



Changing
how food is served.

REV:7.26

OPERATION/MAINTENANCE MANUAL



**TA REFRIGERATED COLD PAN
DROP-IN
DI-TA454**

**TA454 SERIES
COLD PAN SYSTEM**

CUSTOM FABRICATORS OF FOODSERVICE EQUIPMENT

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INSPECTION

Upon receipt, the crate should be inspected for visual damage. Any damage should be reported immediately to the carrier.

SAFETY PRECAUTIONS

This manual includes safety and operating instructions for TempestAir® TA Series cold pan wells. LTI recommends reading all safety precautions and statements to ensure safe operation before installing and operating. Below are the precautions that are explained in more detail. Please read carefully.

IMPORTANT READ FIRST



DANGER

Danger warns of imminent hazard which will result in serious injury or death.



WARNING

Warning indicates the presence of a potential hazard or unsafe practice that will or can cause severe personal injury or death.



CAUTION

Caution indicates the presence of a hazard or unsafe practice that will or can cause minor or moderate personal injury if the caution is ignored.

NOTICE:

Used to note information that is important but not hazard-related.



WARNING

ELECTRIC SHOCK HAZARD

1. Unit must be installed by a qualified electrician. Installation must conform to all local electrical codes. In the absence of local codes, use the latest version of the National Electrical Code.
2. Unit should be safely and adequately grounded in accordance to local codes, or in the absence of local codes, the most up to date version of the National Electrical Code ANSI/NFPA70, to protect the user from electrical shock.
3. The unit requires a grounded system and a dedicated circuit.
4. The unit must be serviced by qualified personnel only. Service by unqualified personnel may lead to electric shock or burn.
5. Control panel must be mounted on a vertical surface/wall and installed in the vertical position. Mounting control panel in the horizontal position may result in collection of liquids and lead to electrical shock.
6. Turn OFF power, unplug power cord/turn off power at circuit breaker, and allow unit to cool if needed to before performing any cleaning, adjustments, or maintenance.
7. Do not use flammable cleaning solutions to clean this unit.
4. Do not use harsh chemicals such as bleach, cleaners containing bleach, or oven cleaners to clean this unit.
5. Units are voltage specific. Refer to specifications label for electrical requirements before installation.
6. Units are intended for indoor use only. Recommended room temperature 86°F.
7. Units require a minimum of 145 CFM of fresh airflow across the condenser. Failure to provide proper airflow can cause premature compressor failure and will void any factory warranty.
8. Service access must be incorporated in order to service and gain access to components.
9. Do not recirculate exhaust air inside the cabinetry in front or behind the condensing unit for adequate ventilation.
10. Install and transport unit in a upright position. Failure to do so may result in damage of refrigeration components.
11. Use non-abrasive cleaners and cloths only. Abrasive cleaners and cloths could scratch finish of unit, marring its appearance and making it susceptible to soil accumulation.
12. Do not use steel wool for cleaning.

NOTICE:

1. Units are voltage specific. Refer to specifications label for electrical requirements before installation.
2. Use non-abrasive cleaners and cloths only. Abrasive cleaners and cloths could scratch finish of unit, marring its appearance and making it susceptible to soil accumulation.
3. Do not use steel wool for cleaning.
13. Do not use harsh chemicals such as bleach, cleaners containing bleach, or oven cleaners to clean this unit.

IMPORTANT READ FIRST

FLAMMABLE REFRIGERANT USED PLEASE READ CAREFULLY

CAUTION: THIS UNIT CONTAINS **R454C FLAMMABLE REFRIGERANT**

CAUTION: UNIT MUST BE INSTALLED IN ITS OWN CABINET WITH MECHANICAL COMPARTMENT SECTIONED OFF TO PROPERLY VENTILATE AND CONTAIN ANY REFRIGERATION LEAK. IT IS REQUIRED THAT **NO ARCING POTENTIAL COMPONENTS SUCH AS (GFCI) BE LOCATED LESS THAN 14" FROM THE BOTTOM OF THE CABINET.**

CAUTION: RISK OF FIRE. FLAMMABLE REFRIGERANT USED. CONSULT THIS REPAIR MANUAL/OWNER'S GUIDE BEFORE ATTEMPTING TO SERVICE THIS PRODUCT. ALL SAFETY PRECAUTIONS MUST BE FOLLOWED.

ATTENTION: Risque d'incendie ou d'explosion. Fluide frigorigène inflammable utilisé. Consulter le guide du propriétaire ou le manuel de réparation avant d'essayer d'installer ou de réparer ce produit. Toutes les précautions de sécurité doivent être prises.

WARNING: IMPROPER INSTALLATION CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THIS INSTALLATION, OPERATING, AND MAINTENANCE MANUAL BEFORE INSTALLING OR SERVICING THE EQUIPMENT.

WARNING: RISK OF FIRE. FLAMMABLE REFRIGERANT USED. TO BE REPAIRED ONLY BY TRAINED SERVICE PERSONNEL. DO NOT PUNCTURE REFRIGERANT TUBING.

DANGER: Risque d'incendie ou d'explosion. Fluide frigorigène inflammable utilisé. Doit uniquement être réparé par un technicien de service formé. Ne pas perforer la conduite de fluide frigorigène.

WARNING: RISK OF FIRE DISPOSE OF PROPERLY IN ACCORDANCE WITH FEDERAL OR LOCAL REGULATIONS. FLAMMABLE REFRIGERANT USED

ATTENTION: Risque d'incendie ou d'explosion. Mettre au rebut conformément aux règlements fédéraux ou locaux. Fluide frigorigène inflammable utilisé.

INSTALLATION / MAINTENANCE / REPAIR GUIDELINES

ALL guidelines to the installation, maintenance, repair and decommissioning of this manual are referenced to the CSA C22.2 No. 60335-2-89:21 ♦ UL 60335-2-89 referencing (Annex 101.DVS)

Please read carefully before installing, operating and repairing this unit.

	WARNING: Risk of fire/flammable materials
	WARNING: Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building-in.
	WARNING: Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
	WARNING: Do not damage the refrigerating circuit.
	WARNING: Do not use electrical appliances inside the storage compartment unless they are recommended by the manufacturer.
	The appliance is to be installed in accordance with the Safety Standard for Refrigeration Systems, ANSI/ASHRAE 15. In addition, if the appliance has a refrigerant charge of more than $3 \times \text{LFL}$. The appliance shall not be installed in public corridors or lobbies.

WARNING

- **Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.**
- **Be aware that refrigerants may not contain an odor.**

French

MISE EN GARDE

- **Ne pas utiliser de moyens autres que ceux recommandés par le fabricant pour accélérer le processus de dégivrage ou pour nettoyer l'appareil.**
- **Attention, les fluides frigorigènes peuvent ne pas dégager d'odeur.**

Qualification Of Workers For Maintenance, Service, and Repair

Personnel should be qualified and properly trained in servicing and repairing equipment dealing with flammable refrigerant. For example breaking into the refrigeration circuit, opening sealed components, opening of ventilated enclosure, proper safety precautions before servicing unit.

Information On Properly Servicing Unit

Prior to beginning of servicing unit safety checks are necessary to ensure that the risk of ignition is minimized. Please refer to the Servicing Check List to go over proper procedures on maintenance/repair services.

Servicing Check List

1. Minimize Risk

- a. Any work being performed on unit shall minimize the risk of a flammable gas being present while working on the unit.

2. Notify Personnel Of Work Being Done

- a. All maintenance staff and others working in the local area shall be instructed on the nature of the work being performed and minimize working in confined spaces as much as possible.

3. Check For Presence of Refrigerant

- a. Check for presence of refrigerant with appropriate refrigerant detector prior to and during working on unit. Make sure the leak detection equipment is suitable for use i.e. nonsparking, adequately sealed, or intrinsically safe.

4. Fire Extinguisher Available

- a. If any hot work is to be conducted on the equipment or any associated parts, a fire extinguisher should be available on hand.

5. No Ignition Source

- a. No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment shall be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.

6. Proper Ventilation

- a. Make sure that the equipment being worked on is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. Ventilation shall continue during the period that the work is carried out.
- b. Ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

7. Checks To Electrical Devices

Repair and maintenance of electrical components must be fit for the purpose and to correct specifications in this manual. If in doubt, consult LTI's technical department for assistance at +1 (888) 584-2722.

- a. Initial safety checks and component inspection procedures shall be used. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.
- b. If a fault cannot be corrected immediately but it is necessary to continue operation, an acceptable temporary solution shall be used and should be reported to the owner of the equipment so all parties are advised including LTI if service is done under warranty.
- c. Initial safety checks include:
 - 1. Capacitors are discharged and shall be done in a safe manner to avoid sparking.
 - 2. No live electrical components and wiring are exposed while charging, recovering or purging the system.
 - 3. There is continuity to earth bonding.

8. Repairs to sealed components

- a. All electrical supplies shall be disconnected from the equipment being worked on prior to any removal of sealed covers, etc.
- b. If necessary to have an electrical supply to the equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- c. Ensure that the work being performed does not alter in any way the level of protection of the unit. This includes damage to cables, connections, terminals, seals, fittings etc.

9. Detection of flammable refrigerants

- a. Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.
- b. The following are acceptable leak detection methods
 - 1. Electronic leak detectors (Ensure that the detector is rated for A3/A2L detection)
 - 2. Leak detection fluids (avoid using fluids containing chlorine)
 - 1. Examples: bubble method, fluorescent method agents.
- c. If a leak is suspected, all naked flames shall be removed/extinguished.
- d. If the leak is found and requires brazing all refrigerant shall be recovered from the system. See Remove and Evacuation Procedures.

10. Removal and Evacuation Of Refrigerant

- a. When breaking into the refrigerant circuit to make repairs or any other purpose conventional procedures shall be used.
- b. For flammable refrigerants it is important that best practices be followed since flammability is a consideration.
- c. Refrigeration removal / evacuation procedures:
 - 1. Safely remove refrigerant following local and national regulations.
 - 2. Purge the circuit with inert gas i.e. oxygen-free nitrogen
 - 3. Evacuate (optional for A2L refrigerant)
 - 4. Purge with inert gas i.e. oxygen-free nitrogen (optional for A2L refrigerant)
 - 5. Open the circuit by cutting or brazing.
- d. Refrigerant shall be recovered into the correct recovery cylinders if venting is not allowed by local and national code.
- e. Ensure that when vacuuming down the system that the pump is not close to any potential ignition sources and that ventilation is available. (Use properly rated vacuum pumps)

11. Charging Procedures

- a. Conventional charging procedures are used.
 - 1. Prior to recharging the system it shall be pressure-tested.
 - 2. Ensure contamination of different refrigerants does not occur.
 - 3. Use as short as possible hoses or lines to minimize the amount of refrigerant they will contain.
 - 4. Ensure that the refrigerant system is earthed prior to charging.
 - 5. Ensure that the refrigerating system is properly charged with the correct amount of refrigerant.
 - 6. The system shall be leak tested on completion of charging to verify leak has been fixed.

12. Disposal

- a. Ensure sufficient ventilation at the working place.
- b. Remove the refrigerant. If the recovery is not required by national regulations, drain the refrigerant to the outside. Take care that the drained refrigerant will not cause any danger. In doubt, one person should guard the outlet. Take special care that drained refrigerant will not float back into the building.
- c. When FLAMMABLE REFRIGERANTS are used:
 - 1. Evacuate the refrigerant circuit.
 - 2. Purge the refrigerant circuit with oxygen free nitrogen.
 - 3. Evacuate again (not required for A2L refrigerants).
 - 4. Cut out the compressor and drain the oil.
- d. Cut out the compressor and drain the oil.

