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We connect and protect

T-Series
Air Conditioner

T15 Model

Instruction Manual

R513A

P/N 10-1008-194 89059119 Rev. J

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Note: Some of the information in this manual may not apply if a special unit was ordered. If additional drawings for a special unit are necessary, they have been inserted. Contact nVent Equipment Protection if further information is required.

WARRANTY AND RETURN POLICY

https://HOFFMAN.nVent.com/en-us/cooling-warranty-registration

https://nVent.widen.net/s/s8xgmxhvk2/89153291

GENERAL SAFETY INSTRUCTIONS

Observe the following general safety instructions for installation and operation of this product:

- This appliance is for installation only in locations not accessible to the general public.
- This appliance is not intended for use by persons, including children, with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- This appliance should be installed in accordance with national wiring regulations.
- Follow all precautions detailed in the following sections during transportation, receiving, testing, operation and maintenance.
- This appliance is intended for altitudes up to 10,000 ft (3,048 m) from sea level. For every additional 1000 ft of elevation, the capacity of this unit is derated by 1%.

RECEIVING THE AIR CONDITIONER

Inspect the air conditioner. Check for concealed damage that may have occurred during shipment. Look for dents, scratches, loose assemblies, evidence of oil, etc. Damage evident upon receipt should be noted on the freight bill. Damage should be brought to the attention of the delivering carrier — NOT to nVent Equipment Protection — within 15 days of delivery. Save the carton and packing material and request an inspection. Then file a claim with the delivering carrier.

nVent Equipment Protection cannot accept responsibility for freight damages; however, we will assist you in any way possible.

HANDLING AND TESTING THE AIR CONDITIONER

If the air conditioner has been in a horizontal position, be certain it is placed in an upright, vertical or mounting position for a minimum of five (5) minutes before operating.

⚠ CAUTION:

Do not attempt to operate the air conditioner while it is horizontal or on its side, back or front. The refrigeration compressor is filled with lubricating oil. This will cause permanent damage to the air conditioner and also voids the warranty.

TEST FOR FUNCTIONALITY **BEFORE** MOUNTING THE AIR CONDITIONER TO THE ENCLOSURE.

Refer to the nameplate for proper electrical current requirements. If cord-connected, connect the power cord to a properly grounded power supply. If permanently connected, wire the unit to a properly grounded power supply using copper conductors only. Power supply wiring should be restrained to ensure no contact with the internal fan. Minimum circuit ampacity should be at least 125% of the amperage shown in the design data section for the appropriate model. No other equipment should be connected to this circuit to prevent overloading. The air conditioner is rated for operation at 50 and 60 Hz. No action is necessary to adjust the appliance operation at the rated frequencies.

Immediately after applying power, the evaporator blower (enclosure air) should start running. Operate the air conditioner for five (5) to ten (10) minutes. No excessive noise or vibration should be evident during this run period. The condenser blower (ambient air), the evaporator blower (enclosure air), and the compressor should be running.

Condenser air temperatures should be warmer than normal room temperatures within a few minutes.

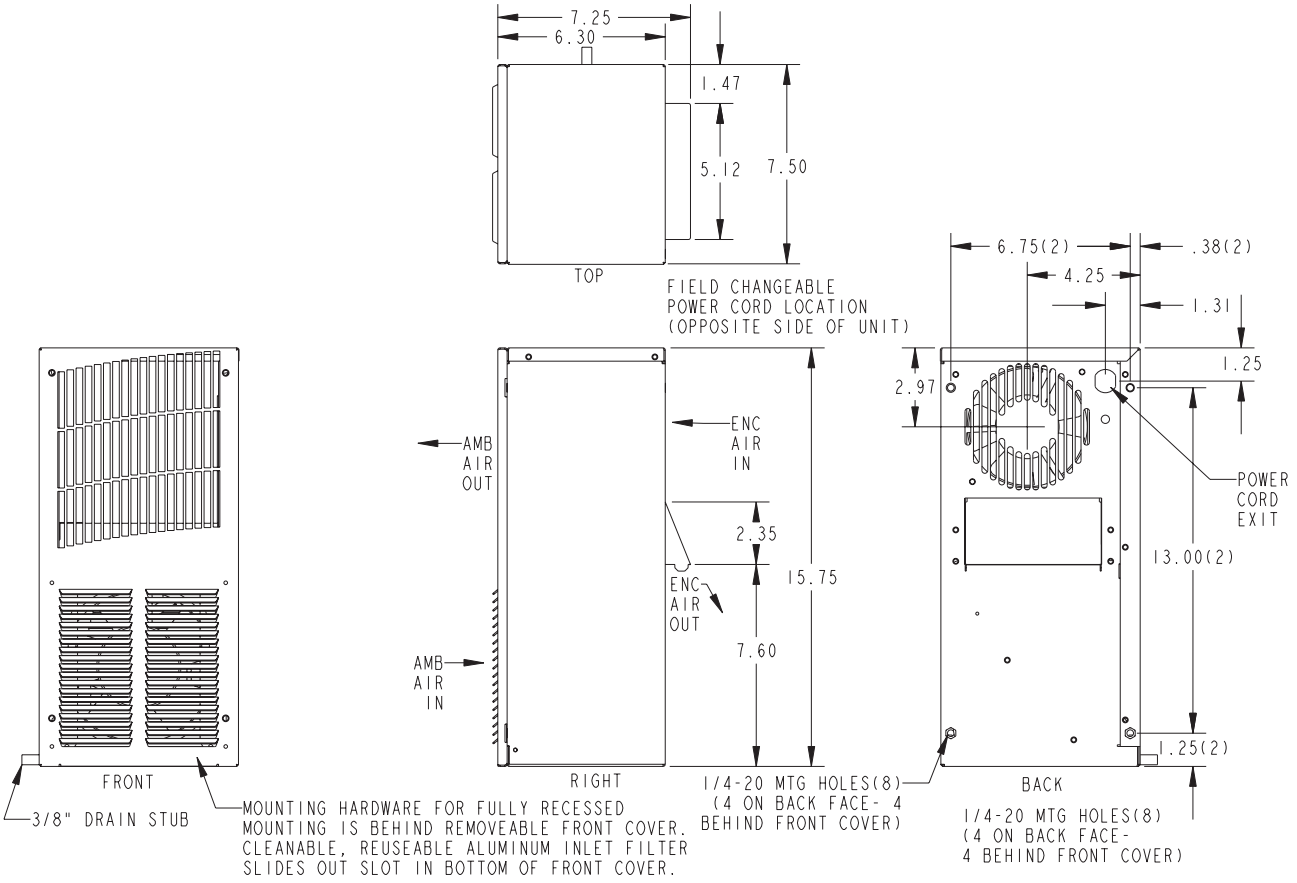
The compressor is provided with automatic reset thermal overload protection. This thermo-switch is located and mounted inside the plastic enclosure clipped to the compressor. The switch operates when the compressor overheats due to clogged or dirty inlet air filter or if ambient air temperatures exceed nameplate rating or if enclosure dissipated heat loads exceed the rated capacity of the air conditioner. The thermal overload switch will actuate and stop compressor operation. The blowers will continue to operate and the compressor will restart after it has cooled to within the thermal overload cut-in temperature setting.

