



INSTALLATION AND SERVICING MANUAL

GARLAND S18-F AND S18-FS SERIES RESTAURANT FRYERS



FOR YOUR SAFETY:
DO NOT STORE OR USE GASOLINE
OR OTHER FLAMMABLE VAPORS OR
LIQUIDS IN THE VICINITY OF
THIS OR ANY OTHER
APPLIANCE

WARNING:
IMPROPER INSTALLATION, ADJUSTMENT,
ALTERATION, SERVICE OR MAINTENANCE
CAN CAUSE PROPERTY DAMAGE, INJURY,
OR DEATH. READ THE INSTALLATION,
OPERATING AND MAINTENANCE
INSTRUCTIONS THOROUGHLY
BEFORE INSTALLING OR
SERVICING THIS EQUIPMENT

PLEASE READ ALL SECTIONS OF THIS MANUAL
AND RETAIN FOR FUTURE REFERENCE.

THIS PRODUCT HAS BEEN CERTIFIED AS
COMMERCIAL COOKING EQUIPMENT AND
MUST BE INSTALLED BY PROFESSIONAL
PERSONNEL AS SPECIFIED.

INSTALLATION AND ELECTRICAL CONNECTION
MUST COMPLY WITH CURRENT CODES:
IN CANADA - THE CANADIAN ELECTRICAL
CODE PART 1 AND / OR LOCAL CODES.
IN USA - THE NATIONAL ELECTRICAL CODE
ANSI / NFPA - CURRENT EDITION.

ENSURE ELECTRICAL SUPPLY CONFORMS WITH
ELECTRICAL CHARACTERISTICS SHOWN ON
THE RATING PLATE.

Users are cautioned that maintenance and repairs must be performed by a Garland authorized service agent using genuine Garland replacement parts. Garland will have no obligation with respect to any product that has been improperly installed, adjusted, operated or not maintained in accordance with national and local codes or installation instructions provided with the product, or any product that has its serial number defaced, obliterated or removed, or which has been modified or repaired using unauthorized parts or by unauthorized service agents. For a list of authorized service agents, please refer to the Garland web site at <http://www.garland-group.com>. The information contained herein, (including design and parts specifications), may be superseded and is subject to change without notice.

GARLAND COMMERCIAL INDUSTRIES
185 East South Street
Freeland, Pennsylvania 18224
Phone: (570) 636-1000
Fax: (570) 636-3903

GARLAND COMMERCIAL RANGES, LTD.
1177 Kamato Road, Mississauga, Ontario L4W 1X4
CANADA
Phone: 905-624-0260
Fax: 905-624-5669

IMPORTANT INFORMATION

WARNING:

This product contains chemicals known to the state of California to cause cancer and/or birth defects or other reproductive harm. Installation and servicing of this product could expose you to airborne particles of glass wool/ceramic fibers. Inhalation of airborne particles of glass wool/ceramic fibers is known to the state of California to cause cancer.

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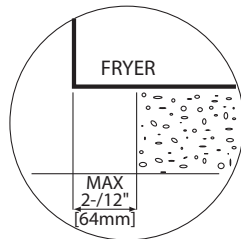
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DIMENSIONS AND SPECIFICATIONS

North American (60 cycle) Electrical Loading:												
Model	Total kW	Nominal Amperes Per Line										
		208v/1Ø	240V/1Ø	208V/3Ø			240V/3Ø			480V/3Ø		
				X	Y	Z	X	Y	Z	X	Y	Z
S18F	12	58	50	34	34	34	28.9	28.9	28.9	15	15	15
S18SF	16	77	66.7	49	38	49	41.8	41.8	32.5	21	17	21

Export (50 cycle) Electrical Loading:										
Model	Total kW		Nominal Amperes Per Line							
			220/380V/ 1Ø	240/415V/ 1Ø	220/380/3Ø			240/415V/3Ø		
	220/380V	240/415V			X	Y	Z	X	Y	Z
S18F	10.1	12	46.2	50	15.4	15.4	15.4	16.7	16.7	16.7
S18SF	13.4	16	61.1	66.7	17.2	26.7	17.2	18.8	29.2	18.8

DAIS Installation:



Frying area is 13" (330mm) wide x 15-1/2" (394mm) deep.

