2025

Changing
how food is served.

OPERATION/MAINTENANCE MANUAL

QuickSwitch™ Glass

QUICKSWITCH
HOT/COLD CERAMIC GLASS
DROP-IN

DI-QSGT454

CUSTOM FABRICATORS OF FOODSERVICE EQUIPMENT

1947 Bill Casey Parkway ● Jonesboro, GA 30236
Tel: +1 (888) 584-2722 ● Fax: 1 (770)-471-3715
www.lowtempind.com

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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 QSGT QuickSwitch series cold/hot top. 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.

⚠ 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 indicate 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

- 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.

- 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.

- The unit requires a grounded system and a dedicated circuit.

- The unit must be serviced by qualified personnel only. Service by unqualified personnel may lead to electric shock or burn.

- 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.

- 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.

FIRE HAZARD

- Risk of fire do not install closer than 1 inch to sides and bottom of unit.

- Do not use flammable cleaning solutions to clean this unit.

CAUTION

BURN HAZARD

- Exterior surfaces on the unit may become hot. Use caution when touching these areas.

NOTICE:

- Units are voltage specific. Refer to specifications label for electrical requirements before installation.

- Units are intended for indoor use only. Recommended room temperature 86°F.

- Units require a minimum of 119 CFM of fresh airflow across the condenser. Failure to provide proper airflow can cause premature compressor failure and will void any factory warranty.

- Service access must be incorporated in order to service and gain access to components.

- Do not recirculate exhaust air inside the cabinetry in front or behind the condensing unit for adequate ventilation.

- Install and transport unit in a upright position. Failure to do so may result in damage of refrigeration components.

- 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.

- Do not use steel wool for cleaning.

- 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 MILDLY 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 14" FROM THE BOTTOM OF THE CABINET.**

WARNING: 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.

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.

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

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 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.

NOMENCLATURE

DI – QSGT454 – 42 – G – T
A B C D E

A – DI = DROP-IN

B – QSGT454 = QUICKSWITCH TOP

C – SURFACE LENGTH
28”
42”

D – SURFACE MATERIAL
G = CERAN GLASS

E – EDGE TYPE
T = TURNDOWN
H = HUGGED
NONE = FLAT

INSTALLATION INSTRUCTIONS

LTI: QSGT S*eries* is a refrigeration and heating system designed for short term display and dispensing of cold & hot food products in maximum ambient temperature of 86°F.
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 for the QSGT units.
The counter cut-out sizes and power requirements are shown on below. 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. *(NSF grade Silicone is recommended to seal around the perimeter flange.)*

Openings

IMPORTANT NOTE:
Self-contained refrigerated units require a minimum of (**205 cubic feet per minute**) of fresh airflow across the condenser for proper operation of the compressor.
ATTENTION: *Failure to provide proper airflow can cause premature compressor failure and will VOID any factory warranty.*

Ventilation Openings

A recommended minimum access/ventilation opening of 16" X 16" (256 square inches) is required in front of the condenser and rear. The rear must have an opening to permit the exhaust of heated air. The recommended rear opening is 16" X 16" (256 square inches). Intake air must be free from any restriction to allow proper intake air. A minimum of 2" clearance for exhaust air is required for proper ventilation of exhaust air.

Refer to *Installation Procedures and Illustration/Specifications* for recommended louvered front and rear openings.

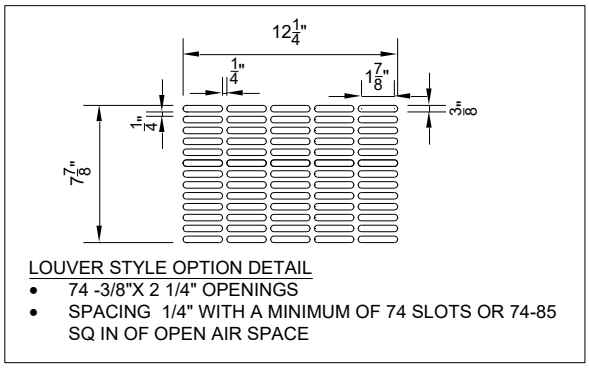
If cabinet design requires alternate ventilation method please contact Technical Services at +1 (888) 584-2722.

Service Access

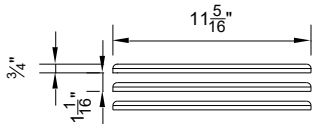
These units have multiple components on the rear, right, and left side of the condensing unit. They include the electrical power/controls, plumbing, start components, service valves, and txv valve. Due to this is it is required to have proper service access incorporated with the ventilation opening. **Refer to the illustration provided for recommended access to these components.**

Louver Design Illustrations

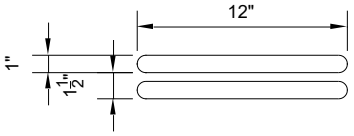
VENTILATION PROFILES



LOUVER STYLE OPTION DETAIL
- 74 -3/8"X 2 1/4" OPENINGS
- SPACING 1/4" WITH A MINIMUM OF 74 SLOTS OR 74-85 SQ IN OF OPEN AIR SPACE



LOUVER STYLE OPTION DETAIL
- ¾"X 11 5/16" DIE-STAMPED LOUVER OPENING PITCHED TO DIVERT SPILLAGE FROM GETTING INTO MECHANICAL COMPARTMENT
- SPACING 1 1/16" WITH A MINIMUM OF 9 LOUVERS OR 74-85 SQ IN OF OPEN AIR SPACE



LOUVER STYLE OPTION DETAIL MILLWORK
- 1"X 12" LOUVER OPENING
- SPACING 1 ½" WITH A MINIMUM OF 7 LOUVERS OR 74-85 SQ IN OF OPEN AIR SPACE

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 ACCESSES 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 AND CONTAIN ANY REFRIGERATION LEAK. IT IS REQUIRED THAT **NO ARCING POTENTIAL COMPONENTS SUCH AS (GFCI) BE LOCATED 14" FROM THE BOTTOM OF THE CABINET.**

