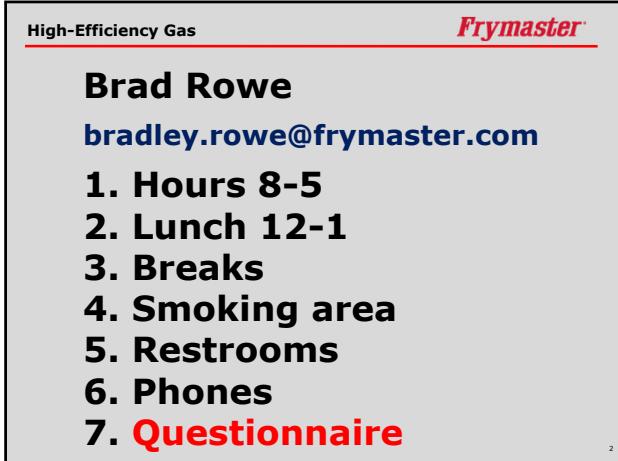
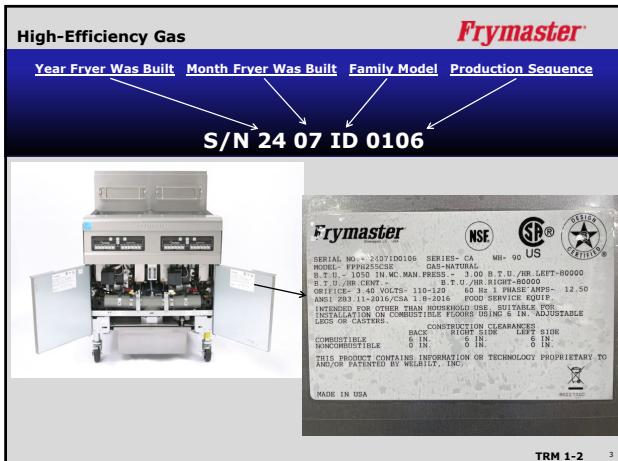




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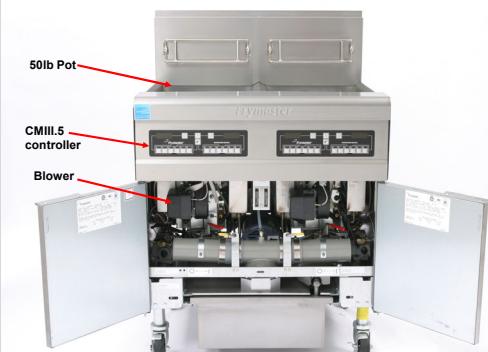


2



3

High-Efficiency Gas

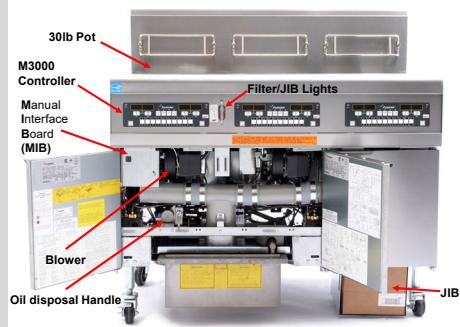


H50 Debuted in 1996 / Current Production H55 Debuted in 2006

4

4

High-Efficiency Gas

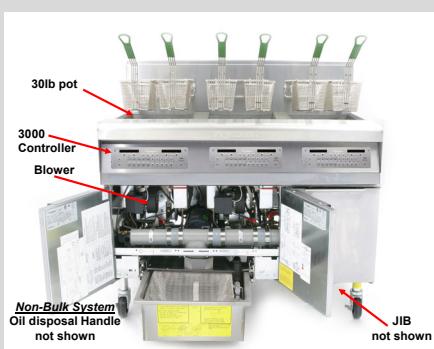


McDonald's Gas Low Oil Volume (LOV) Debuted in 2009

10

5

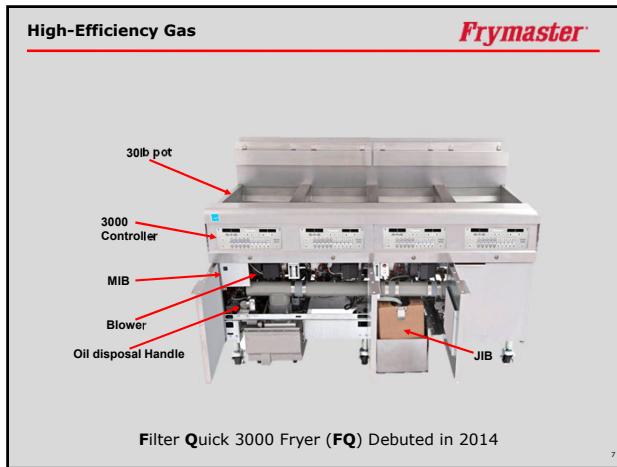
High-Efficiency Gas



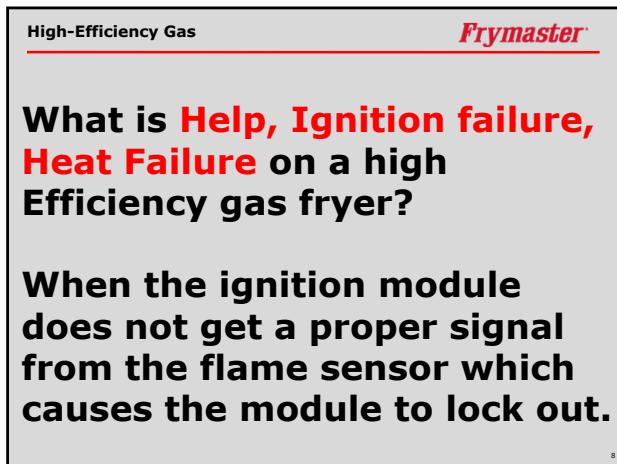
Gas Oil Conserving Fryer (OCF) Debuted in 2011

6

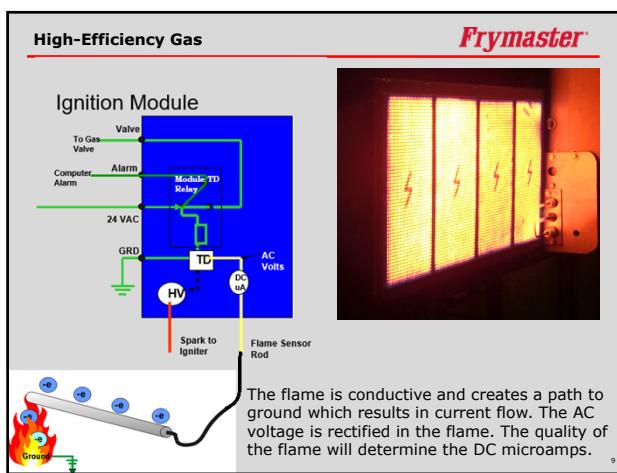
6



7



8



9

High-Efficiency Gas

Frymaster

The ceramics of the burner should glow orange after a minute of operation.

A blue burner is an indication of a gas/air mixture problem.

An adjustment to the blower shutter can improve the flame.

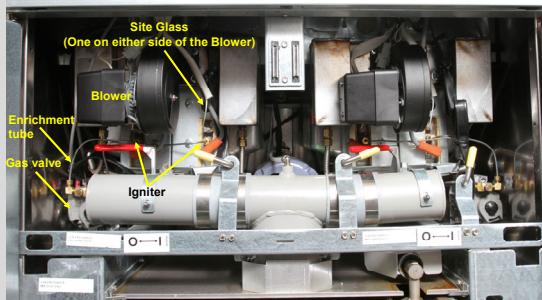
The quality of the flame will directly affect flame current.



