & Service Manual

Contents

1. Cooler Description & Warnings

Intended to mount into mobile refrigerated trailers or stationary cooler boxes, Reefervan's RVTC refrigeration cooler is a one-piece integrated standalone cooler that comes already prewired and precharged with freon and is ready to go out of the box.

No specialist technician is required to install the RVTC. Easy to install and maintain, any certified HVAC technician can maintain the cooler. Most parts used in the RVTC are widely available across North America from local HVAC suppliers.

WARNING:
The RVTC comes already pre-charged with high pressure R404a refrigerant which can cause serious injury to a person and even cause death in un ventilated areas.
High voltage is also present and can cause serious injury or death. Under no circumstance attempt to install, repair or service the cooler if you do not have the correct qualifications to do so.
If you require a certified installer Contact Reefervan for your nearest installer and service location.

Application Guidelines:

- RVTC can be installed to applications with box volumes of up to 14ft long 6ft wide and 6ft tall (approx. 500 CUFT)
- Box volumes are noted as a general guideline only. Actual volume calculation must be determined by insulation thickness, operational ambient temperature, door sealing, type of product, door openings, and pre-cooling time of cargo area.
- Reefervan reserve the right to change the above specifications above
- Contact Reefervan to confirm your application and product specification

Installer Requirements:

- Personnel doing the installation and maintenance must read and understand fully the installation instructions and have the skills required to complete the installation and or repairing the cooler.
- If the installer does not have the skills required, contact a local Reefervan dealer or a HVAC installer for installation or service. DO NOT attempt an install if you do not have the qualifications required.
- The following cases will release Reefervan from any liability whatsoever for damage caused to the refrigeration cooler. Improper use, Non-suitable personnel to carry out install and service – Incorrect assembly / Installation - Unauthorized modifications or repairs – Personnel injury due to incorrect installation, service and operation of the cooler.
- Make sure that the cooler is operated in a well-ventilated area with good air circulation. Do not block the evaporator or condenser fan outlets.

2. Technical Information & Product Overview

R-452A REFRIGERANT Advanced Efficient Green **Compliant**

Technical Information	Description	
Temperature Range	50°F to 0°F	Depending on insulation thickness etc
Refrigerant:	R404a – **R452a** (Frozen as Standard)	Refrigerant charge 2.3LB (1.1 KG)
Cooling Capacity:	7895 BTU at 32°F Box temperature	Temp range 50°F to 0°F
Voltage / AMPS:	115v 60HZ (1 phase)	Max power consumption 13.5A
Defrost Type:	Hot gas	Defrost electronic auto timer stn
Condenser Dimensions:	L x W x H (Inches)	35” x 16” x 17¾”
Evaporator Dimensions:	L x W x H (Inches)	30” x 18¼” x 12¼”
Condenser Fan:	Axial	Qty 1 – CFM 650 (1100 M³ per H)
Evaporator Fan:	Axial	Qty 2 – CFM 650 (1100 M³ per H)
Refrigeration Safety Protection Devices:	High pressure	320 PSI Cut out (compressor stops)
	Low pressure cut out	O PSI Cut Out (compressor stops)
Compressor	3/4HP Rotary compressor	LRA – 70AMP / FLA 15
Oil Performance Separator	Pre oiled – Installed as Standard	Optimal Frozen Performance
Control:	Electronic control	2 x NTC Probes
Weight:	196LB (88KG)	
Compressor Regulation Valve (CPR)	Adjust Valve to - 37 PSI Extreme ambient set to - 28 PSI	Only adjust valve when cooler is running on defrost mode

Electrical Connection:	30A 3 Pin 110v Socket – UL	Min 20 AMP 115v power supply req.

Internal Components:

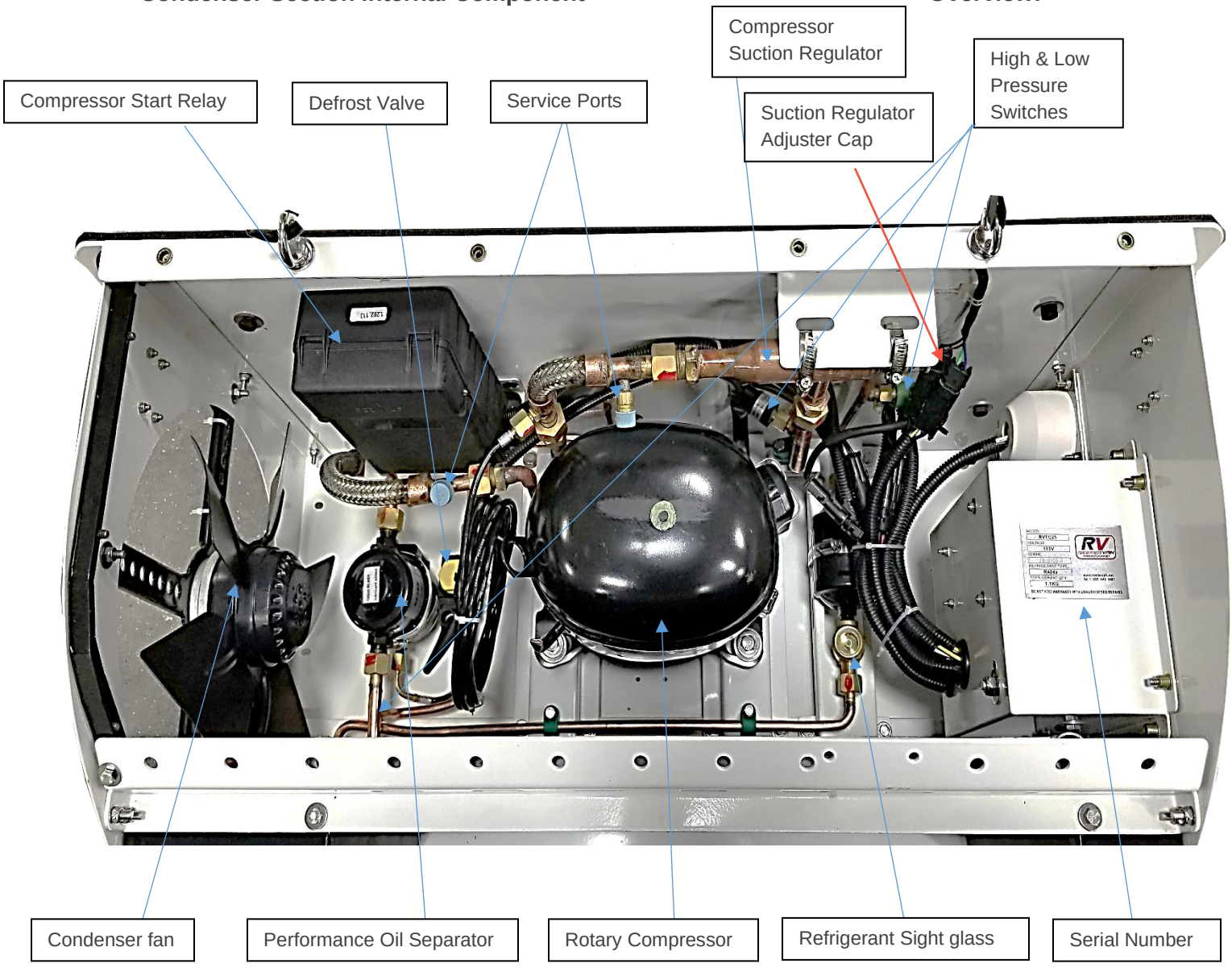
Removal of Top Cover – Always remove power plug connection from main power supply before removing the cover

Remove bolts

Remove Power Plug
Before Removing Cover

Remove Cover Forward

Condenser Section Internal Component Overview:

