

# *Frymaster*<sup>®</sup>

*We Fit the Way You Fry*

## FilterQuick<sup>™</sup> FQ4000 FS

### easyTouch<sup>®</sup> Controller

## Operation Manual

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



**⚠ CAUTION**

**READ THE INSTRUCTIONS BEFORE USING.**



Part Number: FRY\_IOM\_8198012 02/2024

Original Instructions



**NOTICE**

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

**NOTICE**

This appliance is intended for professional use only and is to be operated by qualified personnel only. A Frymaster 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.

**NOTICE**

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

**NOTICE TO OWNERS OF UNITS EQUIPPED WITH CONTROLLERS**

**U.S.**

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

**CANADA**

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

Cet appareil numérique n'émet pas de bruits radioélectriques dépassant les limites de classe A et B prescrites dans la norme NMB-003 édictée par le Ministre des Communications du Canada.

 **DANGER**

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

 **DANGER**

Keep all items out of drains. Closing actuators may cause damage or injury.

 **DANGER**

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

 **WARNING**

Do not add HOT or USED oil to a JIB.

 **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**

When draining oil into a disposal unit, do not fill above the maximum fill line located on the container.



**DANGER**

Allow oil to cool to 100°F (38°C) before draining into an appropriate METAL container for disposal.



**DANGER**

When draining oil into an appropriate SDU or METAL container, ensure the container will hold at least FOUR gallons (15 liters) or more for FQE30-T or FQG30-T fryers. Otherwise, oil could overflow and can cause injury.



**DANGER**

When draining boil out solution oil into an appropriate METAL container, ensure the container will hold at least FOUR gallons (15 liters) or more for FQE30U-T or FQG30U-T fryers. Otherwise boil out solution could overflow and can cause injury.



**DANGER**

Open the filter pan slowly to avoid splashing of hot oil that may cause severe burns, slipping and falling.



**DANGER**

Ensure that the frypot and filter pan are completely dry and free of water before filling with oil. Failure to do so will cause splattering of hot liquid when the oil is heated to cooking temperature.



**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.



**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.



**WARNING**

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



**WARNING**

Ensure a filter paper/pad is in place prior to filtering, draining or disposing of oil. Failure to insert a filter paper/pad may result in clogged lines and/or pumps.



**DANGER**

DO NOT drain more than one full frypot or two split frypots into the SDU at one time to avoid overflow and spillage of hot oil that may cause severe burns, slipping and falling.



**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 leave the fryer unattended during the boil out process. If the solution overflows, press the ON/OFF switch to the OFF position immediately.

 **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**

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](http://www.P65Warnings.ca.gov).

 **DANGER**

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

 **DANGER**

When using a sediment basket, it **MUST** be removed and emptied prior and during each filtration. Some food particles can spontaneously combust if left soaking in certain shortening material.



**FilterQuick™ FQ4000 FS  
Controller Manual  
TABLE OF CONTENTS**

---

**CHAPTER 1: FilterQuick™ FQ4000 FS Controller Instructions**

1.1	FQ4000 FS General Information .....	1-1
1.2	FQ4000 FS Button Description and Functions.....	1-1
1.2.1	Navigation Buttons .....	1-1
1.2.1.1	Main Menu Button Bar.....	1-1
1.2.1.2	Home Button .....	1-1
1.2.1.3	Crew Mode Button.....	1-2
1.2.1.4	Menus Button.....	1-2
1.2.1.5	Recipes Button .....	1-2
1.2.1.6	Settings Button.....	1-2
1.2.1.7	Service Button .....	1-2
1.2.1.8	Power Button.....	1-3
1.2.1.9	Language Button.....	1-3
1.2.1.10	Filter Menu Button .....	1-3
1.2.1.11	Temperature Button .....	1-3
1.2.1.12	Menu Button.....	1-3
1.2.1.13	Energy Saver Button .....	1-3
1.2.1.14	Information Statistics Button .....	1-3
1.2.1.15	Escape or Back Button.....	1-3
1.2.1.16	TPM (Total Polar Materials) OQS (Oil Quality Sensor) Button .....	1-3
1.3	FQ4000 FS Menu Summary Tree.....	1-4
1.4	FQ4000 FS Information Summary Tree.....	1-5
1.5	Basic Operation .....	1-6
1.6	Cooking.....	1-7
1.7	Fryer (Manager) Settings Programming .....	1-8
1.8	Adding or Editing Existing Products.....	1-13
1.9	Adding or Editing Menus .....	1-16
1.10	Changing Menus.....	1-17
1.11	Fryer (Service) Setup Programming .....	1-17
1.12	Service Tasks.....	1-22
1.12.1	High Limit Test .....	1-22
1.12.2	Manager Functions.....	1-22
1.12.2.1	E-Log (Error Log) .....	1-22
1.12.2.2	Passcode Setup.....	1-23
1.12.2.3	USB – Menu Operation – Copy Menu from USB to Fryer.....	1-24
1.12.2.4	USB – Menu Operation – Copy Menu from Fryer to USB.....	1-25
1.13	Information Statistics.....	1-25
1.13.1	Filter Statistics .....	1-25
1.13.2	Oil Statistics .....	1-26
1.13.3	Life Statistics.....	1-27
1.13.4	Usage Statistics .....	1-27
1.13.5	Recovery Time.....	1-27
1.13.6	Last Load Statistics .....	1-28
1.13.7	Software Version .....	1-28

1.13.8 Usage Reset Statistics .....	1-29
1.13.9 Fresh Oil Statistics .....	1-29
1.13.10 Fresh Oil Reset Usage Statistics.....	1-30
1.13.11 Filter Reset Statistics .....	1-30
1.13.12 TPM (Total Polar Material) Statistics .....	1-30

## **CHAPTER 2: FilterQuick™ FQ4000 FS Filtration Menu Functions Instructions**

2.1 Filtration Menu.....	2-1
2.1.1 Quick Filter – Filter Prompt .....	2-1
2.1.2 Quick Filter on Demand .....	2-2
2.1.3 Clean and Filter (or End of Day Filter).....	2-3
2.1.4 Clean and Filter with OQS.....	2-5
2.1.5 OQS (Oil Quality Sensor) Filter .....	2-7
2.1.6 Dispose for Non-Bulk Oil Systems.....	2-9
2.1.7 Dispose for Bulk Oil Systems .....	2-10
2.1.8 Drain to Pan .....	2-11
2.1.9 Fill Vat from Drain (Filter) Pan .....	2-12
2.1.10 Fill Vat from Bulk.....	2-13
2.1.11 Oil Pan to Waste.....	2-14
2.1.12 Boil-Out Non-Bulk Oil Systems .....	2-15
2.1.13 Boil-Out for Bulk Oil Systems .....	2-17

## **CHAPTER 3: Operator Troubleshooting**

3.1 Introduction.....	3-1
3.2 Troubleshooting .....	3-2
3.2.1 Controller and Heating Problems.....	3-2
3.2.2 Error Message and Display Problems .....	3-2
3.2.3 OQS (Oil Quality Sensor) Troubleshooting .....	3-3
3.2.4 Troubleshooting the Auto Filtration .....	3-3
3.2.5 Incomplete Filtration .....	3-5
3.2.6 Filter Busy .....	3-6
3.2.7 Troubleshooting Auto Top Off Issues.....	3-6
3.2.8 Troubleshooting Bulk Oil System Problems.....	3-6
3.2.9 Error Log Codes.....	3-7

# CHAPTER 1: FILTERQUICK™ FQ4000 FS CONTROLLER INSTRUCTIONS

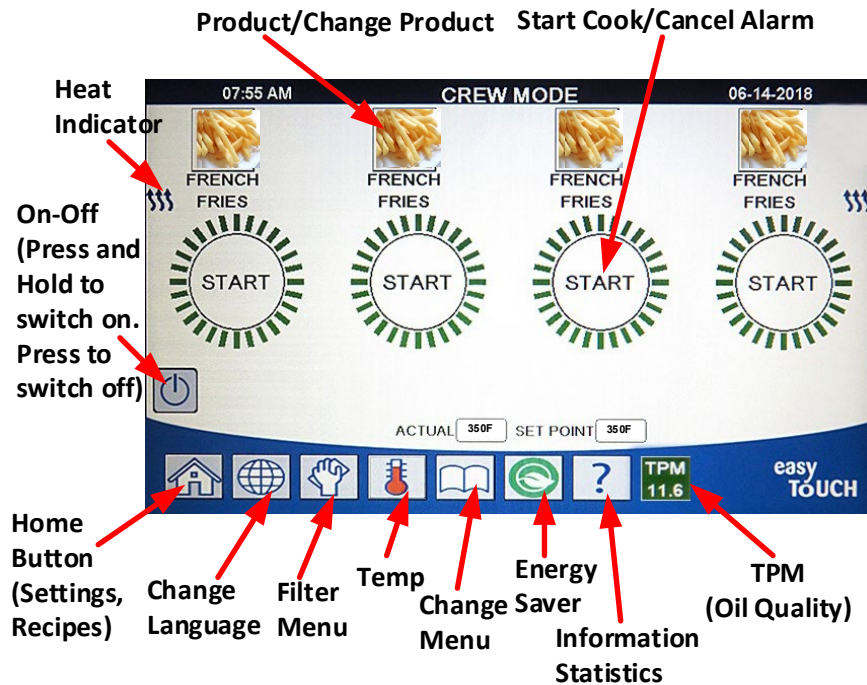
## 1.1 FQ4000 FS General Information

Welcome to the FQ4000 FS, an easy-to-use touch screen controller with the utility of 40-product menu capability. One button push starts a cook cycle for a selected product. Just choose a menu item on a product button and press the START button under the display showing the desired item. The controller can move seamlessly from one product to another.

The FQ4000 FS will operate with electric and gas fryers, both full- and split-vat.

## 1.2 FQ4000 FS Button Description and Functions

### 1.2.1 Navigation Buttons



#### 1.2.1.1 Main Menu Button Bar

The main menu button bar at the bottom of the screen is used to navigate the various FQ4000 FS menus (see Figure 1).



Figure 1

#### 1.2.1.2 Home Button

The home button is used to switch to the home screen (see Figure 2). The home screen has Crew Mode, Menus, Recipes, Settings and Service buttons.

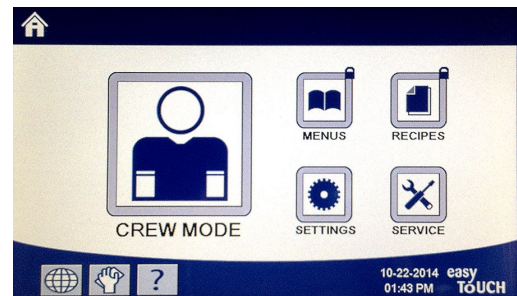


Figure 2

### 1.2.1.3 Crew Mode Button

The crew mode button switches from the home screen to the cooking mode (see Figure 3).

### 1.2.1.4 Menus Button

The menus button is used to set up multiple menus with specific products such as breakfast, lunch and changeover menus (See Figure 4).

### 1.2.1.5 Recipes Button

The recipes button allows editing or adding of products (see Figure 5).

### 1.2.1.6 Settings Button

The settings button allows access to edit the settings of the fryer (see Figure 6).

### 1.2.1.7 Service Button

The service button allows access to service functions in the fryer (see Figure 7).

During programming and other functions if no activity occurs within one minute, the controller returns to the previous operation mode.

### 1.2.1.8 Power Button

Pressing and holding the power button for three (3) seconds soft powers up the user interface and fryer. Pressing the power button when the fryer is on turns the fryer off (see Figure 8).

### 1.2.1.9 Language Button

Pressing the language button switches between a primary language and a secondary language if the feature is configured in manager settings (see Figure 9).

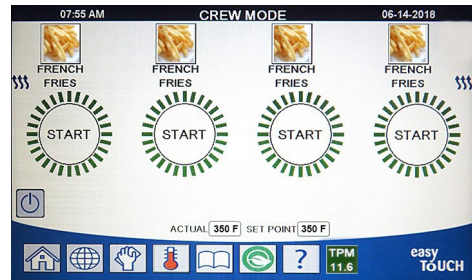


Figure 3

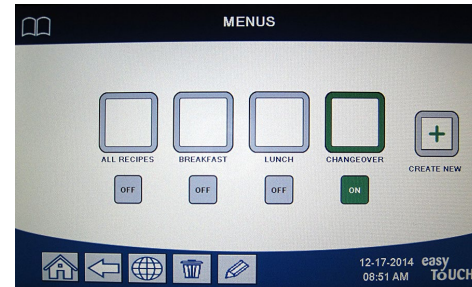


Figure 4

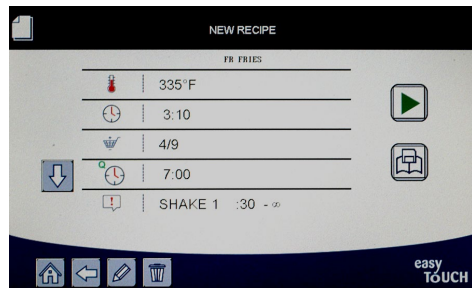


Figure 5

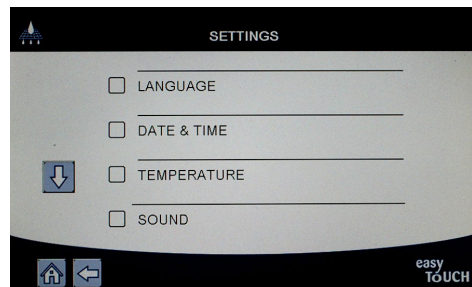


Figure 6

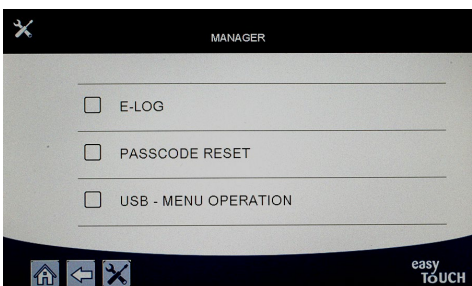


Figure 7



Figure 8



Figure 9



#### 1.2.1.10 Filter Menu Button

Pressing the filter menu button provides access to the functions associated with filtering, disposing, draining, filling as well as boiling out the vats (see Figure 10). If a quick filter is skipped the button turns yellow until the filtration is completed. If it is skipped again, the button turns red.



Figure 10

#### 1.2.1.11 Temperature Button

Pressing the temperature button displays the actual vat temperature and the setpoint temperature (see Figure 11).

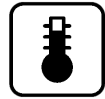


Figure 11

#### 1.2.1.12 Menu Button

Pressing the menu button allows switching between different menus if configured (see Figure 12).



Figure 12

#### 1.2.1.13 Energy Saver Button

Pressing the energy saver button switches the fryer from a standard setpoint to a lower temperature setpoint when the fryer is idle, to save energy costs (see Figure 13).



Figure 13

#### 1.2.1.14 Information Statistics Button

Pressing the information statistics button provides information on filter statistics, oil statistics, life statistics, usage statistics, recovery time, last load statistics, and software versions (see Figure 14).



Figure 14

#### 1.2.1.15 Escape Menu Items

To escape or back out of MENUS and SUB-MENUS, press the Home or Back arrow button (see Figure 15).



Figure 15

#### 1.2.1.16 TPM (Total Polar Materials) OQS (Oil Quality Sensor) Button

Pressing the TPM button when solid, displays the last 30 days of TPM/OQS readings (see Figure 16). Pressing the TPM button when blinking denotes it has been more than 24 hours since the last OQS filter and will prompt for an OQS filter.

