

Frymaster®

Your Growth Is Our Goal

FilterQuick™

FQG80T/100T/120T easyTouch®

Gas Fryer

Installation, Operation and Maintenance Manual

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



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 to
familiarize yourself with the appliance before
connecting it to its gas supply.**

Keep these instructions for future reference.



8 1 9 7 6 3 8

Part Number: FRY_IOM_8197638 01/2024

Original Instructions



WELBILT®

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, 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 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.

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 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

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.



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.



FOR YOUR SAFETY

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



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

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.

NOTICE

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

 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

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

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

 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 filter pan must be emptied and cleaned 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.

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 persons 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

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

Do not leave the fryer unattended during use.

 CAUTION

Do not melt solid shortening in the fryer unless shortening is packed firmly below, between, and above heat tubes; or operate fryer if shortening/oil is not up to the lower oil mark in vessel. Failure to do this may damage vessel and void warranty.



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.

Table of Contents

	Warranty Statement	i
Section 1	Introduction	1-1
Section 2	Installation	2-1
Section 3	Operation Instructions	3-1
Section 4	Preventative Maintenance	4-1
Section 5	Operator Troubleshooting.....	5-1

FILTERQUICK™ FQG80T/100T/120T GAS FRYER

CHAPTER 1: INTRODUCTION

NOTE: The Frymaster FQG80T/100T/120T 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 FQG80T/100T/120T fryers. Models designated with FQG80T/100T/120T 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 FQG80T/100T/120T fryers.

FQG80T/100T/120T with FilterQuick™ Series gas fryers are energy efficient, tube-style, gas fired fryers.

FQG80T/100T/120T with FilterQuick™ Series 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 FQG80T/100T/120T with FilterQuick™ Series Gas Fryers come standard with electronic ignition and melt cycle mode. The FQG80T/100T/120T with FilterQuick™ Series Gas Fryers are controlled with a FilterQuick™ easyTouch FQ4000 FQ80T/100T/120T controller.

All fryers in this series require an external source of AC electrical power. Units can be configured for voltages ranging from 100 VAC to 240 VAC.

FQG80T/100T/120T with FilterQuick™ Series Gas 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.

1.1.1 Principles of Operation

The incoming gas flows through orifices and is mixed with air in the burners to create the correct ratio for proper combustion. The mixture is ignited at the front end of each heat tube by the pilot light. Internal diffusers slow the flame as it goes through the burner tube. This slow, turbulent flame increases heat transfer to the walls of the tubes to heat the oil more efficiently.

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 lithium battery. Replace battery with Panasonic CR2032 3V lithium battery, part number 8074674 only. Use of another battery may present a risk of fire or explosion. The battery can be purchased from your Factory Authorized Servicer.

CAUTION

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

1.3 Information for the FQ4000 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) or the United Kingdom (UKCA) Specific Information

The European Community (CE) and the United Kingdom (UKCA) have established certain specific standards regarding equipment of this type. Whenever a conflict exists between CE, UKCA 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:

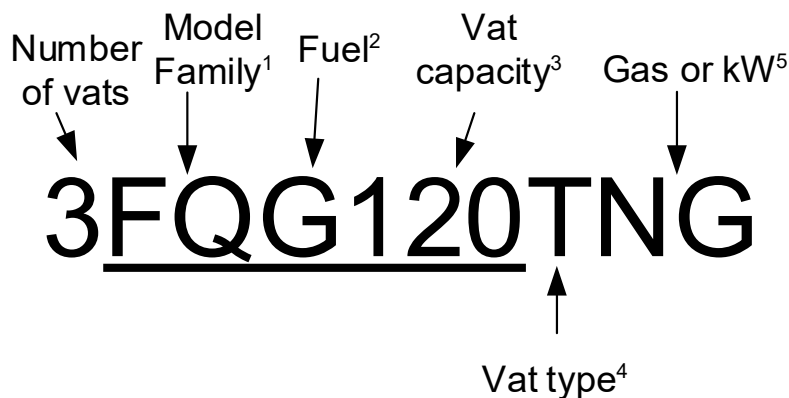
1. **File a claim for damages immediately**, regardless of the extent of damages.
2. **Inspect for and record all visible loss or damage** and ensure that this information is noted on the freight bill or express receipt and is signed by the person making the delivery.
3. **Concealed loss or damage** 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 5 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.**

1.8 Rating Plate

This is attached to the inside front door panel. Information provided includes the model and serial number of the fryer, BTU/hr input of the burners, outlet gas pressure in inches W.C. and whether the unit has natural or propane gas orifices.

1.9 Reading Model Numbers



1 = FilterQuick

2 = E-electric or G-gas

3 = 80, 100, 120 lbs

4 = T for Tube, U for open

5 = Gas-NG (Natural), PG(Propane), BG(Butane),
LG(LPMix) or Kilowatts -14, 17, 22kW;

1.10 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@welbilt.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.

FILTERQUICK™ FQG80T/100T/120T 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 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.

The fryer(s) must be installed on non-combustible floors equipped with factory-supplied 5 in. (13 cm) casters.

 DANGER

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

 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.

A commercial, heavy-duty fryer must vent its combustion wastes to the outside of the building. A deep-fat fryer must be installed under a powered exhaust hood, as exhaust gas temperatures are approximately 650°F (343°C). Check air movement during installation. Strong exhaust fans in the exhaust hood or in the overall air conditioning system can produce slight air drafts in the room.

Do not place the fryer's flue outlet directly into the plenum of the hood, as it will affect the gas combustion of the fryer. 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.

Never use the interior of the fryer cabinet for storage or store items on shelving over or behind the fryer. Exhaust temperatures can exceed 650°F (343°C) and may damage or melt items stored in or near the fryer.

2.1.2 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 or UKCA codes. Quick-disconnect devices, if used, shall likewise comply with national, local, and, if applicable, CE or UKCA codes. In the absence of local codes, installation must conform to the national Fuel Gas Code, ANSI Z223.1/NFPA 54, ANSI Z83.11, NFPA 96, 211 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 from 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).

2.1.3 Power Requirements

Frymaster FQG80T/100T/120T gas fryers require 120VAC 60 Hz or 230VAC single-phase 50 Hz (International) electrical service and are equipped with a 16-3 SJT grounded flexible power cord for a direct connection to the power supply. Amperage draw for each unit depends on the accessories supplied with the unit/system.



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.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

2.1.4 Electrical Grounding Requirements

All electrically operated appliances must be grounded in accordance with all applicable national and local codes, and, where applicable, CE or UKCA 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.

The equipotential grounding lug allows all the equipment in the same location to be electrically connected to ensure there is no electrical potential difference between the units, which could be hazardous.



⚠ 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.

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

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.

2.3 After Fryers are Positioned at the Frying Station

⚠ DANGER

No structural material on the fryer should be altered or removed to accommodate placement of the fryer under a hood. Questions? Call the 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.

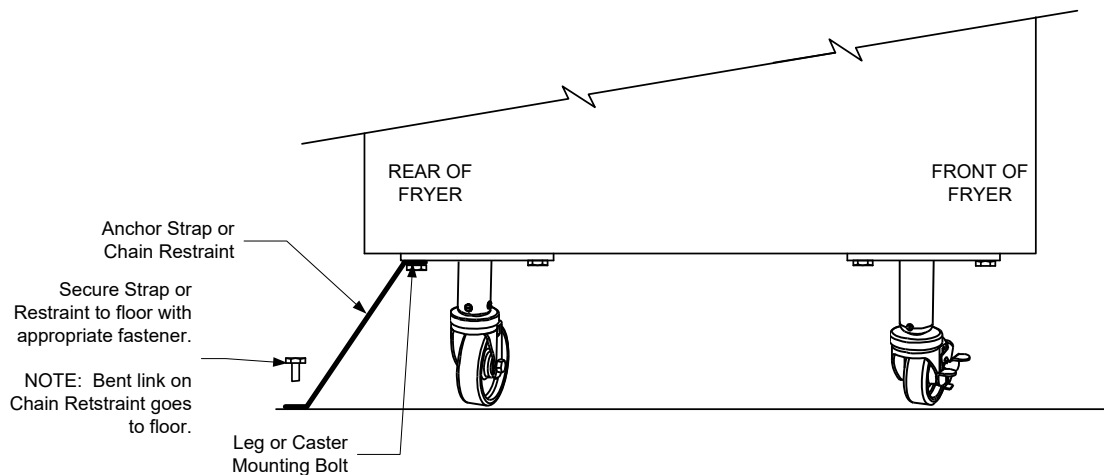
When the fryer is leveled in its final position, install the restraints provided by the KES to limit its movement so that it does not depend on or transmit stress to the connection. Install the restraints in accordance with the provided instructions. If the restraints are disconnected for service or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



2.4 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.
 - b. Place the power switch in the **ON** position.
 - Verify that the display indicates the controller is on.
 - c. Place the fryer power switch in the **OFF** position. Verify that the display indicates 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.