NOMENCLATURE:

Example: DI – TA454 – 20 – 04 – T – SP3
 AA BB CC DD E F

- **AA - DI = Drop-In**
- **BB - TA454 = TempestAir cold well R454C refrigerant**
- **CC - Width of cold pan in inches:**
 - 20 – standard 20-inch unit, intended for standard 12 x 20 inch pans side-to-side
 - 12 – slim 12-inch unit, intended for standard 12 x 20 inch pans end-to-end
 - 06 – similar to 12-inch unit (same width), but lengths are sized to accommodate two rows of 1/6 size (6 x 6 inch) pans.
- **DD Number of Pans**
 - Models DI-TA-20 and DI-TA-12: Number of standard 12 x 20 pans the unit is designed to hold.
 - Model DI-TA-06: Number of 1/6-size pans the unit is designed to hold.
- **E Mounting:**
 - T = Turn Down
 - H = Hugg
- **F TA Style**
 - Blank – Flat top
 - SP3 – Sloped top

INSTALLATION INSTRUCTIONS

LTI TempestAir® Series is a patented refrigeration system designed for short term display and dispensing of food and deserts. This unit is designed to maintain a product temperature at a maximum of 40° F for periods up to four (4) hours. These units are dependent upon the ambient temperature in which they are installed and the product temperature when it is placed in the units. The product should be carefully monitored and rotated as necessary to meet local health requirements.

When installed adequate air flow must be provided to ensure proper operation. Thru air flow is required but if not, exhaust fans should be used to ensure adequate heat exhaust. Connect the unit into the proper grounded electrical service. Refer to unit's electrical data tag for correct electrical service requirements. The unit is now ready for operation.

Refer to figures and tables provided below for standard cut out sizes and ventilation and access information for the TA units.

The counter cut-out sizes and power requirements are shown in the provided illustrations. A gasket is provided with each unit to be installed around the flange of each unit. The weight of the unit on the gasket forms a seal preventing liquids from seeping into the cut-out opening. *(Use NSF grade Silicone to seal around the perimeter flange.)*

Service Access/Ventilation Openings

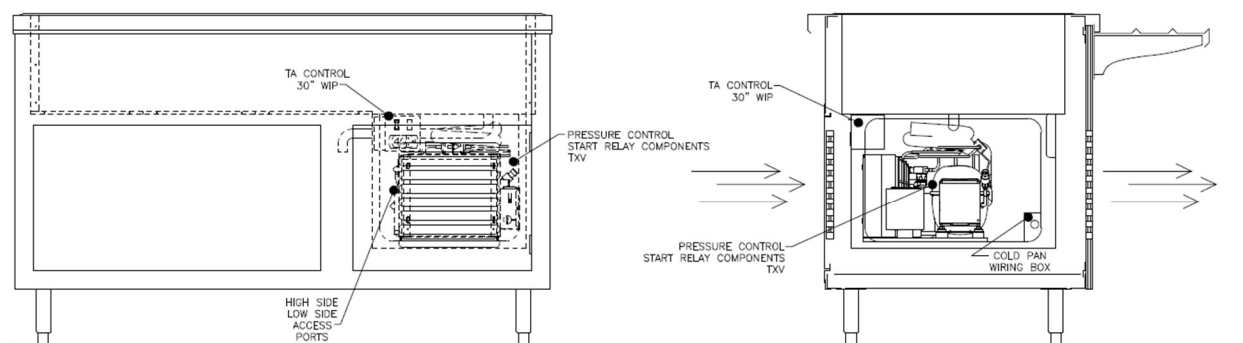
IMPORTANT NOTE:

Self-contained refrigerated units require access to the mechanical compartment for servicing and fresh airflow across the condenser for proper operation of the compressor.

ATTENTION: *Failure to provide access/proper airflow can cause premature compressor failure and will VOID any factory warranty.*

Service Access

These units have multiple components that need to be accessed for service. They include the electrical power/controls, plumbing, start components, service valves, and txv valve. Due to this it is required to have proper service access incorporated with the ventilation opening. **Refer to the illustration provided for location of these components.**

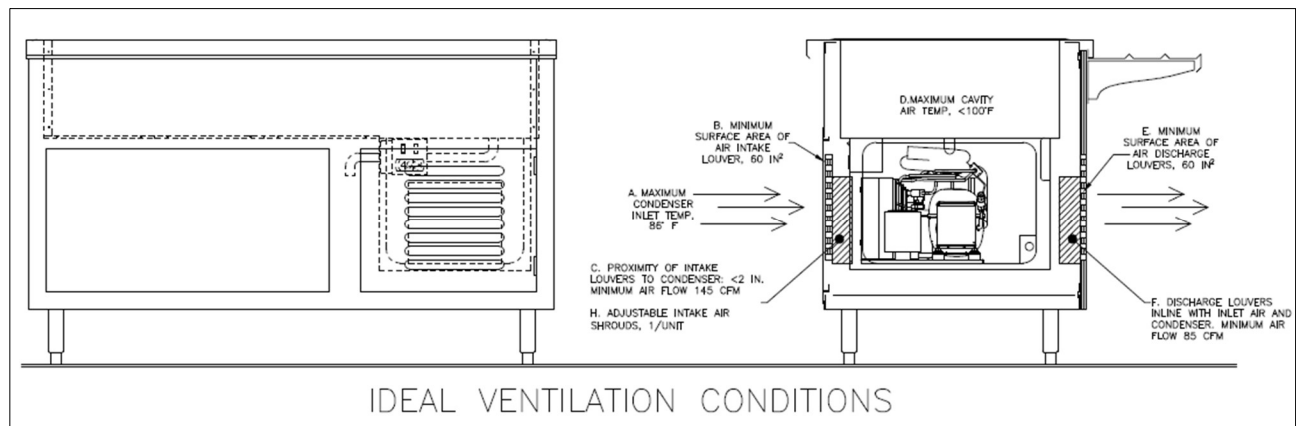


SERVICE ACCESS COMPONENTS

Ventilation

Ideal installation configuration and ambient conditions for all LTI refrigerated drop-ins follow the following key criteria:

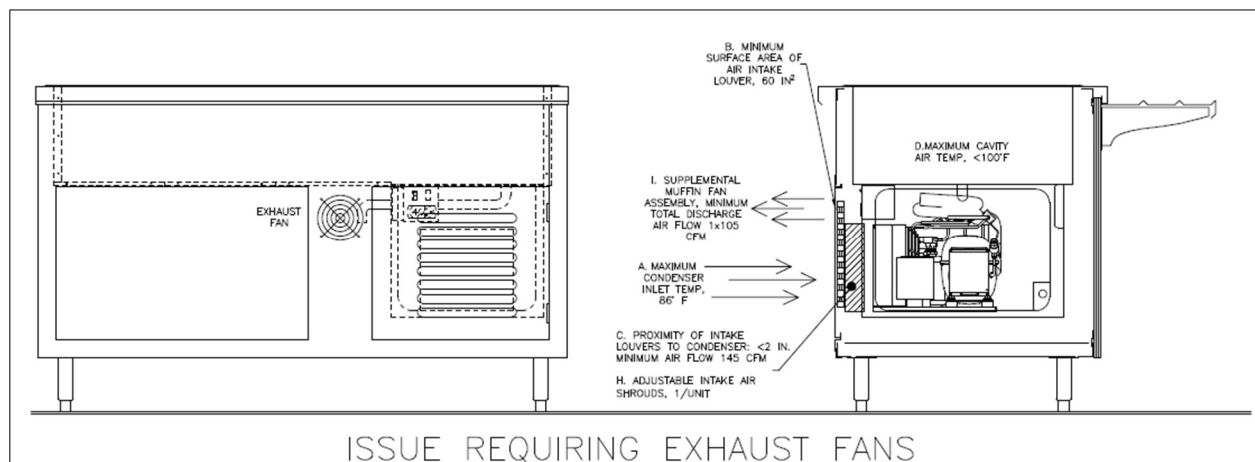
- Maximum condenser incoming air temperature : 86°F
- Maximum cavity air temperature: 100°F
- Minimum intake & discharge air louver opening area: 60 in² (.42 ft²)
- Recommended minimum proximity condenser to louver: <2 in



If ideal installation cannot be met:

Installation for the supplemental fan assemblies that are shipped with each LTI refrigerated drop-in which includes (2) fan motors, (2) fan guards with fasteners.

In addition, note that LTI provides condenser air shrouds to minimize cavity air circulation. Additional shrouds may be obtained by contacting us at parts@lowtempind.com or +1 888.584.2722

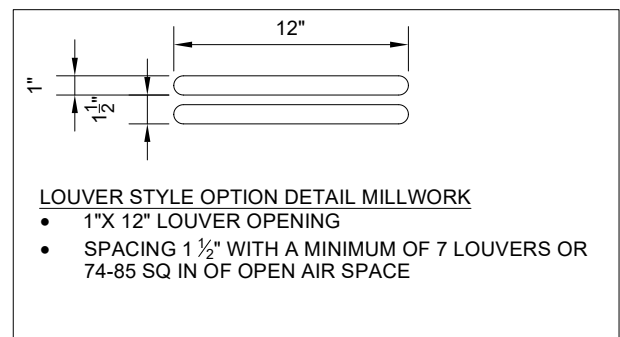
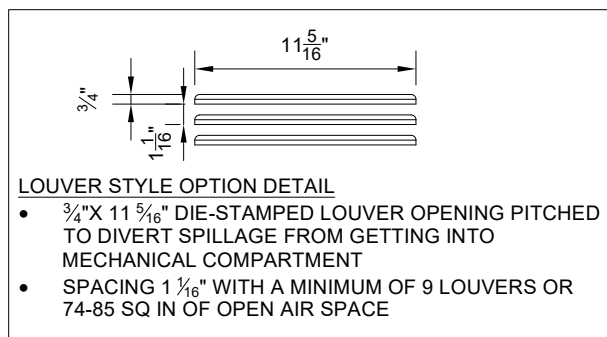
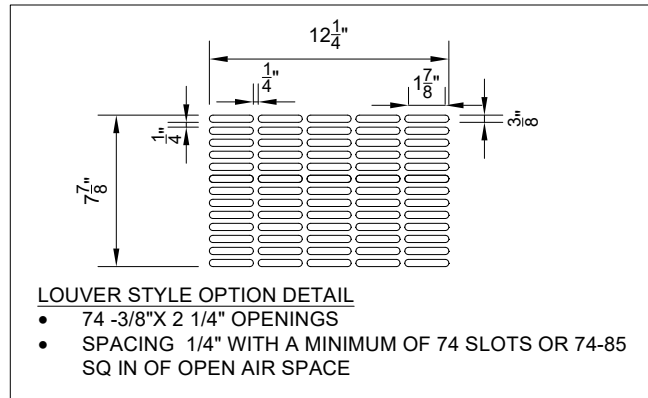


NOTE:

Meeting performance requirements is the responsibility of the installer of the drop-in equipment. Warranty is only valid for equipment installed to these specified conditions.

Louver Design Illustrations

VENTILATION PROFILES



Plumbing

Drop-in cold pans are furnished with a $3/4"$ NPT S/S nipple welded to cold pan with pvc extension for final in field hook-up.

NOTICE:

WARRANTY **DOES NOT** COVER COST OF REMOVING AND REINSTALLING DROP-IN UNIT FROM COUNTER IF THERE ARE NO SERVICE ACCESSSES PROVIDED TO MAKE REPAIRS.