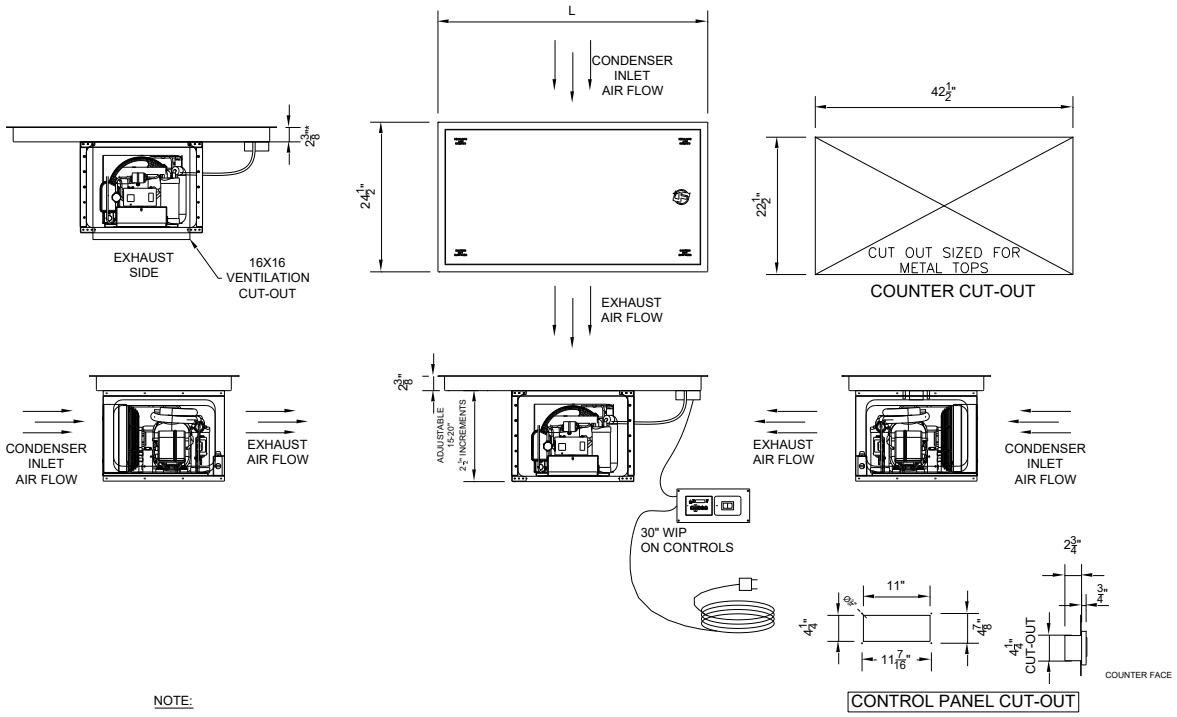
2. Cut the appropriate opening in the countertop for unit being installed. Refer to *Technical Specifications Table* for counter top cutout dimensions and illustrations.

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 (205 cubic feet per minute) fresh airflow across the condenser. Cut-Out openings should be a minimum of 16" X 16" (256 square inches) to remove condensing unit if needed without removing complete unit.
    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 75-85 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.



NOTE:

* **2 3/8"** IS THE VERTICAL DISTANCE FROM THE TOP OF THE OF THE THAT MAKES CONTACT WITH THE COUNTER TOP TO THE16X16 VENTILATION CUT-OUT. NOTE 16X16 VENTILATION CUT-OUT WILL MOVE AS HOUSE IS ADJUST BY 2 ½" INCREMENTS. LEFT TO RIGHT LOCATION OF CUT-OUT IS CENTER OF UNIT.

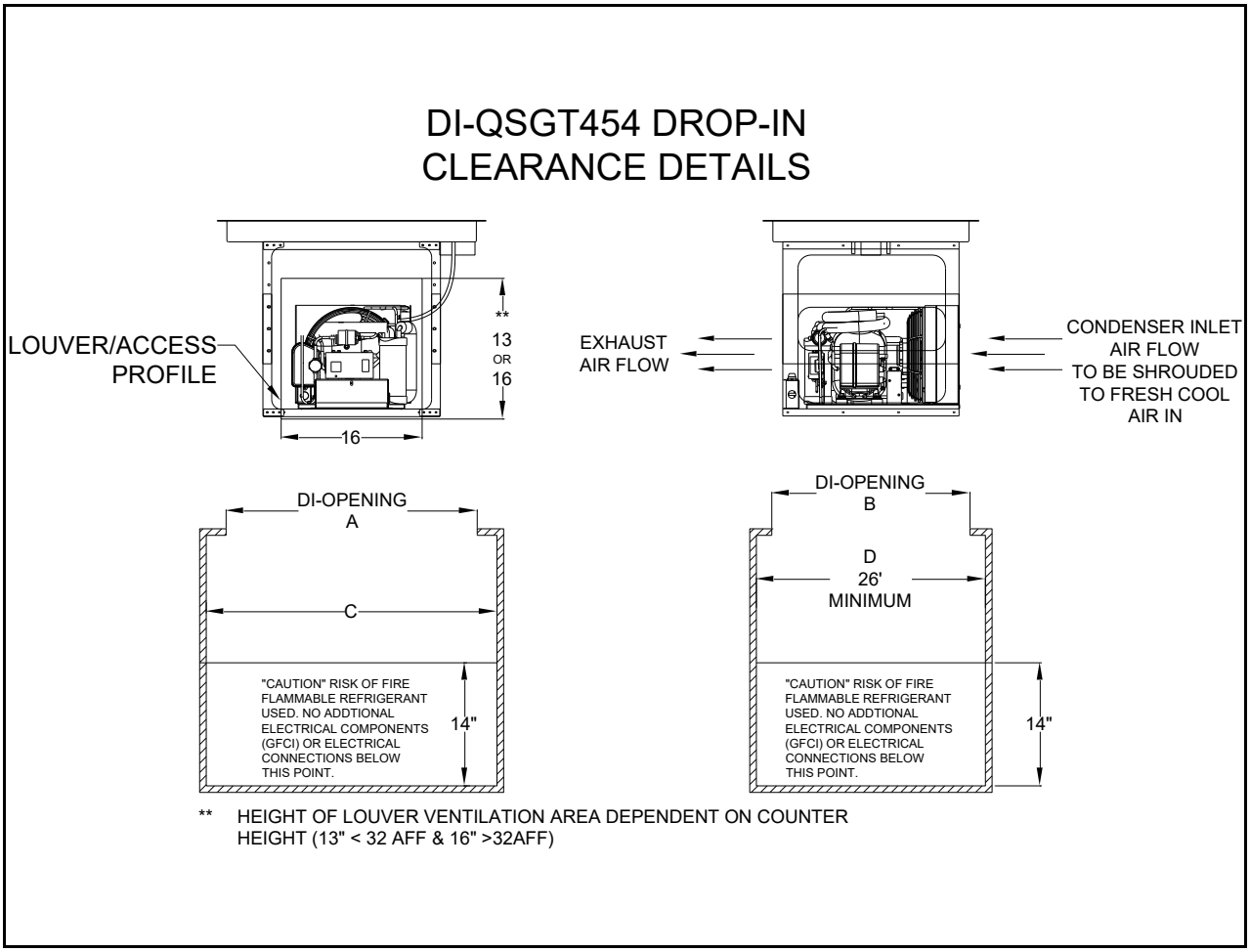
CONDENSING UNIT LOCATION AND ORIENTATION IS SUBJECT TO CHANGE PER CUSTOMER REQUEST. ALWAYS REFER TO APPROVAL DRAWINGS IF POSSIBLE AND CHECK LOCATION OF THE CONDENSING UNIT BEFORE INSTALLING.