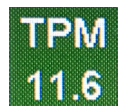
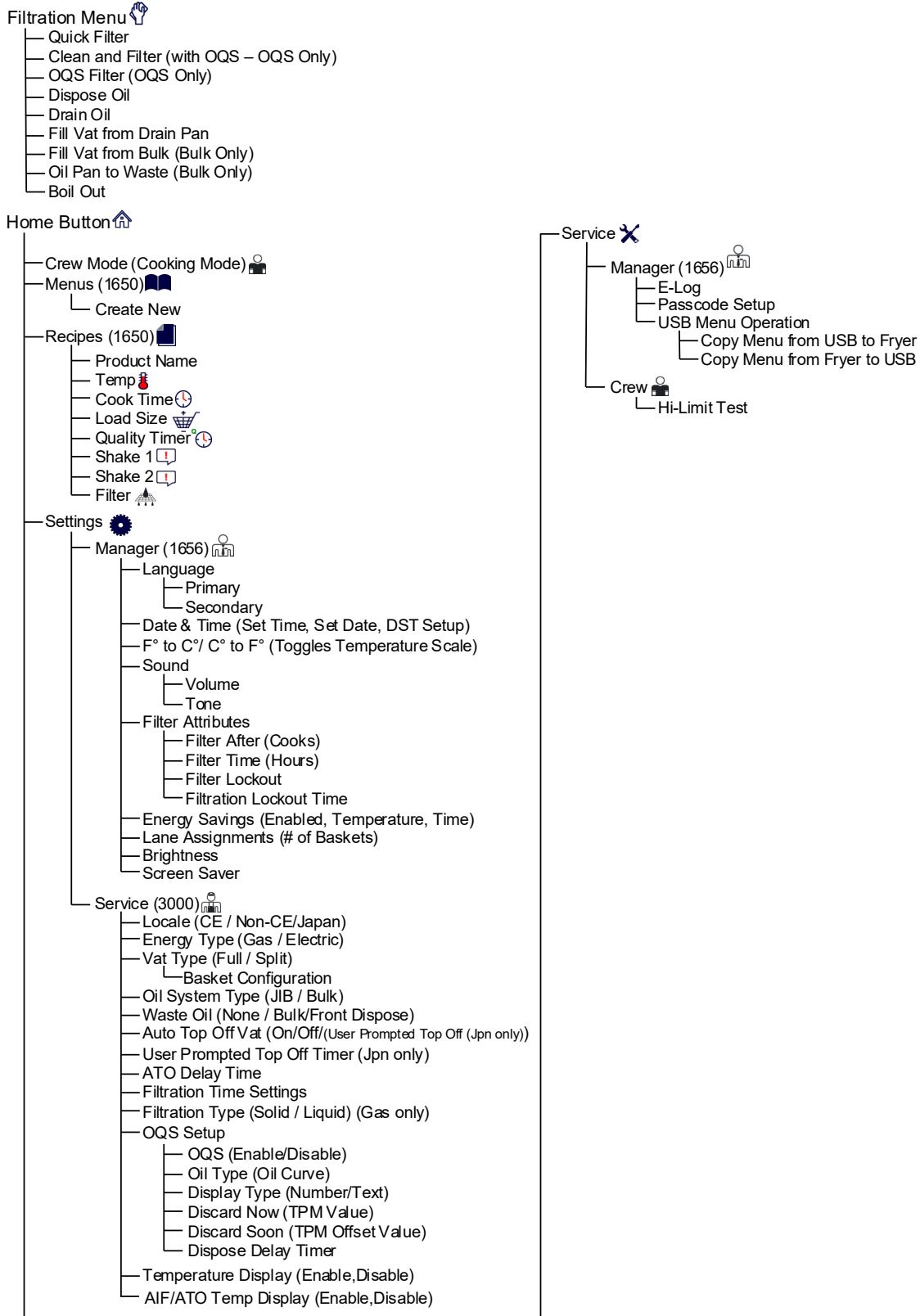


Figure 16

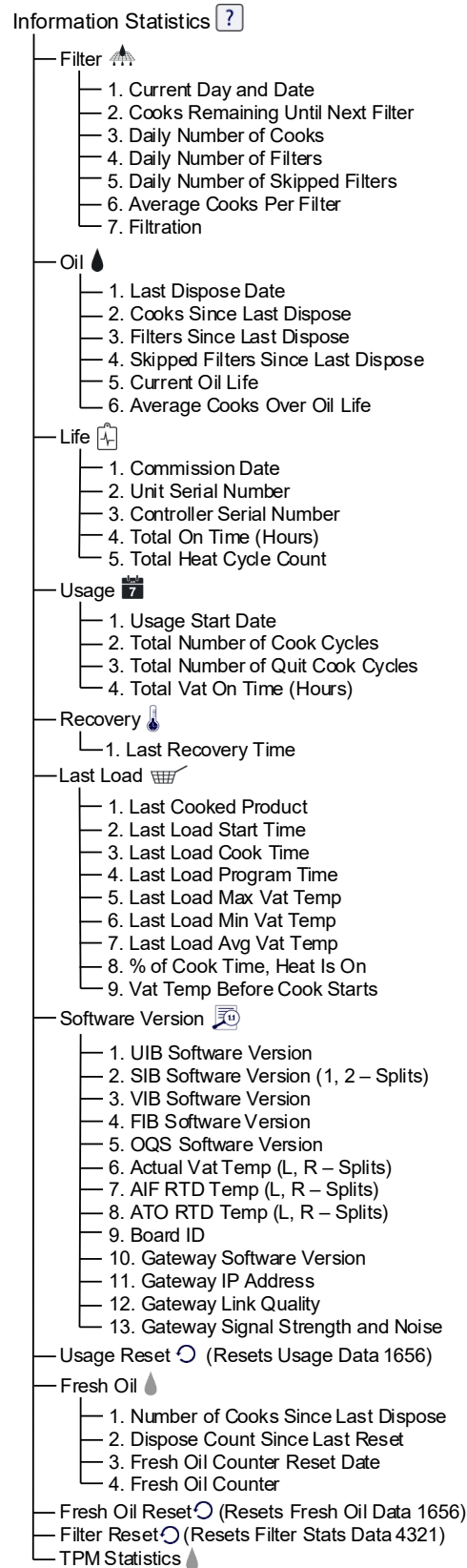
### 1.3 FQ4000 FS Menu Summary Tree

Reflected below are the major programming sections in the FQ4000 FS and the order in which submenu headings will be found under the sections in the Installation and Operation Manual.



## 1.4 FQ4000 FS Information Summary Tree

Reflected below are the information statistics in the FQ4000 FS and the order in which submenu headings will be found in the controller.



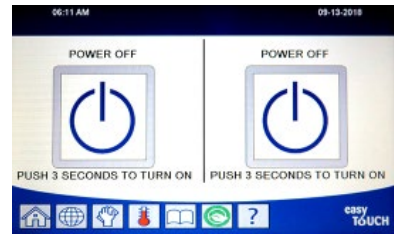
1.5 Basic Operation

# FQ4000 FS Basic Operation



**Turn Fryer ON or OFF**

Press and hold button to switch on. Press button to switch off. Select button on desired side of a split vat.



**Changing a Product**

Press the product ICON associated with the lane to change the product. Then press the new product icon.

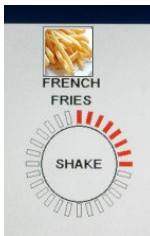


**Start a Cook Cycle**

Press the START button under the desired product.

**Cancel a Cook Cycle**

Press the RED "X" button next to the desired product within the first 30 seconds of a cook.



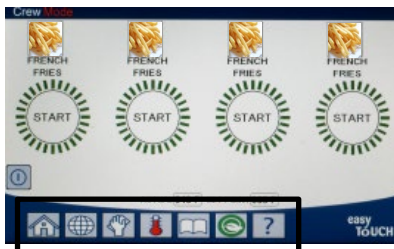
**Cancel Shake Alarm**

Press button under active display.



**Cancel an end of Cook (REMOVE) Alarm**

Press button under active display.



**Check Temperature and Setpoint**

Press temperature button. Displays actual temperature and setpoint.



Home Button (Settings, Recipes)


Change Language Filter Menu Temp Menu Energy Saver Information Statistics





## 1.6 Cooking


# Cooking with the FQ4000 FS

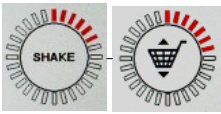
- 1 A product is shown in display. To choose a different product press product icon and choose another product.

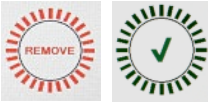

- 2 Press the START button under the product to begin the cook cycle.



- 3 Display changes to COOKING with remaining cook time.



- 4 SHAKE alternating with basket is displayed when it is time to shake the fry basket.



- 5 Press SHAKE/BASKET button to cancel SHAKE alarm.



- 6 REMOVE alternating with the CHECKMARK is displayed when the cook cycle is complete.



- 7 Press the REMOVE/CHECKMARK button to cancel alarm.


- 8 HOLD TIMER is displayed below the START button as the hold timer counts down.


- 9 Pressing the START button now will launch a cook cycle and end the hold countdown timer.

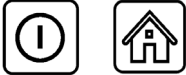











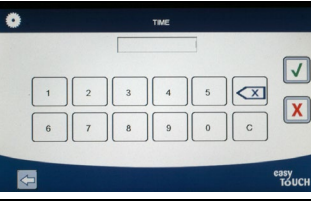


- 10 HOLD EXPIRED alternating with the CHECKMARK is displayed when the hold time has elapsed and expired.

















- 11 Pressing the HOLD EXPIRED/CHECKMARK button restores the display to the current selected product and the unit is ready for cooking.











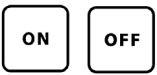


## 1.7 Fryer (Manager) Settings Programming

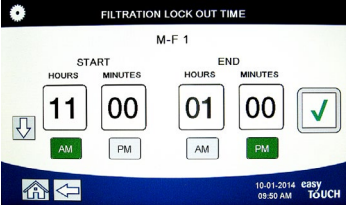












These settings are preset from the factory. Some settings may need configured by local manager for the fryer. The setup includes language, date and time, temperature scale, sound settings, filter settings, energy savings, lane assignments and screen brightness. These settings should **ONLY** be changed by a manager or technician.












DISPLAY	ACTION
	1. With the controller at the off/standby position, press the Home button.
	2. Press the Settings button.
	3. Press the Manager button.
1 6 5 6	4. Enter <b>1656</b>
 	5. Press the √ (check) button.
□ LANGUAGE	6. Press the Language button.
	7. Press the Primary Language button.
□ ENGLISH	8. Select the primary language desired.
	9. Press the Secondary Language button.
□ SPANISH	10. Select the secondary language desired.
	11. Press the Back button.
□ DATE & TIME	12. Press the Date & Time button.
	13. Press the Set Time button
	14. Press the hour's box.
	15. Using the key pad, enter the time in hours.
	16. Press the minute's box.
	17. Using the key pad enter the time in minutes.
AM PM 24hr	18. Press the AM, PM or 24HR button.
	19. Press the √ (check) button.
SETUP COMPLETE	20. No action.

DISPLAY	ACTION
	21. Press the smaller √ (check) button inside the SETUP COMPLETE box.
	22. Press the Set Date button
	23. Press the Date Format box to toggle between MM-DD-YY or DD-MM-YY.
	24. At the top of the screen, the year is shown. Press the left or right arrow to select the year.
	25. Below the year is the month. Press the left or right arrow to select the month.
	26. Select the date using the numbered keys and press the √ (check) button.
<b>SETUP COMPLETE</b>	27. No action.
	28. Press the smaller √ (check) button inside the SETUP COMPLETE box.
	29. Press the DST (DAYLIGHT SAVINGS TIME) SETUP button.
<input type="checkbox"/> <b>DST ON/OFF</b>	30. Press the DST ON/OFF button.
	31. Select ON to enable DST or OFF to disable DST.
<b>SETUP COMPLETE</b>	32. No action.
	33. Press the smaller √ (check) button inside the SETUP COMPLETE box.
<input type="checkbox"/> <b>DST SETTINGS</b>	34. Press the DST SETTINGS button.
<input type="checkbox"/> <b>DST START MONTH</b> <input type="checkbox"/> <b>DST START SUNDAY</b> <input type="checkbox"/> <b>DST END MONTH</b> <input type="checkbox"/> <b>DST END SUNDAY</b>	35. Select any of these and use the keypad to modify. The default settings for the US are: DST START MONTH -3 DST START SUNDAY -2 DST END MONTH -11 DST END SUNDAY -1
	36. Press the √ (check) button when complete.
<b>SETUP COMPLETE</b>	37. No action.
	38. Press the smaller √ (check) button inside the SETUP COMPLETE box.
	39. Press the Back button three (3) times.
<input type="checkbox"/> <b>F° TO C°</b>	40. Press the F° TO C° or F° TO C° button. <b>NOTE: F</b> is used for Fahrenheit, <b>C</b> is used for Celsius
<b>CONFIRM</b> 	41. Select YES to toggle the temperature scale.
<b>COMPLETED SUCCESSFULLY</b>	
	42. Press the √ (check) button when complete.
<input type="checkbox"/> <b>SOUND</b>	43. Press the Sound button.

DISPLAY	ACTION
	44. Use the up down arrows to change the volume level and tone. Volume has nine levels with 1 being the softest and 9 the loudest. Tone has three frequencies from 1-3. Use different frequencies to distinguish protein or French fry stations.
	45. Press the ✓ (check) button when complete.
<b>SETUP COMPLETE</b>	46. No action.
	47. Press the smaller ✓ (check) button inside the SETUP COMPLETE box.
	48. Press the Down button.
<input type="checkbox"/> <b>FILTER ATTRIBUTES</b>	49. Press the Filter Attributes button. The auto filtration mode uses two measures before prompting to filter. One checks for cook cycles which is adjusted in the FILTER AFTER setting and the other checks for time which is adjusted in the following section FILTER TIME setting. The prompt for filtration is initiated by whichever occurs first; either the number of cycles elapsed or time elapsed.
<input type="checkbox"/> <b>FILTER AFTER</b>	50. Press the Filter After button. The FILTER AFTER option is used to set the number of cooking cycles which occur before the filtration prompt is displayed.
	51. Press the ✓ (check) button to continue or press the number button and enter the number of cooks and press the ✓ (check) button. (By default, the full vat is set to 12 cooks and the split vat is set to 6 cooks.)
	52. Press the ✓ (check) button.
<b>SETUP COMPLETE</b>	53. No action.
	54. Press the smaller ✓ (check) button inside the SETUP COMPLETE box.
<input type="checkbox"/> <b>FILTER TIME</b>	55. Press the Filter Time button. The Filter Time option is used to set the elapsed time before a filtration prompt. This option is useful in lower volume stores, where filtration is desired more often than the amount the cook cycles would generate.
	56. Press the ✓ (check) button to continue or press the number button and enter the number of hours in between filter prompts. (ex. after every two hours, enter as 2) and press the ✓ (check) button. (By default, the time is set to 0 hours.)
	57. Press the ✓ (check) button.
<b>SETUP COMPLETE</b>	58. No action.
	59. Press the smaller ✓ (check) button inside the SETUP COMPLETE box.
<input type="checkbox"/> <b>FILTER LOCKOUT</b>	60. Press the Filter Lockout button. The Filter Lockout option is used to set the times in which the filter prompt is disabled (ex. noon rush).
	61. Select ON to enable FILTER LOCKOUT. Select OFF to disable FILTER LOCKOUT.