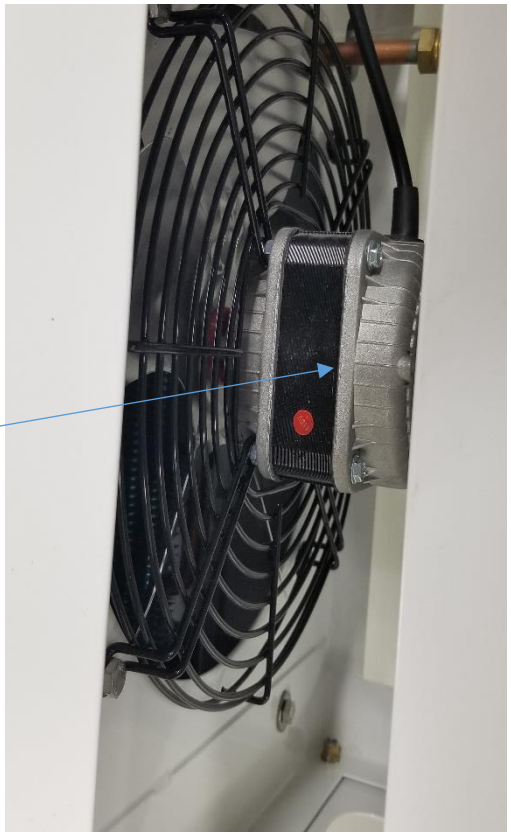


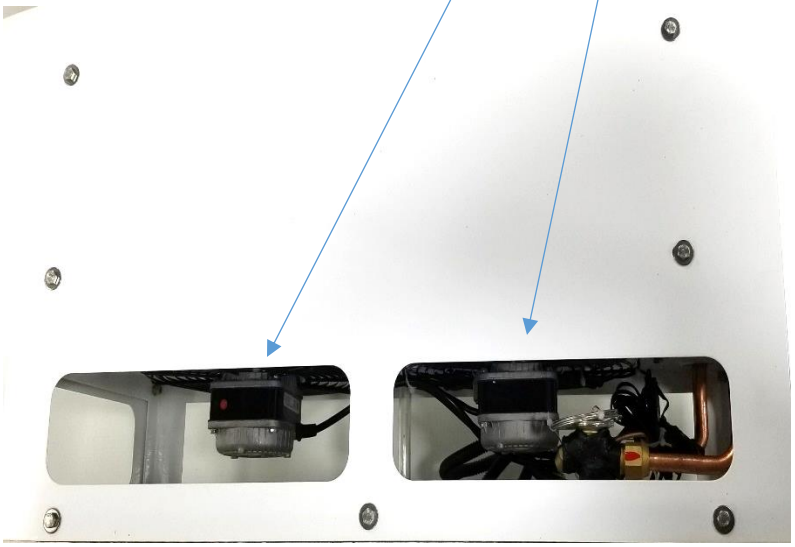
Condenser Coil

Evaporator Coil

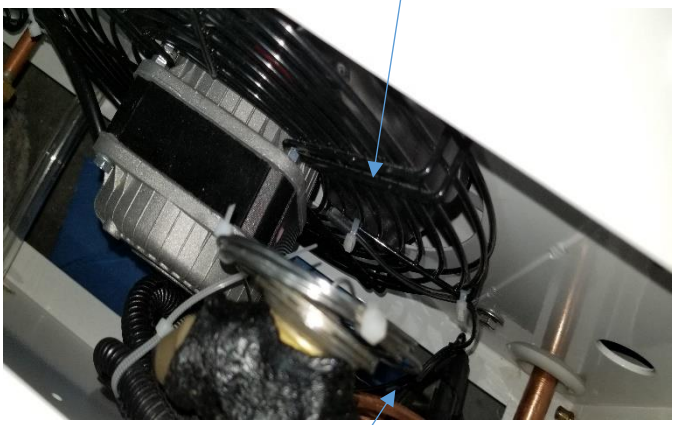
Expansion Valve

Evaporator Fan Motors





Return Air Sensor (PB1)



Interior Light and Defrost Drain Heater Wiring Loom Controlled by switch on panel. (Light fitting not included)

Defrost Suction Line Sensor (PB2)

ELECTRICAL WIRING PANEL COMPONENTS:

WARNING: HIGH VOLTAGE !!

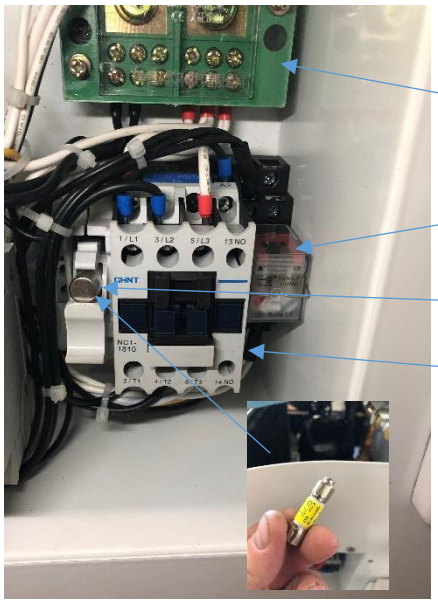
Do not attempt to service! Only service if you are not a certified technician.

Disconnect power cable before removing the screws securing electrical access panel.

Condenser Fan Capacitor

Appliance Inlet 115v 60HZ 20A

Circuit Breakers – Fan & Compressor

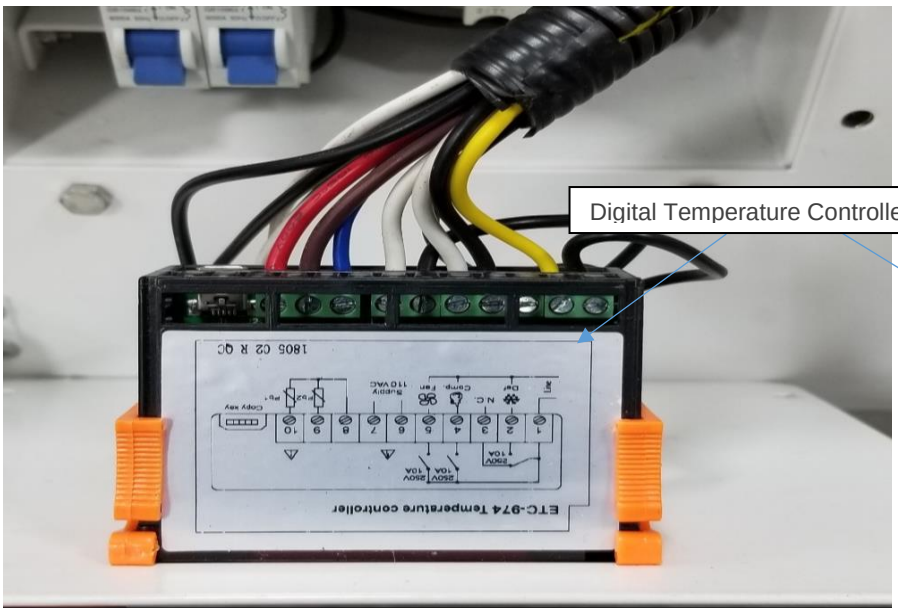


Wiring Connection Junction

Condenser Fan Relay

Main Fuse Protection

Compressor Contactor



Digital Temperature Controller

3. Installation – General Safety Precautions

Refrigerant & Electrical Components

- *Unless you are a certified electrical technician all electrical connections must be accomplished by a certified licensed electrician. There is a risk of electric shock causing property or personal injury or death! Do not disassemble the appliance inlet plug socket.*
- *DO NOT plug in to the power supply before installation is completed or if your hands are wet. Do not use a damaged power cord. Do not use power cord extensions.*
- *Satisfy yourself that the correct power supply is present before starting the cooler. If in doubt contact a certified electrician.*
- *If using a generator DO NOT use a generator that does not have a voltage stabilizer / inverter system included – **Regular low-cost generators will cause damage to the cooler** contactor and or compressor due to voltage and amperage fluctuations. Warranty on some parts may not be covered when using a generator.*
- *If using a generator a separate ground wire and a GFCI safety device must always be used. It is also recommended that a ground rod be installed for stationary applications*
- *The cooler contains fluorocarbon refrigerant which in a presence of an open flame will produce toxic gas that may cause respiratory irritants capable of causing death. Never apply heat to the refrigeration unit, because it could cause an explosion. The refrigerant tends to displace air and can cause oxygen depletion and may cause death. Only a certified technician may install, service or repair the cooler.*
- *Always use personal safety protection including: Eye protection (such as goggles) – refrigerant and oils can permanently damage the eyes – Wear work gloves, safety shoes – Keep your hands away from fans at all times – Never drill holes into the refrigeration unit.*
- *Refrigerant can cause severe frostbite, in the event of liquid refrigerant contacting your skin or eyes, immediately flush with lukewarm water then seek medical attention immediately.*
- *Refrigerant in the cooler must be handled directed by State / Federal or Provincial law by a certified gas handling service technician. DO NOT under any circumstances handle the refrigerant if you are not certified.*

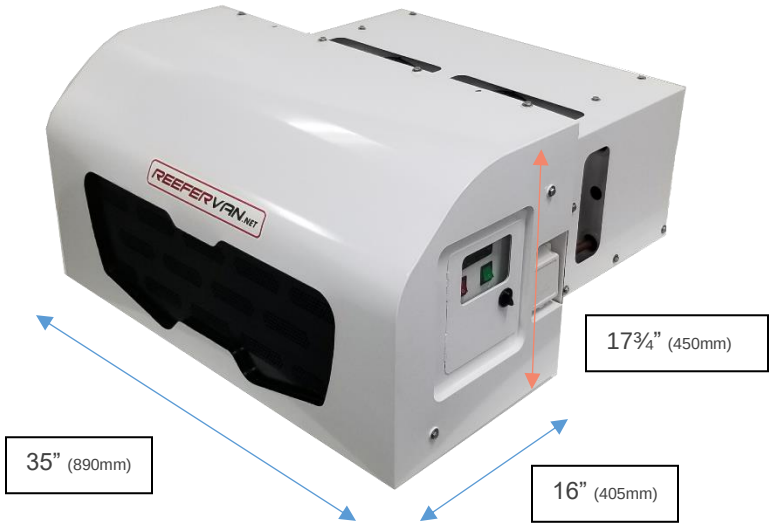
Trailer Pre-Installation Confirmation:

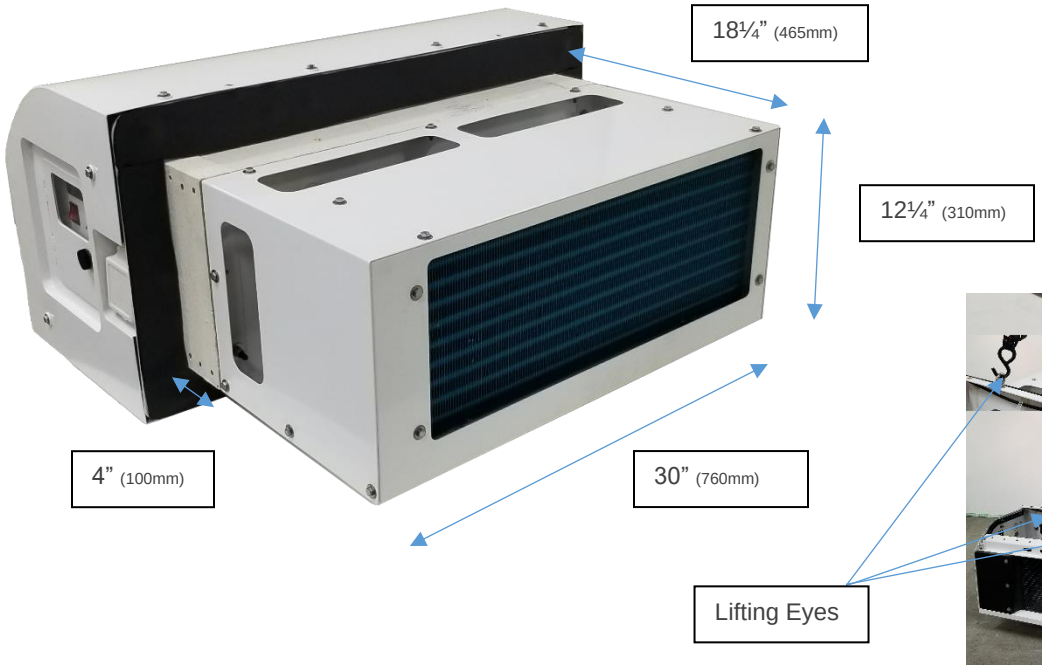
- *Verify that the trailer is designed and built for the trailer cooler, including the thickness of the insulated walls, ceiling, floor and doors (minimum insulation thickness recommended is 4")*
- *Verify that the front bulkhead of the trailer can accommodate the trailer cooler (see drawing)*
- *Verify measurements before cutting hole in bulkhead*

4. Installation Mounting Diagrams

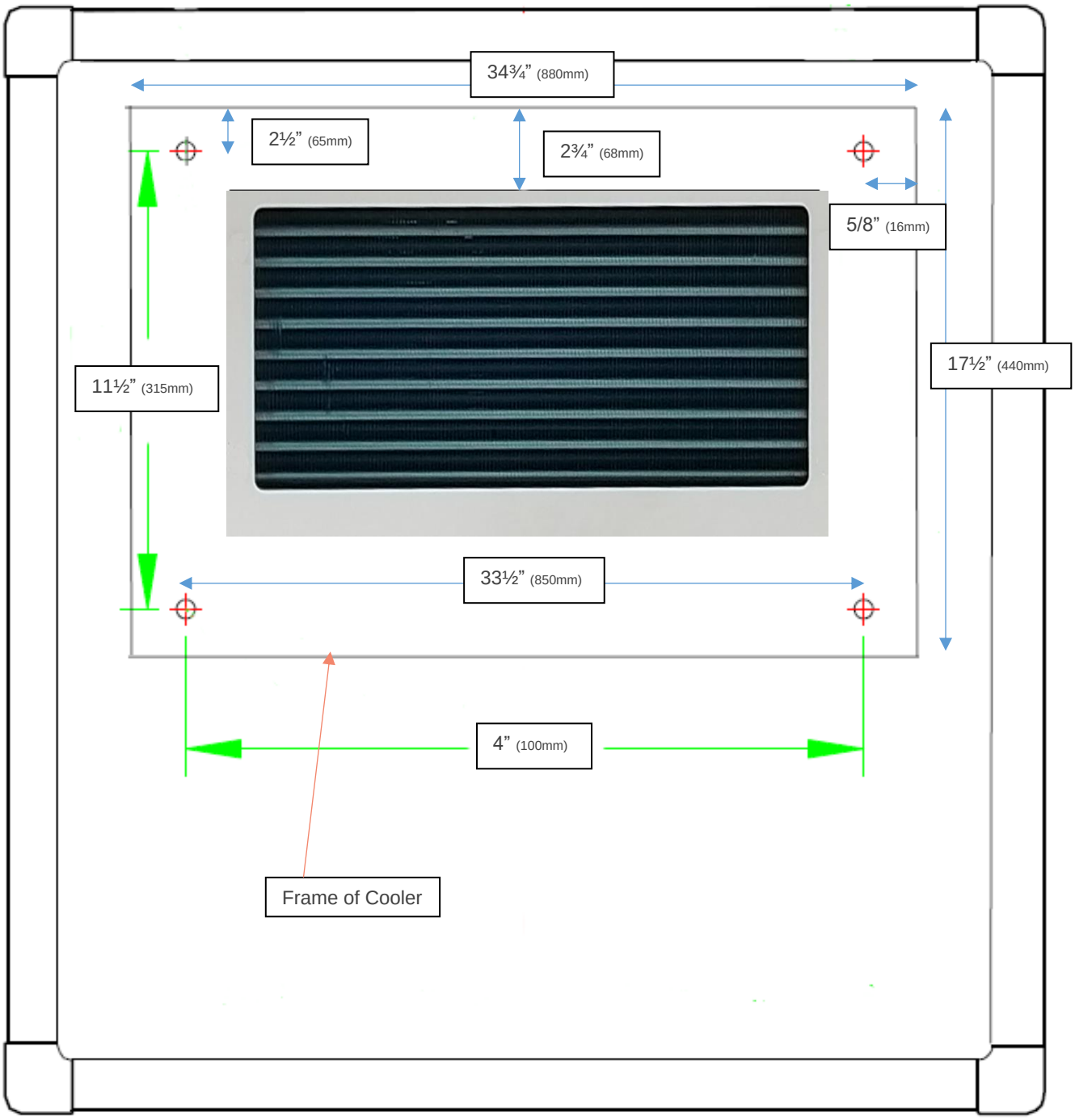
- *The cooler must be mounted and operated in a horizontal position*
- *Lifting points and hooks are supplied with the RVTC*
- *Do not plug the cooler into power supply until the installation is completed*
- *An auxiliary wiring loom for a interior light is located in the evaporator section – A separate switch is located on the control panel*
- *Install the water drain hose extension to the exterior of the cargo area*

Dimensions:





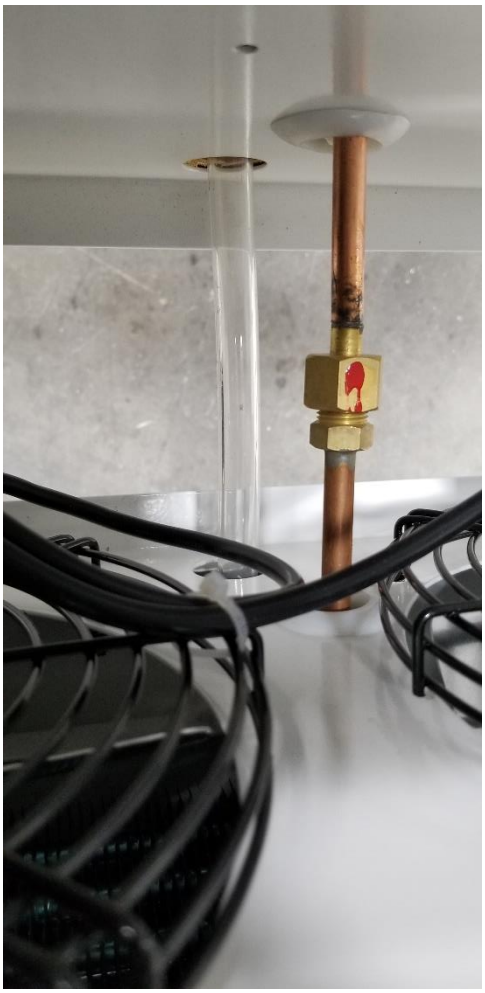
Evaporator Hole Size Drawing:



Drain Tube Extension:

Add the additional pipe to the defrost water drain pipe underneath the reefer upon installation

Drain Tube Extension Tube



Drain Tube in evaporator

IMPORTANT NOTE:

THE RVTC is capable of cooling to: 0F (-18C)

It is recommended for frozen applications that the defrost water drain tube be routed out of the cargo area at a steeper angle lower to allow water to run off the cooling coil easier. If the trailer is parked at an angle the water may not drain and freeze in the pipe causing a blockage of the air flow which will mean more buildup of ice on the cooling coil.