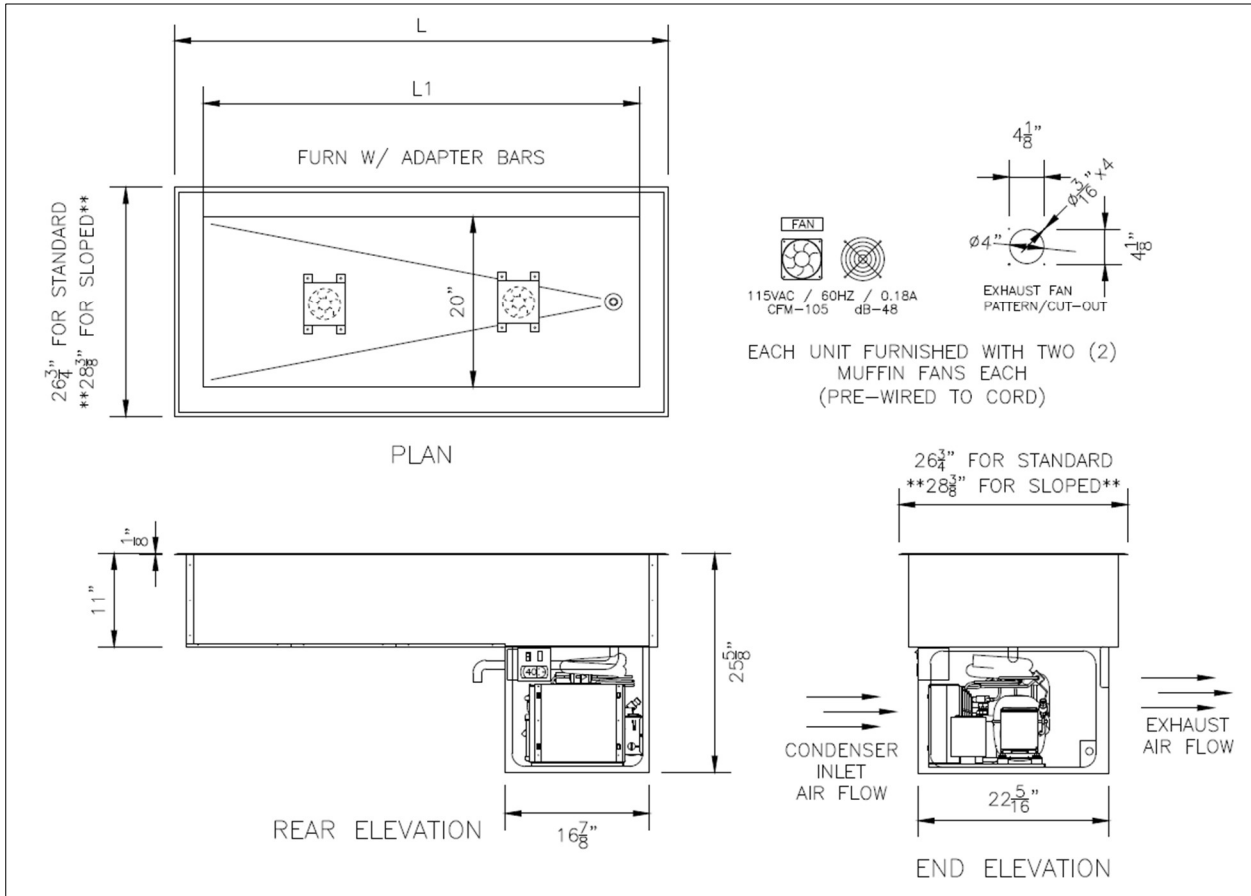
Proper Location Of Unit

1. Location of the unit must be level, free on any excessive vibration, and able to support the overall the weight of the unit and max weight of the product load.
 - a. UNIT MUST BE INSTALLED IN ITS OWN CABINET AND/OR MECHANICAL COMPARTMENT SECTIONED OFF TO PROPERLY VENTILATE/CONTAIN ANY REFRIGERATION LEAK. IT IS REQUIRED THAT **NO ARCING POTENTIAL COMPONENTS SUCH AS (GFCI) BE LOCATED 14" FROM THE BOTTOM OF THE CABINET.**
2. Cut the appropriate opening in the countertop for unit being installed. Refer to *Technical Specifications Table* for counter top cutout dimensions and illustrations.
3. Make structural modifications or add bracing underneath the countertop to ensure the countertop will support the unit being installed.
4. Cut the necessary openings in counter to provide proper ventilation to the condensing unit as well as recommended service access openings for any service needed to repair unit. Louvered or grill-style panels should be installed where ventilation/access openings are located and mechanically fastened with the use of tools to protect the condensing unit.
 - a. Self-contained refrigerated units require a minimum of 145 CFM fresh airflow across the condenser. Ventilations/access openings should be enough to remove condensing unit and/or service unit if needed without removing complete unit from counter.
 - b. One opening should be in front of the condenser and shrouded to provide fresh air across condenser with the exhaust opening on the opposite side.
 - c. Louvered or grilled style panels should have a minimum 60 sq in total open area and positioned in front of the condenser and shrouded.

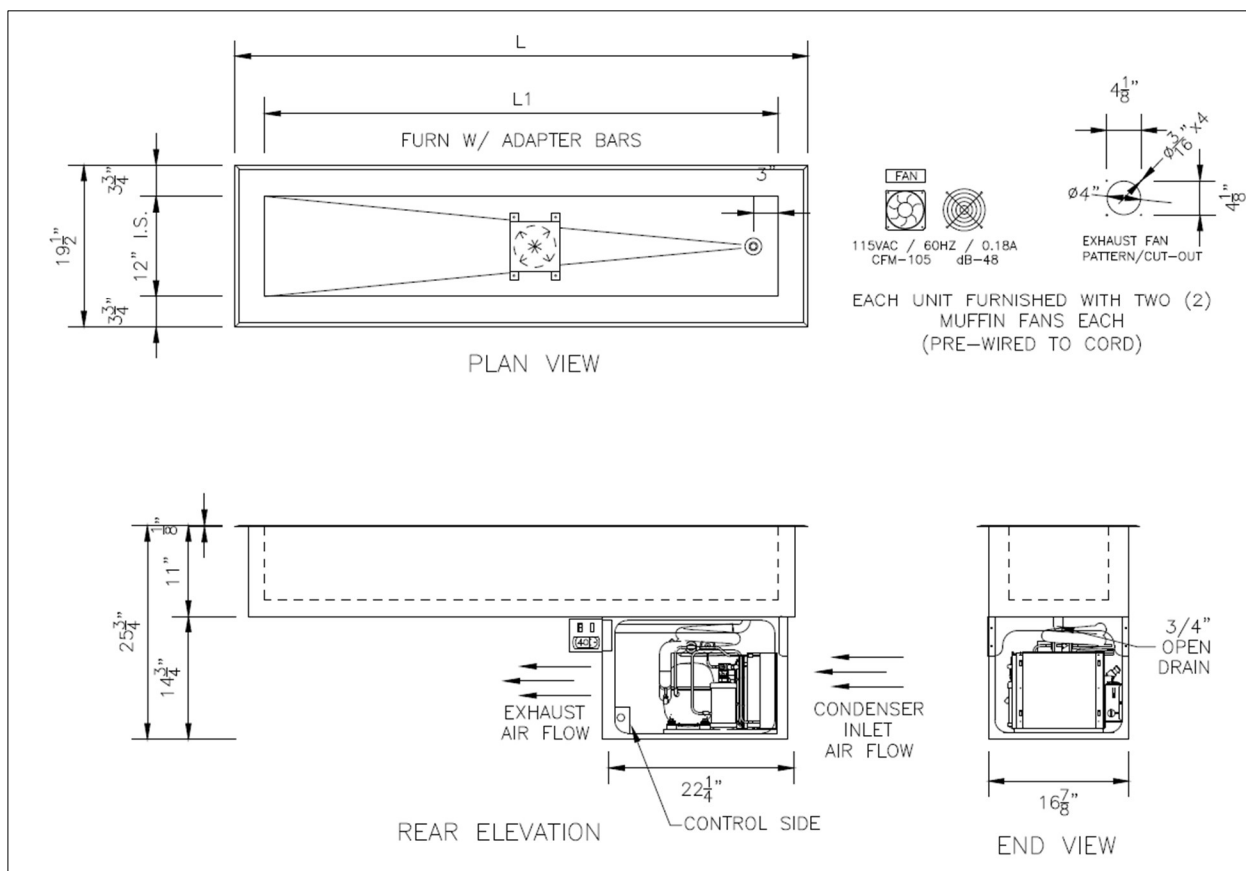
Note: Mechanical compartment should be properly protected to prevent damage to condensing unit and access to compartment should be secured with the use of tools.

Refer to the *Illustration and Technical Specifications Tables* for ventilation/access and cut-out locations.

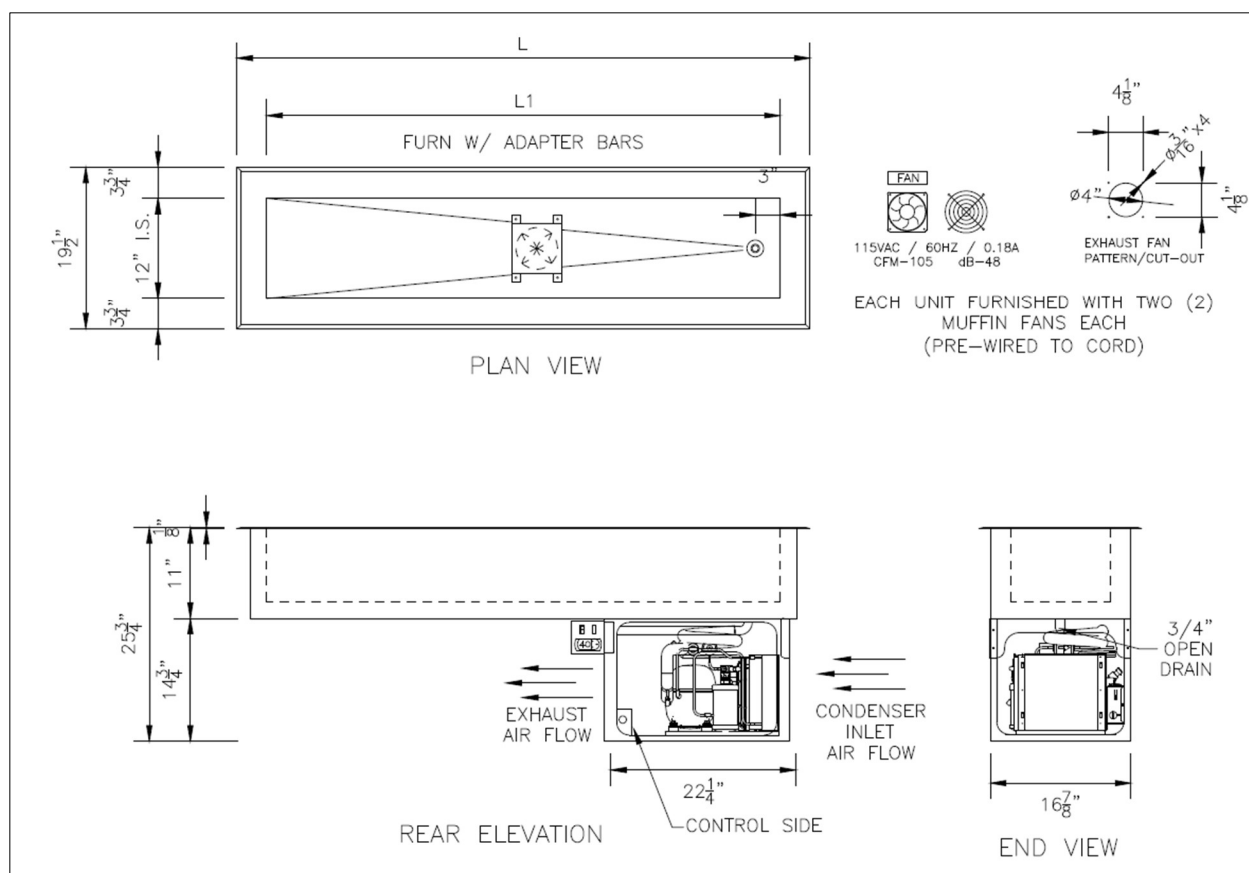
Detailed Specifications



DI-TA FULL SIZE UNITS										
Model # W/ OR W/O SLOPE (*SP3*)	Pans	L	L1	Cut-Out Size	H.P.	Charge R454C Oz (g)	Volts/ Phase	Fans	Amps (120V)	NEMA Plug
DI-TA454-20-01-X-X	1	19 1/2	12	17 7/8" x 25 7/8"	1/3	18(510)	120V/1	1	5.2	5-15
DI-TA454-20-02-X-X	2	32	25	30 5/8" X 25 7/8"	1/3	20(567)	120V/1	1	5.2	5-15
DI-TA454-20-03-X-X	3	45	38	43 5/8" X 25 7/8"	1/3	22(624)	120V/1	1	5.2	5-15
DI-TA454-20-04-X-X	4	58	51	56 5/8" X 25 7/8"	1/3	24(680)	120V/1	2	5.2	5-15
DI-TA454-20-05-X-X	5	71	64	69 5/8" X 25 7/8"	1/3	26(737)	120V/1	2	5.2	5-15