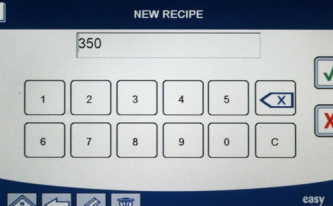

















DISPLAY	ACTION
<p>□ <b>FILTRATION LOCKOUT TIME</b></p>	<p>62. Press the Filter Lockout Time button. The Filtration Lockout Time option is used to set the times in which the filter prompt is disabled (ex. noon rush). <b>NOTE: If FILTER LOCKOUT is disabled (OFF), this option is grayed out and not available.</b></p>
	<p>63. Use the up down arrows to scroll between M-F 1 thru SUN 4. There are a total of 12 periods which can be programmed for filter prompt lockout. Select the field to edit the start and stop times of when the filter prompt should be suspended. Select AM/PM. Once the times are selected press the check button to save the setting. (The example at the left shows on Monday – Friday no filtering is desired during a lunch rush from 11:00 AM until 1:00 PM.)</p>
	<p>64. Once the times are selected press the ✓ (check) button.</p>
<p><b>SETUP COMPLETE</b></p>	<p>65. No action.</p>
	<p>66. Press the smaller ✓ (check) button inside the SETUP COMPLETE box.</p>
<p><b>SETUP COMPLETE</b> </p>	<p>67. Press the ✓ (check) button inside the SETUP COMPLETE box.</p>
	<p>68. Press the Back button.</p>
<p>□ <b>ENERGY SAVINGS</b></p>	<p>69. Press the Energy Savings button. The Energy Savings option is used during idle periods to lower the frypot temperature to save energy.</p>
	<p>70. Press the Enable button to toggle the Energy Saving option on or off.</p>
	<p>71. Press the Set Back Temp button to change the setpoint of the Energy Saving option. Use the number pad to enter the Energy Saving setpoint temperature and press the ✓ (check) button.</p>
	<p>72. Press the Idle Time button to change the amount of time in minutes the vat sits idle before automatically entering the Energy Saving mode. Use the number pad to enter the Energy Saving setpoint temperature and press the ✓ (check) button.</p>
	<p>73. Press the ✓ (check) button.</p>
<p><b>SETUP COMPLETE</b></p>	<p>74. No action.</p>
	<p>75. Press the smaller ✓ (check) button inside the SETUP COMPLETE box.</p>
<p>□ <b>LANE ASSIGNMENTS</b></p>	<p>76. Press the Lane Assignments button. This is used to set the number of lanes or baskets each vat will use. (Default is 4.)</p>
	<p>77. Press the number 4 button.</p>
	<p>78. Press the icon below each lane and choose the associated product to cook in that lane.</p>
	<p>79. Press the save button.</p>
<p><b>SETUP COMPLETE RESET THE SYSTEM</b></p>	<p>80. No action.</p>








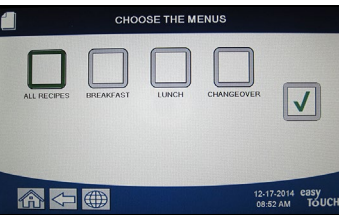

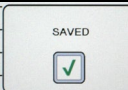



DISPLAY	ACTION
	81. Press the smaller √ (check) button inside the SETUP COMPLETE RESET THE SYSTEM box.
□ <b>BRIGHTNESS</b>	82. Press the Brightness button. This is used to set the brightness of the screen. Use the up down arrows to adjust. (Default is 100.)
	83. Press the √ (check) button.
<b>SETUP COMPLETE</b>	84. No action.
	85. Press the smaller √ (check) button inside the SETUP COMPLETE box.
□ <b>SCREEN SAVER</b>	86. Press the Screen Saver button. This is used to set the amount of time, after the controller is turned off, before going into a screen saver mode. Use the up down arrows to adjust time. (Default is 15 minutes.)
	87. Use the up down arrows to change the brightness of the screen. Brightness has nine levels with 100 being the brightest and 10 the darkest.
	88. Press the √ (check) button when complete.
<b>SETUP COMPLETE</b>	89. No action.
	90. Press the smaller √ (check) button inside the SETUP COMPLETE box.
	91. Press the Back button.
	92. Press the Home button.
 <b>CREW MODE</b>	93. Press the Crew Mode button.
	94. Press and hold the reset switch inside the left door for SIXTY (60) seconds.
	95. The system reboots in approximately 45 seconds and returns to off/standby mode.

## 1.8 Adding or Editing Existing Products

This function is used to add additional products or edit existing products.




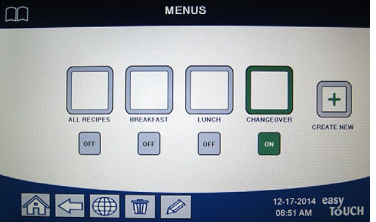






DISPLAY	ACTION
	1. Press the Home button.
	2. Press the Recipes button.
<b>1 6 5 0</b>	3. Enter <b>1650</b>
	4. Press the ✓ (check) button.
	5. Choose the product icon to edit or press the + to add a new product.
	6. Press the pencil icon at the bottom of the screen to edit an existing product.
	7. Enter or change the name of the product using the keyboard.
	8. Press the ✓ (check) button.
	9. This screen displays the current setpoint, cook time, load compensation or sensitivity, quality timer, shake timers and filter settings. To edit a parameter, press the item to edit.
	10. To edit temperature, press the temp button.
	11. Use the keypad to enter or edit the cook temperature for the product.
	12. Press the ✓ (check) button.
	13. Press the cook time button.

DISPLAY	ACTION
	<p>14. Use the keypad to enter or edit the cook time in minutes and seconds.</p>
	<p>15. Press the ✓ (check) button.</p>
	<p>16. Press the load compensation or sensitivity button.</p>
	<p>17. Use the up and down arrows to change the load compensation or sensitivity setting recommended for this product.  This setting allows the product compensation (sensitivity) to be changed. Some menu items may need adjustment, depending on their cooking characteristics. <b>NOTE: It is highly recommended to NOT adjust this setting, as it could have an adverse effect on the products cooking cycles.</b> The default setting for product compensation is set to four.</p>
	<p>18. Press the ✓ (check) button.</p>
	<p>19. Press the Hold (Quality) Timer button.</p>
	<p>20. Enter the time in minutes and seconds for the product hold time.</p>
	<p>21. Press the ✓ (check) button.</p>
	<p>22. Press the Shake Timer 1 button.</p>
	<p>23. Enter the time in minutes and seconds for the first shake to be performed.</p>
	<p>24. Press the ✓ (check) button.</p>
	<p>25. Press the down arrow to scroll to more settings.</p>
	<p>26. Press the Shake Timer 2 button if an additional shake is needed, otherwise skip to step 30.</p>

DISPLAY	ACTION
	<p>27. Enter the time in minutes and seconds for the seconds shake to be performed.</p>
	<p>28. Press the ✓ (check) button.</p>
	<p>29. Press the Filter button.</p>
	<p>30. Ensure that the filter button is ON to enable auto filtration for this product. This setting is used to prevent co-mingling of product specific oils. For products such as FISH, select NO to prevent auto filtration.</p>
	<p>31. Press the ✓ (check) button.</p>
	<p>32. Choose the icon to associate with the product recipe that is being entered or edited.</p>
	<p>33. Press the ✓ (check) button.</p>
	<p>34. Choose the menu(s) to associate with the product recipe that is being entered or edited.</p>
	<p>35. Press the ✓ (check) button.</p>
	<p>36. The controller displays SAVED.</p>
	<p>37. Press the ✓ (check) button.</p>
	<p>38. Select another product to edit or press the + key to add additional products. If finished press the home button.</p>
 <b>CREW MODE</b>	<p>39. Press the Crew Mode button to return to main screen.</p>

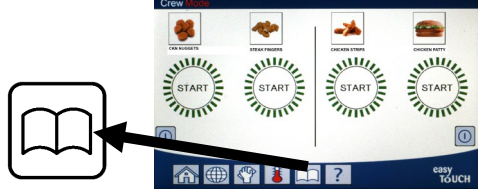

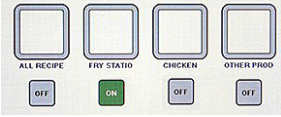



## 1.9 Adding or Editing Menus

This function is used to add or edit menus. Menus allow the operator to group certain products together. For example, setting up a breakfast menu allows grouping of breakfast only products. This is helpful when switching products by narrowing the number of products to choose from.

DISPLAY	ACTION
	1. Press the Home button.
	2. Press the Menus button.
<b>1 6 5 0</b>	3. Enter <b>1650</b>
	4. Press the ✓ (check) button.
	5. Select a menu by pressing the button above the ON/OFF button to edit products (highlighted in green) or press the + button to add a new menu. If adding a new menu, enter name of menu on next screen and press the ✓ (check) button. If deleting a menu, highlight the menu and press the trash can at the bottom of the screen.
	6. Press the pencil icon at the bottom of the screen to edit an existing menu.
	7. Select the desired products by pressing their icons to be added to the chosen menu. The selected products will be highlighted in green. To unselect a product, press the icon and the highlight will change from green to gray.
	8. Press the ✓ (check) button when finished to save selected products to menu.
	9. Press the Back button to edit additional menus starting with step 5, otherwise advance to the next step
	10. Press the Home button.
 <b>CREW MODE</b>	11. Press the Crew Mode button.




## 1.10 Changing Menu










If separate menus are created for Breakfast and Lunch/Dinner or different vats, pressing the MENU button from the main screen shall display menu change options. Pressing the desired menu shall switch the menus.

DISPLAY	ACTION
	1. Press the Menu button.
	2. Press the ON/OFF button under Changeover or Lunch to switch menus.  <b>NOTE:</b> Only one menu can be selected at a time.
	3. Once the desired menu is selected, "ON" is highlighted under the menu.
	4. Press the back button to return to the main screen.
	5. Press the product icon to switch products.
	6. The display returns to main screen.

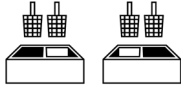









## 1.11 Fryer (Service) Setup Programming


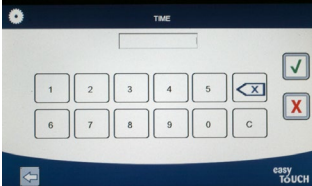




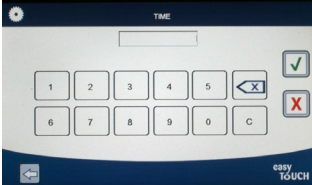



The fryer setup is preprogrammed at the factory. It usually is **NOT** necessary to change these settings. Some things such as a bulk oil system may require changes to the setup. It is necessary when changing out a controller to configure the parameters for the fryer. The setup includes locale, energy type, vat type, fresh oil type, waste oil type and auto top off settings. These settings should **ONLY** be changed by a technician.

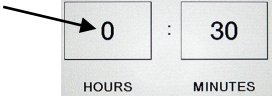
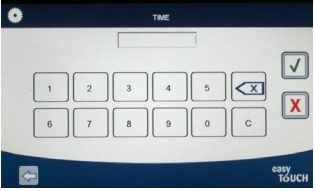
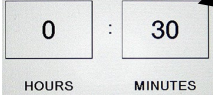







DISPLAY	ACTION
	1. With the controller at the off/standby position, press the Home button.
	2. Press the Settings button.
	3. Press the Service button.
3 0 0 0	4. Enter <b>3000</b>

DISPLAY	ACTION
	5. Press the √ (check) button.
□ <b>LOCALE</b>	6. Press the Locale button.
<b>CE NON-CE JAPAN</b>	7. Select <b>CE, NON-CE or JAPAN</b> . CE (European Conformity standards) and UKCA (United Kingdom Conformity Assessed), Non-CE (non-European standards)
<b>SETUP COMPLETE RESET THE SYSTEM</b>	8. No action.
	9. Press the √ (check) button.
□ <b>ENERGY TYPE</b>	10. Press the Energy Type button.
<b>GAS ELECTRIC</b>	11. Select <b>GAS or ELECTRIC</b>
<b>SETUP COMPLETE RESET THE SYSTEM</b>	12. No action.
	13. Press the √ (check) button.
□ <b>VAT TYPE</b>	14. Press the Vat Type button.
<b>FULL VAT SPLIT VAT</b>	15. Select <b>FULL VAT or SPLIT VAT</b> .
<b>4</b>	16. Select Basket Configuration. Default is <b>4</b> .
	17. Press the Product icon and choose the desired product. Repeat for other lanes.
	18. Press the Save button when complete.
<b>SETUP COMPLETE RESET THE SYSTEM</b>	19. No action.
	20. Press the √ (check) button.
	21. Press the Down arrow button.
□ <b>OIL SYSTEM TYPE</b>	22. Press the Oil System Type button.
<b>JIB BULK</b>	23. Select <b>JIB or BULK</b> . <b>NOTE:</b> A JIB (Jug in a Box) or BIB (Bag in a Box) is a disposable type oil container. A bulk system has large storage oil tanks that are connected to the fryer that fills an onboard reservoir.
<b>SETUP COMPLETE RESET THE SYSTEM</b>	24. No action.
	25. Press the √ (check) button.
□ <b>WASTE OIL</b>	26. Press the Waste Oil button.
<b>NONE BULK FRONT DISPOSE</b>	27. Select <b>NONE, BULK or FRONT DISPOSE</b> . <b>NOTE:</b> Select NONE if disposing oil into an MSDU or other METAL container. Select BULK if disposing oil into a bulk oil system, which has large storage oil tanks that are connected to the fryer. Select FRONT DISPOSE if disposing to a front type of disposal pan.
<b>SETUP COMPLETE RESET THE SYSTEM</b>	28. No action.
	29. Press the √ (check) button.
□ <b>AUTO TOP OFF VAT</b>	30. Press the Auto Top Off Vat button.



DISPLAY	ACTION
	31. Select <b>LEFT VAT</b> or <b>RIGHT VAT</b> for split vats.
<p style="text-align: center;"><b>ON OFF</b></p>	32. Select <b>ON</b> for auto top off. Select <b>OFF</b> to disable auto top off. Default is <b>ON</b> .
	33. Press the Down arrow button.
<p>□ <b>ATO DELAY TIME</b></p>	34. Press the ATO Delay time button.
<p style="text-align: center;"><b>30 MINUTES</b></p> 	35. Press the time to change the delay time after the top off oil reservoir has been changed before the system begins to top off. Press the ✓ (check) button. Enter a value greater than 0 for solid shortening. The default is 30 minutes to allow time for the shortening to start melting before topping off begins. Set the value to 0 for liquid shortening.
<p style="text-align: center;"><b>SETUP COMPLETE</b></p>	36. No action.
	37. Press the smaller ✓ (check) button inside the SETUP COMPLETE box.
<p>□ <b>FILTRATION TIME SETTINGS</b></p>	38. Press the Filtration Time Settings button.
<p> <input type="checkbox"/> <b>POLISH TIME</b>  <input type="checkbox"/> <b>BOIL OUT TIME</b>  <input type="checkbox"/> <b>QUICK FILTER WASH TIME</b>  <input type="checkbox"/> <b>CLEAN AND FILTER WASH TIME</b> </p> 	39. These settings should only be adjusted if instructed by the factory. The default settings are: <input type="checkbox"/> POLISH TIME -300 <input type="checkbox"/> BOIL OUT TIME -3600 <input type="checkbox"/> QUICK FILTER WASH TIME -5 <input type="checkbox"/> CLEAN AND FILTER WASH TIME -30 Press the back button when complete.
	40. Press the Down arrow button.
<p>□ <b>FILTRATION TYPE</b></p>	41. Press the Filtration Type button. (Available in gas only).
<p style="text-align: center;"><b>SOLID LIQUID</b></p> 	42. Select SOLID if solid shortening is used. Select LIQUID if liquid shortening is used. Press the back button when complete.
<p>□ <b>OQS SETUP</b></p>	43. Press the OQS Setup button if an OQS sensor is installed.
<p>□ <b>OQS ENABLE/DISABLE</b></p>	44. Press OQS ENABLE/DISABLE button to enable/disable the OQS sensor.
<p style="text-align: center;"><b>ENABLE DISABLE</b></p>	45. Select <b>ENABLE</b> to enable the OQS sensor or <b>DISABLE</b> to disable the OQS sensor.
<p style="text-align: center;"><b>SETUP COMPLETE</b></p> 	46. Press the ✓ (check) button inside the SETUP COMPLETE box.
<p>□ <b>OIL TYPE</b></p>	47. Press the Oil Type button.
<p style="text-align: center;"><b>OC01v01, OC02v02, etc.</b></p> 	48. Select the correct oil type curve. Press the down arrow button to scroll to additional oil type curves. Ensure the oil type matches what the store is using.
<p style="text-align: center;"><b>SETUP COMPLETE</b></p> 	49. Press the ✓ (check) button inside the SETUP COMPLETE box.
<p>□ <b>DISPLAY TYPE</b></p>	50. Press the Display Type button.

