



**Changing**  
*how food is served.*

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## OPERATION/MAINTENANCE MANUAL



### QUICKSWITCH TOP SERIES SPC/SIM-QSGT

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**CUSTOM FABRICATORS OF FOODSERVICE EQUIPMENT**

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## **Table of Contents**

INSPECTION.....	3
SAFETY PRECAUTIONS.....	3
NOMENCLATURE.....	5
UNIT SPECIFICATIONS .....	6
OPERATING INSTRUCTIONS .....	7
CLEANING INSTRUCTIONS.....	9
PREVENTATIVE MAINTENANCE .....	10
TROUBLESHOOTING.....	11
REPLACEMENT PARTS .....	13
DIAGRAMS .....	14
WARRANTY .....	16

## **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 series hot/cold 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.
- Drain water may reach temperatures in excess of 200°F (93°C). use appropriate plumbing materials when installing drain lines.

### 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.

## **NOMENCLATURE**

**SPC – QSGT – MF – 42 – G – 2T - 55**

**A     B     C     D     E     F     G**

**A – COUNTER STYLE**

SPC – SPECLINE

SIM - SIMPLICITY

**B – QSGT = QUICKSWITCH TOP**

**C – BODY STYLE**

MF- MOLDED FIBERGLASS

FP – FIBERGLASS PANEL

LP – LAMINATE PLASTIC

LSS – LAMINATE OVER STAINLESS

SS – STAINLESS STEEL

**D – QSGT TOP SURFACE LENGTH**

28”

42”

