



DONE TO PERFECTION.

# INSTALLATION & OPERATIONAL MANUAL

## 1GRA & GRAF SERIES GAS FRYERS VFRY18 & VFRY18F HDR FRYERS

### With KleenScreen *PLUS*® Filtration Systems



#### MODELS:

1GR45A	ML-136647
1GR65A	ML-136648
1GR85A	ML-136649
1GR45AF	ML-136798
1GR65AF	ML-136795
1GR85AF	ML-136796
2GR45AF	ML-136650
3GR45AF	ML-136653
4GR45AF	ML-136656
2GR65AF	ML-136651
3GR65AF	ML-136654
2GR85AF	ML-136652
3GR85AF	ML-136655
VFRY18	
VFRY18F	

For additional information on Vulcan-Hart or to locate an authorized parts and service provider in your area, visit our website at [www.VulcanHart.com](http://www.VulcanHart.com)

## **IMPORTANT FOR YOUR SAFETY**

**THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.**

**POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER.**

## **IMPORTANT**

**IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNITS AT THE MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.**

### **FOR YOUR SAFETY**

**DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**

### **WARNING**

**Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.**

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## INTRODUCTION

### GENERAL

Vulcan Fryers are produced with quality workmanship and material. Proper installation, usage and maintenance will result in years of satisfactory performance.

Before installing the fryer, thoroughly read this manual and carefully follow all instruction.

This manual is applicable to model listed on the cover page. Procedures in this manual will apply to all models unless specified. Pictures and illustrations can be of any model unless the picture or illustration needs to be model specific.

## ORDERING PARTS

Customers may order parts directly from their local authorized service center. If not known, call Vulcan Customer Service at 800-814-2028.

To speed up your order, provide the model number, serial number, gas type, part needed, item part number (if known) and quantity needed.

<b>FRYER CAPACITY</b>				
<b>MODEL - GMO</b>	<b># of Heat Tubes Each Fry Tank</b>	<b>BTU / Hour Each Fry Tank</b>	<b>Width Inch (cm)</b>	<b>Shortening lbs. (kg)</b>
			<b>Total System</b>	<b>Each Fry Tank</b>
1GR45A /AF	4	120,000	15.5" (39)	45-50 (21-23)
1GR65A /AF	5	150,000	21.0" (53)	65-70 (29-32)
1G585A /AF	5	150,000	21.0" (53)	85-90 (39-41)
2GR45AF	4	120,000	31.0" (79)	45-50 (21-23)
3GR45AF	4	120,000	46.5" (118)	45-50 (21-23)
4GR45AF	4	120,000	62.0" (158)	45-50 (21-23)
2GR65AF	5	150,000	42.0" (107)	65-70 (29-32)
3GR65AF	5	150,000	63.0" (160)	65-70 (29-32)
2GR85AF	5	150,000	42.0" (107)	85-90 (39-41)
3GR85AF	5	150,000	63.0" (160)	85-90 (39-41)
VFRY18 /F	4	120,000	15.5" (39)	45-50 (21-23)

## UNPACKING

This fryer was carefully inspected before leaving the factory. Upon acceptance of the shipment, the transportation company assumes full responsibility for safe delivery.

Immediately after unpacking the fryer, check for possible shipping damage. If the fryer is damaged, save the packaging material and contact the carrier within 15 days of delivery.

Check that the following have been included:

- ◆ Crumb Rack(s)
- ◆ Basket Hanger(s)
- ◆ Tank Brush
- ◆ Adjustable Casters (4) two locking, two non-locking for freestanding fryers. Fryer Batteries with the KleenScreen *PLUS*® Filtration System have casters installed from the factory.
- ◆ Drain Pipe Extension for freestanding fryers only.
- ◆ Twin Fry Baskets (2) per fry tank
- ◆ Cleanout Rod for freestanding fryers only.
- ◆ Crumb Scoop for freestanding fryers only.
- ◆ Fryer Batteries with the KleenScreen *PLUS*® Filtration System
  - Filter Pan
  - Suction Tube
  - Screen Assembly
  - Complimentary Pack of Micro-Filtration Envelopes
  - 6' (1829 mm) long high temperature discard hose
- ◆ Manual, Quick Start Guide(s), and Warranty – Retain for future reference

## INSTALLATION

Do not use the door or its handle to lift the fryer.

Before installing the fryer, verify that the type of gas (natural or propane) agrees with the specifications on the fryer data plate, which is located on the inside of the door panel. Make sure the fryer is configured for the proper elevation.

Record your fryer model, device, and serial numbers for future reference in the space provided below. This information can be found on the fryer data plate.