DISPLAY	ACTION
<p align="center"><b>NUMBER TEXT</b></p>	<p>51. Select <b>NUMBER</b> or <b>TEXT</b>. NOTE: If set to NUMBER the Total Polar Materials is shown as a number. If set to Text, only DISCARD SOON/CONFIRM, OIL IS GOOD or DISCARD NOW is shown.</p>
<p><b>SETUP COMPLETE</b> </p>	<p>52. Press the √ (check) button inside the SETUP COMPLETE box.</p>
<p><input type="checkbox"/> <b>DISCARD NOW</b></p>	<p>53. Press the Discard Now button.</p>
<p align="center"><b>TPM VALUE</b></p>	<p>54. Press the number above TPM Value. Once the TPM (Total Polar Materials) value of the oil is attained, the fryer will prompt to discard the oil.</p>
	<p>55. Use the keypad to enter the TPM discard now value.</p>
	<p>56. Press the √ (check) button once the value is entered.</p>
	<p>57. Press the √ (check) button to save the value.</p>
<p><b>SETUP COMPLETE</b> </p>	<p>58. Press the √ (check) button inside the SETUP COMPLETE box.</p>
	<p>59. Press the down arrow button.</p>
<p><input type="checkbox"/> <b>DISCARD SOON</b></p>	<p>60. Press the Discard Soon button.</p>
<p align="center"><b>TPM VALUE</b></p>	<p>61. Press the number above Discard Soon TPM Value. This value is typically chosen as a number below the TPM Discard Now value. This value will display the Discard Soon message when the TPM Discard Soon value is attained. This serves as a notice to the staff that the oil will need to be discarded soon.</p>
	<p>62. Use the keypad to enter the TPM discard soon value.</p>
	<p>63. Press the √ (check) button once the value is entered.</p>
	<p>64. Press the √ (check) button to save the value.</p>
<p><b>SETUP COMPLETE</b> </p>	<p>65. Press the √ (check) button inside the SETUP COMPLETE box.</p>
<p><input type="checkbox"/> <b>DISPOSE DELAY TIMER</b></p>	<p>66. Press the Dispose Delay Timer button. This is the amount of time once the DISCARD NOW prompt is displayed and bypassed before the DISCARD NOW message returns. (Default is: 30 minutes. Minimum value is :00 = DISABLED, maximum value is 4:00 hours.)</p>

DISPLAY	ACTION
	67. Press the hour's box to enter a delay time in hours.
	68. Using the key pad, enter the time in hours.
	69. Press the minute's box to enter a delay time in minutes.
	70. Using the key pad enter the time in minutes.
	71. Press the √ (check) button to save the value.
<p data-bbox="266 1037 472 1062"><b>SETUP COMPLETE</b></p> 	72. Press the √ (check) button inside the SETUP COMPLETE box.
	73. Press the Home button.
 <p data-bbox="367 1245 464 1262"><b>CREW MODE</b></p>	74. Press the Crew Mode button.
	75. Press and hold the reset switch inside the left door for SIXTY (60) seconds.
	76. The system reboots in approximately 45 seconds and returns to off/standby mode.





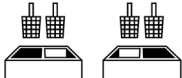

## 1.12 Service Tasks

Covered in this section are crew and manager service tasks used in stores such as High Limit Test, E-Log (error log), password setup, and functions to copy menus to and from the fryer from USB using menu connect.

### 1.12.1 High Limit Test

The high-limit test mode is used to test the high limit circuit. The high-limit test will destroy the oil. It should only be done with old oil. Shut the fryer off and call for service immediately if the temperature reaches 460°F (238°C) without the second high-limit tripping and the controller displays HIGH LIMIT FAILURE DISCONNECT POWER with an alert tone during testing.

The test is cancelled at any time by turning the fryer off. When the fryer is turned back on, it returns to the operating mode and displays the product.

DISPLAY	ACTION
 	1. With the controller at the off/standby position, press the Home button.
	2. Press the Service button.
	3. Press the Crew button.
	4. Select LEFT VAT or RIGHT VAT for split vats.
<b>PRESS AND HOLD</b>	5. Press and hold the Press and Hold button to begin high limit test.
<b>RELEASE</b>	6. While pressing and holding the button the vat begins to heat. The controller displays the actual vat temperature during the test. When the temperature reaches 410°F ± 10° F (210°C ± 12°C)*, the controller displays HOT HI-1 (ex. 410F) and continues heating. *NOTE: In controllers used in the European Union (those with the CE mark) or in the United Kingdom (those with the UKCA mark), the temperature is 395°F (202°C) when the controller displays HOT HI-1.
<b>HOT HI-1</b>	7. While continuing to press and hold the button, the fryer continues heating until the high limit opens. Generally, this happens once the temperature reaches 423°F to 447°F (217°C to 231°C) for non-CE high limits and 405°F to 426°F (207°C to 219°C) for CE/UKCA high limits.
<b>HELP HI-2</b>	8. Release the button. The vat stops heating and the controller displays the current temperature setting until the temperature cools below 400°F (204°C). Press the power button to cancel the alarm.
<b>HIGH LIMIT FAILURE DISCONNECT POWER</b>	9. If the controller displays this message, disconnect power to the fryer and immediately call for service.
	10. After a high limit test, once the vat cools below 400°F (204°C), dispose of the oil.








### 1.12.2 Manager Functions

#### 1.12.2.1 E-Log

The E-LOG function is used to view the ten (10) most recent error codes encountered on the fryer. These codes are displayed with the most recent errors displayed first. The error code, time and date are displayed.





If no errors exist, the controller is blank in this function. Errors are displayed with the side of the error if a split vat, error code, time and date. An error code displaying an “L” indicates left side of a split vat while an “R” indicates right

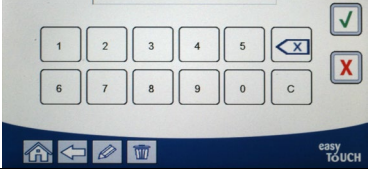






side of a split vat where the error occurred (R E19 06:34AM 04/22/2014). An error code displaying a “G” indicates this was a global error not specifically linked to a particular vat. Error codes are listed in section 7.6 of this manual.

DISPLAY	ACTION
	1. Press the Home button.
	2. Press the Service button.
	3. Press the Manager button.
1 6 5 6	4. Enter <b>1656</b>
	5. Press the ✓ (check) button.
□ E-LOG	6. Press the E-LOG button. The three most recent errors are shown.
	7. Press the Down button. The next three errors are shown. Continue pressing the down arrow to view additional errors.
	8. Press the Back button to return to menu or press the Home button to exit.
 CREW MODE	9. Press the Crew Mode button.

### 1.12.2.2 Passcode Setup





The password mode allows a restaurant manager to change passwords for various modes.

DISPLAY	ACTION
	1. Press the Home button.
	2. Press the Service button.
	3. Press the Manager button.
1 6 5 6	4. Enter <b>1656</b>
	5. Press the ✓ (check) button.
□ PASSCODE SETUP	6. Press the PASSCODE SETUP button.
<ul style="list-style-type: none"> <li>□ MENUS</li> <li>□ RECIPES</li> <li>□ SETTINGS MANAGER</li> <li>□ DIAGNOSTICS MANAGER</li> </ul>	7. Select the desired passcode to modify. Use the down arrow to scroll to additional setting. Defaults are: MENUS 1650 RECIPES 1650 SETTINGS MANAGER 1656 DIAGNOSTICS MANAGER 1656

DISPLAY	ACTION
	8. Use the keypad to enter new passcode for the selected item.
	9. Press the ✓ (check) button.
RETYPE PASSWORD	10. Use the keypad to enter the new passcode again to verify.
	11. Press the ✓ (check) button.
PASSCODE SETUP SUCCESSFUL	12. Press the ✓ (check) button.
 <input type="checkbox"/> <b>MENUS</b> <input type="checkbox"/> <b>RECIPES</b> <input type="checkbox"/> <b>SETTINGS MANAGER</b> <input type="checkbox"/> <b>DIAGNOSTICS MANAGER</b>  	13. Press the Back button to return to menu or press the Home button to exit.
 CREW MODE	14. Press the Crew Mode button.

### 1.12.2.3 USB – Menu Operation - Copy Menu from USB to Fryer





This option allows the ability to upload menus to the controller. This allows products to be created in MenuSync to be saved to a USB drive and uploaded to the fryer.

DISPLAY	ACTION
	1. Press the Home button.
	2. Press the Service button.
	3. Press the Manager button.
1 6 5 6	4. Enter <b>1656</b>
	5. Press the ✓ (check) button.
<input type="checkbox"/> <b>USB – MENU OPERATION</b>	6. Press the USB – MENU OPERATION button.
<input type="checkbox"/> <b>COPY MENU FROM USB TO FRYER</b>	7. Press the COPY MENU FROM USB TO FRYER button.
<b>INSERT USB...</b>	8. Insert the USB drive into the connector behind the far-left fryer door.
<b>IS USB INSERTED? YES NO</b>	9. Press YES once the USB drive is inserted.
<b>READING FILE FROM USB PLEASE DO NOT REMOVE USB WHILE READING</b>	10. No action required.
<b>UI-UI MENU DATA TRANSFER IN PROGRESS</b>	11. No action required while the file is loading.
<b>MENU UPGRADE IN PROGRESS</b>	12. No action required while the upgrade is in progress.

DISPLAY	ACTION
UPGRADE COMPLETE? YES	13. Press YES.
<b>MENU UPGRADE COMPLETED, REMOVE THE USB AND RESTART THE SYSTEM.</b>	14. Remove the USB drive and power cycle the entire fryer battery using the reset switch behind the far-left fryer door below the USB connector. <b>NOTE: Ensure the switch is pressed and held for at least 60 seconds.</b>

#### 1.12.2.4 USB – Menu Operation - Copy Menu from Fryer to USB



This option allows the ability to download the menus **ONLY** from the far-left controller to a USB. This allows menus to be uploaded to other controllers in the fryer or to other fryers.







DISPLAY	ACTION
	1. Press the Home button.
	2. Press the Service button.
	3. Press the Manager button.
1 6 5 6	4. Enter <b>1656</b>
	5. Press the √ (check) button.
<input type="checkbox"/> USB – MENU OPERATION	6. Press the USB – MENU OPERATION button.
<input type="checkbox"/> COPY MENU FROM FRYER TO USB	7. Press the COPY MENU FROM FRYER TO USB button.
INSERT USB...	8. Insert the USB drive into the connector behind the far-left fryer door.
IS USB INSERTED? YES NO	9. Press YES once the USB drive is inserted.
WRITING FILE FROM USB PLEASE DO NOT REMOVE USB WHILE WRITING	10. No action required.
UPLOAD COMPLETE? YES	11. Press YES.
<b>MENU UPLOAD COMPLETED, REMOVE THE USB AND RESTART THE ENTIRE BATTERY.</b>	12. Remove the USB drive and power cycle the entire fryer battery using the reset switch behind the far-left fryer door below the USB connector. <b>NOTE: Ensure the switch is pressed and held for at least 60 seconds.</b>

### 1.13 Information Statistics

#### 1.13.1 Filter Statistics







The filter statistics function is used to view the number of cooks remaining until the next filter, the number of cooks per vat, the number of filters per vat, the number of skipped or bypassed filters per vat and the average number of cook cycles per filter per day.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the Filter button.
<input type="checkbox"/> DAY 1 <input type="checkbox"/> DAY 2	3. Select and press the desired day. Press the down arrow to scroll back additional

DISPLAY	ACTION
<ul style="list-style-type: none"> <li>□ DAY 3</li> <li>□ DAY 4</li> </ul> 	<p>days.</p>
<ol style="list-style-type: none"> <li>1. <b>DAY AND DATE</b> (Day and date of filter statistics displayed)</li> <li>2. <b>COOKS REMAINING UNTIL NEXT FILTER</b> (Number of times cooks that remain until the next filter prompt.)</li> <li>3. <b>DAILY NUMBER OF COOKS</b> (Number of cooks that day)</li> <li>4. <b>DAILY NUMBER OF FILTERS</b> (Number of times vat filtered for a particular day)</li> </ol> 	<ol style="list-style-type: none"> <li>4. Press the down arrow to scroll to more statistics.</li> </ol>
<ol style="list-style-type: none"> <li>5. <b>DAILY NUMBER OF SKIPPED FILTERS</b> (Number of times filter was bypassed that day.)</li> <li>6. <b>AVERAGE COOKS PER FILTER</b> - (Average number of cook cycles per filter that day)</li> <li>7. <b>FILTRATION</b> - (Displays if filtration is enabled or disabled. Diagnostic tool to determine status of FIB board.)</li> </ol>  	<ol style="list-style-type: none"> <li>5. Press the up arrow to scroll up or the back button to return to select another day.</li> </ol>
 	<ol style="list-style-type: none"> <li>6. Press the back button to return to menu or the home button to exit.</li> </ol>

### 1.13.2 Oil Statistics





The oil statistics function is used to view the date of last dispose, the number of cooks since last dispose, filters since last dispose, skipped filters since last dispose, current oil life and average number of cooks over the oil life.

DISPLAY	ACTION
	<ol style="list-style-type: none"> <li>1. Press the Information button.</li> </ol>
	<ol style="list-style-type: none"> <li>2. Press the Oil button.</li> </ol>
<ol style="list-style-type: none"> <li>1. <b>LAST DISPOSE DATE</b></li> <li>2. <b>COOKS SINCE LAST DISPOSE</b></li> <li>3. <b>FILTERS SINCE LAST DISPOSE</b></li> <li>4. <b>SKIPPED FILTERS SINCE LAST DISPOSE</b></li> </ol> 	<ol style="list-style-type: none"> <li>3. Press the down arrow to scroll to more statistics.</li> </ol>
<ol style="list-style-type: none"> <li>5. <b>CURRENT OIL LIFE</b></li> <li>6. <b>AVERAGE COOKS OVER OIL LIFE</b></li> </ol>   	<ol style="list-style-type: none"> <li>4. Press the up arrow to scroll up; the back button to return to menu or the home button to exit.</li> </ol>







### 1.13.3 Life Statistics

The life statistics function is used to view the commission date of the fryer which is automatically set once the fryer has completed 25 cooks, the serial number of the controller, the total time the fryer has operated in hours and the total heat cycle count of the fryer (the amount of times the controller has turned the heat on/off).

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the Life Stats button.
1. <b>COMMISSION DATE</b> 2. <b>UNIT SERIAL NUMBER</b> 3. <b>CONTROLLER SERIAL NUMBER</b> 4. <b>TOTAL ON TIME (HOURS)</b>  5. <b>TOTAL HEAT CYCLE COUNT</b>   6. <b>BSP VERSION</b>	3. Press the back button to return to menu or the home button to exit.





### 1.13.4 Usage Statistics

The usage statistics displays total cook cycles per vat, number of cook cycles per vat, number of cook cycles exited prior to completion, the number of hours the vat(s) have been on and the date of last usage reset.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the Usage Stats button.
1. <b>USAGE START DATE</b> 2. <b>TOTAL NUMBER OF COOK CYCLES</b> 3. <b>TOTAL NUMBER OF QUIT COOK CYCLES</b>  4. <b>TOTAL VAT ON TIME (HOURS)</b>  	3. Press the back button to return to menu or the home button to exit.








### 1.13.5 Recovery Time

Recovery is used to determine if the fryer is operating correctly. Recovery is the time required for the fryer to raise the temperature of the oil 50°F (28°C) between 250°F (121°C) and 300°F (149°C). Maximum recovery time should not exceed 1:40 for electric or 3:15 for gas.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the Recovery button. The time is displayed in minutes and seconds.
1. <b>LAST RECOVERY TIME</b>   	3. Press the back button to return to menu or the home button to exit.