INSTALLATION INSTRUCTIONS

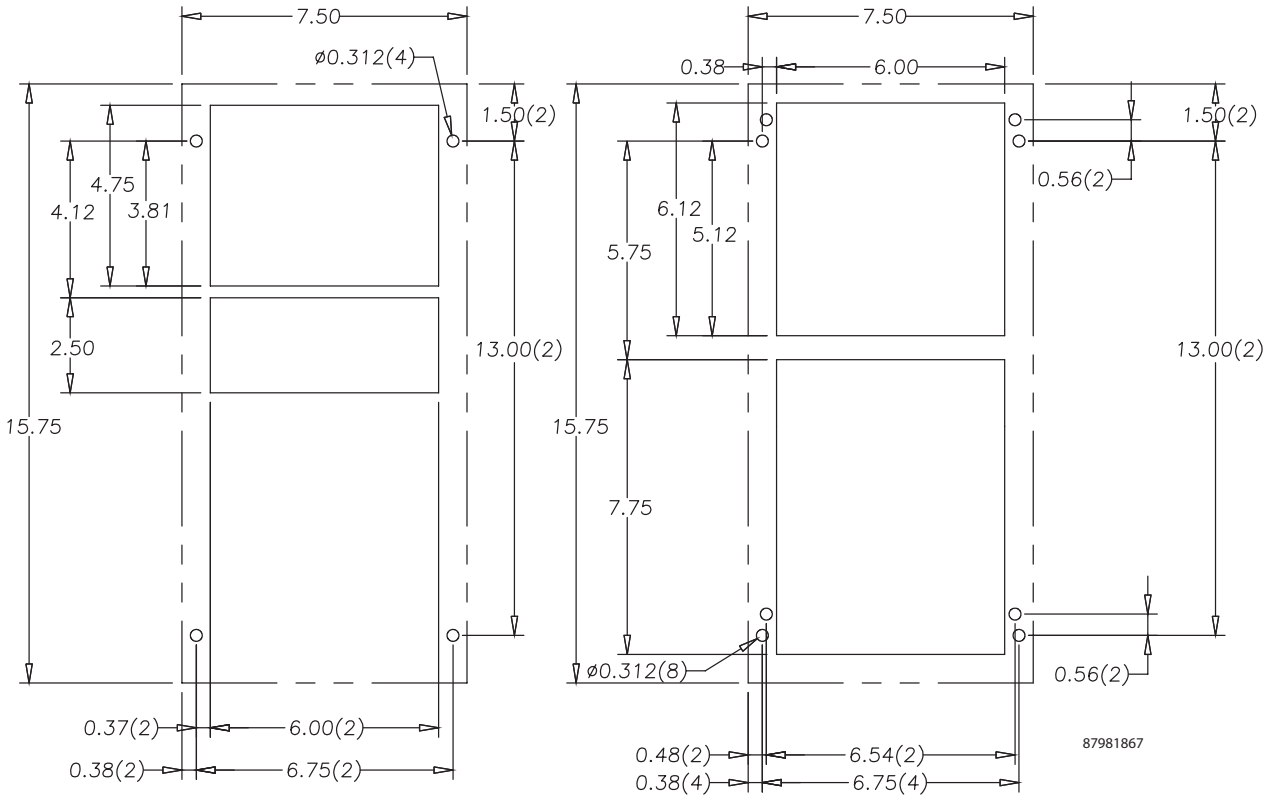
1. Inspect the air conditioner and verify correct functionality before mounting the air conditioner. See HANDLING AND TESTING THE AIR CONDITIONER on page 3.
2. Using the cutout dimensions shown in this manual, prepare the air “IN” and air “OUT” openings, and mounting bolt hole pattern for the enclosure. Select an installation location that will allow for adequate ventilation and clearance for service. Clearance between the air conditioner with or without a supplementary heater and adjacent structures (another enclosure, air conditioner, wall, or combustible surface) must be at least:
   - 24" from front
   - 2" from right side
   - 2" from left side
   - 6" from top
   - 8" from bottom

   Local fire codes may have different requirements; please observe applicable regulations for the location of the air conditioner. The distance between the air conditioner and the electronic components and other equipment installed inside the enclosure must be at least 3" to ensure adequate air circulation. At minimum clearance levels, an air baffle between the inlet and outlet may be necessary to prevent recirculation.
3. Using the gasket kit provided, install gaskets to air conditioner.
4. Mount air conditioner on enclosure using mounting bolts and screws provided. “EZ” mount tabs can be used to hold unit on enclosure while mounting in place. Allow unit to remain upright for a minimum of five (5) minutes before starting. Caution! Air conditioner must be in upright position during operation.
5. To avoid cross-threading mounting inserts, start bolts by hand before tightening with a wrench or ratchet driver.
6. When routing the drain tube, caution should be taken to keep it from kinking or being elevated above the exit point of the air conditioner. The drain tube must be on a continuous downward slope. A slight elevation of the tube could result in secondary trap. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN OVERFLOWING OF THE CONDENSATE DRAIN PAN.
7. Refer to top of nameplate for electrical requirements. Connect the power cord or wire the unit to a properly grounded power supply by following applicable national wiring regulations. Use of an extension cord is not recommended. If the air conditioner is wired to the power supply, the electrical circuit should be fused with a time delay fuse or HACR circuit breaker per the MOPD rating in the Design Data table- see page 12.

