

IMPERIAL

Imperial Electric Fryers



Model IFS-40 E Shown

IFSE - Series Electric Fryers Installation and Operation Manual

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IFSE-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 all configurations of IMPERIAL ELECTRIC FRYER models. The fryers in this model family have most parts in common, and when discussed as a group, will be referred to as “*IFSE-Series Electric*” fryers.


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 one below.

DANGER

Hot cooking oil causes severe burns. Never attempt to move a fryer containing hot oil or to transfer hot oil from one container to another.

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

 **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** 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 the following automatic safety features:

1. A high temperature detection feature shuts off power to the elements should the temperature control fail.
2. A safety switch (*optional*) built into the drain valve to prevent the elements from heating with the drain valve even partially open.

NOTICE

This appliance is intended for professional use only and is to be operated by qualified personnel only. An Imperial Factory Authorized Service Center or other qualified professional should perform installation, maintenance and repairs. Installation, maintenance or repairs by unqualified personnel may void the manufacturer's warranty.

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. See NATIONAL CODE REQUIREMENTS in Chapter 2 of this manual for specifics.

NOTICE TO U.S. CUSTOMERS

This equipment is to be installed in compliance with the basic plumbing code of the Building Officials and Code Administrators International, Inc. (BOCA) and the Food Service Sanitation Manual of the U.S. Food and Drug Administration.

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 the 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 Communcations 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.

 **DANGER**

The front ledge of this appliance is not a step! Do not stand on the appliance. Serious injury can result from slips or contact with the hot cooking oil/shortening.

 **DANGER**

Do not store or use gasoline or other flammable liquids or vapors 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.

 **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 fry vessels. 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 Imperial Factory Authorized Service Center.

 **DANGER**

Prior to movement, testing, maintenance and any repair on your Imperial fryer, disconnect all electrical power from the fryer.

1.3 INSTALLATION, OPERATING and SERVICE PERSONNEL

Operating information for Imperial equipment has been prepared for use by qualified and/or authorized personnel only, as defined in Section 1.4. **All installation and service on Imperial 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 electrical appliances. Qualified personnel must be experienced in such work, be familiar with all electrical 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 Imperial equipment and who have been authorized by Imperial Manufacturing Company 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 Imperial equipment. A list of Imperial Factory Authorized Service Centers is included with the fryer when shipped from the factory. ***Failure to use qualified service personnel will void the Imperial warranty on your equipment.***

1.5 SHIPPING DAMAGE CLAIM PROCEDURE

The equipment is inspected and crated carefully by skilled personnel before leaving factory. The freight company/common carrier assumes full responsibility for safe delivery upon acceptance of this equipment.

If shipment arrives damaged:

1. **Visible loss or damage:** Note on freight bill and have signed by delivery person.
2. **File claim for damages immediately:** Regardless of extent of damages.
3. **Concealed loss or damage:** If damage is noticed after unpacking, notify freight company immediately and file "*Concealed Damage*" claim with them. This should be done within fifteen (15) days from date delivery is made to you. Retain container for inspection. **THIS IS VERY IMPORTANT.**

1.6 FOR SERVICE OR ORDERING PARTS

Have the following information ready before contacting for service or ordering parts:

- 1.) Model number and serial number of the fryer
- 2.) Part name and the corresponding part number

Contact the factory service department at (951) 281-1830 or any factory authorized service agency and/or parts distribution.

Model Number _____ Nature of the Problem _____

Serial Number _____

Voltage _____

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

IFSE-SERIES ELECTRIC FRYERS

CHAPTER 2: INSTALLATION INSTRUCTIONS

2.1 GENERAL

Proper installation is essential for the safe, efficient, trouble-free operation of this appliance.

Qualified, licensed, and/or authorized installation or service personnel, as defined in Section 1.4 of this manual, should perform all installation and service on Imperial equipment.

Failure to use qualified, licensed, and/or authorized installation or service personnel (as defined in Section 1.4 of this manual) to install or otherwise service this equipment will void the Imperial warranty and may result in damage to the equipment or injury to personnel.