### 1.13.6 Last Load Statistics

The last load statistics provides data for the last cook cycle.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the Last Load button.
1. LAST COOKED PRODUCT 2. LAST LOAD START TIME 3. LAST LOAD COOK TIME  	3. Press the down arrow to scroll to more statistics.
4. LAST LOAD PROGRAM TIME 5. LAST LOAD MAX VAT TEMP 6. LAST LOAD MIN VAT TEMP 7. LAST LOAD AVG VAT TEMP  	4. Press the down arrow to scroll to more statistics.
8. % OF COOK TIME, HEAT IS ON    	5. Press the up arrow to scroll up; the back button to return to menu or the home button to exit.
9. VAT TEMP BEFORE COOK STARTS	

### 1.13.7 Software Version






The software version function provides the software versions of the controller and circuit boards in the fryer system; the values of the temperature probe, the AIF RTD probe and the ATO RTD probe.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the down arrow button.
	3. Press Software Version button.
1. UIB SOFTWARE VERSION 2. SIB SOFTWARE VERSION 3. VIB SOFTWARE VERSION 4. FIB SOFTWARE VERSION  	4. Press the down arrow to scroll to additional software versions, probe temperatures and information. <b>NOTE: Split vats will have an SIB2 and left and right vat AIF, and ATO temperatures.</b>
5. OQS SOFTWARE VERSION 6. ACTUAL VAT TEMP 7. AIF RTD TEMP 8. ATO RTD TEMP 9. BOARD ID  	5. Press the down arrow to scroll to additional software versions and information.

DISPLAY	ACTION
10. GATEWAY SOFTWARE VERSION 11. GATEWAY IP ADDRESS 12. GATEWAY LINK QUALITY 13. GATEWAY SIGNAL STRENGTH AND NOISE 	6. Press the up arrow to scroll up; the back button to return to menu or the home button to exit.





### 1.13.8 Reset Usage Statistics

The reset function resets all usage data in the usage statistics.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the down arrow button.
	3. Press Reset Usage button.
1 6 5 6	4. Enter <b>1656</b>
	5. Press the √ (check) button.
ALL USAGE DATA HAS BEEN RESET	6. Press the √ (check) button.
	7. Press the up arrow to scroll up; the back button to return to menu or the home button to exit.







### 1.13.9 Fresh Oil Statistics

The fresh oil statistics function is used to view information on the current fresh oil.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the down arrow button.
	3. Press the Fresh Oil button.
1. NUMBER OF COOKS SINCE LAST DISPOSE 2. DISPOSE COUNT COOKS SINCE LAST RESET 3. FRESH OIL COUNTER RESET DATE 4. FRESH OIL COUNTER 	4. Press the back button to return to menu or the home button to exit.







### 1.13.10 Fresh Oil Reset Usage Statistics

The reset function resets all fresh oil data in the fresh oil statistics.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the down arrow button.
	3. Press Fresh Oil Reset button.
1 6 5 6	4. Enter <b>1656</b> .
	5. Press the √ (check) button.
<b>FRESH OIL DATA HAS BEEN RESET</b> 	6. Press the √ (check) button.
	7. Press the back button to return to menu or the home button to exit.


### 1.13.11 Filter Reset Statistics




The reset function resets all filter statistics.

DISPLAY	ACTION
	1. Press the Information button.
	2. Press the down arrow button.
	3. Press Filter Reset button.
4 3 2 1	4. Enter <b>4321</b> .
	5. Press the √ (check) button.
<b>FILTER RESET HAS BEEN DONE</b> 	6. Press the √ (check) button.
	7. Press the back button to return to menu or the home button to exit.

### 1.13.12 TPM (Total Polar Material) Statistics

The TPM statistics provides data from the OQS (Oil Quality Sensor). The same data can be accessed by pressing the TPM button on the front of the controller when the TPM button is solid.

DISPLAY	ACTION
	1. Press the Information button.

DISPLAY	ACTION
	2. Press the down arrow.
	3. Press the TPM Statistics button. The TPM values for the previous valid thirty (30) days are listed.
	4. Press the up arrow to scroll up; the back button to return to menu or the home button to exit.

# CHAPTER 2: FILTERQUICK™ FQ4000 FS

## FILTRATION MENU FUNCTIONS INSTRUCTIONS

### 2.1 Filtration Menu

The filtration menu selections are used for filtering, draining, filling, disposing and cleaning the vats.

The filtration menu is listed below:

- Quick Filter page 2-1
- Quick Filter on Demand page 2-2
- Clean and Filter page 2-3
- Clean and Filter with OQS (OQS only) page 2-5
- OQS Filter (OQS only) page 2-7
- Dispose Oil (Non-Bulk Systems) page 2-9
- Dispose Oil (Bulk Systems) page 2-10
- Drain Oil page 2-11
- Fill Vat from Drain Pan page 2-12
- Fill Vat from Bulk (Bulk Only) page 2-13
- Oil Pan to Waste (Bulk Only) page 2-14
- Boil Out (Non-Bulk Systems) page 2-15
- Boil Out (Bulk Systems) page 2-17

### DANGER

**When using a sediment basket, it MUST be removed and emptied prior and during each filtration. Some food particles can spontaneously combust if left soaking in certain shortening material.**

#### 2.1.1 Quick Filter

Quick Filter is a feature that, after a number of preset cook cycles or time, will automatically prompt to filter the frypots. This function can also be performed on demand as well and is covered in the next section. **Note:** Simultaneous filtering of multiple vats does not occur. If CLOSE DISPOSE VALVE is displayed, close the dispose valve.

DISPLAY	ACTION
FILTRATION REQUIRED - FILTER NOW?	1. Press the ✓ (check) button to start filtration. If the X button is selected, filtering is cancelled, and the fryer resumes normal operation. The filter button will turn yellow until the fryer is filtered. After a number of bypasses, the filter button will turn red. The controller will prompt again soon to filter the oil. This sequence repeats until a filter is completed.
OIL LEVEL TOO LOW	2. Displayed if the oil level is too low. Press the ✓ (check) button to acknowledge issue and return to idle cook mode. Check to see if the JIB is low on oil. If JIB is not low and this continues to occur, contact your FAS.
SKIM DEBRIS FROM VAT - PRESS CONFIRM WHEN COMPLETE	3. Skim the crumbs from the oil with a front to back motion, removing as many crumbs as possible from each vat. This is critical to optimizing usable oil life and quality in the oil. Press the ✓ (check) button when complete.
INSERT PAN	4. Push the filter pan fully into place. Displayed if the filter pan is not fully engaged.
DRAINING IN PROGRESS	5. No action required.
WASHING IN PROGRESS	6. No action required.
FILLING IN PROGRESS	7. No action required.

DISPLAY	ACTION
PREHEAT	8. No action required. Displayed until the fryer reaches setpoint.
START	9. Fryer is ready for use. Displayed once fryer reaches setpoint.

The complete filtering process takes roughly four minutes. If during filtration the oil isn't completely returned the system will proceed to an incomplete filtration function.


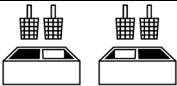
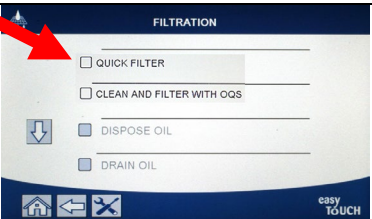
**NOTE:** If during filtration the filter pan is removed, the filtration process stops and resumes once pan is reseated into place.

**⚠ DANGER**

**Keep all items out of drains. Closing actuators may cause damage or injury.**

### 2.1.2 Quick Filter on Demand

Quick Filter on demand is used to manually start a Quick Filter. **Note:** Simultaneous filtering of multiple vats does not occur. If CLOSE DISPOSE VALVE is displayed, close the dispose valve.

DISPLAY	ACTION
	<p>1. The fryer <b>MUST</b> be at setpoint temperature. Press the filtration menu button.</p>
	<p>2. Select LEFT VAT or RIGHT VAT for split vats.</p>
	<p>3. Select QUICK FILTER.</p>
<p>QUICK FILTER?</p>	<p>4. Press the √ (check) button to start filtration. If the X button is selected, filtering is cancelled, and the fryer resumes normal operation.</p>
<p>OIL LEVEL TOO LOW</p>	<p>5. Displayed if the oil level is too low. Press the √ (check) button to acknowledge issue and return to idle cook mode. Check to see if the JIB is low on oil. If JIB is not low and this continues to occur, contact your FAS.</p>
<p>SKIM DEBRIS FROM VAT - PRESS CONFIRM WHEN COMPLETE</p>	<p>6. Skim the crumbs from the oil with a front to back motion, removing as many crumbs as possible from each vat. This is critical to optimizing usable oil life and quality of the oil. Press the √ (check) button when complete.</p>
<p>INSERT PAN</p>	<p>7. Push the filter pan fully into place. Displayed if the filter pan is not fully engaged.</p>
<p>DRAINING IN PROGRESS</p>	<p>8. No action required as oil drains into filter pan.</p>
<p>WASHING IN PROGRESS</p>	<p>9. No action required as debris is flushed from the vat.</p>
<p>FILLING IN PROGRESS</p>	<p>10. No action required as the vat refills.</p>

PREHEAT	11. No action required as the fryer heats to setpoint.
START	12. Fryer is ready for use. Displayed once fryer reaches setpoint.

The complete filtering process takes roughly four minutes.

**NOTE:** If during filtration the filter pan is removed, the filtration process stops and resumes once pan is reseated into place.

**⚠ DANGER**

**Keep all items out of drains. Closing actuators may cause damage or injury.**

Should the Quick Filter procedure fail an error message is generated. Follow the instructions on the controller to clear the error.

When FILTER BUSY is displayed the FIB board is waiting on another vat to be filtered or waiting on another issue to clear. Press the √ (check) button and wait 15 minutes to see if problem is corrected. If not, call your local FAS.

**⚠ DANGER**

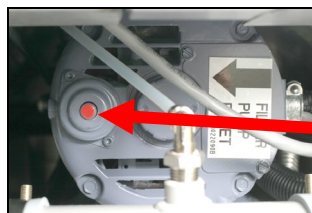
**Do not drain more than one frypot at a time into the built-in filtration unit to avoid overflow and spillage of hot oil that may cause severe burns, slipping and falling.**

**⚠ WARNING**

**The filter motor 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 photo on the following page).**

**⚠ WARNING**

**Use caution and wear appropriate safety equipment when resetting the filter motor reset switch. Resetting the switch must be accomplished with care to avoid the possibility of a serious burn from careless maneuvering around the drain tube and frypot.**



**Filter Motor Reset Switch**

### 2.1.3 Clean and Filter or End of Day Filter

Ensure that the filter pad or paper is replaced daily to keep the system operating correctly. For proper operation in high volume or 24-hour stores, the filter pad or paper must be changed twice a day.

If CLOSE DISPOSE VALVE is displayed, close the dispose valve. Press the X button to exit.


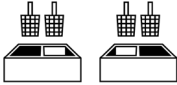
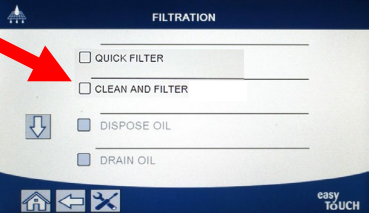
**NOTICE**


**The filter pad or paper must be replaced daily.**

**⚠ WARNING**

**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.**



DISPLAY	ACTION
	<p>1. The fryer <b>MUST</b> be at setpoint temperature. Press the filtration menu button.</p>
	<p>2. Select LEFT VAT or RIGHT VAT for split vats.</p>
	<p>3. Select CLEAN AND FILTER.</p>
<p>CLEAN AND FILTER?</p>	<p>4. Press the ✓ (check) button to start filtration. If the X button is selected, filtering is cancelled, and the fryer resumes normal operation.</p>
<p>WEAR PROTECTIVE GLOVES – PRESS CONFIRM WHEN COMPLETE</p>	<p>5. Press the ✓ (check) button once all personal protection equipment including heat resistant gloves are in place.</p>
<p>ENSURE OIL PAN AND COVER ARE IN PLACE DRAINING IN PROGRESS</p>	<p>6. Press the ✓ (check) button if the oil pan and cover are in place.</p>
<p>SCRUB INSIDE VAT AND BETWEEN HEATERS – PRESS CONFIRM WHEN COMPLETE</p>	<p>7. No action required as oil drains into filter pan.</p> <p>8. Scrub the vat. If electric clean in between the elements. Press the ✓ (check) button when complete.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p><b>⚠ DANGER</b>  <b>Keep all items out of drains. Closing actuators may cause damage or injury.</b></p> </div>
<p>CLEAN SENSORS – PRESS CONFIRM WHEN COMPLETE</p>	<p>9. (Gas Only) Clean the oil level sensor with a no scratch pad (see IO Manual). (All Fryers) Clean around AIF and ATO sensors with a screwdriver or similar object to remove any sediment from around the sensors and press the ✓ (check) button when complete.</p>
<p>WASH VAT?</p>	<p>10. Press the ✓ (check) button.</p>
<p>WASHING IN PROGRESS</p>	<p>11. No action required while the return valve opens, and the vat is flushed with oil from the filter pan.</p>
<p>WASH AGAIN?</p>	<p>12. The filter pump shuts off. If the vat is clean of debris, press the X button to continue. If crumbs are still present, press the ✓ (check) button and the filter pump runs again. This cycle repeats until the X button is pressed.</p>
<p>RINSING IN PROGRESS</p>	<p>13. No action required while the drain valve closes, and the filter pump refills the vat. The drain valve opens and rinses the vat.</p>
<p>RINSE AGAIN?</p>	<p>14. If the vat is clean of debris, press the X button to continue. If an additional rinse is desired, press the ✓ (check) button and the rinse repeats until the X button is pressed.</p>
<p>POLISH?</p>	<p>15. Press the ✓ (check) button to continue.</p>
<p>POLISH IN PROGRESS</p>	<p>16. No action required while the drain and return valves are open and oil is pumped through the frypot for five minutes.</p>

DISPLAY	ACTION
FILL VAT?	17. Press the √ (check) button to continue.
FILLING IN PROGRESS	18. No action required while the vat is refilled.
IS VAT FULL?	19. Press the X button to run the pump again if the oil level is below the top oil level full line. * Press the √ (check) button once the oil level is at the top oil level full line. If the vat oil level is not completely filled, check the filter pan to see if most of the oil has returned. The pan may have a small amount of oil. Press the √ (check) button once no oil remains in the filter pan.
	20. The controller switches off.

**\*NOTE:** After a clean and filter it is normal to leave some oil in the pan and the level of oil may not return to the level prior to starting maintenance filtration. Answering YES after two attempts at refilling the vat enables auto top off to compensate for any loss of oil during filtration.

### 2.1.4 Clean and Filter with OQS or End of Day Filter

Ensure that the filter pad or paper is replaced daily to keep the system operating correctly. For proper operation in high volume or 24-hour stores, the filter pad or paper must be changed twice a day.


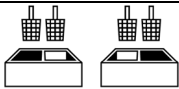

If CLOSE DISPOSE VALVE is displayed, close the dispose valve. Press the X button to exit.




**NOTICE**


**The filter pad or paper must be replaced daily.**

**WARNING**

**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.**

DISPLAY	ACTION
	1. The fryer <b>MUST</b> be at setpoint temperature. Press the filtration menu button.
	2. Select LEFT VAT or RIGHT VAT for split vats.
	3. Select CLEAN AND FILTER WITH OQS.
CLEAN AND FILTER?	4. Press the √ (check) button to start filtration. If the X button is selected, filtering is cancelled, and the fryer resumes normal operation.
WEAR PROTECTIVE GLOVES – PRESS CONFIRM WHEN COMPLETE	5. Press the √ (check) button once all personal protection equipment including heat resistant gloves are in place.
ENSURE OIL PAN AND COVER ARE IN PLACE	6. Press the √ (check) button if the oil pan and cover are in place.