DIMENSION DRAWING



MOUNTING CUTOUT DIMENSIONS

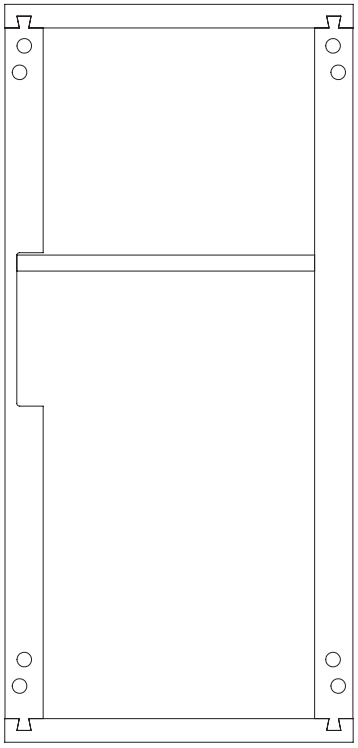


Externally Mounted

Internally Mounted

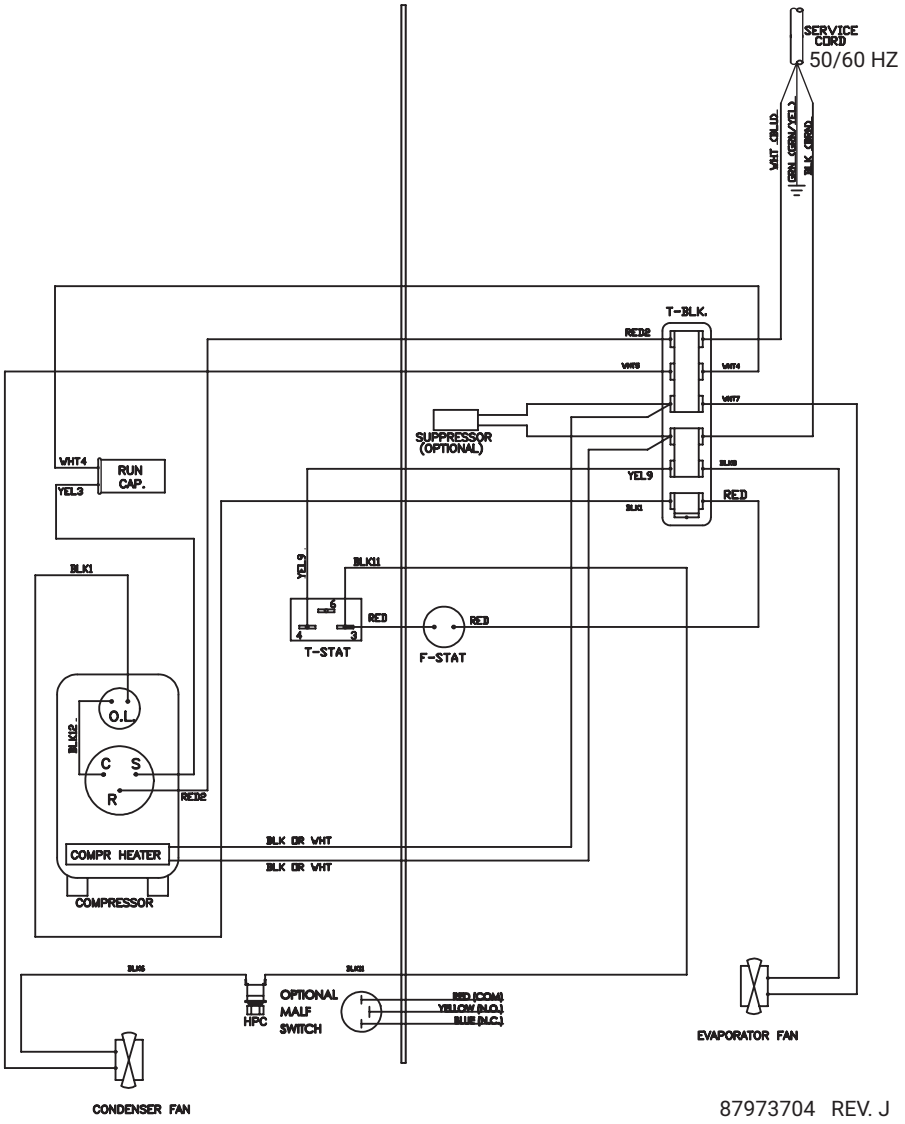
Cutout Instructions
(As viewed from outside of enclosure)

Note: Phantom lines represent air conditioner.



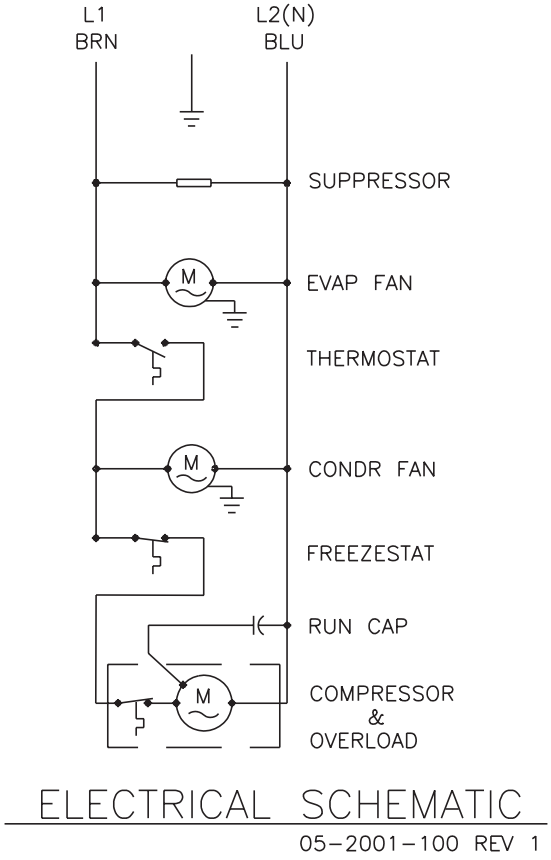
Note: Mounting Gasket Adheres to Air Conditioner

