



Flatbottom Series Electric Fryers
(Models 1824E, 2424E, and Combinations)
Installation & Operation Manual



Frymaster, a member of the Commercial Food Equipment Service Association, recommends using CFESA Certified Technicians.

8195700

24-Hour Service Hotline 1-800-551-8633

Price: \$6.00
819-5700
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Please read all sections of this manual and retain for future reference.

NOTICE

IF, DURING THE WARRANTY PERIOD, THE CUSTOMER USES A PART FOR THIS ENODIS EQUIPMENT OTHER THAN AN UNMODIFIED NEW OR RECYCLED PART PURCHASED DIRECTLY FROM FRYMASTER DEAN, OR ANY OF ITS AUTHORIZED SERVICE CENTERS, AND/OR THE PART BEING USED IS MODIFIED FROM ITS ORIGINAL CONFIGURATION, THIS WARRANTY WILL BE VOID. FURTHER, FRYMASTER DEAN AND ITS AFFILIATES WILL NOT BE LIABLE FOR ANY CLAIMS, DAMAGES OR EXPENSES INCURRED BY THE CUSTOMER WHICH ARISE DIRECTLY OR INDIRECTLY, IN WHOLE OR IN PART, DUE TO THE INSTALLATION OF ANY MODIFIED PART AND/OR PART RECEIVED FROM AN UNAUTHORIZED SERVICE CENTER.

NOTICE

This appliance is intended for professional use only and is to be operated by qualified personnel only. A Frymaster Dean Factory Authorized Service Center (FASC) or other qualified professional should perform installation, maintenance, and repairs. Installation, maintenance, or repairs by unqualified personnel may void the manufacturer's warranty. See Chapter 1 of this manual for definitions of qualified personnel.

NOTICE

All fryers shipped without factory supplied cords and plug assemblies must be hardwired using flexible conduit to the terminal block located on the rear of the fryer. These fryers should be wired to NEC specifications. Hardwired units must include installation of restraint devices.

NOTICE

This equipment must be installed in accordance with the appropriate national and local codes of the country and/or region in which the appliance is installed.

NOTICE

Drawings and photos used in this manual are intended to illustrate operational, cleaning and technical procedures and may not conform to onsite management operational procedures.

NOTICE TO OWNERS OF UNITS EQUIPPED WITH COMPUTERS

U.S.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and 2) This device must accept any interference received, including interference that may cause undesired operation. While this device is a verified Class A device, it has been shown to meet Class B limits.

CANADA

This digital apparatus does not exceed the Class A or B limits for radio noise emissions as set out by the ICES-003 standard of the Canadian Department of Communications.

Cet appareil numerique n'emet pas de bruits radioelectriques depassany les limites de classe A et B prescrites dans la norme NMB-003 edictee par le Ministre des Communications du Canada.

⚠ DANGER

Improper installation, adjustment, maintenance or service, and unauthorized alterations or modifications can cause property damage, injury, or death. Read the installation, operating and service instructions thoroughly before installing or servicing this equipment. See Chapter 1 of this manual for definition of qualified service personnel.

⚠ DANGER

The front ledge of the fryer is not a step. Do not stand on the fryer. Serious injury can result from slips or contact with the hot oil.

⚠ DANGER

Single fryers equipped with legs must be stabilized by installing anchor straps. All fryers equipped with casters must be stabilized by installing restraining chains

⚠ DANGER

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

⚠ DANGER

The crumb tray in fryers equipped with a filter system must be emptied into a fireproof container at the end of frying operations each day. Some food particles can spontaneously combust if left soaking in certain shortening material. Additional information can be obtained in the filtration manual included with the system.

⚠ WARNING

No structural material on the fryer should be altered or removed to accommodate placement of the fryer under a hood. Questions? Call the Frymaster Dean Service Hotline at 1-800-551-8633.

⚠ WARNING

Do not bang fry baskets or other utensils on the fryer's joiner strip. The strip is present to seal the joint between the frypot. Banging fry baskets on the strip to dislodge shortening will distort the strip, adversely affecting its fit. It is designed for a tight fit and should only be removed for cleaning.

⚠ DANGER

Adequate means must be provided to limit the movement of this appliance without depending on or transmitting stress to the electrical conduit. A restraint kit is provided with the fryer. If the restraint kit is missing contact your local Frymaster Factory Authorized Service Center (FASC) for part number 826-0900.

⚠ DANGER

This fryer may have two power cords and prior to movement, testing, maintenance and any repair on your Frymaster fryer; disconnect BOTH electrical power cords from the electrical power supply.

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FLATBOTTOM SERIES ELECTRIC FRYERS

CHAPTER 1: INTRODUCTION

1.1 General

Read the instructions in this manual thoroughly before attempting to operate this equipment. This manual covers the Flatbottom Series of electric fryers, including the 1824E family, the 2424E family, and their associated built-in filtration systems.

The Flatbottom Series electric fryers feature easy to clean, open frypots constructed of heavy-gauge welded stainless steel. The model designations indicate the size of the frypot. The 1824 frypot is 18-inches wide by 24-inches long and holds 45 lbs. of cooking oil or shortening. The 2424 frypot is 24-inches wide by 24-inches long and holds 60 lbs. of cooking oil or shortening. A drain with a manually operated valve is located in the right front corner of the frypot.

The frypot is heated by three 6.3 kW elements providing a nominal total wattage of 18.9 kW. Two of the elements are mounted inside the vessel, one on each side, and the third is centered underneath the frypot. Power options include 208V, 240V, or 480V.

Fryer operation is controlled by a standard thermostat control or an optional solid-state controller. The controls, whichever type, are mounted inside the cabinet behind the door on or near the cabinet floor. A main power switch and other optional control switches are mounted on the front panel of the cabinet. The fryers also feature a *melt cycle* in which the heating elements pulse on and off at a controlled rate. The melt cycle allows solid shortening to be melted without being scorched.

The *instant power* feature, available only on units with the solid-state control option, bypasses the temperature control for a pre-set period of time to provide maximum heating of the cooking oil or shortening.

1.2 Safety Information

Before attempting to operate your unit, read the instructions in this manual thoroughly.

Throughout this manual, you will find notations enclosed in double-bordered boxes similar to the ones below.

CAUTION

CAUTION boxes contain information about actions or conditions that *may cause or result in a malfunction of your system.*

WARNING

WARNING boxes contain information about actions or conditions that *may cause or result in damage to your system,* and which may cause your system to malfunction.

 **DANGER**

DANGER boxes contain information about actions or conditions that *may cause or result in injury to personnel*, and which may cause damage to your system and/or cause your system to malfunction.

Fryers in this series are equipped with automatic safety features:

1. A high-temperature detection feature (high-limit thermostat) shuts off power to the elements should the temperature controls fail.
2. An optional drain safety switch prevents the elements from being energized if the drain valve is even partially open.

1.3 Installation, Operating, and Service Personnel

Operating information for Dean equipment has been prepared for use by qualified and/or authorized personnel only, as defined in Section 1.4.

All installation and service on Dean equipment must be performed by qualified, certified, licensed, and/or authorized installation or service personnel, as defined in Section 1.4.

1.4 Definitions

QUALIFIED AND/OR AUTHORIZED OPERATING PERSONNEL

Qualified/authorized operating personnel are those who have carefully read the information in this manual and have familiarized themselves with the equipment functions, or who have had previous experience with the operation of the equipment covered in this manual.

QUALIFIED INSTALLATION PERSONNEL

Qualified installation personnel are individuals, firms, corporations, and/or companies which, either in person or through a representative, are engaged in and are responsible for the installation of gas-fired appliances. Qualified personnel must be experienced in such work, be familiar with all gas precautions involved, and have complied with all requirements of applicable national and local codes.

QUALIFIED SERVICE PERSONNEL

Qualified service personnel are those who are familiar with Dean equipment and who have been authorized by Frymaster Dean to perform service on the equipment. All authorized service personnel are required to be equipped with a complete set of service and parts manuals, and to stock a minimum amount of parts for Dean equipment. A list of Frymaster Dean Factory Authorized Service Centers (FASC) is included with the fryer when shipped from the factory. *Failure to use qualified service personnel will void the warranty on your equipment.*

1.5 Shipping Damage Claim Procedure

What to do if your equipment arrives damaged:

Please note that this equipment was carefully inspected and packed by skilled personnel before leaving the factory. The freight company assumes full responsibility for safe delivery upon acceptance of the equipment.

