Frymaster®

We Fit the Way You Fry™

FilterQuick™ Intuition™

MIG30 and FQIG30U LOV™ Gas Fryers

Installation, Operation and Maintenance Manual

This manual is updated as new information, and models are released. Visit our website for the latest manual.

This equipment chapter is to be installed in the Fryer Section of the *Equipment Manual* for MIG30 fryers.

FOR YOUR SAFETY

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

⚠ CAUTION

READ THE INSTRUCTIONS BEFORE USING THE FRYER.

Read these instructions for use carefully so as to familiarize yourself with the appliance before connecting it to its gas supply.

Keep these instructions for future reference.

8197967

Part Number: FRY_IOM_8197967 11/2025

Original Instructions

Intertek

WELBILT an Ali Group Company

NOTICE

IF, DURING THE WARRANTY PERIOD, THE CUSTOMER USES A PART FOR THIS FRYMASTER EQUIPMENT OTHER THAN AN UNMODIFIED NEW OR RECYCLED PART PURCHASED DIRECTLY FROM FRYMASTER DEAN, OR ANY OF ITS AUTHORIZED SERVICERS, 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 SERVICER.

NOTICE

This appliance is intended for professional use only and is to be operated by qualified personnel only. A Frymaster Factory Authorized Servicer (FAS) 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.

⚠ WARNING

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. Only qualified service personnel may convert this appliance to use a gas other than that for which it was originally configured.

⚠ DANGER

Instructions to be followed in the event the operator smells gas or otherwise detects a gas leak must be posted in a prominent location. This information can be obtained from the local gas company or gas supplier.

⚠ FOR YOUR SAFETY

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

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.

⚠ DANGER

Do not spray aerosols in the vicinity of this appliance while it is in operation.

⚠ DANGER

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

After installation of a gas fryer and after any maintenance to the gas system of a gas fryer-manifold, valve, burners, etc. – check for gas leaks at all connections. Apply a thick soapy solution to all connections and ensure there are no bubbles. There should be no smell of gas.

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. For the United States and Canada these are the National Fuel Gas Code, ANSI Z233.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1. See NATIONAL CODE REQUIREMENTS in Chapter 2 of this manual for specifics.

The gas manifold of this appliance or of the battery of which it is a part must be connected to a gas appliance pressure regulator adjusted for the manifold pressure marked on the rating plate.

The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ psi (3.5 kPa/13.84 inches W.C.).

The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psi (3.5 kPa/13.84 inches W.C.).

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

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.

NOTICE

U.S.

The Commonwealth of Massachusetts requires any and all gas products to be installed by a licensed plumber or pipe fitter.

⚠ 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

Adequate means must be provided to limit the movement of the appliance without depending upon the gas line connector and the quick-disconnect device or its associated piping to limit the appliance movement.

All fryers equipped with casters must be stabilized by installing restraining chains. If a flexible gas line is used, an additional restraining cable must be connected at all times when the fryer is in use.

All fryers equipped with casters must be installed using a connector that complies with the Standard for Connectors for Moveable Gas Appliances, ANSI Z21.69 or CSA 6.16, and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use with Gas Fuel, ANSI Z21.41 or CSA 6.9.

NOTICE

No warranty is provided for any Frymaster fryer used in a mobile or marine installation or concession. Warranty protection is only offered for fryers installed in accordance with the procedures described in this manual. Mobile, marine or concession conditions of this fryer should be avoided to ensure optimum performance.

⚠ DANGER

When installed, this appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, the Canadian Electrical Code, CSA C22.2 applicable, or the appropriate national code of the country in which installed.

⚠ DANGER

When installed, this appliance must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1/NFPA54, or the Natural Gas and Propane Installation Code, CSA B149.1 as applicable or the appropriate national code of the country in which installed.

⚠ 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.

⚠ WARNING

To ensure the safe and efficient operation of the fryer and hood, the electrical plug for the 120-volt line, must be fully engaged and locked in its pin and sleeve socket (if applicable).

NOTICE

The instructions in this manual for using a bulk oil system for filling and discarding oil are for an RTI system. These instructions may not be applicable to other bulk oil systems.

NOTICE

This appliance is intended to be used for commercial applications, for example in kitchens of restaurants, canteens, hospitals and in commercial enterprises such as bakeries, butcheries, etc., but not for continuous mass production of food.

NOTICE

The appliance must be installed and used in such a way that any water cannot contact the fat or oil.

⚠ 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.

⚠ WARNING

Use caution and wear appropriate safety equipment to avoid contact with hot oil or surfaces that may cause severe burns or injury.

⚠ WARNING

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

⚠ WARNING

This appliance is not intended for use by children under the age of 16 or people with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision concerning use of the appliance by a person responsible for their safety. Do not allow children to play with this appliance.

⚠ WARNING

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

⚠ WARNING

NEVER drain boil out or cleaning solution into a shortening disposal unit (SDU), a built-in filtration unit, a portable filter unit or an OQS (Oil Quality Sensor). These units are not intended for this purpose and will be damaged by the solution and void the warranty.

⚠ DANGER

Prior to movement, testing, maintenance and any repair on your Frymaster fryer; disconnect ALL electrical power cords from the electrical power supply.

⚠ WARNING

Do not leave the fryer unattended during use.

⚠ WARNING

Operation, installation, and servicing of this product may expose you to chemicals/products including [Bisphenol A (BPA), glass wool or ceramic fibers, and crystalline silica], which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ WARNING

Use caution when dropping wet food or water into the hot oil. It may cause spattering of the oil, which may cause severe burns.

⚠ WARNING

Do not overfill the frypot to avoid overflow of hot oil that may cause severe burns, slipping and falling.

⚠ WARNING

Use caution and wear appropriate safety equipment when adding oil to the fryer, to prevent splashing of hot oil, which may cause severe burns.

⚠ WARNING

The OQS (Oil Quality Sensor) may be damaged by the following:

1. **Incorrect assembly of the filter pan allowing Magnesol or other filter powders under the filter paper.**
2. **Failure to use filter paper or pads.**
3. **Torn filter paper or pads.**
4. **Pumping water, boil out solution or other cleaners through the OQS sensor.**
5. **Using high pressure to clear the sensor.**

Failure to follow these guidelines may result in high replacement costs and void the warranty.

⚠ WARNING

Use caution when in proximity of the fryer. Liquids or oil may be present which may cause slipping and falling. Serious injury can result from slips or contact with oil or liquids.

⚠ WARNING

Use caution when overheating when overheating old oil, which can have a reduced flash-point, to prevent the oil from flashing which could cause potential fires and be more prone to surge boiling.

⚠ WARNING

Use caution when filling the frypot to ensure the frypot is not overfilled which could overflow, which may cause slipping and falling. Serious injury can result from slips or contact with oil or liquids.

⚠ WARNING

Use caution when filtering or draining oil into the filter pan to ensure the filter pan is not overfilled, which could overflow, which may cause slipping and falling. Serious injury can result from slips or contact with oil or liquids.

⚠ WARNING

Do not underfill the frypot. Under filling the frypot may generate excess heat which could potentially cause the oil to flash, which could cause potential fires.

⚠ WARNING

Do not place articles on or against this appliance.

⚠ WARNING

Do not modify this appliance.

Table of Contents

INTUITION MIG30/FQIG30 GAS FRYERS
CHAPTER 1: INTRODUCTION

NOTE: The Frymaster MIG30/FQIG30 fryer requires a start-up, demonstration and training before normal restaurant operations can begin.

1.1 General

Read the instructions in this manual thoroughly before attempting to operate this equipment. This manual covers all configurations of models and MIG30/FQIG30 fryers. Models designated with MIG30/FQIG30 are equipped with built-in filtration systems. The fryers in this model family have most parts in common, and when discussed as a group, will be referred to as MIG30/FQIG30 fryers.

The MIG30/FQIG30 fryers feature a low oil volume frypot, auto top-off, automatic filtration and a touch screen. The design incorporates a large round drain which ensures that fries and other debris will be washed into the filter pan. The MIG30/FQIG30 fryers are controlled with an Intuition easyTouch® touchscreen controller. Fryers in this series come in full- or split-vat arrangements and can be purchased in batteries of up to five vats.

MIG30/FQIG30 high-efficiency gas fryers employ a unique infrared burner system that uses up to 43% less energy to cook the same volume as conventional open-burner fryers.

MIG30/FQIG30 gas fryers are of an open-frypot design with no tubes, which makes cleaning the stainless frypot quick and easy.

Heating is supplied by a pair of infrared burner assemblies mounted on each side of the frypot. Dedicated blowers mounted on the front of the frypot supplies combustion air for the burners. MIG30/FQIG30 Gas fryers can be configured for natural gas or propane (LP) gas, as required by the customer.

Each frypot is equipped with a temperature probe for precise temperature control.

All fryers in this series require an external source of AC electrical power. Units can be configured for voltages ranging from 100 VAC to 250 VAC.

MIG30/FQIG30 fryers are shipped completely assembled. All fryers are shipped with a package of standard accessories. Each fryer is adjusted, tested, and inspected at the factory before crating for shipment.

This appliance is only for professional use and shall be used by qualified personnel only, as defined in Section 1.6.

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 that follow.

⚠ 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.

Your fryer is equipped with automatic safety features:

1. High-temperature detection shuts off gas to the burner assembly should the controlling thermostat fail.
2. A safety circuit on units with filter systems prevents burner ignition with the drain valve open.

The controller is equipped with a non-removable terminal lithium battery. Attempts to remove or replace the battery with another battery may present a risk of fire or explosion.

⚠ CAUTION

Battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

1.3 Information for the Touchscreen Controllers

FCC COMPLIANCE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. While this device is a verified Class A device, it has been shown to meet the Class B limits. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of the equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If necessary, the user should consult the dealer or an experienced radio and television technician for additional suggestions.
The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

1.4 European Community (CE) Specific Information

The European Community (CE) has established certain specific standards regarding equipment of this type. Whenever a conflict exists between CE and non-CE standards, the information or instructions concerned are identified by means of shadowed boxes.

1.5 Installation, Operating, and Service Personnel

Operating information for Frymaster equipment has been prepared for use by qualified and/or authorized personnel only, as defined in Section 1.6. **All installation and service on Frymaster equipment must be performed by qualified, certified, licensed, and/or authorized installation or service personnel, as defined in Section 1.6.**

1.6 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 Frymaster equipment and who have been authorized by Frymaster, L.L.C. 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 Frymaster equipment. A list of Frymaster Factory Authorized Servicers (FAS's) is located on the Frymaster website at www.frymaster.com. ***Failure to use qualified service personnel will void the Frymaster warranty on your equipment.***

1.7 Shipping Damage Claim Procedure

Your Frymaster equipment was carefully inspected and packed before leaving the factory. The transportation company assumes full responsibility for safe delivery upon its acceptance of the equipment for transport.

What to do if your equipment arrives damaged:

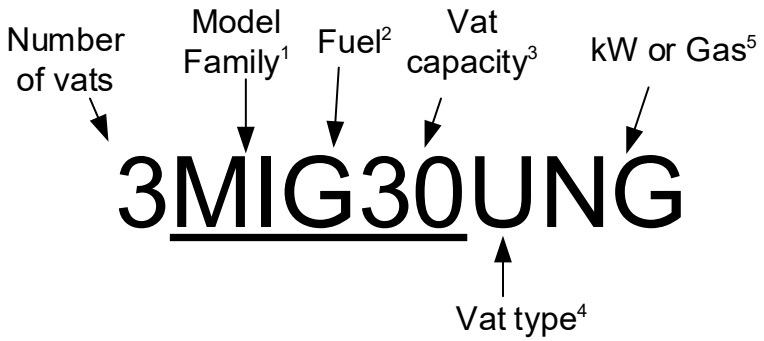
1. **File a claim for damages immediately**, regardless of the extent of damages.
2. **Inspect for and record all visible loss or damage** and ensure that this information is noted on the freight bill or express receipt and is signed by the person making the delivery.
3. **Concealed loss or damage** that was unnoticed until the equipment was unpacked should be recorded and reported to the freight company or carrier **immediately** upon discovery. A concealed damage claim must be submitted within 15 days of the date of delivery. Ensure that the shipping container is retained for inspection.

***Frymaster* DOES NOT ASSUME RESPONSIBILITY FOR DAMAGE OR LOSS INCURRED IN TRANSIT.**

1.7.1 Removal of Shipping Materials

Your Frymaster equipment was carefully packaged before leaving the factory. Remove and dispose of any tape and peel off any laser film from the stainless steel. Remove and dispose of any additional packing materials that may be present.