**E – QSGT SURFACE MATERIAL**

G = CERAN GLASS

ES = ENGINEERED STONE/DEKTON

**F – TWO TIER OPTION**

2T = TWO TIER UNIT

NONE = SINGLE COUNTER UNIT

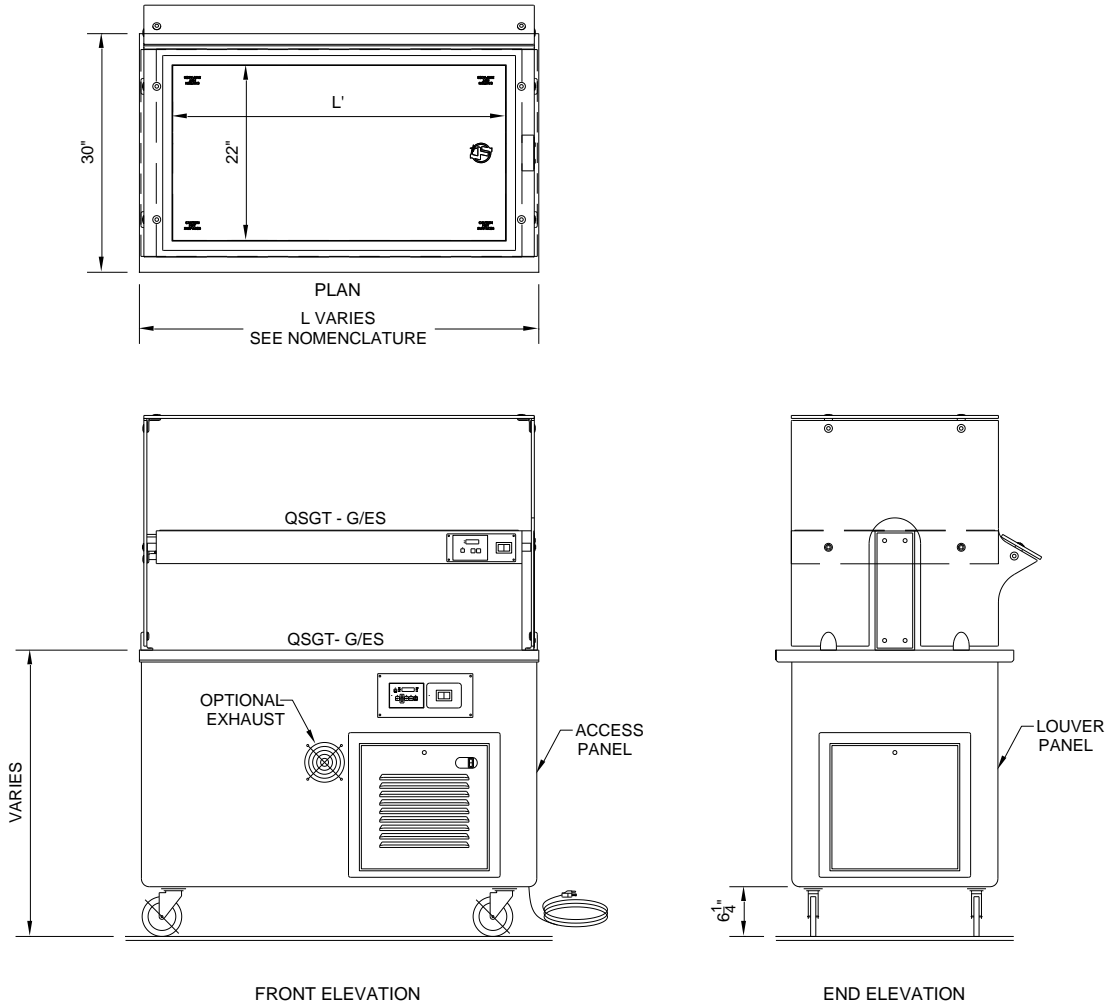
**G – BODY LENGTH**

SPC LENGTHS SPECIFIED BY ORDER

SIM LENGTHS = 36 & 50

# UNIT SPECIFICATIONS

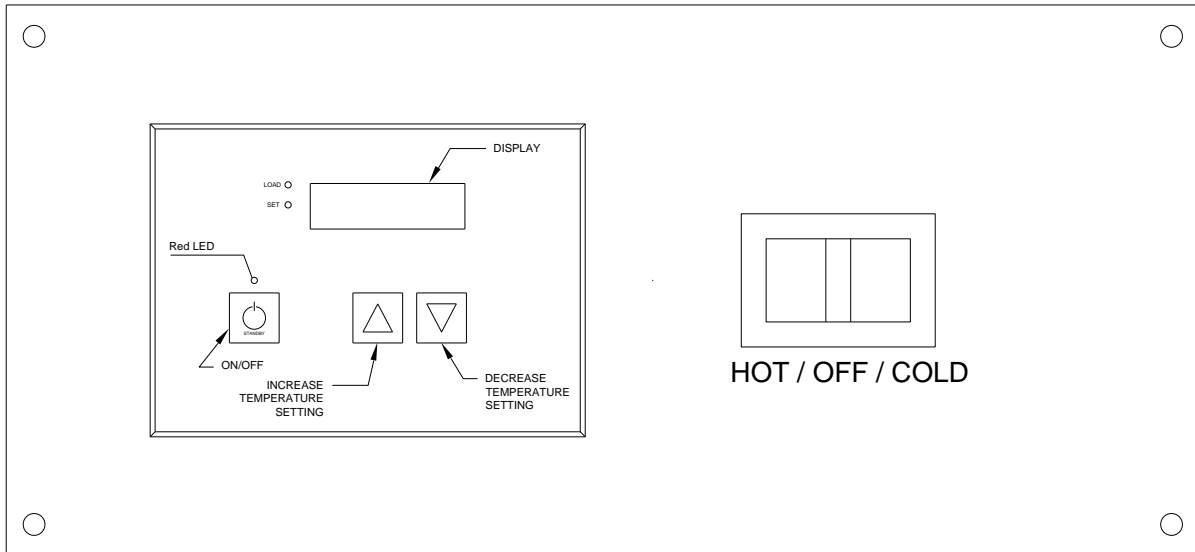
**LTI: QSGT Series** is a refrigeration and heating system designed for short term display and dispensing of cold & hot food products in maximum ambient temperature of 86°F. Refer to figures and tables provided below for standard QSGT units.