In some cases, an electric defrost pipe wire drain heater will be required (optional) to keep the water drain pipe clear.

The controller defrost settings may also have to be adjusted to an extended defrost time interval of 6 hours and extended time for defrost termination of 25 mins.

Consult with Reefervan for more technical information

For Frozen applications divert the drain hose out below The cooler frame

5. Digital Controller Operation

Temperature Controller

REEFRERVAN ETC-974 Cab Command **Operation Instructions**

The ETC-974 is a general temperature controller that is normally found in stationary cold-rooms. There are no complicated microprocessors for ease of service and serviceability.

Specifications :

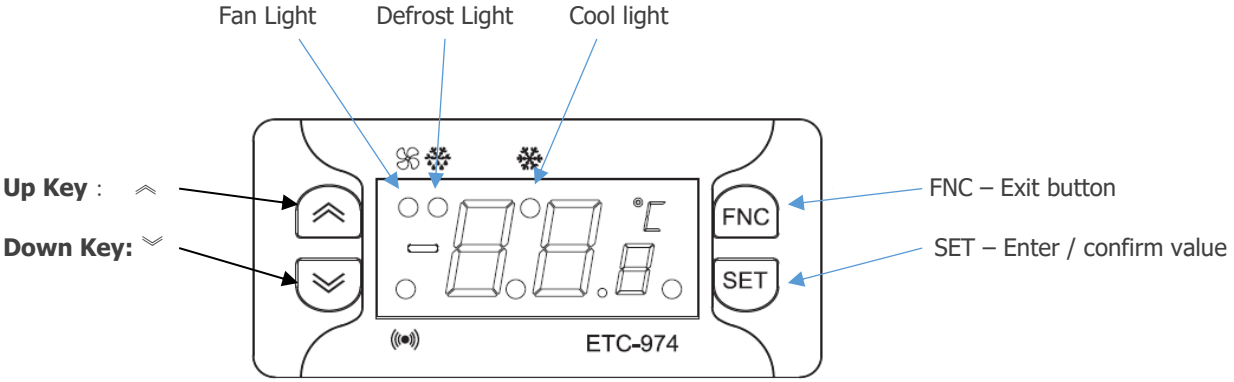
1. Power supply：110VAC
2. Product Size：Length 77× Width 34.5 × Depth 58（mm）
3. Mounting Hole Size：Length 71 × Width 29 (mm)

Technical parameters :

1. Temperature controlling range：
   NTC probe: –50…110 °C (-58...230°F)

   PTC probe: –55…140 °C (-67...284°F)
2. Display resolution：1℃/0.1℃
3. Probe type：NTC（-50℃～120℃） PTC（-50℃～150℃）

Operation and display panel:



ICON	Related Function	Status
	Compressor	ON when the compressor is started; blinking in case of delay
	Defrost	ON when defrosting; blinking in case of manual enabling (Push UP Arrow for 5 Sec to initiate Defrost Cycle)
	Alarm	ON when the alarm is enabled; blinking when the alarm is silenced
	Fans	ON when the fan is working

Controller Basic Operation :

Setting the "Set point" temperature that you require :

1. To adjust set point of the controller, press the SET key once, now the display will show "Set".
2. Now press the SET key again for a second time, now you can view the current temperature set point of the controller.
3. Press ⌃ key or ⌄ key to modify or adjust the set point up or down.
4. Press FNC key to confirm the set point temperature and exit from the temperature setting.
5. The display will now return to the cargo area temperature reading

Manually Defrosting the Reefer:

1. Once the cargo area is cool enough to allow a defrost cycle – Initiate defrost by pressing the "UP" button for 5 seconds
2. If a defrost cycle is initiated the defrost light will appear on the display
3. If the display "Blinks" three times the conditions are not right for a Defrost cycle to initiate. (for example, the evaporator sensor temperature is higher than defrost stop temperature)
4. The reefer has an automatic timed defrost for every 2 or 3 hours, however it is recommended that the driver monitors the ice on the cooling coil in the cargo area and manually defrost when required.
5. Defrost will terminate automatically and resume cooling
6. The defrost timer always resets to 0 mins when the reefer controller is turned off.

Other display readings:

Pb1: Air Return probe value

Pb2: Defrost Suction probe value (Located at the Expansion valve Thermo Bulb)

SEt: Set point.

Parameter settings

The controller has seven parameter function folders**: CP, Def, Fan, AL, diS, CnF, FPr** The folders contain settings to fully optimize the operation of the reefer.

CAUTION ! Changing the controller from **Degree °C** to **Degree °F** – FIRSTLY CHANGE PARAMETER, **"dro" in the "dis" folder to degree C or F** and then **ALL THE PARAMETERS MUST BE CHANGED.**

The controller does not change all the parameters automatically, **ONLY THE MEASUREMNET VALUE (degree C or F).**

The reefer will not operate correctly if all the parameters are not changed. Contact Reefervan if in doubt.

Parameters marked with warning symbol are crucial for correct operation of reefer

Entering parameter folders, CP, Def, Fan, AL, diS, CnF, FPr :

- The controller normally shows the cargo temperature on the display panel, to enter parameters settings press **SET key for at least five seconds**, then the display will enter into the first parameter folder code **CP.**
- Press ⩓ **key or** ⩔ **key**, to display all the parameters folders in rotation (…Def,Fan,AL.diS,CnF,FPr.)
- If you need to view or modify a parameter setting in a folder, press SET key to view the parameter value, then press ⩓ **key or** ⩔ key to modify the value.

To exit the parameters, press **FNC key** this will exit from the parameter folder you are currently in.

To fully exit, **Press FNC again**, this will restore to the normal display temperature value and exit from parameter settings.

Alarm codes :

- **PB1:** Return Air Probe Failure (sensor wire connection failure or sensor failure)
- **PB2:** Defrost Suction Line Probe Failure (or sensor wire connection failure)
  (Note: If PB1 and PB2 alarms are active, they will be displayed simultaneous alternately, every 2 seconds)

- **HAL:** High Temperature Alarm (Out of Range)
- **LAL:** Low Temperature Alarm (Out of Range)

Note: To silence alarms press any key.

Parameter Table

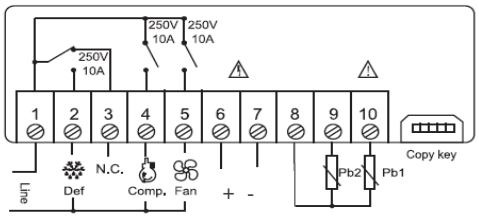
COMPRESSOR REGULATOR (folder with "CP" label)					
	Parameter code	Description	Set range	Default value	Unit
1	**diF**	The temperature difference between set point and when the compressor restarts	(0.1 ... 30.0)	**2 °C** **3 °F**	°C/F
2	**HSE**	Higher Set. Maximum possible set point value.	(LSE ... 302)	**99.0**	°C/F
3	**LSE**	Lower Set. Minimum possible set point value.	(-55.0 ... HSE)	**-18°C /0 °F**	°C/F
4	**Ont**	Compressor On time activation time in the event of faulty probe. If set to "1" with **Oft at "0"** the compressor is always on, while at **Oft >0** compressor cycle mode.	(0 ... 250)	**0**	min
5	**OFt**	OFF time (compressor). Compressor in disabled state time in the event of a faulty probe. If set to "1" with **Ont** at "0" the compressor is always off, while at **Ont >0** it functions always in duty cycle mode.	(0 ... 250)	**1**	min
6	**dOn**	Delay compressor on. Delay time in activating the compressor relay after switching on cab command.	(0 ... 250)	**10 - For 110v Standby**	Seconds
7	**dOF**	Delay (after power) OFF. Delay after switching off; the indicated time must elapse between switch-off of the compressor relay and the successive switch-on.	(0 ... 250)	**0**	min
8	**dbi**	Delay between power-on. Delay between compressor starts; The indicated time must elapse between two successive switch-ons of the compressor.	(0 ... 250)	**4 - For 110v Standby**	min
9	**OdO**	Delay Output (from power) On. Delay time in activating the outputs after switch-on of the instrument or after a power failure.	(0 ... 250)	**0**	min
DEFROSTING REGULATOR (folder with "dEF" label)					
10	**dtY**	defrost type. Type of defrosting. 0 = Electric defrost; 1 = Reverse cycle defrost (hot gas); 2 = Natural defrost (No compressor).	(0 ... 2)	**1**	number
11	**dit**	Defrost interval time. Interval between the start of two successive defrosting operations.	(0 ... 250)	**2**	hours
12	**dCt**	Defrost Counting type. Selection of count mode for the defrosting interval.	(0 ... 2)	**1**	number