1. File Claim for Damages Immediately—Regardless of extent of damage.
2. Visible Loss or Damage—Be sure this is noted on the freight bill or express receipt and is signed by the person making the delivery.
3. Concealed Loss or Damage—If damage is unnoticed until equipment is unpacked, notify the freight company or carrier immediately and file a concealed damage claim. This should be done within 15 days of date of delivery. Be sure to retain container for inspection.

1.6 Service Information

For non-routine maintenance or repairs, or for service information, contact your local Frymaster Dean Factory Authorized Service Center (FASC). Service information may also be obtained by calling the Frymaster Technical Services Department (1-800-551-8633 or 1-318-865-1711). In order to assist you quickly, the FASC or Service Department representative will require certain information about your equipment. Most of this information is printed on a data plate affixed to the inside of the fryer door. A list of common repair parts is provided in Chapter X of this manual. Parts orders should be placed directly with your local FASC or distributor. Included with fryers when shipped from the factory is a list of Frymaster Dean FASCs. If you do not have access to this list, contact the Frymaster Dean Service Department.

The following information will be needed in order to assist you efficiently:

Model Number _____

Serial Number _____

Voltage _____

Nature of the Problem _____

RETAIN AND STORE THIS MANUAL IN A SAFE PLACE FOR FUTURE USE.

FLATBOTTOM SERIES ELECTRIC FRYERS

CHAPTER 2: INSTALLATION INSTRUCTIONS

2.1 General

Proper installation is essential for the safe, efficient, trouble-free operation of this appliance. Any unauthorized alteration of this equipment will void the Dean warranty.

⚠ DANGER
Copper wire suitable for at least 167°F (75°C) must be used for power connections.

⚠ DANGER
The electrical power supply for this appliance must be the same as indicated on the rating and serial number plate located on the inside of the fryer door.

⚠ DANGER
This appliance must be connected to the voltage and phase as specified on the rating and serial number plate located on the inside of the fryer door.

⚠ DANGER
All wiring connections for this appliance must be made in accordance with the wiring diagrams furnished with the equipment. Wiring diagrams are located on the inside of the fryer door.

All installation and service on Dean equipment must be performed by qualified, certified, licensed, and/or authorized installation or service personnel as defined in Section 1.4 of this manual. Service may be obtained by contacting your local Factory Authorized Service Center.

This appliance must be kept free and clear of combustible material, except that it may be installed on combustible floors.

A clearance of 6 inches (15cm) must be provided at both sides and back adjacent to combustible construction. A minimum of 24 inches (61cm) should be provided at the front of the equipment for servicing and proper operation.

⚠ WARNING
Do not block the area around the base or under the fryers.

2.2 After Unpacking

Check the fryer(s) for visible damage; if damage is observed, do not refuse shipment. Refer to Section 1.5 in Chapter 1 for the shipping damage claim procedure.

2.3 Fryer Installation

 **DANGER**

The electrical power supply for this appliance must be the same as indicated on the rating and serial number plate located on the inside of the fryer door.

 **DANGER**

This appliance must be connected to the voltage and phase as specified on the rating and serial number plate located on the inside of the fryer door.

 **DANGER**

All wiring connections for this appliance must be made in accordance with the wiring diagrams furnished with the equipment. Wiring diagrams are located on the inside of the fryer door.

 **WARNING**

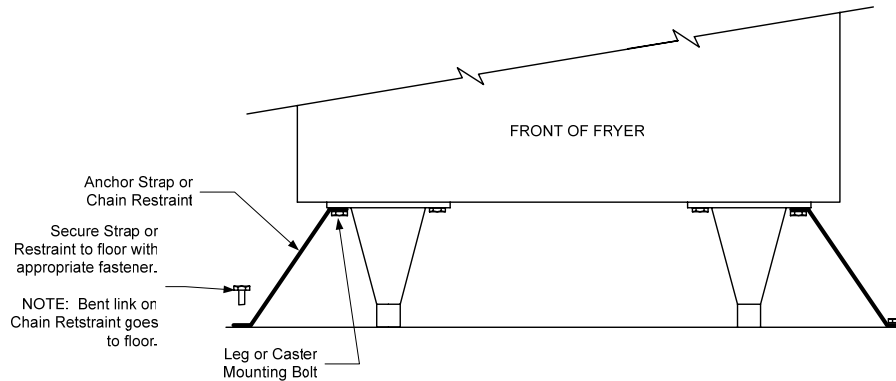
Dean fryers equipped with legs are for permanent installations. Fryers fitted with legs must be lifted during movement to avoid damage to the legs and possible bodily injury. For a moveable installation, Dean optional equipment casters must be used. Questions? Call 1-800-551-8633

1. Legs (or optional casters) should be installed near where the fryer is to be used, as neither is intended for long transit. After unpacking, raise the unit about a foot (30-cm) to permit the legs or casters to be attached. **NOTE:** It is strongly recommended that a pallet- or lift-jack be used to raise the fryer rather than tilting it.
2. Position the fryer in its installation location. Do not push fryers with legs in an attempt to adjust the fryer position. Lift the fryer slightly and place it where it is to be installed. Pushing a unit increases the possibility of bending the leg spindles or the internal connectors.
3. Once the fryer has been placed in position, it should be leveled. In fryers equipped with legs, if the floor is smooth and reasonably level, the bottom of the legs can be screwed out up to one inch for leveling and adjusting the fryer so that it is at the proper height in the frying station. If the floor is uneven or has a decided slope, level the unit with metal shims, since the adjustment required may exceed the thread available in the leg. **NOTE:** For fryers equipped with casters, there are no built-in leveling devices. The floor where the fryer is installed must be level.

Use a carpenter's spirit level placed across the top of the fryer to check the level of the unit both front-to-back and side-to-side. If it is not level, the fryer may not function correctly, the oil may not drain properly for filtering and, in a battery, it may not match adjacent units.

4. Single fryers must be restrained when installed to prevent tipping and the splashing or spilling of hot cooking oil, shortening, or other liquids. If the restraints are disconnected, they must be reconnected after the fryer is returned to its original location.

When the fryer is leveled in its final position, install the restraints provided with the unit to limit its movement so that it does not depend on or transmit stress to the electrical conduit or connection. Install the restraints in accordance with the provided instructions (see illustration below). If the restraints are disconnected for service or other reasons, they must be reconnected before the fryer is used.



⚠ DANGER

Single fryers may tip and cause personal injury if not secured in a stationary position.

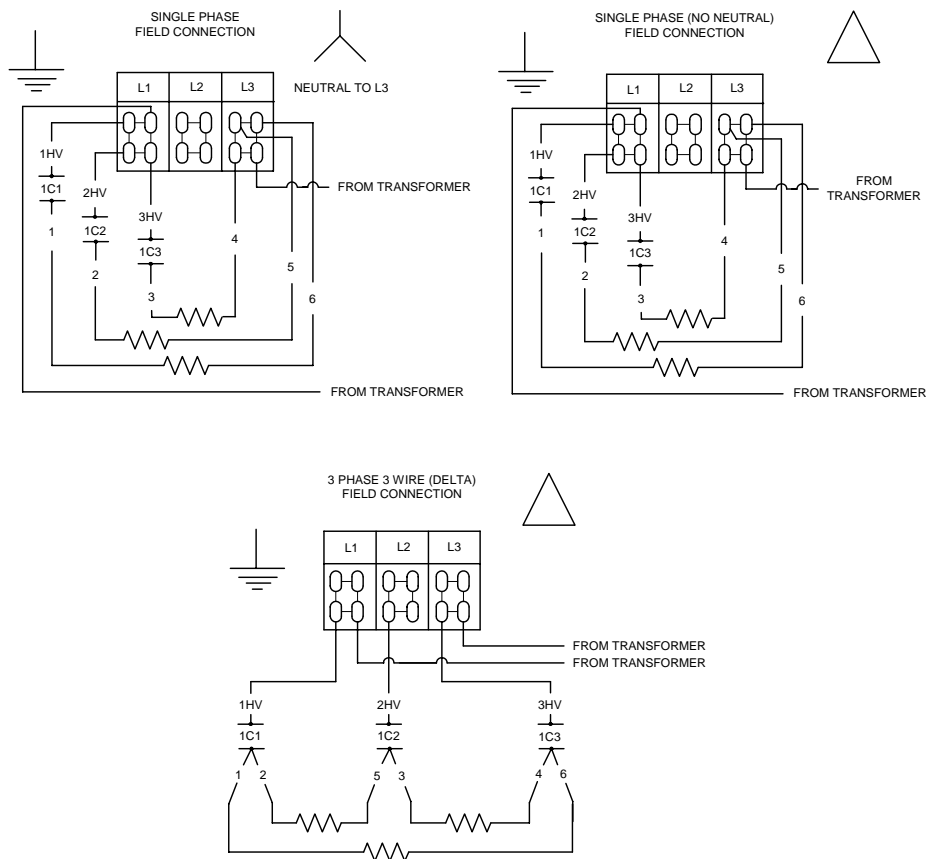
- If the fryer is equipped with a power cord, plug the cord securely into a properly grounded outlet of appropriate voltage for the specific fryer configuration.