1.8 Reading Model Numbers



1 = MI-McDonald's Intuition, FQI – FilterQuick Intuition
2 = E-Electric or G-Gas
3 = 30 lbs
4 = U for open vat
5 = Kilowatts -14, 17, 22kW; Gas-NG (Natural), PG(Propane), BG(Butane), LG(LPMix)

1.9 Parts Ordering and Service Information

For non-routine maintenance or repairs, or for service information, contact your local Frymaster Authorized Servicer (FAS). In order to assist you quickly, the Frymaster Authorized Servicer (FAS) or Service Department representative requires certain information about your equipment. Most of this information is printed on a data plate affixed to the inside of the fryer door. Part numbers are found in the Parts Manual. Parts orders may be placed directly with your local FAS or distributor. A list of Frymaster Factory Authorized Servicers (FAS's) is located on the Frymaster website at www.frymaster.com. If you do not have access to this list, contact the Frymaster Service Department at 1-800-551-8633 or 1-318-865-1711.

Service information may be obtained by contacting your local FAS/Distributor. Service may also be obtained by calling the Frymaster Service Department at 1-800-551-8633 or 1-318-865-1711 or by email at fryservice@frymaster.com. When requesting service or ordering parts, please have the following information ready:

Model Number _____
Serial Number _____
Voltage _____
Type of Gas _____
Nature of the Problem _____
_____
_____
Item Part Number _____
Quantity Needed _____

In addition to the model number, serial number, and type of gas, please be prepared to describe the nature of the problem and have ready any other information that you think may be helpful in solving your problem.

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

INTUITION MIG30/FQIG30 GAS FRYER
CHAPTER 2: INSTALLATION INSTRUCTIONS

2.1 General Installation Requirements

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 1.6 of this manual, should perform all installation and service on Frymaster equipment.

Conversion of this appliance from one type of gas to another should only be performed by qualified, licensed, and/or authorized installation or service personnel as defined in Section 1.6 of this manual.

Failure to use qualified, licensed, and/or authorized installation or service personnel (as defined in Section 1.6 of this manual) to install, convert to another gas type or otherwise service this equipment will void the Frymaster 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 Frymaster Dean Factory Authorized Servicer.

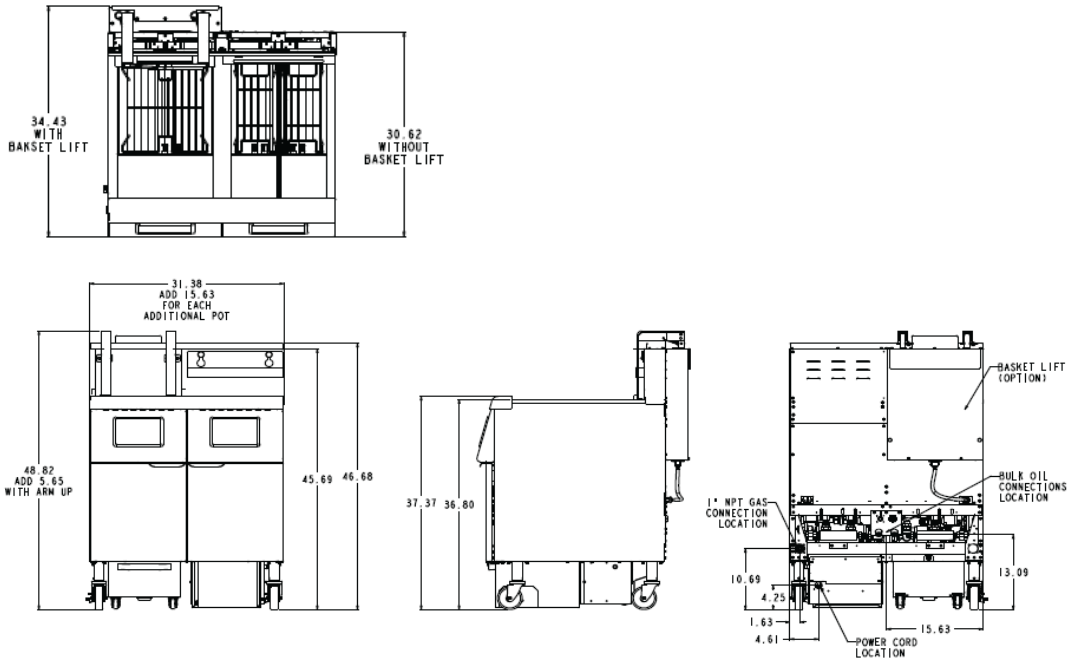
⚠ DANGER

Building codes prohibit a fryer with its open tank of hot oil being installed beside an open flame of any type, including those of broilers and ranges.

Upon arrival, inspect the fryer carefully for visible or concealed damage. (See **Shipping Damage Claim Procedure** in Section 1.7 of this manual.)

2.1.1 Dimensions

Model	Oil Capacity Per Frypot	Overall Size in inches (cm)		
		Width	Depth	Height
1FQIG30U **MIG130U**	30-lb. (15 liters) Full 17 lbs. (8.5 liters) Split	TBD	TBD	TBD
2FQIG30U/**MIG230U**	30-lb. (15 liters) Full 17 lbs. (8.5 liters) Split	31.38" (79.7 cm)	30.62" (77.7 cm)	46.68" (118.5 cm)
3FQIG30U/**MIG330U**	30-lb. (15 liters) Full 17 lbs. (8.5 liters) Split	47.1" (119.6 cm)	30.62" (77.7 cm)	46.68" (118.5 cm)
4FQIG30U/**MIG430U**	30-lb. (15 liters) Full 17 lbs. (8.5 liters) Split	62.63" (159.1 cm)	30.62" (77.7 cm)	46.68" (118.5 cm)
5FQIG30U/**MIG530U**	30-lb. (15 liters) Full 17 lbs. (8.5 liters) Split	78.3" (198.6 cm)	30.62" (77.7 cm)	46.68" (118.5 cm)



Will need FQIG with metric measurements. Will need MIG30 drawings.

2.1.2 Clearance and Ventilation

The fryer(s) must be installed with a 6" (150 mm) clearance at both sides and back when installed adjacent to combustible construction; no clearance is required when installed adjacent to noncombustible construction. A minimum of 24" (600 mm) clearance should be provided at the front of the fryer.

⚠ WARNING

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

⚠ DANGER

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.

One of the most important considerations of efficient fryer operation is ventilation. Make sure the fryer is installed so that products of combustion are removed efficiently, and that the kitchen ventilation system does not produce drafts that interfere with burner operation.

The fryer flue opening must not be placed close to the intake of the exhaust fan, and the fryer must never have its flue extended in a "chimney" fashion. An extended flue will change the combustion characteristics of the fryer, causing longer recovery time. It also frequently causes delayed ignition. To provide the airflow necessary for good combustion and burner operation, the areas surrounding the fryer front, sides, and rear must be kept clear and unobstructed.

⚠ DANGER

This appliance must be installed with sufficient ventilation to prevent the occurrence of unacceptable concentrations of substances harmful to the health of personnel in the room in which it is installed.

Fryers must be installed in an area with an adequate air supply and adequate ventilation. Adequate distances must be maintained from the flue outlet of the fryer to the lower edge of the ventilation filter bank. Filters should be installed at an angle of 45°. Place a drip tray beneath the lowest edge of the filter. For U.S. installation, NFPA standard No. 96 states, "A minimum distance of 18 in. (450 mm) should be maintained between the flue outlet and the lower edge of the grease filter." *Frymaster recommends that the minimum distance be 24 in. (600 mm) from the flue outlet to the bottom edge of the filter when the appliance consumes more than 120,000 BTU per hour*.

For installations in the United States, information on construction and installation of ventilating hoods can be found in the NFPA standard cited above. When installing any type of fryer, Standard No. 96 of the National Fire Protection Association must be followed implicitly.

The duct system, the hood and filter bank must be cleaned on a regular basis and kept free of grease according to the NFPA Standard No. 96.

A copy of the standard may be obtained from the National Fire Protection Association, Battery March Park, Quincy, MA 02269 or at www.NFPA.org.

2.1.3 National Code Requirements

The type of gas for which the fryer is equipped is stamped on the data plate attached to the inside of the fryer door. Connect a fryer stamped "NAT" only to natural gas, those stamped "PRO" only to propane gas, and those stamped "MFG" only to manufactured gas.

Installation shall be made with a gas connector that complies with national and local codes, and, where applicable, CE codes. Quick-disconnect devices, if used, shall likewise comply with national, local, and, if applicable, CE codes. In the absence of local codes, installation must conform to the national Fuel Gas Code, ANSI Z223.1/NFPA 54 or the Natural Gas and Propane Installation code, CSA B149.1, as applicable including:

1. The appliance and its individual shutoff valve must be disconnected form the gas supply piping system during any pressure testing of the system at test pressures in excess of ½ psi (3.5 kPa).
2. The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psi (3.5 kPa).

2.1.4 Electrical Requirements

2.1.4.1 Electrical Grounding Requirements

All electrically operated appliances must be grounded in accordance with all applicable national and local codes, and, where applicable, CE codes. In the absence of local codes, the appliance must be grounded in accordance with National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2, as applicable. All units (cord connected or permanently connected) should be connected to a

grounded power supply system. 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.

⚠ DANGER

This appliance is equipped with a special (grounding) plug for your protection against electrical shock and must be plugged directly into a properly grounded receptacle. Do not cut, remove, or otherwise bypass the grounding prong on this plug!

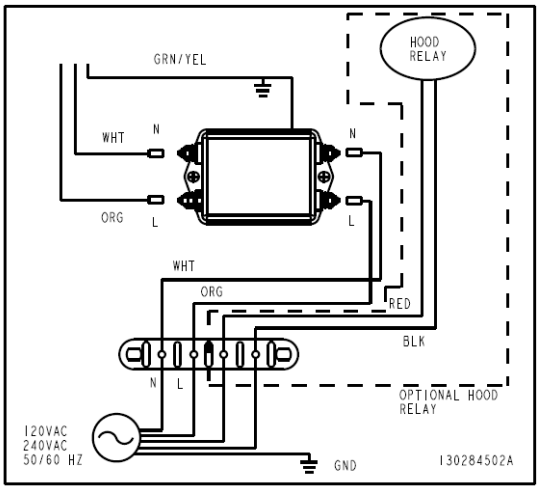
⚠ DANGER

This appliance requires electrical power for operation. Place the gas control valve in the OFF position in case of a prolonged power outage. Do not attempt to operate this appliance during a power outage.

⚠ WARNING

<u>McDonald's Only option</u> - To ensure the safe and efficient operation of the fryer and hood, the electrical plug for the 120-volt line, which powers the hood, must be fully engaged and locked in its pin and sleeve socket.

2.1.4.2 Electrical Connection Terminals Wiring



2.1.5 Australian Requirements

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

If casters are fitted, the installation must comply with AS5601 and AS1869 requirements.

2.2 Caster Installation

On an appliance with casters, the installation shall be made with a connector that complies with the Standard for Moveable Gas Appliances, ANSI Z21.69 • CSA 6.16, and a quick disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41 • CSA 6.9.

The front right caster may be locked with set screws that may need to be loosened to move into place. Once in place, the caster setscrews can be locked with the caster wheel parallel to the fryer from front to back to ease moving the fryer in and out of the hood for cleaning and preventing the caster from hitting the oil reservoir.

2.3 Pre-Connection Preparations

⚠ DANGER

DO NOT connect this appliance to the gas supply before completing each step in this section.

After the fryer has been positioned under the exhaust hood, ensure the following has been accomplished:

1. Adequate means must be provided to limit the movement of fryers without depending upon the gas line connector and the quick-disconnect device or its associated piping to limit the appliance movement. If a flexible gas hose is used, a restraining cable must be connected at all times when the fryer is in use. The restraining cable and installation instructions are packed with the flexible hose in the accessories box that was shipped with your unit.

⚠ DANGER

The appliance area must be kept free and clear of combustible material at all times.

2. Frymaster recommends that the minimum distance from the flue outlet to the bottom edge of the hood be 24 in. (600 mm) when the appliance consumes more than 120,000 BTU per hour.
3. Test the fryer electrical system:
   a. Plug the fryer electrical cord(s) into a grounded electrical receptacle. **(McDonald's Only: If applicable, to ensure the safe and efficient operation of the fryer and hood, the electrical plug for the 100 volt to 120-volt line, which powers the hood, must be fully engaged and locked in its pin and sleeve socket.)**
   b. Place the power switch in the **ON** position.
      - Verify that the touch screen display indicates the controller is on.
      - Verify the fryer hood exhaust fan should be on. If not, this must be corrected. If the store is equipped with a hood interlock system, the hood exhaust fan should be on. If not, the store hood interlock system is improperly wired and must be corrected.
   c. Place the fryer power switch in the **OFF** position. Verify that the display indicates OFF. If the store is equipped with a hood interlock system, the hood exhaust fan should be off when all controllers display OFF.
4. Refer to the data plate on the inside of the fryer door to determine if the fryer burner is configured for the proper type of gas before connecting the fryer quick-disconnect device or piping from the gas supply line.
5. Verify the minimum and maximum gas supply pressures using a manometer, for the type of gas to be used in accordance with the accompanying tables and the data plate on the inside of the fryer door.
6. For fryers equipped with a built-in filtration system (MIG30/FQIG30U models) plug the electrical cord(s) into a power receptacle behind the fryer.