DANGER

Fryers MUST be connected ONLY to the gas type identified on the attached rating plate.

5. Verify the minimum and maximum gas supply pressures 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.

Non- CE Standard for Incoming Gas Pressure						
Fryer Model	FQG80T		FQG100T		FQG120T	
Gas Type	Nat	LP	Nat	LP	Nat	LP
Incoming Min Pressure W.C/kpa/mbar	6/1.49/14.93	11/2.74/27.37	6/1.49/14.93	11/2.74/27.37	6/1.49/14.93	11/2.74/27.37
Incoming Max Pressure W.C/kpa/mbar	14.00/3.48/34.84	14.00/3.48/34.84	14.00/3.48/34.84	14.00/3.48/34.84	14.00/3.48/34.84	14.00/3.48/34.84
Burner Manifold Pressure WC/kpa	4.0/1.0	10.0/2.5	3.20/0.80	8.25/2.5	4.0/1.0	10.0/2.5
Orifice Size (mm)	2.26	1.40	2.20	1.40	2.04	1.30

(1) mbar = 10,2 mm H2O

CE Standard for Incoming Gas Pressure												
Fryer Model	FQG80T				FQG100T				FQG120T			
Gas Type	G20 Natural Gas Lacq	G25 Natural Gas Gronique	G30 Butane /Propane	G31 Propane	G20 Natural Gas Lacq	G25 Natural Gas Gronique	G30 Butane /Propane	G31 Propane	G20 Natural Gas Lacq	G25 Natural Gas Gronique	G30 Butane /Propane	G31 Propane
Incoming Min Pressure (mbar)	20	20	28/30	37	20	20	28/30	37	20	20	28/30	37
Incoming Max Pressure (mbar)	25	25	50	50	25	25	50	50	25	25	50	50
Burner Manifold Pressure (mbar)	7	10	17	20.6	10	10	23.9	23.9	10	10	23.9	23.9
Orifice Size (mm)	2.26	2.26	1.40	1.40	2.20	2.20	1.40	1.40	2.04	2.04	1.95	1.95

(1) mbar = 10,2 mm H2O

UKCA Standard for Incoming Gas Pressure												
Fryer Model	FQG80T				FQG100T				FQG120T			
Gas Type	G20 Natu- ral Gas Lacq	G25 Natural Gas Gro- nique	G30 Butane /Pro- pane	G31 Pro- pane	G20 Natural Gas Lacq	G25 Natural Gas Gro- nique	G30 Butane /Pro- pane	G31 Pro- pane	G20 Natu- ral Gas Lacq	G25 Natural Gas Gro- nique	G30 Butane /Pro- pane	G31 Pro- pane
Incoming Min Pressure (mbar)	20	20	28/30	37	20	20	28/30	37	20	20	28/30	37
Incoming Max Pressure (mbar)	25	25	50	50	25	25	50	50	25	25	50	50
Burner Manifold Pressure (mbar)	7	10	17	20.6	10	10	23.9	23.9	10	10	23.9	23.9
Orifice Size (mm)	2.26	2.26	1.40	1.40	2.20	2.20	1.40	1.40	2.04	2.04	1.95	1.95

(1) mbar = 10,2 mm H₂O

Australia Standard for Incoming Gas Pressure						
Fryer Model	FQG80T		FQG100T		FQG120T	
Gas Type	Nat	LP	Nat	LP	Nat	LP
Incoming Min Pressure W.C./kpa/mbar	TBD	TBD	TBD	TBD	4.54/1.13/11.30	11.05/2.75/27.50
Incoming Max Pressure W.C./kpa/mbar	TBD	TBD	TBD	TBD	14.00/3.48/34.84	14.00/3.48/34.84
Burner Manifold Pressure WC/MJ/h/TPP(kPa)	TBD	TBD	TBD	TBD	3.00/73.8/1.0	8.25/73.8/2.05
Orifice Size (mm)	TBD	TBD	TBD	TBD	2.92	1.95

(1) mbar = 10,2 mm H₂O

Korea Standard for Incoming Gas Pressure						
Fryer Model	FQG80T		FQG100T		FQG120T	
Gas Type	Nat	LP	Nat	LP	LNG (Natural)	LPG (Propane)
Incoming Min Pressure W.C./kpa/mbar	TBD	TBD	TBD	TBD	4/1.00/10.00	9.2/2.30/23.00
Incoming Max Pressure W.C./kpa/mbar	TBD	TBD	TBD	TBD	10/2.50/25.00	13.2/3.30/33.00
Orifice Size (mm)	TBD	TBD	TBD	TBD	2.04	1.30

(1) mbar = 10,2 mm H₂O

DANGER

When pressure-testing incoming gas supply lines, disconnect the fryer from the gas line if the test pressure is ½" PSI [3.45 kPa (14 inches W.C.)] or greater to avoid damage to the fryer's gas piping and gas valve(s).

NOTE: External gas regulators are not normally required on this fryer. A safety control valve protects the fryer against pressure fluctuations. If the incoming pressure is in excess of ½" PSI (3.45 kPa/35 mbar), **a step-down regulator is required.**

2.5 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.

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 any pilots. 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.

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 FQG80T/100T/120T gas fryer has received the CE or UKCA mark for the countries and gas categories indicated in the table below. **NOTE:** The nominal heat input (QN) is 21kW except for AT, DE, LU and category 3P/B, which is 23kW.

CE Approved Gas Categories by Country			
COUNTRIES	CATEGORIES	GAS	PRESSURE (MBAR)
AUSTRIA (AT)	I12H3B/P	G20	20
		G30, G31	50
BELGIUM (BE)	I2E(R)B	G20, G25	20, 25
	I3+	G30, G31	28-30, 37
BULGARIA (BG), CROATIA (HR), FINLAND (FI), ROMANIA (RO), SLOVENIA (SI), TURKEY (TR)	I12H3B/P	G20	20
		G30, G31	30
ESTONIA (EE), LATVIA (LV)	I2H	G20	20
FRANCE (FR)	I12Esi3+	G20, G25	20, 25
		G30, G31	28-30, 37
	I12Esi3P	G20, G25	20, 25
		G31	50
GERMANY (DE)	I12ELL3B/P	G20, G25	20
		G30, G31	50
	I3P	G31	50
HUNGARY (HU)	I12HS3B/P	G25	25
		G30, G31	50
CYPRUS (CY), CZECH REPUBLIC (CZ), GREECE (GR), IRELAND (IE), ITALY (IT), PORTUGAL (PT), SLOVAKIA (SK), SPAIN (ES), UNITED KINGDOM (GB)	I12H3+	G20	20
		G30, G31	28-30, 37
LUXEMBOURG (LU)	I12E3B/P	G20, G25	20
		G30, G31	50
NETHERLANDS (NL)	I12L3B/P	G25	25
		G30, G31	30
ICELAND (IS), MALTA (MT), NORWAY (NO),	I3B/P	G30, G31	30
POLAND (PL)	I12E3B/P	G20, G25	20
		G31	37
SWITZERLAND (CH)	I12H3+	G20	20
		G30, G31	28-30, 37
	I12H3B/P	G20	20
		G30, G31	50
DENMARK (DK), SWEDEN (SE), LITHUANIA (LT)	I12H3B/P	G20	20
		G30, G31	30
	I2H	G20	20

CE Standard

Required airflow for the combustion air supply is 2m³/h per kW.