Detailed Specifications

MODEL	OVERALL LENGTH (L)	DEPTH	HEATED / COLD AREA	CUT-OUT SIZE	CONTROL PANEL CUT-OUT SIZE	AMPS (120V)	NEMA PLUG	REFRIG.	CHARGE OZ (g)
DI-QSGT-28-G	30 1/2”	24 1/2”	616 sq/in	28 3/4 x 22 3/4	4 1/4” x 11”	5.2	5-15	R454C	18(510)
DI-QSGT-42-G	44 1/2”	24 1/2”	924 sq/in	42 3/4 x 22 3/4	4 1/4” x 11”	7.5	5-15	R454C	21(595)

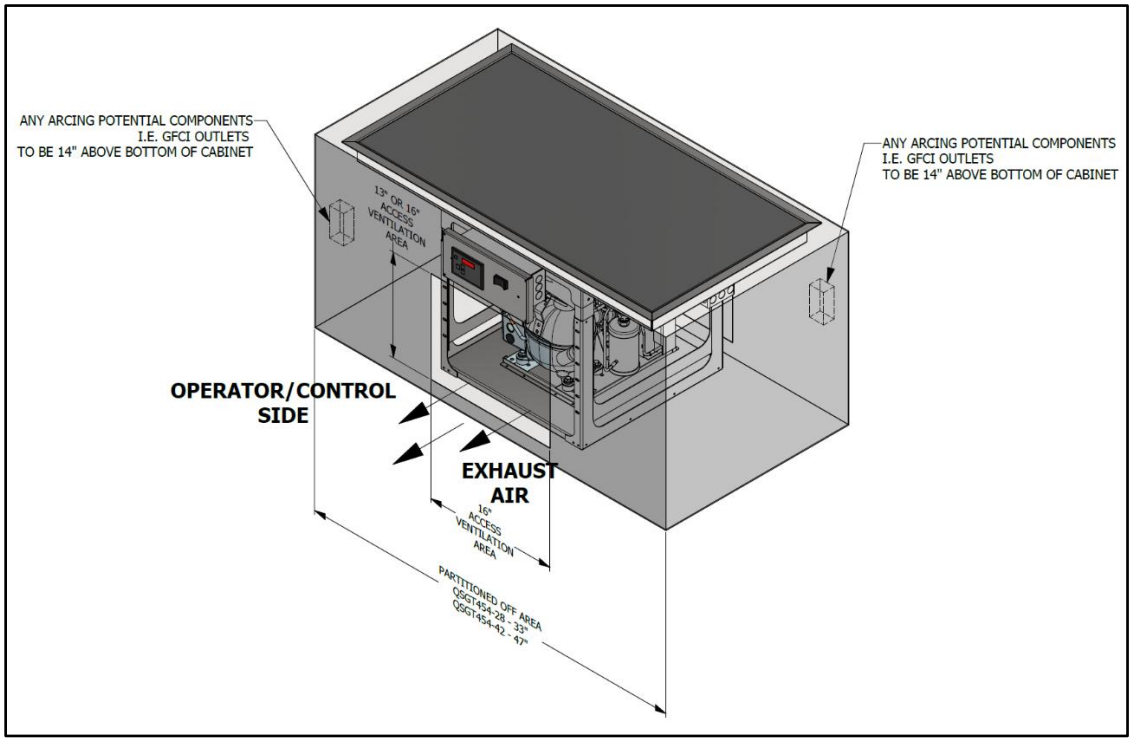
These units are intended for indoor use only. A room temperature of no more than 86°F (36°C) is recommended.