T15 without Heater Wire Diagram



87973704 REV. J

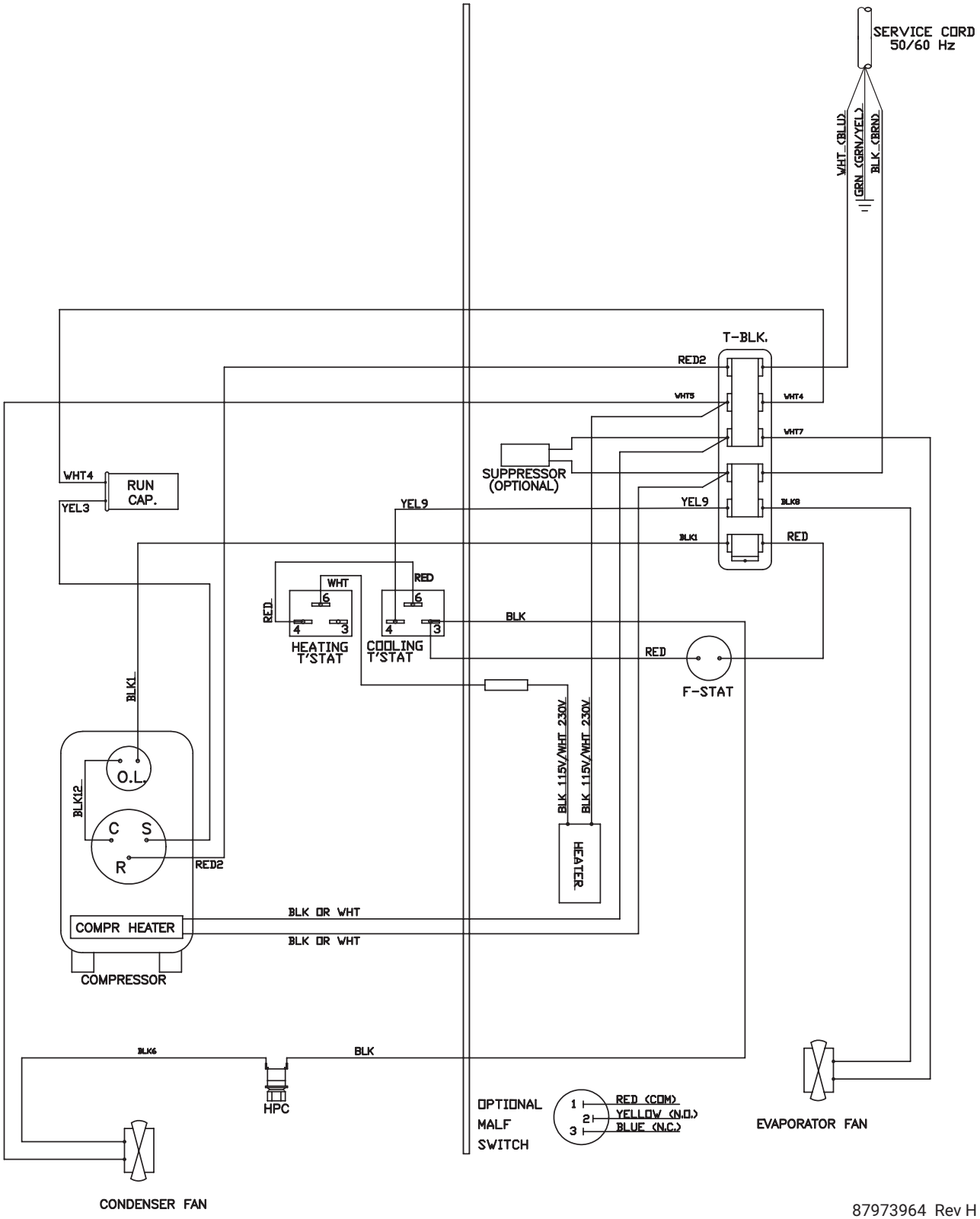
T15 without Heater Schematic



ELECTRICAL SCHEMATIC

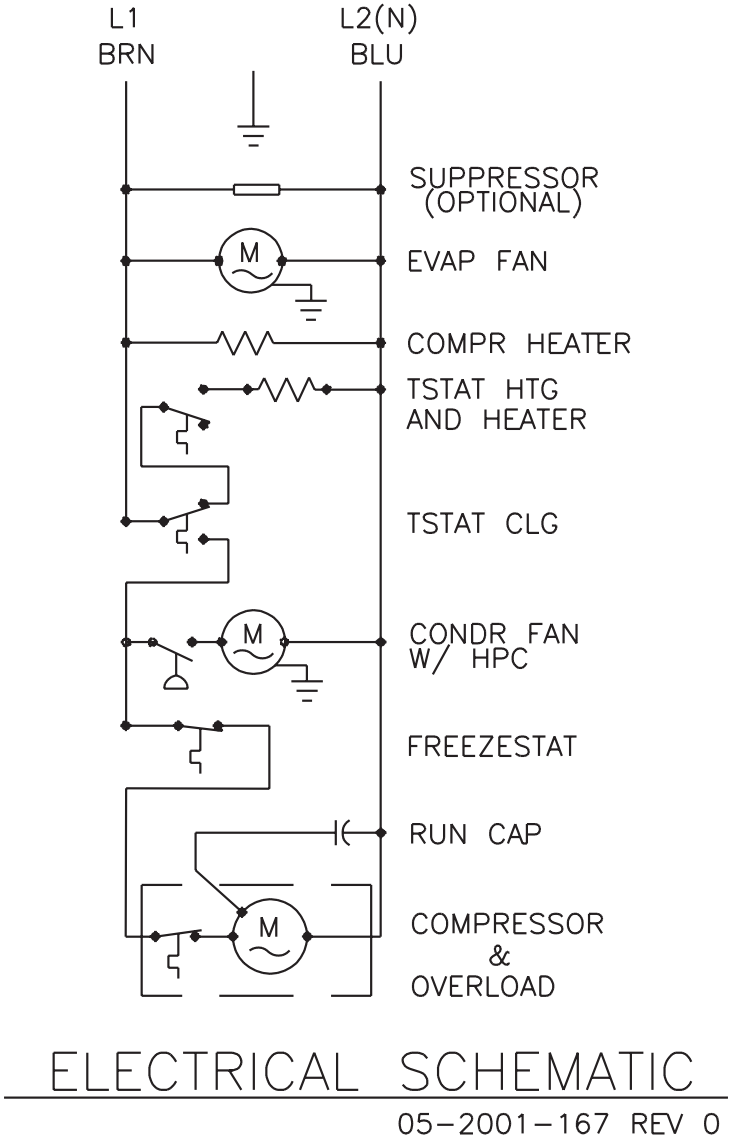
05-2001-100 REV 1

T15 with Heater Wire Diagram



87973964 Rev H

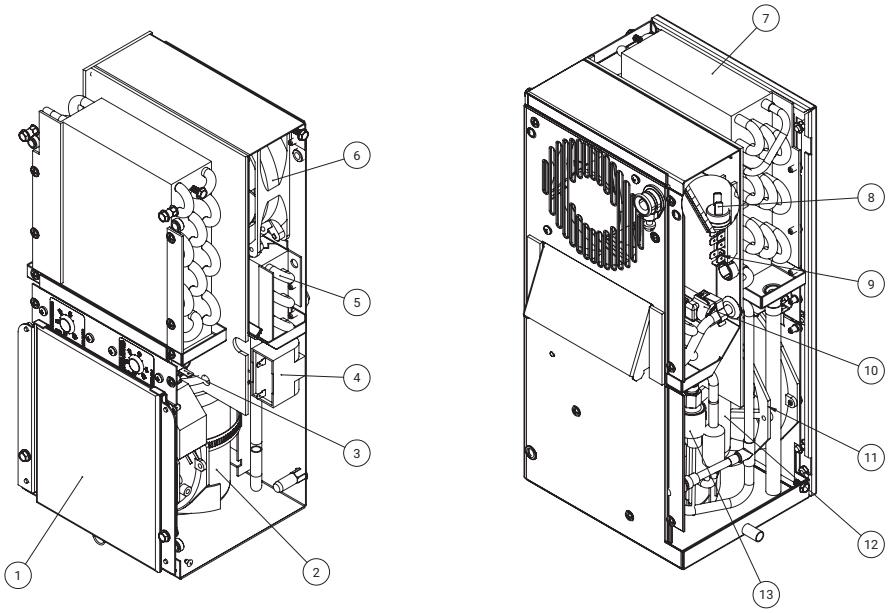
T15 with Heater Schematic



COMPONENT LIST

Part Description	T150116XXX 115 V 1-Phase 50/60 Hz 800 BTU	T150116XXX 230 V 1-Phase 50/60 Hz 800 BTU
Fan, Condenser	89231896	89231898
Fan, Evaporator	13101501SP	13101502SP
Capacitor, Compressor	52603209SP	52603210SP
Coil, Condenser, Coated	15100101SP	15100101SP
Compressor	89243073SP	89243072SP
Service Cord	89107624	89119634SP
Thermal Overload, Compressor	10100767SP	10100768SP
Heater (Optional)	10200423SP	10200424SP

PARTS LIST



Part	Description	Part No.
1	Filter, Air, Reuseable	89057626
2	Compressor	See Components List
3	Thermostat, SPST, 55-100°F	10106116SP
4	Capacitor, Compressor	See Components List
5	Coil, Evaporator	15100103SP
6	Fan, Evaporator	See Components List
7	Coil, Condenser	15100102SP
8	Switch, Head Pressure Control	52601426SP
9	Terminal Block	10100303SP
10	Freezestat	89097856SP
11	Fan, Condenser	See Components List
12	Filter, Drier, Refrigerant	52603203SP
13	Switch, Malfunction (Optional)	89090315SP
14	Mounting Gasket Kit**	15100050SP

Note: **Mounting gasket not shown

TECHNICAL INFORMATION

Design Data

Model	Voltage	Hz	Phase	MOPD Amps	Full Load Cooling Amps	BTU/HR @ Max Ambient Temperature	Max Ambient Temperature °F/°C	Shipping Weight lb/kg
T150116XXX	115	50/60	1	15	3.8/3.6	800/800	125/53 @ 50 Hz 131/55 @ 60 Hz	27/12
T150126XXX	230	50/60	1	15	1.4/1.5	800/900	125/53 @ 50 Hz 131/55 @ 60 Hz	27/12

Note: XXX will be replaced with a three-digit number designating all desired options. Consult the factory for specific model numbers.