10

High-Efficiency Gas

Frymaster



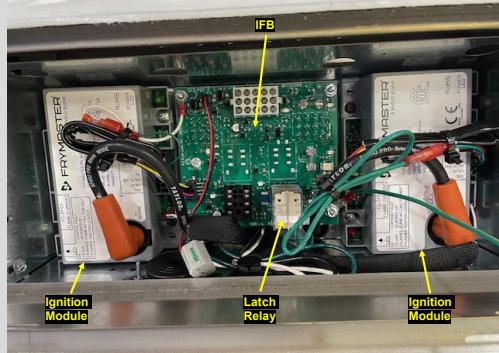
H55

1

11

High-Efficiency Gas

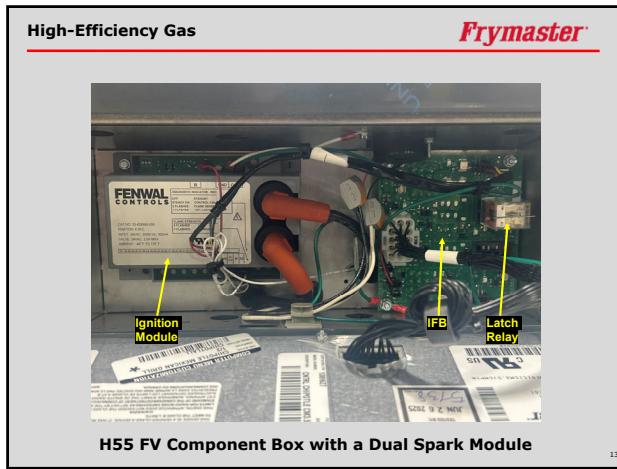
Frymaster



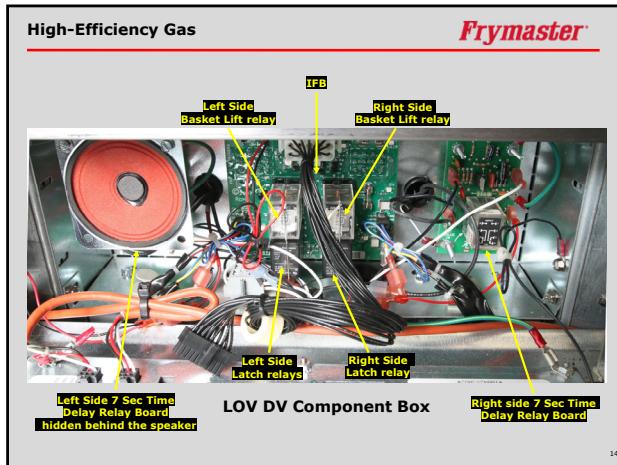
H55 FV Component Box with Single Spark Modules

1

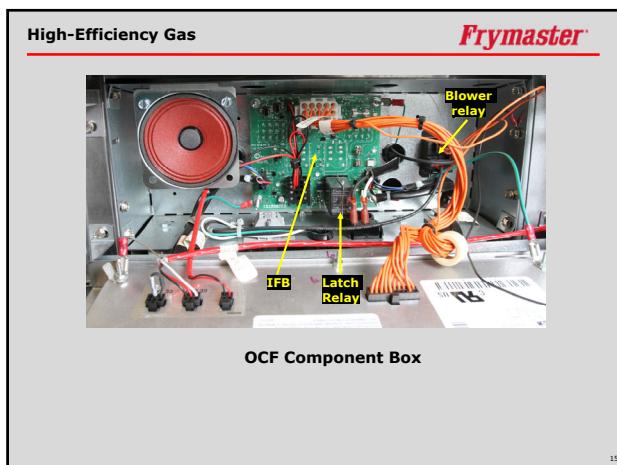
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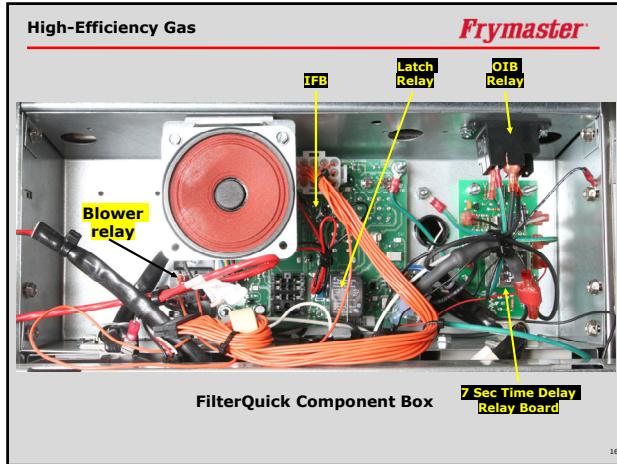
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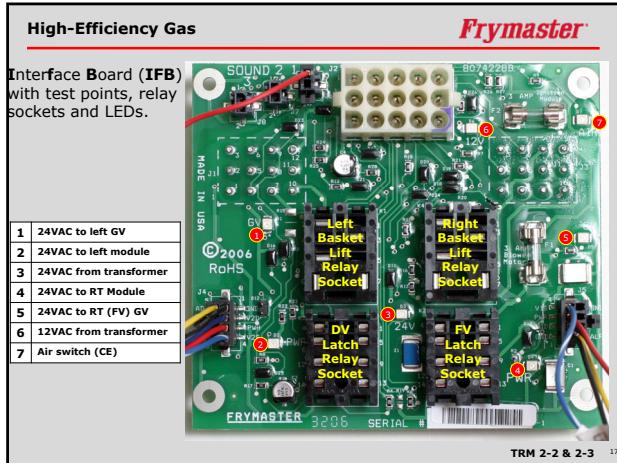
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15



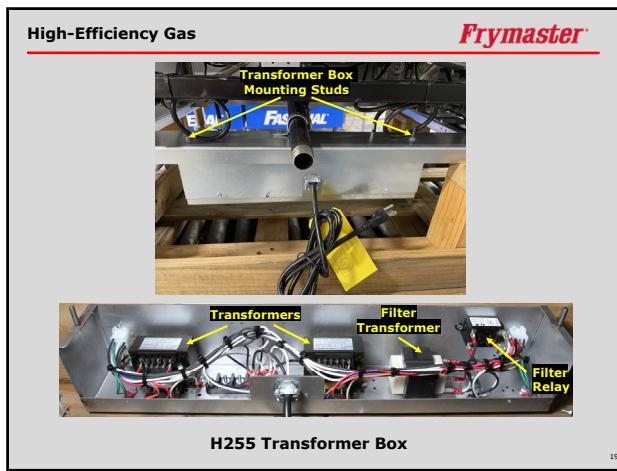
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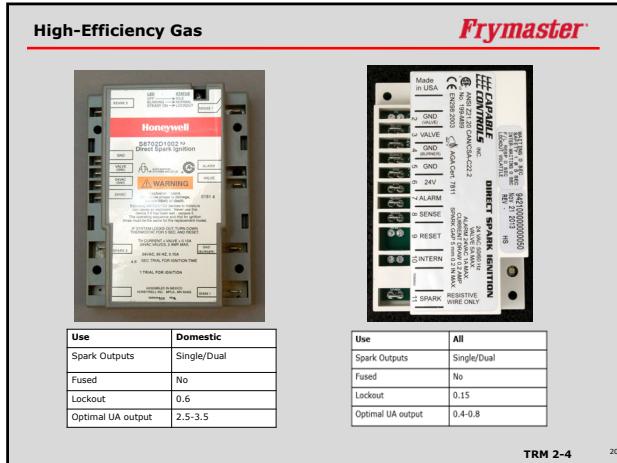
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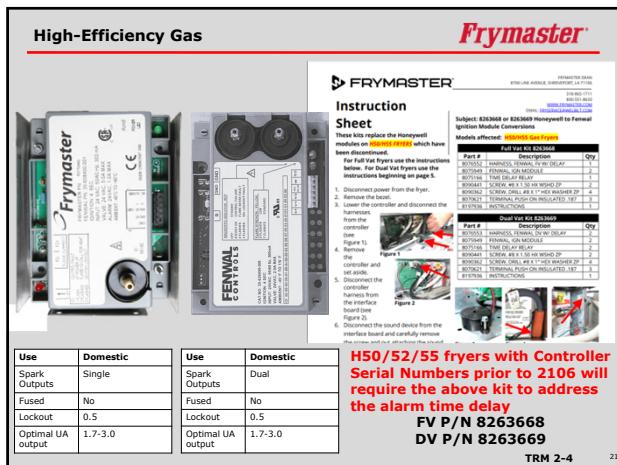
18