UKCA Approved Gas Categories by Country			
COUNTRIES	CATEGORIES	GAS	PRESSURE (MBAR)
IRELAND (IE)	I12H3+	G20	20
		G30, G31	28-30, 37
UNITED KINGDOM (UK)	I12H3+	G20	20
		G30, G31	28-30, 37

UKCA Standard
Required airflow for the combustion air supply is 2m³/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 or UKCA 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. If the unit is not already plugged in, plug in the fryer to ensure the fryer drain valve is closed and fill the frypot with water or oil to the bottom OIL LEVEL line at the rear of the frypot.
4. **Clean, and fill frypot(s) with cooking oil** (see *Equipment Setup and Shutdown Procedures* in Chapter 3).



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.

5. Light the fryer following the procedures that are described in the “Lighting Instructions” found in Chapter 3 of this manual.
6. Confirm that the arrow forged into the bottom of the regulator body, which indicates gas flow direction, is pointed downstream towards the fryers. The air vent cap is also part of the regulator and should not be removed. If a vent line from the gas pressure regulator is used, it should be installed in accordance with local codes or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1-(latest edition) in the U.S. and appropriate national or European harmonized standards (EN) in the European Union.
 - a) Regulators can be adjusted in the field, but it is recommended that qualified service personnel adjust a regulator only if it is known to be out of adjustment or serious pressure fluctuations have been found and cannot be solved another way.
 - b) Only qualified service personnel should make adjustments to the regulators.

- c) Orifices: The fryer can be configured to operate on any available gas. The correct safety control valve, appropriate gas orifices, and pilot burner are installed at the factory. While the valve can be adjusted in the field, only qualified service personnel should make adjustments with proper test equipment.
- 7. The burner manifold pressure should be checked with a manometer 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.
- 8. Check the rating plate, inside the fryer door, for specific manifold gas pressures.
- 9. Check the programmed temperature thermostat setting by pressing the temperature button (Refer to chapter 1 FilterQuick 4000™ FQ80/100/120 Controller Manual) for the setpoint programming instructions.).

2.5.2 Equipment Installed at High Altitudes

- 1. The fryer input rating (BTU/hr.) is for elevations up to 2,000 ft (610 m). For elevations above 2,000 ft (610m), the rating should be reduced four percent for each additional 1,000 ft (305m) above sea level.
- 2. The correct orifices are installed at the factory if operating altitude is known at time of the customer's order.

2.6 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

FQG80T

Natural Gas to Propane (LP) Gas

PN 8263654

Propane (LP) Gas to Natural Gas

PN 8263653

FQG100T

Natural Gas to Propane (LP) Gas

PN 8263654

Propane (LP) Gas to Natural Gas

PN 8263653

FQG120T

Natural Gas to Propane (LP) Gas

PN 8263654

Propane (LP) Gas to Natural Gas

PN 8263653

Units manufactured for export to CE or UKCA 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

FQG80T

G20 or G25 (Natural) to G30 or G31 Gas:

PN 8263654

G30 or G31 to G20 or G25 (Natural) Gas:

PN 8263653

FQG100T

G20 or G25 (Natural) to G30 or G31 Gas:

PN 8263654

G30 or G31 to G20 or G25 (Natural) Gas:

PN 8263653

FQG120T

G20 or G25 (Natural) to G30 or G31 Gas:

PN 8263654

G30 or G31 to G20 or G25 (Natural) Gas:

PN 8263653

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.

UKCA Gas Conversion Kits

FQG80T

G20 or G25 (Natural) to G30 or G31 Gas:

PN 8263654

G30 or G31 to G20 or G25 (Natural) Gas:

PN 8263653

FQG100T

G20 or G25 (Natural) to G30 or G31 Gas:

PN 8263654

G30 or G31 to G20 or G25 (Natural) Gas:

PN 8263653

FQG120T

G20 or G25 (Natural) to G30 or G31 Gas:

PN 8263654

G30 or G31 to G20 or G25 (Natural) Gas:

PN 8263653

UKCA 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.

Conversions can only be executed by qualified, factory-authorized personnel.

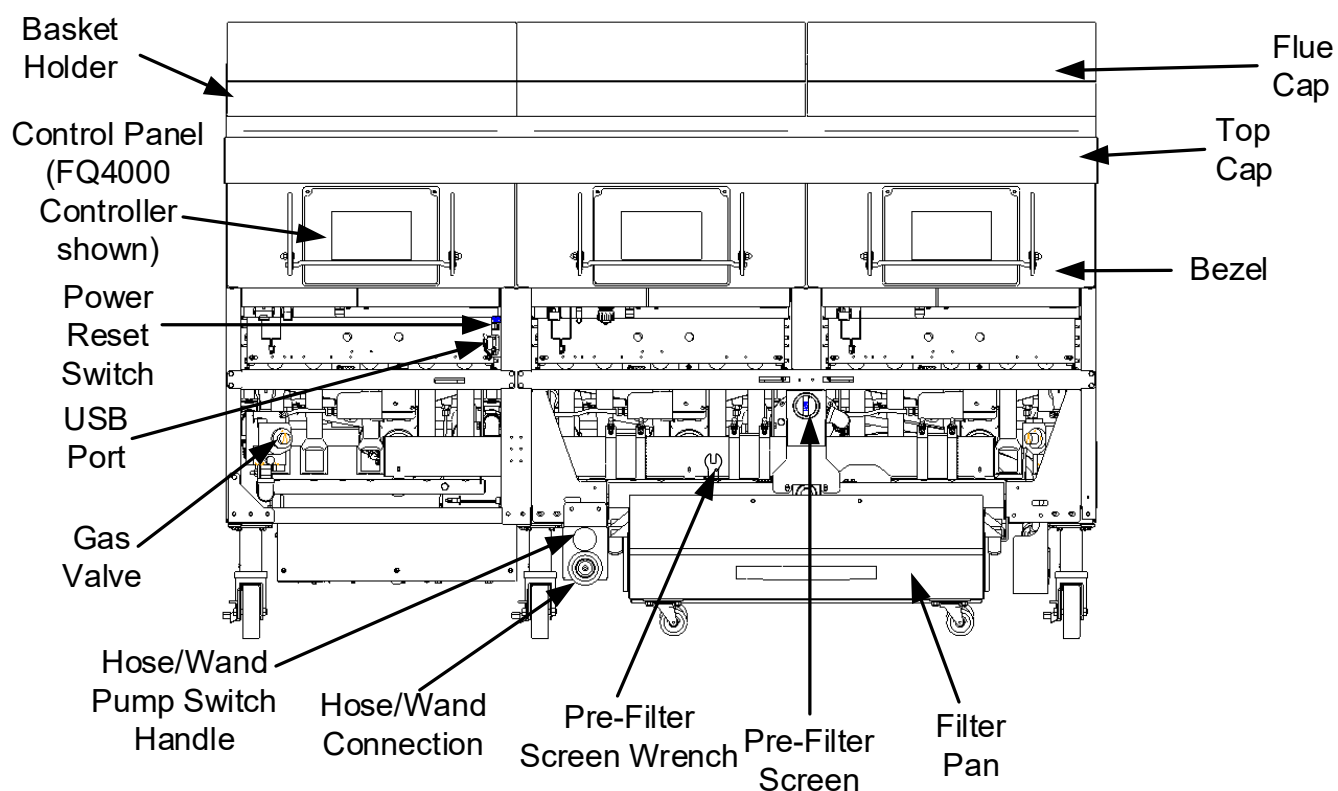


Typical non-CE gas valve for electronic-ignition equipped fryers.

FILTERQUICK™ FQG80T/100T/120T GAS FRYER

CHAPTER 3: OPERATING INSTRUCTIONS

FINDING YOUR WAY AROUND THE FQG80T/100T/120T GAS FRYER



TYPICAL CONFIGURATION (3FQG120T 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. The oil capacity of the FQG80T fryer is 80 lbs. (10.56 gallons/40 liters) at 70°F (21°C). The oil capacity of the FQG100T fryer is 100 lbs. (12.21 gallons/50 liters) at 70°F (21°C). The oil capacity of the FQG120T fryer is 120 lbs. (15.80 gallons/59.81 liters) at 70°F (21°C).

CAUTION

Do not melt solid shortening in the fryer unless shortening is packed firmly below, between, and above heat tubes; or operate fryer if shortening/oil is not up to the lower oil mark in vessel. Failure to do this may damage vessel and void warranty.

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.