TEMPERATURE CONTROL

The electromechanical thermostat is factory preset to 75°F/23°C. To change the temperature setting, remove the nylon plug from the front face of the unit. Use a standard screwdriver to adjust thermostat. For cooler temperatures turn clockwise, for warmer temperatures turn counterclockwise. Setpoint differential is 6°F.

UNITS WITH HEAT

With a dial setting of 75°F, heat will turn on @ 70°F and turn off @ 75°F. Cooling will turn on @ 85°F and turn off at 80°F.

There is a 10°F difference between the heater off setpoint and cooling on setpoint to prevent both from operating at the same time.

The dial range of the thermostat is 50-95°F.

PRINCIPLES OF OPERATION

If electrical power to the air conditioner is interrupted and reapplied immediately, (within 3 to 5 seconds), the compressor may not restart due to the high back pressure of the compressor. It takes a minimum of one (1) minute after shut-down for the compressor suction and discharge pressures to equalize in order for the air conditioner to restart.

Operating the air conditioner below the minimum ambient temperature or above the maximum ambient temperatures indicated on the nameplate voids all warranties.

It is recommended that the warranty section of this manual be read in order to familiarize yourself with parameters of restricted operation.

The moisture that the enclosure air can contain is limited. If moisture flows from the drain tube continuously this can only mean that ambient air is entering the enclosure. Be aware that frequent opening of the enclosure's door admits humid air, which the air conditioner must then dehumidify.

Units with the optional malfunction switch have a normally open connection between the red & yellow wires and normally closed with the red and blue wires. During alarm the red and yellow wires will be closed and the blue and red wires will be open.

Maximum electrical ratings for the switch are 13 A for 120 VAC and 10 A for 240 VAC.

MAINTENANCE

Performing preventative maintenance (PM) helps to keep your nVent HOFFMAN AC unit operating at the highest most efficient levels. Maintenance should be performed at least twice a year, more frequently when in challenging conditions, such as dusty, high humidity, high heat, oily or corrosive environments.

Product failures due to lack of maintenance may impact warranty coverage.

Compressor

The compressor requires no maintenance. It is hermetically sealed, properly lubricated at the factory and should provide years of satisfactory operating service.

Should the refrigerant charge be lost, recharging ports (access fittings) on the suction and discharge sides of the compressor are provided for recharging and/or checking suction and discharge pressures.

Under no circumstances should the access fitting covers be loosened, removed or tampered with.

Breaking of seals on compressor access fittings during warranty period will void warranty on hermetic system.

Recharging ports are provided for the ease and convenience of reputable refrigeration repair service personnel for recharging the air conditioner.

Inlet air filter

Proper maintenance of the inlet air filter, located behind the front cover, will assure normal operation of the air conditioner. If filter maintenance is delayed or ignored, the maximum ambient temperatures under which the unit is designed to operate will be decreased.

If the compressor's operating temperature increases above designed conditions due to a dirty or clogged filter (or plugged condenser coil), the air conditioner's compressor will stop operating due to actuation of the thermal overload cut-out switch located on the compressor housing. As soon as the compressor temperature has dropped to within the switch's cut-in setting, the compressor will restart automatically. However, the above condition will continue to take place until the filter or coil has been cleaned. It is recommended that power to the air conditioner be interrupted intentionally when abnormally high compressor operating temperature causes automatic shut-down of the unit. The above described shutdown is symptomatic of a clogged or dirty filter, thus causing a reduction in cooling air flow across the surface of the compressor and condenser coil.

Do not run the air conditioner for extended periods of time with the filter removed. Particles of dust, lint, etc., can plug the fins of the condenser coil which will give the same reaction as a plugged filter. The condenser coil is not visible through the filter opening, so protect it with a filter.

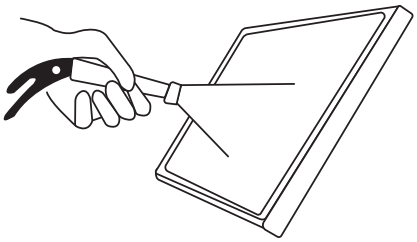
Continued operation under the above conditions can and will damage and shorten compressor life. The air conditioner is available with an easily removable inlet filter to facilitate necessary cleaning. There should be no reason to neglect this necessary maintenance.

How to remove, clean or install a new inlet air filter

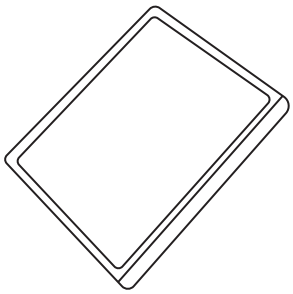
Research Products (RP) aluminum washable air filters are designed to provide excellent filtering efficiency with a high dust holding capacity and a minimum amount of resistance to air flow. Because they are constructed entirely of aluminum they are lightweight and easy to service. Optimum filter performance is maintained by recoating the filters after washing with RP Super Filter Coat adhesive. To achieve maximum performance from your air handling equipment, air filters should be cleaned on a regular basis.

The inlet air filter is located behind the front cover. To access filter, pull ring protruding from slot in bottom of front cover. The filter may now be cleaned or new filter installed.

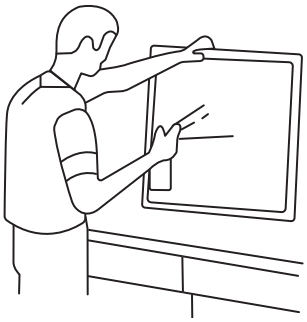
Cleaning Instructions:



1. Flush the filter with warm water from the exhaust side to the intake side. **Do not use caustics**.



2. After flushing, allow filter to drain. Placing it with a corner down will assure complete drainage.



3. Recoat the filters with RP Super Filter Coat adhesive. When spraying filter do so from both sides for maximum concentration of adhesive.

Condenser and evaporator air movers

Fan motors require no maintenance. All bearings, shafts, etc. are lubricated during manufacturing for the life of the fan.

⚠ CAUTION:

Operation of the air conditioner in areas containing airborne caustics or chemicals can rapidly deteriorate filters, condenser coils, blowers and motors, etc. Contact nVent Equipment Protection for special recommendations.

Refrigerant loss

Each air conditioner is thoroughly tested prior to leaving the factory to insure against refrigeration leaks. Shipping damage or microscopic leaks not found with sensitive electronic refrigerant leak detection equipment during manufacture may require repair or recharging of the system. This work should only be performed by qualified professionals, generally available through a local, reputable air conditioning repair or service company.