19



20



21

High-Efficiency Gas

Frymaster

Temperature sensing

COOC **Frymaster**

350

Probe Resistance Chart (cont.)
For use with Micro or Hyac Thermistor Probes only (fryer equipped with Micro or Hyac Thermistor Probes only). Micro thermistor probe resistance is 100 ohms at 32° F.

F	OHMS	C	F									
287	1528	142	338	1630	179	384	1732	199	403	1734	199	441
288	1530	142	339	1632	179	385	1735	200	442	1835	207	492
289	1532	143	340	1634	179	386	1738	200	443	1838	207	493
290	1534	143	341	1636	179	387	1740	200	444	1839	208	494
291	1536	144	342	1638	179	388	1742	201	445	1841	209	495
292	1538	144	343	1640	179	389	1744	201	446	1843	209	496
293	1540	145	344	1642	179	390	1746	202	447	1845	210	497
294	1542	145	345	1644	179	391	1748	202	448	1847	211	498
295	1544	146	346	1646	179	392	1750	203	449	1849	211	499
296	1546	147	347	1648	179	393	1752	203	450	1850	212	500
297	1548	148	348	1650	179	394	1754	204	451	1852	213	501
298	1550	148	349	1652	179	395	1756	204	452	1854	213	502
299	1552	149	350	1654	179	396	1758	205	453	1856	214	503
300	1554	149	351	1656	179	397	1760	205	454	1858	214	504
301	1556	149	352	1658	179	398	1762	206	455	1860	214	505
302	1558	150	353	1660	179	399	1764	206	456	1862	215	506
303	1560	151	354	1662	179	400	1766	207	457	1864	216	507
304	1562	151	355	1664	179	401	1768	208	458	1866	216	508
305	1564	152	356	1666	180	402	1770	209	459	1868	217	509
306	1566	152	357	1668	181	403	1772	209	460	1870	217	510
307	1568	153	358	1670	182	404	1774	210	461	1872	218	511
308	1570	153	359	1672	182	405	1776	211	462	1874	218	512
309	1572	154	360	1674	182	406	1778	211	463	1876	218	513
310	1574	154	361	1676	182	407	1780	212	464	1878	219	514
311	1576	155	362	1678	183	408	1782	212	465	1880	219	515
312	1578	155	363	1680	184	414	1784	212	466	1882	219	516

TRM 2-4 & 8-2 22

22

H50/52/55 System

Frymaster

High-Limit

• Normally closed switch
• Opens at 425° +/- 12° F
• Automatic reset at 350°

• **Loctite 567 No longer provided in Kits**

High limit Kit 826-1177

23

High-Efficiency Gas

Frymaster

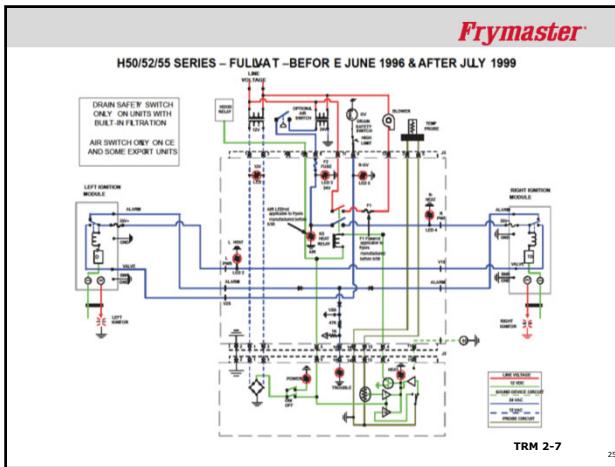
24-Volt Circuit Full Vat

24 VOLT TRANSFORMER
2A FUSE LED 5724 V
PIN 8 OF J3
R/H HEAT RELAY 24V CONTACTS
LED 4 / R-PWR
R/H IGNITION MODULE
LED 2 / L-PWR
L/H IGNITION MODULE
LED 5 / R-GV
HIGH LIMIT
PIN 9 OF J3
GAS VALVE
Drain micro switch if equipped with filter system.
7-sec OIB relay on LOV and FQ.

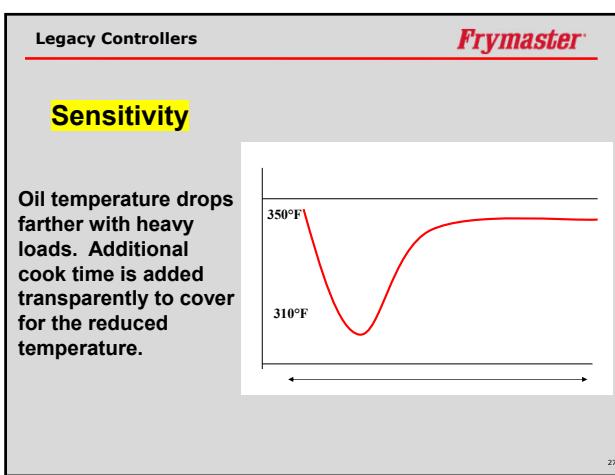
Older modules are fused on the module – 3A
V 1 S on module
PWR on module
V 2 S on module
PWR on module

24

24



25



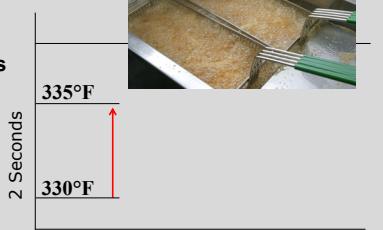
27

Legacy Controllers

Frymaster

Rate of Rise

If the Computer sees a temperature increase of over 5°F in 2 seconds, the controller stops calling for heat for 20-30 seconds.



2

28

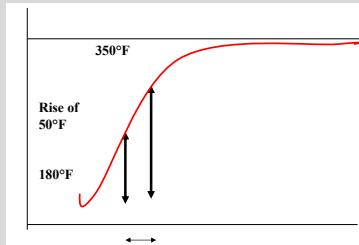
Legacy Controllers

Frymaster

Recovery

- The time required for the oil to rise from 250°F to 300°F.
- The measurement is taken any time the oil drops below:
 - Legacy 180°F
 - All others 200°F

- Gas 2:25
- Electric 1:40



3

29

High-Efficiency Gas

Frymaster



This McDonald's fryer is shown in a universal hood that was introduced in 1995 and incorporates adjustable locking tabs to secure the fryer under the hood.

3

30

High-Efficiency Gas

Frymaster



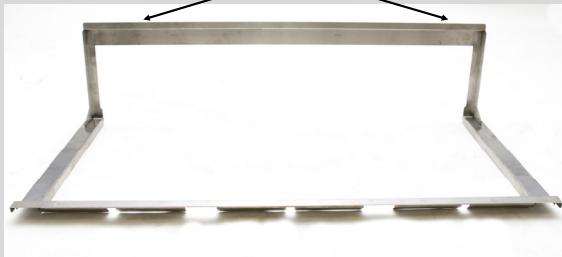
Prior to the Universal Hood, A fryer without the Cap-N-Splash locking mechanism leaves a gap in the hood, which disrupts air flow and gathers grease.