		0 = compressor operating hours; 1 = Real Time – appliance operating time; 2 = compressor stop.			
13	**dOH**	Delay Defrost on start up. Start-of-defrosting delay time from start up of instrument.	(0 ... 59)	**0**	min
14	**dEt**	Length of defrost time. Defrosting time-out; determines duration of defrost cycle.	(1 ... 250)	**15**	min
15	**dSt**	Defrost Stop temperature. Defrost stop temperature (Defined by the suction evaporator sensor, at the Expansion valve).	(-50.0 ... 150.0)	**8.0 °C** **46°F**	°C/F
16	**dPO**	Defrost at Power On. Determines if at the start-up the reefer should enter defrost mode (Only if suction evaporator sensor is cold enough to allow this operation). **y = yes; n = no.**	(0=n ... 1=Y)	**n**	flag
FANS REGULATOR (folder with "FAn" label)					
17	**FSt**	Fan Stop temperature. If the value, read by the evaporator sensor, is higher than the set value, the fans will stop.	(-50.0 ... 150.0)	**60 °C** **140 °F**	°C/F
18	**FAd**	Fan differential. Fan starting differential (see par. **"FSt"**).	(1.0 ... 50.0)	**2.0 °C** **35 °F**	°C/F
19	**Fdt**	Fan delay time. Delay time in activating fans after defrost.	(0 ... 250)	**0**	min
20	**dt**	Water Drainage time. Defrost.	(0 ... 250)	**0**	min
21	**dFd**	Defrost Fan disable. Allows to select y = yes; n = no.	(0=n ... 1=Y)	**Y**	flag
22	**FCO**	Evaporator Fans OFF when compressor stops at set point y = fans activated (based on the value of the evaporator sensor, see parameter "FSt"); n = fans turn off at set point; dc = not used	(0=n ...1=Y ... 2=dc)	**Y**	flag
ALARMS (folder with "AL" label)					
23	**AFd**	Alarm Fan differential.	(1.0 ... 50.0)	**2.0**	°C/F
24	**HAL**	Higher Alarm. Maximum temperature alarm. Temperature value (Set point), if exceeded in an upward direction will trigger the alarm signal.	(LAL ... 150.0)	**60 °C** **140°F**	°C/F

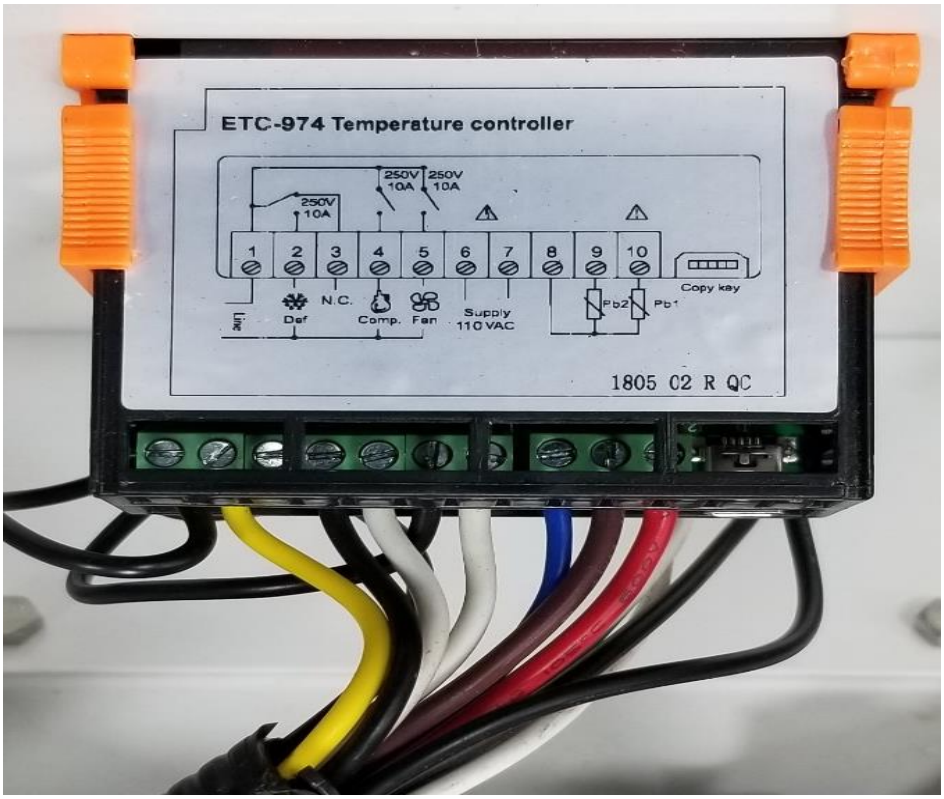
25	**LAL**	Lower Alarm. Minimum temperature alarm. Temperature value (Set point), Which if exceeded in a downward direction will trigger the alarm signal.	(-50.0 ... HAL)	**-50.0**	°C/F
26	**PAO**	Power-on Alarm Override. Alarm exclusion time after instrument switch on, after a power failure.	(0 ... 10)	**0**	hours
27	**dAO**	Defrost Alarm Override. Alarm exclusion time after defrost.	(0 ... 999)	**0**	min
28	**tAO**	Temperature Alarm Override. Temperature alarm signal delay time.	(0 ... 250)	**0**	min
DISPLAY (folder with "diS" label)					
29	**LOC**	Keyboard locking (LOC). **y = yes; n = no**	(0=n ... 1=Y)	**n**	flag
30	**PA1**	Password 1. When enabled (value other than 0) it constitutes the access key for level 1 parameters.	(0 ... 250)	**0**	number
31	**ndt**	Temperature / Number display. View with decimal point. **y = yes; n = no**	(0=n ... 1=Y)	**n**	flag
32	**CA1**	Calibration 1. Calibration 1. Positive or negative temperature value added to the value read by probe 1.	(-12 ... 12)	**0**	°C/F
33	**CA2**	Calibration 2. Calibration 2. Positive or negative temperature value added to the value read by probe 2.	(-12 ... 12)	**0**	°C/F
34	**ddL**	Defrost display. Viewing mode during defrosting. 0 = shows the temperature read by the controller probe; 1 = locks the reading on the temperature display read by controller probe when defrosting starts, and until the next time the set point value is reached; 2 = displays the label **"deF"** during defrosting, and until the next time the Set point value is reached.	(0 ... 2)	**1**	number
35	**dro** 	Selecting degree **°C or °F** for temperature display and parameters read by the controller probe. **0 = °C, 1 = °F. IMPORTANT! This setting MUST be set FIRST BEFORE changing any other parameters**		**1**	number
CONFIGURATION (folder with "CnF" label)					
36	**H00**	Probe type selection, PTC or NTC. 0 = PTC; 1 = NTC.	(0...1)	**1**	number
37	**H42**	Evaporator suction probe present.	(0=n ... 1=Y)	**y**	flag
38	**rEL**	Release firmware. Device version: read only parameter.	/	**/**	
39	**tAb**	Table of parameters. Reserved: read only parameter.	/	**/**	

COPY CARD (folder with "Fpr" label)					
40	**UL**	Up load. Programming parameter transfer from instrument to Copy Card.		/	
41	**dL**	Down load. Programming parameter transfer from Copy Card to instrument		/	
42	**Fr**	Format. Erasing all data in the copy card.		/	