Where conflicts exist between instructions and information in this manual and local or national codes or regulations, installation and operation shall comply with the codes or regulations in force in the country in which the equipment is installed.

Service may be obtained by contacting your local Factory Authorized Service Center.

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.

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 Factory Authorized Service Center (FASC).

NOTICE

If this equipment is wired directly into the electrical power supply, a means for disconnection from the supply having a contact separation of at least 3-mm in all poles must be incorporated in the fixed wiring.

NOTICE

This equipment must be positioned so that the plug is accessible unless other means for disconnection from the power supply (e.g., a circuit breaker) is provided.

NOTICE

If this appliance is permanently connected to fixed wiring, it must be connected by means of copper wires having a temperature rating of not less than 167°F (75°C).

NOTICE

If the electrical power supply cord is damaged, it must be replaced by a Authorized Service Center Technician or a similarly qualified person in order to avoid a hazard.

2.1.2 ELECTRICAL GROUNDING REQUIREMENTS

All electrically operated appliances must be grounded in accordance with all applicable national and local codes, and, where applicable, CE codes. A wiring diagram is located on the inside of the fryer door. Refer to the rating plate on the inside of the fryer door for proper voltages.

2.1.3 AUSTRALIAN REQUIREMENTS

To be installed in accordance with AS 5601 / AG 601, local authority, gas, electricity, and any other relevant statutory regulations.

2.2 POWER REQUIREMENTS

THREE (3) PHASE REQUIREMENTS					
MODEL	VOLTAGE	WIRE SERVICE	MINIMUM WIRE SIZE AWG	(mm)	AMPS (per leg)
IFS-40-E	208	3	6	(4.11)	39
IFS-40-E	240	3	6	(4.11)	34
IFS-40-E	480	3	8	(2.59)	17
IFS-50-E	208	3	6	(4.11)	42
IFS-50-E	240	3	6	(4.11)	37
IFS-50-E	480	3	6	(4.11)	18
IFS-75-E	208	3	4	(5.19)	50
IFS-75-E	240	3	4	(5.19)	43
IFS-75-E	480	3	6	(4.11)	22

NOTICE

If this appliance is permanently connected to fixed wiring, it must be connected by means of copper wires having a temperature rating of not less than 167°F (75°C).

DANGER

This appliance must be connected to a power supply having the same voltage and phase as specified on the rating plate located on the inside of the appliance door.

DANGER

All wiring connections for this appliance must be made in accordance with the wiring diagram(s) furnished with the appliance. Refer to the wiring diagram(s) affixed to the inside of the appliance door when installing or servicing this equipment.

2.3 AFTER FRYERS ARE POSITIONED AT THE FRYING STATION

DANGER

No structural material on the fryer should be altered or removed to accommodate placement of the fryer under a hood. Questions? Call the Service Hotline at: (951) 281-1830.

DANGER

This appliance must be connected to a power supply having the same voltage and phase as specified on the rating plate located on the inside of the appliance door.

DANGER

All wiring connections for this appliance must be made in accordance with the wiring diagram(s) furnished with the appliance. Refer to the wiring diagram(s) affixed to the inside of the appliance door when installing or servicing this equipment.

DANGER

Imperial appliances equipped with legs are for stationary installations. Appliances fitted with legs must be lifted during movement to avoid damage to the appliance and bodily injury. For movable installations, optional equipment casters must be used. Questions: Call (951) 281-1830.

DANGER

Do not attach an apron drainboard to a single fryer. The fryer may become unstable, tip over and cause injury. The appliance area must be kept free and clear of combustible material at all times.

In the event of a power failure, the fryer(s) will automatically shut down. If this occurs, turn the power switch OFF. Do not attempt to start the fryer(s) until power is restored.

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.

1. Once the fryer has been positioned at the frying station, use a carpenter's level placed across the top of the frypot to verify that the unit is level, both side-to-side and front-to-back.