31

31

Frymaster

Locking Mechanism



Cap-N-Splash
Introduced June 2015

32

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Frymaster®
Electric Fryers

Electric Fryers

 **WELBILT**
an Ali Group Company

1/21/2026

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33

Rotating Element (RE) Electric Fryer

Frymaster



34

34

Rotating Element (RE) Electric Fryer

Frymaster

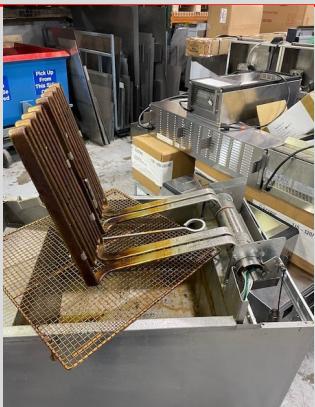


35

35

Rotating Element (RE) Electric Fryer

Frymaster



36

36

Rotating Element (RE) Electric Fryer

Frymaster

37

37

Rotating Element (RE) Electric Fryer

Frymaster

Temp probe



38

38

Rotating Element (RE) Electric Fryer

Frymaster

39

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Rotating Element (RE) Electric Fryer

40

Rotating Element (RE) Electric Fryer

Frymaster

Heating Element

Element brackets restrained the swelling at the contact point.

A pinhole in an element can lead to swelling and the release of oil-ruining bubbles into the oil.

41

Rotating Element (RE) Electric Fryer

Frymaster

Heating Element

Values
-10% / + 5%

208 Volts

- 7,000 watts
16.8 – 19.5 ohms
- 8,500 watts
13.9 – 16.0 ohms
- 11,000- watts
10.7 – 12.4 ohms

Values
-10% / + 5%

240 Volts

- 7,000 watts
22.4 – 25.9 ohms
- 8,500 watts
18.4 – 21.3 ohms
- 11,000 watts
14.3 – 15.8 ohms

TRM 32

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Rotating Element (RE) Electric Fryer **Frymaster®**

H-SERIES AMP DRAW

Power	Voltage	14kW Line	14kW Element	17kW Line	17kW Element	22kW Line	22kW Element
208	30	7.0	4.6	12.0	8.0	17.0	11.0
240	34	9.8	4.1	11.8	5.3	15.3	7.8
480	17	4.9	2.1	6.0	2.7	7.8	

WYE

220/380	21	7	26	8.6	33	11
230/400	20	6.8	24.6	8.2	31.8	10.6
240/415	19	6.5	23.6	7.9	30.5	10.2

TRM 3 3



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Rotating Element (RE) Electric Fryer **Frymaster®**

Interface Board

- LED's indicate power on circuits.
- Relays operate latching and heat circuit.



TRM 3 1

44

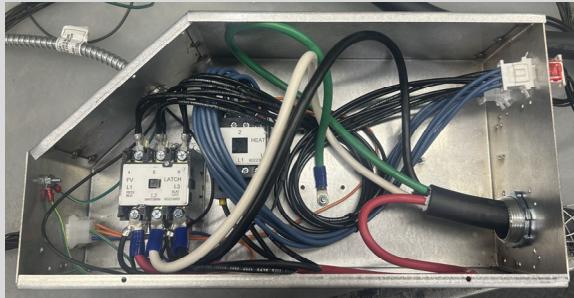
Rotating Element (RE) Electric Fryer **Frymaster®**



contactor box

45

Rotating Element (RE) Electric Fryer



Contactor box with new mechanical contactors.

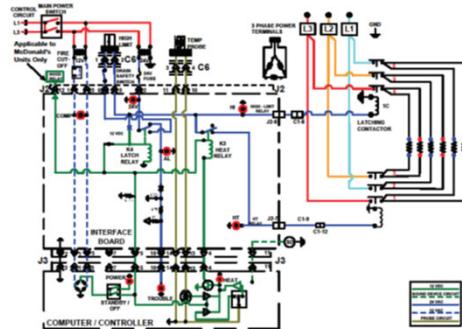
45

46

Rotating Element (RE) Electric Fryer



RE Full Vat – Including McDonald's



TRM 33

47

Frymaster

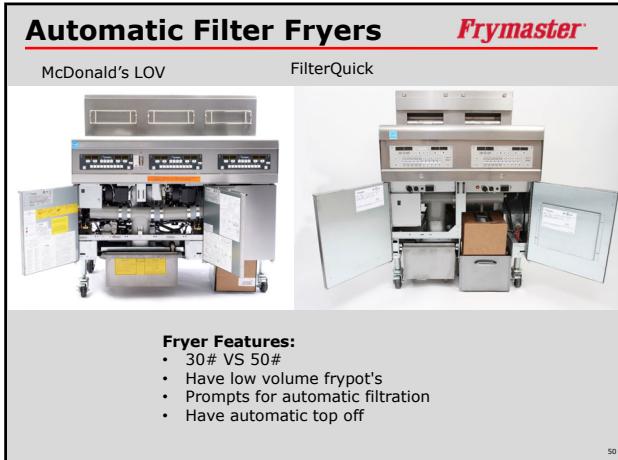


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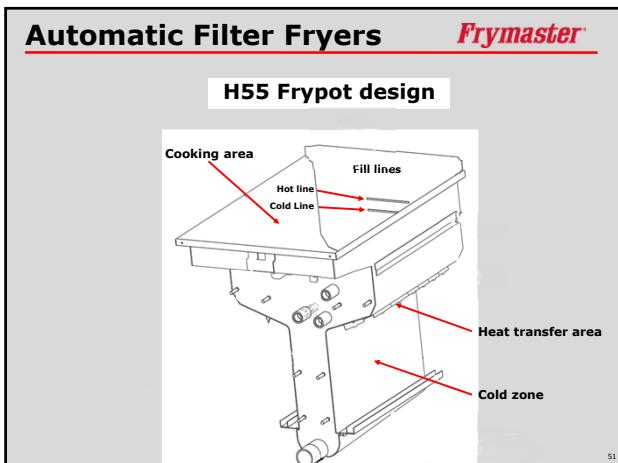
48



49



50



51

Automatic Filter Fryers *Frymaster*



The 30lb frypots used in the auto filtering fryers (left) have a shorter and narrower pit than the 50lb fryers.

This area is no longer a Cold Zone

52

52

Automatic Filter Fryers *Frymaster*

Acronyms used with the fryers:

LOV -- Low Oil Volume
ATO -- Auto Top Off
AIF -- Automatic Intermittent Filtration
CAN-- Controller Area Network
JIB -- Jug In Box
MIB -- Manual Interface Board



53

53

Automatic Filter Fryers *Frymaster*

Controller overview

- With the computer displaying OFF, press and release the TEMP button to see the 3000/MIB/AIF/ATO software versions on each computer.
- Software updated on left controller via SD Card



SD Card Slot

- Power reset rocker is hidden;
- Behind the Left fryer door on Gas
- Behind the Right fryer door on Electric