**Fryer Model No:** \_\_\_\_\_

**Device:** \_\_\_\_\_

**Serial No:** \_\_\_\_\_

**Clearances:**

- ◆ Minimum clearance from combustible construction:  
6" (15 cm) from the sides of the fryer  
6" (15 cm) from the back of the fryer  
The fryer may be installed on combustible floors.
- ◆ Minimum clearance from noncombustible construction:  
0" from the sides of the fryer  
0" from the back of the fryer
- ◆ Between the fryer and any open-top flame units:  
16" (41 cm)
- ◆ Allow space for servicing and operation.

**Location:**

- ◆ Install fryer in an area with sufficient air supply for gas combustion at fryer burners.
- ◆ Do not obstruct the flow of combustion and ventilation air.
- ◆ Provide adequate clearance for air openings into the combustion chamber.
- ◆ Do not permit fans to blow directly onto fryer.
- ◆ Avoid wall-type fans, which create cross-currents within a room. Avoid open windows next to sides or back.

**CODES AND STANDARDS**

The fryer must be installed in accordance with:

**In the United States:**

- ◆ State and local codes, or in the absence of local codes, with:
- ◆ National Fuel Gas Code, ANSI-Z223.1/NFPA #54 (latest edition). Copies may be obtained from The American Gas Association Accredited Standards Committee Z223, @ 400 N. Capital St. NW, Washington, DC 20001 or the Secretary Standards Council, NFPA, 1 Batterymarch Park Quincy, MA 02169-7471.
- ◆ NFPA Standard #96 Vapor Removal from Cooking Equipment, latest edition, available from the National Fire Protection Association, Batterymarch Park, Quincy, MA. 02169-7471.

- ◆ National Electrical Code, ANSI/NFPA-70 (latest edition). Copies may be obtained from The National Fire Protection Association, Batterymarch Park, Quincy, MA. 02169-7471.
- ◆ In the commonwealth of Massachusetts all gas appliances vented through a ventilation hood or exhaust system with a damper or with a power means of exhaust shall comply with 248 CMR.

**In Canada:**

- ◆ Local codes
- ◆ CAN/CSA-B149.1 Natural Gas and Propane Installation Code (latest edition), available from the Canadian Standards Association, 155 Queen Street, Suite 1300, Ottawa, Ontario Canada K1P 6L1.
- ◆ CSA C22.1 Canadian Electric Code (latest edition), available from the Canadian Standards Association, 155 Queen Street, Suite 1300, Ottawa, Ontario Canada K1P 6L1.

## **ASSEMBLY**

The fryer must be restrained to prevent tipping and the splashing of hot liquid. The means of restraint may be the manner of installation, such as connection to a battery of appliances, installing the fryer in an alcove, or by separate means such as adequate ties.

## **FLUE CONNECTION**

Make the flue connection as follows:

- ◆ Comply with Vapor Removal from Cooking Equipment, ANSI-NFPA Standard #96 (latest edition), available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.
- ◆ Locate the fryer under a hood with adequate connection to an exhaust duct. The hood must extend 6" (15 cm) beyond fryer on both sides.
- ◆ Clearance above the fryer should be adequate for combustion byproducts to be removed efficiently.
- ◆ An 18" (46 cm) minimum clearance should be maintained between the flue vent and the filters of the hood venting system.
- ◆ Never make flue connections directly to the fryer.
- ◆ Do not obstruct the flow of the gases from the appliance. Proper air balance should be maintained in the room.
- ◆ Ensure that your ventilation system does not cause a down draft at the fryer's flue opening. Down draft will not allow the fryer to exhaust properly and will cause overheating which may cause permanent damage. Damage caused by down draft will not be covered under equipment warranty. Never allow anything to obstruct the flue or ventilation exiting from the fryer flue. Do not put anything on top of flue area.

## GAS CONNECTION

**NOTICE** All gas supply connections and any pipe joint compound must be resistant to the action of propane gases.

The gas inlet is located on the lower rear of the fryer. Codes require that a gas shutoff valve be installed in the gas line ahead of the fryer.

The gas supply line must be at least the equivalent of ½" (12.7 mm) iron pipe for single units and 1-1/4" (31.75 mm) for batteries. If using the optional quick-disconnect flex hose, ¾" (19 mm) iron pipe for single units and 1-1/4" (31.75 mm) iron pipe for batteries. Make sure the pipes are clean and free of obstructions, dirt, and piping compound. A battery requires one or two connections of appropriate size for the gas requirement.

**▲ WARNING** Prior to lighting, check all joints in the gas supply line for leaks. Use soap and water solution. Do not use an open flame.

After piping has been checked for leaks, fully purge gas pipes to remove air.