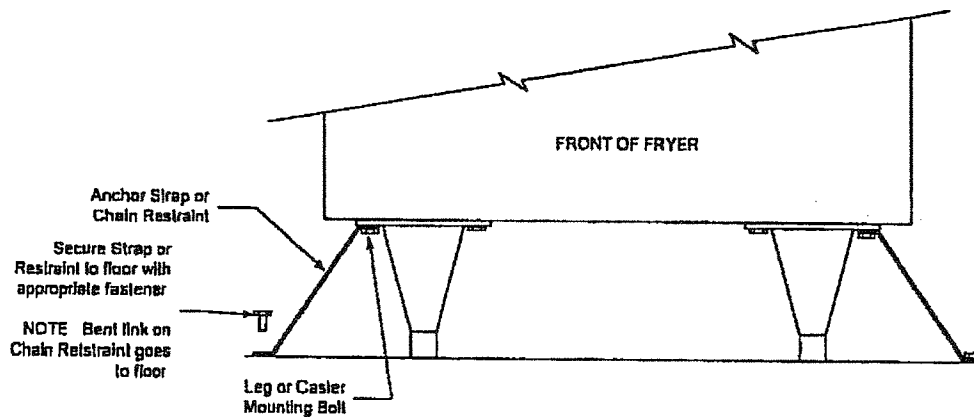
To level fryers equipped with legs, the bottom of the legs can be screwed out up to one inch for leveling. Legs should also be adjusted so that the fryer(s) are the proper height in the frying station.

For fryers equipped with casters, there are no built-in leveling devices. The floor where the fryers are installed must be level.

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

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 Factory Authorized Service Center (FASC).



NOTE: If you need to relocate a fryer installed with legs, remove all weight from each leg before moving. If a leg becomes damaged, contact your service agent for immediate repair or replacement.

! DANGER

Hot oil can cause severe burns. Avoid contact. Under all circumstances, oil must be removed from the fryer before attempting to move it to avoid oil spills, falls and severe burns. This fryer may tip and cause personal injury if not secured in a stationary position.

2. Close fryer drain-valve(s) and fill frypot with water to the bottom oil level line.
3. Boil out frypot(s) in accordance with the instructions in Section 4.1.3. of this manual.
4. Drain, clean, and fill frypot(s) with cooking oil. (*See Equipment Setup and Shutdown Procedures in Chapter 3.*)

IFSE-SERIES ELECTRIC FRYERS

CHAPTER 3: OPERATING INSTRUCTIONS



TYPICAL CONFIGURATION (*Model IFS-40-E Shown*)

NOTE: The appearance of your fryer may differ slightly from that shown depending upon the configuration and date of manufacture.

3.1 EQUIPMENT SET-UP and SHUTDOWN PROCEDURES

SET-UP

DANGER

Never operate the appliance with an empty frypot. The frypot must be filled to the fill line with water, oil or shortening before energizing the elements. Failure to do so will result in irreparable damage to the elements and may cause a fire.

DANGER

Remove all drops of water from the frypot before filling with oil. Failure to do so will cause spattering of hot liquid when the oil is heated to cooking temperature.

1. Fill the frypot with oil to the bottom OIL LEVEL line located on the rear of the frypot. This will allow for oil expansion as heat is applied. Do not fill cold oil any higher than the bottom line; overflow may occur as heat expands the oil.

NOTE: If solid shortening is used, first raise the elements, then pack the shortening into the bottom of the frypot. Lower the elements, and then pack the shortening around and over the elements. It may be necessary to add shortening to bring the level up to the proper mark after the packed shortening has melted.

DANGER

Never set a complete block of solid shortening on top of the heating elements.

When using solid shortening, always pre-melt the shortening before adding it to the frypot. If the shortening is not pre-melted, it must be packed down into the bottom of the frypot and between the elements, and the fryer must be started in the melt-cycle mode.

Never cancel the melt-cycle mode when using solid shortening. Doing so will result in damage to the elements and increase the potential for a flash fire.