3000



M3000

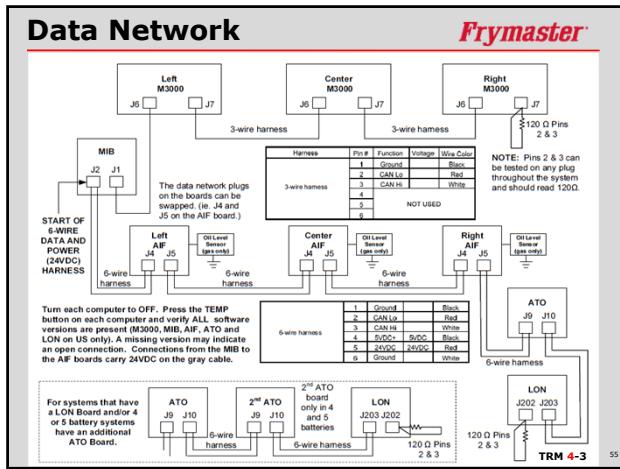
Universal Data Network Plugs



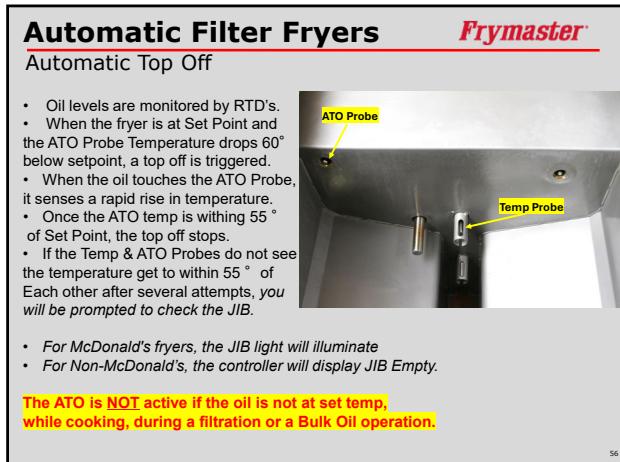
OCF Drain Micro Switch Plug

54

54



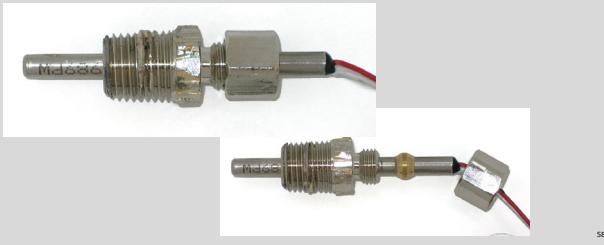
55



Automatic Filter Fryers

Frymaster®

The ATO RTD (bottom) is similar in design to the Temperature RTD in the H55 gas fryer (& has the same resistance scale)



58

Automatic Filter Fryers

Frymaster®

The 24 volts ATO Pump (rated at 11 GPH & for 45 PSI)

Pump has a built-in pressure switch



59

Automatic Filter Fryers

Frymaster®

Rotary Actuators



Rotary actuators, which don't require brackets or linkage, replaced linear actuators on LOV Electric fryers Jan 2012 and LOV Gas May 2012.

Linear & Rotary are **NOT** interchangeable.

All FilterQuicks fryers are equipped with rotary actuators.

60

Automatic Filter Fryers



The elbow on the frypot's return can become a problem in stores that allow large sediment loads to gather in the vat.

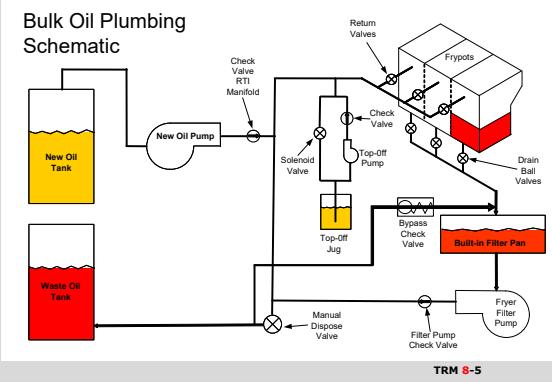
61

Automatic Filter Fryers



Bulk Oil

Bulk Oil Plumbing Schematic



62

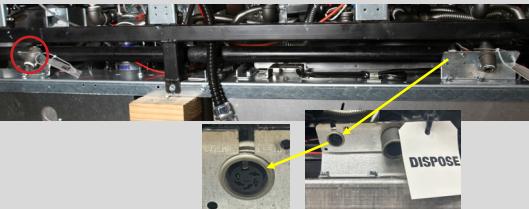
Automatic Filter Fryers



The FilterQuick bulk manifold is shown above. It differs from the LOV version below in the form of connection.

*FilterQuick uses a Molex; LOV uses a Hirschmann.
The fill port is circled on both manifolds.*

The fill port is circled on both manifolds.



6

63

Automatic Filter Fryers**Frymaster**

Oil-Is-Back-Sensor



- The oil-is-back sensor serves as a safety to prevent the fryer from heating before oil returns to the vat in a gas fryer.
- The heat of the constantly powered oil sensor rises when the oil leaves the pot. When the temperature of the probe reaches 550°F, the line voltage supplied to the seven second time-delay board begins to switch on and off every four seconds.

67

67

Automatic Filter Fryers**Frymaster**

Oil-Is-Back-Sensor



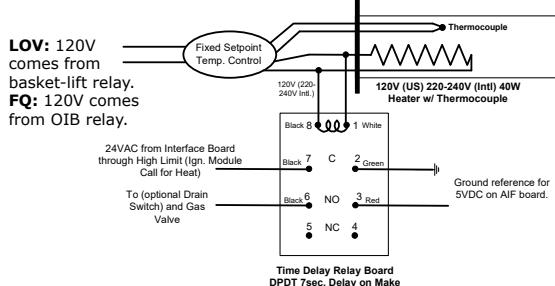
The sensor in the vat is monitored by the board (above) in the control box and electronics in the egg (at left) in series with the sensor.

68

68

Automatic Filter Fryers**Frymaster**

Oil-Is-Back-Sensor



The coil in the circuit opens and denies 24 volts to the gas valve and the ground reference to the 5VDC for the AIF board. The fryer won't heat.

TRM 4-7

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The slide features a red and white diagonal striped background. In the top right corner, the WELBILT logo is displayed with the text "an All Group Company" underneath. The main title "Frymaster" is written in a large, red, serif font. Below it, the product name "FRY 2277SV" and the feature "FilterQuick-Touchscreen" are listed. To the right of the text, a large stainless steel Frymaster FRY 2277SV fryer unit is shown, featuring two large touchscreens on top and two open doors revealing the internal filter system. The date "1/21/2026" is at the bottom left, and the copyright notice "© Welbilt, Inc." is at the bottom right.

70

FilterQuick-Touchscreen

Frymaster

Brief overview



Benefits

1. Common controller among multiple brands.
2. Very intuitive.
3. Displays are customizable.
4. Most chains have these approved in their system.

Touch screens were introduced at McDonalds in Japan 2014, and we had a full roll out with Taco Bell in 2016. It is a proven concept.

71

FilterQuick-Touchscreen Frymaster

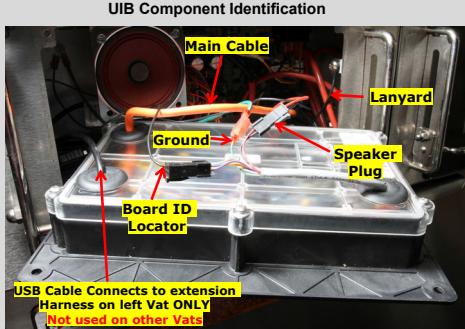
Fryer Acronyms

- **UIB** — User Interface Board (Touchscreen controller)
- **SIB** — Smart Interface Board
- **VIB** — Valve Interface Board
- **FIB** — Filter Interface Board
- **ATO** — Automatic Top-Off
- **OQS** — Oil Quality Sensor
- **OIB** — Oil is Back
- **KCCM** — Kitchen Connect Control Module. Manages communication between fryer and store's monitoring network.
- **FQLink** — Replaces KCCM (Kitchen Connect Control Module). Manages communication using the front left controller between fryer and store's monitoring network.
- **USB** — Universal Serial Bus, used to upgrade software

72

FilterQuick-Touchscreen

Frymaster®

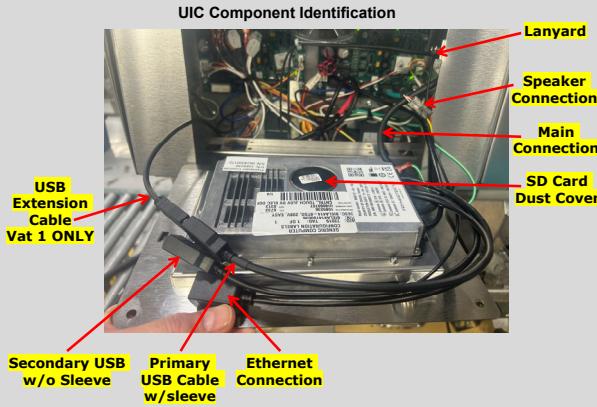


The controller module is sealed in a case. There are no serviceable components on the controller.