If the fryer is not equipped with a power cord, connect a power cord appropriate for the voltage rating of the fryer in accordance with the field connection diagrams that follow. Refer to the table on the following page to determine the appropriate wire gauge.

⚠ DANGER

Copper wire suitable for at least 167°F (75°C) must be used for power connections.

VOLTAGE	PHASE	WIRE SERVICE	MINIMUM SIZE		AMPS (PER LEG)
			AWG	(mm ²)	
208	1	3	6	16	31
208	3	3	6	16	18
240	1	3	6	16	27
240	3	3	6	16	16
480	1	3	8	16	14
480	3	3	8	10	8



6. Boil out the frypot(s) in accordance with the Boilout procedure in Section 2.3.

2.3 Frypot Boilout

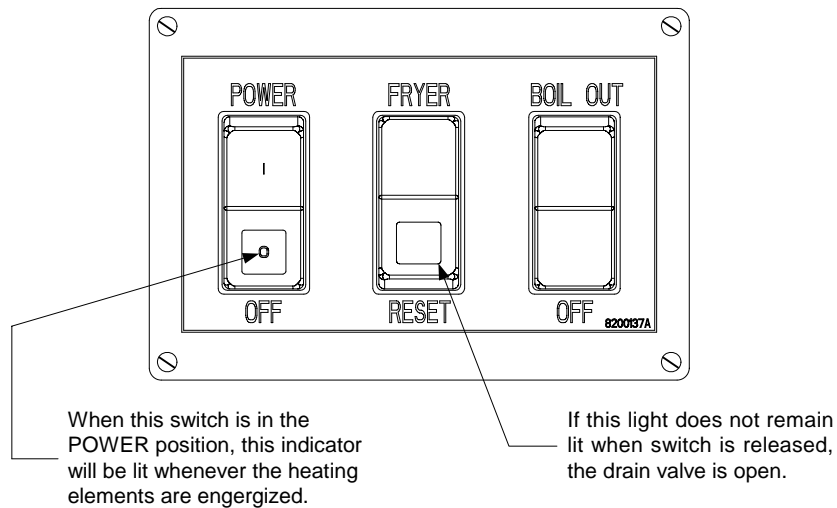
Before the fryer is first used for cooking product, it should be boiled out to ensure that residue from the manufacturing process has been eliminated.

Also, after the fryer has been in use for a period of time, a hard film of caramelized vegetable oil will form on the inside of the frypot. This film should be periodically removed by following the boilout procedure.

Boilout the frypot(s) in accordance with the procedure below before filling with cooking oil or shortening for the first time and at least once a month thereafter:

1. Verify that the frypot drain valve is closed, and then fill the empty frypot with a mixture of cold water and detergent. Follow the instructions on the detergent container when mixing.
2. ***If this is the first time the fryer is being operated after installation***, set the operating thermostat or optional solid-state controller to 225°F (110°C), then press the POWER switch to the POWER position. If the fryer is so equipped, press the FRYER RESET switch for a couple of seconds then release it. If the light in the reset switch does not remain lit when the switch is released, verify that the drain valve is fully closed, and then press the reset switch again. **NOTE:** On

fryers without the built-in boil out option, the power switch is on the front panel. For those with the option, the switches are located inside the door.



NOTE: The Fryer Reset switch and Boil Out switch are not present in all configurations.

3. The light in the POWER switch should illuminate, indicating that the elements have been energized (see illustration above). It will remain lit until the fryer reaches the temperature set on the thermostat or controller.
4. When the water in the frypot begins to boil, reset the thermostat to 200°F (95°C) or less to verify that the elements and thermostat or controller are functioning correctly. The elements should turn off and the water should stop boiling.

If the elements DO NOT turn off, press the POWER switch to the OFF position. If you are not a Frymaster/Dean certified technician, call your local FASC for service. **DO NOT** attempt to operate the fryer until the problem has been corrected!

If you are a certified technician, refer to the troubleshooting guides in Chapter 5 of this manual.

5. **FOR UNITS EQUIPPED WITH THE OPTIONAL BOILOUT SWITCH:** Press the switch to the BOIL OUT position (see illustration on Page 2-4). This feature will maintain the frypot temperature at 195°F (90°C) until the switch is placed in the OFF position. Simmer the solution for approximately 1 hour. Do not allow the water level to drop below the bottom OIL LEVEL line in the frypot during the boilout operation.

FOR UNITS WITHOUT THE OPTIONAL BOILOUT SWITCH: Reset the operating thermostat to 195° (90°C). Simmer the solution for approximately 1 hour. Do not allow the water level to drop below the bottom OIL LEVEL line in the frypot during the boilout operation.

⚠ DANGER

Do not leave the fryer unattended during the boilout process. The boilout solution may foam and overflow. Press the POWER switch to the "OFF" position to control this condition.

6. Press the fryer POWER switch to the OFF position. If the unit is equipped with a boilout switch, press that switch to the OFF position.
7. Add two gallons of cold water. Drain the solution into a suitable container (not the filter pan) and clean any remaining stubborn spots with a brush or scouring pad.

 **WARNING**

Do not drain water or boilout solution into the filter pan or filter system. Irreversible damage may result if water is allowed into the filtration system and all applicable warranties will be voided.

8. Refill and rinse the frypot(s) with cold water twice. Drain the frypot and dry thoroughly with clean cloths or towels. Remove all traces of water prior to filling frypot with cooking oil.

NOTE: If the frypot is not to be refilled immediately after boilout, wipe down the interior of the frypot with cooking oil to prevent rusting.

 **DANGER**

All water must be removed from the frypot before filling with cooking oil. Water in contact with hot cooking oil will cause spattering and may result in injury to nearby personnel.

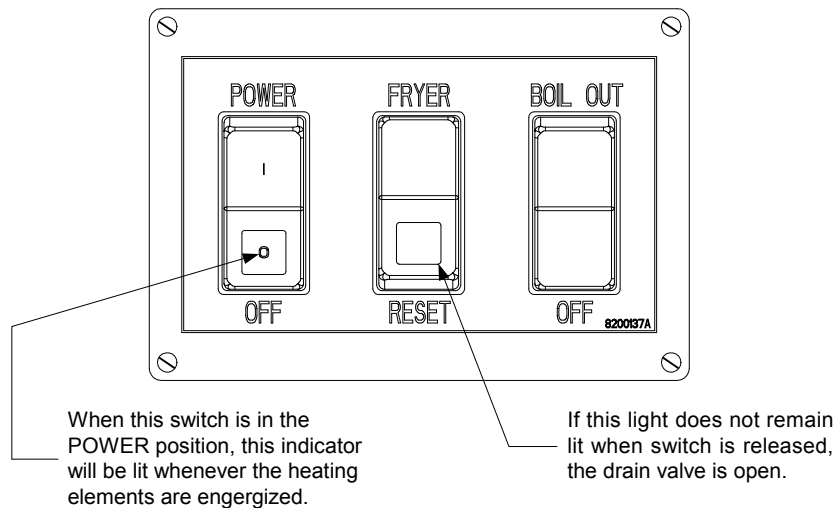
FLATBOTTOM SERIES ELECTRIC FRYERS

CHAPTER 3: OPERATION AND ROUTINE MAINTENANCE

3.1 Start-up

NOTE: If this is the first time the unit is being operated after installation, perform the boil-out procedure found in Section 2.3 of Chapter 2 before proceeding.