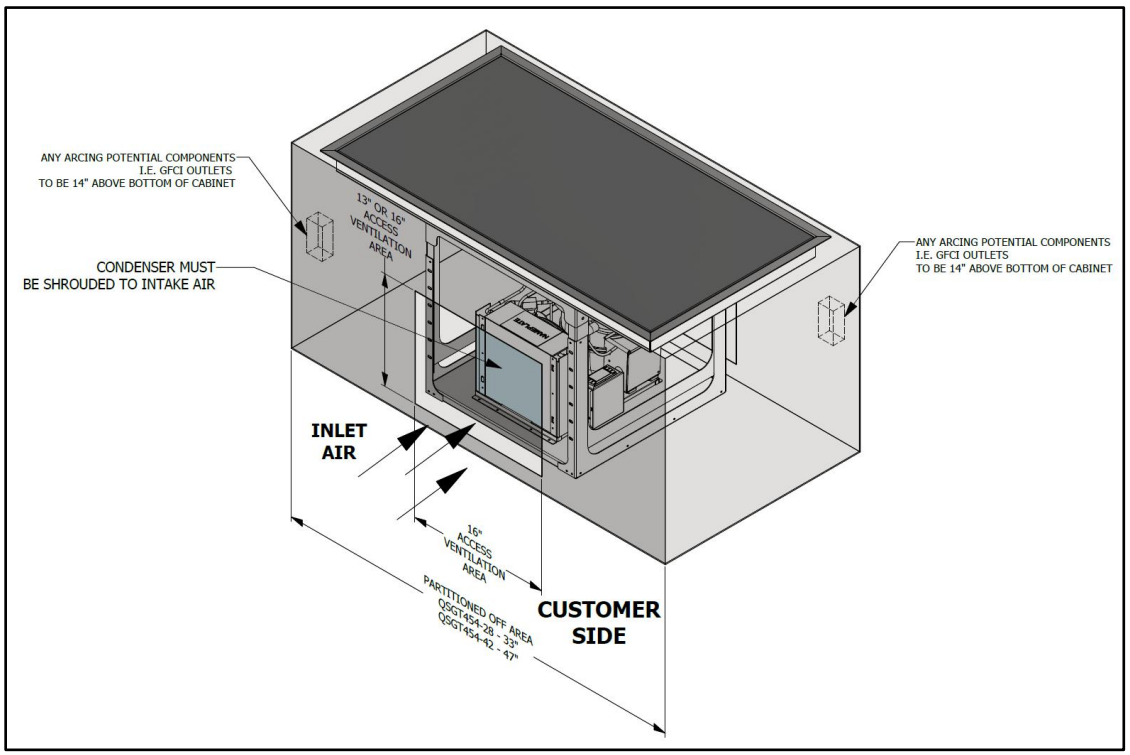
DI-QSGT Drop-In Clearance

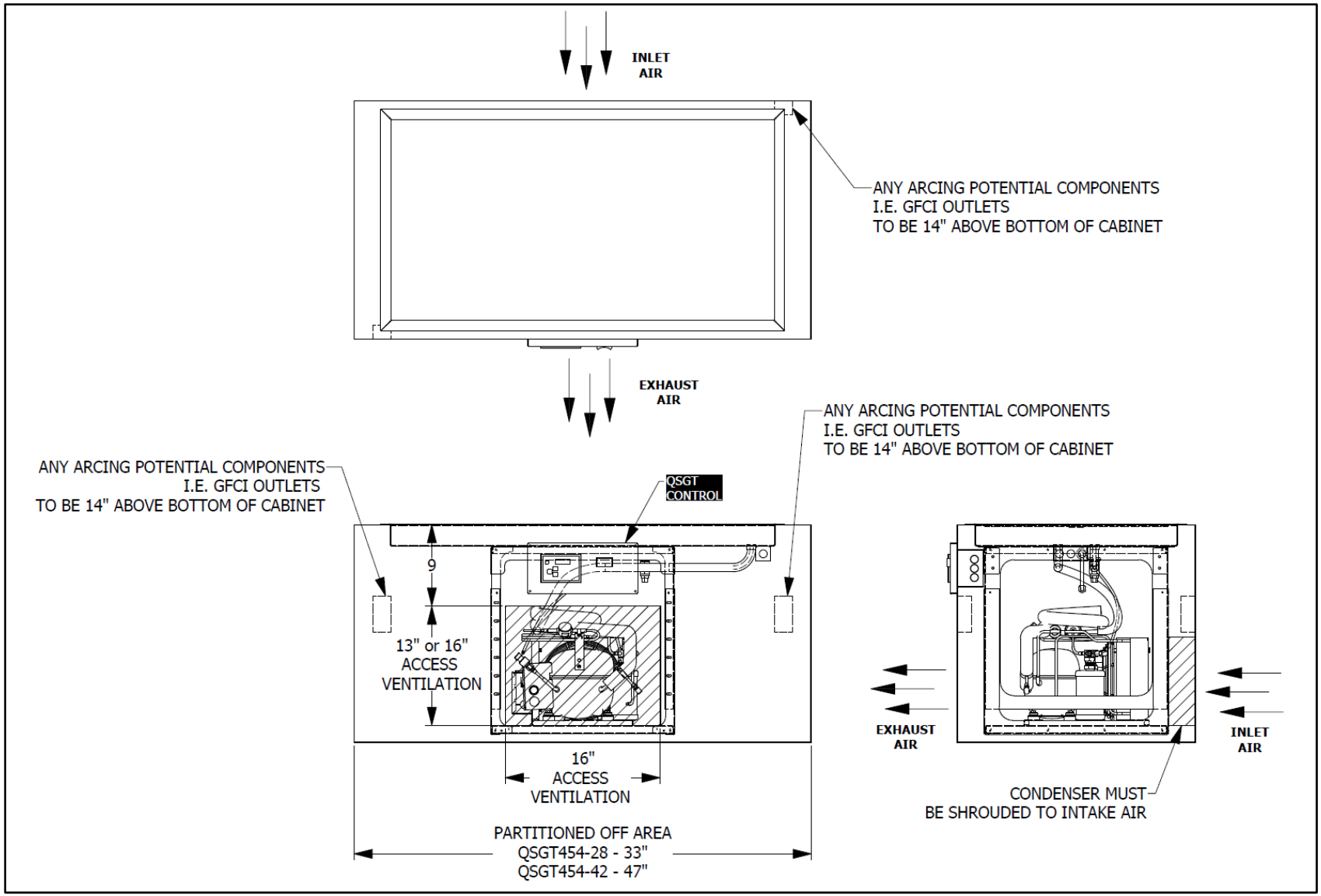


MODEL	DIM A	DIM B	DIM C	DIM D
DI-QSGT454-28	28 ½”	22 1/2”	33”	26
DI-QSGT454-42	42 ½”	22 1/2”	47”	26

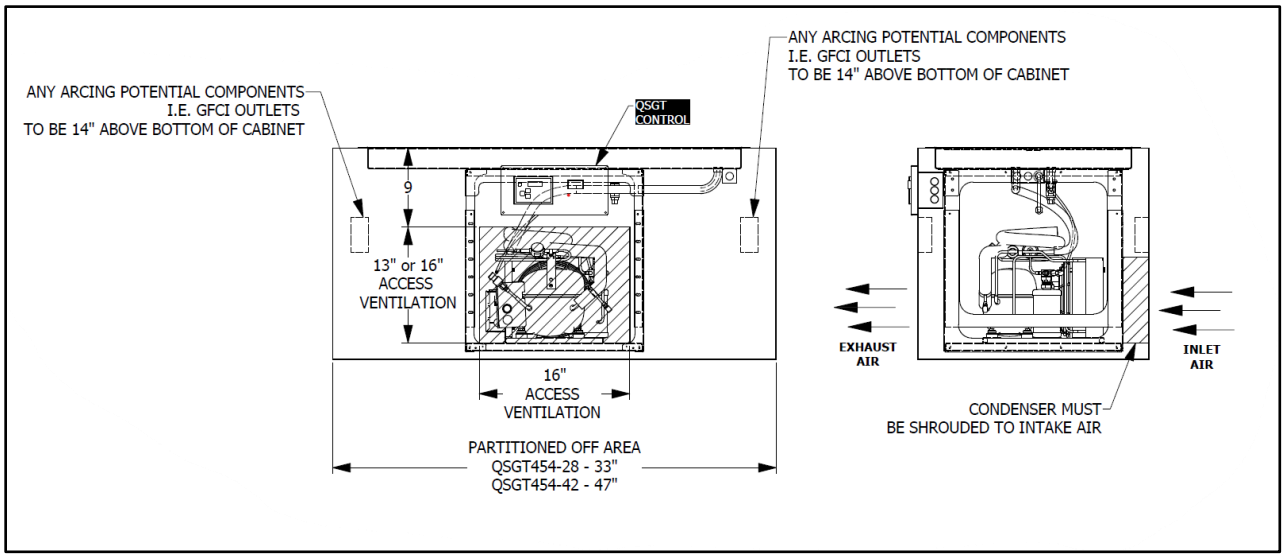
DI-QSGT Drop-In Clearance Illustration






INLET
AIR
ANY ARCING POTENTIAL COMPONENTS
I.E. GFCI OUTLETS
TO BE 14" ABOVE BOTTOM OF CABINET
EXHAUST
AIR
ANY ARCING POTENTIAL COMPONENTS
I.E. GFCI OUTLETS
TO BE 14" ABOVE BOTTOM OF CABINET
ANY ARCING POTENTIAL COMPONENTS
I.E. GFCI OUTLETS
TO BE 14" ABOVE BOTTOM OF CABINET
QSGT
CONTROL
9
13" or 16"
ACCESS
VENTILATION
16"
ACCESS
VENTILATION
PARTITIONED OFF AREA
QSGT454-28 - 33"
QSGT454-42 - 47"
EXHAUST
AIR
INLET
AIR
CONDENSER MUST
BE SHROUDED TO INTAKE AIR

DI-QSGT Drop-In Mechanical Compartment Detail



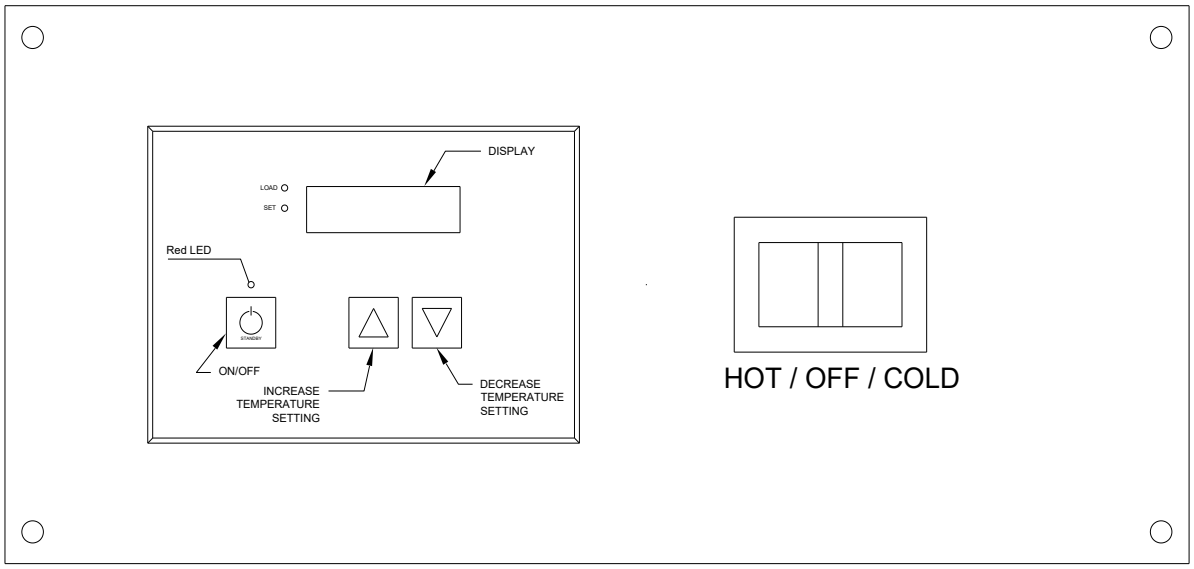