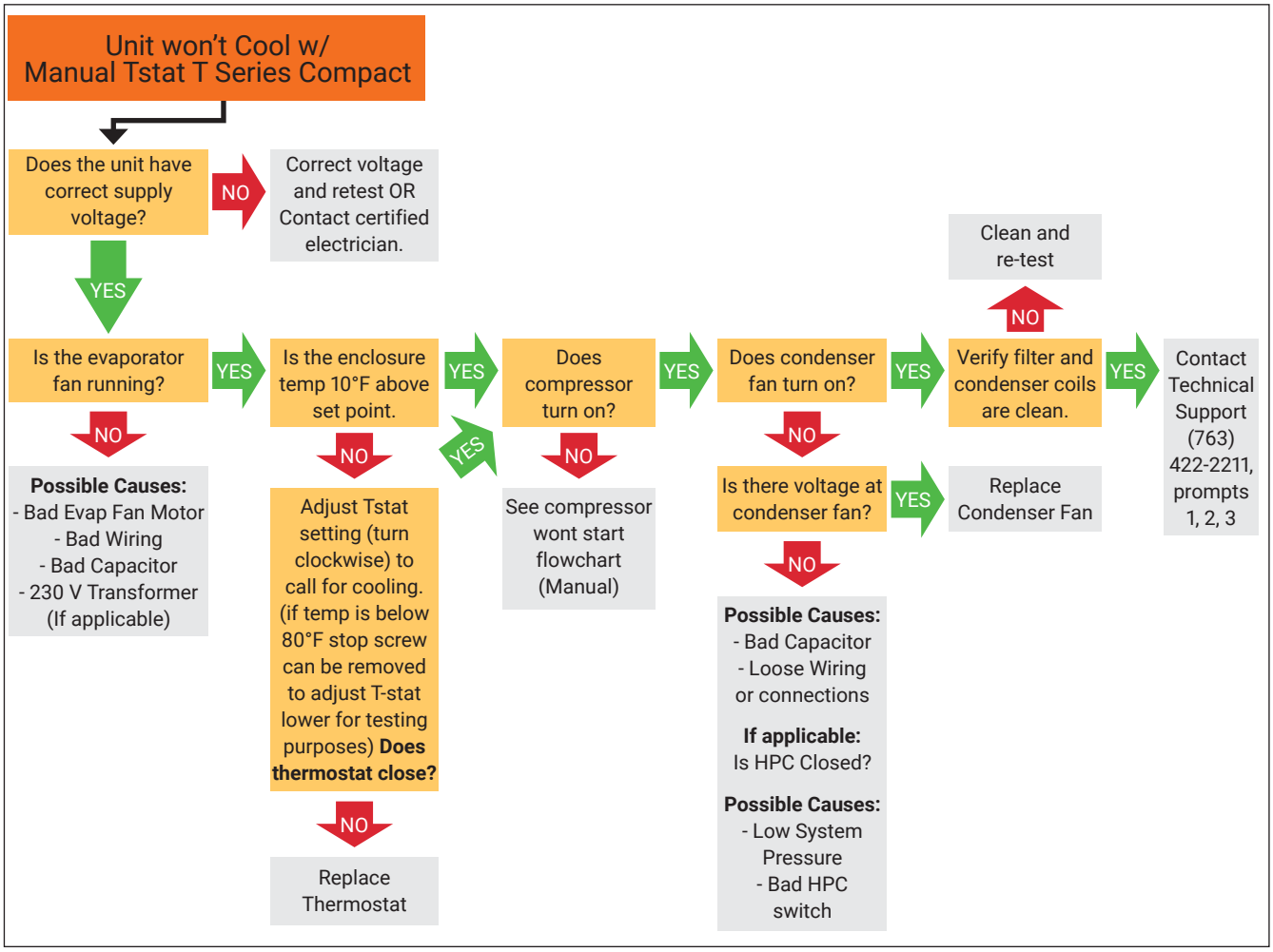
Refer to the data on the nameplate which specifies the type of refrigerant and the charge size in ounces.

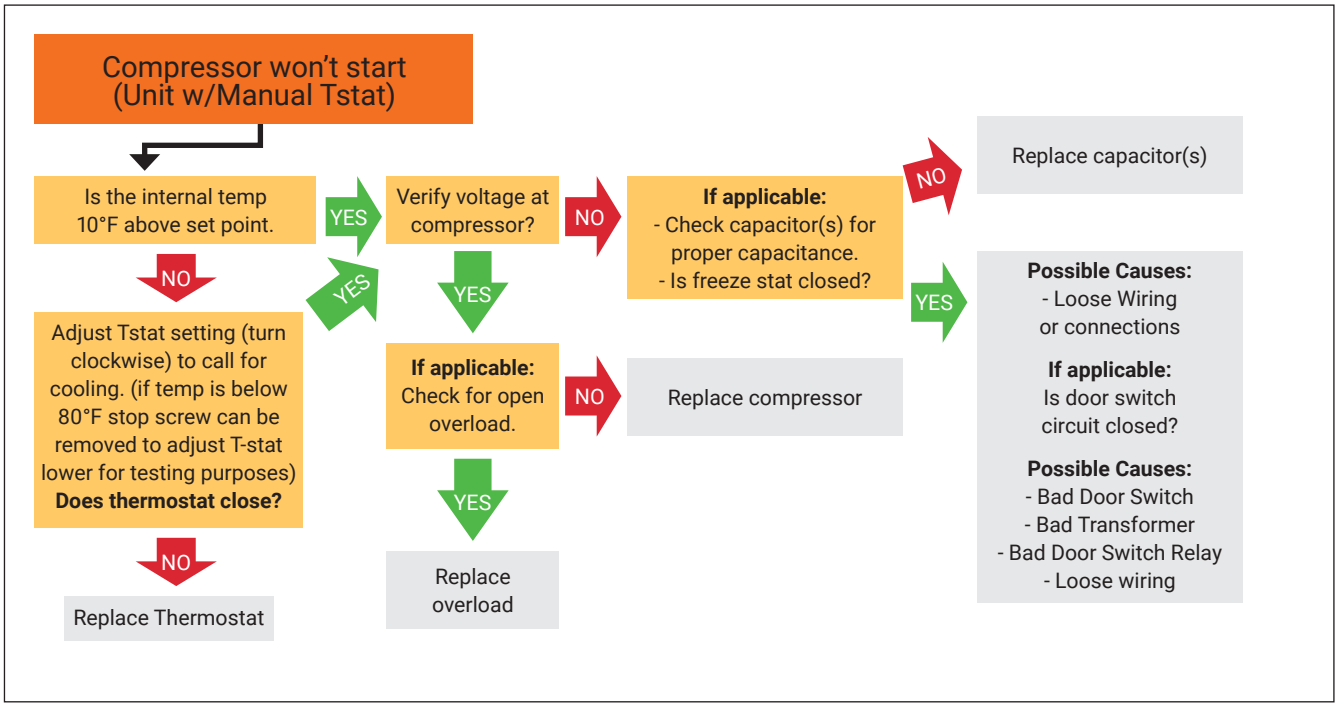
Before recharging, make sure there are no leaks and that the system has been properly evacuated into a deep vacuum.