1. Fill the frypot with cooking oil up to the lower OIL LEVEL line on the rear of the frypot. If using solid shortening, the shortening must be melted first, then poured into the frypot.
2. Set the operating thermostat or optional solid-state controller to the desired cooking temperature, then press the POWER switch to the POWER position. If the fryer is so equipped, press the FRYER RESET switch for a couple of seconds then release it. If the light in the reset switch does not remain lit when the switch is released, verify that the drain valve is fully closed, and then press the reset switch again.



NOTE: The Fryer Reset switch and Boil Out switch are not present in all configurations.

3. The light in the POWER switch should illuminate, indicating that the elements have been energized (see illustration above). It will remain lit until the fryer reaches the temperature set on the thermostat or controller. The specific amount of time required for the oil to reach cooking temperature (typically 350°F (177°C)) will vary with the initial temperature of the oil, but it will normally take less than 30 minutes from a cold start.
4. When the light in the POWER switch goes out, the temperature of the oil in the frypot has reached that set on the thermostat or controller (the “setpoint”) and the fryer is ready for cooking. If desired, the oil temperature may be verified by placing the tip of a good grade thermometer or pyrometer near the tip of the temperature probe in the frypot and comparing the thermometer/pyrometer reading to the setpoint value.

3.2 General Use of the Fryer

1. For consistent product quality and long-term savings, use a high-quality cooking oil or shortening.
2. When satisfied that the cooking oil/shortening is at the proper cooking temperature, carefully lower a basket of product into the frypot. At the end of the recommended cooking time for the product, lift the basket from the frypot and allow excess oil/shortening to drain back into the frypot before transferring the product to a holding station or the serving line.

CAUTION

In multi-fryer batteries, do not bang baskets or other utensils on the frypot joiner strip. The strip is present to seal the joint between the frypots. Banging baskets on the strip will distort the strip, adversely affecting its fit. It is designed for a tight fit and should only be removed for cleaning.


3. Although 350°F (177°C) is the recommended temperature for most cases, frying should be done at the lowest temperature that will produce a high-quality end product. Light loads may generally be cooked at a lower temperature than large loads.
4. When the fryer is not in use, the temperature should be reduced to prolong the life of the oil or shortening. It is good practice to experiment to determine the optimum temperature and load conditions for the various foods to be fried.
5. The cooking oil or shortening should be filtered at least once a day. Depending upon the actual quantity of product being cooked, more frequent filtering may be required. Refer to Chapter 4 for specific filtering procedures.
6. If the fryer will be idle for periods longer than 30 minutes, it is recommended that the elements be turned off.

3.3 Shut-Down

1. When shutting down at the end of the day, filter the oil or shortening in all fryers and drain the filter lines. Press the POWER switch to the OFF position and allow the fryer to cool. Clean exposed surfaces of the fryer and cover the frypots.
2. When shutting down for longer than overnight, filter the cooking oil or shortening and then drain it into suitable storage containers or discard it. Press the POWER switch to the OFF position and allow the fryer to cool. Clean the fryer inside and out in accordance with the procedures in Section 3.4.


3.4 Draining and Manual Filtering of Fryers without Built-In Filtration

NOTE: For fryers with built-in filtration, refer to Chapter 4.

 **DANGER**
Allow oil/shortening to cool to 100°F (38°C) or lower before draining into an appropriate container for disposal.

For safe, convenient draining and disposal of used cooking oil or shortening, DEAN recommends using the Frymaster *Shortening Disposal Unit* (SDU). The SDU is available through your local distributor.

1. Turn the fryer POWER switch to the OFF position. Screw the drainpipe (provided with your fryer) into the drain valve. Make sure the drainpipe is firmly screwed into the drain valve and that the opening is pointing down.
2. Position a metal container under the drainpipe. The container must be able to withstand the heat of the cooking oil and have a sealing lid. If you intend to reuse the oil or shortening, DEAN recommends that a Frymaster filter cone holder and filter cone be used when a filter machine is not available. If you are using a Frymaster filter cone holder, be sure that the cone holder rests securely on the metal container.
3. Open the drain valve slowly to avoid splattering. If the drain valve becomes clogged with food particles, use the Fryer's Friend (clean-out rod) to clear the blockage.

 **DANGER**
DO NOT insert anything into the drain from the front to unclog the valve. Hot oil/shortening will rush out, creating an extreme hazard.

 **WARNING**
DO NOT hammer on the drain valve with the cleanout rod. This will damage the drain valve ball and prevent the valve from sealing securely, resulting in a leaky valve.

4. After draining the oil/shortening, clean all food particles and residual oil/shortening from the frypot. **BE CAREFUL!** This material may still cause severe burns if it comes in contact with bare skin.
5. Close the drain valve securely and fill the frypot with clean, filtered or fresh cooking oil or melted shortening to the bottom OIL LEVEL line.

3.5 Shut-Down

1. When shutting down at the end of the day, filter the oil or shortening in all fryers and drain the filter lines. Press the POWER switch to the OFF position and allow the fryer to cool. Clean exposed surfaces of the fryer and cover the frypots.

2. When shutting down for longer than overnight, filter the cooking oil or shortening and then drain it into suitable storage containers or discard it. Press the POWER switch to the OFF position and allow the fryer to cool. Clean the fryer inside and out in accordance with the procedures in Section 3.6.

3.6 Cleaning and Routine Maintenance

3.6.1 Daily

1. Use a clean cloth saturated with a solution of detergent and hot water to remove accumulated carbonized oil/shortening on detachable parts and accessories. Rinse the parts and accessories thoroughly with clean water and wipe dry before reinstalling.
2. Clean all exterior surfaces of the cabinet. DO NOT use abrasive cleansers or steel wool on stainless steel. All stainless steel components should be cleaned daily with hot, soapy water or with a liquid cleaner approved for stainless steel. If it is necessary to remove encrusted materials, soak the area with hot, soapy water to loosen the material, and then use a wooden or nylon scraper if necessary to dislodge the material. DO NOT use a metal knife, spatula, or any other metal tool to scrape stainless steel. The resulting scratches will be almost impossible to remove.
3. Clean inside the fryer cabinet with a dry, clean cloth to remove dust and any large debris. Wipe all accessible metal surfaces and components with a cloth dampened with a solution of detergent and hot water to remove accumulated oil/shortening.
4. Filter the cooking oil or shortening and replace if necessary.

3.6.2 Weekly

1. Remove the filter pan, if so equipped, and completely drain the frypot into a steel container. DO NOT drain hot oil into a plastic bucket or glass container.
2. Clean the frypot with a good grade of cleaner or hot water and a strong detergent. Drain the frypot and refill with a solution of water and detergent. Turn the fryer on and bring the solution to a rolling boil. Turn the heat down and let the mixture stand until deposits and/or carbon spots can be removed with the Teflon brush.
3. Scrub the frypot sides, bottom, and heating elements. Drain the frypot and rinse with clean water.
4. Refill the frypot with clean water and boil again. Drain, rinse, and dry the frypot thoroughly.
5. Refill the frypot with cooking oil or shortening in accordance with Section 3.1.

NOTE: If the frypot is not to be refilled immediately after cleaning, wipe down the interior of the frypot with cooking oil to prevent rusting.

3.6.3 Periodic

Have the fryer checked and adjusted periodically by qualified service personnel as part of a regular kitchen maintenance program.

FLATBOTTOM SERIES ELECTRIC FRYERS

CHAPTER 4: UNDER FRYER FILTER (UFF) OPERATION

4.1 General

Upon initial installation and before each use, remove all loose parts from the filter, wash the filter pan and loose parts in hot, soapy water, and dry thoroughly.

Cooking oil or shortening should be filtered at least daily, or more frequently if cooking is heavy. This maximizes the useful life of the oil or shortening, imparts a better flavor to the product being prepared and minimizes flavor transfer.