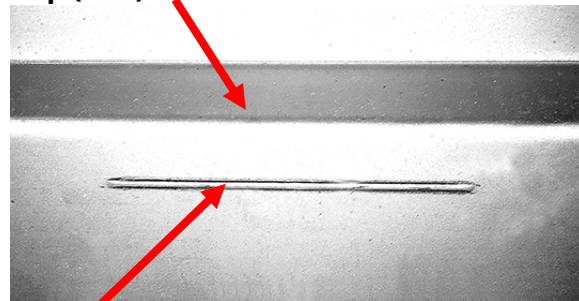
DANGER

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.

Prior to filling frypots with oil, ensure the fryer is plugged in and all drains are closed.

1. 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.
2. Fill the frypot with shortening to the bottom **OIL LEVEL** line located on the rear of the frypot. This will allow for shortening expansion as heat is applied. Do not fill cold shortening any higher than the bottom **OIL LEVEL**; overflow may occur as heat expands the oil. When using solid shortening, cut it into small pieces and pack it below the heat tubes, between the tubes and on top of the tubes, leaving no air spaces around the tubes. Do not disturb or bend the probe sensing bulbs.

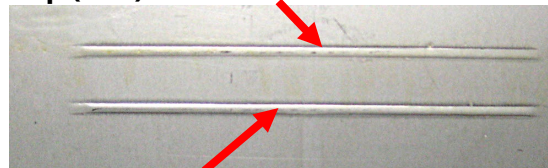
Top (Hot) OIL LEVEL line



**Bottom (Cold) OIL LEVEL line
FQG100/120 Fryers**

3. Ensure that the shortening level is at the *top frypot bend for FQG100/120 fryers or top (HOT) Oil level line for FQG80 fryers*, when the oil is at its cooking temperature.

Top (Hot) OIL LEVEL line



**Bottom (Cold) OIL LEVEL line
FQG80 Fryers**

3.1.2 Lighting the Fryer

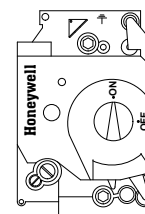
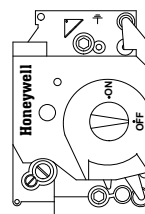
1. Ensure the controller is in the OFF position.
2. Ensure the gas is "ON".

For CE Fryers

Placing the ON/OFF switch on the controller in the OFF position also turns off the gas valve. Wait five minutes before continuing with Step 3, which will also turn on the gas valve. **NOTE:** There is not a physical ON/OFF knob on CE gas valves.

For Non-CE Fryers

After placing the ON/OFF switch on the controller in the OFF position, turn the gas valve knob to the OFF position. Wait 5 minutes, then turn the knob to the ON position and proceed with Step 3.



3. Ensure that the controller is switched **ON** by pressing the ON/OFF switch  to the **ON** position.

WARNING

Never use a match or taper to light pilot on this ignition system.

4. The ignition module will energize the pilot gas supply and the ignitor. The ignitor spark will ignite the pilot gas. The presence of the pilot flame is then proved by a flame sensor, which sends a signal to the main gas supply, opening the valve. The controller controls the fryer after ignition.

All Frymaster fryers are tested, adjusted and calibrated to sea level conditions before leaving the factory. Adjustments to assure proper operation of pilot may be necessary on installation to meet local conditions, low gas pressure, differences in altitude and variations in gas characteristics. These adjustments correct possible problems caused by rough handling or vibration during shipment and are to be performed only by qualified service personnel. These adjustments are the responsibility of the customer and/or the dealer and are not covered by the Frymaster warranty.

The inlet pipe at the lower rear of the fryer brings incoming gas to the pilot safety control valve, then to the pilot and main burners. The pilot is located high in the cabinet center, at the base of the frypot.



Pilot in normal operation.

 WARNING

In the event of prolonged power failure, the ignition module will shut down and lock out the system. Turn the controller to "OFF" and then back "ON" after power has been re-established.

5. If the pilot flame fails, the ignition module will shut down and lock out the system. To restart, turn the controller "OFF", wait approximately 5 minutes for the system to recycle itself, then repeat step 3.

 CAUTION

If the pilot and main burner go out, the fryer(s) MUST be left completely shut down at least 5 minutes before lighting.

 WARNING

When checking for burner ignition or performance, do not get too close to the burners. Slow ignition can cause possible flashback, increasing the potential for facial and body burns.

6. The fryer will automatically enter the melt cycle mode if the frypot temperature is below 180°F (82°C) and will display **MELT CYCLE IN PROGRESS**. (**NOTE:** During the melt cycle, the burners will repeatedly fire for a few seconds, then go out for a longer period.) The solid shortening must be stirred occasionally during the heating process to ensure all the shortening in the drain and vat are liquified. When the frypot temperature reaches 180°F (82°C), 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 **START** and the fryer is ready for use. If solid shortening is used, the MELT cycle **MUST** be used to melt the shortening. **DO NOT DISABLE OR CANCEL THE MELT CYCLE IF USING SOLID SHORTENING.**
7. Ensure that the shortening level is at the *top frypot bend* when the oil is at its cooking temperature.

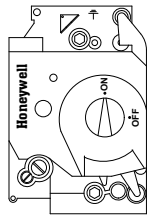
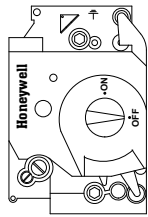
3.1.3 Shutdown

For short-term shut down during the workday:

1. Place the controller ON/OFF switch in the **OFF** position and put the frypot covers in place.

When shutting the fryers down at closing time:

1. Place the controller ON/OFF switch in the **OFF** position to turn the fryer off.

For CE Fryers	For Non-CE Fryers
Placing the ON/OFF switch on the controller in the OFF position also turns off the gas valve. NOTE: There is not a physical ON/OFF knob on CE gas valves.	After placing the ON/OFF switch on the controller in the OFF position, turn the gas valve knob to the OFF position.
	

2. Filter the oil and clean the fryers (See Chapters 5 and 6).
3. Clean the filter pan and replace the filter paper. Do not leave solid shortening in the filter pan over night.
4. Place the frypot covers on the frypots.

3.2 Operation

This fryer is equipped with FQ4000 easyTouch FQ80/100/120 chicken controllers (illustrated below). Refer to the FQ4000 easyTouch FQ80/100/120 (*Chicken*) Controller Operation Manual for the controller programming, operating procedures and for operating instructions for the built-in filtration system.



FQ4000 easyTouch FQ80/100/120 Controllers

3.3 Filtration

3.3.1 Introduction

The FQG80T/100T/120T 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 3.3.2 covers preparation of the filter system for use. Operation of the system is covered in the FQ4000 easyTouch FQ80/100/120 Chicken Controller Operation 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 envelope **MUST** be replaced daily.

3.3.2 Preparing the FQG80T/100T/120T with Filtration System for Use with Filter Leaf Envelope Assembly

The FQG80T/100T/120T with fingertip filtration system allows the oil in one frypot to be safely and efficiently filtered while the other frypots in a battery remain in operation. The FQG80T/100T/120T filtration system uses a leaf filter screen configuration with a Magnesol filter envelope.

1. Pull the filter pan out from the cabinet and remove the filter leaf assembly by lifting on the pick-up tube assembly (see Figure 1).

2. Clean as directed in section 3.3.3.
NOTE: Refer to Section 3.3.3 for instructions on how to disassemble and reassemble the filter leaf screen assembly.

Disposal instructions are in the FQ4000 easyTouch FQ80/100/120 Chicken Controller Operation Manual.

3. Inspect the filter pan connection fitting to ensure that both O-rings are present and in good condition. (See Figure 2).