### GAS PRESSURES (ALL MODELS):

The gas pressure should be set at 4" W.C. (Water Column) (0.8 kPa) for natural gas and 10" W.C. (2.75 kPa) for propane gas. If incoming pressure exceeds ½ PSI (3.45 kPa), an additional pressure regulator must be installed.

### TESTING THE GAS SUPPLY PIPING SYSTEM:

When test pressures exceed ½ PSI (3.45 kPa), the fryer and its individual shutoff valve must be disconnected from the gas supply piping system.

When test pressures are ½ PSI (3.45 kPa) or less, the fryer must be isolated from the gas supply piping system by closing its individual shutoff valve.

### Fryers with Casters:

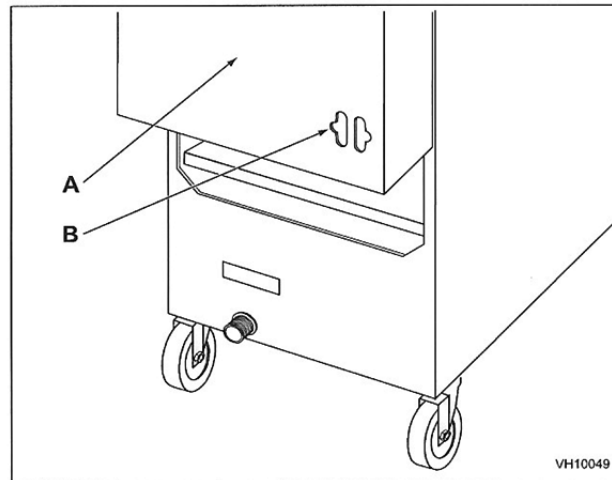
Separate instructions for installing casters are included with the casters:

- ◆ The installation shall be made with a connector that complies with the

Standard for Connectors for Movable Gas Appliances, ANSI Z21.69 or Connectors for Moveable Gas Appliances, CAN/CGA-6.16, and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use with Gas Fuel, ANSI z21.41 or Quick-Disconnect Devices for Use with Gas Fuel, CANI-6.9.



- ◆ When installing a quick disconnect you must also install a means for limiting the movement of the fryer. This device will prevent the gas line or quick disconnect from being strained. The restraining device should be attached to the cutout on the back panel. See illustration for location.



**A Rear of Fryer**  
**B Strain Relief Chain Connection**  
(Chain supplied by others)

- ◆ In Australia, use only the caster supplied by the manufacturer for the fryer device. The fryer must be installed using a hose assembly restraining device to limit the movement of the appliance in accordance with AS1869.
- ◆ The fryer must be installed with a connector (not supplied by Vulcan) complying with the above codes.
- ◆ The fryer must be installed with restraining means to guard against transmission of strain to the connector. See illustration.
- ◆ The fryer must be installed with the casters provided.
- ◆ If the restraint is ever to be disconnected, first turn the gas supply off.

## ELECTRICAL CONNECTION

### Electrical Grounding Instructions:

This appliance is equipped with a three prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong

receptacle. Do not cut or remove the grounding prong from this plug. Fryer must be electrically grounded in accordance with local codes, or in the absence of local codes, with

the National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2, as applicable.

Electrical diagram located on inside of door.

## LEVELING THE FRYER

Check the level of the fryer by placing a level on top of the fryer after gas connections have been made.

Ensure that the fryer is level front-to-back and side-to-side in the final installed position.

If using casters, lock the wheels after unit is level.

## OPERATION

**▲ WARNING** Hot oil and parts can cause burns. Use care when operating, cleaning and servicing the fryer.

**▲ WARNING** Spilling hot frying compound can cause severe burns. Do not move fryer without draining all frying compound from the tank.

## OVER-TEMPERATURE SHUTDOWN

If the shortening becomes overheated, a high-temperature shutoff device will turn the gas valve off and extinguish the pilot.

If the fryer shuts down due to overheating, do not turn fryer on until the shortening temperature is below 300°F (149°C).

If an overheating situation persists, contact your local Vulcan-Hart authorized service office.

## BEFORE FIRST USE

### Cleaning

New units are wiped down at the factory to remove any visible signs of dirt, oil, grease, etc. remaining from the manufacturing process.