73

FilterQuick-Touchscreen

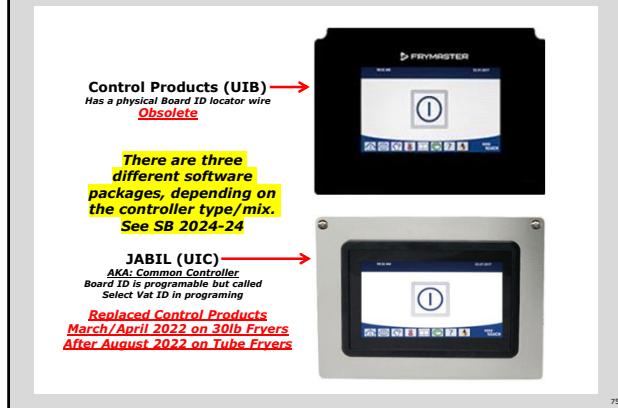
Frymaster



74

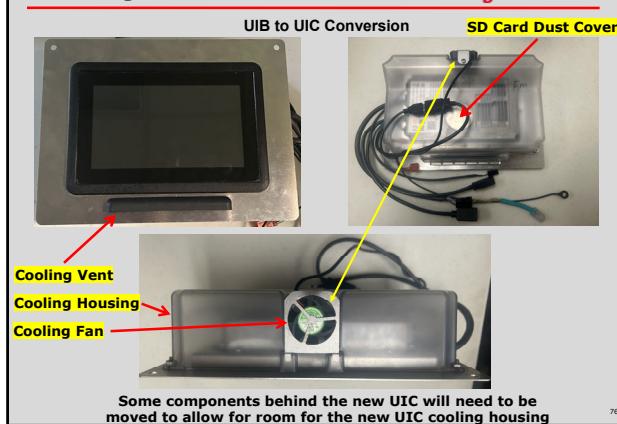
FilterQuick-Touchscreen

Frymaster®



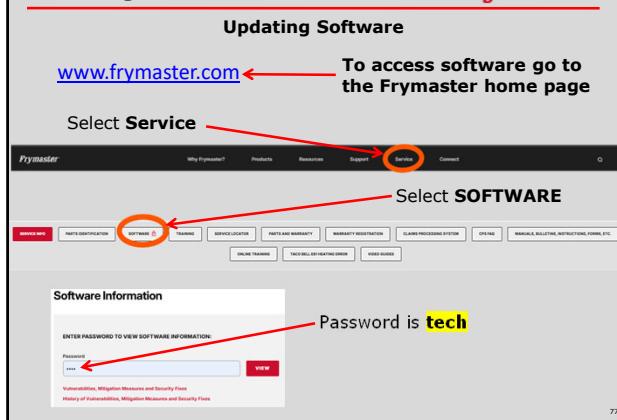
75

FilterQuick-Touchscreen



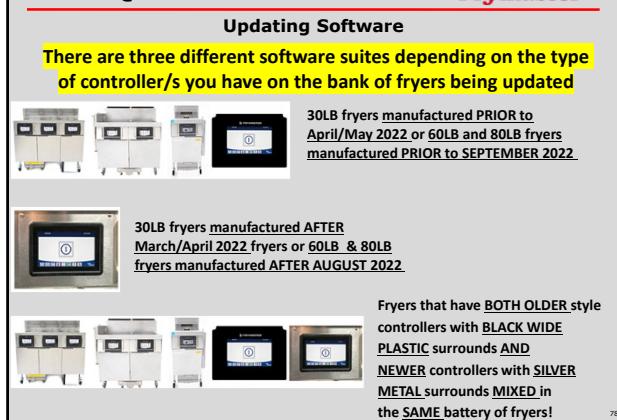
76

FilterQuick-Touchscreen



77

FilterQuick-Touchscreen



78

FilterQuick-Touchscreen *Frymaster*

Updating Software

FQ4000 General Market Software Version

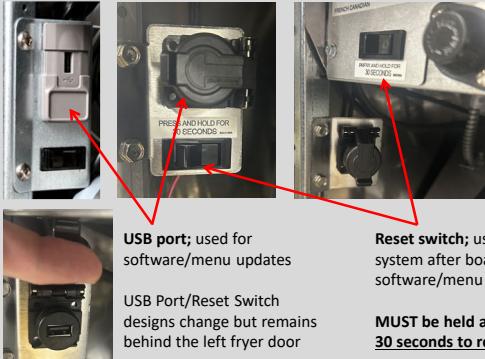
UIB-C MIX: 10.00.142, VIB: 01.03.003, FIB: 10.00.062 and Menu File

Name	Type	Compressed size	Password p...	Size	Ratio	Date modified
019-7467 NOV 25 GM UIC-B 10.00...	Adobe Acrobat Document	956 KB	No	980 KB	3%	11/3/2025 1:00 PM
BK10Imp 10.00.062	HEX File	177 KB	No	723 KB	76%	11/3/2025 1:38 AM
BK10Imp.bn	BIN File	177 KB	No	723 KB	76%	11/3/2025 1:38 AM
BK10Imp 10.00.142	HEX File	2,061 KB	No	2,068 KB	1%	11/3/2025 1:28 AM
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BK10Imp 10.00.142	HEX File	2,061 KB	No	2,068 KB	1%	11/3/2025 1:28 AM
BK10Imp.bn	BIN File	2,061 KB	No	2,068 KB	1%	11/3/2025 1:28 AM
GMF10Imp 10.00.062	HEX File	177 KB	No	723 KB	76%	11/3/2025 1:38 AM
GMF10Imp.bn	BIN File	177 KB	No	723 KB	76%	11/3/2025 1:38 AM
GMOB-10.77.904	HEX File	54 KB	No	204 KB	74%	3/16/2024 1:24 PM
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GMU10Imp.bn	BIN File	2,061 KB	No	2,068 KB	1%	11/3/2025 1:28 AM
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VIB10Imp.bn	BIN File	70 KB	No	263 KB	74%	10/29/2024 3:40 PM

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FilterQuick-Touchscreen *Frymaster*

Component Identification



USB port; used for software/menu updates

Reset switch; used to reset system after board changes, software/menu updates.

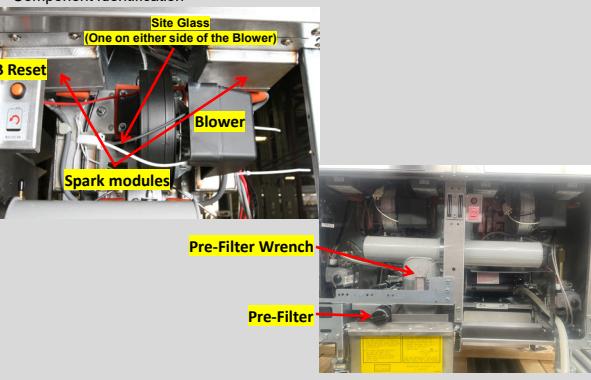
MUST be held a minimum of 30 seconds to reset the fryer.