2. Ensure that the power cord(s) is/are plugged into the appropriate receptacle(s). Verify that the face of the plug is flush with the outlet place, with no portion of the prongs visible.
3. Ensure that the computer / controller is switched ON.
4. Ensure that the oil level is at the *top* OIL LEVEL line when the oil *is at its cooking temperature*. It may be necessary to add oil or shortening to bring the level up to the proper mark, *after it has reached cooking temperature*.

SET-UP

1. Turn the fryer off.
2. Filter the cooking oil and clean the fryers (*See Chapter 4*).
3. Place the frypot covers on the frypots.

IFSE-SERIES ELECTRIC FRYERS

CHAPTER 4: PREVENTATIVE MAINTENANCE

4.1 CLEANING THE FRYER

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.

DANGER

Never attempt to clean the fryer during the frying process or when the frypot is filled with hot oil. If water comes in contact with oil heated to frying temperature, it will cause spattering of the oil, which can result in severe burns to nearby personnel.

WARNING

Use a commercial-grade cleaner formulated to effectively clean and sanitize food-contact surfaces. Read the directions for use and precautionary statements before use. Particular attention must be paid to the concentration of cleaner and the length of time the cleaner remains on the food-contact surfaces.

4.1.1 CLEAN INSIDE and OUTSIDE OF THE FRYER CABINET – DAILY

Clean inside the fryer cabinet with a dry, clean cloth. Wipe all accessible metal surfaces and components to remove accumulated oil and dust.

Clean outside the fryer cabinet with a clean, damp cloth soaked with detergent. Wipe with a clean, damp cloth.

CLEAN THE BUILT-IN FILTRATION SYSTEM – DAILY

WARNING

Never drain water into the filter pan. Water will damage the filter pump.

There are no periodic preventive maintenance checks and services for your Filtration System other than daily cleaning of the filter pan and associated components with a solution of hot water and detergent.

4.1.2 CLEAN THE FRYPOT AND HEATING ELEMENTS – WEEKLY

DANGER

Never operate the appliance with an empty frypot. The frypot must be filled to the fill line with water, oil or shortening before energizing the elements. Failure to do so will result in irreparable damage to the elements and may cause a fire.

4.1.3 BOILING OUT THE FRYPOT

Before the fryer is first used, 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 oil will form on the inside of the frypot. This film should be periodically removed by following the boil out procedure that follows.

1. Before switching the fryer(s) ON, close the frypot drain valve(s), then fill the empty frypot with a mixture of cold water and detergent. Follow instructions on detergent container when mixing.
2. Press the fryer ON/OFF switch to the ON position. On fryers equipped with solid state (*analog*) controllers, set the melt switch to OFF.
3. For fryers equipped with Computer Magic III.5 computers, program the computer for boil-out as described in the separate Frymaster Fryer Controllers User's Manual.

For fryers with digital controllers, set the temperature to 195°F (91°C) as described in the separate Frymaster Fryer Controllers User's Manual.

For fryers with solid state (*analog*) controllers, set the temperature control knob to the lowest setting.

4. Simmer the solution for 45 minutes to one hour. Do not allow the water level to drop below the bottom oil-level line in the frypot during the boil-out operation. **NOTE:** For units with thermostat controllers, you must turn the fryer on and off periodically during this process to prevent the frypot from boiling over.

DANGER

Never leave the fryer unattended during the boil-out process. If the boil-out solution boils over, turn the fryer off immediately and let the solution cool for a few minutes before resuming the process.

5. Turn the fryer ON/OFF switch(s) to the OFF position.
6. Add two gallons (7.6 liters) of water. Drain out the solution and clean the frypot(s) thoroughly.

WARNING

Do not drain boil-out solution into a shortening disposal unit (SDU), a built-in filtration unit, or a portable filter unit. These units are not intended for this purpose, and will be damaged by the solution.