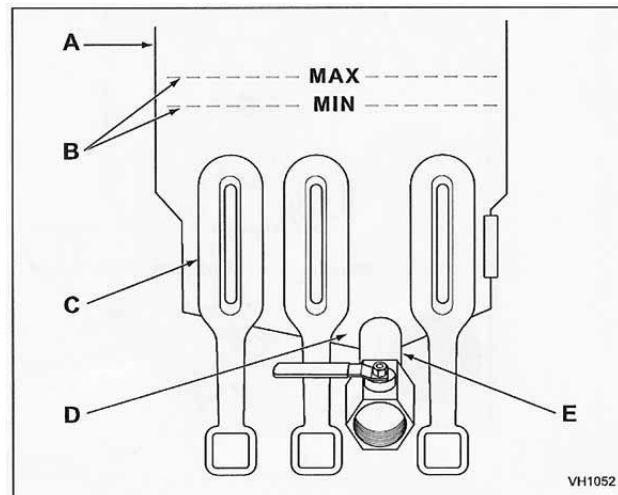
Before any food preparation, thoroughly wash the protective oil from all surface parts and the tank interior with hot soapy water to remove any film residue and dust or debris.

**NOTICE** Do not use chlorine or sulfate/sulfide cleaners.

- ◆ Wash any accessories shipped with unit.

- ◆ Rinse fryer and accessories thoroughly and drain the fryer.
- ◆ Wipe tank completely dry with a soft, clean cloth.

## FILLING TANK WITH SHORTENING



- A Fryer Tank**
- B MIN and MAX Fill Level Lines**
- C Heat Pipes**
- D Cold Zone**
- E Drain Pipe**

- ◆ Close the drain valve.
- ◆ Fill the fryer tank with shortening. Vulcan recommends using liquid shortening.
- ◆ Shortening level should be between the MIN and MAX lines in the fryer tank.
- ◆ Shortening will expand when heated. Do not fill the fryer tank past the MAX line.
- ◆ Press the melt switch to liquid or solid shortening.
- ◆ Add fresh shortening as needed to maintain oil level.

## BASIC FRYING INSTRUCTION

- ◆ Set the desired temperature and allow shortening to heat up to that temperature.
- ◆ Fry items that are the same size to ensure equal doneness.
- ◆ Drain or wipe dry raw or wet foods to minimize splatter when lowering into hot shortening.
- ◆ Add fresh shortening as needed.

### **Fry Basket Guidelines**

- ◆ Do not overfill baskets. (See fry basket capacity below) Carefully lower basket into oil.
- ◆ When frying doughnuts and fritters, turn product only once during frying.
- ◆ When cooking French fries or onion rings, shake the basket several times.
- ◆ Batter covered foods should be dropped carefully, one by one, into shortening or basket. If you use the basket, first dip the basket into the shortening to reduce batter-build up on basket surfaces.
- ◆ When frying is completed, remove basket or product. Hang basket on rear hanger.

### **Fry Basket Capacity:**

1GR45A /VFRY18/ 18F: Recommended pounds per basket are 2.5 lbs. (1.1 kg).

1GR65A: Recommended pounds per basket are 3.0 lbs. (1.4 kg).

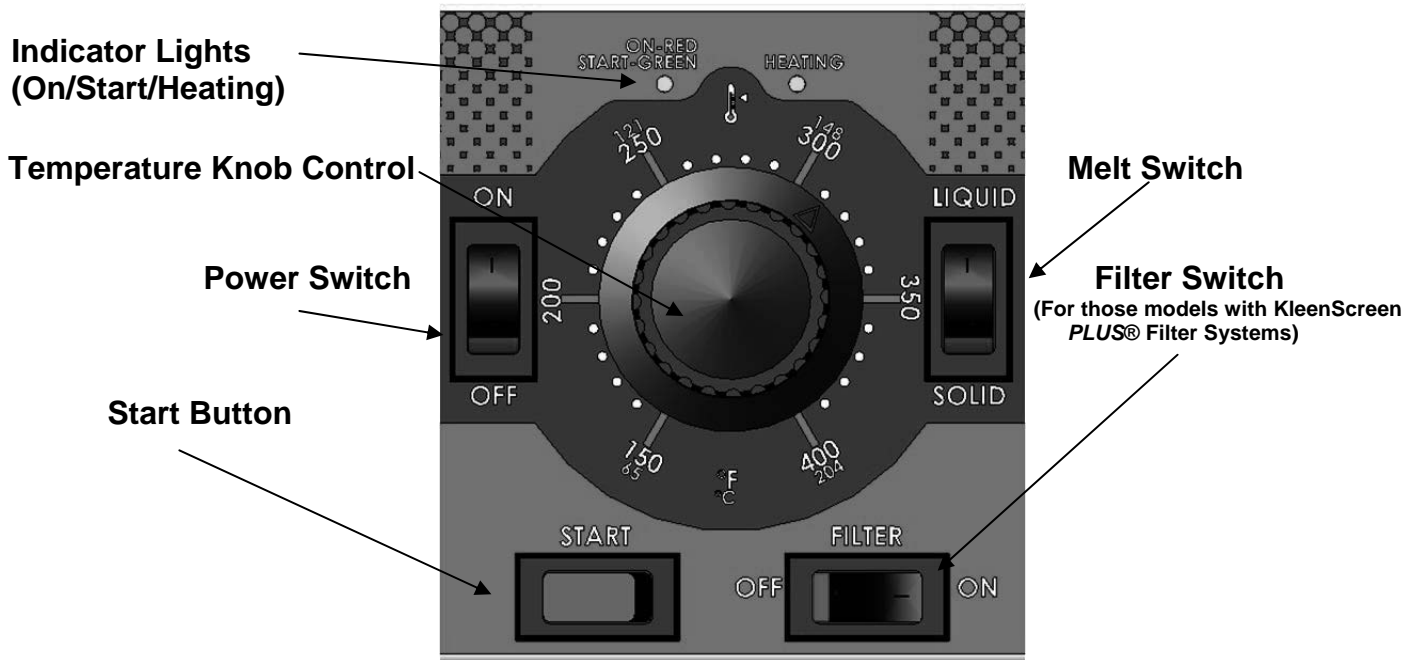
1GR85A: Recommended pounds per basket are 3.5 lbs. (1.6 kg).