NOTE: Ensure when checking pressures that they are checked with all burners operating at maximum heat at the same time.

Non-CE Standard for Gas Pressure		
Fryer Model	**MIG30/FQIG30U**	
Gas Type	**Nat (Natural)**	**LP (Propane)**
Incoming Min Pressure WC	6	11
Incoming Max Pressure WC	20.0	20.0
Orifice Size (mm)	3.10	2.37
Number of Orifices	2	2
Regulator Pressure WC	3.20	3.80

Korea Standard for Gas Pressure		
Fryer Model	**MIG30/FQIG30U**	
Gas Type	**LNG (Natural)**	**LPG (Propane)**
Incoming Min Pressure kpa	1.5	2.8
Incoming Max Pressure kpa	5.0	5.0
Orifice Size (mm)	3.10	2.37
Number of Orifices	2	2
Regulator Pressure kPa	0.80	0.95

CE Standard for Gas Pressure				
Fryer Model	**MIG30/FQIG30U**			
Gas Type	**G20** Natural Gas Lacq	**G25** Natural Gas Gronique	**G30** Butane/Propane	**G31** Propane
Incoming Min Pressure (mbar)	15	15	28	28
Incoming Max Pressure (mbar)	50	50	50	50
Orifice Size (mm)	3.10	3.10	2.37	2.37
Number of Orifices	2	2	2	2
Regulator Pressure (mbar)	8	10	7.7	9.5

(1) mbar = 10,2 mm H2O

Australia Standard for Gas Pressure		
Fryer Model	**MIG30/FQIG30U**	
Gas Type	**Nat (Natural)**	**LP (Propane)**
Incoming Min Pressure kpa	1.13	2.75
Incoming Max Pressure kpa	5.0	5.0
Orifice Size (mm)	3.10	1.95
Number of Orifices	2	2
Regulator Pressure kPa	0.80	2.05
Rate MJ/h (single pot)	73.8	79.5

2.4 Connection to Gas Line

⚠ DANGER

Before connecting new pipe to this appliance, the pipe must be blown out thoroughly to remove all foreign material. Foreign material in the burner and gas controls will cause improper and dangerous operation.

NOTICE

The gas supply tubing or hose shall comply with the national requirements in force and shall be periodically examined and replaced as necessary.

⚠ DANGER

The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of the system at test pressures in excess of ½ PSI (3.45 kPa, 13.84 inches W.C.) to avoid damage to the fryer's gas tubes and gas valve(s).

⚠ DANGER

The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ PSI (3.45 kPa, 13.84 inches W.C.)

⚠ DANGER

"Dry-firing" your unit will cause damage to the frypot and can cause a fire. Always ensure that cooking oil or water is in the frypot before firing the unit.

⚠ DANGER

All connections must be sealed with a joint compound suitable for the gas being used and all connections must be tested with a solution of soapy water before lighting.

Never use matches, candles, or any other ignition source to check for leaks. If gas odors are detected, shut off the gas supply to the appliance at the main shut-off valve and immediately contact the local gas company or an authorized service agency for service.

NOTICE

These instructions are only valid if the country code appears on the appliance. If the code does not appear on the appliance, refer to the technical instructions for adapting the appliance to the conditions for use in that country.

⚠ WARNING

When installing the fryer, please verify that the current state adjustment of the fryer is compatible with the local distribution conditions, nature of gas and pressure.

The size of the gas line used for installation is very important. If the line is too small, the gas pressure at the burner manifold will be low. This may cause slow recovery and delayed ignition. The incoming gas supply line should be a minimum of 1½" (38 mm) in diameter. Refer to the chart (right) for the minimum sizes of connection piping.

Gas Connection Pipe Sizes
(Minimum incoming pipe size should be 1 1/2" (41 mm))

Gas	Single Unit	2 - 3 Units	4 or more units*
Natural	3/4" (22 mm)	1" (28 mm)	1 1/4" (36 mm)
Propane	1/2" (15 mm)	3/4" (22 mm)	1" (28 mm)
Manufactured	1" (28 mm)	1 1/4" (36 mm)	1 1/2" (41 mm)

* For distances of more than 20 feet (6 m) and/or more than 4 fittings or elbows, increase the connection by one pipe size.

The MIG30/FQIG30 gas fryer has received the CE mark for the countries and gas categories indicated in the tables below. **NOTE:** The nominal heat input (QN) is 18.7 kW.

CE Approved Gas Categories by Country

CATEGORY & PRESSURE	COUNTRIES
$II_{2H3B/P}$ (20, 30/37/50) $II_{2HY203B/P}$ (20, 30/37/50)	AT, BG, CY, HR, CZ, DK, EE, FI, GR, IT, LT, NO, RO, SK, SI, SE, CH, LI, TR
II_{2H3+} (20, 30/37/50) $II_{2HY203+}$ (20, 30/37/50)	GB, CY, CZ, GR, IE, IT, LT, PT, SK, SI, ES, CH, LI, TR
II_{2H3P} (20, 30/37/50) $II_{2HY203P}$ (20, 30/37/50)	GB, AT, HR, CZ, FR, GR, IE, IT, LT, PT, RO, SK, SI, ES, CH, LI
$II_{2L3B/P}$ (25, 30/37/50)	RO
II_{2L3P} (25, 30/37/50)	FR, RO
II_{2EK3+} (20/25, 30/37/50)	NL
$II_{2EK3B/P}$ (20/25, 30/37/50)	NL
II_{2R3R} (20/25, 29/30/37/50)	CZ, EE, FR, DE, GR, IT, NO, PT, SI, ES
$II_{2E3B/P}$ (20, 30/37/50) $II_{2EY203B/P}$ (20, 30/37/50)	DE, LU, PL
$II_{2E+3B/P}$ (20/25, 30/37/50) $II_{2E+Y203B/P}$ (20/25, 30/37/50)	FR
II_{2E+3+} (20/25, 28-30/37) $II_{2E+Y203+}$ (20/25, 28-30/37)	BE, FR
II_{2E+3P} (20/25, 30/37/50) $II_{2EY20+3P}$ (20/25, 30/37/50)	BE, FR
I_{2H} (20), I_{2HY20} (20)	AL, HU, IS, LV, MK.
I_{2E} (20/25), I_{2EY20} (20/25)	RO
I_{3+} (28-30/37)	LV, LU
$I_{3B/P}$ (30)	AL, BE, HU, IS, MT, MK
I_{3P} (30)	FI, NL
I_{3P} (37)	NL
I_{3P} (50)	DE, LU, NL

CE Standard

Required airflow for the combustion air supply is $2m^3/h$ per kW.

1. Connect the quick-disconnect hose to the fryer quick-disconnect fitting under the front of the fryer and to the building gas line. **NOTE: Quick disconnect hoses are not supplied to CE marked fryers.**

   NOTE: Some fryers are configured for a rigid connection to the gas supply line. These units are connected to the gas supply line at the rear of the unit.

   When using thread compound, use very small amounts on male threads only. Use a pipe thread compound that is not affected by the chemical action of LP gases (Loctite™ PST56765 Sealant is one such compound). **DO NOT** apply compound to the first two threads. Doing so may allow some of the compound to enter the gas stream, resulting in clogging of burner orifices and/or the control valve.

2. Open the gas supply to the fryer and check all piping, fittings, and gas connections for leaks. A soap solution should be used for this purpose.

3. Light the fryer following the procedures that are described in the "Lighting Instructions" found in Chapter 3 of this manual.

⚠ DANGER

"Dry-firing" your unit will cause damage to the frypot and can cause a fire. Always ensure that cooking oil or water is in the frypot before firing your unit.

4. The burner manifold pressure should be checked at this time by the local gas company or an authorized service agent. The tables on page 2-6 list the burner manifold gas pressures for the various gas types that can be used with this equipment. Also verify the pressures, on the rating plate, inside the fryer door. Ensure that when setting up the regulator pressure that **ALL** burners need to be operating at maximum heat at the same time, when adjusting.

5. Check the programmed temperature thermostat setting by pressing the temperature button.

2.5 Converting to Another Gas Type

⚠ DANGER

This appliance was configured at the factory for a specific type of gas. Converting from one type of gas to another requires the installation of specific gas-conversion components. Conversion instructions are included with conversion kits.

Switching to a different type of gas without installing the proper conversion components may result in fire or explosion. NEVER ATTACH THIS APPLIANCE TO A GAS SUPPLY FOR WHICH IT IS NOT CONFIGURED!

Conversion of this appliance from one type of gas to another should only be performed by qualified, licensed, and authorized installation or service personnel, as defined in Section 1.6 of this manual.

Non-CE Gas Conversion Kits	
Natural Gas to Propane (LP) Gas	**Propane (LP) Gas to Natural Gas**
Full Vat: PN 826-2965	**Full Vat: PN 826-2967**
Dual Vat: PN 826-2966	**Dual Vat: PN 826-2968**
Non-CE Gas Conversion Kits for Australia	
Natural Gas to Propane (LP) Gas	**Propane (LP) Gas to Natural Gas**
Full Vat: PN 826-2969	**Full Vat: PN 826-2971**
Dual Vat: PN 826-2970	**Dual Vat: PN 826-2972**

Units manufactured for export to CE countries are equipped with "universal" burners that may be used with either Natural (G20, G25) gas or Butane (G30) and Propane (G31) gases.

CE Gas Conversion Kits for Units with Gas Valve 810-1715	
G20 or G25 (Natural) to G30 or G31 Gas:	**G30 or G31 to G20 or G25 (Natural) Gas:**
PN 826-2975	**PN 826-2976**

CE GAS CONVERSION INSTRUCTIONS

1. Between G20- and G25-type Natural Gas, adjust the gas pressure at the regulator. (Refer to the CE Standard Burner Manifold Gas Pressure Chart.) Do not change the orifice.
2. Between a 2nd family (G20 or G25) and a 3rd family gas (G30 Butane or G31 Propane):
   a. Change the orifices.
   b. Adjust the manifold pressure.
3. Remove the old rating plate and return to Frymaster. Affix the new rating plate included with the conversion kit in place of the old rating plate stating the gas has been converted.
4. If the destination language changes, replace the rating plate. Call your local service agency or KES for a label kit. The language of reference will be on the corner of the label.

2.6 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 Frymaster Dean Service Hotline at 1-800-551-8633.

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, adjust the casters being careful to ensure the fryer(s) are at the proper height in the frying station.

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

⚠ DANGER

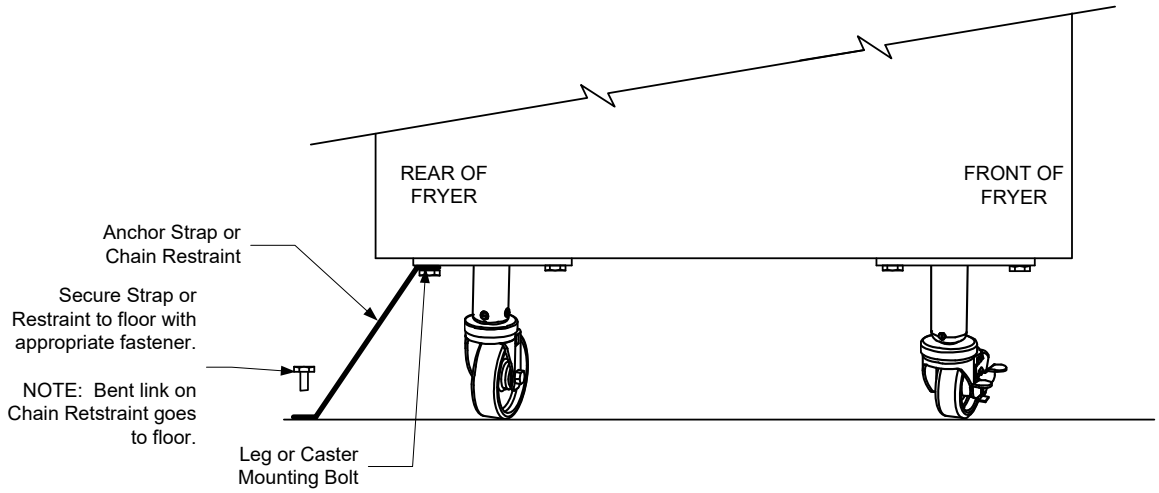
Hot oil can cause severe burns. Avoid contact. Under all circumstances, oil must be removed from the fryer before attempting to move it to avoid spills, falls, and severe burns. Fryers may tip and cause personal injury if not secured in a stationary position.