MODEL	MIN WIDT H (L)	QSGT SURFACE LENGTH (L')	AMPS (120V)	NEM A PLUG	REFRIGERANT
SPC/SIM-QSGT-X-28-G-X	36	28"	7.5	5-15	R449A
SPC/SIM-QSGT-X-28-G-2T-X	36	28"	12.5	5-20	R449A
SPC/SIM-QSGT-X-42-G-X	50	42"	7.5	5-15	R449A
SPC/SIM-QSGT-X-42-G-2T-X	50	42"	15	5-20	R449A

**NOTE: SEE NOMENCLATURE FOR FULL MODEL # INFORMATION**

# **OPERATING INSTRUCTIONS**

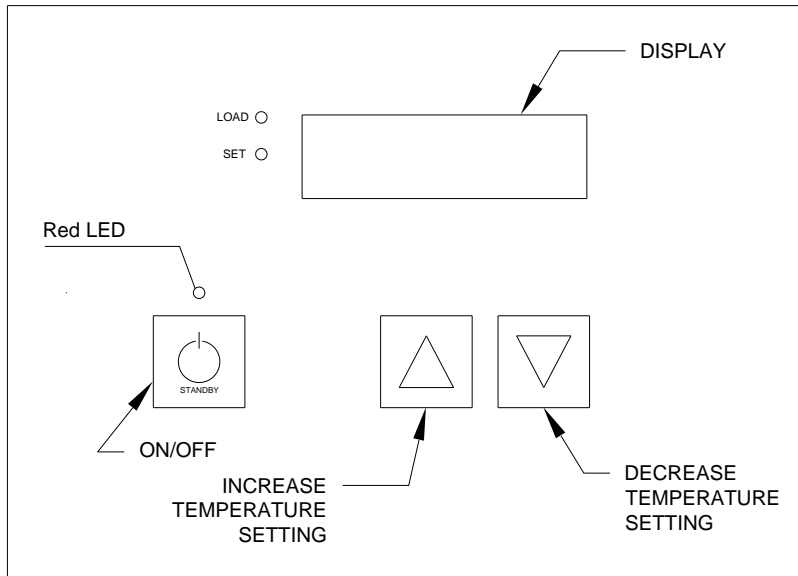


## **Turning ON QSGT unit:**

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.



## Operating GT Controller

### Turning ON unit:

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 unit:

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.

### **Ceran Glass/Dekton:**

#### **Ceran**

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**
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<https://www.schott-ceran.com/en/tips-and-care>

#### **Dekton**

Requires very little maintenance. Simply using a non-abrasive sponge with soap and warm water on a regular basis.

For more information on care and maintenance please see Dekton's Care & Maintenance:

<https://assetstools.cosentino.com/api/v1/bynder/doc/996445C2-CE12-403B-9F60A63A5342031F/dekton-worktops-use-care-en.pdf?dl=dekton-worktops-use-care-en.pdf>