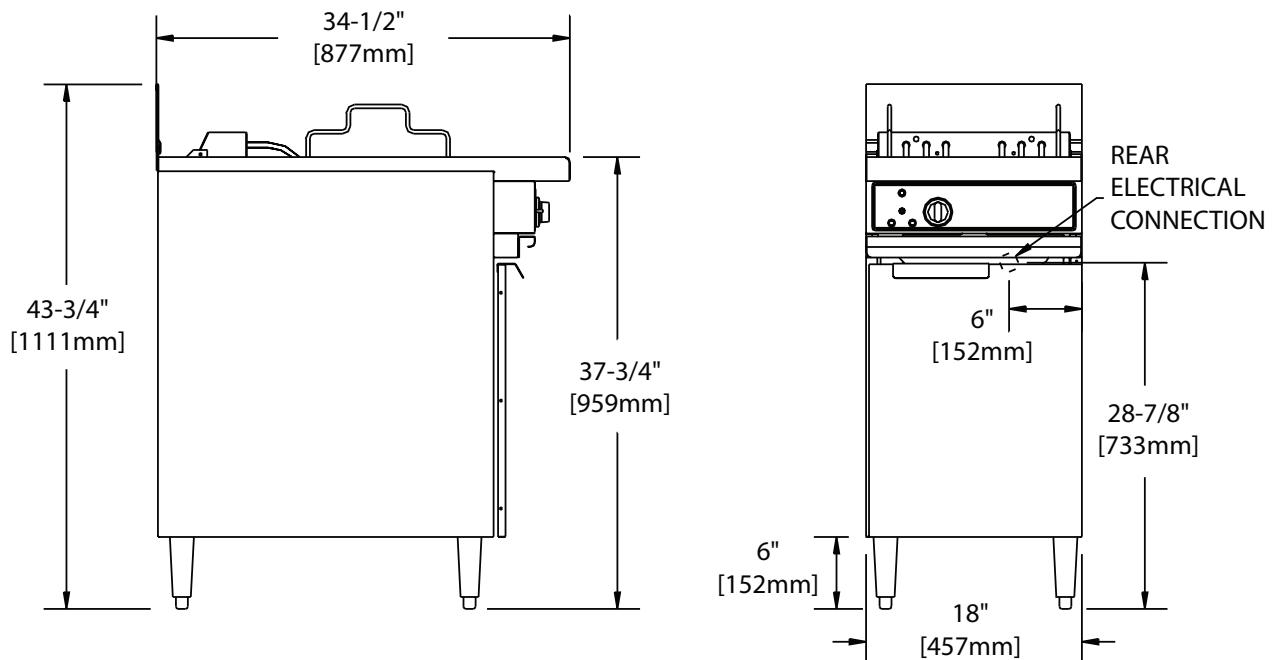
Installation Clearances:

Clearance to combustible surfaces

Sides: 1" (25mm) Rear: 1-1/2" (38mm)

NOTE: Many local codes exist, and it is the responsibility of the Owner and the Installer to comply with those codes.

Production Capacity (per hour)	
Model	French Fries
S18F	Frozen to Done 50 lbs. /23kg
S18SF	Frozen to Done 60 lbs./ 27kg



Frying area is 13" (330mm) wide x 15-1/2" (394mm) deep

DIMENSIONS AND SPECIFICATIONS continued

Exterior Dimensions

Model	Height*	Width	Depth	Weight
S18-(F,SF)	37-3/4" (959mm)	18" (457mm)	34-1/2" (876mm)	140Lb/64Kg

* Height from front rail to floor

NOTE: Height Dimensions specified with 6" (152mm) legs.

INTRODUCTION

The following instructions should be read carefully as the manufacturer can not be held responsible for any damage to property or persons caused by incorrect installation or operation of the equipment.