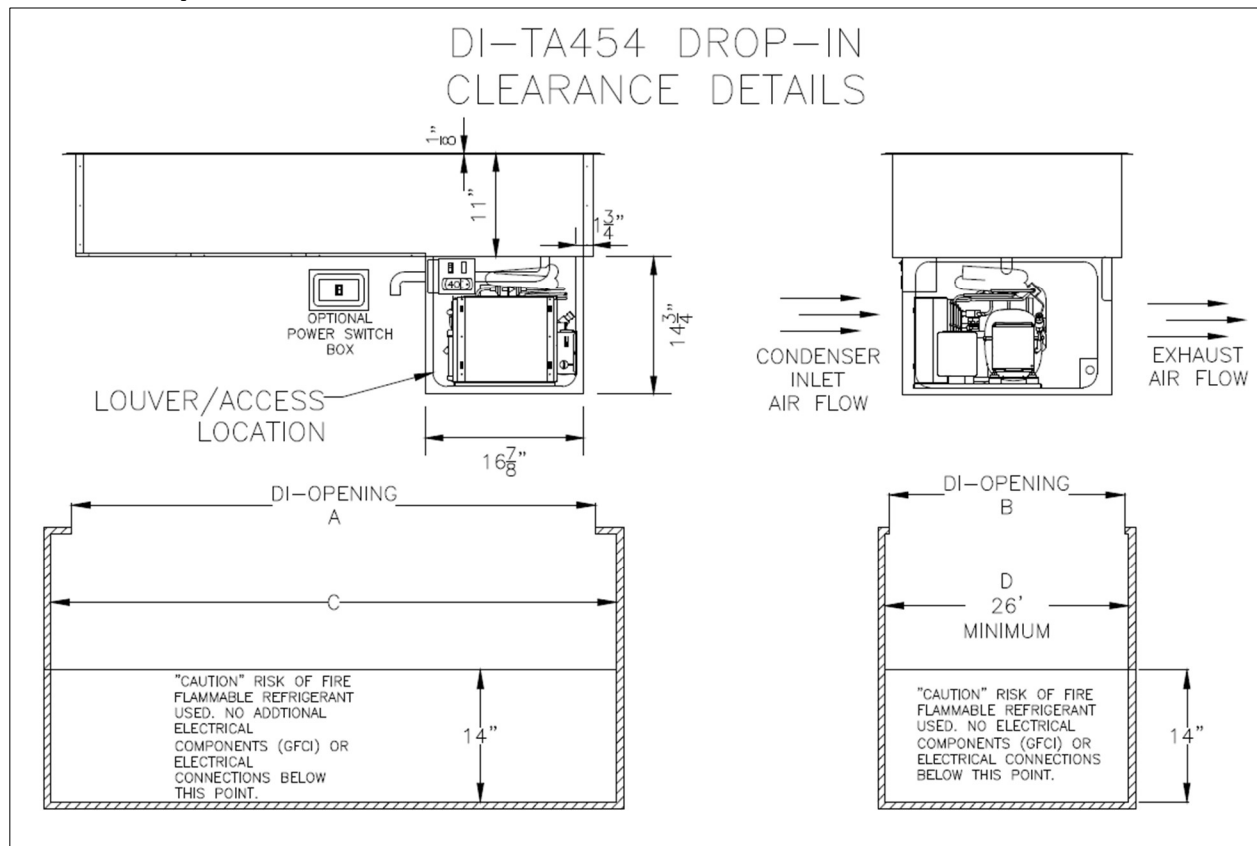


DI-TA SLIM SIZE UNITS										
Model # W/ OR W/O SLOPE (*SP3*)	Pans	L	L1	Cut-Out Size	H.P.	Charge R454C Oz(g)	Volts/ Phase	Fans	Amps (120V)	NEMA Plug
DI-TA454-12-01-X-X	1	26 3/4	20	25 7/8 X 17 7/8	1/3	18(510)	120V/1	1	5.2	5-15
DI-TA454-12-02-X-X	2	47 7/8	40 7/8	46 X 17 7/8	1/3	20(567)	120V/1	1	5.2	5-15
DI-TA454-12-03-X-X	3	68 3/4	61 3/4	66 7/8 X 17 7/8	1/3	22(624)	120V/1	1	5.2	5-15
DI-TA454-12-04-X-X	4	89 5/8	82 5/8	87 7/8 X 17 7/8	1/3	24(680)	120V/1	2	5.2	5-15
DI-TA454-12-05-X-X	5	110 1/2	103 1/2	108 3/4" X 17 7/8	1/3	26(737)	120V/1	2	5.2	5-15



DI-TA SLIM 1/6 TH SIZE UNITS										
Model # W/ OR W/O SLOPE (*SP3*)	Pans	L	L1	Cut-Out Size	H.P.	Charge R454C Oz(g)	Volts/ Phase	Fans	Amps (120V)	NEMA Plug
DI-TA454-06-06-X-X	6	25 1/2	18 1/2	23 5/8 X 17 7/8	1/3	18(510)	120V/1	1	5.2	5-15
DI-TA454-06-08-X-X	8	32	25	20 1/8 X 17 7/8	1/3	18(510)	120V/1	1	5.2	5-15
DI-TA454-06-10-X-X	10	38 3/8	31 3/8	36 1/2 X 17 7/8	1/3	20(567)	120V/1	1	5.2	5-15
DI-TA454-06-12-X-X	12	44 3/4	37 3/4	42 7/8 X 17 7/8	1/3	20(567)	120V/1	1	5.2	5-15
DI-TA454-06-14-X-X	14	51 1/8	44 1/8	49 1/4 X 17 7/8	1/3	22(624)	120V/1	1	5.2	5-15
DI-TA454-06-16-X-X	16	57 9/16	50 9/16	55 5/8 X 17 7/8	1/3	22(624)	120V/1	2	5.2	5-15
DI-TA454-06-18-X-X	18	64	57	62 1/8 X 17 7/8	1/3	24(680)	120V/1	2	5.2	5-15
DI-TA454-06-20-X-X	20	70 1/2	63 1/2	68 5/8 X 17 7/8	1/3	24(680)	120V/1	2	5.2	5-15

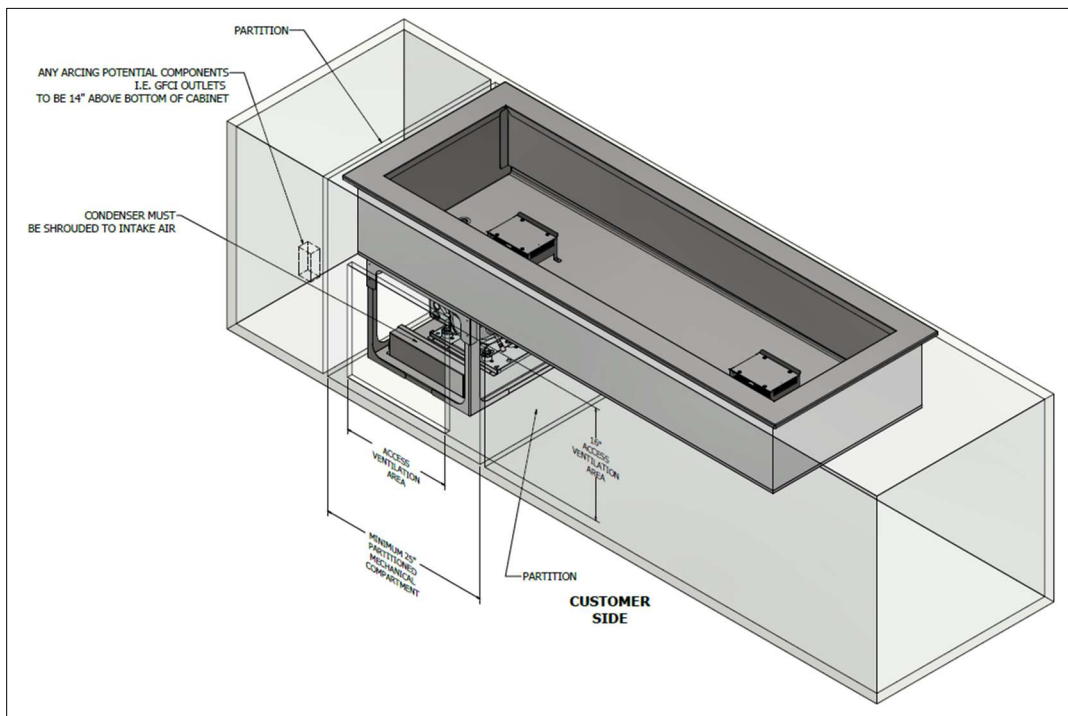
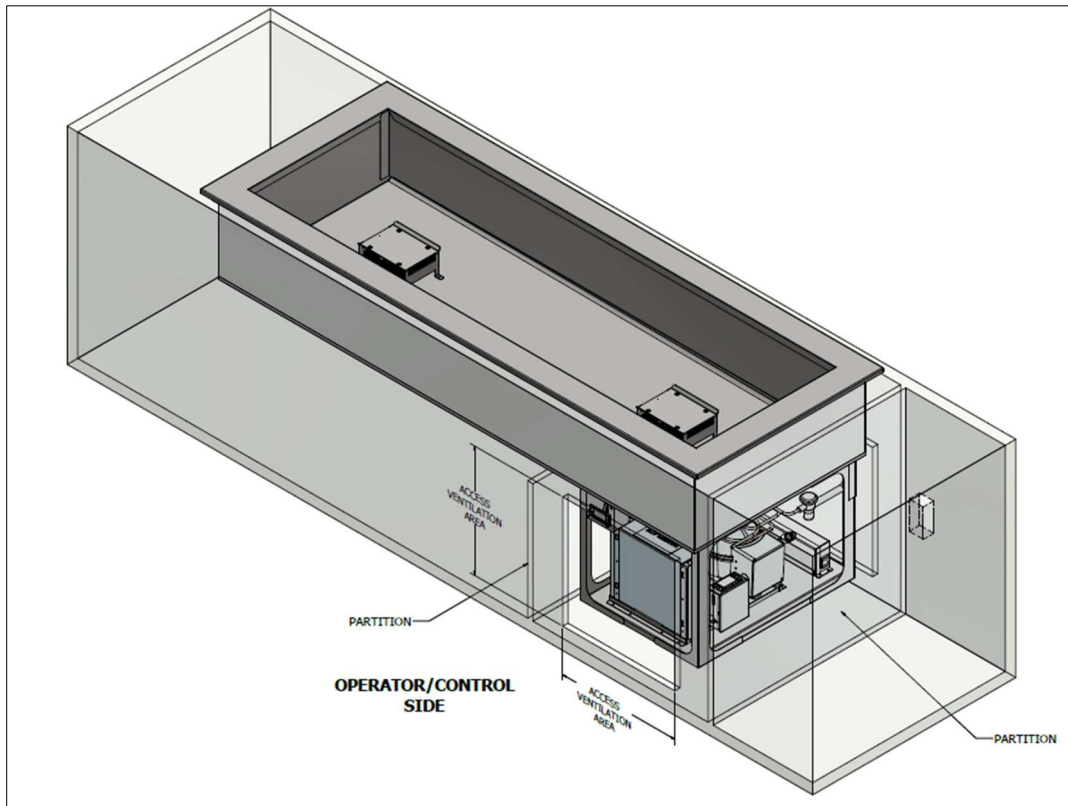
DI-TA Drop-In Clearance