Cab Command Wiring Diagram



110 VAC



6. Fault Diagnosis

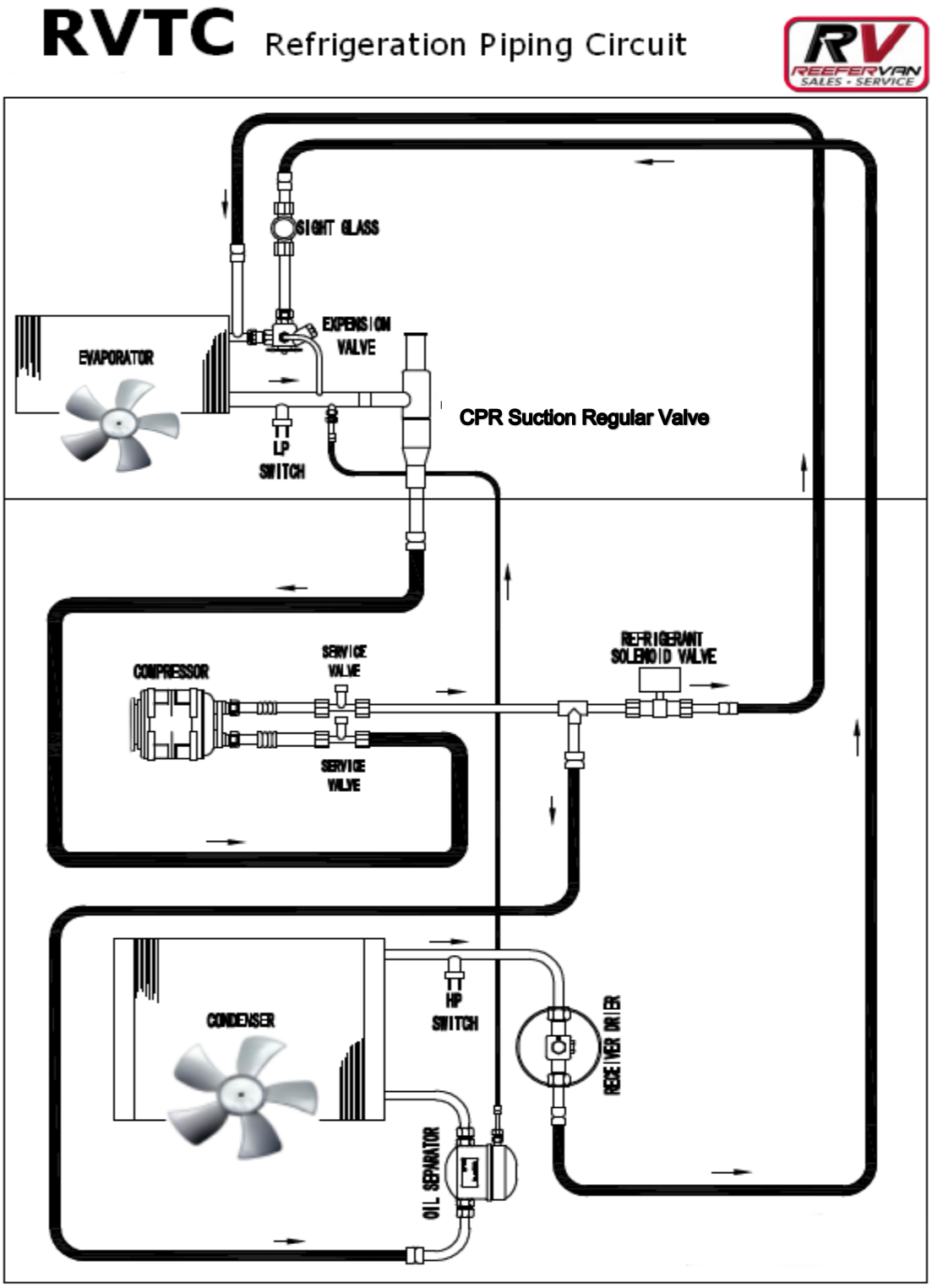
Failure to operate the cooler in the correct manner may damage components in the cooler and may void warranty of some parts not be covered under warranty. If in doubt of operation contact Reefervan. The cooler must be serviced regularly.

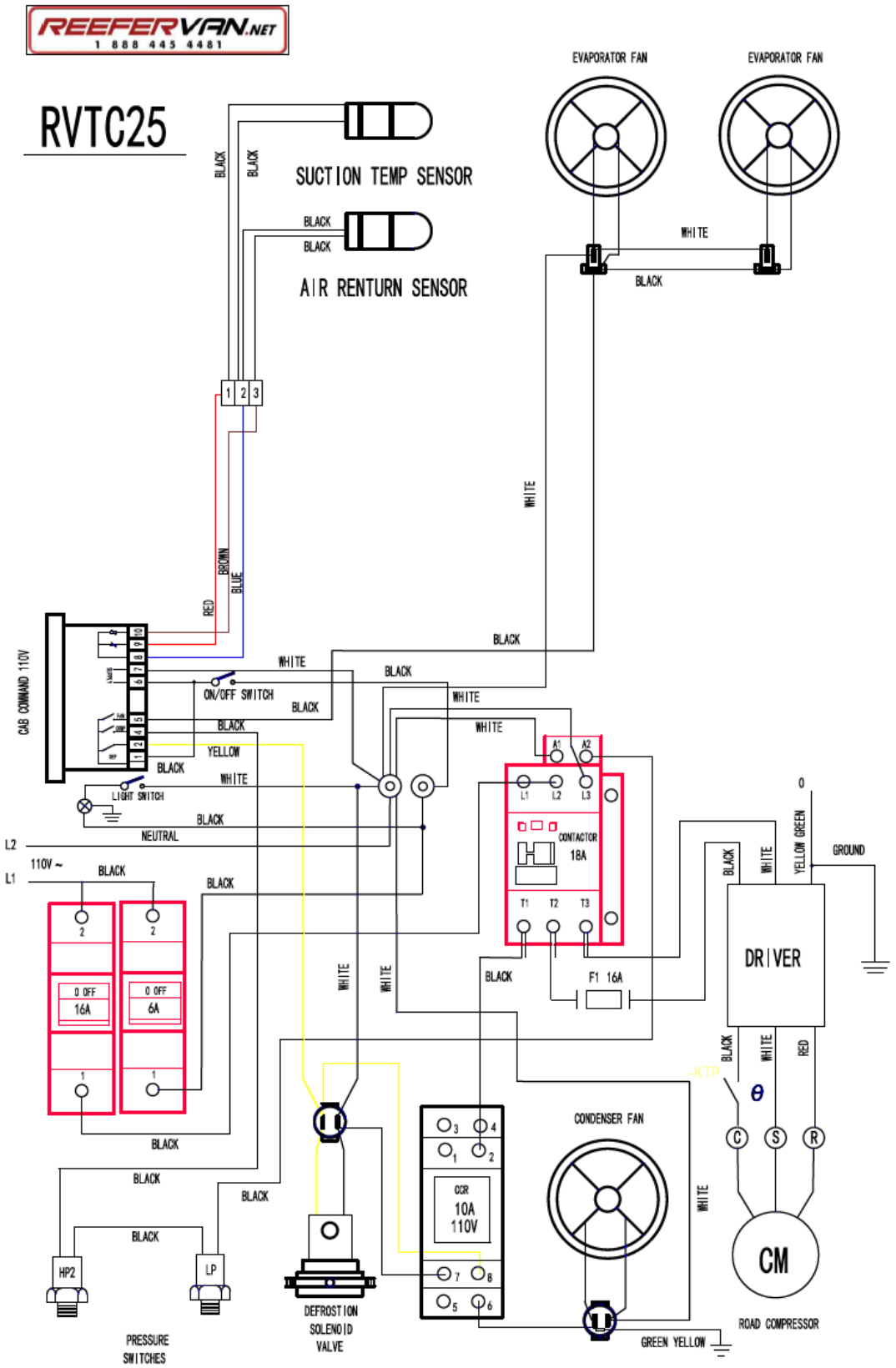
Under no circumstances operate the cooler as follows:

- The maximum length of power cable from power supply is 25ft – DO NOT USE EXTENSION CORDS!!
- If you intend to use a generator, DO NOT USE a generator that does not have an inverter and a voltage stabilizer installed.
- A ground wire must be used from a generator to the reefer and or a ground rod must be installed otherwise injury or death may occur! Consult with a local certified electrician if you are unsure.
- Voltage supply / amperage must be within 10% of the supply voltage
- Any abnormal “voltage spike” may damage the cooler compressor or contactor or controller