7. Refill the frypot(s) with clean water. Rinse the frypot(s) twice, drain and dry with a clean towel. Thoroughly remove all water from the frypot and elements before refilling the frypot with oil.

 **DANGER**

Remove all drops of water from the frypot before filling with oil. Failure to do so will cause spattering of hot liquid when the oil is heated to cooking temperature.

4.2 CLEAN DETACHABLE PARTS AND ACCESSORIES – WEEKLY

Wipe all detachable parts and accessories with a clean, dry cloth. Use a clean cloth saturated with detergent to remove accumulated carbonized oil on detachable parts and accessories. Rinse the parts and accessories thoroughly with clean water and wipe dry before reinstalling.

4.3 CHECK CALIBRATION OF SOLID STATE (ANALOG) CONTROLLER KNOB – MONTHLY

NOTE: Required only on fryers equipped with a Solid State (*Analog*) Controller.

1. After the oil reaches operating temperature, let the heating elements cycle at least four times.
2. Insert a thermometer or pyrometer probe near the temperature-sensing probe approximately three inches (*7.5 mm*) deep into the oil. When the heating elements cycle on for the fourth time, the thermometer should be within $\pm 5^{\circ}\text{F}$ ($\pm 2^{\circ}\text{C}$) of the temperature control knob setting.

4.3.1 ANNUAL/PERIODIC SYSTEM INSPECTION

This appliance should be inspected and adjusted periodically by qualified service personnel as part of a regular kitchen maintenance program.

Imperial recommends that this appliance be inspected at least annually by a Factory Authorized Service Technician as follows:

FRYER

- Inspect the cabinet inside and out, front and rear for excessive oil.
- Verify that the heating element wires are in good condition and that leads have no visible fraying or insulation damage and that they are free of oil.
- Verify that heating elements are in good condition with no carbon/caramelized oil build-up. Inspect the elements for signs of extensive dry-firing.
- Verify that the tilt mechanism is working properly when lifting and lowering elements, and that the element wires are not binding and/or chafing.
- Verify the heating-element amp-draw is within the allowed range as indicated on the appliance's rating plate.

- Verify that the temperature and high-limit probes are properly connected, tightened and functioning properly, and that mounting hardware and probe guards are present and properly installed.
- Verify that component box and contactor box components (*i.e. computer/controller, relays, interface boards, transformers, contactors, etc.*) are in good condition and free from oil and other debris.
- Verify that component box and contactor box wiring connections are tight and that wiring is in good condition.
- Verify that all safety features (*i.e. contactor shields, drain safety switches, reset switches, etc.*)
- Verify that the frypot is in good condition and free of leaks and that the frypot insulation is in serviceable condition.
- Verify that all wiring harnesses and connections are tight and in good condition.

BUILT-IN FILTRATION SYSTEM

- Inspect all oil-return and drain lines for leaks and verify that all connections are tight.
- Inspect the filter pan for leaks and cleanliness. If there is a large accumulation of crumbs in the crumb basket, advise the owner/operator that the crumb basket should be emptied into a fireproof container and cleaned daily.
- Verify that all O-rings and seals (*including those on the quick-disconnect fittings*) are present and in good condition. Replace O-rings and seals if worn or damaged.
- Check filtration system integrity as follows:
 - Verify that filter pan cover is present and properly installed.
 - With the filter pan empty, place each oil return handle, one at a time, in the ON position. Verify that the pump activates and that bubbles appear in the oil of the associated frypot.
 - Close all oil return valves (*i.e. place all oil return handles in the OFF position*). Verify proper functioning of each oil return valve by activating the filter pump using the lever on one of the oil return handle microswitches. No air bubbles should be visible in any frypot.
 - Verify that the filter pan is properly prepared for filtering, then drain a frypot of oil heated to 350°F (177°C) into the filter pan and close the frypot drain valve. Place the oil return handle in the ON position. Allow all oil to return to the frypot, indicated by bubbles in the oil. Return the oil return handle to the OFF position. The frypot should have refilled in no more than 2 minutes and 30 seconds.