## **TROUBLESHOOTING**

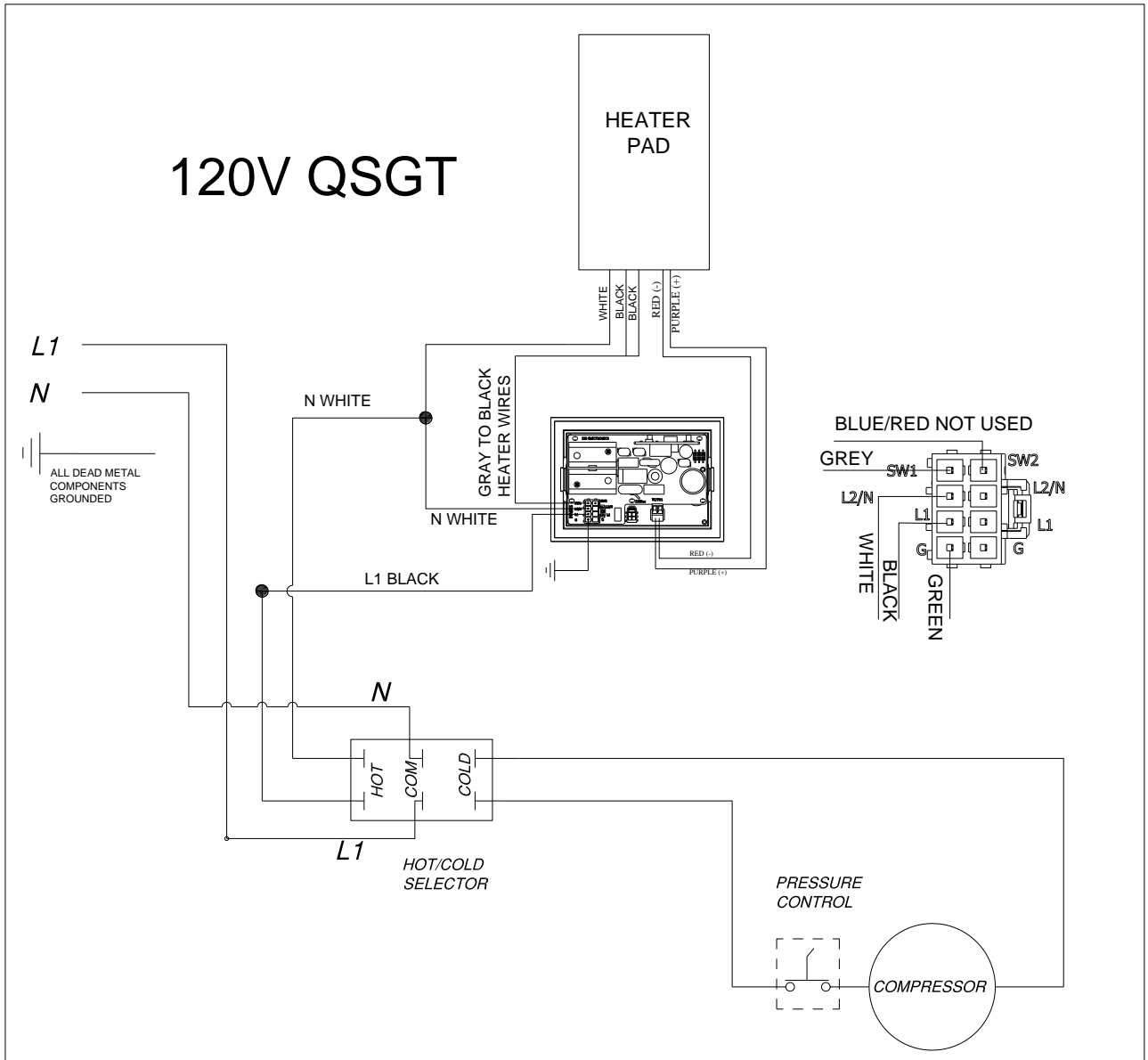
HEATING ISSUES		
COMPLAINT	PROBLEM	SOLUTION
UNIT WILL NOT HEAT	POWER CORD UNPLUGGED.	PLUG INTO RECEPTACLE.
	MASTER SWITCH/CONTROLLER OFF.	TURN MASTER SWITCH/CONTROLLER ON.
	NO POWER OUT OF CONTROLLER.	REPLACE CONTROLLER.
	POWER TO HEATER BUT NOT HEATING.	REPLACE HEATER.
	NO POWER TO RECEPTACLE.	CHECK 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.