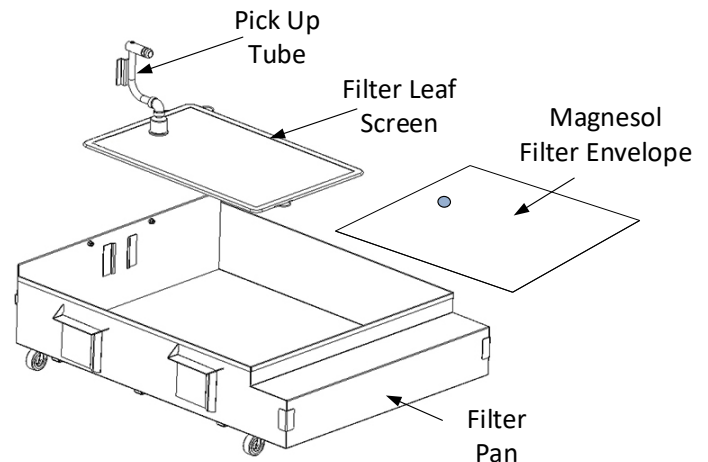


Figure 1



Figure 2

4. Replace the filter leaf assembly in the filter pan, ensuring that the filter pick up tube is lowered and securely mounted into the brackets in the filter pan (see Figure 3).
5. Push the filter pan back into the fryer, positioning it all the way to the back of the cabinet. Ensure **"P"** is **NOT** displayed on the controller. The filtration system is now ready for use

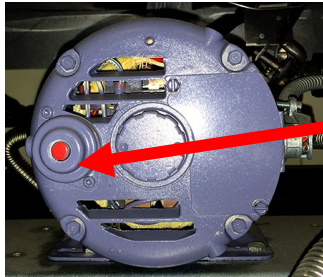


Figure 4



Figure 3

⚠ 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 filter pan must be emptied and cleaned 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

The filter pump is equipped with a manual reset switch in case the filter motor overheats, or an electrical fault occurs. If this switch trips, turn off power to the filter system and allow the pump motor to cool 20 minutes before attempting to reset the switch (see Figure 4).

⚠ WARNING

Use caution and wear appropriate safety equipment when resetting the filter pump reset switch. Resetting the switch must be accomplished with care to avoid the possibility of a burn.

3.3.3 Disassembly and Reassembly of the Leaf Screen Filter Assembly

Disassembly

1. Using Figure 5 as a guide, grasp the frame with your thumbs on the handles at the corner of the assembly and pull outward in opposite directions to separate the frame at the corner. Continue to open the frame (it will pivot at the opposite corner) until the outer screens and grid can be removed from the frame.

Step 2 - Separate
the outer screens
and grid.

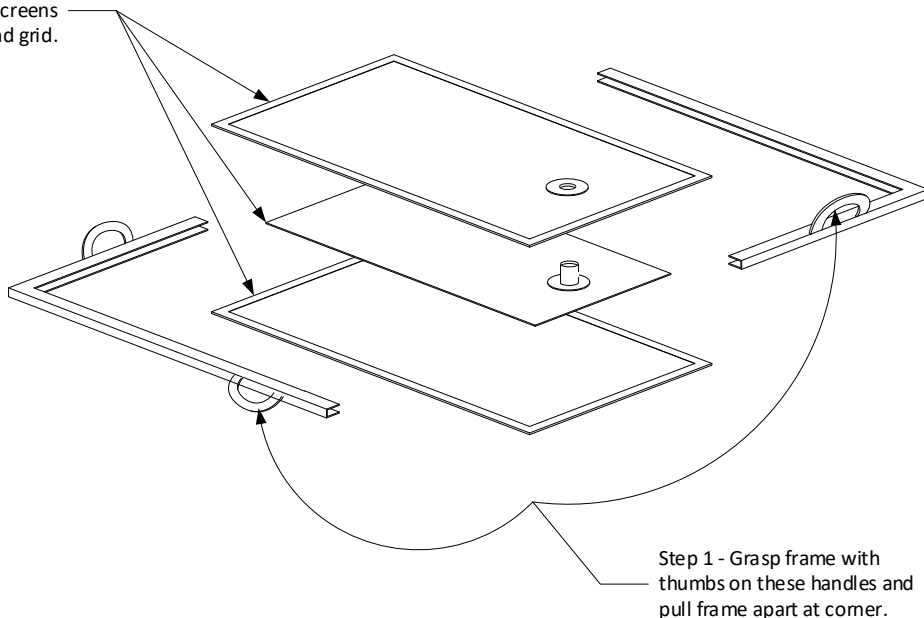


Figure 5

2. Separate the outer screens and grid.

Cleaning

1. **Clean the two frame pieces, outer screens, and grid using a good quality degreaser and hot water from a spray nozzle. The groove in the seal frame pieces can be cleaned with the edge of a Scotch-Brite™ or similar cleaning pad.**
2. **At each scheduled boil-out, disassemble the leaf filter assembly and place in the frypot being boiled out. Follow the boil-out procedure in Section 4.4.1 of this manual.**
3. **Allow all filter assembly components to air dry or thoroughly dry with clean towels before reassembling.**

Reassembly

1. Using Figure 6 as a guide, place the inner insert screen between the filter screens and place either stainless steel channel onto the screens by placing the small corner with the pin and hinged channel over the other side (see Figure 7). Repeat with second channel. NOTE: Channel must be put back starting with the corner pin.

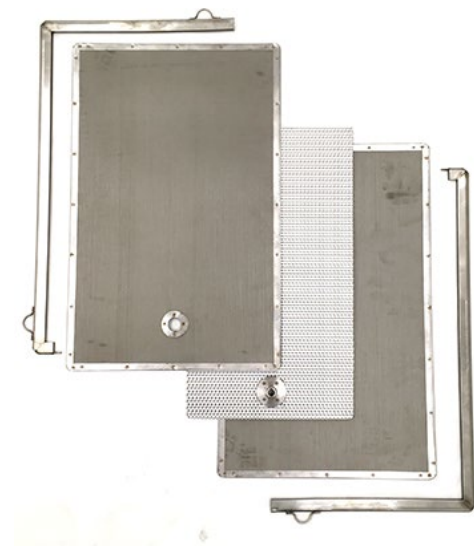


Figure 6



Figure 7

2. Insert the assembly into the filter envelope. The rough side of the envelope should face up (see Figure 8).
3. Ensure the fitting is lined up with the opening and fold over the envelope tab (see Figure 9).
4. Carefully screw the pickup tube assembly onto the filter leaf assembly (see Figures 10 and 11).



Figure 8



Figure 9



Figure 10

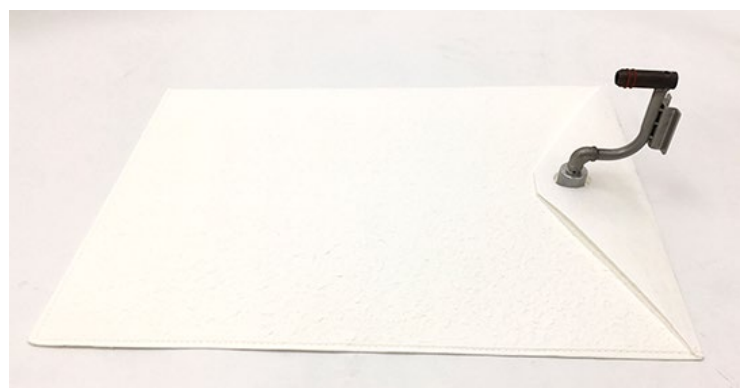


Figure 11

3.3.4 Disassembly and Reassembly of the Masterfil Filter Assembly

Disassembly

1. Using Figure 12 as a guide, grasp the pickup tube and handles securing the filter screen and lift upward out of the filter pan.
2. Remove the outer clips (see Figure 13).
3. Lift the pickup tube off of the fitting (see Figure 14).
4. Unscrew the fitting from the screen (see Figure 15)
5. Remove the filter envelope from the sana grid screen (see Figure 16).



Figure 12



Figure 13

Cleaning

1. Clean the filter pan, sana grid, pick up tube, pickup tube base and clips using a good quality degreaser and hot water from a spray nozzle.
2. At each scheduled boil-out, disassemble the filter assembly and place in the frypot being boiled out. Follow the boil-out procedure in Section 4.4.1 of this manual.
3. Allow all filter assembly components to air dry or thoroughly dry with clean towels before reassembling.



Figure 14



Figure 15



Figure 16

Reassembly

1. Reassemble by placing the sana grid inside the filter envelope (see Figure 17).
2. Fold the opening of the envelope under the screen (see Figure 18).
3. Slide the large clip over the folded end (see Figure 19).
4. Slide the small clip over the other end (see Figure 20).
5. Securely screw the fitting to the screen (see Figure 21).
6. Slide pick up tube over fitting (see Figure 22).
7. Insert the filter into the pan. Ensure the pick-up tube is in the pan bracket (see Figure 22).
8. Insert filter pan into fryer. Ensure the **"P"** **IS NOT** visible on the display in upper right corner.