NOTE: Mechanical compartment area must be partitioned off from other areas of cabinet enclosure if additional equipment will be a part of the finished cabinet. Any arcing potential components such as GFCI outlets must be 14" above the bottom of the cabinet.

*** WARNING ***

To prevent any electrical accidents, this equipment should be installed and serviced by <u>qualified maintenance personnel only</u> 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

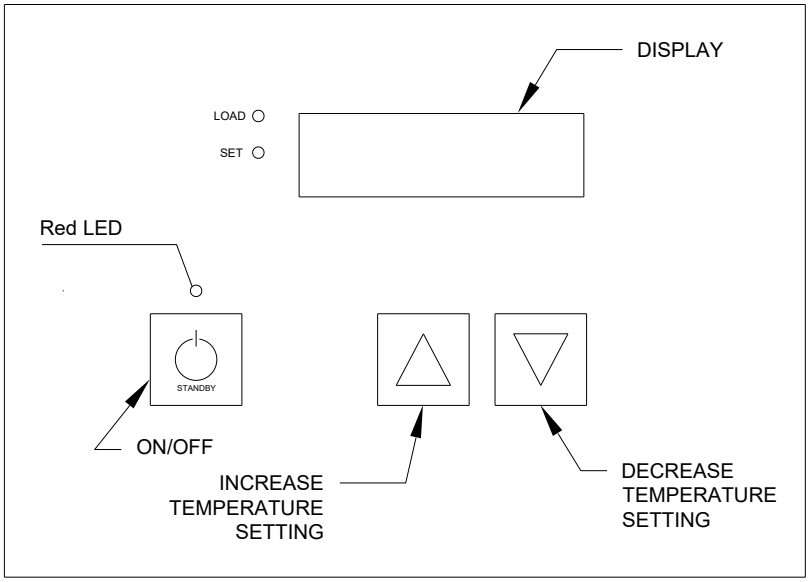
Turning ON QSGT unit:

1. Turning ON COLD Operation
    a. To turn the unit to COLD press the three way rocker switch to the cold position.
    b. The units will turn on the condensing unit and being cooling the glass surface.
2. Turning ON HOT Operation
    a. To turn the unit to the HOT mode, press the three way rocker switch to the HOT position.
    b. The unit will turn on the GT controller, display the current setting and begin heating. If the control is in the OFF mode refer to the steps below for operating the GT controller.