## **EXTENDING SHORTENING LIFE**

Shortening life can be extended by the following guidelines:

- ◆ Do not salt foods over the fryer.
- ◆ Use good-quality shortening.
- ◆ Filter shortening daily (at a minimum).
- ◆ Replace shortening if it becomes poorly flavored.
- ◆ Keep equipment and surrounding clean.
- ◆ Set thermostat correctly.
- ◆ Remove excess moisture and particles from food products before placing on fryer.

## Solid State Knob Control



## TURNING ON THE FRYER

- ◆ Open the door to the fryer. Select Liquid or Solid Shortening pressing the switch to the desired selection.
- ◆ Set temperature by turning the knob to the desired temperature.
- ◆ Press the power switch to the ON position. The burners will not light until the next step is completed.
- Press the START switch once for the burners to light. The START switch is a momentary switch and will reset after being pressed. The indicator light will change from Red to Green. Heating light will glow Yellow.
- ◆ The burners will cycle on and off throughout the melt cycle. When the fry tank oil reaches 135° F (57.2 °C) the burners will stop cycling and remain on until the set temperature is reached. Once set temperature is reached the burners will cycle on and off to maintaining the set temperature.

## TURNING OFF THE FRYER

- ◆ Open the door to the fryer. Press the power switch to the OFF position.

# VULCAN FRYERS

## SOLID STATE CONTROLS GUIDE




### START UP in 4 Easy Steps

**STEPS 1-4**


**TURNING ON THE FRYER**

**1**



Fill fry tank with oil. Press the power switch **ON**. The red light will come on.


**2**



Set temperature knob to the desired set temperature.


---

**3**



Move the **MELT** switch to the correct shortening being used: Solid or Liquid.

**4**




Press the **START** switch and fryer will begin to heat. The burners or heating elements will cycle on and off through the melt cycle. When temperature reaches 135° F the burner or heating element will stay on until set temperature is reached. The red light will change to green. When the fryer calls for heat the yellow light with come on.

---


**TURNING OFF THE FRYER**

**1**



Open the door to the fryer. Press the power switch to the **OFF** position

### SOLID STATE KNOB CONTROLS GUIDE



**POWER SWITCH**  
RED LIGHT=ON

**START BUTTON**  
GREEN LIGHT=IGNITION

**TEMPERATURE KNOB**

**MELT SWITCH**

**FILTER SWITCH**  
(for those models with KleanScreen PLUS® Filter Systems)

**YELLOW LIGHT=HEATING**

### WARNING

⚠️ **HOT FRYING COMPOUND AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING, OR SERVICING THE FRYER. USE CARE WHEN FILTERING. DO NOT LEAVE UNATTENDED.**

⚠️ **SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE THE FRYER WITHOUT FIRST DRAINING ALL FRYING COMPOUND FROM TANK.**

**NOTICE** IF POWER IS MISTAKENLY TURNED OFF DURING THE FILTERING OPERATION, THE CORRECTIVE ACTION IS AS FOLLOWS:

1. CLOSE DRAIN VALVE
2. TURN POWER SWITCH ON
3. **IMMEDIATELY** OPEN DRAIN VALVE
4. CONTINUE FILTERING OPERATION PER STEPS 1-7 USING FILTERING GUIDE

## EXTENDED SHUTDOWN

1. Open the door to the fryer. Press the power switch to the OFF position.
2. Thoroughly drain the fryer. Refer to DRAINING THE FRYER.
3. Clean the fryer according to CLEANING.
4. Turn off the main gas shutoff valve.

## FILTERING THE OIL

**▲ WARNING** Hot oil and hot parts can cause burns. Use care when operating, cleaning, and servicing the fryer.

Filter shortening at least once a day.