Malfunction	Cause	Remedy to Rectify
Cooler will not start	No power supply – Fuses or circuit breaker tripped – Cable damaged	Check power supply – Reset circuit breaker – Repair power cable – DO NOT USE EXTENSION CORDS!
Cooler will not cool when all fans are operating	Possible low or high refrigerant pressure – Thermostat set incorrectly -	Check that condenser is clean – Set thermostat lower to start reefer if the above does not work call service technician to check gas pressures.
Cooler not refrigerating well – loss of capacity	Low fan air circulation – Incorrect loading – Evaporator coil blocked with ice -Too little refrigerant	Check fan operation – Door openings are too long, shorten the openings - Defrost evaporator coil of ice (push defrost button) - Call service technician to check gas pressures
Functions set incorrectly	Digital controller not set correctly	Adjust settings to suit operation
Ice on evaporator	Inner fan not functioning – Defrost does not operate	Check fan operation – Clear evaporator coil by manually defrosting the evaporator coil.
Incorrect generator model (if used off mains grid power)	Non use of a inverter type generator – Bad voltage - contactor burn out	Do not use a budget generator only use an inverter type generator – Replace compressor contactor and or start relay assy.
Cooler starts and stops frequently	Refrigerant pressure to high or too low Suction regulator needs adjustment	Check condenser fan operation – check ice on evaporator coil - Call service technician to check gas pressures. Remove cover and adjust Suction regulation valve by turning Anti clockwise 1/2 a turn at a time until the reefer stays running constant

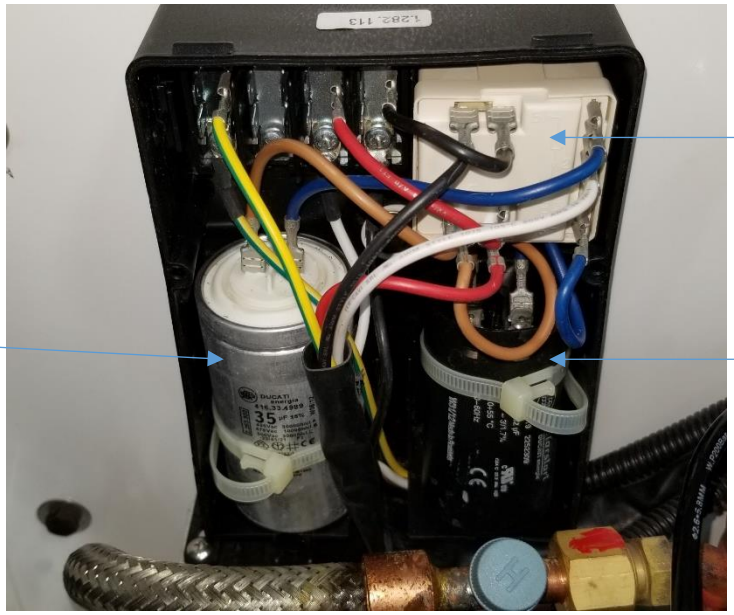
7. Maintenance & Service Diagrams:




REEFERVAN.NET
1 888 445 4481
RVTC25
SUCTION TEMP SENSOR
AIR RENTURN SENSOR
EVAPORATOR FAN
EVAPORATOR FAN
CAB COMMAND 110V
ON/OFF SWITCH
LIGHT SWITCH
NEUTRAL
L2
L1
110V ~
CONTACTOR 18A
F1 16A
DRIVER
GROUND
CONDENSER FAN
CCR 10A 110V
HP2
LP
PRESSURE SWITCHES
DEFROST ION SOLENOID VALVE
ROAD COMPRESSOR
CM
GREEN YELLOW
BLACK
WHITE
BROWN
BLUE
RED
YELLOW
YELLOW GREEN

Compressor Start Relay & Capacitors:

Disconnect power supply and remove cover from relay / capacitor box

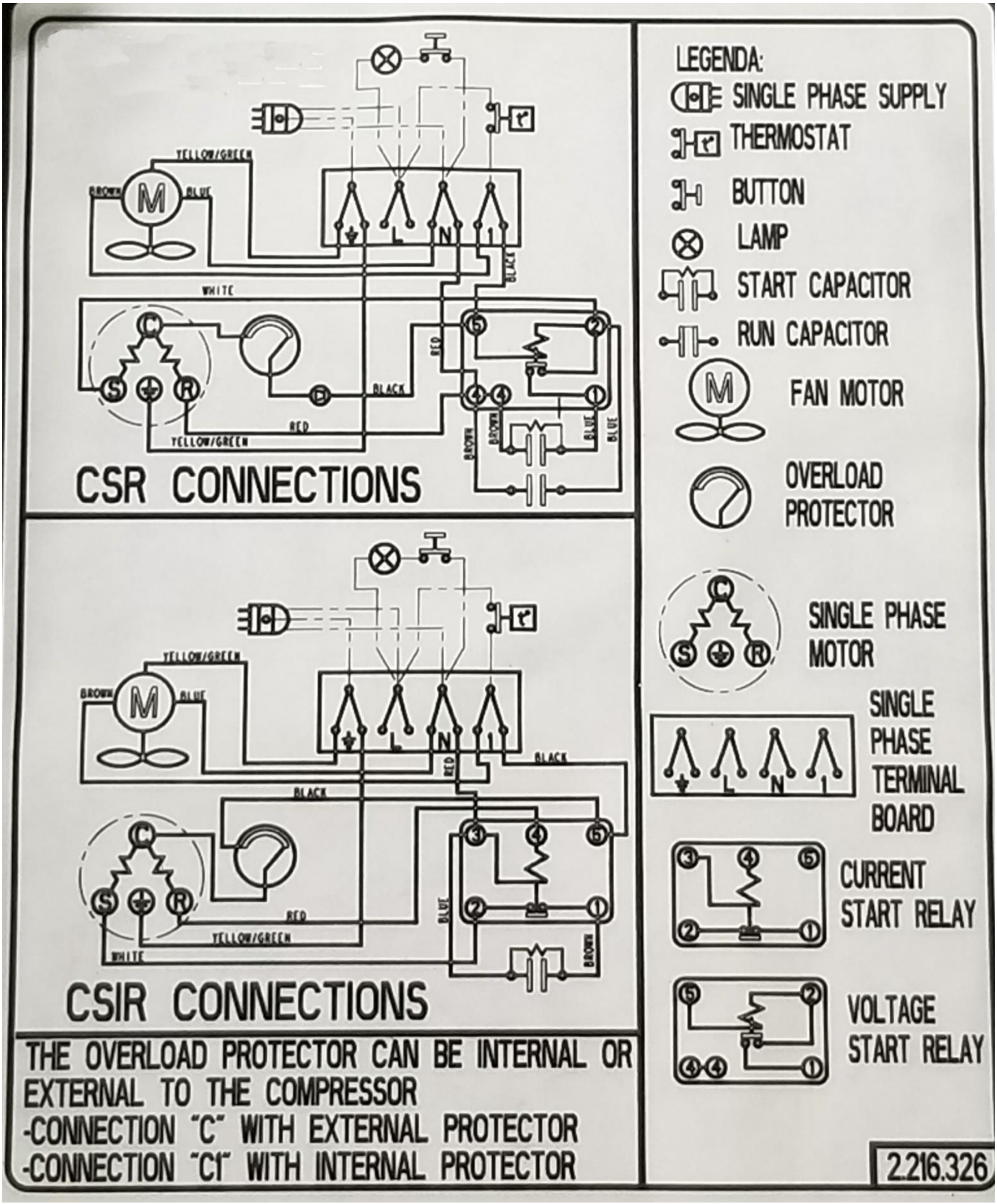


Compressor Starting Relay

Run Capacitor

Start Capacitor

Compressor Start Relay & Capacitors WIRING DIAGRAM:



Service	Timeframe	Service Procedure (Technician Required)
General Service	Every 3 Months	Clean condenser & evaporator coils with compressed air and check fan operation – Removal of top cover may be required
	Every 6 months	Check gas level (sight glass) – Removal of top cover required
	Every 6 months	Adjust Compressor pressure regulation valve (CPR) to prevent motor overload and damage (Spring Summer).
Yearly Service	Every 12 months	Check contactor and wiring connections. If using a separate generator, the contactor should be changed every year. Filter Drier Change Mains 115v voltage, the contactor replacement will not be required every two years with regular usage.
Winter / Summer Service	Every Year	Winter service requires the condenser fan to be free from ice accumulation. Heavy usage operation requires contactor and start relay to be replaced.

Please Note: Warranty may be affected if the cooler is not serviced regularly

For local Reefervan service location please call **1 888 445 4481**

Operating Cooler with a Separate Generator?