Turning OFF QSGT Unit:

To turn OFF the QSGT unit switch the three way rocker switch to the center “OFF” position. This will cut off the unit completely whether in the HOT or COLD operation.

OPERATION



Operating GT Controller

Turning ON GT Controller:

3. Press and Hold the STANDBY key for the unit to begin heating.
4. The target temperature setting will display and begin heating.

Turning OFF GT Controller:

1. Press and Hold the STANDBY key for 2-3 sec for the unit to stop heating.
2. OFF will be displayed.

Changing Settings:

1. While heating is active, press and hold the up or down arrow key for 2-3 sec
2. The SET led will blink.
3. Use the Up and Down arrow keys to adjust the target temperature.
4. Wait 3-5 sec and the new setting will be saved automatically, and the unit will begin heating at the saved setting.

Setpoint Settings:

100 -100°F heat blanket temperature
125 -120°F heat blanket temperature
150 -150°F heat blanket temperature
175 -175°F heat blanket temperature
185 -185°F heat blanket temperature
195 -195°F heat blanket temperature
205 -205°F heat blanket temperature
235 -235°F heat blanket temperature
250 -250°F heat blanket temperature

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 and glass ceramic surfaces.

The factory recommends avoiding using abrasive sponges or scouring agents. Harsh chemical cleaners like oven sprays or stain removers are also unsuitable, as are bathroom or household cleaners.

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.

Ceran Glass:

Avoid using abrasive chemical cleaners and sponges/scour pads. These are too harsh for ceramic tops and can cause surface scratches. Using a metal scraper to clean is recommended first to take off baked on foods and water/mineral stains. Then using recommended cooktop cleaners rub a few drops in with a paper towel or soft rag. Once done use a wet cloth and wipe down the glass top and dry with a clean rag.

Recommend Cleaners:

- **Cerama Bryte**
- **Carbona**
- **Affresh Cooktop Cleaner**

For more information on cleaning please visit Schott Ceran Site:
https://www.schott-ceran.com/en/tips-and-care

PREVENTATIVE MAINTENANCE

To ensure that your equipment will continue to operate properly, please follow these simple steps:

1. The QSGT unit should be cleaned thoroughly every day. Food spillage left on glass should be cleaned as soon as possible to prevent damage to the glass-ceramic cooktop.

2. Always wipe the unit down with a damp cloth. Do not spray water directly on the control panel areas.

3. The ceran surface should be cleaned thoroughly every day. Food spillage can cause damage to the unit. The acidic base of foods over time can cause pitting of the units.

4. Always wipe the unit down with a damp cloth. Do not spray water directly on the control panel areas or on areas with exposed heating elements.

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

HEATING ISSUES		
COMPLAINT	PROBLEM	SOLUTION
UNIT WILL NOT HEAT	POWER CORD UNPLUGGED.	PLUG INTO RECEPTACLE.
	MASTER SWITCH/CONTROLLER OFF.	TURN MASTER SWITCH/ CONTROLLER ON.
	NO POWER OUT OF CONTROLLER.	REPLACE CONTROLLER.
	POWER TO HEATER BUT NOT HEATING.	REPLACE HEATER.
	NO POWER TO RECEPTACLE.	CHECK BREAKER.
	POWER AT ROCKER SWITCH HAS NO POWER GOING TO CONTROLLER.	REPLACE ROCKER SWITCH.
“tc” ERROR ON IMMEDIATE START UP	THERMOCOUPLE CONNECTION IS LOST.	CHECK THERMOCOUPLE CONNECTION. RE-SPLICE IF NEEDED.
“tc” ERROR ON WITHIN 15MIN OF START UP	THERMOCOUPLE PURPLE AND RED LEADS ARE REVERSED.	CHECK THERMOCOUPLE LEADS AND MAKE SURE PURPLE (+) AND RED(-) ON CONNECTOR PLUG IN.
	POTENTIAL ISSUE WITH HEATER NOT HEATING PROPERLY.	CHECK TO MAKE SURE HEATER IS HEATING. IF NOT REPLACE HEATER.