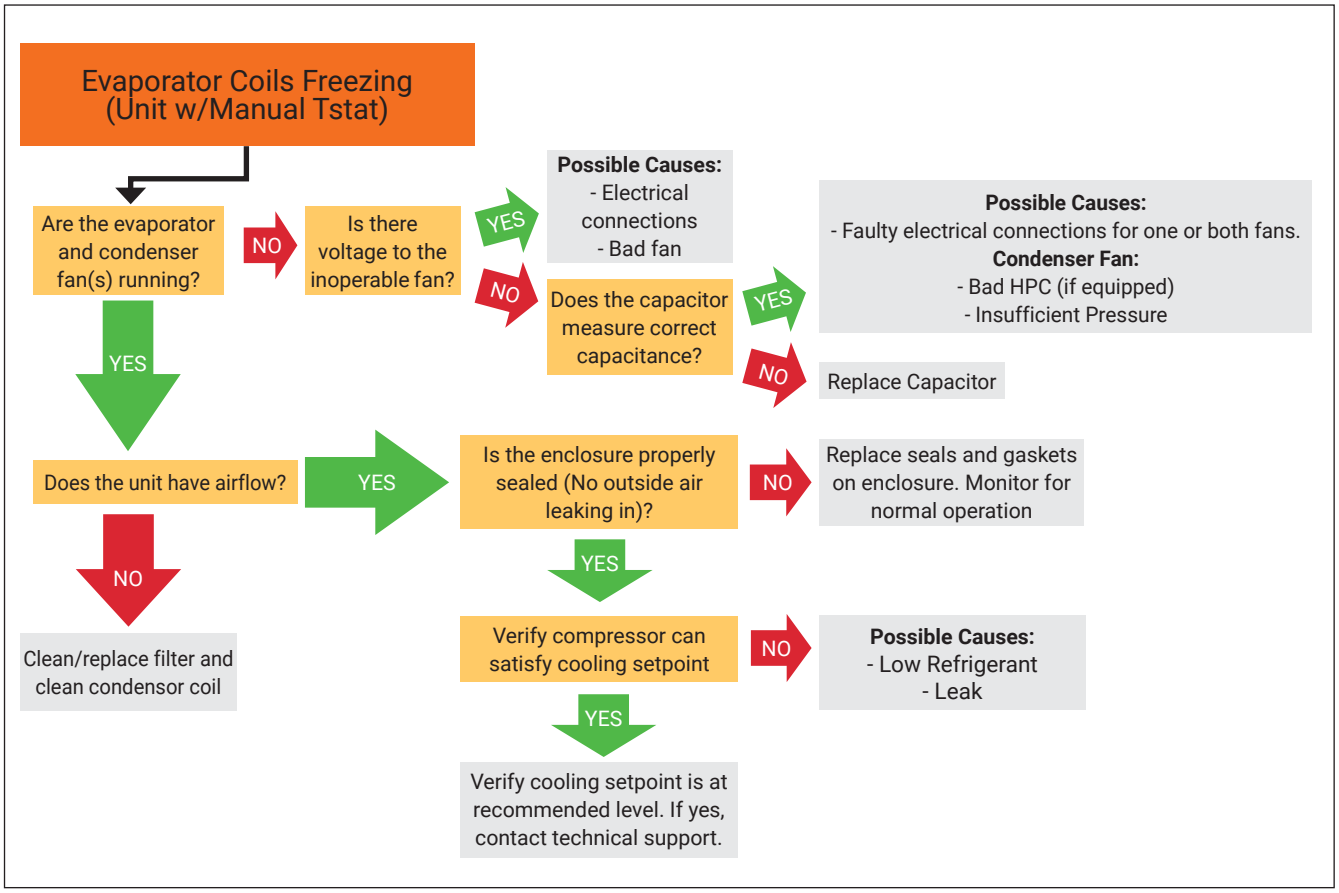
PREVENTATIVE MAINTENANCE/INSPECTION

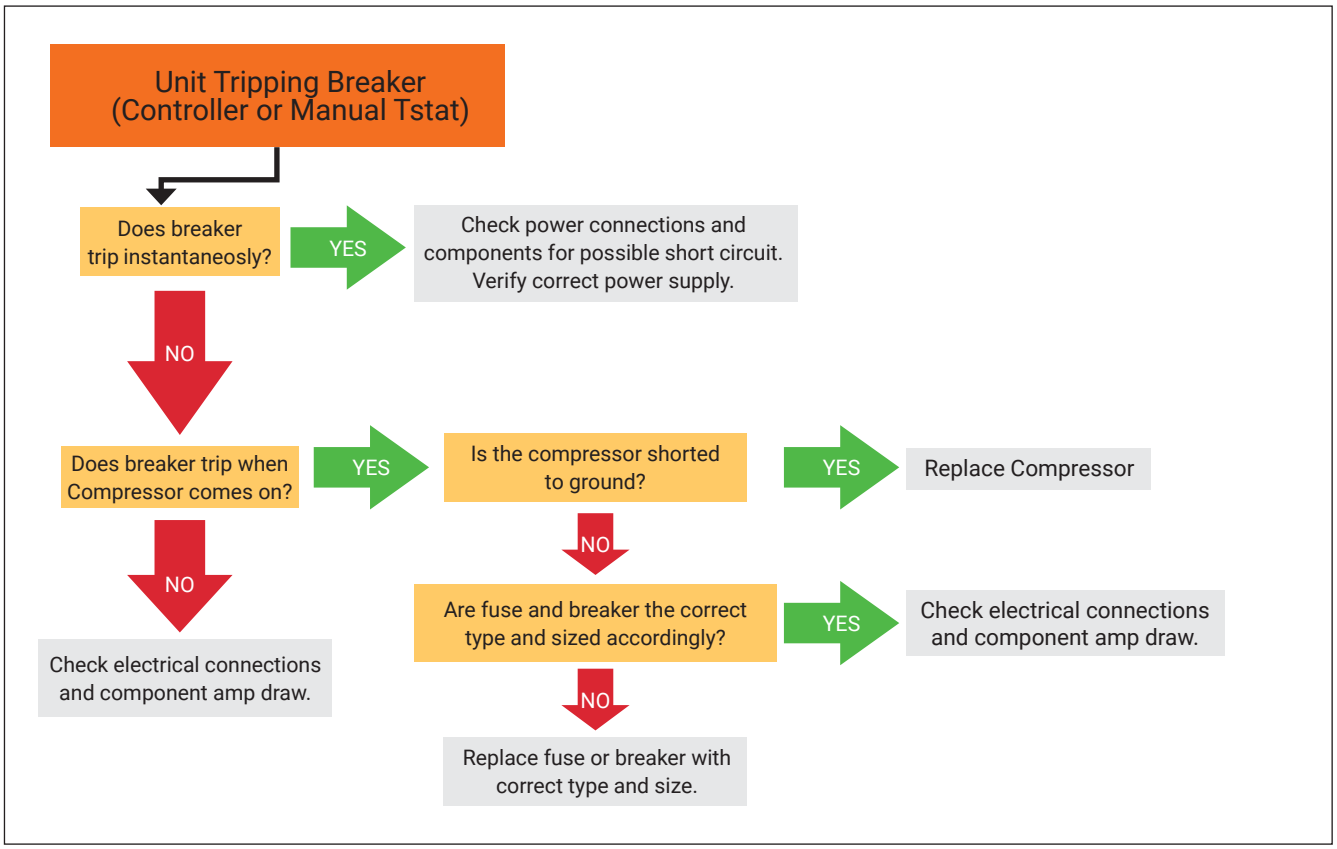
Maintenance/Inspection Recommendations (Perform at least 2 times per year – more frequently as required by operational environment)		Last Completed			
Check Point	**Description**	**Date**	**Date**	**Date**	**Date**
Operational Inspection	Run unit through all modes of operation and record temperatures, voltages, and amperes Comments:				
Visual Inspection	Visually inspect unit for damage, cleanliness, missing, loose, or broken parts Comments:				
Filter Maintenance	Inspect, clean, and replace filter as necessary Comments:				
Clean Unit	Inspect and clean coils, fans/blowers, louvers, air inlets/outlets, interior and exterior of unit as required Comments:				
Controller Cycle Sequence	Cycle the controller through all modes of operation to ensure proper cycling and temperature setpoint operation. Adjust to proper setting (Typically 80°F - 85°F) Comments:				
Air Flow and Circulation	Inspect AC unit, cabinet, and surrounding area to ensure adequate airflow to and from the unit on both the inlet and outlet air channels for the ambient and cabinet air Comments:				
Seals, Gaskets, and Leaks	Inspect and repair the seals, gaskets, and access holes around the unit and/or cabinet that show signs of leaking air and/or moisture Comments:				
Condensate and Drains	Inspect and clean the condensate pans and drains to ensure proper drainage and dissipation of moisture Comments:				
Electrical/Wiring	Inspect for loose, damaged, corroded, or chaffing wiring and connections. Tighten, insulate, or tie-up wires as required Comments:				
Options and Accessories	Check operation and functionality of optional and accessory items such as digital display/controller, door switches, alarm switches, air baffles/deflectors, etc. Comments:				
Refrigeration System	Inspect refrigeration tubing/lines for signs of leaks, rubbing, corrosion, or damage. Check the compressor for proper operation, mounting, and visible signs of exposure to high heat Comments:				
Maintenance Records	Update maintenance records on the unit and in the management system Comments:				