Figure 17



Figure 18



Figure 19



Figure 20



Figure 21



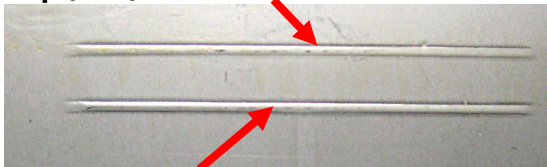
Figure 22

3.4 Daily Topping Off

Some fryers prompt twice daily to top off the vats. When the filter timer expires and the oil level is below the top off probe, the display prompts LOW OIL DETECTED MANUALLY ADD OIL FROM NEXT FRYPOT (see Figure 23). Following the arrows, use a pan to move oil from the next vat to the vat that is low on oil.

Add oil until the level is at the top (**hot**) oil level line (see Figures 24 & 25). Repeat on adjacent vats when prompted. On the last vat to be topped off, it prompts LOW OIL DETECTED ADD FRESH SHORTENING (see Figure 26). Add enough fresh shortening to raise the oil level to the top fill line (see Figure 24 & 25).

Top (Hot) OIL LEVEL line



Bottom (Cold) OIL LEVEL line
Figure 25 FQG80 Vat Fill Line

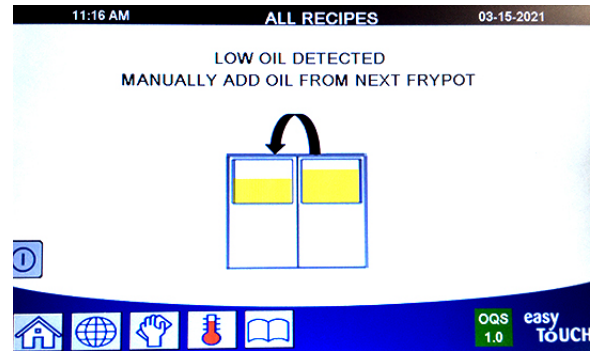
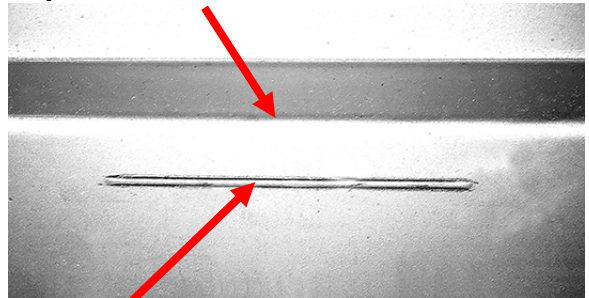


Figure 23

Top (Hot) OIL LEVEL line



Bottom (Cold) OIL LEVEL line

Figure 24 FQG100/120 Vat Fill Line



Figure 26

FILTERQUICK™ FQG80T/100T/120T GAS FRYER

CHAPTER 4: PREVENTATIVE MAINTENANCE

4.1 FRYER PREVENTATIVE MAINTENANCE CHECKS AND SERVICE

 DANGER

The filter pan must be emptied and cleaned 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 contacts oil heated to frying temperature, it will cause spattering of the oil, which can result in severe burns to nearby personnel.

 WARNING

Use 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.

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 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:

1. Daily perform a clean and filter of each frypot (see Clean and Filter procedure instructions in the FQ4000 easyTouch *FQ80/100/120 Chicken Controller* manual).
2. Daily cleaning of the filter pan with a solution of hot water and 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 at the right front of 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 clean and filter when the oil is drained from the frypot.
2. Use a screwdriver or other similar object which allows access around 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.

4.3 WEEKLY CHECKS AND SERVICE

4.3.1 Clean Behind Fryers

Clean behind fryers. 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.

4.4 MONTHLY CHECKS AND SERVICE

4.4.1 Deep Cleaning (Boiling Out/Cold Clean) the Frypot – Minimally Monthly

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 sections 2.1.9 of the FQ4000 easyTouch FQ80/100/120 Chicken Controller Operation Manual for specific details on setting up the controller for the CLEAN (boil-out) operation.*

DANGER

Allow oil to cool to 100°F (38°C) 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.

4.4.2 Pre-filter Maintenance - Monthly

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

DANGER

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

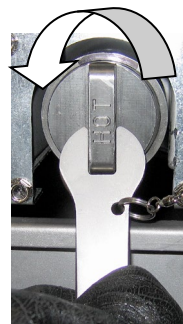


Figure 2



Figure 3

1. **Wearing protective gloves** use the supplied wrench to remove the cap from the pre-filter (**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 cap to the pre-filter housing and **tighten with the attached wrench**, ensuring the pre-filter is tight. If the cap is not tight, air will leak around the pre-filter and slow the return

WARNING

DO NOT remove the pre-filter cap when a filter cycle is under way.
DO NOT operate the filter system with the cap removed. Wear protective gloves when handling the cap. The metal and the exposed oil are hot.

4.4.3 Check FQ4000 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 product icons are visible (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 $\pm 5^{\circ}\text{F}$ (3°C) of each other. If not, contact a Factory Authorized Servicer for assistance.

High Limit Probe

Temperature Probe



4.5 QUARTERLY CHECKS AND SERVICE

4.5.1 Replace the O-rings - Quarterly

Replace the O-rings on the filter connection (see Figure 10 in section 3.4.2). of oil.

4.6 SEMI-ANNUAL CHECKS AND SERVICE

4.6.1 Clean Gas Valve Vent Tube – Semi-Annual

NOTE: This procedure is not required for fryers configured for export to CE countries.

1. Set the fryer power switch and the gas valve to the OFF position.
2. Carefully unscrew the vent tube from the gas valve. **NOTE:** The vent tube may be straightened for ease in removal.
3. Pass a piece of ordinary binding wire through the tube to remove any obstruction.
4. Remove the wire and blow through the tube to ensure it is clear.
5. Reinstall the tube and bend it so that the opening is pointing downward.

4.6.2 Check Burner Manifold Pressure



DANGER

This task should be performed by qualified service personnel only. Contact your FAS to arrange this service.

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.
- 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, interface 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. Verify that frypot tube diffusers are present and in good condition (i.e. no visible deterioration or damage).
- 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 filter pan, advise the owner/operator that the filter pan 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, place each vat into fill vat from filter pan selection (see section 2.1.6 of the *FQ4000 easyTouch FQ80/100/120 Chicken Controller Operation Manual*), one at a time. Verify proper functioning of each oil return valve by activating the filter pump using the fill vat from drain 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 pan selection (see section 2.1.8 of the *FQ4000 FQ120 easyTouch FQ80/100/120 Chicken Controller Operation Manual*). Now using the fill vat from pan drain pan selection (see section 2.1.6 of the *FQ4000 easyTouch FQ80/100/120 Chicken 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.

To ensure good fryer health and a safe environment, the fryer should be checked and adjusted periodically by qualified service personnel as part of a regular kitchen maintenance program.

4.7.3 Stainless Steel Care



DANGER

DO NOT let water splash into the tank of hot oil. It will splatter and can cause severe burns.

All stainless-steel fryer cabinet parts should be wiped regularly with hot, soapy water during the day, and with a liquid cleanser designed for stainless steel at the end of each day.

1. Do not use steel wool, abrasive cloths, cleansers or powders.
2. Do not use a metal knife, spatula or any other metal tool to scrape stainless steel! Scratches are almost impossible to remove.
3. If it is necessary to scrape the stainless steel to remove any encrusted materials, soak the area first to soften the deposit, then use a wood or nylon scraper only.