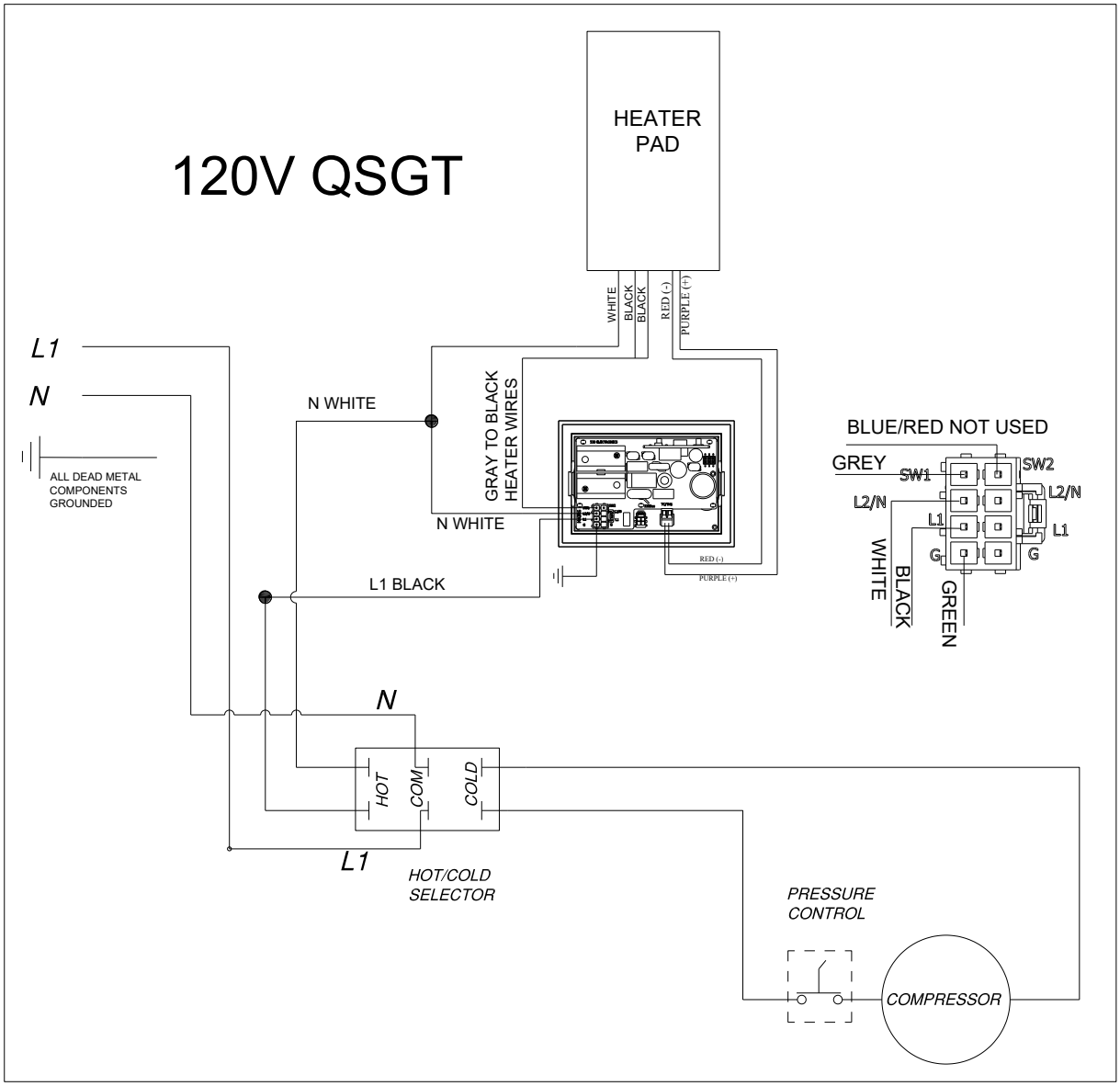
REFRIGERANT TROUBLESHOOTING		
COMPLIANT	**PROBLEM**	**SOLUTION**
COMPRESSOR WILL NOT START	LINES DISCONNECTED / SWITCH OPEN	CLOSE START ON DISCONNECT SWITCH
	FUSE REMOVED OR BLOWN	REPLACE FUSE
	CONTROL STUCK IN OPEN POSITION	REPAIR OR REPLACE CONTROL
	CONTROL OFF DUE TO COLD LOCATION	RELOCATE CONTROL
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 CAPACTIOR 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

REPLACEMENT PARTS

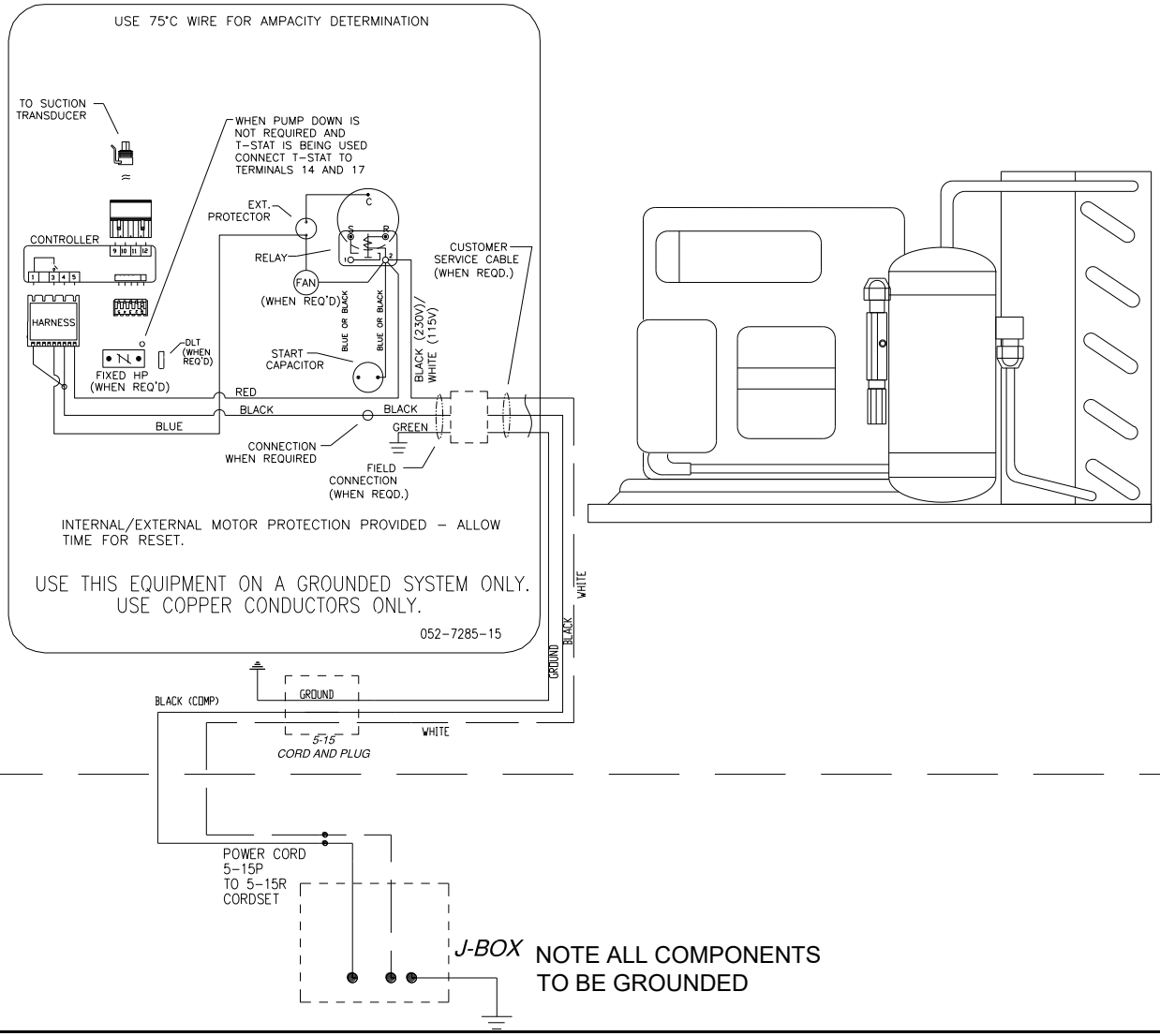
ITEM NO.	DESCRIPTION	STOCK NO.	MFG NO.	MANUFACTURER
1	CONDENSING UNIT	311925	MYJP-H029-IAA-540	COPELAND
2	COMPRESSOR	311925A	ASE21C5U-IAA-901	COPELAND
3	FILTER DRIER	311925B	EK-032S (013-7000-23)	COPELAND
4	SIGHT GLASS	311925C	570-7003-04	COPELAND
5	SUCTION PRESSURE TRANSDUCER	311925D	929-0114-00	COPELAND
6	EUC CONTROL	311925E	943-0152-00	COPELAND
7	HP CONTROL	311925F	985-7031-01	COPELAND
8	EUC DLT SENSOR KIT	311925G	929-0113-00	COPELAND
9	TXV	282575	EFV 1/10 ZP	SPORLAN
10	HEATER(20"X26"120/240V-600W) CERAN - QS	195364	LT2026SC	THERMO
10A	HEATER(20"X40"120/240V-900W) CERAN - QS	195363	LT2040SE	THERMO
11	GLASS TOP 28"x 22"x 1/4"	120470	NA	SCHOTT
12	GLASS TOP 42"x 22"x 1/4"	120480	NA	SCHOTT
13	RELAY (DPDT-30A/120V COIL	515855	300XBXC1-120A	SQUARE D
14	ROCKER SWITCH QS GLASS TOP	335916	LTIGM721-6S-BL-RC/GN-WBL	ZF ELECTRONICS
15	GT CONTROLLER	195436	330.2021.10	330 Electronics
16	Air Filter UL 800 Condenser Filter	493600	60546116	MSC
17	AXIAL FAN (EXHAUST)	312400	SP101A-1123HST.GN	SUNON
18	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.