⚠ DANGER

Adequate means must be provided to limit the movement of this appliance without depending on the connector and the quick-disconnect device or its associated piping to limit the appliance movement.

⚠ DANGER

Where an appliance is supplied with casters and is to be connected to a fixed gas supply via a flexible hose connection, a restraining tether of adequate strength shall be fixed to the appliance and be suitable to be fixed to the wall within 2 inches (50 mm) of the connection point. The length of the tether shall not exceed 80% of the length of the hose assembly.
NOTE: The tether is to prevent stress being imparted onto the hose assembly when the appliance is moved out of its normal operating position..



2. **Clean, and fill frypot(s) with cooking oil**. (See ***Equipment Setup and Shutdown Procedures*** in Chapter 3.)

2.7 Installing the Top Off Oil Reservoir Cradle

Open the far-right door and install the top off oil reservoir cradle shipped (may differ in appearance than one showed) in the accessories pack with the included screws (see Figure 1). If using the solid shortening option, see Appendix A in the rear of this manual for installation instructions.

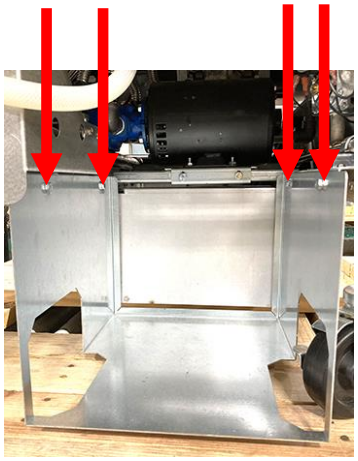
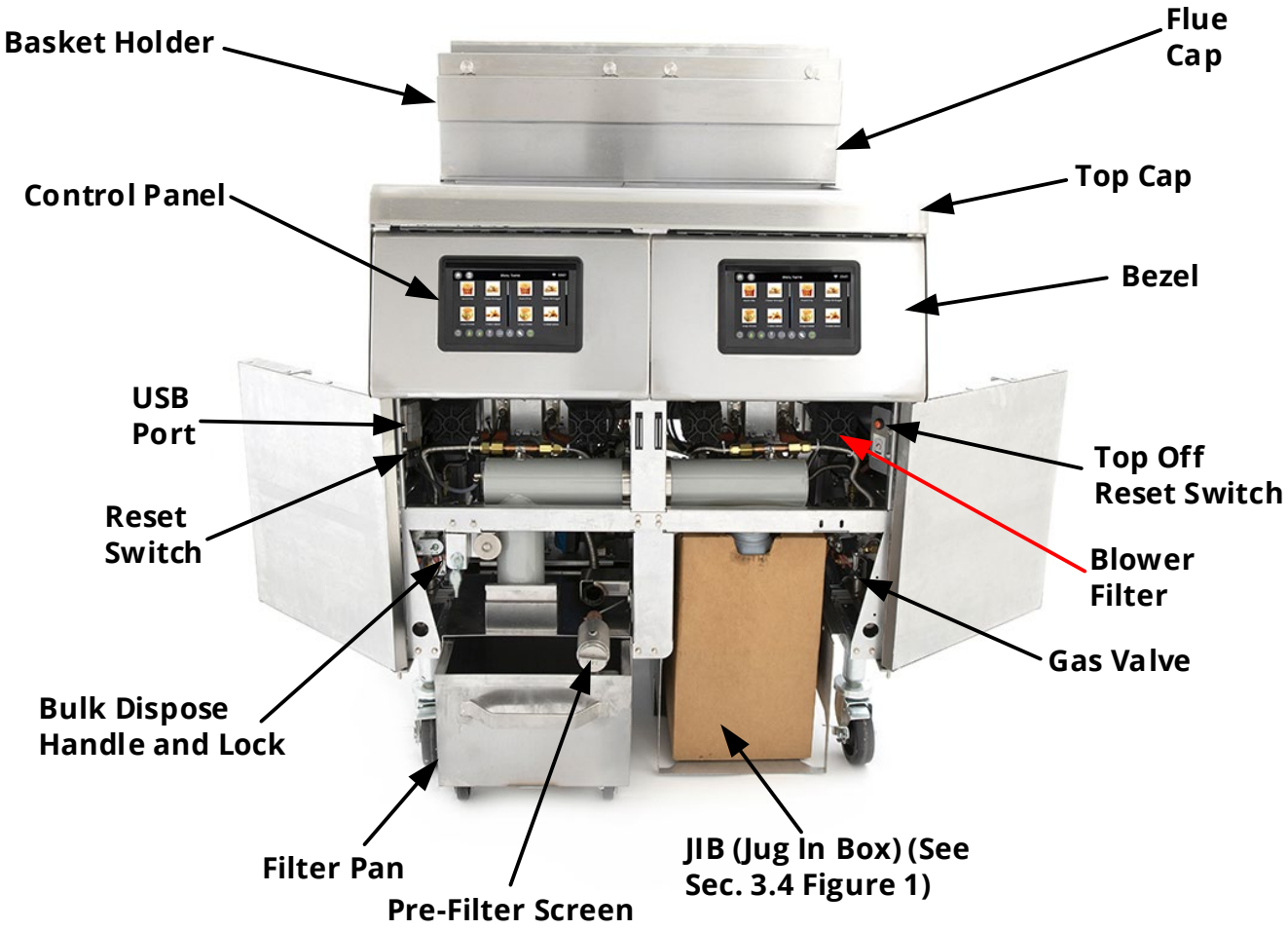


Figure 1

INTUITION MIG30/FQIG30 GAS FRYER
CHAPTER 3: OPERATING INSTRUCTIONS

FINDING YOUR WAY AROUND THE MIG30/FQIG30 INTUITION SERIES GAS FRYER



TYPICAL CONFIGURATION (2MIG30/2FQIG30U SHOWN)
NOTE: The appearance of your fryer may differ slightly from that shown depending upon configuration and date of manufacture.

3.1 Equipment Setup and Shutdown Procedures

⚠ WARNING

The on-site supervisor is responsible for ensuring that operators are made aware of the inherent hazards of operating a hot oil filtering system, particularly the aspects of oil filtration, draining and cleaning procedures.

⚠ CAUTION

Before lighting the fryer, make sure the fryer is OFF and the frypot drain valves are closed. Remove the basket support rack(s), if installed, and fill the frypot to the *BOTTOM* OIL-LEVEL line. If solid shortening is being used, make sure it is packed down into the bottom of the frypot.

3.1.1 Setup

⚠ WARNING

Never operate this appliance with an empty frypot. The frypot must be filled with water or oil before lighting the burners. Failure to do so will damage the frypot 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.

⚠ WARNING

The MIG30/FQIG30 fryer is not intended to use solid shortening without a solid shortening kit installed. The use of solid shortening without a solid shortening kit will clog the top off oil lines. The oil capacity of the MIG30/FQIG30 gas fryer is 32 lbs. (3.8 gallons/14.5 liters) at 70°F (21°C) for a full-vat and 18 lbs. (2.2 gallons/8.33 liters) at 70°F (21°C) for each half of a dual-vat.

Prior to filling frypots with oil, ensure all drains are closed.

1. Fill the frypot with cooking 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. For bulk oil systems see the *Controller Operation Manual* for instructions to fill the vat from bulk. If solid shortening is used, make sure it is packed down into the bottom of the frypot.
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 plate, with no portion of the prongs visible.
3. Ensure that the oil level is at the **TOP OIL LEVEL (or MIDDLE OIL LEVEL if applicable)** line when the oil ***is at its cooking temperature***.
4. The maximum batch load for French Fries in oil or fat shall be no more than 1½ pounds or 0.7 kilograms.

3.1.2 Operation

This fryer is equipped with touch screen controllers (see Figure 1). Refer to the controller manual for the controller programming and operating procedures.

3.1.3 Lighting the Fryer

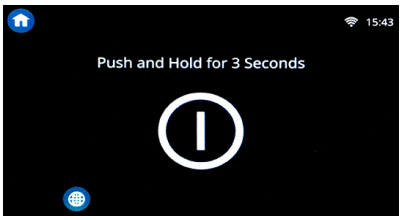


Figure 1

1. Ensure the controller is in the **OFF** position (see Figure 1).
2. Turn the gas valve to the ON position (see Figure 2).
3. Press and hold the controller ⏻/⏻ button for 3 seconds until the fryer is on (see Figure 1).
4. The fryer will try to light the burners. The fryer may try several times to light while it purges any air out of the gas manifold. If the burners fail to light after multiple tries, press the controller ⏻/⏻ button to the **OFF** position (see Figure 1) and wait 60 seconds. Repeat step 3.
5. The fryer will automatically run a self-check displaying **Checking fan system**.
6. The fryer will automatically enter the melt cycle mode if the frypot temperature is below 180ºF (82ºC) and will display **Melt Cycle**. (**NOTE:** During the melt cycle, the burners will repeatedly fire for a few seconds, then go out for a longer period.) The shortening must be stirred occasionally during the heating process to ensure all the shortening in the vat is liquefied. When the frypot temperature reaches 180ºF (82ºC), the unit will automatically switch to the heating mode and **Preheat** is displayed until within 15°F (9°C) of setpoint. The burners will remain lit until the frypot temperature reaches the programmed cooking temperature. Once the fryer reaches setpoint, the controller display changes to the product screen and the fryer is ready for use.
7. After the burners have been lit for at least 90 seconds, observe the flames through the burner viewing ports located on each side of the frypot (see Figure 3). The optimum burn is a bright orange-red glow.

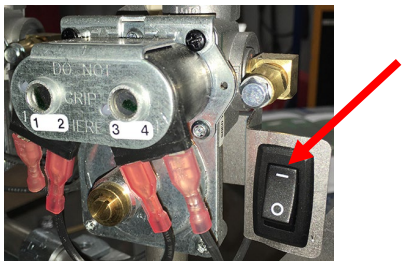


Figure 2

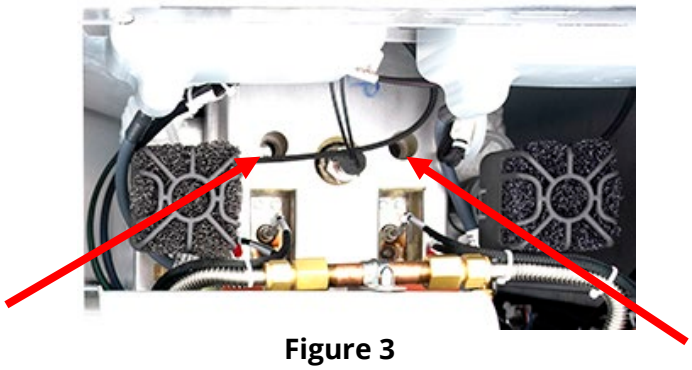


Figure 3

3.1.4 Shutdown

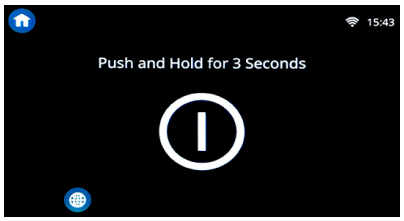


Figure 4

For short-term shut down during the workday:

1. Press the ⏻/⏻ button to turn the fryer off (see Figure 4) and put the frypot covers in place.

When shutting the fryers down at closing time:

1. Press the ⏻/⏻ button to turn the fryer off (see Figure 4).
2. Turn the gas valve to the OFF position (see Figure 5).
3. Filter the oil and clean the fryers (See Chapter 4 of this manual and Chapter 2 in the FilterQuick Intuition Controller Manual).
4. Clean the filter pan and replace the filter pad/paper. Do not leave solid shortening in the filter pan over night.
5. Place the frypot covers on the frypots.

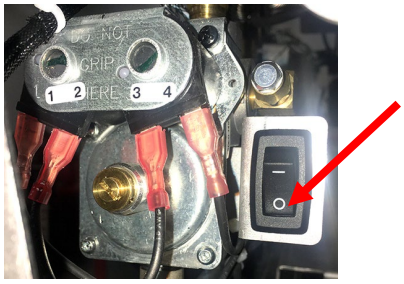


Figure 5

3.3 Top-Off Low Oil Volume Automatic Refill

The fryer can be configured for either automatic top off, (or optional manual top off or optional both manual and automatic depending on the hardware, software and configuration). When a vat is low, press the manual top off button (if configured) at the top of the screen, to top off the vat. The controller displays Top Off Frypot Oil Level? Press the √ button. Press and hold the button to start filling. Release the button when the oil is at the top oil level line. Press the (√) button to exit once the frypot is full. If the unit has optional auto top off, the frypot oil levels are continually checked and topped off as necessary from a reservoir in the cabinet.