WARNING

LEAVE FRYER OFF FOR A MINIMUM OF 10 MINUTES PRIOR TO FILTERING TO ALLOW FRYPOT HEAT TO DISSIPATE. FRYPOT DAMAGE CAN OCCUR IF THE OIL IS DRAINED IMMEDIATELY AFTER TURNING FRYER OFF.

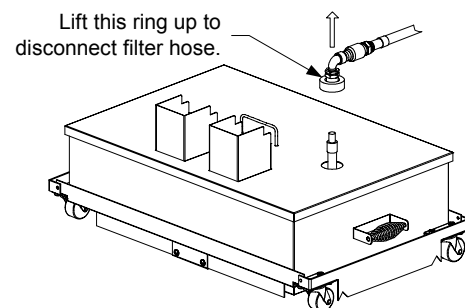
DANGER

THE CRUMB TRAY IN FRYERS EQUIPPED WITH A FILTER SYSTEM MUST BE EMPTIED INTO A FIREPROOF CONTAINER AT THE END OF FRYING OPERATIONS EACH DAY. SOME FOOD PARTICLES CAN SPONTANEOUSLY COMBUST IF LEFT SOAKING IN CERTAIN SHORTENING MATERIAL.

4.2 Filter Assembly

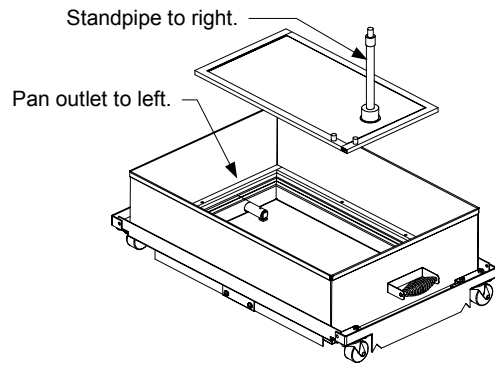
NOTE: Before any filtering, all components of the filter pan and leaf filter assemblies should be washed with a solution of hot water and detergent and dried thoroughly. Refer to Section 4.4 for specific instructions on disassembling and cleaning the leaf filter assembly.

1. Disconnect the filter hose from the filter assembly quick-disconnect and pull the filter assembly out of the fryer cabinet.



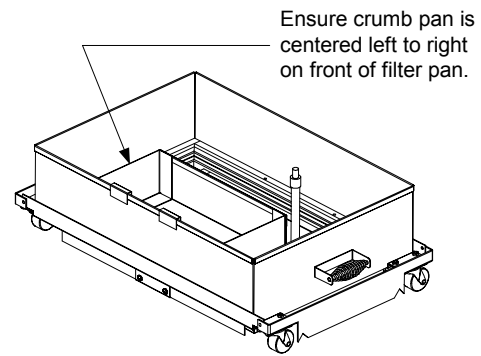
2. Remove the filter pan lid and crumb pan from the filter pan.
3. If not attached, screw the leaf filter assembly standpipe onto the fitting of the leaf filter screen assembly. Refer to Section 4.4 for specific assembly instructions.

- Place the leaf filter assembly into the bottom of the filter pan, ensuring that the pan outlet is to the left and the standpipe is to the right as you face the fryer.

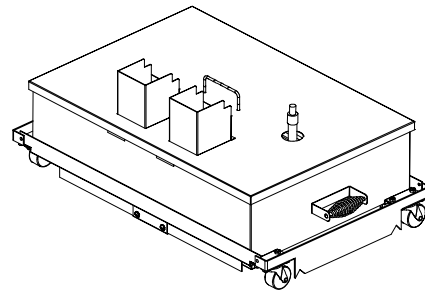


- Sprinkle 16 ounces (2 cups) of Magnasol XL filter powder evenly over the filter screen. **DO NOT** use other types of filter powder.

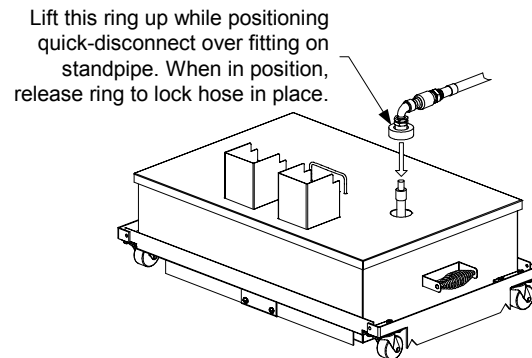
- Hang the crumb pan over the front edge of the filter pan, ensuring that it is centered left to right in the pan.



- Place the filter pan lid over the filter pan and roll the filter assembly back into the cabinet.



- Reconnect the filter hose to the filter standpipe.



4.3 Filtering Procedure

 **DANGER**

THE ON-SITE SUPERVISOR IS RESPONSIBLE FOR ENSURING THAT OPERATORS ARE MADE AWARE OF THE INHERENT DANGERS OF OPERATING A HOT OIL FILTER SYSTEM, PARTICULARLY ASPECTS OF OIL FILTRATION, DRAINING, AND CLEANING OF THE FILTER.

1. Assemble tools to be used for filtering. These are supplied with the filter starter kit:
 - Brush - used to clean the frypot while filtering.
 - Clean-Out Rod - long rod used to dislodge debris in the drain valve.
 - Magnasol XL Filter Powder.
 - Magnasol Magnum Leaf Filter Assembly

 **WARNING**

USE ONLY MAGNASOL FILTER POWDER FOR BEST RESULTS. USE OF NON-APPROVED POWDER CAN CAUSE SYSTEM DAMAGE AND PREMATURE PUMP FAILURE.

NOTE: The following tools are not required, but are recommended to make filtering easier.

- Measuring Cup – used to measure filter powder.
- Stainless Steel Crumb Scoop – for removing debris from the cooking oil or shortening prior to filtering.

NOTE: Always wear proper protective clothing when working with hot oil.

2. Pull the filter pan out from fryer cabinet and remove the lid, crumb pan, and leaf filter assembly.
3. Clean the filter pan thoroughly and ensure all components are completely dry.
4. Disassemble and clean the leaf filter assembly. Refer to Section 4.4 for specific disassembly and cleaning instructions.
5. Turn the fryer OFF and allow the oil to cool for a minimum of 10 minutes before draining oil into filter pan. Immediately before draining, stir the oil in the frypot using the brush.
6. Open the frypot drain valve and drain the oil from **ONE FRYPOT ONLY** into the filter pan. Continue stirring the oil as the oil drains. Brush down frypot sides to remove any debris. Use the clean-out rod to clear the drain valve if necessary.
7. When the frypot is empty, open the oil return valve by turning the smaller red handle located under the control panel of the fryer. Move the handle from left to right to open the oil return line. The filter pump will activate.

8. Leave the fryer drain valve open for approximately 5 minutes, allowing the oil to circulate through the frypot and back into the filter. This step is commonly referred to as *polishing* and it extends oil life and improves cooking flavor.
9. Close the fryer drain valve. The frypot will begin to fill with filtered oil.
10. Allow the filter pump to run for approximately 10-15 seconds after large bubbles appear in the frypot (see photo below) to ensure that all oil has been evacuated from the filter pan and the oil return line.