DISPLAY	ACTION
DRAINING IN PROGRESS	7. No action required as oil drains into filter pan.
SCRUB VAT COMPLETE?	8. Scrub the vat. If electric clean in between the elements. Press the √ (check) button when complete. <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>⚠ DANGER</b> <b>Keep all items out of drains. Closing actuators may cause damage or injury.</b></div>
CLEAN SENSORS?	9. (Gas Only) Clean the oil level sensor with a no scratch pad. (All Fryers) Clean around AIF and ATO sensors with a screwdriver or similar object to remove any sediment from around the sensors and press the √ (check) button when complete.
WASH VAT?	10. Press the √ (check) button.
WASHING IN PROGRESS	11. No action required while the return valve opens, and the vat is flushed with oil from the filter pan.
WASH AGAIN?	12. The filter pump shuts off. If the vat is clean of debris, press the X button to continue. If crumbs are still present, press the √ (check) button and the filter pump runs again. This cycle repeats until the X button is pressed.
RINSING IN PROGRESS	13. No action required while the drain valve closes, and the filter pump refills the vat. The drain valve opens and rinses the vat.
RINSE AGAIN?	14. If the vat is clean of debris, press the X button to continue. If an additional rinse is desired, press the √ (check) button and the rinse repeats until the X button is pressed.
POLISH IN PROGRESS	15. No action required while the drain and return valves are open and oil is pumped through the frypot for three minutes.
FILLING IN PROGRESS	16. No action required while the OQS sensor is filled.
MEASURING OIL QUALITY	17. No action required while the OQS sensor calculates the oil quality value of the oil.
POLISH IN PROGRESS	18. No action required while the drain and return valves are open and oil is pumped through the frypot for an additional two minutes.
FILLING IN PROGRESS	19. No action required while the vat is refilled.
IS VAT FULL?	20. Press the X button to run the pump again if the oil level is below the top oil level full line. * Press the √ (check) button once the oil level is at the top oil level full line. If the vat oil level is not completely filled, check the filter pan to see if most of the oil has been returned. The pan may have a small amount of oil. Press the √ (check) button once no oil remains in the filter pan.
TPM VALUE - ##.#	21. Press the √ (check - YES) button to continue. If the TPM is below the OQS SETUP-DISCARD SOON and OQS SETUP - DISCARD limits proceed to step 24. If the TPM is above OQS SETUP DISCARD SOON limits proceed to step 22. If the TPM reading is above OQS SETUP - DISCARD limits, proceed to step 23.
DISCARD SOON 	22. Press the √ (check -YES) button to continue. Skip to step 24.
DISCARD NOW 	23. Press the √ (check -YES) button to continue. Proceed to DISPOSE in section 5.3.4/5. Press X (NO) to delay the DISPOSE.
	24. The controller switches off.
	25. If OQS = Text and if TPM reading is below OQS SETUP - DISCARD NOW

DISPLAY	ACTION
	<p>and DISCARD SOON limits, the TPM value is shown in the green TPM box in upper right corner.</p> <p>If OQS = Text and if TPM reading is below OQS SETUP – DISCARD NOW but above DISCARD SOON limits, the TPM value is shown in the yellow TPM box in upper right corner.</p> <p>If OQS = Text and if TPM reading is above OQS SETUP – DISCARD NOW limits; the TPM value is shown in the orange TPM box in upper right corner. The oil needs to be discarded.</p>

**\*NOTE:** After a clean and filter it is normal to leave some oil in the pan and the level of oil may not return to the level prior to starting maintenance filtration. Answering YES after two attempts at refilling the vat enables auto top off to compensate for any loss of oil during filtration.


### 2.1.5 OQS (Oil Quality Sensor) Filter

The OQS filter is a function that filters the vat that takes an oil reading to test the TPM (Total Polar Materials) in the oil using the built in OQS sensor. This function is used to determine when the oil has reached the end of its life and when to dispose. Ensure that the filter pad or paper is replaced daily to keep the system operating correctly. For proper operation in high volume or 24-hour stores, the filter pad or paper must be changed twice a day.


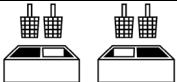
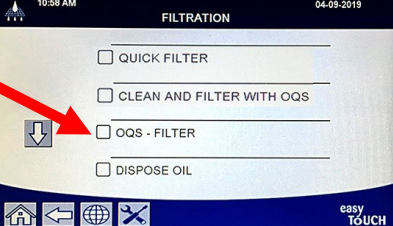
If CLOSE DISPOSE VALVE is displayed, close the dispose valve. Press the X (NO) button to exit.




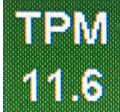

**NOTICE**

**The filter pad or paper must be replaced daily.**

 **WARNING**

**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.**

DISPLAY	ACTION
	<ol style="list-style-type: none"> <li>The fryer <b>MUST</b> be at setpoint temperature. Press the filtration menu button.</li> </ol>
	<ol style="list-style-type: none"> <li>Select LEFT VAT or RIGHT VAT for split vats.</li> </ol>
	<ol style="list-style-type: none"> <li>Select OQS (Oil Quality Sensor) - FILTER.</li> </ol>
<p style="text-align: center;">OQS – FILTER NOW?</p>	<ol style="list-style-type: none"> <li>Press the √ (check - YES) button to start filtration. If the X (NO) button is selected, filtering is cancelled, and the fryer resumes normal</li> </ol>

DISPLAY	ACTION
OIL LEVEL TOO LOW	<p>operation.</p> <p>5. Displayed if the oil level in the frypot is too low. Press the √ (check - YES) button to acknowledge issue and return to idle cook mode. Ensure the frypot oil level is between the two-level lines at the rear of the frypot. Check to see if the JIB is low on oil. If JIB is not low and this continues to occur, contact your FAS.</p>
SKIM DEBRIS FROM VAT PRESS CONFIRM WHEN COMPLETE	<p>6. Skim the crumbs from the oil with the skimmer using a front to back motion, removing as many crumbs as possible from each vat. This is critical to optimizing usable oil life and quality of the oil. Press the √ (check- YES) button when complete. Press the X button to cancel the filter.</p>
DRAINING IN PROGRESS	<p>7. No action required as oil drains into filter pan.</p>
WASHING IN PROGRESS	<p>8. No action required while the return valve opens, and the vat is flushed with oil from the filter pan.</p> <div style="border: 2px solid black; padding: 5px; text-align: center;"> <p><b>⚠ DANGER</b></p> <p><b>Keep all items out of drains. Closing actuators may cause damage or injury.</b></p> </div>
FILLING IN PROGRESS	<p>9. No action required while the OQS sensor is filled.</p>
MEASURING OIL QUALITY	<p>10. No action required while the OQS sensor calculates the oil quality value of the oil.</p>
FILLING IN PROGRESS	<p>11. No action required while the vat is refilled.</p>
TPM VALUE- ###.#	<p>12. Press the √ (check - YES) button to continue. If the TPM is below the OQS SETUP-DISCARD SOON and OQS SETUP – DISCARD limits proceed to step 15. If the TPM is above OQS SETUP DISCARD SOON limits proceed to step 13. If the TPM reading is above OQS SETUP – DISCARD limits, proceed to step 14.</p>
DISCARD SOON 	<p>13. Press the √ (check -YES) button to continue. Skip to step 15.</p>
DISCARD NOW 	<p>14. Press the √ (check -YES) button to continue. Proceed to DISPOSE in section 5.3.4/5. Press X (NO) to delay the DISPOSE.</p>
PREHEAT	<p>15. No action required as the fryer heats to setpoint.</p>
	<p>16. Fryer is ready for use. Displayed once fryer reaches setpoint.</p>
  	<p>17. If OQS = Text and if TPM reading is below OQS SETUP – DISCARD NOW and DISCARD SOON limits, the TPM value is shown in the green TPM box in upper right corner.  If OQS = Text and if TPM reading is below OQS SETUP – DISCARD NOW but above DISCARD SOON limits, the TPM value is shown in the yellow TPM box in upper right corner.  If OQS = Text and if TPM reading is above OQS SETUP – DISCARD NOW limits; the TPM value is shown in the orange TPM box in upper right corner. The oil needs to be discarded.</p>



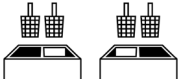
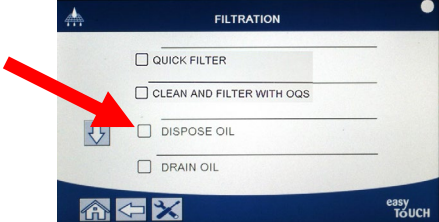
DISPLAY	ACTION
	


**NOTE:** If the oil isn't completely returned during filtration, the system may proceed to an incomplete filtration function.

### 2.1.6 Dispose for Non-Bulk Oil Systems

This option is used to dispose of old oil into either a SDU or a **METAL** container.

When cooking oil is exhausted, dispose the oil into an appropriate container for transport to the waste oil container. Frymaster recommends a Shortening Disposal Unit (SDU). Refer to the documentation furnished with your disposal unit for specific operating instructions. **NOTE:** If using an SDU built before January 2004, the unit will not fit under the drain. If a shortening disposal unit is not available, allow the oil to cool to 100°F (38°C), then drain the oil into a **METAL** container with a capacity of FOUR gallons (15 liters) or larger to prevent oil from spilling.

DISPLAY	ACTION
	1. The fryer <b>MUST</b> be OFF.
	2. Press the filtration menu button
	3. Select LEFT VAT or RIGHT VAT for split vats.
	4. Select DISPOSE OIL.
DISPOSE OIL?	5. Press the ✓ (check) button to continue. If the X button is selected, the user returns to the filtration menu. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p style="text-align: center;"><b>Allow oil to cool to 100°F (38°C) before draining into an appropriate METAL container for disposal.</b></p> </div>
INSERT DISPOSAL UNIT	6. Remove the filter pan and insert the disposal unit. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p style="text-align: center;"><b>When draining oil into a disposal unit, do not fill above the maximum fill line located on the container.</b></p> </div>
IS DISPOSE UNIT IN PLACE?	7. Ensure the SDU or a METAL container with a capacity of FOUR gallons (15 liters) or larger is in place. Press the ✓ (check) button to continue. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p style="text-align: center;"><b>When draining oil into an appropriate METAL container, make sure the container will hold at least FOUR gallons (15 liters) or more, otherwise hot liquid could overflow and cause injury.</b></p> </div>



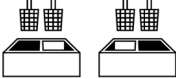
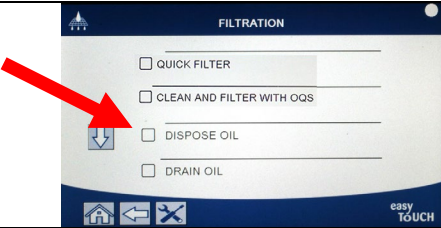
DISPLAY	ACTION
DISPOSING	8. No action is required while the vat disposes the oil.
IS VAT EMPTY?	9. Once the vat is empty, press the ✓ (check) button to continue.
CLEAN VAT COMPLETE?	10. Clean the vat with a scrub brush and when complete press the ✓ (check) button to continue.
MANUALLY FILL VAT	11. Carefully pour oil into the vat until it reaches the low-level fill line in the fryer. Press the ✓ (check) button once the vat is full.
	12. The controller switches off.

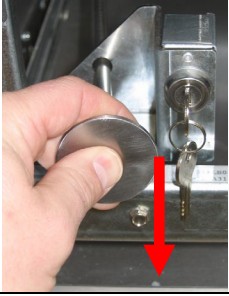
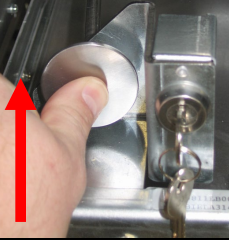

### 2.1.7 Dispose for Bulk Oil Systems

This option is used to dispose of old oil into a bulk waste oil system such as RTI. Bulk oil systems use a pump to move exhausted oil from the fryer to a holding tank. Additional plumbing is used to connect the bulk oil systems to the fryers.

**⚠ WARNING**



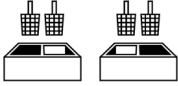
**Ensure a filter pad is in place prior to draining or disposing of oil. Failure to insert a filter pad may result in clogged lines and/or**

DISPLAY	ACTION
	1. The fryer <b>MUST</b> be OFF.
	2. Press the filtration menu button
	3. Select LEFT VAT or RIGHT VAT for split vats.
	4. Select DISPOSE OIL.
DISPOSE OIL?	5. Press the ✓ (check) button to continue. If the X button is selected, the user returns to the filtration menu.
BULK TANK FULL?	6. This message is only displayed if the bulk tank is full. Press the ✓ (check) button to acknowledge and call the bulk oil waste provider. The display returns to OFF.
DRAINING IN PROGRESS	7. No action required as oil drains into filter pan.
VAT EMPTY?	8. Once the vat is empty, press the ✓ (check) button to continue.
CLEAN VAT COMPLETE?	9. Clean the vat with a scrub brush and when complete press the ✓ (check) button to continue.
OPEN DISPOSE VALVE	10. Open the left cabinet door and unlock the valve if necessary. Pull the dispose valve completely forward to start disposal.

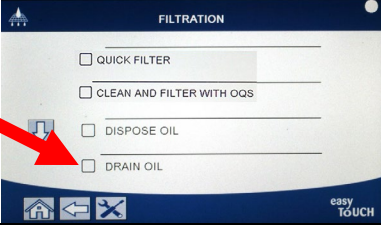

DISPLAY	ACTION
	
DISPOSING	11. No action is required while the pump transfers the waste oil from the pan to the bulk oil waste tanks for four (4) minutes.
REMOVE PAN	12. Carefully pull the filter pan from the fryer. <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>⚠ DANGER</b> <b>Open the filter pan slowly to avoid splashing of hot oil that may cause severe burns, slipping and falling.</b></div>
IS PAN EMPTY?	13. If the filter pan is empty press the √ (check) button. If the pan is not empty, press the X button and return to step 11 after inserting the filter pan.
INSERT PAN	14. Insert the filter pan.
CLOSE DISPOSE VALVE 	15. Close the dispose valve by pushing the valve handle toward the rear of the fryer until it stops. Relock the valve if required by your manager.
FILL VAT FROM BULK?	16. The vat is ready to be refilled with oil. Press the √ (check) button to continue otherwise press the X button to exit to step 20.
START FILLING? PRESS AND HOLD	17. Press and hold the button to fill the vat. The bulk oil refill pump uses a momentary switch. It only pumps as long as the switch is depressed.
RELEASE BUTTON WHEN FULL	18. Release the button when the vat is filled to the lower fill line.
CONTINUE FILLING?	19. Press the √ (check) button to return to step 17 and continue filling. Otherwise press the X button once the vat is full to exit and return to OFF.
	20. The controller switches off.

### 2.1.8 Drain Oil to Pan

The drain to pan function drains the oil from the vat to the filter pan.



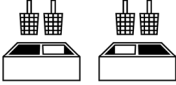
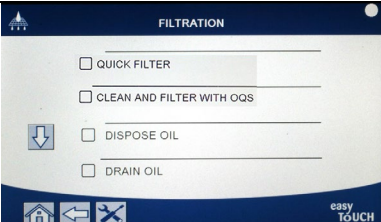
DISPLAY	ACTION
	1. The fryer <b>MUST</b> be OFF.
	2. Press the filtration menu button
	3. Select LEFT VAT or RIGHT VAT for split vats.