1. A cold fryer will not drain properly. Always filter shortening between 250°F (121 °C) and 350°F (177 °C). The shortening in the cold zone area will remain hard if not heated properly. If necessary, use the clean-out rod to carefully stir the hard shortening to an area above the cold zone where it will melt.
2. Open the door to the fryer. The power must remain ON for the fryer to filter correctly.
3. Insert the drain extension into the drain valve. Tighten only hand tight.
4. Direct the drain extension into Vulcan's 85MF mobile filter or equivalent mobile filtering device.
5. Use the provided crumb scoop to remove the heavy debris lying on the bottom of the tank.
6. Slowly open the drain valve to allow oil to flow from the fry tank to the filter pan or discard container. The burners will turn off automatically.
7. When fry tank is empty use the tank brush to remove any additional debris.
8. Close the drain valve.
9. Fill tank with new shortening. Fill to a minimum of the MIN level but no high that halfway between MIN and MAX. Oil will expand as it is heated.
10. Press the start button only after step 9 is fully completed. The fryer will begin to heat the shortening.

## DRAINING THE TANK

1. Open the door to the fryer. The power must remain ON for the fryer to filter correctly.
2. Insert the drain extension into the drain valve. Tighten only hand tight.
3. Direct the drain spout into the container that you want to drain the shortening into.
4. Open the drain valve slowly allowing the oil to drain into the container. When the container is full or the fryer tank is empty, close the drain valve. Repeat this step until the fryer is empty. Remove the drain extension and place it back in holder.
5. It is recommended to now boil out your fry tank. Follow the BOIL OUT PROCEDURE. Then clean-out as described under CLEANING.

## BOIL OUT PROCEDURE

### Weekly or when oil is replaced:

1. Drain the tank as described under FILTERING THE OIL.
2. Close the drain valve and fill tank with water. Use a low foaming cleaner/degreaser to clean the fry tank. Follow the instructions on the side of the package.

**NOTICE** Do not use chlorine or sulfate/sulfide cleaners.

3. Solution level must be between the MIN and MAX levels on the fryer tank.
4. Turn the power switch to the on position. Set the temperature knob to 200°F (93.3 °C). Water boils at 212°F (100 °C). Do not bring water temperature to an overly active boil.
5. Press the start button to begin heating the boil out solution.
6. Use the tank brush; clean the sides, bottom and heat exchanger tubes.
7. Place the drain extension in the drain valve and hand tighten only. Drain the cleaning solution from the tank into a container.
8. Close the drain valve and refill the tank with water. Add 1 cup (1/4 L) of vinegar to neutralize alkaline left by the cleaner. Solution level must be between the MIN and MAX level on the fryer tank. Press the start button to allow the solution to heat up. Allow solution to stand for a few minutes.
9. Drain the tank according to DRAINING THE TANK. Rinse thoroughly with clear, hot water. All traces of cleaner must be removed. Dry the tank thoroughly.



10. Close the drain valve and add shortening. Follow the FILLING TANK WITH SHORTENING procedure in this manual. The fryer is now ready for use. Press the start button to begin heating the shortening.

## CLEANING

**▲ WARNING** Hot oil and hot parts can cause burns. Use care when operating, cleaning, and servicing the fryer.

### Daily

Clean your fryer regularly with the tank brush along with a damp cloth, and polish with a soft dry cloth. If regular cleaning is neglected, grease will be burned on and discolorations may form.

Fingerprints are sometimes a problem on highly polished surfaces of stainless steel. They can be minimized by applying a cleaner that will leave a thin oily or waxy film.

- ◆ Clean all exterior surfaces of your fryer at least once daily.
- ◆ Use a damp cloth with warm water and a mild soap or detergent.

**NOTICE** Do not use chlorine or sulfate/sulfide cleaners.

- ◆ Rinse thoroughly, and then polish with a soft dry cloth.
- ◆ Keep the fryer exterior clean and free of accumulated grease to prevent stubborn stains from forming. If regular cleaning is neglected, grease will be burned on and discolorations may form.
- ◆ Remove discolorations by washing with any detergent or soap and water.
- ◆ Use a self-soaping, non-metallic scouring pad for particularly stubborn discolorations.
- ◆ Always rub with the grain of the stainless steel.
- ◆ Do not use a metallic scoring pad or harsh cleaners.