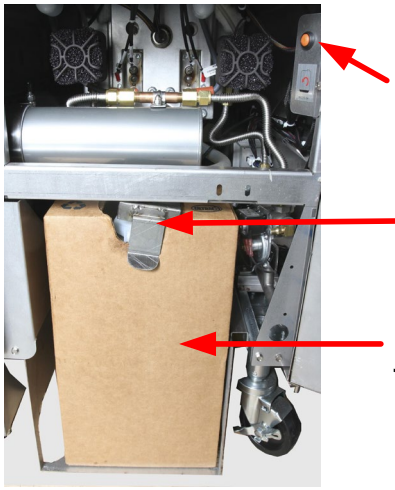


Figure 7

JIB (Jug In Box) Reset Switch: Resets the yellow JIB empty indicator after oil change.

Special Cap: Has plumbing attached to draw oil from the reservoir to the fryer vats.

Jug In Box (JIB): The JIB is the oil reservoir.

The top off reservoir holds a maximum size 35-pound box of oil or smaller. In a typical operation, the 35-pound box will last approximately two days.

Components of the system are annotated at the right (see Figure 7).

NOTE: The frypots will require manual filling upon startup; after a deep clean or clean (boil-out or cold clean) or disposal, unless a bulk fresh oil system is used.

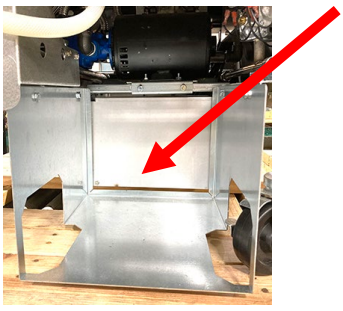


Figure 8

3.3.1 Prepare the System for Use

Once the fryer is positioned under the hood, install the JIB (Jug In Box) or BIB (Bag In Box) oil reservoir into the cradle installed in the previous chapter (see Figure 8). If using the bulk oil option see Appendix A.

3.3.2 Install the Auto Top Off Oil Container (JIB/BIB)

Remove the original lid from the oil container and foil liner. Replace with the provided cap, which has connected suction hardware. Ensure the feeder tube from the cap reaches to the bottom of the oil container.

Place the oil container inside the cabinet and slide it into place (as shown on the following page). Avoid catching the suction hardware on the cabinet interior as the container is placed in the fryer.
The system is now ready for operation.

3.3.3 Changing the JIB (Jug In Box) or BIB (Bag In Box) oil reservoir

When the oil reservoir level is low and displays **TOP OFF OIL EMPTY – REFILL /REPLACE TOP OFF OIL** (see Figure 9). Press the √ button to clear the screen. Once the reservoir is refilled and/or replaced, press and hold the orange reset button next to the oil reservoir (see Figure 14) until the message is no longer displayed. If using solid shortening see Appendix A for instructions.

Figure 9

1. Open the cabinet and slide the JIB from the cabinet (see Figure 10).

Figure 10

2. Remove the cap and pour any remaining oil in the container into all fry vats equally (see Figure 11).

Figure 11

3. Place new JIB upright and remove the cap and foil seal (see Figure 12).

Figure 12

4. Put the tube in the new full container (see Figure 13).

5. Slide the JIB onto the shelf inside the fryer cabinet (as seen in Figure 10).

6. Press the JIB reset switch to clear the Top Off Oil Empty display on the controller (see Figure 14).

Figure 13

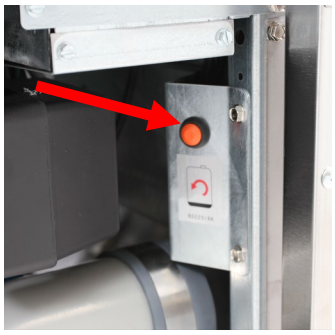


Figure 14

⚠ WARNING
Do not add HOT or USED oil to a JIB/BIB.

3.4.4 Bulk Oil Systems

Instructions for installing and using bulk oil systems are found in Appendix A located at the rear of this manual.

3.4 Filtration

3.4.1 Introduction

The filtration system allows the oil in one frypot to be safely and efficiently filtered while the other frypots in a battery remain in operation.

Section 3.4.2 covers preparation of the filter system for use. Operation of the system is covered in the controller manual.

⚠ WARNING
The on-site supervisor is responsible for ensuring that operators are made aware of the inherent hazards of operating a hot oil filtering system, particularly the aspects of oil filtration, draining and cleaning procedures.

⚠ WARNING
The filter pad or paper MUST be replaced daily or when the sediment level exceeds the height of the hold down ring.

3.4.2 Preparing the Filtration System for Use with Filter Paper or Filter Pad

The filtration system uses a filter paper/pad configuration which includes a crumb tray (may differ in appearance), hold-down ring, and metal filter screen.

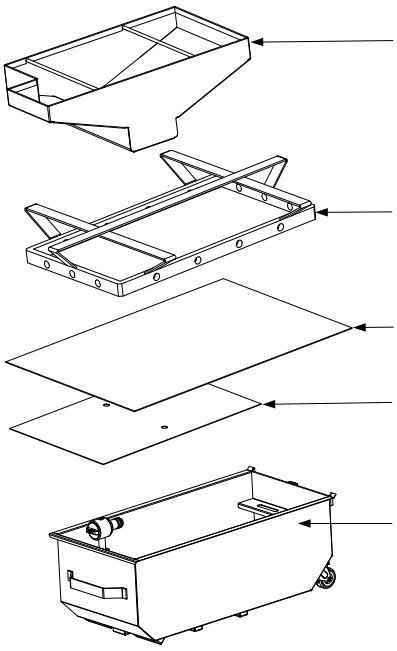
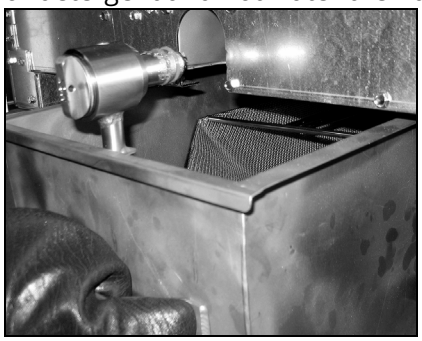


Figure 15

1. Pull the filter pan out from the cabinet slightly and wait until the dripping stops before completely removing the pan (shown below). and remove the crumb tray, hold-down ring, filter pad or paper and filter screen (see Figure 15). Clean all components with a solution of All Purpose Concentrate solution or detergent and hot water then dry thoroughly.



   The pan cover must not be removed except for cleaning, interior access, or to allow a shortening disposal unit (SDU) built before January 2004 to be positioned under the drain. Disposal instructions are in the Intuition controller manual.

2. Inspect the filter pan connection fitting to ensure that both O-rings are in good condition (see Figure 16).

Figure 16

3. Then in reverse order, place the metal filter screen in the center of the bottom of the pan, then lay a sheet of filter paper on top of the screen, overlapping on all sides (see Figure 15). If using a filter pad, ensure the **rough** side of the pad is up and lay the pad over the screen, making sure that the pad is in between the embossed ridges of the filter pan.

Figure 17

4. Position the hold down ring on top of the pad. If using filter paper, lay a sheet of filter paper over the top of the pan overlapping on all sides. Position the hold down ring over the filter paper and lower the ring into the pan, allowing the paper to fold up and around the ring as it is pushed to the bottom of the pan (see Figure 17).

5. If using paper, when the hold-down ring is in position, sprinkle one packet of filter powder (8-ounces) evenly over the filter paper (See Figure 18). **DO NOT USE FILTER POWDER WITH THE FILTER PAD!**

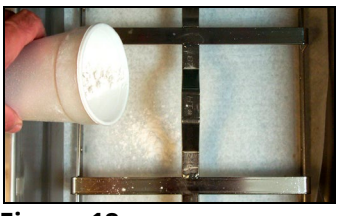


Figure 18

6. Replace the crumb tray in the filter pan.
7. Push the filter pan back into the fryer, positioning it under the fryer. Ensure "**P**" is **NOT** displayed on the controller. The filtration system is now ready for use.

⚠ DANGER

Do not drain more than one frypot at a time into the built-in filtration unit to avoid overflow and spillage of hot oil that may cause severe burns, slipping and falling.

⚠ DANGER

The crumb tray in fryers equipped with a filter system must be emptied into a fire-proof 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.

INTUITION MIG30/FQIG30 GAS FRYER
CHAPTER 4: PREVENTATIVE MAINTENANCE

4.1 FRYER PREVENTATIVE MAINTENANCE CHECKS AND SERVICE

⚠ 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 All-Purpose Concentrate or a multi-purpose detergent. 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.

The motor has permanently lubricated bearings and does not require lubrication.

4.2 DAILY CHECKS AND SERVICE

4.2.1 Inspect Fryer and Accessories for Damage

Look for loose or frayed wires and cords, leaks, foreign material in frypot or inside cabinet, and any other indications that the fryer and accessories are not ready and safe for operation.

4.2.2 Clean Fryer Cabinet Inside and Out - Daily

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

Clean the outside of the fryer cabinet with a clean, damp cloth soaked with All-Purpose Concentrate or a multi-purpose detergent, removing oil, dust, and lint from the fryer cabinet. Wipe with a clean, damp cloth.

4.2.3 Clean the Built-In Filtration System - Daily

⚠ WARNING

Never operate the filter system without oil in the system.

⚠ WARNING
Never use the filter pan to transport old oil to the disposal area.

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

There are no periodic preventive maintenance checks and services required for your filtration system other than daily cleaning of the filter pan with a solution of hot water and All-Purpose Concentrate or a multi-purpose detergent.

If you notice that the system is pumping slowly or not at all, verify that the filter pan screen is on the bottom of the filter pan, with the paper or pad on top of the screen. Verify that the two O-ring(s) on the fitting on the filter pan are present and in good condition. Verify that the pre-filter is clean and **tightened with the wrench**.

4.2.4 Clean Filter Pan, Detachable Parts and Accessories - Daily

As with the frypot, a deposit of carbonized oil will accumulate on the filter pan and detachable parts and accessories such as baskets, sediment trays, or fishplates.

Wipe the filter pan and all detachable parts and accessories with a clean dry cloth. Use a cloth dampened with a solution of a multi-purpose detergent. To remove accumulated carbonized oil. Rinse and thoroughly dry each part. DO NOT use steel wool or abrasive pads to clean these parts. The scratches that result from such scrubbing make subsequent cleanings more difficult.

4.2.5 Clean Around AIF and ATO sensors – Daily

1. Clean the sediment from around the AIF and ATO sensors during maintenance filtration or clean and filter when the oil is drained from the frypot.
2. Use the AIF/ATO cleaning brush (8263841) to clean the probe (see Figure 1). Use caution to ensure that the probe is not damaged.
3. Return the oil once the clean and filter is complete.

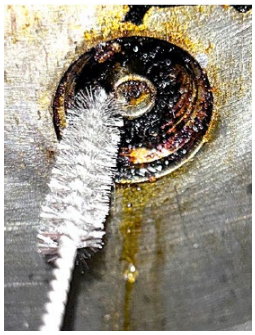


Figure 1

4.2.6 Clean Basket Lift Rods - Daily

On fryers equipped with basket lifts, wipe down the rods with dry, clean cloth to remove accumulations of oil and dust.

4.2.7 Clean Oil Level Sensor- Daily

This process can be done during a daily Maintenance Filter or Clean and Filter process (see section 2.1.3 of the Intuition Controller Operation Manual) or using the method below.

1. Drain the oil using the drain to filter pan option in the filter menu.
2. Use the OIB cleaning brush (8263841) to clean carbonized oil off the sensor (see Figure 1A).
3. Return the oil using the fill from filter pan option in the filter menu.

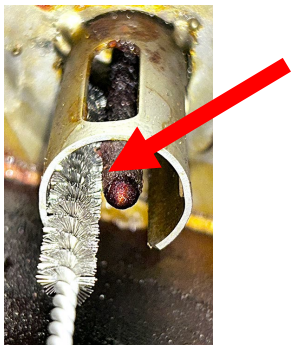


Figure 1A

4.2.8 Clean Around the Fryer - Daily

Clean the floor area around the fryer daily. Ensure there are no oil leaks or excess oil below the fryer or around the filter pan which may result in a slip hazard.