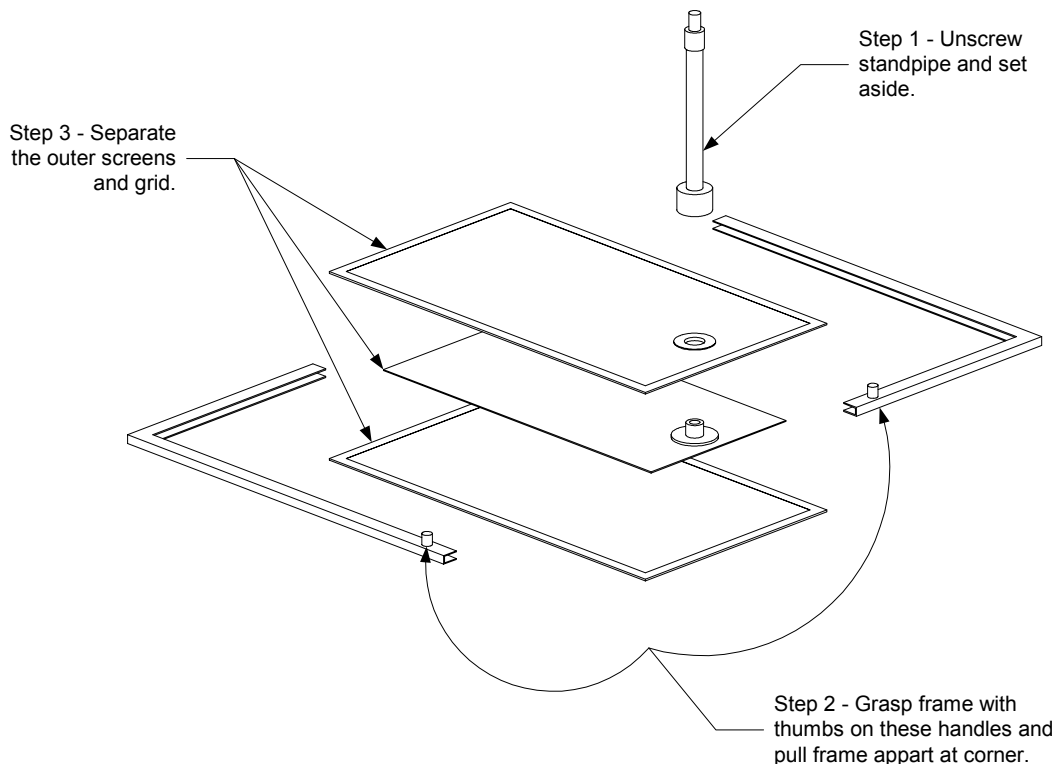
11. Close the oil-return handle to shut the filter pump off.
12. Immediately empty the crumb pan into a fireproof container after filtering is complete.

4.4 Disassembly, Cleaning, and Reassembly of the Magnum Leaf Filter

Flatbottom Series electric fryers with built-in filtration come equipped with a Magnasol Magnum Leaf Filter, which eliminates the need for filter paper. Follow the instructions below to disassemble, clean, and reassemble the filter.

Disassembly

1. Unscrew the standpipe from the leaf filter assembly and set it aside.



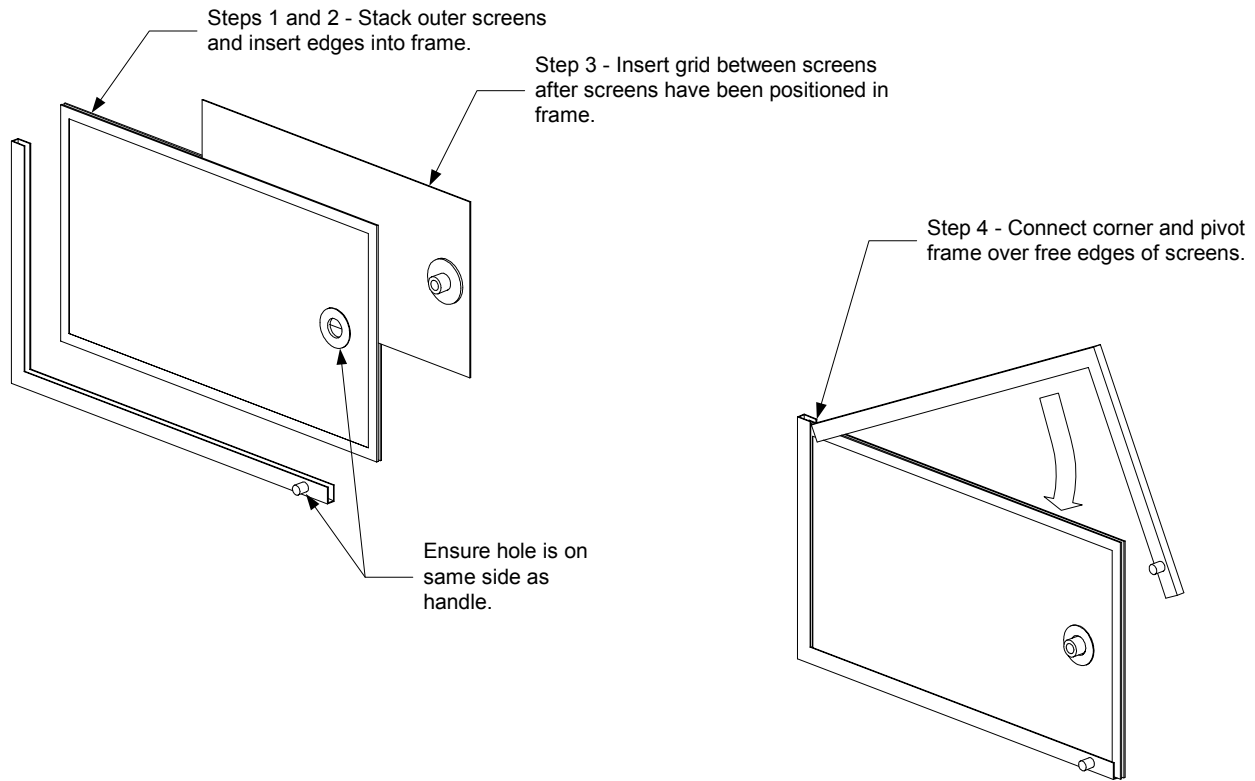
2. Grasp the frame with your thumbs on the handles at the corner of the assembly and pull outward in opposite directions to separate the frame at the corner. Continue to open the frame (it will pivot at the opposite corner) until the outer screens and grid can be removed from the frame.
3. Separate the outer screens and grid.

Cleaning

1. Clean the two frame pieces, outer screens, and grid using a good quality degreaser and hot water from a spray nozzle. The groove in the frame pieces can be cleaned with the edge of a Scotch-Brite™ or similar cleaning pad.
2. At each scheduled boil out, disassemble the leaf filter assembly and place in the frypot being boiled out. Follow the boil-out procedure in Section 2.3.
3. Allow all leaf filter assembly components to air dry or thoroughly dry with clean towels before reassembling.