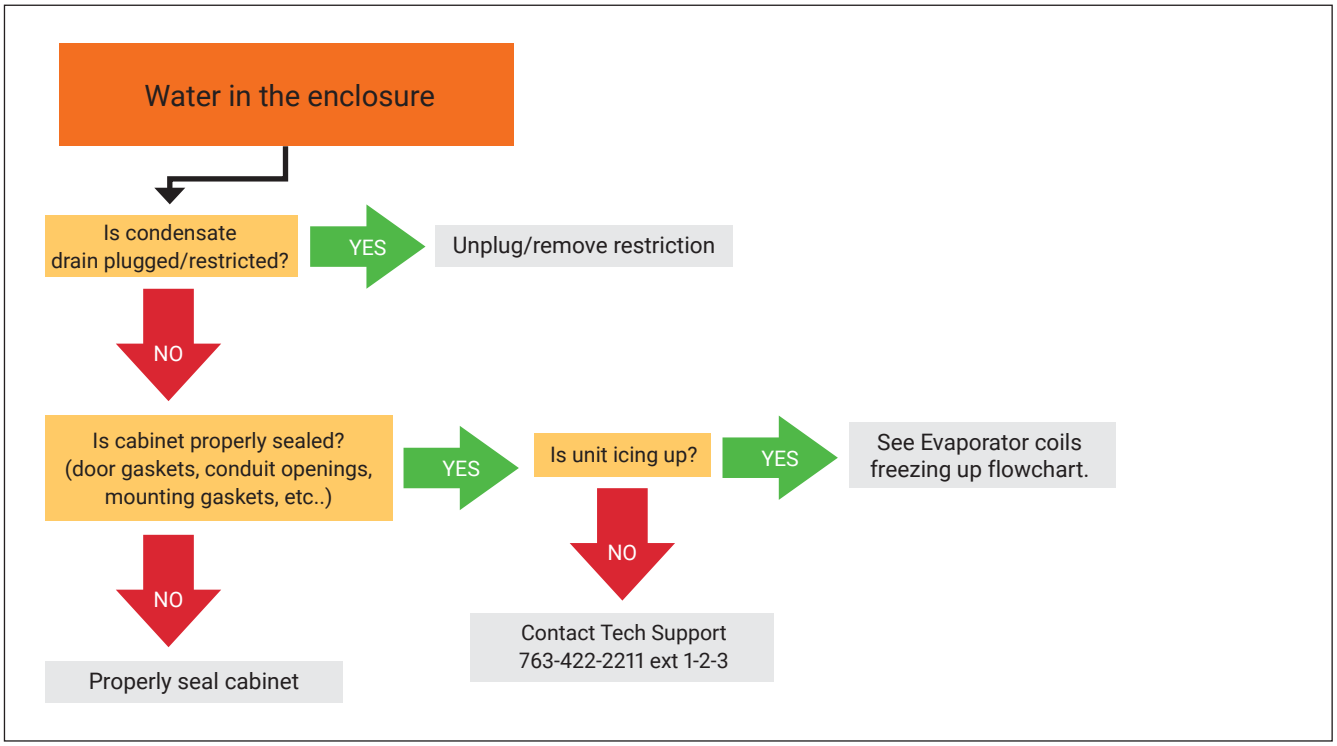
TROUBLE SHOOTING






Evaporator Coils Freezing (Unit w/Manual Tstat)
Are the evaporator and condenser fan(s) running?
NO
Is there voltage to the inoperable fan?
YES
Possible Causes:
- Electrical connections
- Bad fan
NO
Does the capacitor measure correct capacitance?
YES
Possible Causes:
- Faulty electrical connections for one or both fans.
Condenser Fan:
- Bad HPC (if equipped)
- Insufficient Pressure
NO
Replace Capacitor
YES
Does the unit have airflow?
YES
Is the enclosure properly sealed (No outside air leaking in)?
NO
Replace seals and gaskets on enclosure. Monitor for normal operation
NO
Clean/replace filter and clean condensor coil
YES
Verify compressor can satisfy cooling setpoint
NO
Possible Causes:
- Low Refrigerant
- Leak
YES
Verify cooling setpoint is at recommended level. If yes, contact technical support.


Unit Tripping Breaker (Controller or Manual Tstat)
Does breaker trip instantaneosly?
YES
Check power connections and components for possible short circuit. Verify correct power supply.
NO
Does breaker trip when Compressor comes on?
YES
Is the compressor shorted to ground?
YES
Replace Compressor
NO
Check electrical connections and component amp draw.
NO
Are fuse and breaker the correct type and sized accordingly?
YES
Check electrical connections and component amp draw.
NO
Replace fuse or breaker with correct type and size.



For additional technical support:
- Call 763-422-2211 or
- Email cooling.service@nVent.com or
- Download Field Service Request (FSR) from: http://HOFFMAN.nVent.com/en-us/cooling-field-service-request

F-GAS INFORMATION

	T150116GXXX	T150126GXXX
Refrigerant Kühlmittel Chłodziwo	R513A	R513A
GWP	573	573
Factory Charge Füllmenge durch Hersteller Opłata Fabryczna	113 Grams 113 Gramm 113 Gramów	107 Grams 107 Gramm 107 Gramów
CO_2 Equivalent CO_2 Equivalent CO_2 Ekwilalent	0.065 Tons 0,065 Tonnen 0,065 Tony	0.061 Tons 0,061 Tonnen 0,061 Tony

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