Lang™
A Division of Star Mfg. Int'l, Inc.

Installation, Operation, Maintenance and Service Instructions

Fryer
Model: 130F

Star Manufacturing International
Part Number: 2M-W478
Rev. B

10 Sunnen Drive St. Louis, MO.63143-3800
Ph: 314-781-2777 Fax: 314-781-2714
WWW.STAR-MFG.COM

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	EACH UNIT IS HEAVY. FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.
CAUTION	**ANY STAND, COUNTER OR OTHER DEVICE ON WHICH FRYER WILL BE LOCATED MUST BE DESIGNED TO SUPPORT THE WEIGHT OF THE FRYER.**
	SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.
DANGER	**THIS APPLIANCE MUST BE GROUNDED AT THE TERMINAL PROVIDED. FAILURE TO GROUND THE APPLIANCE COULD RESULT IN ELECTROCUTION AND DEATH.**
WARNING	**INSTALLATION OF THE UNIT MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY. IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT. UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.**
	The data plate is located behind access door over tank drain. The fryer voltage, wattage, serial number, wire size, and clearance specifications are on the data plate. This information should be carefully read and understood before proceeding with the installation.
NOTICE:	**The installation of any components such as a vent hood, grease extractors, fire extinguisher systems, must conform to their applicable National, State and locally recognized installation standards.**
	During the first few hours of operation, you may notice a small amount of smoke coming off the melter, and a faint odor from the smoke. This is normal for a new melter and will disappear after the first few hours of use.
	ALWAYS KEEP THE AREA NEAR THE APPLIANCE FREE FROM COMBUSTIBLE MATERIALS.
CAUTION:	**KEEP FLOOR IN FRONT OF EQUIPMENT CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY, TO AVOID THE DANGER OF SLIPS OR FALLS.**








WARNING: KEEP WATER AND SOLUTIONS OUT OF CONTROLS. NEVER SPRAY OR HOSE CONTROL CONSOLE, ELECTRICAL CONNECTIONS, ETC.

CAUTION **MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNING AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.**

NOTICE: **Service on this or any other, STAR appliance must be performed by qualified personnel only. Consult your authorized service agent directory or call the factory at 1-800-807-9054 or visit our website** WWW.STAR-MFG.COM **for the service agent nearest you.**

WARNING: **BOTH HIGH AND LOW VOLTAGES ARE PRESENT INSIDE THIS APPLIANCE WHEN THE UNIT IS PLUGGED/WIRED INTO A LIVE RECEPTACLE. BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRIC POWER SUPPLY.**

WARNING **DO NOT THROW ICE INTO THE FRYER BASKET WHILE THE UNIT IS HOT. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY AND MAY DAMAGE THE EQUIPMENT.**

CAUTION: USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY STAR OR THEIR AUTHORIZED DISTRIBUTORS CAN CAUSE BODILY INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.

Electric Fryer

Counter Model
The fryer dimensions are 19” (48.25cm) High, 32” (81.25cm) Deep, 15” (38cm) wide.
The sides, bottom, and rear wall are constructed stainless steel.

Floor Models
The interior dimensions are 36” (91.5cm) High, 38” (96.5cm) Deep, 15” (38cm) wide.
The Sides, Bottom, and Rear wall are constructed stainless steel.

Controls
Easy to use manual control knobs.
Indicator lights for “Power”, “Heat”, and “Over-temperature”.
The fryer is supplied with an auxiliary power interrupt terminal, which when connected, automatically shuts off primary power to the fryer.

Installation

Receiving the Fryer
Upon receipt, check for freight damage, both visible and concealed.Visible damage should be noted on the freight bill at the time of delivery and signed by the carrier's agent. Concealed loss or damage means loss or damage, which does not become apparent until the merchandise has been unpacked.

If concealed loss or damage is discovered upon unpacking, make a written request for inspection by the carrier's agent within 15 days of delivery. All packing material should be kept for inspection.

Do not return damaged merchandise to Star Manufacturing Company.File your claim with the carrier.

Prior to un-crating, move the fryer as near its intended location as practical. The crating will help protect the unit from the physical damage normally associated with moving it through hallways and doorways.

Electrical Connection
Check the data plate located inside the drain valve door for fryer electrical rating. Check power source to insure that it is the correct voltage and current rating.

Electrical service may be made through a standard 1¼-inch conduit. A hole is provided through the rear panel.

A knockout is also provided in the bottom rear of the fryer, so that power may be brought in from below the unit. Connect power cord to 3-Pole terminal block, refer to wiring diagram.

Plug the hole on the rear panel when using bottom power entry.

Check the National Electrical Code for fuse or circuit breaker requirements.

A two pole terminal block is provided behind the rear access cover for connection to an external fire control system if required. A jumper is provided across these terminals when the fryer leaves the factory. The jumper on this terminal block is in series with the contactor coil circuits. If connection to a fire control system is required, remove this jumper and supply a relay contact closure to maintain this closed circuit. If the fire control system does not have this type output, a separate relay must be provided to interface the system. Use copper wire only.