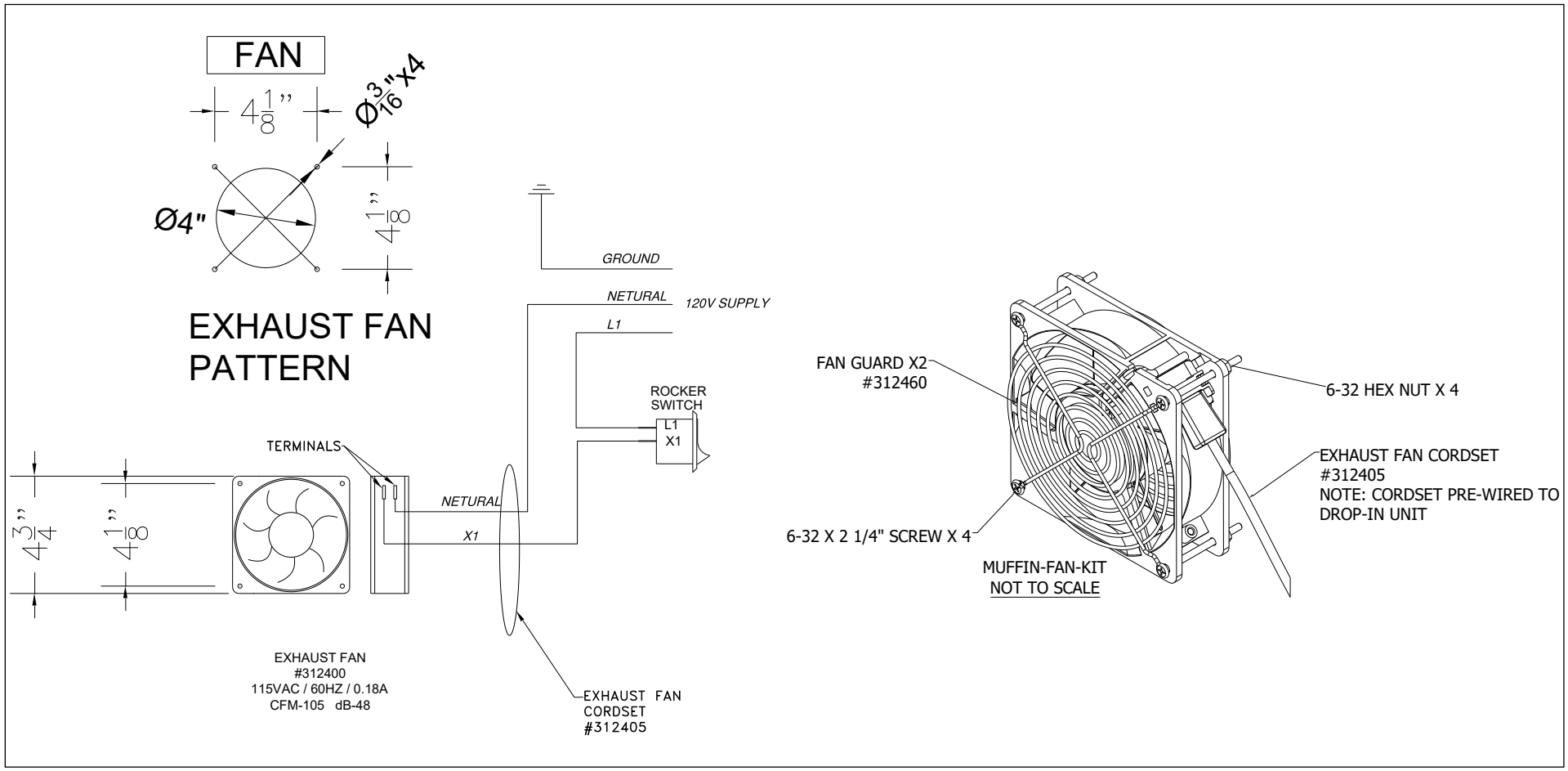
DIAGRAMS


120V QSGT
HEATER PAD
WHITE
BLACK
BLACK
RED (-)
PURPLE (+)
L1
N
ALL DEAD METAL COMPONENTS GROUNDED
N WHITE
GRAY TO BLACK HEATER WIRES
N WHITE
L1 BLACK
RED (-)
PURPLE (+)
BLUE/RED NOT USED
GREY
SW1
SW2
L2/N
L2/N
L1
L1
G
G
WHITE
BLACK
GREEN
N
HOT
COM
COLD
L1
HOT/COLD SELECTOR
PRESSURE CONTROL
COMPRESSOR

CONDENSING UNIT / PRESSURE CONTROL BOX



Exhaust Fan Details



WARRANTY

Effective date January 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.

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
1947 Bill Casey Parkway ● Jonesboro, GA 30236
Tel: +1 (888) 584-2722● Fax: 1 (770)-471-3715
www.lowtempind.com

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