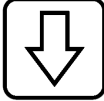
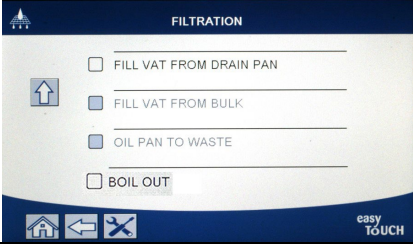



DISPLAY	ACTION
	4. Select DRAIN OIL.
DRAIN OIL TO PAN?	5. Press the ✓ (check) button to continue. If the X button is selected, the controller goes to OFF. If no pan is detected, the controller displays ENSURE OIL PAN AND COVER ARE IN PLACE until the pan is detected.
DRAINING IN PROGRESS	6. No action is required while the vat drains the oil into the filter pan.
IS VAT EMPTY?	7. Once the vat is empty, press the ✓ (check) button to continue.
FILL VAT FROM DRAIN PAN?	8. Press the ✓ (check) button to refill the vat, otherwise skip to step 10.
FILLING	9. No action is required while the vat is filling.
IS VAT FULL?	10. Press the X button to run the pump again if the oil level is below the top oil level full line. Press the ✓ (check) button once the vat is full and skip to step 15 to return to OFF.
REMOVE PAN	11. Carefully pull the filter pan from the fryer. <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>⚠ DANGER</b> <b>Open the filter pan slowly to avoid splashing of hot oil that may cause severe burns, slipping and falling.</b></div>
IS PAN EMPTY?	12. <b>NOTE:</b> A small quantity of oil may remain in the pan after refilling. If the filter pan is empty press the ✓ (check) button and skip to step 12. If the pan is not empty, press the X button and return to FILL VAT FROM DRAIN PAN? in step 7. If the pan is not empty and the fryer is using a bulk oil system, press the X button and continue to step 13.
INSERT PAN	13. Insert the filter pan and skip to step 14 to return to OFF.
PAN TO WASTE?	14. Press the ✓ (check) button to dispose of the oil to the bulk oil waste tanks. Skip to section 2.3.10 OIL PAN TO WASTE step 6.
	15. The controller switches off.

### 2.1.9 Fill Vat from Drain (Filter) Pan



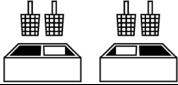
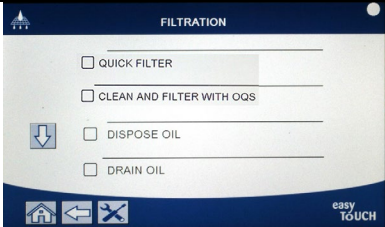

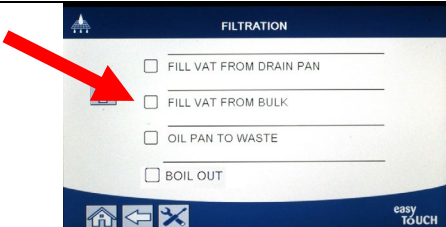
The drain to pan function drains the oil from the vat to the filter pan.


DISPLAY	ACTION
	1. The fryer <b>MUST</b> be OFF.
	2. Press the filtration menu button
	3. Select LEFT VAT or RIGHT VAT for split vats.
	4. Press the down arrow.

DISPLAY	ACTION
	
	5. Select FILL VAT FROM DRAIN PAN.
FILL VAT FROM DRAIN PAN?	6. Press the ✓ (check) button to continue. If the X button is selected, the controller goes to OFF. If no pan is detected, the controller displays INSERT PAN until the pan is detected.
FILLING	7. No action is required while the vat is filling.
IS VAT FULL?	8. Press the X button to run the pump again if the oil level is below the top oil level full line. Press the ✓ (check) button once the vat is full and to return to OFF.
	9. The controller switches off.

### 2.1.10 Fill Vat from Bulk



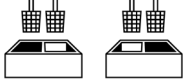
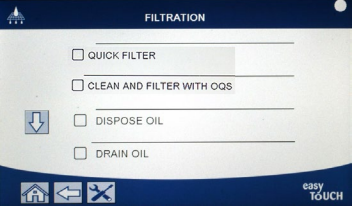
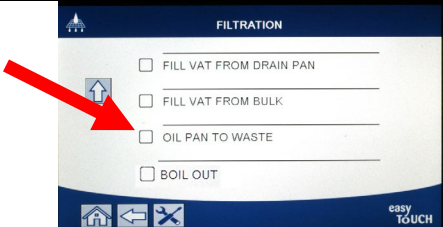

The drain to pan function drains the oil from the vat to the filter pan.



DISPLAY	ACTION
	1. The fryer <b>MUST</b> be OFF.
	2. Press the filtration menu button
	3. Select LEFT VAT or RIGHT VAT for split vats.
 	4. Press the down arrow.
	5. Select FILL VAT FROM BULK.
FILL VAT FROM BULK?	6. Press the ✓ (check) button to continue. If the X button is selected, the

DISPLAY	ACTION
	controller goes to OFF.
START FILLING? PRESS AND HOLD	7. Press and hold the button to fill the vat. The bulk oil refill pump uses a momentary switch. It only pumps as long as the switch is depressed.
RELEASE BUTTON WHEN FULL	8. Release the button when the vat is filled to the lower fill line.
CONTINUE FILLING?	9. Press the √ (check) button to continue filling. Otherwise press the X button once the vat is full to exit and return to OFF.
	10. The controller switches off.

### 2.1.11 Oil Pan to Waste



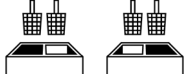
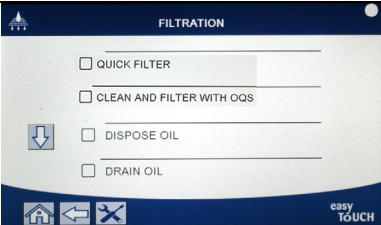

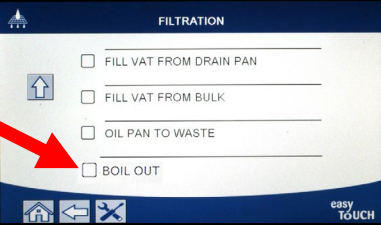
Pan to waste selection is an option that allows bulk oil systems to pump excess oil in the pan to the bulk oil waste tanks without draining the existing oil in the vat.

DISPLAY	ACTION
	1. The fryer <b>MUST</b> be OFF.
	2. Press the filtration menu button
	3. Select LEFT VAT or RIGHT VAT for split vats.
	4. Press the down arrow.
	5. Select OIL PAN TO WASTE.
<p>OIL PAN TO WASTE?</p>	6. Press the ✓ (check) button to continue. If the X button is selected, the user returns to the filtration menu. If no pan is detected, the controller displays INSERT PAN until the pan is detected.
<p>BULK TANK FULL?</p>	7. Press the ✓ (check) button to acknowledge and call the bulk oil waste provider. The display returns to OFF.
<p>OPEN DISPOSE VALVE</p> 	8. Open the left cabinet door and unlock the valve if necessary. Pull the dispose valve completely forward to start disposal.
<p>DISPOSING</p>	9. No action is required while the pump transfers the waste oil from the pan to the bulk oil waste tanks for four (4) minutes.
<p>REMOVE PAN</p>	10. Carefully pull the filter pan from the fryer. <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p><b>⚠ DANGER</b>  <b>Open the filter pan slowly to avoid splashing of hot oil that may cause severe burns, slipping and falling.</b></p> </div>
<p>IS PAN EMPTY?</p>	11. If the filter pan is empty press the ✓ (check) button. If the pan is not empty, press the X button and return to step 9.
<p>INSERT PAN</p>	12. Insert the filter pan.


DISPLAY	ACTION
<p>CLOSE DISPOSE VALVE</p> 	<p>13. Close the dispose valve by pushing the valve handle toward the rear of the fryer until it stops. Relock the valve if required by your manager.</p>
	<p>14. The controller switches off.</p>

### 2.1.12 Boil-Out for Non-Bulk Oil Systems

The boil out mode is used to remove carbonized oil from the frypot.

DISPLAY	ACTION
	<p>1. The fryer <b>MUST</b> be OFF.</p>
	<p>2. Press the filtration menu button</p>
	<p>3. Select LEFT VAT or RIGHT VAT for split vats.</p>
 	<p>4. Press the down arrow.</p>
	<p>5. Select BOIL OUT.</p>
<p>BOIL OUT?</p>	<p>6. Press the ✓ (check) button to continue. If the X button is selected, the user returns to the filtration menu. If no pan is detected, the controller displays INSERT PAN until the pan is detected.</p>
<p>IS VAT OIL REMOVED?</p>	<p>7. Press the X button if oil is in the vat. Press the ✓ (check) button if the vat is empty and skip to step 12.</p>
<p>INSERT DISPOSAL UNIT</p>	<p>8. Remove the filter pan and insert the disposal unit.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p><b>⚠ DANGER</b></p> <p><b>Ensure a SDU (Shortening Disposal Unit) or suitable metal container is in place under the drain with a capacity of FOUR (4) gallons (15 liters) or more.</b></p> </div>



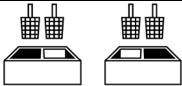
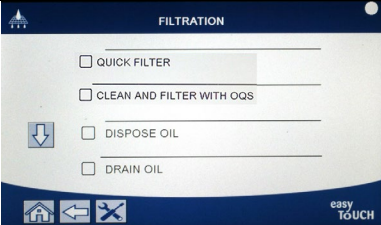

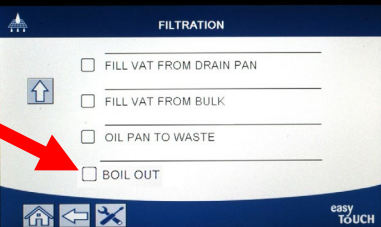
DISPLAY	ACTION
IS DISPOSE UNIT IN PLACE?	<p>9. Ensure the SDU or a METAL container with a capacity of FOUR gallons (15 liters) or larger is in place. Press the √ (check) button to continue.</p> <div data-bbox="771 254 1539 363" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p><b>Allow oil to cool to 100°F (38°C) before draining into an appropriate METAL container for disposal.</b></p> </div> <div data-bbox="771 394 1539 504" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p><b>When draining oil into a disposal unit, do not fill above the maximum fill line located on the container.</b></p> </div> <div data-bbox="771 514 1539 684" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p><b>When draining oil into an appropriate SDU or METAL container, make sure the container will hold at least FOUR gallons (15 liters) or more. Otherwise, oil could overflow and can cause injury.</b></p> </div>
DRAINING IN PROGRESS	10. No action is required while the vat drains the oil into the disposal container.
IS VAT EMPTY?	11. Once the vat is empty, press the √ (check) button to continue.
SOLUTION ADDED?	12. Fill the vat to be cleaned with water and cleaning solution mix. Press the √ (check) button to start the cleaning procedure.
BOIL OUT	13. Scrub the vat and then let the solution soak while the vat heats to 195° F (91° C) for one hour.
CLEAN DONE	14. After one hour, the heater shuts off. Press the √ (check) button to silence the alarm.
IS SOLUTION REMOVED?	<p>15. Remove the filter pan and remove crumb basket, hold-down ring, filter pad and screen. Replace empty filter pan in fryer. Scoop out the boil out solution. Press the √ (check) button once the cleaning solution is removed.</p> <div data-bbox="771 1157 1539 1266" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p><b>Allow boil-out solution to cool to 100°F (38°C) before disposal, otherwise hot liquid can cause injury.</b></p> </div>
SCRUB VAT COMPLETE?	16. Press the √ (check) button once the vat is scrubbed.
DRAINING IN PROGRESS	17. No action is required while the vat drains the small amount of residual solution left in the vat.
RINSE COMPLETE?	18. Rinse excess solution from vat. Press the √ (check) button when the vat is completely rinsed.
REMOVE PAN	19. Remove the filter pan and dump the contents of the filter pan. Rinse the pan of any residual solution.
VAT AND PAN DRY?	<p>20. Ensure the vat and filter pan are completely dry.</p> <div data-bbox="771 1556 1539 1726" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p><b>Ensure that the frypot and filter pan are completely dry and free of water before filling with oil. Failure to do so will cause splattering of hot liquid when the oil is heated to cooking temperature.</b></p> </div>
INSERT PAN	21. Reinstall screen, filter pad, hold down ring and crumb basket removed in step 15. Insert the filter pan.
MANUALLY FILL VAT	22. Carefully pour oil into the vat until it reaches the low-level fill line in the fryer. Press the √ (check) button once the vat is full.



DISPLAY	ACTION
	23. The controller switches off.

### 2.1.13 Boil-Out for Bulk Oil Systems


The boil out mode is used to remove carbonized oil from the frypot.

**⚠ WARNING**  
 Ensure filter paper or pad is in place prior to draining or disposing of oil. Failure to insert filter paper or pad may result in clogged lines and/or pumps.

DISPLAY	ACTION
	1. The fryer <b>MUST</b> be OFF.
	2. Press the filtration menu button
	3. Select LEFT VAT or RIGHT VAT for split vats.
 	4. Press the down arrow.
	5. Select BOIL OUT.
BOIL OUT?	6. Press the ✓ (check) button to continue. If the X button is selected, the user returns to the filtration menu. If no pan is detected, the controller displays INSERT PAN until the pan is detected.
BULK TANK FULL?	7. This message is only displayed if the bulk tank is full. Press the ✓ (check) button to acknowledge and call the bulk oil waste provider. The display returns to OFF.
IS VAT OIL REMOVED?	8. Press the X button if oil is in the vat. Press the ✓ (check) button if the vat is empty and skip to step 17.
DRAINING IN PROGRESS	9. No action required as oil drains into filter pan.
VAT EMPTY?	10. Once the vat is empty, press the ✓ (check) button to continue.

DISPLAY	ACTION
<p>OPEN DISPOSE VALVE</p> 	<p>11. Open the left cabinet door and unlock the valve if necessary. Pull the dispose valve completely forward to start disposal.</p>
<p>DISPOSING</p>	<p>12. No action is required while the pump transfers the waste oil from the pan to the bulk oil waste tanks for four (4) minutes.</p>
<p>REMOVE PAN</p>	<p>13. Carefully pull the filter pan from the fryer.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p><b>⚠ DANGER</b>  <b>Open the filter pan slowly to avoid splashing of hot oil that may cause severe burns, slipping and falling.</b></p> </div>
<p>IS PAN EMPTY?</p>	<p>14. If the filter pan is empty press the √ (check) button. If the pan is not empty, press the X button and return to step 9.</p>
<p>INSERT PAN</p>	<p>15. Insert the filter pan.</p>
<p>CLOSE DISPOSE VALVE</p> 	<p>16. Close the dispose valve by pushing the valve handle toward the rear of the fryer until it stops. Relock the valve if required by your manager.</p>
<p>SOLUTION ADDED?</p>	<p>17. Fill the vat to be cleaned with water and cleaning solution mix. Press the √ (check) button to start the cleaning procedure.</p>
<p>BOIL OUT</p>	<p>18. Scrub the vat and then let the solution soak while the vat heats to 195° F (91° C) for one hour.</p>
<p>BOIL OUT DONE</p>	<p>19. After one hour, the heater shuts off. Press the √ (check) button to silence the alarm.</p>
<p>IS SOLUTION REMOVED?</p>	<p>20. Remove the filter pan and remove crumb basket, hold-down ring, filter pad and screen. Replace empty filter pan in fryer. Scoop out the boil out solution.</p> <p>Press the √ (check) button once the cleaning solution is removed.</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p><b>⚠ DANGER</b>  <b>Allow boil-out solution to cool to 100°F (38°C) before disposal, otherwise hot liquid can cause injury.</b></p> </div>
<p>SCRUB VAT COMPLETE?</p>	<p>21. Press the √ (check) button once the vat is scrubbed.</p>
<p>DRAINING IN PROGRESS</p>	<p>22. No action is required while the vat drains the small amount of residual solution left in the vat.</p>
<p>RINSE COMPLETE?</p>	<p>23. Rinse excess solution from vat. Press the √ (check) button when the vat is completely rinsed.</p>
<p>REMOVE PAN</p>	<p>24. Remove the filter pan and dump the contents of the filter pan. Rinse the pan of any residual solution.</p>



DISPLAY	ACTION
VAT AND PAN DRY?	25. Ensure the vat and filter pan are completely dry. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;"><b>⚠ DANGER</b></p> <p><b>Ensure that the frypot and filter pan are completely dry and free of water before filling with oil. Failure to do so will cause splattering of hot liquid when the oil is heated to cooking temperature.</b></p> </div>
INSERT PAN	26. Reinstall screen, filter pad, hold down ring and crumb basket removed in step 15. Insert the filter pan.
FILL VAT FROM BULK?	27. Press the √ (check) button to continue. If the X button is selected, the user returns to the filtration menu.
START FILLING? PRESS AND HOLD	28. Press and hold the button to fill the vat. The bulk oil refill pump uses a momentary switch. It only pumps as long as the switch is depressed.
RELEASE BUTTON WHEN FULL	29. Release the button when the vat is filled to the lower fill line.
CONTINUE FILLING?	30. Press the √ (check) button to continue filling. Otherwise press the X button once the vat is full to exit and return to OFF.
	31. The controller switches off.