<b>REFRIGERANT TROUBLESHOOTING</b>		
<b>COMPLIANT</b>	<b>PROBLEM</b>	<b>SOLUTION</b>
<b>COMPRESSOR WILL NOT START</b>	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
<b>COMPRESSOR WILL NOT START, HUMS BUT TRIPS OVERLOAD PROTECTOR</b>	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
<b>COMPRESSOR STARTS AND RUNS, BUT SHORT CYCLES ON OVERLOAD PROTECTOR</b>	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 REFRIGERANT CHARGE (FIX LEAK IF NECESSARY)
	COMPRESSOR MOTOR HAS A WINDING SHORTED	REPLACE COMPRESSOR
<b>UNIT RUNS OKAY, BUT SHORT CYCLE ON</b>	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
<b>UNIT OPERATES LONG OR CONTINUOUSLY</b>	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
<b>START CAPACITOR OPEN</b>	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
<b>RUN CAPACITOR OPEN, SHORTED OR BLOWN</b>	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
<b>SPACE TEMPERATURE TOO HIGH</b>	CONTROL SETTING TO HIGH	RESET CONTROL
	INADEQUATE AIR CIRCULATION	IMPROVE AIR MOVEMENT
<b>SUCTION LINE FROSTED OR SWEATING</b>	EXPANSION VALVE STUCK	CLEAN VALVE OFF FOREIGN PARTICLES, REPLACE IF NECESSARY
	EVAPORATOR FAN NOT RUNNING	DETERMINE REASON AND CORRECT
	OVERCHARGE OF REFRIGERANT	CORRECT CHARGE