⚠ WARNING

Use caution when in proximity of the fryer. Liquids or oil may be present which may cause slipping and falling. Serious injury can result from slips or contact with oil or liquids.

4.3 WEEKLY CHECKS AND SERVICE

4.3.1 Clean Behind Fryers - Weekly

Clean behind fryers. Use the procedure in the detailed in the maintenance requirement card if applicable. Shut off and disconnect the gas. Use the manual gas shut-off valve to shut off the gas supply. The manual gas shut-off valve is located on the supply line before the quick disconnects. Then disconnect the gas line from the fryer via the quick disconnect.

⚠ WARNING

To ensure the safe and efficient operation of the fryer and hood, the electrical plug for the 120-volt line, which may power the hood, must be fully engaged and locked in its pin and sleeve socket.

4.4 BI-WEEKLY CHECKS AND SERVICE

4.4.1 Check Controller Set Point Accuracy

1. Insert a good-grade thermometer or pyrometer probe into the oil, with the end touching the fryer temperature-sensing probe.
2. When the controller displays the product icons (indicating that the frypot contents are within the cooking range), press the button once to display the temperature and setpoint of the oil as sensed by the temperature probe.
3. Note the temperature on the thermometer or pyrometer. Actual temperature and pyrometer readings should be within ± 5ºF (3ºC) of each other. If not, contact a Factory Authorized Servicer for assistance.

4.5 MONTHLY CHECKS AND SERVICE

4.5.1 Pre-filter Maintenance – Monthly or as needed

The pre-filter requires regular maintenance. Every 30 days, or more frequently if the flow of oil slows, remove the pre-filter cap and clean the attached screen.

⚠ DANGER

Wear protective gloves when removing the pre-filter. The pre-filter may be hot and cause severe burns.

Figure 2


Figure 3

1. **Wearing protective gloves <u>use the supplied wrench to remove the pre-filter cap</u>** from the pre-filter housing **(Figure 2)**.
2. Use a small brush to clear debris from the attached screen **(Figure 3)**.

3. Clean under a water tap and thoroughly dry.
4. Return the pre-filter cap to the pre-filter housing and tighten with the attached wrench, ensuring the pre-filter cap is tight. If the pre-filter cap is not tight, air will leak around the pre-filter and slow the return of oil.

⚠ DANGER

<u>DO NOT</u> remove the pre-filter cap when a filter cycle is in progress.
<u>DO NOT</u> operate the filter system with the cap removed. Wear protective gloves when handling the cap. The metal and the exposed oil are hot and may cause severe burns.

4.5.2 Check FilterQuick Intuition Controller Set Point Accuracy - Monthly

1. Insert a good-grade thermometer or pyrometer probe into the oil, with the end touching the fryer temperature-sensing probe.
2. When the controller displays the product icons (indicating that the frypot contents are within the cooking range), press the  button once to display the temperature and setpoint of the oil as sensed by the temperature probe.
3. Note the temperature on the thermometer or pyrometer. Actual temperature and pyrometer readings should be within ± 5ºF (3ºC) of each other. If not, contact a Factory Authorized Servicer for assistance.

4.6 QUARTERLY CHECKS AND SERVICE

4.6.1 Deep Cleaning (Boil Out/Cold Clean) the Frypot –Quarterly or more often depending on your required maintenance schedule.

⚠ DANGER

Never operate the appliance with an empty frypot. The frypot must be filled with water or oil before lighting the burners. Failure to do so will damage the frypot and may cause a fire.

During normal usage of your fryer, a deposit of carbonized oil will gradually form on the inside of the frypot. This film should be periodically removed by following the Clean (boil-out) procedure. *Refer to the Intuition Controller Operation Manual for specific details on setting up the controller for deep clean (boil-out/cold clean) operation.*

⚠ DANGER

Allow oil to cool to 100ºF (38ºC) or lower before draining to an appropriate container for disposal.

⚠ WARNING

Never leave the fryer unattended during this process. If the solution overflows, press the ON/OFF switch to the OFF position immediately.

⚠ DANGER

Ensure that the frypot is completely free of water before filling with oil. When the oil is heated to cooking temperature, water in the frypot will cause splattering.

4.6.2 Clean Combustion Air Blower Filter – Quarterly or more often

1. Each fryer has two (2) blower fans. Each fan has a filter bracket with a foam filter (see Figure 4).

Figure 4

2. Remove the filter bracket by gently pressing in on the left and right tabs on both sides of the bracket (see Figure 5), while gently pulling the bracket off the fan (see Figure 6).
3. Remove the foam filter from the bracket (see Figure 7).
4. Spray degreaser or detergent on the foam filter and bracket. Allow it to soak for five minutes. Rinse the filter and bracket with hot tap water, then dry the bracket with a clean cloth and let the foam filter air dry.
5. Reassemble the filter assembly.
6. Reinstall the filter assembly in the fryer.
7. Light the fryer in accordance with the procedure described in Chapter 3, Section 3.1.2.
8. After the burners have been lit for at least 90 seconds, observe the flames through the burner viewing ports (see Figure 8).

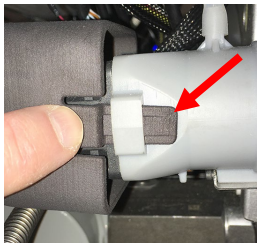


Figure 5

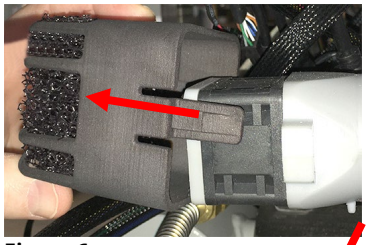


Figure 6

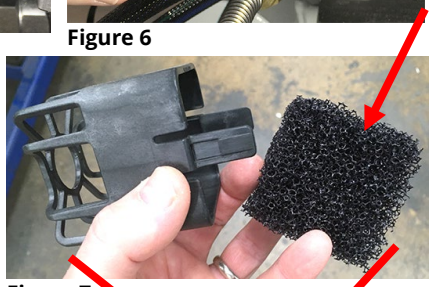


Figure 7

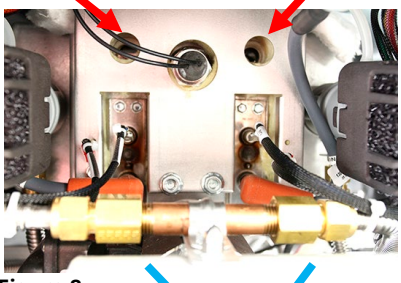


Figure 8

The air/gas mixture is properly adjusted when the burner manifold pressure is in accordance with the applicable table on page 2-3 and the burners display a bright orange-red glow.

4.6.3 Replace the O-rings - Quarterly

Replace the O-rings on the filter pan connection every 90 days or when cracked, broken, or missing (see Figure 9).

To replace the O-rings, use a small, flat-bladed screwdriver to lift up on the O-ring and pry off the pick-up tube (see Figure 10). Ensure the groove is cleaned out and free of debris. Slide the new O-ring over the tube until it slips into the groove (see Figure 11). Lubricate O-rings on the pick-up tube with fresh cold oil.

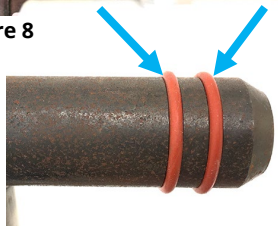


Figure 9

Figure 10

Figure 11

4.7 ANNUAL/PERIODIC SYSTEM INSPECTION

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

Frymaster recommends that a Factory Authorized Servicer inspect this appliance at least annually as follows:

4.7.1 Fryer - Annual

- Inspect the cabinet inside and out, front and rear for excess oil. Ensure there are no oil leaks. Ensure that no accumulated oil is present below the cabinet and around the filter pan or fryer which could result in a slip hazard.
- Verify that debris or accumulations of solidified oil do not obstruct the flue opening.
- Verify that burners and associated components (i.e., gas valves, pilot assemblies, ignitors, etc.) are in good condition and functioning properly. Inspect all gas connections for leaks and verify that all connections are properly tightened.
- Verify that the burner manifold pressure is in accordance with that specified on the appliance's rating plate.
- Verify that the temperature and high-limit probes are properly connected, tightened, and functioning properly, and that probe guards are present and properly installed.
- Verify that component box components (i.e., controller, transformers, relays, boards, etc.) are in good condition and free from oil and other debris. Inspect the component box wiring and verify that connections are tight, and that wiring is in good condition.
- Verify that all safety features (i.e., reset switches, etc.) are present and functioning properly.
- Verify that the frypot is in good condition and free of leaks and that the frypot insulation is in serviceable condition.
- Verify that wiring harnesses and connections are tight and in good condition.

4.7.2 Built-In Filtration System - Annual

- 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 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, turn off the controller and place each vat into fill from filter pan selection (see the *Intuition Controller Operation Manual*), one at a time. Verify proper functioning of each oil return valve by activating the filter pump using the fill from filter pan selection. Verify that the pump activates and that bubbles appear in the cooking oil of the associated 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 by using the drain to filter pan selection (see the *Intuition Controller Operation Manual*). Now using the fill from filter pan drain pan selection (see section the *Intuition Controller Operation Manual*), allow all oil to return to the frypot (indicated by bubbles in the cooking oil). Press the check button when all oil is returned. The frypot should have refilled in approximately 2 minutes and 30 seconds.

INTUITION MIG30/FQIG30 GAS FRYER
CHAPTER 5: OPERATOR TROUBLESHOOTING

5.1 Introduction

This chapter provides an easy reference guide to some of the common problems that may occur during the operation of your equipment. The troubleshooting guides that follow are intended to help you correct, or at least accurately diagnose, problems with your equipment. Although the chapter covers the most common problems reported, you may encounter problems that are not covered. In such instances, the Frymaster Technical Services staff will make every effort to help you identify and resolve the problem.

When troubleshooting a problem, always use a process of elimination starting with the simplest solution and working through to the most complex. Most importantly, always try to establish a clear idea of why a problem has occurred. Part of your corrective action involves taking steps to ensure that it doesn't happen again. If a controller malfunctions because of a poor connection, check all other connections. If a fuse continues to blow, find out why. Always keep in mind that failure of a small component may often be indicative of potential failure or incorrect functioning of a more important component or system.

If you are in doubt as to the proper action to take, do not hesitate to call the Frymaster Technical Service Department or your local Frymaster Factory Authorized Servicer for assistance.

Before calling a servicer or the Frymaster HOTLINE (1-800-551-8633):

- **Verify that electrical cords are plugged in and that circuit breakers are on.**
- **Verify that gas line quick-disconnects are properly connected.**
- **Verify that any gas line cutoff valves are open.**
- **Verify that frypot drain valves are fully closed.**
- **Have your fryer's model and serial numbers ready to give the technician assisting you.**

⚠ DANGER

Hot oil will cause severe burns. Never attempt to move this appliance when filled with hot oil or to transfer hot oil from one container to another.

⚠ DANGER

This equipment should be unplugged when servicing, except when electrical circuit tests are required. Use extreme care when performing such tests.

This appliance may have more than one electrical power supply connection point. Disconnect all power cords before servicing.

Inspection, testing, and repair of electrical components should be performed by an authorized service agent only.

5.2 Troubleshooting Fryers

5.2.1 Controller and Heating Problems

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
No display on the controller.	A. No power to fryer. B. Failed controller or other component	A. Verify that the fryer is plugged in and that the circuit breaker is not tripped. B. Call your FAS for assistance.
CONTROLLER displays IS VAT FULL? YES NO after a filtration.	A. Normal operation at the beginning or end of most filtration functions. B. If the display appears many times during a filter it could be an indication of slow oil return.	A. Ensure the vat is full of oil and press the √ button. B. See section 5.3 troubleshooting –Filter Pump runs, but oil return is very slow.
CONTROLLER displays IS OIL SENSOR CLEAN? CONFIRM during a cook or in idle mode with an audible alarm.	A. The oil level sensor may be coated with caramelized oil. B. CAN communication issues, component failure issues.	A. Clean sensor with scratch pad. B. If the issue persists, contact your FAS for assistance.
CONTROLLER displays IS DRAIN CLEAR?	Drain is clogged and oil failed to drain.	Clear drain with Fryers Friend and press **√** button. Filtration will resume.
CONTROLLER displays CHANGE FILTER?	Filter error has occurred, filter paper/pad clogged, 25-hour filter paper/pad change prompt has occurred or change filter paper/pad was ignored on a prior prompt.	Change the filter paper/pad and ensure the filter pan has been removed from the fryer for a minimum of 30 seconds. Do **NOT** ignore **CHANGE FILTER PAPER** prompts.
Fryer does not heat.	A. Drain valve not fully closed. B. Gas valve is not turned on. C. Manual gas shut off valve closed. D. Improperly connected quick-disconnect fitting on gas line. E. Obstructed or failed combustion air blower.	A. Check error log. Ensure that E133 is not displayed. B. Turn the gas valve knob to the **ON** position. C. Verify that any in-line manual shut off and gas main valve is open. D. Verify that the quick-disconnect fitting on the flexible gas line is firmly connected to the fryer. E. Verify that the blower fan is running. If not, call FAS for service.
Fryer is operating normally, but recovery is slow when cooking.	Dirty or obstructed combustion air blower.	Clean the blower filter and run auto fan calibration per instructions in Chapter 4 of this manual.
Fryer is operating normally but produces a popping sound when burners ignite.	A. Dirty or obstructed combustion air blower. B. Malfunctioning combustion air blower.	A. Clean and run auto fan calibration per instructions in Chapter 4 of this manual. B. Call your FAS.