FILTERQUICK™ FQG80T/100T/120T 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 another component	A. Verify that the fryer is plugged in and that the circuit breaker is not tripped. B. Call your FAS for assistance.
FQ4000 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. C. An error may have occurred due to debris buildup around oil level sensors.	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. C. Ensure the area around the oil level sensors is clean and free of debris.
FQ4000 displays IS DRAIN CLEAR?	Drain is clogged, and oil failed to drain.	Clear drain with Fryers Friend and press √ button. Filtration will resume.
FQ4000 displays CHANGE FILTER?	Filter error has occurred, filter clogged, 25-hour filter change prompt has occurred or change filter message was ignored on a prior prompt.	Change the filter and ensure the filter pan has been removed from the fryer for a minimum of 30 seconds. Do NOT ignore CHANGE FILTER prompts.
Fryer repeatedly cycles on and off when first started.	Fryer is in melt cycle.	This is normal operation. This will continue until the fryer temperature reaches 180°F (82°C).
Pilot will not ignite; no evidence of gas at pilot burner.	A. Gas valve is closed. B. Pilot is blocked. C. Burner contamination.	A. Check that gas valve is open, and gas is present at the gas valve. Ensure that any shut off valves behind fryer are open. B. Check pilot burner orifice for dirt or lint. C. Contact your FAS for service.
Pilot burner ignites but will not remain lit.	A. Improper pilot flame. B. Connection issue.	A. Contact your FAS for service. B. Contact your FAS for service.
Main burner will not come "ON"; gas not detected at main burner.	A. Gas valve is not turned on. B. Pilot is not ignited. C. Oil level float switch stuck down D. High limit switch tripped. E. High limit defective. F. Gas valve defective.	A. Turn the gas valve knob to the ON position. B. Check that the pilot is ignited and is operating properly. C. Ensure the oil level float switch is clean and moves freely up and down the shaft. D. Press high limit switch reset under control box. E. Contact your FAS for service. F. Contact your FAS for service.

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
Main burner flames are small and appear lazy; oil does not come up to temperature quickly.	Improper gas pressure.	Contact your FAS for service.
Fryer does not heat.	A. Gas valve is not turned on. B. Manual gas shut off valve closed. C. Improperly connected quick disconnect fitting on gas line. D. Ignition module issue	A. Turn the gas valve knob to the ON position. B. Verify that any in-line manual shut off and gas main valve is open. C. Verify that the quick-disconnect fitting on the flexible gas line is firmly connected to the fryer. D. Contact your FAS for service.
Fryer is operating normally, but recovery is slow when cooking.	Improper gas pressure.	Contact your FAS for service.
Fryer is operating normally but produces a popping sound when burners ignite.	Dirty or obstructed gas valve vent tube (non-CE fryers only).	Clean per instructions in Chapter 4 of this manual.
Signs of excessive temperature; oil scorches and quickly becomes discolored.	A. Improper gas pressure. B. Oil used is of inferior quality and/or oil has been used too long. C. Dirty frypot.	A. Contact your FAS for service. B. Replace oil. C. Ensure frypot is clean when refilling with new oil.
Fryer will not reach the temperature setting and/or runs erratically.	A. Incorrect location of temperature sensor probe or defective temperature sensor. B. Loose wiring/wire connection.	A. Contact your FAS for service. B. Contact your FAS for service.
Fryer oil temperature cannot be controlled; fryer runs at high-limit temperature.	Defective temperature probe.	Contact your FAS for service.
Controller locks up.	Controller error.	Remove and restore power to the controller. If problem persists, call your FAS for assistance.
FQ4000 displays MISCONFIGURED ENERGY TYPE	Energy type in fryer setup is incorrect.	Ensure that the fryer is configured properly for the correct energy type.
FQ4000 displays VAT ID CONNECTOR NOT CONNECTED	Controller locator missing or disconnected.	Ensure the 6-pin locator is connected to rear of controller and it properly grounded.

5.2.2 Error Messages and Display Problems

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
FQ4000 displays E19 or E28 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.
FQ4000 display shows HOT-HI-1.	Frypot temperature is more than 410°F (210°C) or, in CE countries, 395°F (202°C).	Shut the fryer down immediately and call your FAS for assistance.
FQ4000 displays RECOVERY FAULT and alarm sounds.	Recovery time exceeded maximum time limit.	Clear error and silence the alarm by pressing the check √ button. Maximum recovery time for gas is 4:00. If the error continues call your FAS for assistance.
FQ4000 display is in wrong temperature scale (Fahrenheit or Celsius).	Incorrect display option programmed.	Toggle between F° to C° by entering Manager settings, temperature and toggling the temperature scale. Turn the controller on to check temperature. If the desired scale is not displayed, repeat.
FQ4000 displays HELP HI-2 or HIGH LIMIT FAILURE DISCONNECT POWER.	Failed high limit	Shut the fryer down immediately and call your FAS for assistance.
FQ4000 displays TEMPRATURE PROBE FAILURE.	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.
FQ4000 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.
FQ4000 displays NO MENU GROUP AVAILABLE FOR SELECTION	All menu groups have been deleted. NOTE: ALL RECIPES is not a group that can be used to cook recipes.	Create a new MENU group. Once a new menu is created, add recipes to the group (see section 1.10 in the FQ4000 controller manual).

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 Manager Settings, Filter Attributes in section 1.8 in the FQ4000 controller manual.
CLEAN AND FILTER won't start.	Temperature too low.	Ensure fryer is at setpoint before starting Clean and Filter.
FQ4000 display shows FILTER BUSY.	A. Another filtration cycle or filter pad change is still in process. B. Filter interface 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. Valve Interface Board has failed. B. Actuator has failed.	Call your FAS for assistance.
Filter pump won't start, or pump stops during filtering.	A. Power cord is not plugged in or circuit breaker is tripped. B. Pump motor has overheated causing the thermal overload switch to trip. C. Blockage in filter pump.	A. Verify that the power cord is fully plugged in and the circuit breaker is not tripped. B. If the motor is too hot to touch for more than a few seconds, the thermal overload switch has probably tripped. Allow the motor to cool at least 45 minutes then press the Pump Reset Switch (see page 3-7). C. Call your FAS for assistance.
FQ4000 displays INSERT PAN.	A. Filter pan is not fully set into fryer. B. Missing filter pan magnet. C. Defective filter pan switch.	A. Pull filter pan out and fully reinsert into fryer. Ensure controller does not display P. B. Ensure the filter pan magnets (2) are in place and replace if missing. C. If the filter pan magnet is fully against the switch and controller continues to display INSERT PAN, switch is possibly defective.

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
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 top 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.
Filter Pump runs, but oil return is very slow.	A. Clogged filter. 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. Verify, that the rough side of the envelope 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 Incomplete Filtration

Should the auto filtration procedure fail an error message is generated. Follow the instructions on the screen to return the oil and clear the error.

DISPLAY	ACTION
IS VAT FULL?	1. Press the √ (check) button if the vat is full to continue. The controller returns to idle cook mode or ①. Press X if vat is not filled completely.
FILLING IN PROGRESS	2. No action required as the pump runs.
IS VAT FULL?	3. Press the √ (check) button if the vat is full to continue. The controller returns to idle cook mode or ①. Press X if vat is not filled completely.
FILLING IN PROGRESS	4. No action required as the pump runs.
IS VAT FULL?	5. Press the √ (check) button if the vat is full to continue. The controller returns to idle cook mode or ①. Press X if vat is not filled completely. If this is the sixth consecutive sequence of incomplete filtration skip to step 10.
CHANGE FILTER PAD?	6. Press the √ (check) button to continue. Pressing X advances to ①.
REMOVE PAN	7. Remove the filter pan.
CHANGE FILTER PAD	8. Change the filter pad and ensure the filter pan has been

	pulled forward, out of the cabinet for at least 30 seconds. Once the pan has been out for 30 seconds the controller returns to idle cook mode. Ensure the pan is dry and assembled correctly. Push the filter pan back into the fryer. Ensure "P" is not displayed on the controller.
IS VAT FULL?	9. Press the √ (check) button if the vat is full to continue. The controller returns to idle cook mode. Press X if vat is not full and the controller advances to ⓘ.
SERVICE REQUIRED	10. If a filtration error occurs six consecutive times, the return valve closes. Press the √ (check) button to silence alarm and continue.
ERROR PUMP NOT FILLING	11. The system detects oil is not returning to the vat and service is required. Call an FAS.
SYSTEM ERROR FIXED?	12. Press the X button to continue cooking if possible. Call your FAS to repair and reset the fryer. The error will be re-displayed every 15 minutes until the issue is repaired. Auto filtration and auto top off are disabled until the fryer is reset.
ENTER CODE	13. FAS tech enters tech code to reset fryer.
FILL VAT FROM DRAIN PAN?	14. Press the √ (check) button to fill the vat from filter pan to continue. Follow prompts once the vat is full. Press X to skip filling from drain pan.
REMOVE PAN	15. Remove the filter pan.
IS PAN EMPTY?	16. Press the √ (check) button if the filter pan is empty and continue to next step. Press X to continue filling the vat. Follow the prompts once the vat is full.
ⓘ	17. The controller switches off.