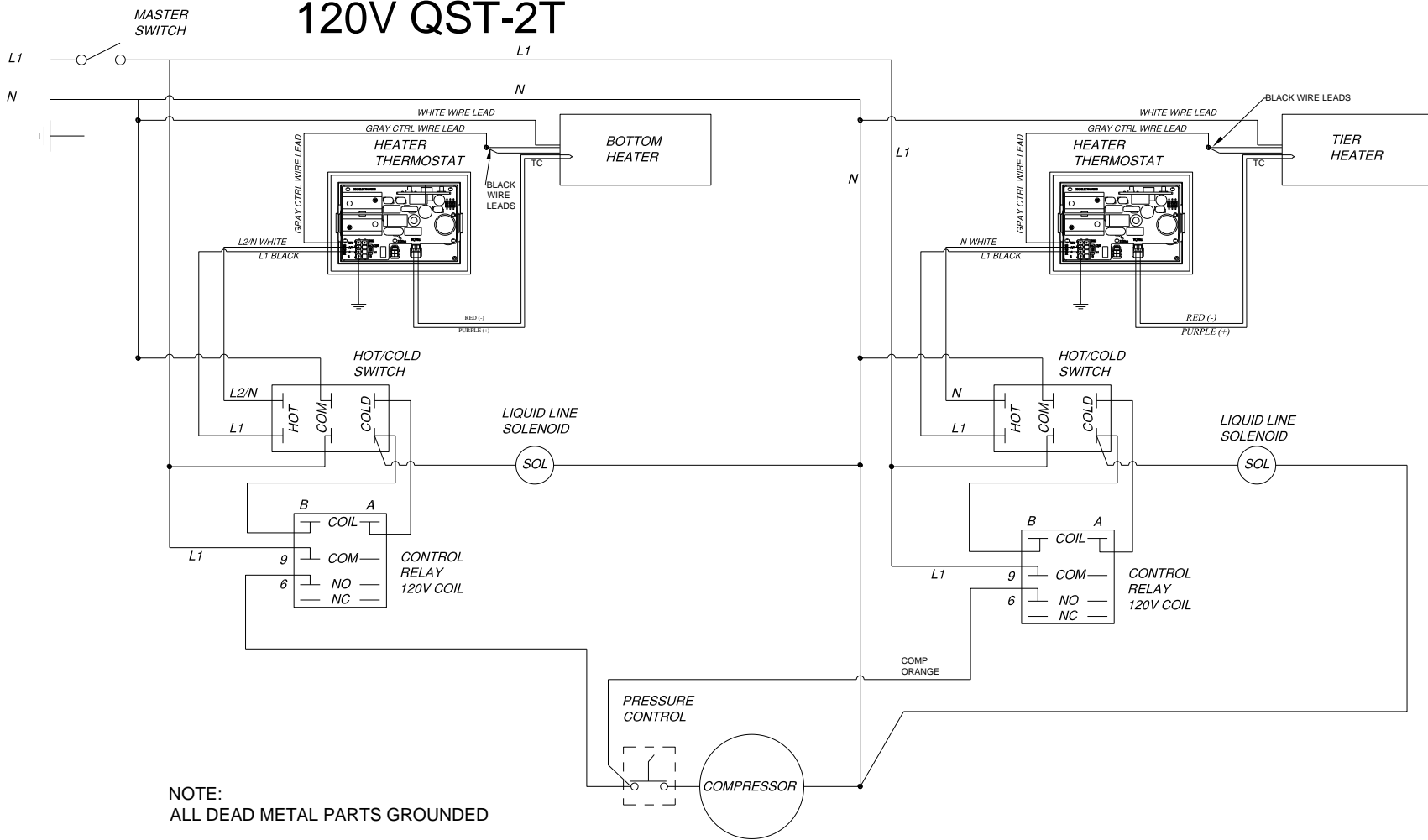
## **REPLACEMENT PARTS**

<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>STOCK NO.</b>	<b>MFG NO.</b>	<b>MANUFACTURER</b>
<b>1</b>	CONDENSING UNIT	<a href="#">311935</a>	AE2415Z-AA1AXZ	TECUMSEH
<b>1A</b>	COMPRESSOR	311983	AE1157E-679-J7	TECUMSEH
<b>2</b>	CONDENSING UNIT	<a href="#">311937</a>	AE2420-AA1BXM (BOM-2E294-1)	TECUMSEH
<b>2A</b>	COMPRESSOR AE2420Z-DS1B	<a href="#">311982</a>	AE1322E-679-J7	TECUMSEH
<b>3</b>	PRESSURE CONTROL	<a href="#">311938</a>	900-11968	TECUMSEH
<b>4</b>	FILTER/DRIER	282300	C-052-S-T	PARKER HANNIFIN
<b>5</b>	SIGHT GLASS	<a href="#">282400</a>	SA-12S	PARKER HANNIFIN
<b>6</b>	ACCUMULATOR	311810	102-10034	TECUMSEH
<b>7</b>	SOLENOID	<a href="#">281610</a>	E3S120	PARKER HANNIFIN
<b>8</b>	TXV VALVE R-449	282586	EFD-1/5-ZP	PARKER HANNIFIN
<b>9</b>	HEATER(20"X40"120/240V-900W) CERAN - QS	<a href="#">195363</a>	LT2040SE	THERMO
<b>10</b>	HEATER(20"X26"120/240V-600W) CERAN - QS	195364	LT2026SC	THERMO
<b>11</b>	GLASS TOP 28"x 22"x 1/4"	120470	NA	SCHOTT
<b>12</b>	GLASS TOP 42"x 22"x 1/4"	<a href="#">120480</a>	NA	SCHOTT
<b>13</b>	ROCKER SWITCH QS GLASS TOP	335916	LTIGM721-6S-BL-RC/GN-WBL	ZF ELECTRONICS
<b>14</b>	GT CONTROLLER	<a href="#">195436</a>	330.2021.10	330 Electronics

# DIAGRAMS



# 120V QST-2T



## **WARRANTY**

Effective date July 1<sup>st</sup>, 2020

The LTI parts and labor warranty for all products is (1) year for all products (some product families have total of two-year parts and labor); The warranty period commences with the date of installation, or six (6) months from date of shipment from the factory, whichever is sooner. Refrigeration compressors come standard with a 5-year compressor warranty. The warranty covers all products used in United State and Canada. All labor and parts expense after the expiration of the warranty shall be the responsibility of the owner.

The QuickSwitch Family, TempestAir and ThermalWell families all include a 2yr parts and labor warranty.

K-12 warranty is 2 years parts and labor on ALL equipment.

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.

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 activities. 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.

**LTI**

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