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Controller locks up.	Controller error.	Remove and restore power to the controller. If problem persists, call your FAS for assistance.
CONTROLLER displays MISCONFIGURED ENERGY TYPE	Energy type in fryer setup is incorrect.	Ensure that the fryer is configured properly for the correct energy type.

5.2.2 Error Messages and Display Problems

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
CONTROLLER displays E119 or E128 HEATING FAILURE.	Gas valve off, failed controller, failed transformer, contactor, or open high-limit thermostat.	It is normal for this message to appear during startup if the lines have air in them. Check that the gas valve is on. If the gas is on and it continues shut the fryer down and call your FAS for assistance.
CONTROLLER display shows HIGH LIMIT 1 EXCEEDED.	Frypot temperature is more than 410ºF (210ºC) or, in CE countries, 395ºF (202ºC).	Turn fryer off and let cool. Ensure the frypot is full of oil.
CONTROLLER displays RECOVERY FAULT-SCHEDULE SERVICE SOON and alarm sounds.	Recovery time exceeded maximum time limit for three or more consecutive cycles.	Clear error and silence the alarm by pressing the check √ button. Maximum recovery time for gas is 3:15. If the error continues call your FAS for assistance.
CONTROLLER display is in wrong temperature scale (Fahrenheit or Celsius).	Incorrect display option programmed.	Toggle between F° to C° by entering settings, temperature and toggling the temperature scale. Turn the controller on to check temperature. If the desired scale is not displayed, repeat.
CONTROLLER displays HIGH LIMIT 2 EXCEEDED.	High limit has opened.	Turn fryer off and let cool. Ensure the frypot is full of oil. If issue continues, call service.
CONTROLLER displays COOKING TEMPERATURE ERROR.	Problem with the temperature measuring circuitry including the probe or damaged controller wiring harness or connector.	Shut the fryer down and call your FAS for assistance.
CONTROLLER displays SERVICE REQUIRED followed by an error message**.**	An error has occurred which requires a service technician.	Press X to continue cooking and call your FAS for assistance. In some cases, cooking may not be allowed.

5.3 Troubleshooting the Auto Filtration

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Fryer filters after each cook cycle.	Filter after setting incorrect.	Change or overwrite the filter after setting by re-entering the filter after value in settings.
CLEAN AND FILTER won't start.	Temperature too low.	Ensure fryer is at setpoint before starting Clean and Filter.
CONTROLLER display shows FILTER BUSY.	A. Another filtration cycle or filter pad change is still in process. B. System Control board has not cleared checking system.	A. Wait until the previous filtration cycle ends to start another filtration cycle. Change filter pad if prompted. B. Wait 15 minutes and try again.
Drain valve or return valve stays open.	A. HCB Board has failed. B. Actuator has failed.	Call your FAS for assistance.
CONTROLLER displays E143- OIL SENSOR ERROR.	Oil sensor may be covered in debris or may have failed.	Ensure the oil sensor is clean. Ensure the oil level is at or above the middle oil level line. If issue continues, call service.
Filter pump won't start, or pump stops during filtering.	A. Power cord is not plugged in, or circuit breaker is tripped. B. Blockage in filter pump.	A. Verify that the power cord is fully plugged in, and the circuit breaker is not tripped. B. Call your FAS for assistance.
CONTROLLER displays INSERT PAN.	A. Filter pan is not fully set into fryer. B. Defective filter pan switch.	A. Pull filter pan out and fully reinsert into fryer. Ensure controller does not display "**P**". B. If the filter pan is fully inserted and controller continues to display INSERT PAN, the switch is out of alignment or possibly defective.
Auto filtration won't start.	A. Oil level too low. B. Oil temperature is too low. C. Filter Pan out. D. Filtration in recipe settings is set to OFF. E. Filter relay has failed.	A. Ensure oil level is at the middle oil fill line (at the top oil level sensor). B. Ensure the oil temperature is at setpoint. C. Ensure controller does not display "**P**". Ensure the filter pan is fully seated into fryer. Power cycle the fryer. D. Set filtration in recipes to ON. E. Call your FAS for assistance.

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Filter Pump runs, but oil return is very slow.	A. Clogged filter pad/paper. B. Improperly installed or prepared filter pan components. C. Pre-filter screen may be clogged or not fully tightened.	A. Ensure the filter is not clogged. If so replace the filter. B. Remove the oil from the filter pan and replace the filter pad, ensuring that the filter screen is in place ***under*** the pad. Verify, if using a pad, that the rough side is facing up. Verify that O-rings are present and in good condition on filter pan connection fitting. C. Clean pre-filter (see section 4.4.2) and ensure it is tightened with the attached wrench.

5.3.1 Clogged Drain Error

The clogged drain error occurs during auto filtration when the oil level sensor detects that oil has not completely drained from the frypot. This may be due to a clogged drain or an oil sensor failure. Follow the instructions on the controller display to clear the error.

When this occurs, the controller displays **CLEAR DRAIN** for 15 seconds changing to **IS DRAIN CLEAR?**.

1. Clear debris from the drain using the fryer's friend and press the √ button to continue.
2. The controller displays **DRAINING**. Once the oil level sensor detects the oil has drained, normal auto filtration operation resumes.

5.3.2 Filter Busy

When **FILTER BUSY** is displayed the filter interface board is waiting on another vat to be filtered or waiting on another function to finish. Wait 15 minutes to see if problem is corrected. If not, call your local FAS.

5.4 Troubleshooting Auto Top Off Issues

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Frypots top off cold.	Incorrect setpoint.	Ensure setpoint is correct.
One vat doesn't top off.	A. Filter error exists. B. Service required error exists C. Solenoid, pump, pin issue, RTD or ATO issue.	A. Clear filter error properly. If problem persists call your FAS for assistance. B. Call your FAS for assistance. C. Call your FAS for assistance.

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Frypots won't top off.	A. Fryer temperature too low. B. Oil is too cold. C. Top oil empty displayed D. Service required error exists E. Melting unit switch is off (only on solid shortening units) F. Blown fuse.	A. Fryer temperature must be at setpoint. B. Ensure that the oil in the top off reservoir is above 70°F (21°C). C. Ensure the top off reservoir is not out of oil. Replace top off reservoir or fill from bulk and reset top off system. If problem persists call your FAS for assistance. D. Call your FAS for assistance. E. Ensure the switch on the melting unit is in the ON position. F. Check the fuse on the right side of the SCB box. If using a solid shortening melting unit, check the fuse below the melting unit switch.

5.5 Troubleshooting Bulk Oil System Problems

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Frypot won't fill.	A. Incorrect setup procedure. B. Dispose valve not completely closed. C. Bulk oil tank is empty. D. RTI pump issue.	A. Power cycle fryer by disconnecting and reconnecting the bulk oil control connector on rear of fryer. B. Ensure the dispose valve handle is pushed fully closed. C. Call your bulk oil provider. D. Call you FAS for assistance.
Top off reservoir won't fill.	A. Incorrect setup procedure. B. Another function is in process. C. Dispose valve not completely closed. D. Bulk oil tank is empty. E. Solenoid, pump, or switch issue.	A. Ensure the fresh oil settings on the fryer are correct. Power cycle fryer by pressing and holding the reset button for 30 seconds or greater. B. If a filtration or any other filter menu function is in process or FILTER NOW? √/X, CONFIRM √/X, or SKIM VAT are displayed, wait until the process is complete and try again. C. Ensure the dispose valve handle is pushed fully closed. D. Call your bulk oil provider. E. Call you FAS for assistance.
Top off reservoir or vat filling slow.	Pump or line issues beyond the scope of operator troubleshooting.	Contact your bulk oil provider.

5.6 Incident Log Codes

See section 1.12.2.1 in the controller manual for instructions to access the Incident Log.

Code	INCIDENT MESSAGE	EXPLANATION
E113, E113R, E113L	COOKING TEMPERATURE ERROR	Temperature probe reading out of range. If issue continues, call service.
E116, E116R, E116L	HIGH LIMIT 1 EXCEEDED – XXX F or XXX C	High limit temperature is past more than 410°F (210°C), or in CE countries, 395°F (202°C). Turn fryer off and let cool. Ensure the frypot is full of oil.
E117, E117R, E117L	HIGH LIMIT 2 EXCEEDED – XXX F or XXX C	High limit switch has opened. Turn fryer off and let cool. Ensure the frypot is full of oil. If issue continues, call service.
E118, E118R, E118L	HIGH LIMIT PROBLEM	Vat temperature exceeds 460°F (238°C) and the high limit has failed to open. Immediately disconnect power to the fryer and call service.
E119, E119R, E119L	HEATING FAILURE – XXX F or XXX C	Heating Control latch circuit failed. Heat Contactor failed to latch. Turn off fryer and turn on again. If issue continues, call service.
E120, E120R, E120L	HEAT RELAY FAILURE – XXX F or XXX C	Issue with the heat relay. Power cycle the fryer. If issue continues call service.
E124R, E124L	FAN FAILURE – XXX F or XXX C – SERVICE REQUIRED	An issue exists with the blower fan. Ensure the fan filter is clean. If issue continues call service.
E125R, E125L	PRESSURE SWITCH ERROR	The air pressure switch(s) failed to close. Ensure the fan filter is clean. If issue continues call service.
E127R, E127L	PRESSURE SWITCH FAILURE – XXX F or XXX C - SERVICE REQUIRED	The air pressure switch has failed closed or failed to open. Call service.
E128R, E128L	IGNITION LOCKOUT – XXX F or XXX C	The fryer has failed to ignite and has locked out the ignition module. Turn off the fryer and turn on again. This may need to be repeated several times if air is in the lines. The system will perform an auto fan calibration. Ensure the gas valve and supply valve is on. Ensure the fan filter is clean. If issue continues, call service.
E129, E129R, E129L	TOP OFF TEMPERATURE ERROR – XXX F or XXX C	Top off temperature probe error. Clean probe. If issue continues call service.
E130, E130R, E130L	FOURTH PROBE FAILURE – XXX F or XXX C CALL SERVICE	Fourth probe error. Clean probe. If issue continues call service.

Code	INCIDENT MESSAGE	EXPLANATION
E132, E132R, E132L	DRAIN VALVE NOT OPEN - FILTRATION DISABLED – SERVICE REQUIRED	Drain valve was trying to open and its position is unknown.
E133, E133R, E133L	DRAIN VALVE NOT CLOSED - FILTRATION AND TOP OFF DISABLED – SERVICE REQUIRED	Drain valve was trying to close and its position is unknown.
E134, E134R, E134L	RETURN VALVE NOT OPEN - FILTRATION AND TOP OFF DISABLED – SERVICE REQUIRED	Return valve was trying to open and its position is unknown.
E135, E135R, E135L	RETURN VALVE NOT CLOSED - FILTRATION AND TOP OFF DISABLED – SERVICE REQUIRED	Return valve was trying to close and its position is unknown.
E137, E137R, E137L	AIF PROBE FAILURE – SMART FILTRATION AND TOP OFF DISABLED – SERVICE REQUIRED	AIF probe reading out of range. Call service.
E139	CHANGE OIL FILTER – CHANGE FILTER MEDIA	25-hour timer has expired, or dirty filter logic has activated. Change the filter paper or pad.
E141	PUMP NOT FILLING	The system detects that oil may be present in the filter pan. Ensure the filter isn't clogged. Ensure the pre-filter is clean. Ensure the pre-screen and filter pan O-rings are present and in good condition. Ensure the pre-filter is tightened with the pre-filter wrench.
E142, E142R, E142L	CLOGGED DRAIN	Vat did not empty during filtration. Ensure the drain is not clogged and use the fryer tool to clear drain.
E143, E143R, E143L	OIL SENSOR ERROR	Ensure the oil sensor is clean. Ensure the oil level is at or above the middle oil level line. If issue continues, call service.
E144, E144R, E144L	(Isn't displayed, only logged)	Recovery time exceeded maximum time limit. Ensure oil is not added to the frypot during the recovery check. If electric, ensure the power cord is fully seated into the receptacle. If issue continues, call service.
E145, E145R, E145L	RECOVERY FAULT – SCHEDULE SERVICE SOON	Recovery time exceeded maximum time limit for three or more consecutive cycles. If issue continues, call service.
E151	BOARD ID ERROR – MISSING OR DUPLICATE BOARD ID – SERVICE REQUIRED	The controller location ID is missing, or two or more controllers have the same location ID. Call service.
E152	USER INTERFACE CONTROLLER ERROR	The controller has an unknown error. Power cycle the fryer. If issue continues, call service.
E153	CAN BUS ERROR - FILTRATION AND TOP OFF DISABLED – SERVICE REQUIRED	Communications are lost between boards. Power cycle the fryer. If issue continues, call service.
E161	MISCONFIGURED ENERGY TYPE – SERVICE REQUIRED	The fryer is not correctly configured for the energy type. Call service.