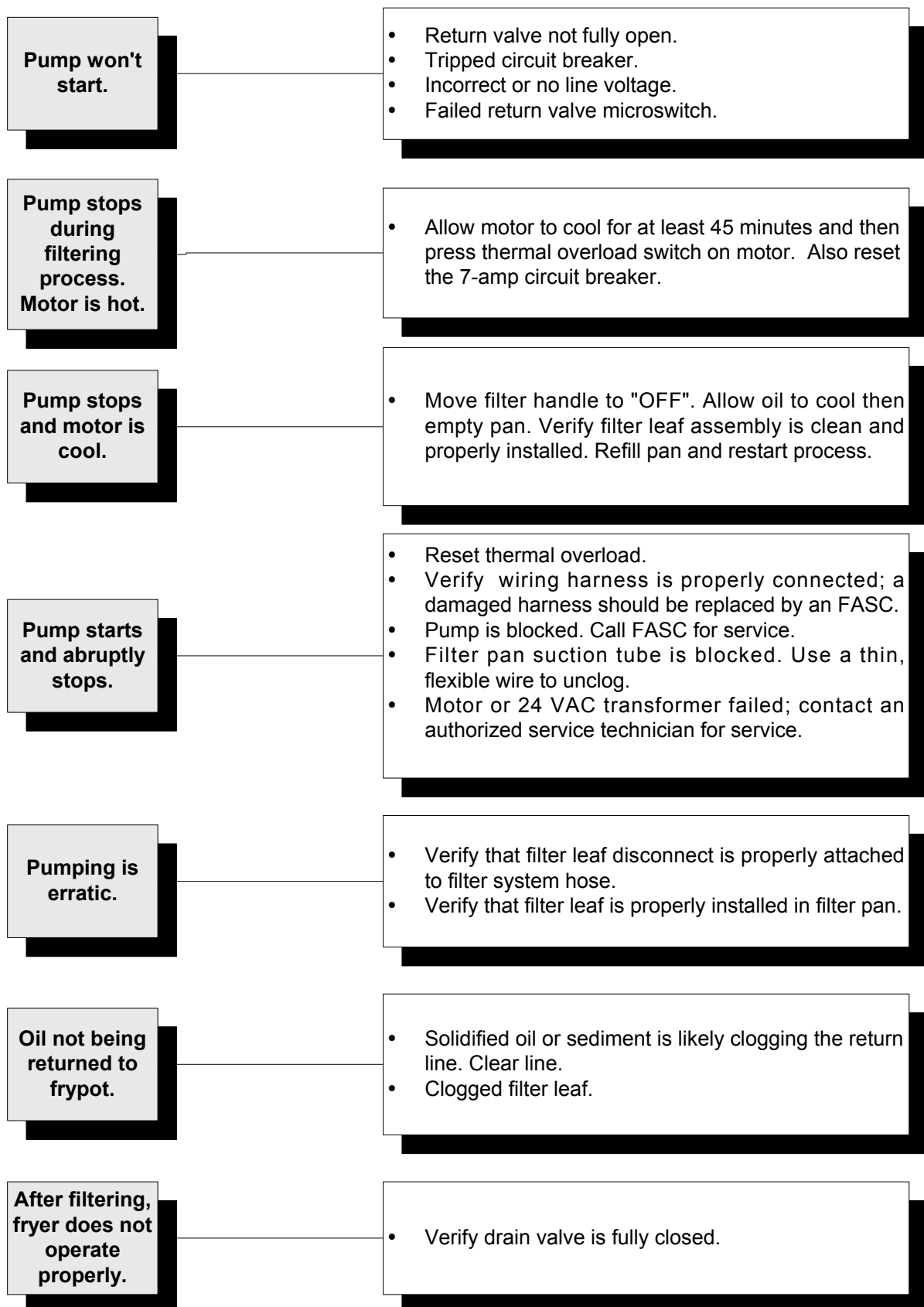
Reassembly

1. Place the two outer screens together and align their edges.



2. Insert the screens into one of the frame halves (it doesn't matter which one). Ensure that the hole in the top screen is on the same side of the frame as the handle.
3. Slip the grid between the screens so that the threaded fitting on the grid goes through the hole in the top screen and the grid is centered between the edges of the screens.
4. Connect the other half of the frame at the corner opposite the handles and pivot the frame onto the free edges of the screen.
5. Screw the standpipe onto the threaded fitting and hand tighten.