General Information

1. Check the crate for possible damage sustained during transit. Carefully remove the unit from the crate and again check for damage. Any damage to the unit must be reported to the carrier immediately.
2. Any protective material covering stainless steel parts must be removed.
3. All fryers are shipped from the factory with legs or casters fitted unless specially ordered without.
4. The type of voltage supply that the equipment was manufactured for at the factory is noted on the data plate and on the packaging. This type of supply must be used.
5. Do not remove permanently affixed labels, warnings or data plates from the appliance, for this may void approvals and creates a safety hazard.

Safety

This manual pertains to fryers. The reader/operator must interpret its contents to applicable needs. If there is any question of interpretation of any of the literature pertaining to Garland fryers, please contact your Authorized Service Agency or our Customer Service Department at the phone number listed on the front of this manual.

A qualified person must make the installation of these products in accordance with the local codes of the country of destination.

Always follow these safety precautions when operating the fryer.

The unit must only be operated by qualified persons. **DO NOT** operate without reading this manual.

DO NOT operate the product unless it has been properly installed and earthed.

DO NOT operate the product unless all service and access panels are in place and fastened properly.

DO NOT attempt to repair or replace any part of this product unless all main power supplies have been disconnected.

WARNING: to avoid serious personal injury: Use extreme caution in setting up, operating and cleaning this product to avoid coming in contact with hot surfaces or hot oil. Suitable protective clothing should be worn to prevent the risk of burns.

NOTE all warning labels and markings on the product, which call attention to further dangers and necessary precautions.

WARNING: this appliance must not be cleaned with a water jet.

INTRODUCTION continued

Rating Plate

For proper operation, the information on the data plate of the new equipment must match the electrical supply. The data plate is readily accessible, located on the inside of the cabinet door. It contains all of the pertinent information required by the installer.

When corresponding with the factory or equipment dealer regarding service problems or replacement parts, be sure to refer to the particular unit by the correct model number, including prefix and suffix letters and numbers and serial number. The rating plate affixed to the unit contains this information.

INSTALLATION

The Garland S18 series deep fat fryer complies with the standards CSA C22.2 No. 109 – latest edition, the UL197 – latest edition and the NSF#4 – latest edition. The installation & connection of this appliance must comply with current codes. In Canada – the Canadian Electric Code Part 1 and in the USA – The National Electrical Code.

This equipment must be installed and adjusted by a competent person as required by the local electrical authorities. Failure to install appliances correctly could lead to prosecution. It is in your own interests and that of safety to ensure that the law is complied with.

Unpacking

1. Carefully remove the unit from the crate. All packing material must be removed from the unit. The protective material covering the stainless steel must be removed immediately after the unit is installed.
2. Do not remove permanently affixed labels, warnings or data plates from the appliance, for this may void approvals and creates a safety hazard.

Clearances

The space in which the appliance is to be sited must include the minimum installation clearances to combustible surfaces as indicated in the following table.

CLEARANCE TO COMBUSTIBLE MATERIAL	
Location	All Models
Top	*
Left Hand Side	1" (25mm)
Right Hand Side	1" (25mm)
Rear	1.5" (38mm)
Type of Floor or Base	Combustible

* NOTE Equipment must be installed under a ventilation canopy

Adequate clearance must be provided for servicing, ventilation & proper operation. The product must be kept free from combustible material.

Siting

The fryer should be installed on a firm smooth and level floor designed to withstand the weight of the appliance and any ancillary equipment. (Refer to dimensions and specifications section for weights). Once in position check that the equipment is level, the fryer must be level front to back, side to side and diagonally. This leveling must be done with the unit under the hood and in its normal operational position. Adjust if necessary.

If the fryer is to be dais or cove mounted, the base on which it is to be set should be level. If it is not, the fryer must be shimmed to level.

INSTALLATION continued

Appliances Equipped With Legs

All Fryers are shipped from the factory with legs installed unless otherwise specified. When the fryer is specified for dais or cove mounting it is shipped less legs. Legs must be adjusted to a minimum height of 6" (152mm) in order to comply with NSF standards.

Appliances Equipped With Casters

1. The front casters on the unit are equipped with brakes to limit the movement of the fryer without depending on the electrical connection.
2. A restraint can be attached to the unit near the electrical connection. If the restraint is disconnected be sure to reconnect it after the fryer has been returned to its original installed position.