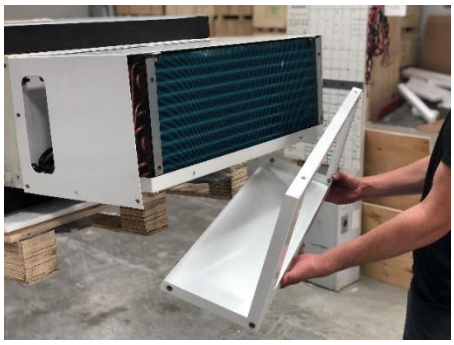
- *If you intend to operate the RVTC cooler with a generator – The recommended minimum wattage required is 115v – 60HZ - 4000W to 5000W INVERTER TYPE Generator (Preferably a Honda generator).*
- *If a regular generator is used, the minimum generator wattage required is 6500W to 7500W*
- *The cooler high voltage ground connection MUST be grounded to the trailer chassis otherwise damage may occur to the electrical connections or components*
- *A GFCI protection device must be used at all times – If in doubt contact a local electrical technician to confirm or install GFCI*
- *Reefervan recommend buying the generator from a local supplier so that it can be easily serviced*
- *Note: Most failure issues come from incorrect voltage supply – If in doubt contact a local electrical technician to confirm power supply is correct.*

8. Drain Heater for Low Temp Applications

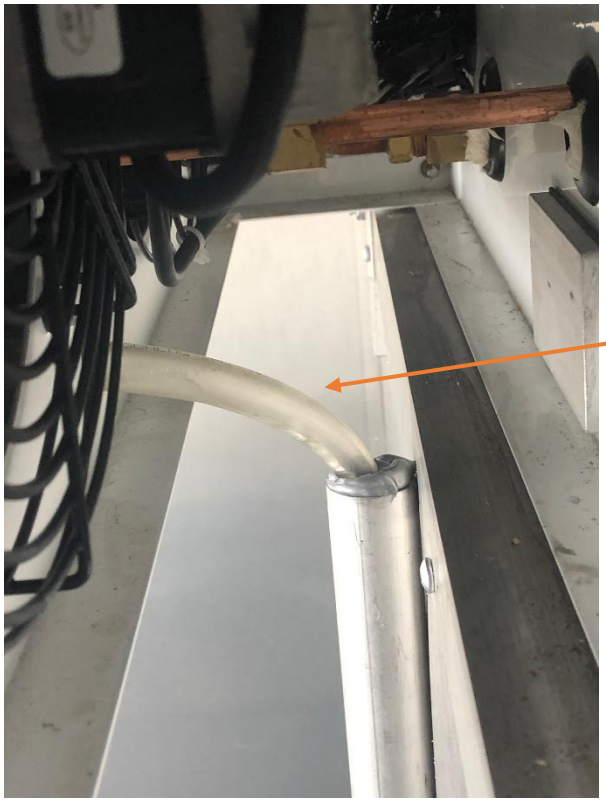
Trailer Cooler Drain Heater (Optional)

On lower temperature applications a drain water / pan heater may be required. To install heater

Disconnect the cooler from the main power supply



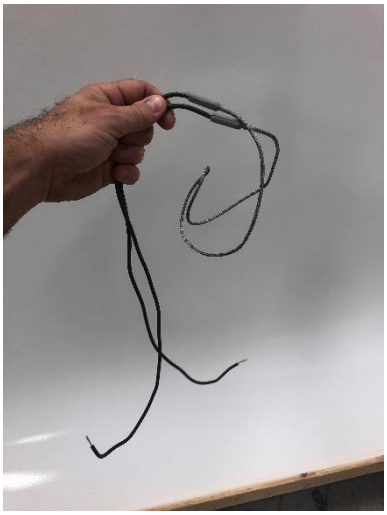
Remove the top and bottom covers from evaporator

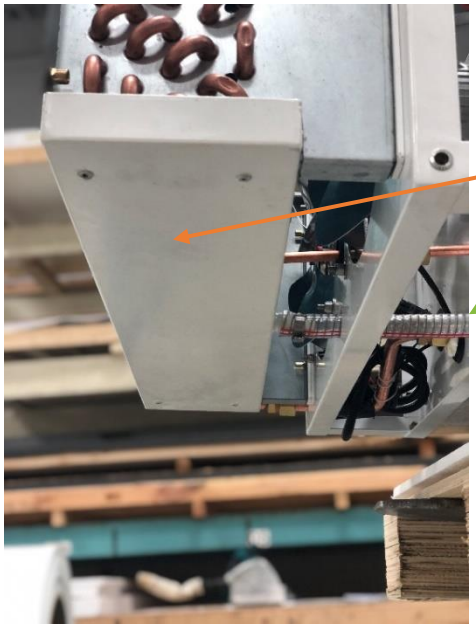


For Frozen applications

It is recommended that the drain hose should be re directed out of the cargo area at a step angle to allow water to flow out easier in frozen applications

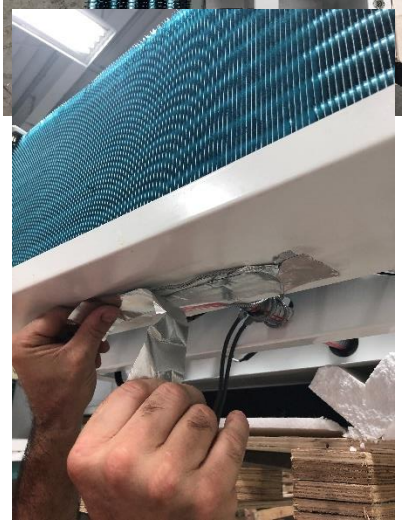
Braided Drain Heater

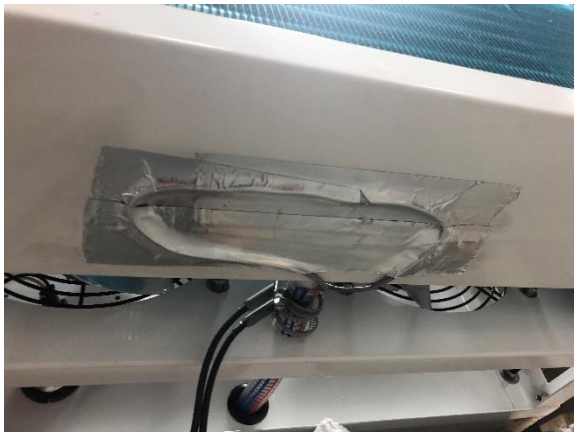




Install the Drain Heater braided wire to the drain hose and if necessary, to the drain pan. Use Tin Tape to attach to the drain pan.

Wrap the braid around the drainpipe.





Attach the heater wires to the separate 115v power supply in the evaporator section.

WARNING:

A ground fault circuit interrupter (**GFCI**) must be installer when operatng the cooler on 110v power supply.

Reattach evaporator covers

9. Warranty – Terms & Conditions

- *Warranty terms of the Reefervan RVTC trailer cooler as follows*
- *Reefervan warrant parts against defects for a period of 12 months on parts only, if purchased directly by end user. No repair labor is covered within this period.*
- *Every mechanical machine requires service and the RVTC is no different. Reefervan highly recommend that a after sales service plan be implemented at the time of purchase to maintain the serviceability of the cooler and to comply with warranty conditions. If the reefer is not serviced as per service schedule, a warranty claim may be refused. Please contact Reefervan for more information on servicing costs.*
- *To activate warranty, the RVTC must be registered for warranty online at www.reefervan.net or by emailing sales@reefervan.net*
- *If the cooler is purchased as a package (trailer and cooler) or on its own without a trailer from a dealer, Reefervan can offer an extended warranty service plan to extend the warranty to 12 months for parts and labor. This is provided the cooler is installed by an authorized installer. Contact Reefervan for more information regarding extended warranty service plan costs.*
- *Reefervan are not responsible for the cost of any excessive labor for a repair. Travel time for a repair person is not covered. All repair times are subject to our standard repair times (SRT) for changing a component, no added labor will be paid above the Reefervan SRT rate. Contact Reefervan for SRT labor times and rates.*
- *If the cooler is used in conjunction with a mobile generator the warranty is reduced to exclude the contactor, starting relays and capacitors and in some cases compressor failure due to undeterminable voltage spikes that can occur and cause damage to the components. Any part failure will require the part to be shipped back to Reefervan to be inspected. Reefervan reserve the right to refuse a warranty claim should the part(s) fail due to operational or application issues.*
- *For most cases, any warranty replacement part must to be purchased in advance ahead of a replacement part being shipped and warranty and a claim being processed. The failed part will be examined by Reefervan and if the part has failed due to a malfunction the cost will be refunded to the end user. However, any part failure due to incorrect voltage or incorrect operation the part may not be covered under warranty. Reefervan reserve the right to refuse a warranty claim should the part(s) fail due to operational or application issues.*
- *In no event shall Reefervan be liable for any product loss, rental, incidental or consequential damages or personal injury caused by the operation of the cooler. Damage due to incorrect operation can also void warranty.*
- *The end user customer must be satisfied that there is local HVAC technician or a Reefervan service dealer near to their location for any service repairs. Reefervan cannot guarantee local service in every State, Province and or small towns.*
- *Reefervan reserve the right to amend the cooler design and or procedures without prior notice.*
- *Any warranty claim must be preauthorized by Reefervan ahead of the repair being carried out. Call 1 888 445 4481 for more information*

Reefervan

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