# CHAPTER 3: FILTERQUICK™ FQ4000 FS

## OPERATOR TROUBLESHOOTING

---

### 3.1 Introduction

This section provides an easy reference guide to some of the common problems that may occur during the operation of this equipment. The troubleshooting guides that follow are intended to help correct, or at least accurately diagnose, problems with this 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. Never overlook the obvious – anyone can forget to plug in a cord or fail to close a valve completely. Most importantly, always try to establish a clear idea of why a problem has occurred. Part of any 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, too. 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 to the technician assisting you.**



**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.**



**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.**

### 3.2 Troubleshooting

#### 3.2.1 Controller and Heating Problems

Problem	Probable Causes	Corrective Action
<b>No Display on Controller.</b>	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.
<b>FQ4000 FS displays IS VAT FULL? YES NO</b> after a filtration.	A filter error has occurred due to dirty or clogged filter pad or paper, clogged pre-filter, improperly installed filter pan components, worn or missing O-rings, cold oil or filter motor thermal tripped, failed return valve or actuator, failed drain valve or actuator or clogged filter pump.	Follow instructions on the screen to clear the error. See section 2.2 for instructions to change the filter or section 2.3.2 to locate filter motor overload. See maintenance section in the fryer IO manual for instructions to clean the pre-filter. If problem persists, call your FAS for assistance.
<b>FQ4000 FS displays CHANGE FILTER PAD?</b>	Filter error has occurred, filter pad/paper clogged, 25-hour filter pad/paper change prompt has occurred or change filter pad/paper was ignored on a prior prompt.	Change the filter pad/paper and ensure the filter pan has been removed from the fryer for a minimum of 30 seconds. Do <b>NOT</b> ignore <b>CHANGE FILTER PAD/PAPER</b> prompts.
<b>Fryer does not heat.</b>	A. Main power cord not plugged in.	A. Verify that the power cord(s) are fully seated in its receptacle and locked into place if applicable and that the circuit breaker is not tripped
	B. Controller or other components have failed.	B. Call your FAS for assistance.
<b>Fryer heats until high-limit trips with heat indicator ON.</b>	Temperature probe or controller has failed.	Call your FAS for assistance.
<b>Fryer heats until high-limit trips without heat indicator ON.</b>	Contact or controller has failed	Call your FAS for assistance.
<b>FQ4000 FS displays MISCONFIGURED ENERGY TYPE</b>	Energy type in fryer setup is incorrect.	Ensure that the fryer is configured properly for the correct energy type.
<b>Controller locks up.</b>	Controller error.	Remove and restore power to the controller. If problem persists, call your FAS for assistance.

#### 3.2.2 Error Messages and Display Problems

Problem	Probable Causes	Corrective Action
<b>FQ4000 FS display s E19 HEATING FAILURE.</b>	Failed controller, failed transformer, failed SIB board, open high-limit thermostat.	Call your FAS for assistance.
<b>FQ4000 FS display is in wrong temperature scale (Fahrenheit or Celsius).</b>	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 the temperature. If the desired scale is not displayed, repeat.
<b>FQ4000 FS displays HOT-HI-1.</b>	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.
<b>FQ4000 FS displays HELP HI-2 or HIGH LIMIT FAILURE DISCONNECT POWER.</b>	Failed high limit	Shut the fryer down immediately and call your FAS for assistance.

<b>Problem</b>	<b>Probable Causes</b>	<b>Corrective Action</b>
<b>FQ4000 FS displays TEMPERATURE PROBE FAILURE.</b>	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.
<b>The heating indicator is on, but the fryer is not heating.</b>	Three phase power cord unplugged, or the circuit breaker is tripped.	Verify that both the main power cord(s) are fully seated in its receptacle, locked into place and that the circuit breaker is not tripped. If the problem continues call your FAS for assistance.
<b>FQ4000 FS displays RECOVERY FAULT and alarm sounds.</b>	Recovery time exceeded maximum time limit.	Clear error and silence the alarm by pressing the √ button. The maximum recovery time for electric is 1:40 and 2:25 for gas. If this error continues call your FAS for assistance.
<b>FQ4000 FS displays NO MENU GROUP AVAILABLE FOR SELECTION</b>	All menu groups have been deleted.	Create a new MENU group. Once a new menu is created, add recipes to the group (see section 1.10).
<b>FQ4000 FS displays SERVICE REQUIRED</b> followed by an error message.	An error has occurred which requires a service technician.	Press * (2 NO) to continue cooking and call your FAS for assistance. In some cases, cooking may not be available.

### 3.2.3 OQS (Oil Quality Sensor) Troubleshooting

<b>Problem</b>	<b>Corrective Action</b>
<b>No TPM results displayed.</b>	<p><b>Check the following items and perform another OQS filter.</b></p> <ul style="list-style-type: none"> <li>• Ensure the vat is at setpoint temperature.</li> <li>• Inspect the pre-screen filter and ensure it is screwed in tightly with the wrench.</li> <li>• 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.</li> <li>• Ensure the filter paper is not clogged and clean filter paper is used. Did the vat refill the first time for the previous filter? If not change the filter paper.</li> </ul>







### 3.2.4 Troubleshooting the Auto Filtration

<b>Problem</b>	<b>Probable Causes</b>	<b>Corrective Action</b>
<b>Fryer filters after each cook cycle.</b>	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.
<b>CLEAN AND FILTER won't start.</b>	Temperature too low.	Ensure fryer is at setpoint before starting CLEAN AND FILTER.
<b>FQ4000 FS display shows FILTER BUSY.</b>	<p>A. Another filtration cycle or filter pad change is still in process.</p> <p>B. Filter interface board has not cleared checking system.</p>	<p>A. Wait until the previous filtration cycle ends to start another filtration cycle. Change filter pad if prompted.</p> <p>B. Wait 15 minutes and try again.</p>

Problem	Probable Causes	Corrective Action
<b>Filter pump won't start or pump stops during filtering.</b>	<ul style="list-style-type: none"> <li>A. The power cord is not plugged in or circuit breaker is tripped.</li> <li>B. The pump motor has overheated causing the thermal overload switch to trip.</li> <li>C. Blockage in filter pump.</li> </ul>	<ul style="list-style-type: none"> <li>A. Verify that the power cord is fully plugged in and the circuit breaker is not tripped.</li> <li>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 for at least 45 minutes then press the Pump Reset Switch (see page 2-4).</li> <li>C. Call your FAS for assistance.</li> </ul>
<b>Drain valve or return valve stays open.</b>	<ul style="list-style-type: none"> <li>A. VIB board has failed.</li> <li>B. Actuator has failed.</li> </ul>	Call your FAS for assistance.
<b>FQ4000 FS display shows INSERT pan.</b>	<ul style="list-style-type: none"> <li>A. Filter pan is not fully set into fryer.</li> <li>B. Missing filter pan magnet.</li> <li>C. Defective filter pan switch.</li> </ul>	<ul style="list-style-type: none"> <li>A. Pull filter pan out and fully reinsert into fryer. Ensure the controller does not display <b>P</b>.</li> <li>B. Ensure the filter pan magnet is in place and replace it if missing.</li> <li>C. If the filter pan magnet is fully against the switch and controller continues to display INSERT PAN, switch is possibly defective.</li> </ul>
<b>Auto filtration won't start.</b>	<ul style="list-style-type: none"> <li>A. Oil level too low.</li> <li>B. Oil temperature is too low.</li> <li>C. Filter Pan out.</li> <li>D. Filtration in recipe settings is set to OFF.</li> <li>E. Filter relay has failed.</li> </ul>	<ul style="list-style-type: none"> <li>A. Ensure the oil level is at the top oil fill line (at the top oil level sensor).</li> <li>B. Ensure the oil temperature is at setpoint.</li> <li>C. Ensure the controller does not display <b>P</b>. Ensure the filter pan is fully seated into fryer. Power cycle the fryer.</li> <li>D. Set filtration in recipes to ON.</li> <li>E. Call your FAS for assistance.</li> </ul>
<b>Filter Pump runs, but oil return is very slow.</b>	<ul style="list-style-type: none"> <li>A. Improperly installed or prepared filter pan components.</li> <li>B. Pre-filter screen may be clogged.</li> </ul>	<ul style="list-style-type: none"> <li>A. Remove the oil from the filter pan and replace the filter pad/paper, ensuring that the filter screen is in place <b>under</b> the pad/paper. Verify, if using a pad, that the rough side is facing up. Verify that O-rings are present and in good condition on filter pan connection fitting.</li> <li>B. Clean pre-filter.</li> </ul>
<b>FQ4000 FS display shows CLOSE DISPOSE VALVE</b>	Dispose valve is open	Close the dispose valve by ensuring the valve handle is fully pressed towards the rear of the fryer as far as possible. If the issue continues after ensuring the dispose handle is fully depressed, call your FAS for assistance.

### 3.2.5 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  . 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  . 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  . 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  .
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 your 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.

### 3.2.6 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 the problem is corrected. If not, call your local FAS.

### 3.2.7 Troubleshooting Auto Top Off Issues

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
<b>Frypots top off cold.</b>	Incorrect setpoint.	Ensure setpoint is correct.
<b>One vat doesn't top off.</b>	<ul style="list-style-type: none"> <li>A. Filter error exists.</li> <li>B. Service required error exists.</li> <li>C. Solenoid, pump, pin issue, RTD or ATO issue.</li> </ul>	<ul style="list-style-type: none"> <li>A. Clear filter error properly. If the problem persists call your FAS for assistance.</li> <li>B. Call your FAS for assistance.</li> <li>C. Call your FAS for assistance.</li> </ul>
<b>Frypots won't top off.</b>	<ul style="list-style-type: none"> <li>A. Empty oil JIB or reservoir.</li> <li>B. Fryer temperature too low.</li> <li>C. Oil is too cold.</li> <li>D. Top off oil indicator displayed.</li> <li>E. Service required error exists.</li> <li>F. Melting unit switch is off (only on solid shortening units)</li> <li>G. Blown fuse.</li> </ul>	<ul style="list-style-type: none"> <li>A. Ensure the oil JIB or reservoir is full.</li> <li>B. Fryer temperature must be at setpoint.</li> <li>C. Ensure that the oil in the top off reservoir is above 70°F (21°C).</li> <li>D. Ensure the top off reservoir is not out of oil. Replace top off reservoir or fill from bulk and reset top off system.</li> </ul> <p>If the problem persists call your FAS for assistance.</p> <ul style="list-style-type: none"> <li>E. Call your FAS for assistance.</li> <li>F. Ensure the switch on the melting unit is in the ON position.</li> <li>G. Check the fuse on the left of the ATO box. If using a solid shortening melting unit, check the fuse below the melting unit switch.</li> </ul>

### 3.2.8 Troubleshooting Bulk Oil System Problems

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
<b>Top off reservoir won't fill.</b>	<ul style="list-style-type: none"> <li>A. Incorrect setup procedure.</li> <li>B. Another function is in process.</li> <li>C. Dispose valve not completely closed.</li> <li>D. Bulk oil tank is empty.</li> <li>E. Solenoid, pump or switch issue.</li> </ul>	<ul style="list-style-type: none"> <li>A. Power cycle fryer by disconnecting and reconnecting 5-pin bulk oil control power cord on rear of fryer.</li> <li>B. If a filtration or any other filter menu function is in process or FILTER NOW? YES/NO, CONFIRM YES/NO, or SKIM VAT are displayed, wait until the process is complete and try again.</li> <li>C. Ensure the dispose valve handle is pushed fully closed.</li> <li>D. Call your bulk oil provider.</li> <li>E. Call you FAS for assistance.</li> </ul>
<b>Top off reservoir or vat filling slow.</b>	<ul style="list-style-type: none"> <li>A. Pump or line issues beyond the scope of operator troubleshooting.</li> </ul>	<ul style="list-style-type: none"> <li>A. Contact your bulk oil provider.</li> </ul>

PROBLEM	PROBABLE CAUSES	CORRECTIVE ACTION
<b>Frypot won't fill.</b>	A. Incorrect setup procedure. B. Dispose valve not completely closed. C. Bulk oil tank is empty. D. RTI pump issue.	A. Power cycle fryer by disconnecting and reconnecting 5-pin bulk oil control power cord on rear of fryer. B. Ensure the dispose valve handle is pushed fully closed. C. Call your bulk oil provider. D. Call you FAS for assistance.

### 3.2.9 Error Log Codes

See section 1.13.2.1 for instructions to access the Error Log.

Code	ERROR MESSAGE	EXPLANATION
E13	TEMPERATURE PROBE FAILURE	TEMP Probe reading out of range
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
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	Return valve was trying to open and confirmation is missing
E35	RETURN VALVE NOT CLOSED - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Return valve 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.
E37	AUTOMATIC INTERMITTENT FILTRATION PROBE FAILURE - FILTRATION DISABLED - CALL SERVICE	AIF RTD reading out of range.
E39	CHANGE FILTER PAD	25-hour timer has expired or dirty filter logic has activated.
E41	OIL IN PAN ERROR	The system detects that oil may be present in the filter pan.
E42	CLOGGED DRAIN	Vat did not empty during filtration
E43	OIL SENSOR FAILURE - CALL SERVICE	Oil level sensor may have failed.
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.
E46	SYSTEM INTERFACE BOARD 1 MISSING - CALL SERVICE	SIB board 1 connection lost or board failure.
E51	DUPLICATE BOARD ID - CALL SERVICE	Two or more controllers have the same location ID.
E52	USER INTERFACE CONTROLLER ERROR - CALL SERVICE	The controller has an unknown error.



Code	ERROR MESSAGE	EXPLANATION
E53	CAN BUS ERROR - CALL SERVICE	Communications are lost between boards.
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.
E61	MISCONFIGURED ENERGY TYPE	The fryer is configured for the incorrect energy type.
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.
E64	FILTRATION INTERFACE BOARD FAILURE - FILTRATION AND TOP OFF DISABLED - CALL SERVICE	Filtration Interface Board connections lost or board failure.
E65	CLEAN OIB SENSOR - XXX F OR XXX C - CALL SERVICE or OIL LEVEL NOT DETECTED.	Gas -The oil is back sensor does not detect oil. Ensure the vat is full of oil and it's above the sensor and press X (NO). Press √ (YES) to clean the oil sensor (see section 6.6.2).
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.
E68	OIB FUSE TRIPPED - CALL SERVICE	The VIB board OIB fuse has tripped and didn't reset.
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.
E84	OIL LEVEL CAN NOT BE DETECTED	Gas -The oil is back sensor does not detect oil. Clean oil sensor. If issue continues contact a FAS.

**THIS PAGE INTENTIONALLY LEFT BLANK**



Welbilt offers fully-integrated kitchen systems. Welbilt's portfolio of award-winning brands includes Cleveland™, Convotherm®, Crystal Tips®, Dean®, Delfield®, Fabristeel®, Frymaster®, Garland®, Inducs®, 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](http://welbilt.com)