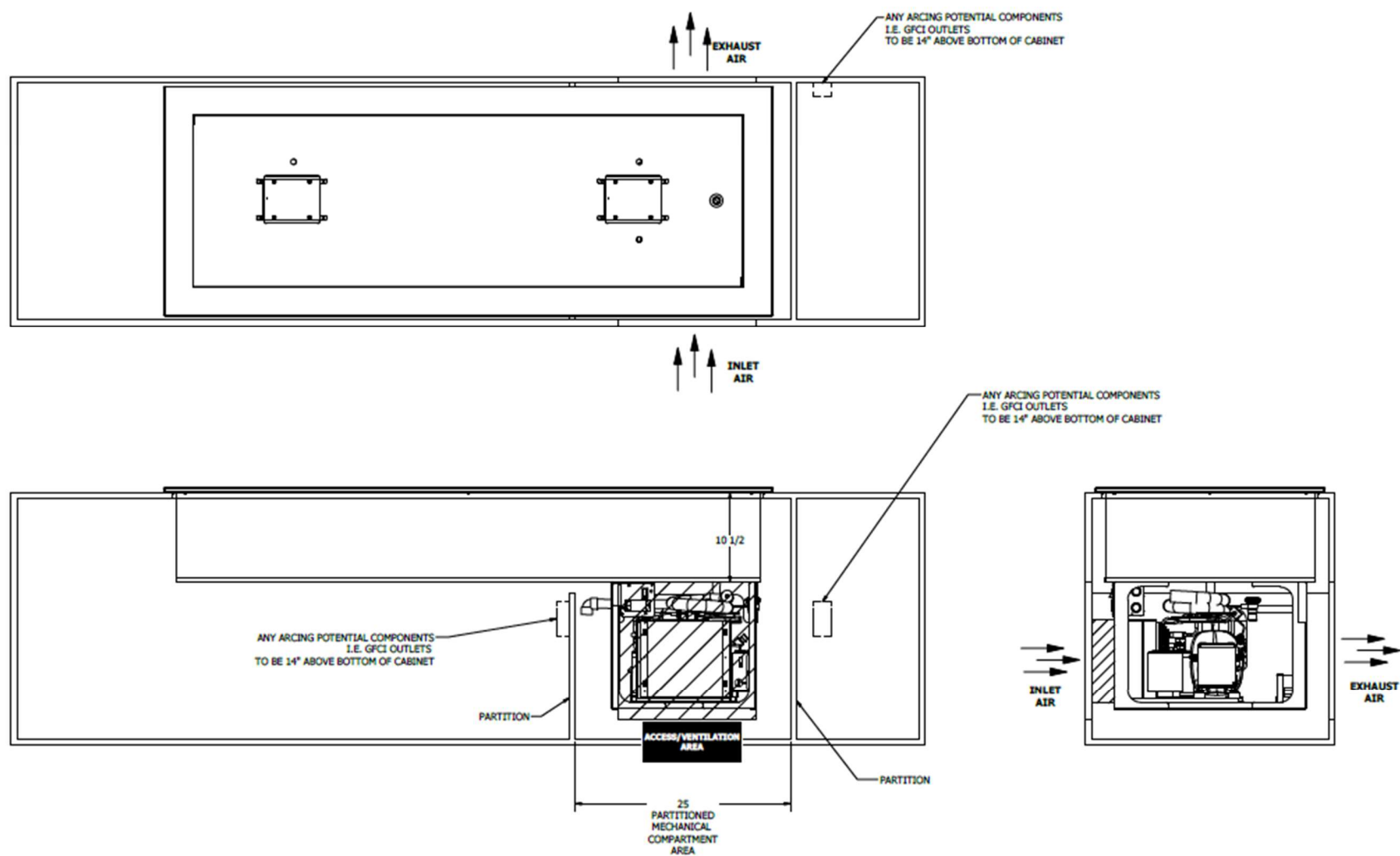


MODEL	DIM A	DIM B	DIM C	DIM D
DI-TA454-20-01-X-X	18 5/8	25 7/8	22 3/8	26
DI-TA454-20-02-X-X	30 5/8	25 7/8	34 3/8	26
DI-TA454-20-03-X-X	43 5/8	25 7/8	47 3/8	26
DI-TA454-20-04-X-X	56 5/8	25 7/8	60 3/8	26
DI-TA454-20-05-X-X	69 5/8	25 7/8	73 3/8	26
DI-TA454-12-01-X-X	25 7/8	17 7/8	29 5/8	26
DI-TA454-12-02-X-X	46	17 7/8	49 3/4	26
DI-TA454-12-03-X-X	66 7/8	17 7/8	70 5/8	26
DI-TA454-12-04-X-X	87 7/8	17 7/8	91 5/8	26
DI-TA454-12-05-X-X	108 3/4	17 7/8	112 1/2	26

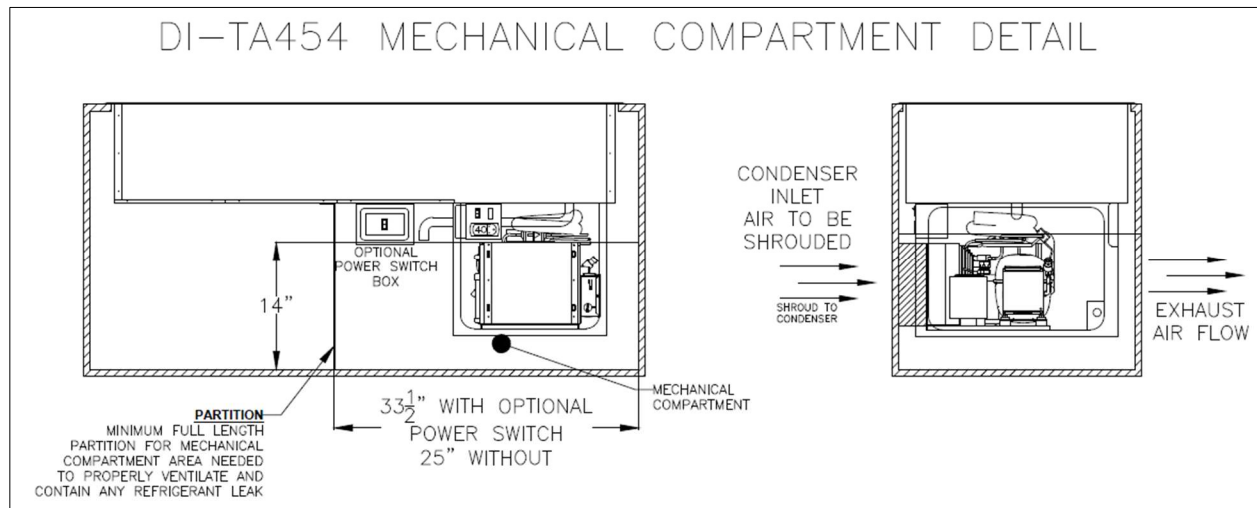
MODEL	DIM A	DIM B	DIM C	DIM D
DI-TA454-06-06-X-X	23 5/8	17 7/8	27 3/8	26
DI-TA454-06-08-X-X	20 1/8	17 7/8	33 7/8	26
DI-TA454-06-10-X-X	36 1/2	17 7/8	40 1/4	26
DI-TA454-06-12-X-X	42 7/8	17 7/8	46 5/8	26
DI-TA454-06-14-X-X	49 1/4	17 7/8	53	26
DI-TA454-06-16-X-X	55 5/8	17 7/8	59 1/2	26
DI-TA454-06-18-X-X	62 1/8	17 7/8	65 7/8	26
DI-TA454-06-20-X-X	68 5/8	17 7/8	72 3/8	26

DI-TA Drop-In Clearance Illustration





DI-TA Drop-In Mechanical Compartment Detail



NOTE: Mechanical compartment area must be partitioned off from other areas of cabinet enclosure if additional equipment will be a part of the finished cabinet. Any arcing potential components such as GFCI outlets must be 14" above the bottom of the cabinet.

***** WARNING *****

To prevent any electrical accidents, this equipment should be installed and serviced by **qualified maintenance personnel only** per national electrical code standards.

Various options may be purchased with this equipment. When these options are provided the electrical circuits may be separately fused with **class "G" fuses**. If fuses must be replaced **replace with the same type and amperage fuse**.

OPERATING INSTRUCTIONS

START UP

The refrigeration system supplied with these systems are of the hermetic type. Refrigerant is metered by expansion valves which are located in the compressor housing of TempestAir[®] unit. Each refrigeration system is self-contained and has been leak tested, charged with refrigerant, and operated to ensure the proper operation and setting of the controls.

Energize the unit by attaching the plug to an appropriate electrical supply (115 vac, 60 hz, single phase, 12 amp) and turning on the service switch located in the compressor compartment or option remote switch location.

Note: The compressor symbol will flash on initial startup before turning on the compressor.

Prep the unit for use by using empty food pans or covering the well. After approximately one (1) hour of operation the unit will be ready for use.

OPERATION

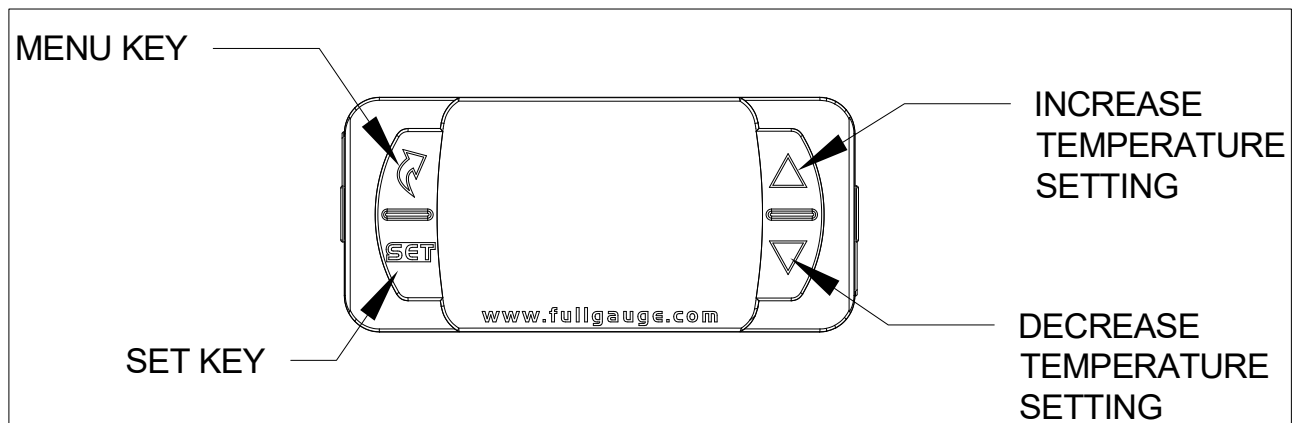
The system temperature is controlled by a thermostat which is located inside the compressor housing. The thermostat controls the compressor which controls the flow of refrigerant to the evaporator of the unit.

A low pressure control (physically located in the front of the compressor compartment) is used to cycle off and on the compressor at certain setpoints. The low pressure control should not be adjusted from the factory settings (Cut-In -35 / Cut-Out-5). Adjustment of this control may cause performance problems with the unit. The temperature is directly controlled by the thermostat.

Factory Settings for Thermostat TempestAir[®] Cold Pans

- Factory Set Point = 29° F
- Minimum Low Set Point r1= 24° F
- Maximum High Set Point r2 = 38° F

For instructions on setting Carel and Full Gauge Thermostats see figure and instructions provided.



Full Gauge Powering On the Unit

- Make sure the unit is plugged in and that the provide cover lid are placed on the unit.
- Power on the unit by switching the master switch to the **ON** position.
- The display will come reading the temperature in the cabinet and begin cooling.