## KleenScreen *Plus*® Filtration System Installation and Operational Manual for “AF” Models



2GR45AF Shown

### **GAS KleenScreen *PLUS*® Models:**

1GR45AF	ML-136798
1GR65AF	ML-136795
1GR85AF	ML-136796
2GR45AF	ML-136650
3GR45AF	ML-136653
4GR45AF	ML-136656
2GR65AF	ML-136651
3GR65AF	ML-136654
2GR85AF	ML-136652
3GR85AF	ML-136655
VFRY18F	

## Filtering Instructions for KleenScreen *PLUS*® Fryers

### General

The KleenScreen *PLUS*® filtration system filters the oil as it is pumped back into its' respective tank(s). Only one tank can be drained and filtered at a time. Under no circumstances should both tanks be drained at the same time.

### Assembly

- ◆ After unpacking, wash the filter pan, crumb basket and filter screen assembly. Make sure you remove the insert located inside the filter screen. Use dishwashing detergent and warm water, (parts are dishwasher safe). Rinse the filter pan, crumb basket and filter screen components completely and wipe all parts dry with a clean cloth.
- ◆ Pull out the filter drawer all the way leaving the filter pan opening exposed.
- ◆ Place the filter tank into the filter drawer making sure that the pins on the bottom of the filter pan line up with the holes in the filter drawer. Position the filter screen assembly into the suction tube clip in the filter pan positioning the filter screen assembly flat on the bottom of the filter pan. Place the primary crumb basket onto the left handle of the filter pan.
- ◆ Carefully line up the suction tube nozzle so that it mates with the oil receptacle block mounted on the frame of the fryer battery. Close the drawer. See Figures 1, 2 3 and 4.