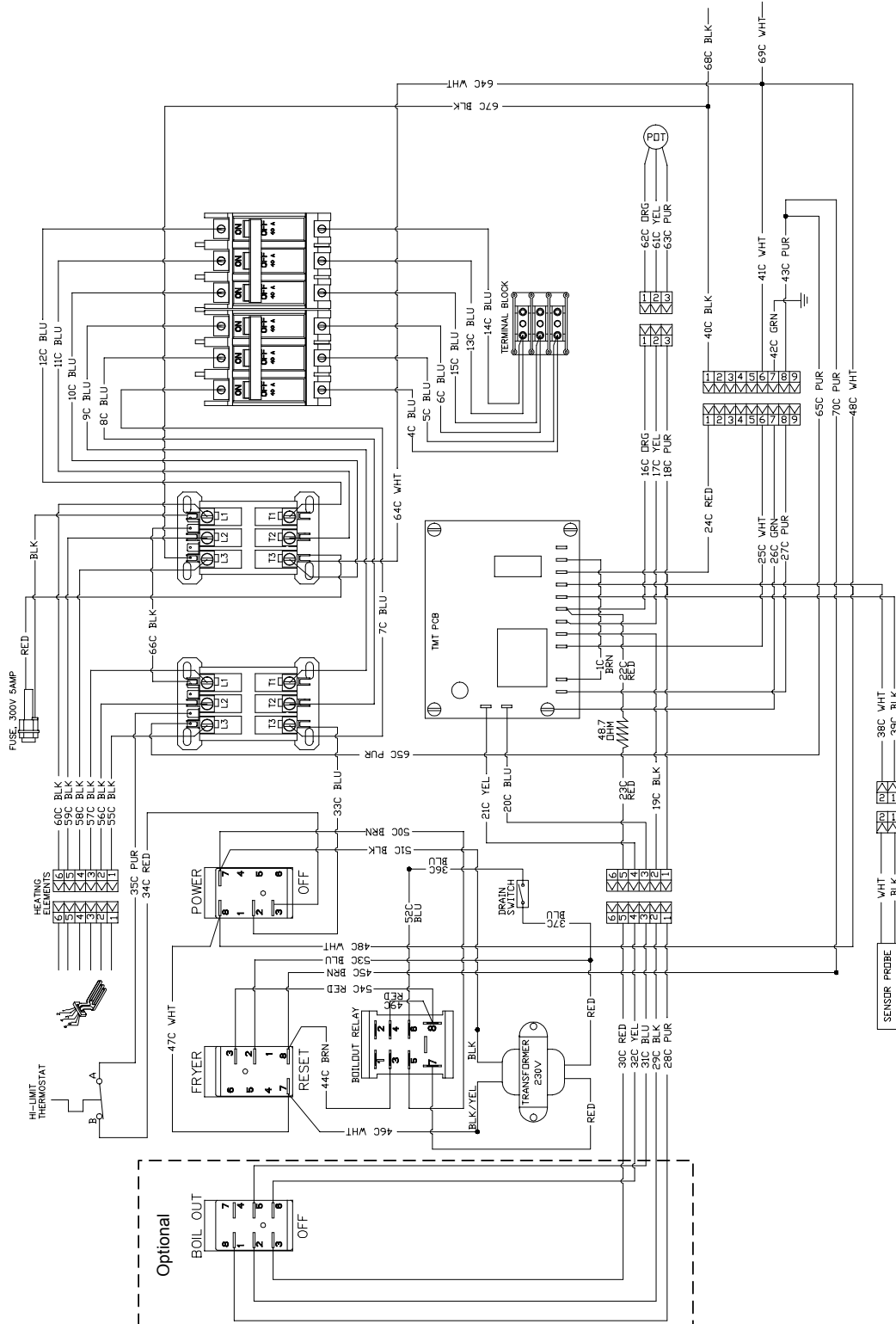
4.5 Filter Troubleshooting



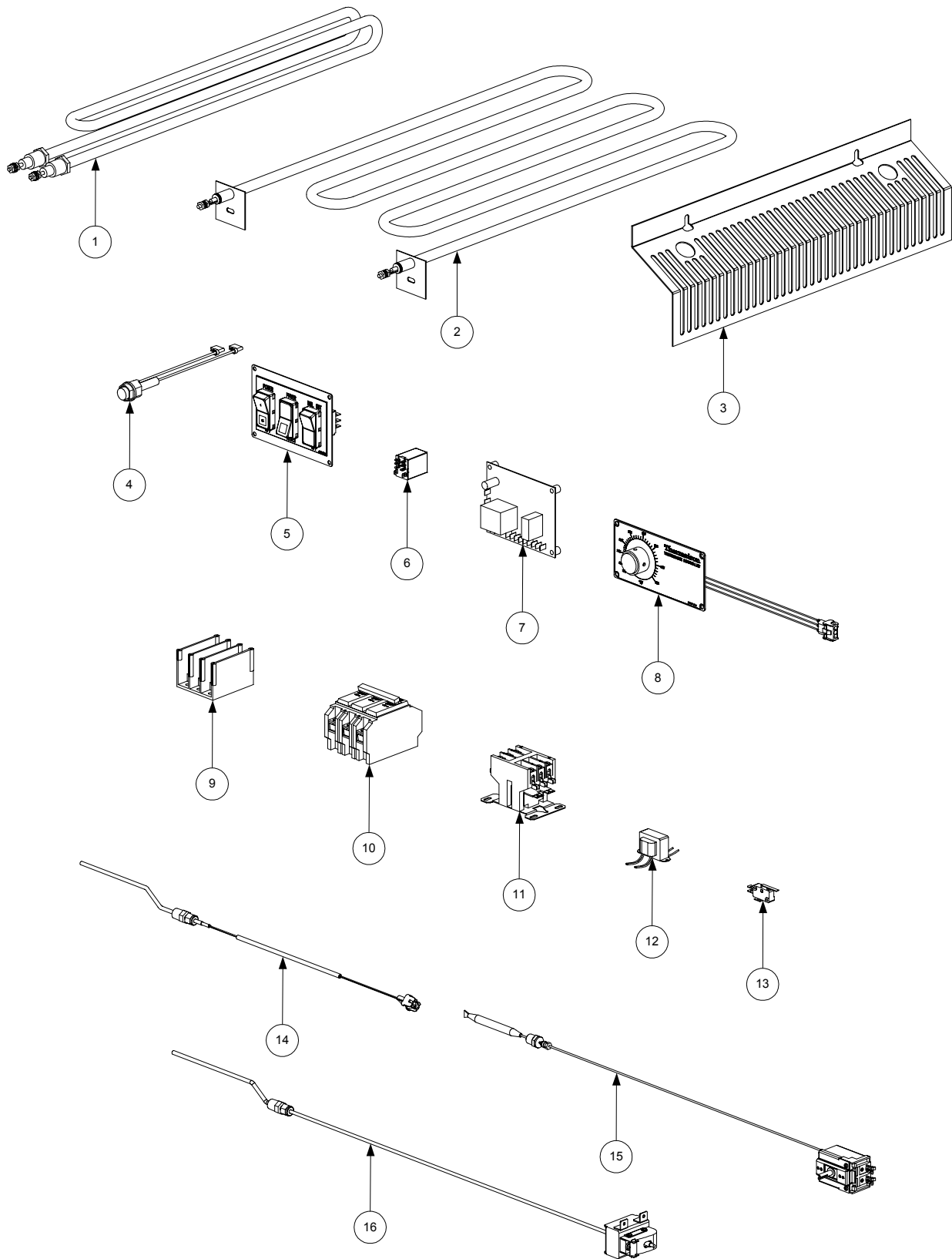
FLATBOTTOM SERIES ELECTRIC FRYERS

CHAPTER 5: WIRING DIAGRAM AND COMMON REPAIR PARTS LIST

5.1 Wiring Diagram

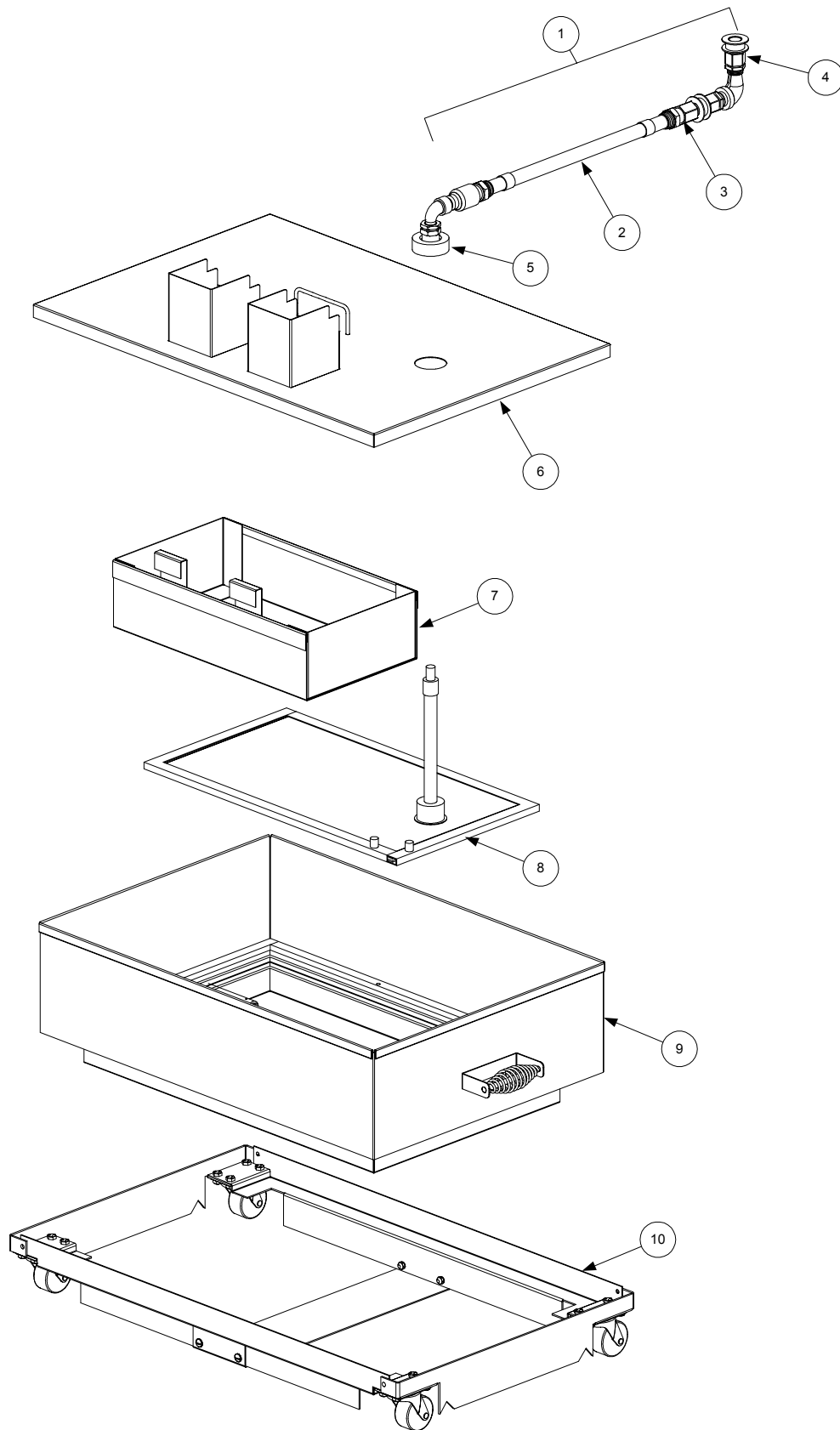


5.2 Common Repair Parts



ITEM	PART #	COMPONENT
1	807-3764	Element, 208VAC 6.3 kW Heating
2	823-3760	Element Assembly, 208 VAC 6.3 kW Heating
3	200-3435SP	Element/Probe Guard, Left or Right
4	106-2120	Fuse Assembly, 5 Amp w/Leads
	807-3750	Fuse, 300V 5 Amp
	807-3751	Holder, Fuse
5	106-2135	Panel Assembly, Power/Reset/Boil-Out
	807-3574	Switch, Power
	807-3576	Switch, Reset
	807-3579	Switch, Boil-Out
6	807-3611	Relay, 24VAC Coil (Boil-Out Relay)
7	807-3722	Interface Board, 208/230V (Thermatron Board)
8	106-0802	Faceplate Assembly, Solid State Thermatron Controller
	816-0534	Knob, Thermatron Controller
	106-0801	Potentiometer Assembly, Thermatron Controller
9	807-3610	Terminal Block
10	807-3748	Circuit Breaker, 3-Pole 240VAC
11	807-3743	Contactactor, 208/240VAC 50/60Hz
12	807-3682	Transformer, 230VAC
13	807-2103	Microswitch, CE Straight Lever
14	106-2148	Probe Assembly, 1824E/2424E Temperature
15	807-3515	Thermostat, Operating
*	816-0546	Knob, Operating Thermostat
16	807-3759	Thermostat, High-Limit w/Manual Reset

* Not illustrated



ITEM	PART #	COMPONENT
1	106-1683	Hose Assembly, Complete Vacuum
2	810-2245	Hose Assembly, 16 3/4-inch Flexible
3	810-2170	Quick-Disconnect, 1/2-inch Male
4	810-2173	Quick-Disconnect, 1/2-inch Female
5	106-1831	Quick-Disconnect Assembly, 3/8-inch Female
6	823-3492	Lid, Filter Pan
7	823-3509	Pan, Crumb
8	810-2237	Filter Assembly, Magnasol Leaf
9	823-3480	Pan Assembly, Filter
10	106-1693	Carriage Assembly, SCF Filter System (Filter Caddy)
*	810-2100	Motor, 120/230VAC Pump
*	810-2108	Pump, 8 GPM Filter

* Not illustrated



Frymaster, L.L.C., 8700 Line Avenue, PO Box 51000, Shreveport, Louisiana 71135-1000
Shipping Address: 8700 Line Avenue, Shreveport, Louisiana 71106

TEL 1-318-865-1711

FAX (Parts) 1-318-219-7140

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