Ventilation

The area in which the appliance is installed must be adequately ventilated to provide air for removal of steam, heat generated by the appliance, etc. These products are intended to be installed under a ventilation hood. The use of a mechanical extract system should be considered and conform to local codes.

Proper operation of exhaust fans (proper speed, rotation and adjustment) is essential. In addition a make-up air system (HVAC) for the kitchen to supply fresh air is recommended.

Any ventilation system will break down if improperly maintained. The duct system, the hood, and the filters must be cleaned on a regular bases and kept clean.

Electrical Supply

CAUTION: Prior to installation check the electrical supply to ensure input voltage and phase match the equipment voltage rating and phase. See data plate located inside of the cabinet door.

The supply entrance is located at the rear. The supply terminal block is accessible from the front. The electrical supply must be adequate for the voltage, phase & current marked on the rating plate.

NOTE: A means of disconnection from the supply having a contact separation of at least 3 mm in all poles must be incorporated in the fixed wiring.

This equipment is intended to be installed with fixed permanent wiring.

WARNING: This appliance must be earthed.

Single and Three Phase Connection

Unless otherwise noted all fryers are shipped from the factory for three phase connection. A wiring diagram is attached to the rear of each fryer. Visually check all the electrical connections. The fryer is wired at the factory as specified on the order. If it is necessary to change the phasing, refer to the wiring diagram.

NOTE: SF 3 phase loads are unbalanced, see Appendix, rating plate or consult factory for more details.

Commissioning

Ensure all circuit breakers located in the lower compartment are set to the 'ON' (1) position.

1. Ensure that all controls are in the off position and turn on the main electrical supply.
2. Operate the fryer in accordance with the operating instructions in the operating manual.
3. Check that the product functions correctly and that the voltage supply to the unit does not drop by more than 5% when all sections are operated simultaneously.

When the operation has been check, hand the operating manual to the user or purchaser for retention and instruct them in the efficient and safe operation of the appliance.

MAINTENANCE AND CLEANING

Regular servicing by a competent person is recommended to ensure the continued safe and efficient performance of the appliance.

Thermostat Calibration

WARNING: Turn off the electrical mains before commencing any service work.

It is normal for an electromechanical thermostat to cycle with a 45° F - 50° F (25°C - 28°C). When checking calibration, allow the thermostat to cycle a minimum of two times.

1. Place the thermocouple of the test instrument in the center of the tank 1" (25mm) below the oil surface.
2. Turn the thermostat dial to 325° F (163° C). In order to allow the oil temperature to stabilize, the control must be allowed to cycle twice before taking a test reading.
3. Check the temperature reading just when the control cycles "OFF" as indicated by the cycle pilot lamp. If the temperature does not read within 15° F (8°C) of the dial setting, recalibrate as follows:
4. Carefully remove the thermostat dial, not disturbing the dial setting.
5. Hold the thermostat shaft steady and with a small flat blade screw driver, turn the calibration screw located inside the shaft clockwise to decrease the temperature and counter clock wise to increase the temperature. NOTE: Each 1/4 turn of the screwdriver will create a change of approximately 35° F (20° C).
6. Replace the thermostat dial and repeat steps 1 through 3 to verify that correct adjustment has been made.

REPLACEMENT OF PARTS

WARNING: Turn off the electrical mains before commencing any servicing work.

Thermostat

1. Remove the screws securing the front panel to the front rail and drop the panel.
2. Disconnect the wires from the taps on the thermostat.
3. Remove the dial from the thermostat and the screws securing the thermostat body to the control panel
4. Remove the wires from the thermostat terminals. Be sure to note which wire connects to which terminal on the thermostat.
5. Remove the thermostat sense bulb. Note the path of the capillary and install the new one in the same manner.
6. Replace the faulty thermostat and reassemble in the reverse order.

Indicator Lamps

1. Remove the screws securing the front panel to the front rail and drop the panel.
2. Disconnect the supply wires to the lamp body and remove the faulty lamp.
3. Reassemble in the reverse order.