Code	INCIDENT MESSAGE	EXPLANATION
E162, E162R, E162L	FRYPOT NOT HEATING – XXXF OR XXXC	The frypot is not heating properly. Gas fryers: Ensure the gas is connected to the fryer. Ensure the gas valve/supply valve is on/open. Ensure quick disconnect is properly connected. Ensure fan filter is clean. Electric fryers: Ensure the power cord is securely connected to the power receptacle. Ensure the breaker is on and not tripped.
E163, E163R, E163L	(Isn't displayed, only logged)	Rate of rise error occurred during a recovery test. Ensure the oil level is at the bottom oil level when cold and at the middle or top oil level line when at setpoint. On electric fryers ensure the probe is not touching the elements.
E165, E165R, E165L	CLEAN OIB SENSOR	Gas -The oil is back sensor does not detect oil. Clean optional oil sensor. If issue continues, call service.
E166, E166R, E166L	DRAIN VALVE OPEN – XXX F OR XXX C	Drain valve is opened during cooking. Power cycle the fryer. If issue continues, call service.
E168, E168R, E168L	HCB OIB FAILURE – SERVICE REQUIRED	The OIB fuse may have tripped and didn't reset. Wait 30 minutes for fuse to reset. If issue continues, call service.
E169	RECIPE FILE NOT AVAILABLE – SERVICE REQUIRED	The controller has not been programmed with product recipes. Replace controller with factory programmed controller.
E170	OIL TEMP HIGH DURING OQS – XXXF OR XXXC	Oil temperature is too high for a valid OQS reading. Filter at a temperature between 300ºF (149ºC) and 375ºF (191ºC).
E171	OIL TEMP LOW DURING OQS – XXXF OR XXXC	Oil temperature is too low for a valid OQS reading. Filter at a temperature between 300ºF (149ºC) and 375ºF (191ºC).
E172	TPM RANGE LOW	The TPM range is too low for a valid OQS reading. This may be seen with fresh new oil. Continue cooking and repeat OQS filter later. If issue continues call service.
E173	TPM RANGE HIGH – OIL IS ABOVE DISCARD VALUE	The TPM range is above the discard value. Dispose the oil.
E174	OQS ERROR	The OQS has an internal error. Power cycle the fryer. If issue continues call service.
E175	OQS AIR ERROR	The OQS is detecting air in the oil. Check the O-rings and check/tighten prescreen filter with pre-filter wrench to ensure no air is entering the OQS sensor. If issue continues call service.

Code	INCIDENT MESSAGE	EXPLANATION
E176	OQS COMMUNICATION ERROR	The OQS sensor has a communication error. Power cycle the entire fryer battery. If issue continues call service.
E177, E177R, E177L	OIB TEMPERATURE ERROR – XXX F or XXX C – SERVICE REQUIRED	OIB probe reading out of range. Call service.
E182	TOP OFF OIL EMPTY	The top off oil reservoir is empty. Fill or replace the reservoir and press the orange button.
E184 E184R, E184L	LOW OIL CONDITION – FILL FRYPOT WITH OIL	The frypot oil level is low. Ensure the oil level is at or above the middle oil level line. If issue continues call service.
E185 E185R, E185L	LOW OIL DETECTED – FILL FRYPOT WITH OIL	Fill frypot with oil to the low oil level line.
E186, E186R, E186L	FAN FILTER IS DIRTY – CLEAN FAN FILTER	Remove and clean the fan filter.
E187, E187R, E187L	FAN FILTER IS CLOGGED – CLEAN FAN FILTER NOW	Remove and clean the fan filter.
E188	WASTE VALVE OPEN – CLOSE WASTE VALVE	Close the waste valve. If issue continues call service.
E189	VFD COMMUNICATION FAILURE – FILTRATION AND TOP OFF DISABLED	Power cycle the entire fryer battery. If issue continues call service.
E190	SUCTION VALVE OPENING ERROR – FILTRATION AND TOP OFF DISABLED	Power cycle the entire fryer battery. If issue continues call service.
E191	SUCTION VALVE CLOSING ERROR – FILTRATION AND TOP OFF DISABLED	Power cycle the entire fryer battery. If issue continues call service.
E192R, E192L	FAN LIFE WARNING – REPLACE FAN SOON	Replace the fan.
E193R, E193L	FAN LIFE FAILURE – REPLACE FAN	Replace the fan.
E194R, E194L	IGNITION MODULE NOT DETECTED – SERVICE REQUIRED	Call service.
E195	HCB NOT DETECTED – SERVICE REQUIRED	Call service.
E196	SCB NOT DETECTED	Power cycle the entire fryer battery. If issue continues call service.
E197R, E197L	FLAME SENSE ERROR – SERVICE REQUIRED	Call service.
E199	FRESH OIL VALVE OPENED	Call service.
E200	(Isn't displayed, only logged)	VFD current reduction. Change filter pad or paper. Ensure bulk quick disconnect is correctly attached and bulk dispose line is not clogged.

Code	INCIDENT MESSAGE	EXPLANATION
E201	VFD AIR DETECTION	Ensure the O-rings are present and in good condition.
E202	PUMP MOTOR CURRENT HIGH	Ensure the pre-screen filter is clean. Ensure the filter pad or paper is clean. If disposing to bulk, ensure bulk quick disconnect is correctly attached and bulk dispose line is not clogged. If topping off, ensure JIB hose is not pinched and pick up tube is clear of debris. If issue continues call service.
E203	VFD ERROR FAULT – SERVICE REQUIRED	Call service.
E204	SUCTION VALVE CURRENT HIGH – SERVICE REQUIRED	Call service.
E205 E205R, E205L	DRAIN VALVE CURRENT HIGH	Clear drain with fryer tool. Ensure all objects are out of drain. Power cycle the entire fryer battery. If issue continues call service.
E206 E206R, E206L	RETURN VALVE CURRENT HIGH – SERVICE REQUIRED	Power cycle the entire fryer battery. If issue continues call service.
E207	DIRTY FILTER MEDIA	Ensure the pre-screen filter is clean. Ensure the filter pad or paper is clean.
E208 E208R, E208L	NO OIL DETECTED	Ensure the frypot is full of oil. Clean OIB, ATO and AIF sensors. If issue continues call service.
E209	CPU FAN FAILURE – SERVICE REQUIRED	Call service.
E210	HIGH HCB TEMPERATURE	The HCB board temperature is too high. Turn off touchscreen, let the system cool for 30 minutes. If issue continues call service.
E211	HIGH CONTROLLER TEMPERATURE	The controller temperature is too high. Turn off touchscreen, let the system cool for 30 minutes. If issue continues call service.
E212	HIGH SYSTEM CONTROL BOARD TEMPERATURE – XXX F or XXX C	Turn off touchscreen, let the system cool for 15 minutes. If issue continues call service.
E213	ERROR READING USB	Ensure USB is formatted correctly. Try a different USB. If issue continues call service.
E214	ERROR WRITING TO USB	Ensure USB is formatted correctly. Try a different USB. Check security on USB device. If issue continues call service.
E217	ERROR READING SD CARD	Ensure SD card is formatted correctly. Try a different SD card. If issue continues call service.
E218	ERROR WRITING TO SD CARD	Ensure SD card is formatted correctly. Try a different SD card. If issue continues call service.
E219	LOW GAS PRESSURE – XX.XX inches of WC	Ensure gas line is connected. Ensure gas supply is turned on. If issue continues, contact gas supplier.
E220	HIGH GAS PRESSURE – XX.XX inches of WC	Turn off controllers. Turn off gas supply. Call

Code	INCIDENT MESSAGE	EXPLANATION
		service.
E221	(Isn't displayed, only logged)	The system gas pressure sensor has failed. Call service.
E223	CONFIGURATION FILE NOT AVAILABLE – LOAD CONFIGURATION FILE FROM USB	Load configuration file from USB.
E224	ZERO CROSSING RELAY BOARD COMMUNICATION ERROR – SERVICE REQUIRED	Call service.
E225R, E225L	HEATER CONTROL IS NOT CONNECTED TO THE HCB – SERVICE REQUIRED	Call service.
E226	VENT VALVE 1 OPEN CIRCUIT – SERVICE REQUIRED	Call service.
E227	VENT VALVE 1 SHORT CIRCUIT – SERVICE REQUIRED	Call service.
E228	VENT VALVE 2 OPEN CIRCUIT – SERVICE REQUIRED	Call service.
E229	VENT VALVE 2 SHORT CIRCUIT – SERVICE REQUIRED	Call service.
E230	BULK FRESH OIL VALVE SHORT CIRCUIT – SERVICE REQUIRED	Call service.
E231	BULK FRESH OIL VALVE OPEN CIRCUIT – SERVICE REQUIRED	Call service.
E232L	LEFT BASKET LIFT NOT DOWN	Ensure the left basketlift and frypot do not have any obstructions. If issue continues call service.
E235R	RIGHT BASKET LIFT NOT DOWN	Ensure the right basketlift and frypot do not have any obstructions. If issue continues call service.
E236R, E236L	LEFT FAN CALIBRATION ERROR RIGHT FAN CALIBRATION ERROR	System unable to determine fan switch RPM. Rerun fan calibration. Ensure the fan filter is clean.
E237R, E237L	IGNITION MODULE HARDWARE ERROR – SERVICE REQUIRED	Call service.
E238	HEATER CONTROL BOARD FIRMWARE UPDATE ERROR – SERVICE REQUIRED	Call service.
E239	SYSTEM CONTROL BOARD FIRMWARE UPDATE ERROR – SERVICE REQUIRED	Call service.
E240	WASTE VALVE CLOSED – XXX F or XXX C – SERVICE REQUIRED	Call service.
E241	HEATER CONTROL BOARD CONFIGURATION ERROR – SERVICE REQUIRED	Power cycle the entire fryer battery. If issue continues call service.
E242	SYSTEM CONTROL BOARD CONFIGURATION ERROR – SERVICE REQUIRED	Power cycle the entire fryer battery. If issue continues call service.
E243	SYSTEM CONTROL BOARD CONFIGURATION ERROR **?????? REPEAT**	Power cycle the entire fryer battery. If issue continues call service.
E244	UI FIRMWARE UPDATE FAILURE	If issue continues call service.
E245L	BASKET LIFT NOT DETECTED	1. If a basket lift is not installed, ensure that

Code	INCIDENT MESSAGE	EXPLANATION
E245LC E245R E245RC		Settings > Cooking > Basket Lift is Off. 2. If a basket lift is installed and enabled in settings, ensure the basket lift is plugged into the back of the fryer. 3. If issue continues call service.
E246L E246LC E246R E246RC	BASKET LIFT FAULT DETECTED	1. If a basket lift is not installed, ensure that Settings > Cooking > Basket Lift is Off. 2. If a basket lift is installed an enabled in settings, ensure the basket lift is plugged into the back of the fryer. 3. If issue continues call service.
E247	HCB OPERATION NOT PERMITTED	Call service.
E248	SCB OPERATION NOT PERMITTED	Call service.
E249	NO GAS PRESSURE	1. Ensure gas line is connected. 2. Ensure gas supply is turned on. 3. If issue continues call service.
E250	VAT IN ERRORED STATE	Call service.
E251	VAT IN DISABLED STATE	Call service.

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FRYMASTER
8700 LINE AVENUE, SHREVEPORT, LA 71106-6800

800-551-8633
318-865-1711
WWW.FRYMASTER.COM
EMAIL: FRYSERVICE@FRYMASTER.COM

Part Number FRY_IOM_8197967 11/2025