Full Gauge Control Selecting Temperature Setting

Changing Settings:

1. With the unit ON press and HOLD the SET key for 2 seconds until Set is displayed.
2. Let go of the Set key and the preset setting will be displayed on the screen.
3. To change the setting simple press the up or down arrow keys to the desired temperature.
4. Once the desired setting is selected press the Set key again to save the setting.

CLEANING INSTRUCTIONS

To maintain the performance and finish of the unit clean the unit daily. Make sure to use cleaning supplies and cleaners designed for cleaning stainless-steel surfaces.

Stainless steel:

Use soft cloths, microfiber, sponges, or plastic scouring pads. Avoid using scrapers wire brushes, steel wool or anything that might scratch the surface. Always clean stainless-steel parallel with the “grain”. Use cleaners that contain alkaline, alkaline chlorinated, or non-chloride chemicals.

PREVENTATIVE MAINTENANCE

To ensure that your equipment will continue to operate properly follow these simple steps.

- When cleaning these units is important to remove the power to the circulation fan and remove the fan from the unit. If the fan unit becomes wet, dry the fan assembly before applying power.
- The unit should be cleaned thoroughly every day. Excess food spillage left can cause damage to the unit. Where applicable clean unit daily.
- Make sure that the FILTER in the louvered panel is always kept clean of dust and dirt. Failure to do this will cause compressor to overheat and may cause compressor failure and will VOID ANY FACTORY WARRANTY on compressor.

CONDENSER COIL

WARNING: Always disconnect power before inspecting or cleaning condenser coil. Never use high-pressure water to clean condenser coil as water can damage electrical components located near the condenser coil.

The condenser coil requires adequate cleaning to maintain proper operation which is recommend every 30-60 days. If debris is more prevalent the condenser coil should be cleaned every 30 days or sooner. **Neglecting the condenser coil cleaning procedures will void any warranties associated with the condensing unit or cost to replace the compressor.**

TROUBLESHOOTING

REFRIGERANT TROUBLESHOOTING		
COMPLIANT	PROBLEM	SOLUTION
COMPRESSOR WILL NOT START	LINES DISCONNECTED / SWITCH OPEN	CLOSE START ON DISCONNECT SWITCH
	FUSE REMOVED OR BLOWN	REPLACE FUSE
	CONTROL STUCK IN OPEN POSITION	REPAIR OR REPLACE CONTROL
	CONTROL OFF DUE TO COLD LOCATION	RELOCATE CONTROL
COMPRESSOR WILL NOT START, HUMS BUT TRIPS OVERLOAD PROTECTOR	LOW VOLTAGE TO UNIT	CALL POWER SUPPLIER
	STARTING CAPACITOR DEFECTIVE	REPLACE CAPACITOR
	RELAY FAILING TO CLOSE	REPLACE RELAY
	COMPRESSOR MOTOR HAS A WINDING OPEN OR SHORTED	REPLACE COMPRESSOR
	INTERNAL MECHANICAL TROUBLE IN COMPRESSOR	REPLACE COMPRESSOR
COMPRESSOR STARTS AND RUNS, BUT SHORT CYCLES ON OVERLOAD PROTECTOR	LOW VOLTAGE TO UNIT	CALL POWER SUPPLIER
	OVERLOAD PROTECTOR DEFECTIVE	CHECK CURRENT, REPLACE PROTECTOR
	RUN CAPACITOR DEFECTIVE	REPLACE CAPACITOR
	EXCESSIVED DISCHARGE PRESSURE	CHECK VENTILATION, RESTRICTIONS IN COOLING MEDIUM, RESTRICTIONS IN REFRIGERANT SYSTEM
	COMPRESSOR TOO HOT, RETURN GAS HOT	CHECK REFRIGRANT CHARGE (FIX LEAK IF NECESSARY)
	COMPRESSOR MOTOR HAS A WINDING SHORTED	REPLACE COMPRESSOR
UNIT RUNS OKAY, BUT SHORT CYCLE ON	OVERLOAD PROTECTOR	CHECK CURRENT, REPLACE PROTECTOR
	THERMOSTAT	DIFFERENTIAL SET TO CLSE, WIDEN
	HIGH PRESSURE CUT OUT DUE TO: INSUFFICIENT AIR, OVERCHARGE, OR AIR IN SYSTEM	REDUCE REFRIGERANT CHARGE, PURGE. CHECK AIR SUPPLY TO CONDENSER, REDUCE REFRIGERANT CHARGE, PURGE
UNIT OPERATES LONG OR CONTINUOUSLY	SHORTAGE OF REFRIGERANT	FIX LEAK, ADD CHARGE
	CONTROL CONTACTS STUCK OR FROZEN/CLOSED	CLEAN CONTACTS, OR REPLACE CONTROL
	REFRIGERANT OR AIR CONDITIONED SPACE HAS EXCESSIVE LOAD OR POOR INSULATION	DETERMINE FAULT AND CORRECT
	EVAPORATOR COIL ICED	DEFROST
	RESTRICTION IN REFRIGERANT SYSTEM	DETERMINE LOCATION AND REMOVE
	DIRTY CONDENSER	CLEAN CONDENSER
	FILTER DIRTY	CLEAN OR REPLACE
START CAPACITOR OPEN	RELAY CONTACTS NOT OPENING PROPERLY	CLEAN CONTACTS OR REPLACE IF NECESSARY
	PROLONGED OPERATION ON CYCLE DUE TO LOW VOLTAGE, IMPROPER RELAY	CALL POWER SUPPLIER, OR REPLACE
RUN CAPACITOR OPEN, SHORTED OR BLOWN	EXCESSIVE SHORT CYCLE	DETERMINE REASON FOR SHORT CYCLE
	IMPROPER CAPACITOR	DETERMINE CORRECT SIZE AND REPLACE
	EXCESSIVELY HIGH LINE (100% OF RATED-MAX)	CALL POWER SUPPLIER
SPACE TEMPERATURE TOO HIGH	CONTROL SETTING TO HIGH	RESET CONTROL
	INADEQUATE AIR CIRCULATION	IMPROVE AIR MOVEMENT
SUCTION LINE FROSTED OR SWEATING	EXPANSION VALVE STUCK	CLEAN VALVE OFF FOREIGN PARTICLES, REPLACE IF NECESSARY
	EVAPORATOR FAN NOT RUNNING	DETERMINE REASON AND CORRECT
	OVERCHARGE OF REFRIGERANT	CORRECT CHARGE
CONTROL DISPLAYING "Er 1" or "EO"	ERROR IN SENSOR PROBE, SENSOR DISCONNECTED OR DAMAGED	REPLACE SENSOR PROBE

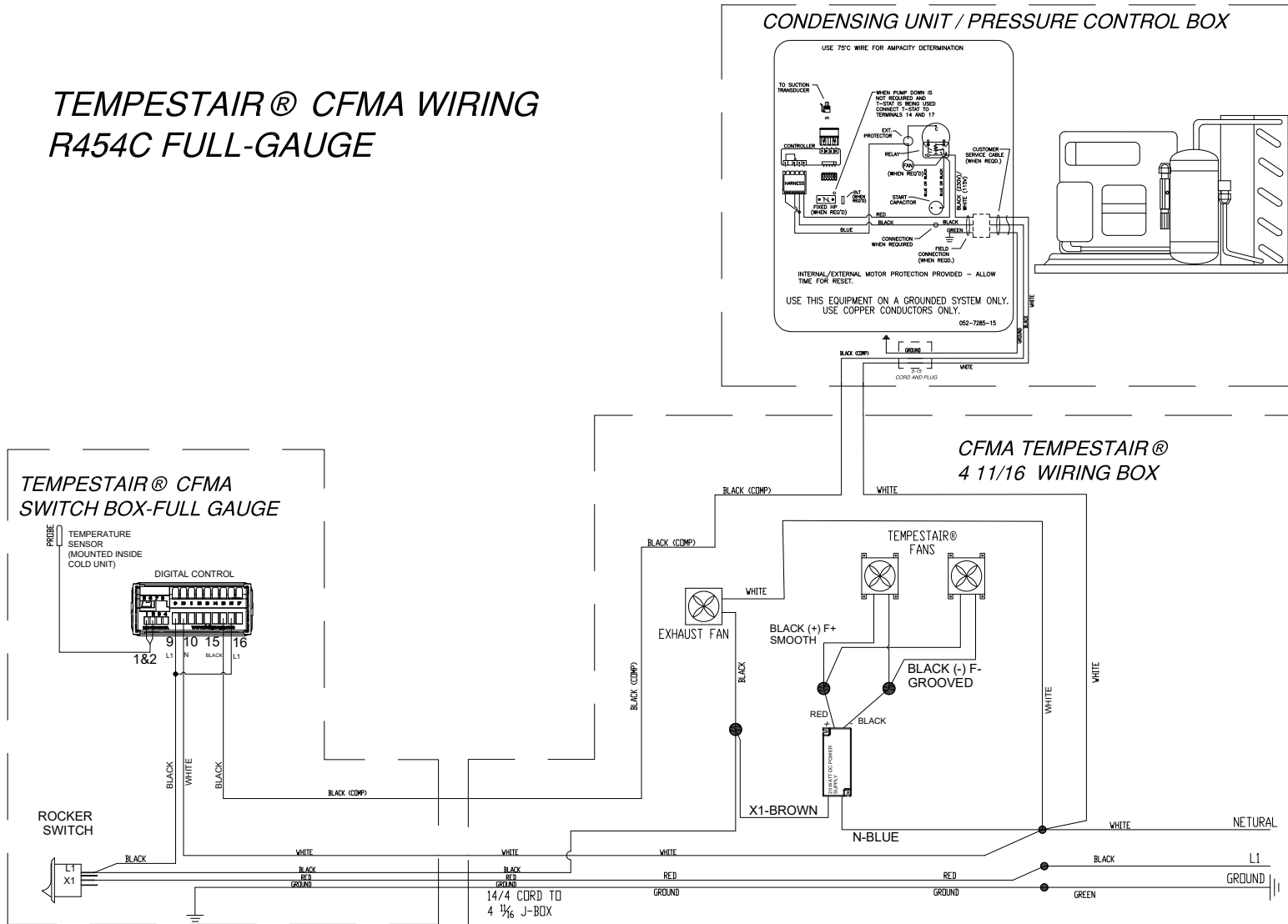
REPLACEMENT PARTS

ITEM NO.	DESCRIPTION	STOCK NO.	MFG NO.	MANUFACTURER
1	CONDENSING UNIT	311925	MYJP-H029-IAA-540	COPELAND
2	COMPRESSOR	311925A	ASE21C5U-IAA-901	COPELAND
3	SUCTION PRESSURE TRANSDUCER	311925D	929-0114-00	COPELAND
4	EUC CONTROL	311925E	943-0152-00	COPELAND
5	TXV	282576	EFV 1/5 ZP	SPORLAN
6	ROCKER SWITCH (1PL- 20A/125V) BLACK/RED	335912	RSCA201-VB-B-1-V	CARLING
7	FULL GAUGE DIGITAL THERMOSTAT	280915	MT-512E-2HP	FULL GAUGE
8	FULL GAUGE PROBE	280925	SB-41	FULL GAUGE
9	AXIAL FAN (EXHAUST)	312400	SP101A-1123HST.GN	SUNON
10	EXHAUST FAN CORDSET	312405	A100-20	

Component parts shall be replaced with like components so as to minimize the risk of possible ignition due to incorrect part.