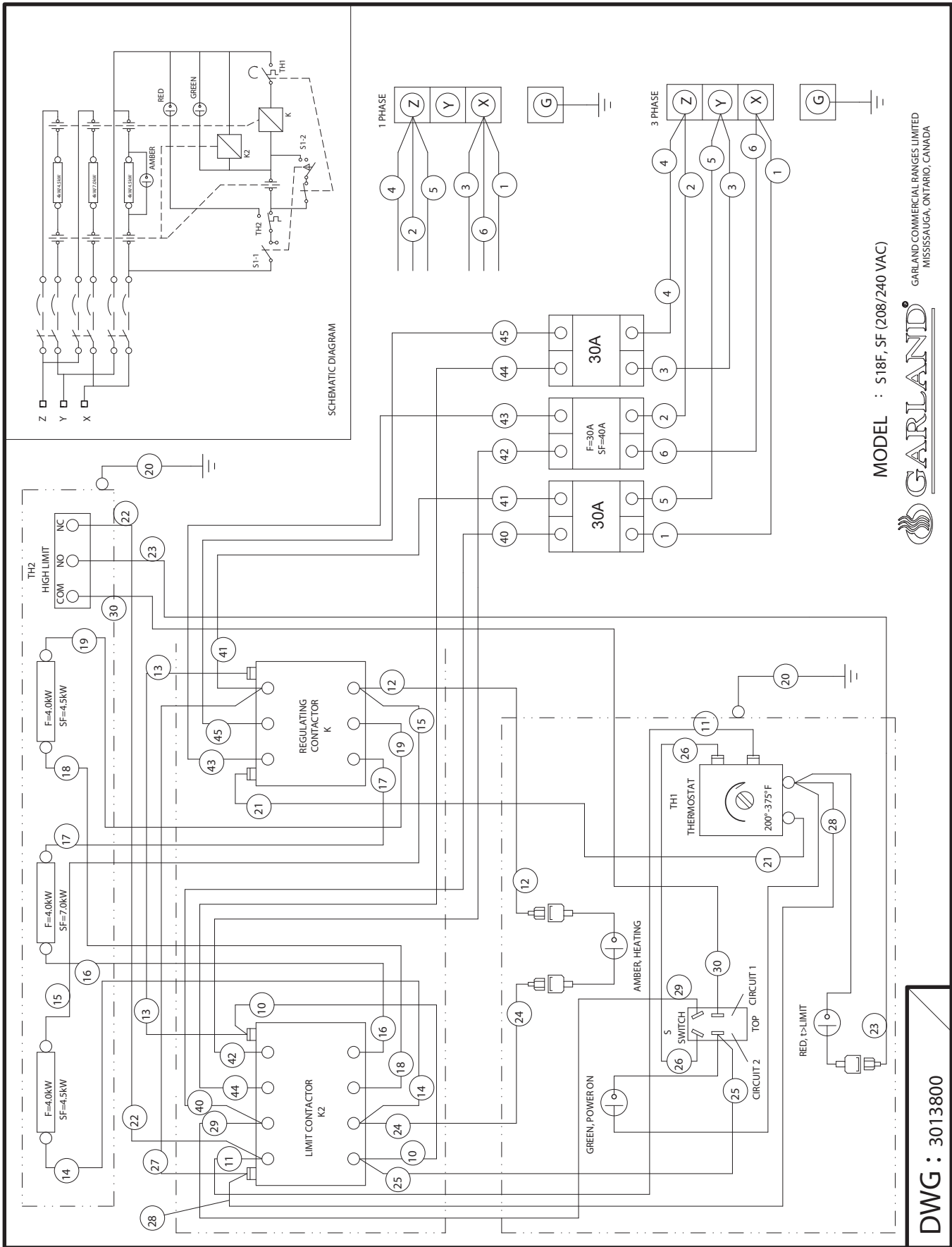
Heating Elements

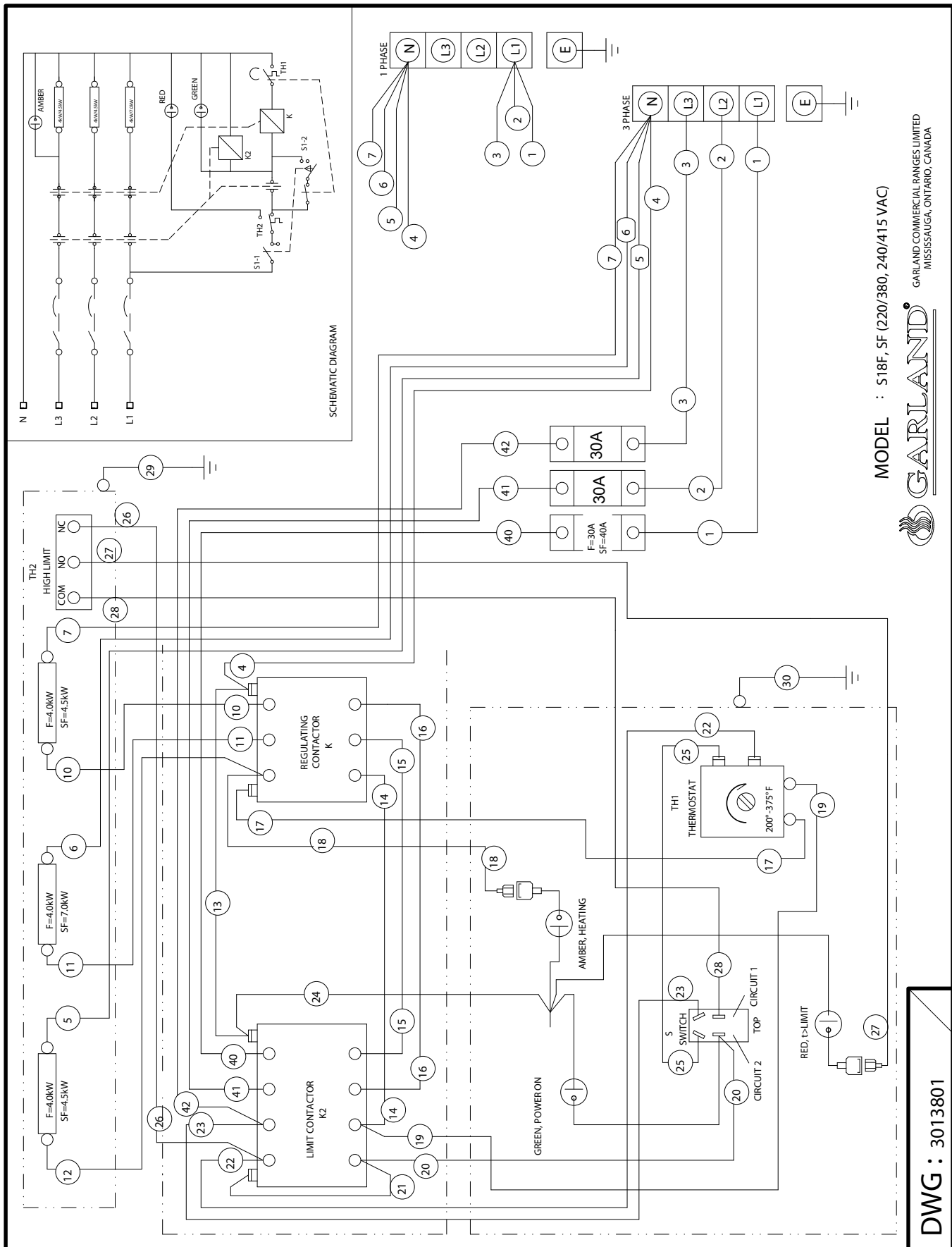
1. Tilt rotating element head up and remove the element terminal cover.
2. Disconnect the supply wires to the element.
3. Remove the sealing connectors.
4. Reassemble in the reverse order replacing the sealing connectors.

FAULT FINDING

FRYER DIAGNOSTICS		
PROBLEM	POSSIBLE CAUSE	SOLUTION
Power indicator is on. Heating indicator comes on. Fryer recovering or heating unevenly.	One or more circuit breakers are off.	Switch circuit breakers to the "ON" position.
	One or more elements are defective.	Replace Elements.
Red indicator light is on. Fryer is not heating.	High temperature limit is tripped	Operating thermostat may be defective - Replace.
		Operating contractor may be defective - Replace
Fryer will not start - green indicator does not come on. Red indicator light is not on.	Power switch is defective	Replace Power Switch
	Safety Contactor is defective	Replace Contactor.
	Auxiliary contacts on the thermostat are defective.	Replace operating thermostat.
Oil temperature too hot or too cold.	Thermostat is out of calibration.	Calibrate or replace thermostat.