USB Port/Reset Switch designs change but remains behind the left fryer door

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FilterQuick-Touchscreen *Frymaster*

Component Identification



Site Glass
(One on either side of the Blower)

JIB Reset

Blower

Spark modules

Pre-Filter Wrench

Pre-Filter

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FilterQuick-Touchscreen **Frymaster**

Component Identification **Removable Side Panels**

Slotted screw positions are used to secure the sides.



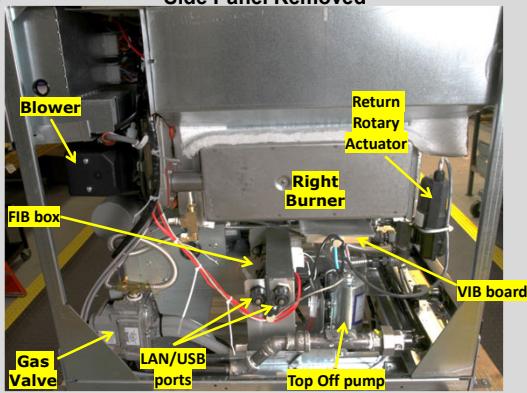
A close-up photograph of a metal bracket, likely made of aluminum. The bracket has a rectangular shape with a small circular hole near the top center. A small, rectangular metal clip is attached to the bracket, positioned below the hole. The metal has a brushed finish with some texture and slight discoloration.

82



FilterQuick-Touchscreen **Frymaster®**

Component Identification **Side Panel Removed**



83



FilterQuick-Touchscreen

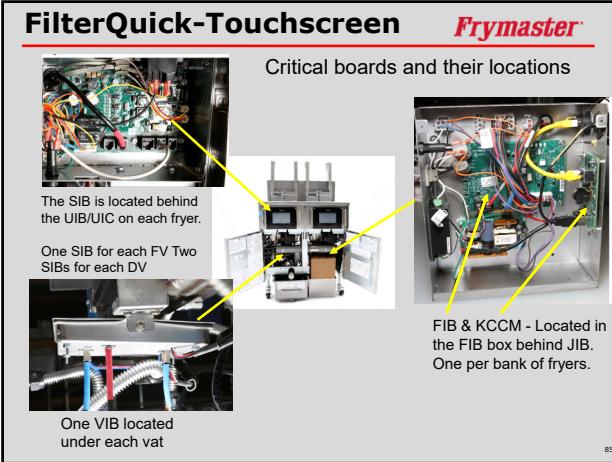


The transformer box, located in the back of the fryer

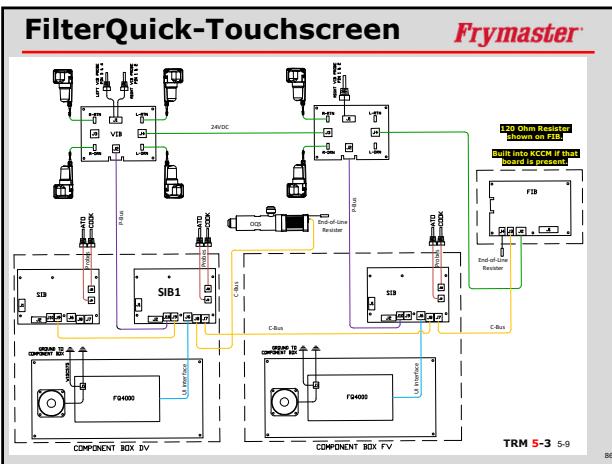
- 1 Filter pump relay
- 2 Filter pump transformer
- 3 Control reset relay
- 4 24VAC transformer (each fryer has its own)
- 5 24VAC transformer
- 6 Hood relay (McDonald's only)