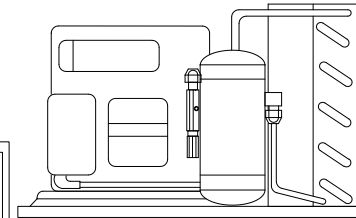
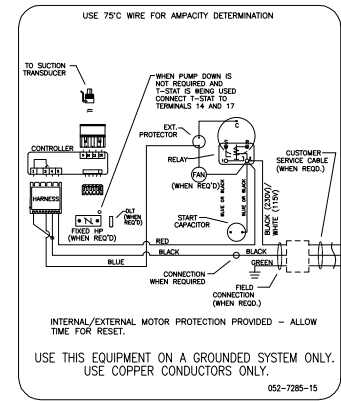
DIAGRAMS

TEMPESTAIR® CFMA WIRING R454C FULL-GAUGE

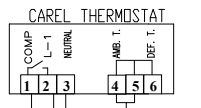


TEMPESTAIR® CFMA WIRING R454C CAREL

CONDENSING UNIT / PRESSURE CONTROL BOX



TEMPESTAIR® SWITCH BOX-CAREL



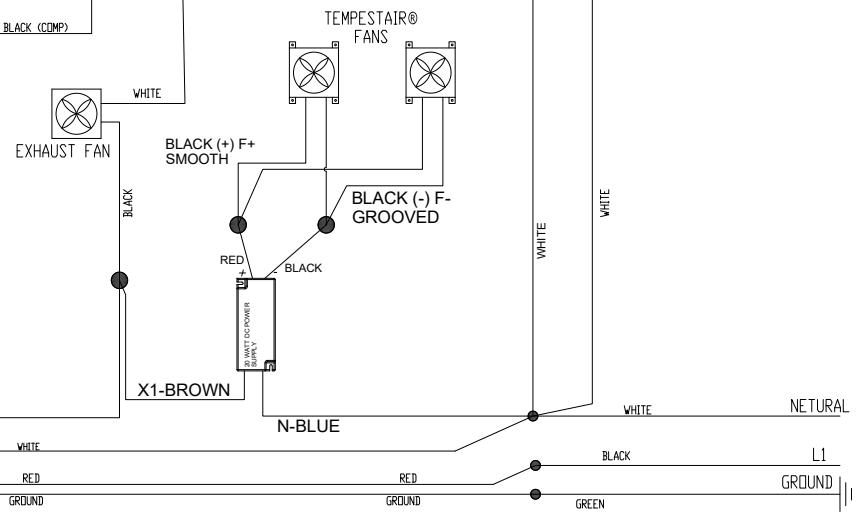
ROCKER
SWITCH



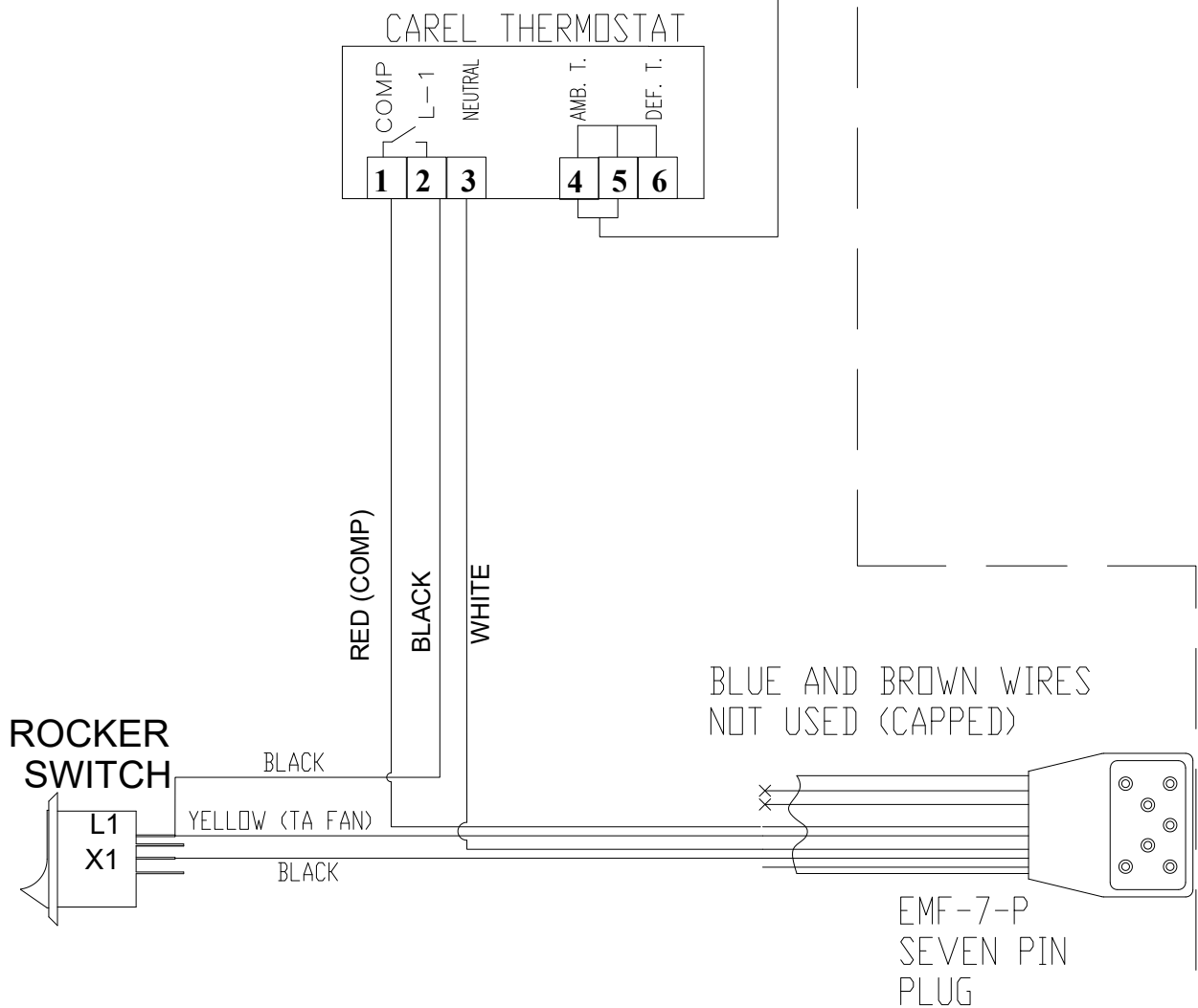
14/4 CORD TO
SWITCH BOX

14/4 CORD TO
4 1/16 J-BOX

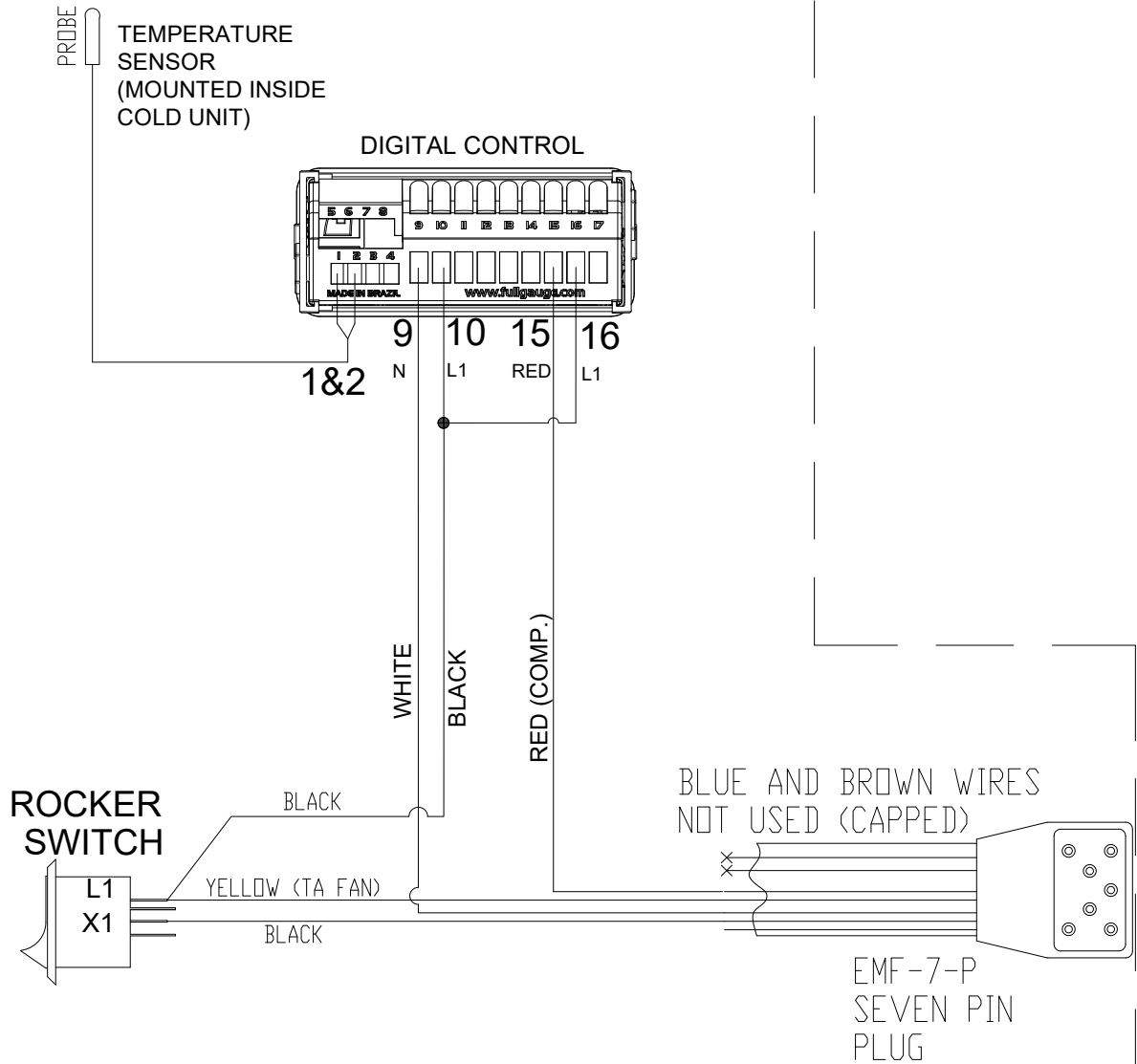
CFMA TEMPESTAIR® 4 11/16 WIRING BOX



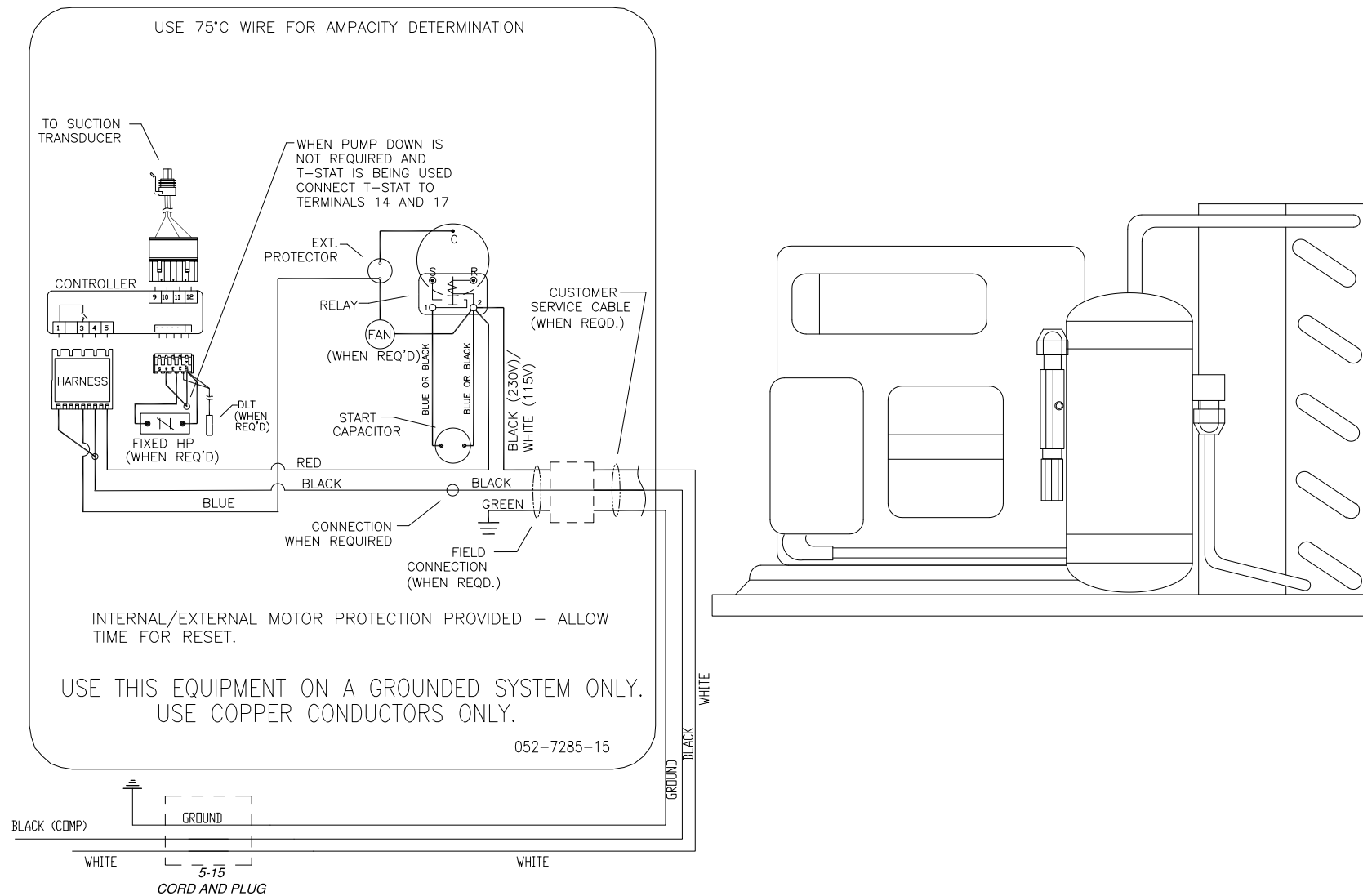
TEMPESTAIR® SWITCH
BOX ASSEMBLY
(MF181011)
CAREL CONTROLLER

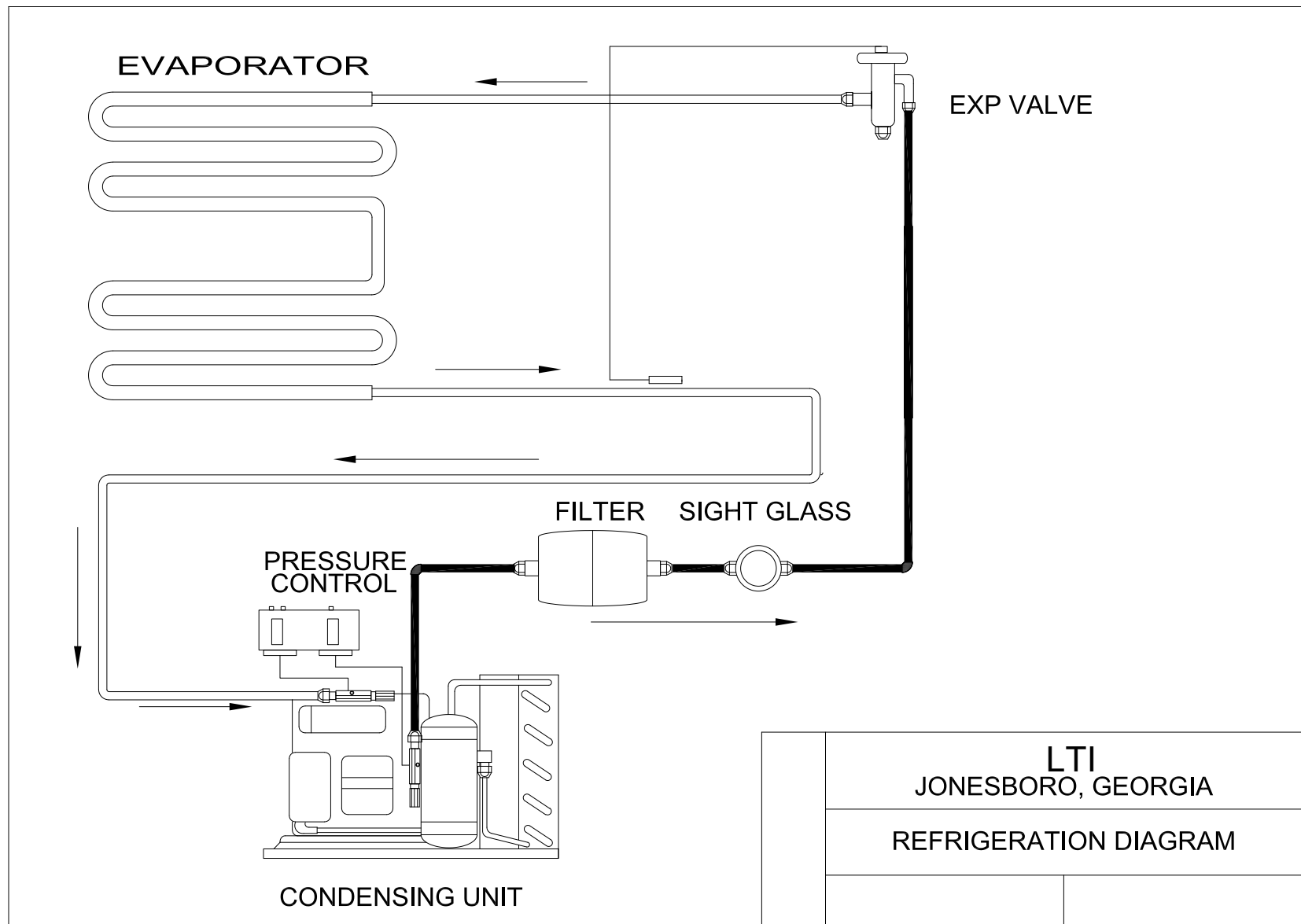


TEMPESTAIR® SWITCH BOX ASSEMBLY
(MF181011)
FULL GAUGE CONTROL

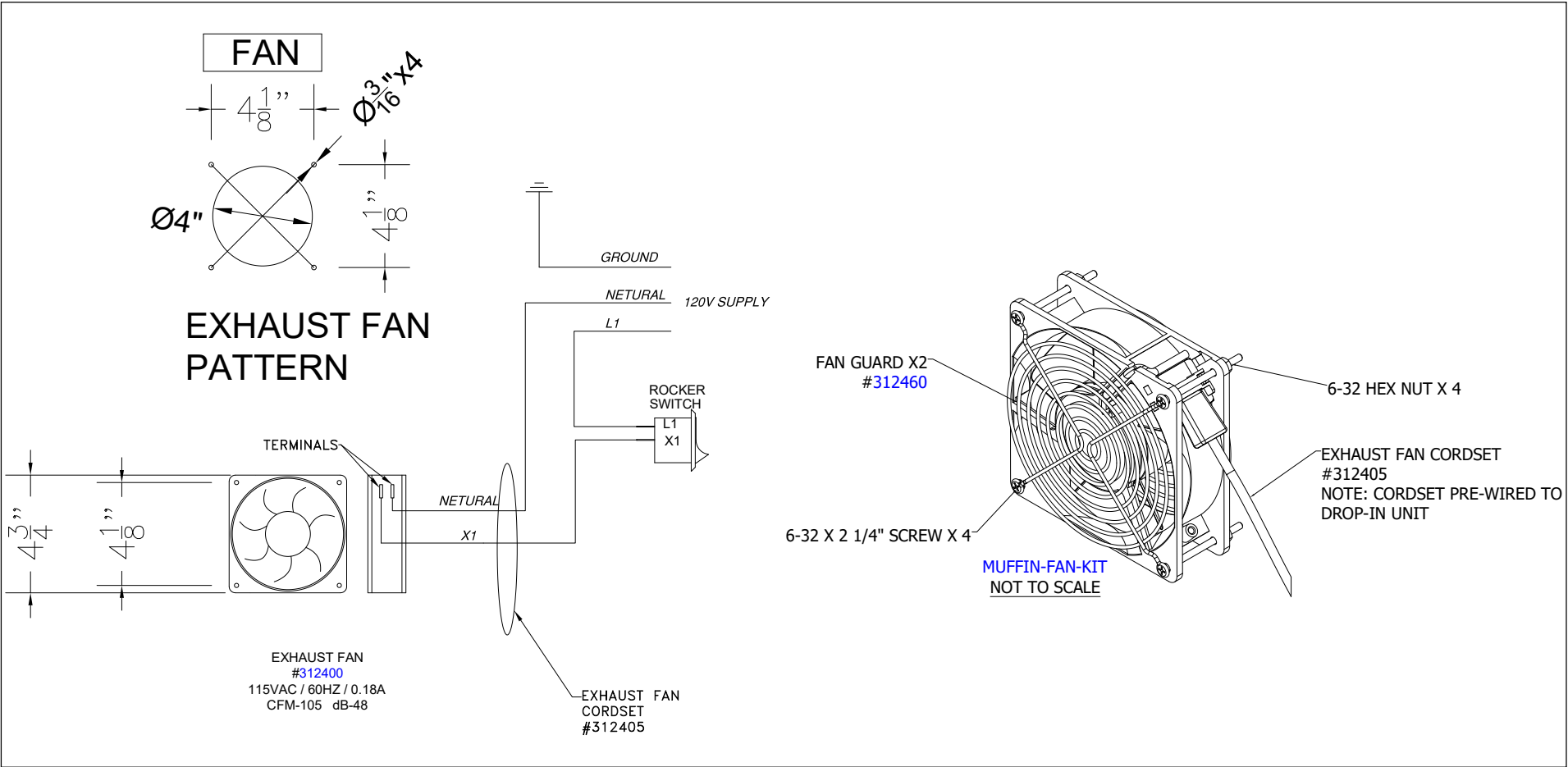


CONDENSING UNIT / PRESSURE CONTROL BOX





Exhaust Fan Details



WARRANTY

Effective date July 1, 2026

The LTI parts and labor warranty for all products is (2) years for all products; The warranty period commences with the date of installation, or twelve (12) months from date of shipment from the factory, whichever is sooner.

All LTI-manufactured food serving technologies have a four (4) year parts and labor warranty when installed into LTI-manufactured serving counters.

Refrigeration compressors come standard with a 5-year compressor warranty.

All fiberglass bodies are fully warranted against defects in materials or workmanship for 5 years.

The warranty covers all products used in United State and Canada.

All warranty labor is to be pre-authorized by the factory. To request warranty please go to <https://lowtempind.com/resources/warranty/> or call 888-584-2722 for pre-authorization and ask for the warranty department.

All labor and parts expenses after the expiration of the warranty shall be the responsibility of the owner. Additional warranty limitations include:

- The warranty includes travel time to portal, not to exceed 100 miles round trip, or two hours total travel time.
- The warranty requires that all labor must be performed during regular work hours. Overtime premiums will be charged to the owner or must be pre-approved prior to the service call.
- The warranty does not apply to any equipment or component parts which have been subjected to shipping damage, improper voltage, improper installation, alteration, abuse, or misuse.
- The warranty does not cover routine maintenance activities, any failure that results from lack of, or improper equipment maintenance, or the use of cleaning products not identified in the operation/maintenance manual.
- The warranty does not extend to materials and items not included in original purchase order from LTI, inc., such as items field installed or factory installed and provided "by others".
- The warranty does not cover any loss of business profits, any loss of food, or other products, or damage to property due to electrical, gas or mechanical malfunction or to any incidental or consequential damages of purchaser or any third party.
- Damage due to floods, fire or other acts of God also are not covered.

Due to the custom nature of the products returns are not allowed. All inquiries concerning this warranty must be directed to LTI.

This warranty statement supersedes all previously documented warranty statements by LTI.

LTI

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LTi

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