Wiring diagrams

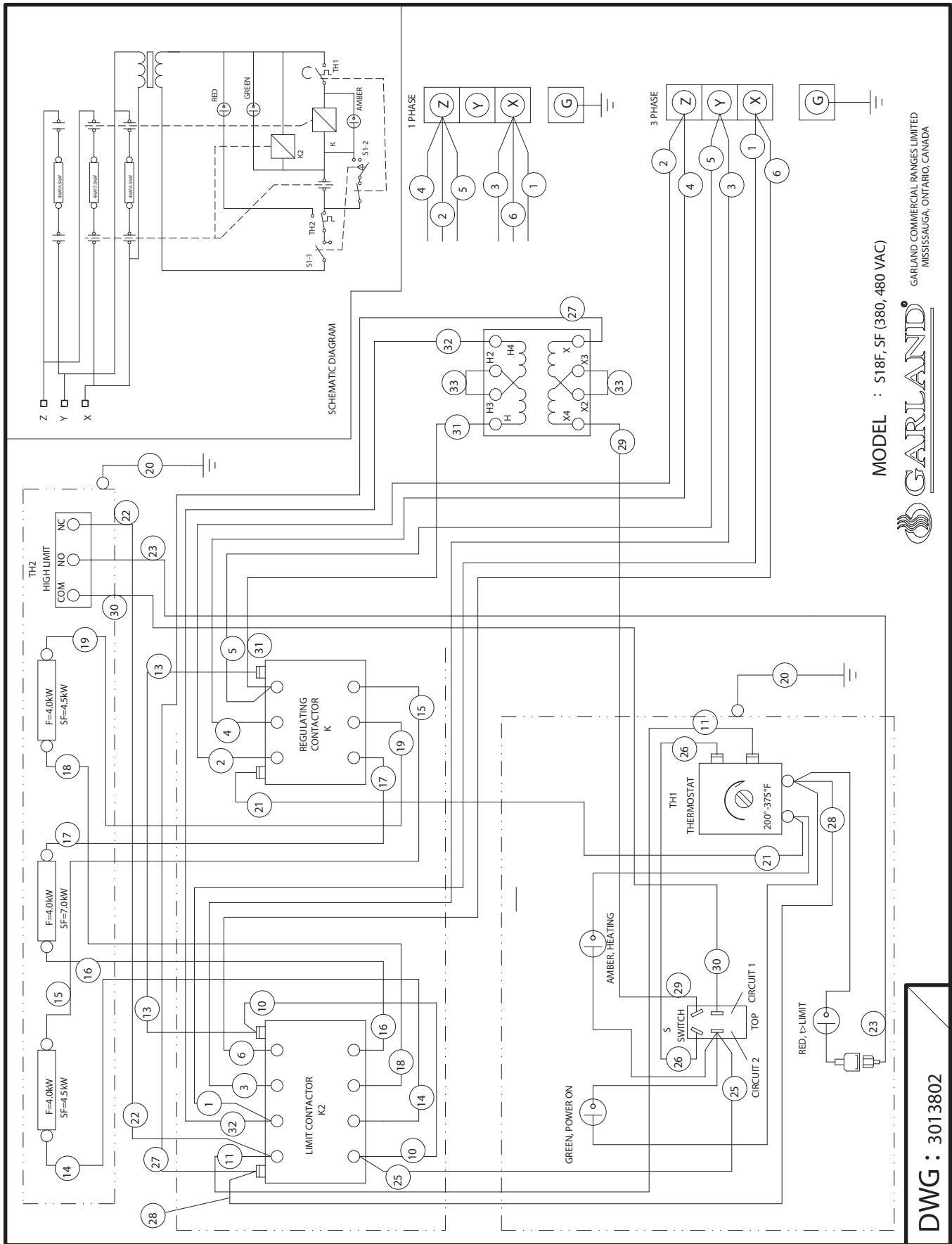




MODEL : S18F, SF (220/380, 240/415 VAC)