84

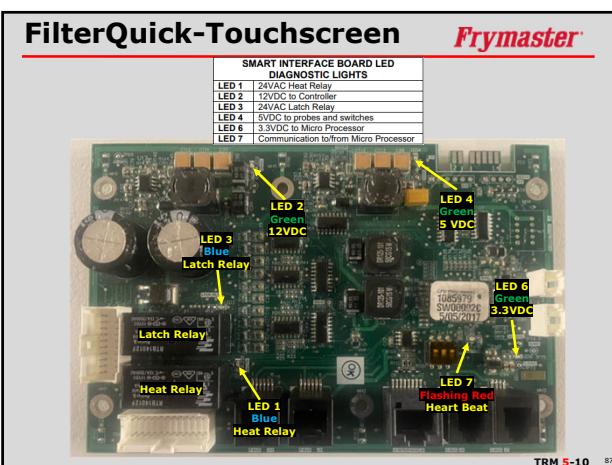




85



86

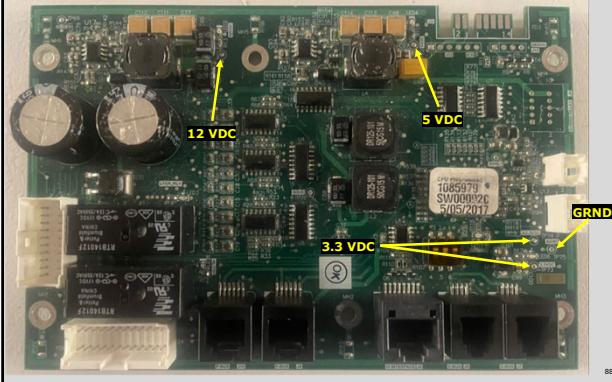


87

FilterQuick-Touchscreen

Frymaster®

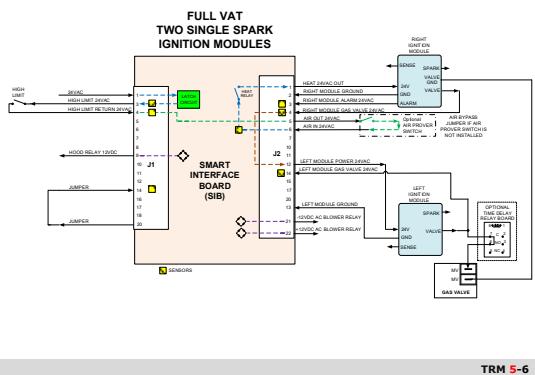
SIB test points



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FilterQuick-Touchscreen

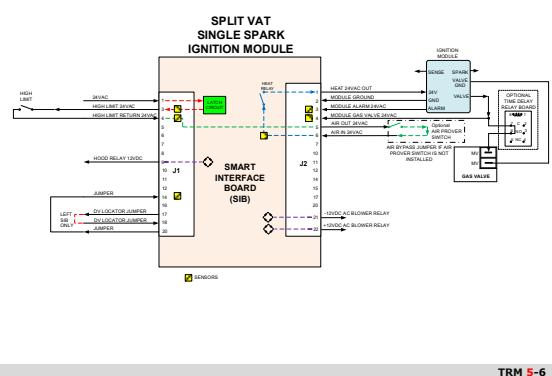
Frymaster®



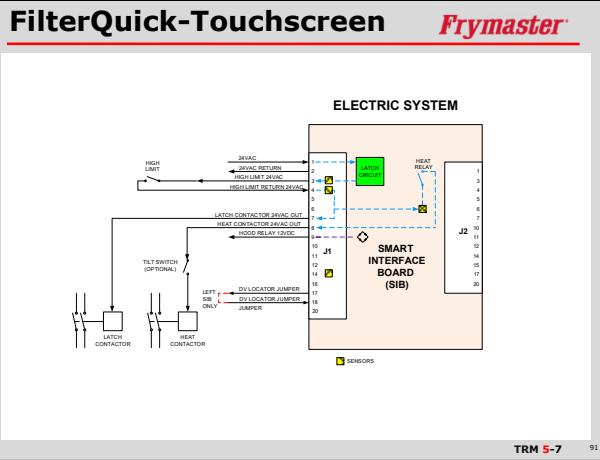
89

FilterQuick-Touchscreen

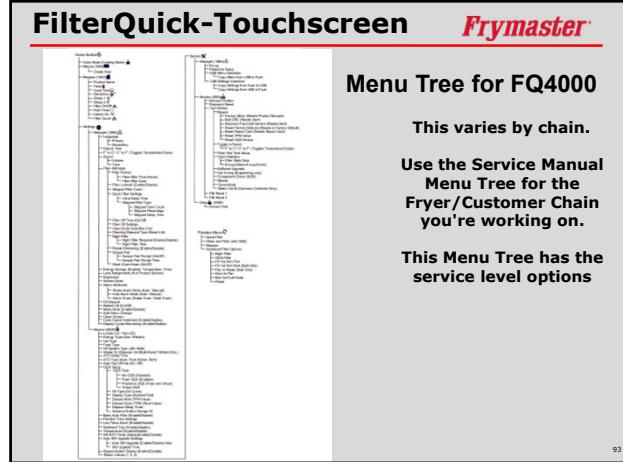
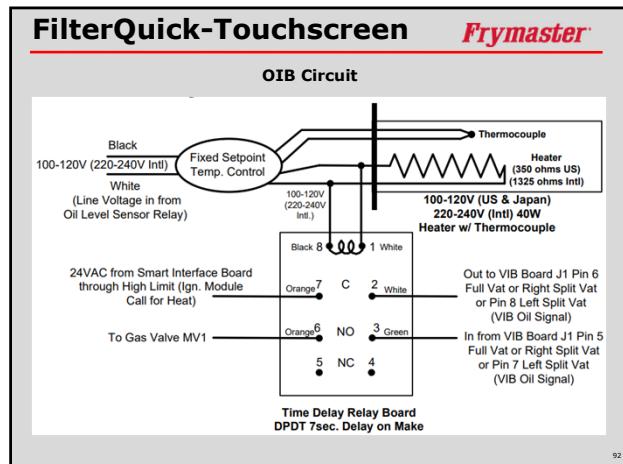
Frvmaster

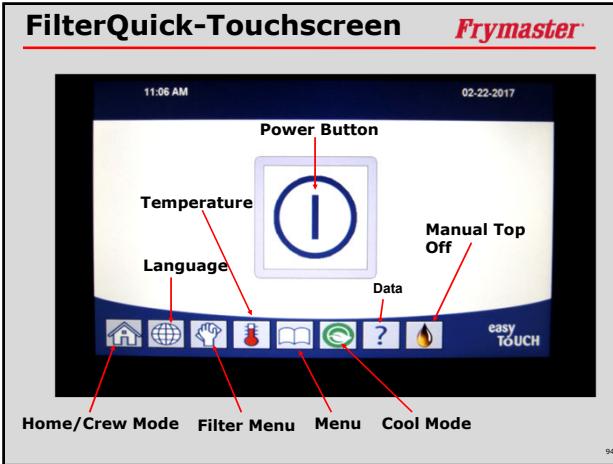


90

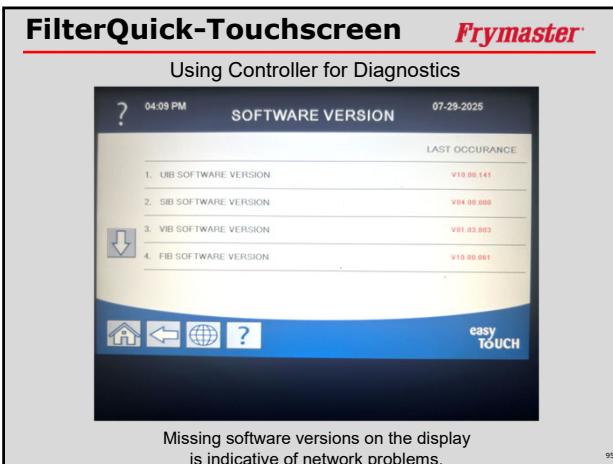


91

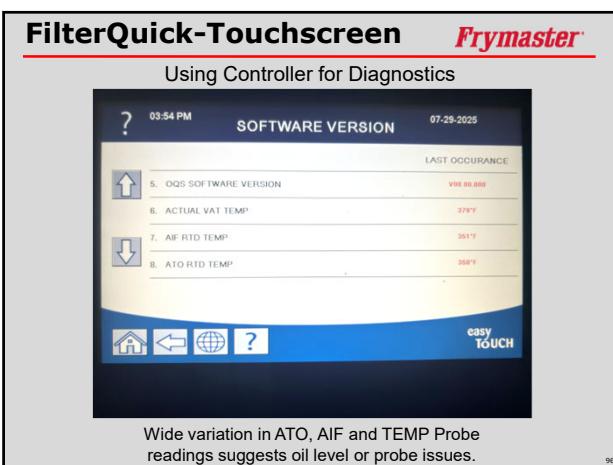




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FilterQuick-Touchscreen *Frymaster*

Using Controller for Diagnostics



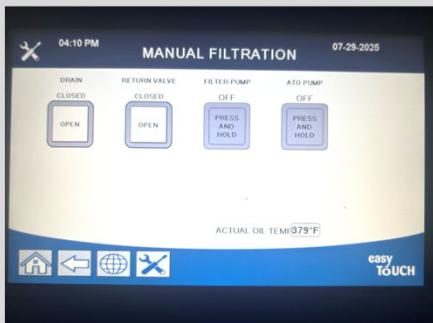
Board ID and Connectivity

97

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FilterQuick-Touchscreen *Frymaster*

Using Controller for Diagnostics



Allows you to manually operate the drain/return actuators and filter pump for troubleshooting

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FilterQuick-Touchscreen *Frymaster*

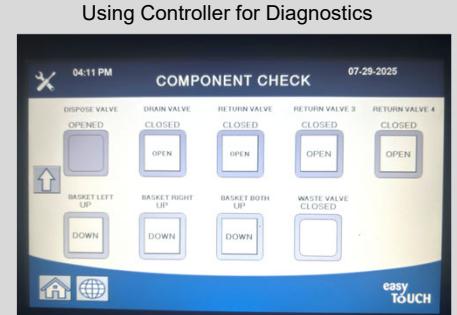
Using Controller for Diagnostics



Allows you to manually operate a variety of components for troubleshooting, including the filter system

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The image shows a screenshot of the Frymaster FilterQuick-Touchscreen diagnostic interface. The top bar is red with the text "FilterQuick-Touchscreen" on the left and "Frymaster" on the right. Below this is a white header bar with the text "Using Controller for Diagnostics". The main area is a light blue component check screen. At the top left is a wrench icon and the time "04:11 PM". At the top right is the date "07-29-2025". The center of the screen is titled "COMPONENT CHECK". Below the title are five status boxes arranged in a row. From left to right: "DISPOSE VALVE OPENED" (status: OPENED), "DRAIN VALVE CLOSED" (status: CLOSED), "RETURN VALVE CLOSED" (status: CLOSED), "RETURN VALVE 3 OPEN" (status: OPEN), and "RETURN VALVE 4 OPEN" (status: OPEN). Below these boxes are five status indicators: "BASKET LEFT UP" (status: DOWN), "BASKET RIGHT UP" (status: DOWN), "BASKET BOTH UP" (status: DOWN), "WASTE VALVE CLOSED" (status: CLOSED), and an empty box. At the bottom left is a blue navigation bar with icons for a house and a globe. At the bottom right is the text "easy TOUCH".

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