5.3.2 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.

5.3.3 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.

5.3.4 OQS (Oil Quality Sensor) Troubleshooting

Problem	Corrective Action
No TPM results displayed.	Check the following items and perform another OQS filter. • Ensure the vat is at setpoint temperature. • Inspect the pre-screen filter and ensure it is screwed in tightly. • Inspect the O-rings on the filter pan and ensure they are both present and that they are not missing, cracked or worn. If so replace them. • Ensure the filter is not clogged and clean filter is used. Did the vat refill the first time for the previous filter? If not change the filter.

5.4 Error Log Codes

See section 1.13.2.1 in the FQ4000 Controller manual for instructions to access the Error Log.

Code	ERROR MESSAGE	EXPLANATION
E13	TEMPERATURE PROBE FAILURE	TEMP Probe reading out of range. Call service.
E16	HIGH LIMIT 1 EXCEEDED	High limit temperature is past more than 410°F (210°C), or in CE countries, 395°F (202°C)
E17	HIGH LIMIT 2 EXCEEDED	High limit switch has opened.
E18	HIGH LIMIT PROBLEM DISCONNECT POWER	Vat temperature exceeds 460°F (238°C) and the high limit has failed to open. Immediately disconnect power to the fryer and call service.
E19	HEATING FAILURE – XXX F or XXX C	Heating Control latch circuit failed. Heat Contactor failed to latch.
E25	HEATING FAILURE - BLOWER	The air pressure switch(s) failed to close.
E27	HEATING FAILURE - PRESSURE SWITCH - CALL SERVICE	The air pressure switch has failed closed.
E28	HEATING FAILURE – XXX F or XXX C	The fryer has failed to ignite and has locked out the ignition module.
E29	TOP OFF PROBE FAILURE - CALL SERVICE	ATO RTD reading out of range. Call service
E32	DRAIN VALVE NOT OPEN - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Drain valve was trying to open and confirmation is missing.
E33	DRAIN VALVE NOT CLOSED - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Drain valve was trying to close and confirmation is missing.
E34	RETURN VALVE NOT OPEN - FILTRATION AND TOP OFF DISABLED - CALL SERVICE or RIGHT VALVE NOT OPEN for multi- return valve systems.	Return valve or Right valve (multi-return valve systems) was trying to open and confirmation is missing.

Code	ERROR MESSAGE	EXPLANATION
E35	RETURN VALVE NOT CLOSED - FILTRATION AND TOP OFF DISABLED - CALL SERVICE or RIGHT VALVE NOT CLOSED for multi- return valve systems.	Return valve or Right valve (multi-return valve systems) was trying to close and confirmation is missing
E36	VALVE INTERFACE BOARD FAILURE - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Valve Interface Board connections lost or board failure. Call service.
E37	AUTOMATIC INTERMITTENT FILTRATION PROBE FAILURE - FILTRATION DISABLED - CALL SERVICE	AIF RTD reading out of range. Call service.
E39	CHANGE FILTER PAD	25-hour timer has expired or dirty filter logic has activated. Change the filter paper or pad.
E41	OIL IN PAN ERROR	The system detects that oil may be present in the filter pan.
E42	CLOGGED DRAIN (Gas)	Vat did not empty during filtration. Ensure the drain is not clogged and follow prompts.
E43	OIL SENSOR FAILURE - CALL SERVICE	Oil level sensor may have failed. Call service.
E44	RECOVERY FAULT	Recovery time exceeded maximum time limit.
E45	RECOVERY FAULT – CALL SERVICE	Recovery time exceeded maximum time limit for two or more cycles. Call service.
E46	SYSTEM INTERFACE BOARD 1 MISSING - CALL SERVICE	SIB board 1 connection lost or board failure. Call service.
E51	DUPLICATE BOARD ID - CALL SERVICE	Two or more controllers have the same location ID. Call service.
E52	USER INTERFACE CONTROLLER ERROR - CALL SERVICE	The controller has an unknown error. Call service.
E53	CAN BUS ERROR - CALL SERVICE	Communications are lost between boards. Call service.
E54	USB ERROR	USB connection lost during an update.
E55	SYSTEM INTERFACE BOARD 2 MISSING - CALL SERVICE	SIB board 2 connection lost or board failure. Call service.
E61	MISCONFIGURED ENERGY TYPE	The fryer is configured for the incorrect energy type. Call service.
E62	VAT NOT HEATING – CHECK ENERGY SOURCE – XXXF OR XXXC	The vat is not heating properly.
E63	RATE OF RISE	Rate of rise error occurred during a recovery test. Ensure the oil level is at the bottom oil level when cold and at the top oil level line when at setpoint. On electric fryers ensure the probe is not touching the elements.

Code	ERROR MESSAGE	EXPLANATION
E64	FILTRATION INTERFACE BOARD FAILURE - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Filtration Interface Board connections lost or board failure. Call service.
E65	CLEAN FLOAT SWITCH – XXX F OR XXX C	The float switch does not detect oil. 1. Ensure the frypot is full of oil. 2. Float switch may be stuck up or down. 3. Clean the float switch. Ensure the float switch moves freely up and down.
E66	DRAIN VALVE OPEN – XXXF OR XXXC	Drain valve is opened during cooking.
E67	SYSTEM INTERFACE BOARD NOT CONFIGURED - CALL SERVICE	Controller is turned on when the SIB board is not configured. Call service.
E68	OIB FUSE TRIPPED – CALL SERVICE	The VIB board OIB fuse has tripped and didn't reset. Call service.
E69	RECIPES NOT AVAILABLE – CALL SERVICE	The controller has not been programmed with product recipes. Replace controller with factory programmed controller.
E70	OQS TEMP HIGH	Oil temperature is too high for a valid OQS reading. Filter at a temperature between 300°F (149°C) and 375°F (191°C).
E71	OQS TEMP LOW	Oil temperature is too low for a valid OQS reading. Filter at a temperature between 300°F (149°C) and 375°F (191°C).
E72	TPM RANGE LOW	The TPM is too low for a valid OQS reading. This may also be seen with fresh new oil. The incorrect oil type may be selected in the setup menu. The sensor may not be calibrated for the oil type. See oil type chart in instruction document 8197316. If issue continues contact a FAS.
E73	TPM RANGE HIGH	The TPM reading is too high for a valid OQS reading. Dispose the oil.
E74	OQS ERROR	The OQS has an internal error. If issue continues contact a FAS.
E75	OQS AIR ERROR	The OQS is detecting air in the oil. Check the O-rings and check/tighten prescreen filter to ensure no air is entering the OQS sensor. If issue continues contact a FAS.
E76	OQS ERROR	The OQS sensor has a communication error. Check connections to the OQS sensor. Power cycle the entire fryer battery. If issue continues contact a FAS.
E85	LEFT RETURN VALVE or LEFT VALVE NOT OPEN - FILTRATION AND TOP OFF DISABLED - CALL	Left return valve was trying to open, and confirmation is missing

Code	ERROR MESSAGE	EXPLANATION
	SERVICE	
E86	LEFT RETURN VALVE or LEFT VALVE NOT CLOSED - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Left Return valve was trying to close, and confirmation is missing.
E87	CENTRAL VALVE NOT OPEN - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Central Valve was trying to open, and confirmation is missing.
E88	CENTRAL VALVE NOT CLOSED - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Central Valve was trying to close, and confirmation is missing.
E89	RIGHT RETURN VALVE NOT OPEN - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Right return valve was trying to open, and confirmation is missing.
E90	RIGHT RETURN VALVE NOT CLOSED - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Right return valve was trying to close, and confirmation is missing.



FRYMASTER
8700 LINE AVENUE, SHREVEPORT, LA 71106-6800

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



Welbilt offers fully-integrated kitchen systems. Welbilt's portfolio of award-winning brands includes Cleveland™, Convotherm®, Crystal Tips®, Dean®, Delfield®, Fabristeel®, Frymaster®, Garland®, Induc®, Koldtech®, Kolpak®, Lincoln®, McCann's™, Merco®, Merrychef®, Multiplex®, RDI®, SerVend™, SunFire®, U.S. Range™, and WMaxx™. Supported by service brands: FitKitchen®, kitchen systems; and KitchenConnect®, cloud-based open platform.

Bringing innovation to the table • welbilt.com