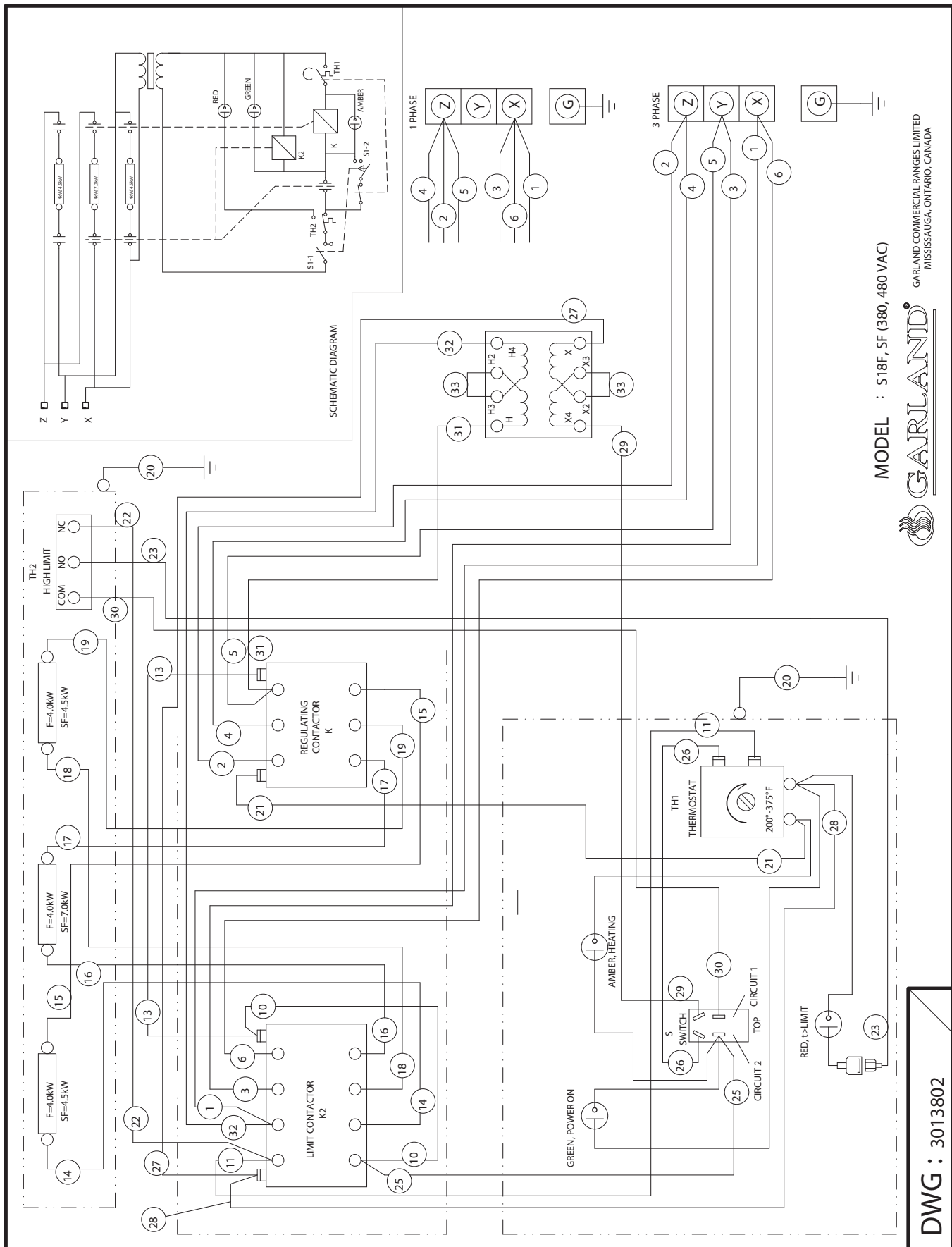
DWG : 3013801



MODEL : S18F, SF (380, 480 VAC)

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DWG : 3013802



MODEL : S18F, SF (380, 480 VAC)

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