PHASING

CAUTION: DO NOT APPLY POWER TO THESE TERMINAL EXTERNAL POWER WILL DAMAGE THE FRYER CONTROL CIRCUITRY.

Connect a ground lead to the green ground lug provided in the rear compartment.These fryers are to be connected to three-phase power as follows: Connect wires 1 and 4 to line 1, wires 2 and 5 to line 2, and wires 3 and 6 to line 3.

Please refer to wiring diagram for correct single/three-phase connections, if problems occur please contact factory.

CAUTION: DO NOT CONNECT TO A CIRCUIT OPERATING AT MORE THAN 150 VOLTS TO GROUND.

General Operation

Fill the fryer with cooking oil. There are two fill marks on the sides of the kettle. The oil level should be maintained between the upper and lower marks.

The power switch on the control box at the front of the fryer energizes the control circuits. When this switch is on, the “power” pilot lamp will be illuminated.

Turn the temperature selector dial on the thermostat to the desired temperature setting. This control is located above the elements at the rear of the kettle. The “heat” pilot lamp will illuminate indicating power is applied to the heating elements.

The lamp marked “overtemp” will illuminate if the oil reaches an over temperature condition. The over temperature thermostat shuts off the fryer before the oil reaches a dangerously high temperature.

The elements may be raised and locked in the up position. The latch is located on the rear top surface of the fryer and may be activated by lifting the handle at either side of the fryer.

A drain valve is provided at the left front of the fryer. Always turn the fryer power off before lifting the elements of draining the oil from the fryer.

On those models with automatic bracket lifts, the cooking times may be set from 1 to 16 minutes with the timer control dials.

Pressing down on the spring return elevator switches will lower the basket lifts. At the end of the time set on the dial the lift will return to the up position. The time cycle may be canceled at any time by pressing the elevator switch to the up position.

Controls

Power Switch - A toggle switch used to turn the unit on and off.

Pilot Lights - Lights that are located in the rear control panel area.

- **Power**: Lights up when the power switch is in the “ON” position.
- **Heat**: Lights up when the element contactors engage.
- **Over-temp**: Lights up when the over-temperature thermostat trips.

Test Switch Optional on all models, it gives the user the ability to test the over-temperature thermostat by overriding the thermostat and allowing the oil to exceed normal operating temperatures.

Sequence of Operation

Electric Fryer

Power switch to “ON” position

208/240 VAC to “**POWER**” pilot lamp.

208/240 VAC to Thermostat through Over-Temperature thermostat.

Thermostat Set

208/240 VAC to “**HEAT**” pilot lamp.

208/240 VAC to Contactors.

Contactors Energize

208/240 VAC to Elements.

Elements Energize

Fryer heats up.

Maintenance

Maintenance of the C-28 series fryers is simple and straightforward. A bulb thermostat located near the right heating element as the fryer is viewed from the front provides temperature control. This thermostat controls the No. 1 contactor. The over temperature thermostat located next to the left heating element provides protection in case of malfunction of the temperature control. It will open both contactors removing all power from the heating elements.

A circuit diagram of the fryer is located on the rear cover of the control box. This box may be removed by removing the four sheet metal screws located beneath the box on the left and right sides of the fryer lower front.

In the event the fryer is built into a location, all maintenance may be done from the front by removing the oil pot to gain access to the contactors. To remove the pot, the control box must be removed as above. Also, remove the small section of sheet metal baffle held on by two sheet metal screws, located just above the drain valve. The front of the pot may now be lifted up and moved forward until the rear of the pot will rotate up and out. The baffles behind the pot may be removed by taking out four screws. This exposes the contactors.

The thermostats are located in the head assembly. The bottom cover of the head is removable for access to the elements, thermostats and pilot lamps.

In 480-volt units, a transformer is provided in the rear of the fryer to step 480 volts to 240 volts for operation of the control circuit.

Troubleshooting

Will Not Heat

PROBABLE CAUSE	CORRECTIVE ACTION
Incorrect voltage	Confirm that correct voltage is coming to unit. Confirm that unit is phased correctly.
Defective Fuses	Confirm that fuses have 208/240 VAC to it. Check fuses for proper operation.
Defective Power Switch	Confirm that switch has 208/240 VAC to it. Check switch for proper operation.
Defective Over temperature thermostat	Confirm that thermostat has 208/240 VAC to it. Confirm that over temperature thermostat is closed and working properly.
Defective Thermostat	Confirm that thermostat has 208/240 VAC to it. Check that thermostat is operating properly.
Defective Contactor	Confirm that contactor has 208/240 VAC to it. Check contactor for normal operation. (554 Ω)
Defective Element	Confirm that elements are wired correctly. Confirm that element has 208/240 VAC to it. Confirm that there are no broken wires to the elements. Check Element for continuity.

Overheating

PROBABLE CAUSE	CORRECTIVE ACTION
Bulb out of placement	Confirm that bulb is centered in element. Confirm that bulb is secured in clips.
Oil level to low	Confirm that oil levels are at proper level.
Sticking contactor	Confirm that points are not pitted. Replace if necessary.
Food stuck between element and bulb.	Remove food from element.