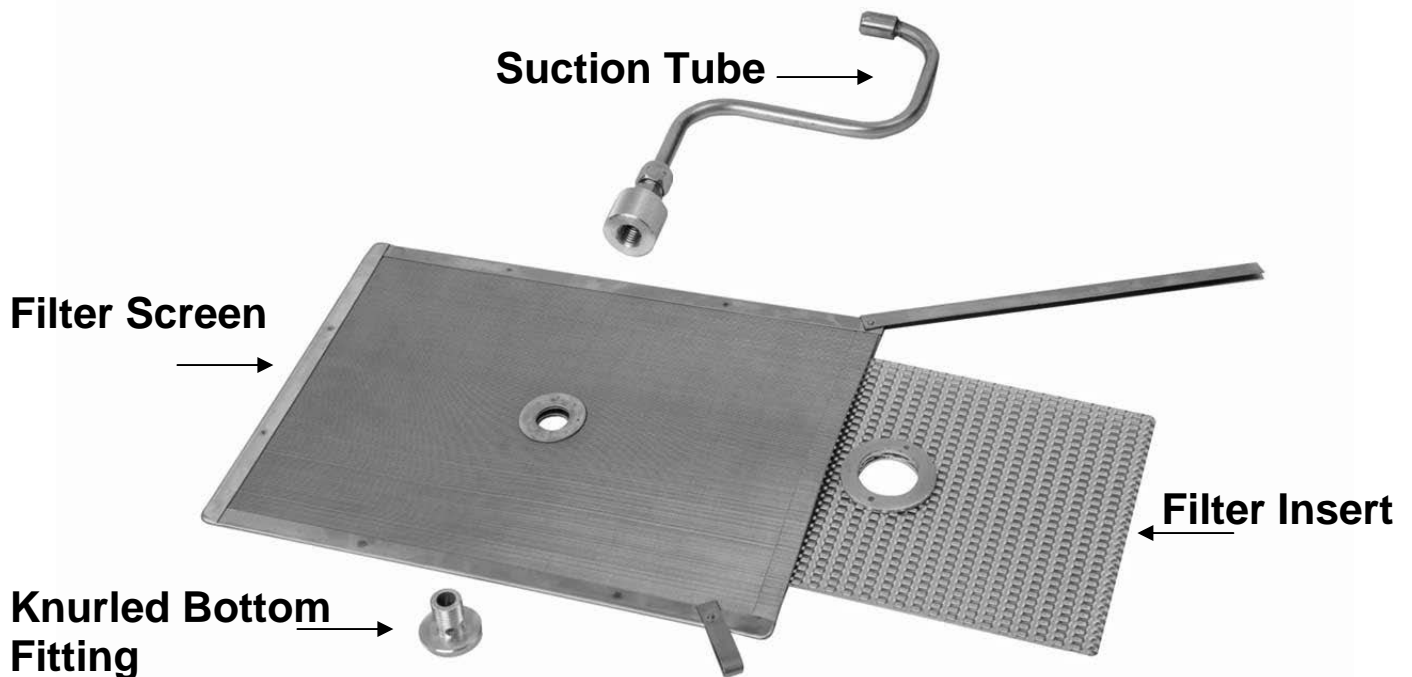


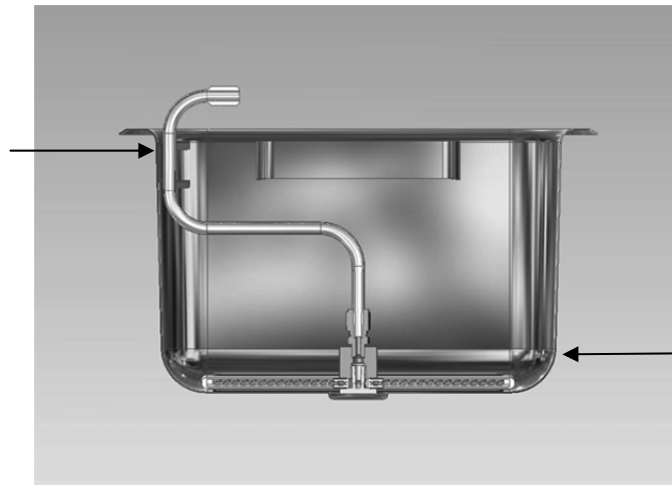
Fig. 1

**Fully assembled filter screen assembly:**



**Fig. 2**

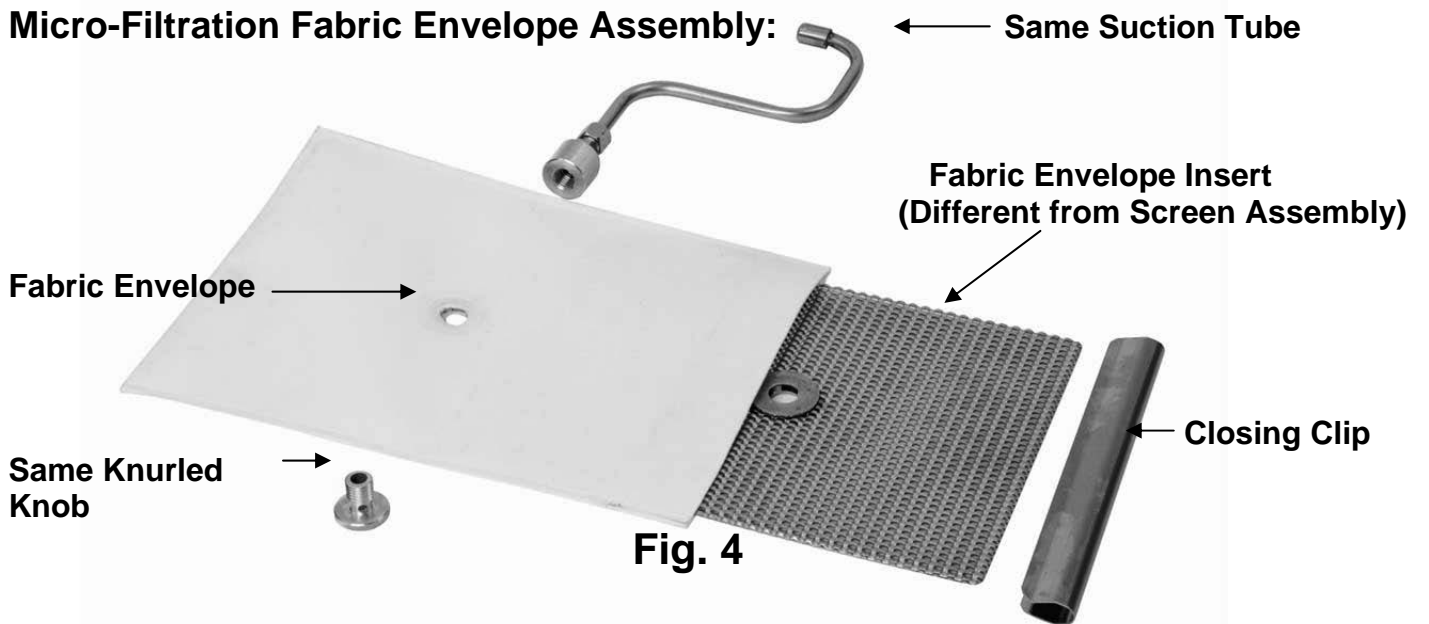
**Secure Tube with Suction Tube Clip**



**Filter Screen Lays Flat On Bottom of Filter Pan**

**Fig. 3**

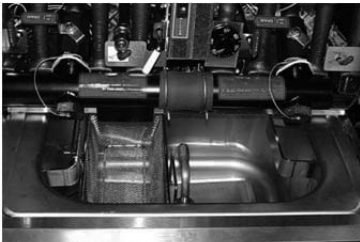
**Micro-Filtration Fabric Envelope Assembly:**



**Fig. 4**

## INSTRUCTIONS TO REMOVE & REPLACE KLEENSCREEN *PLUS*® FILTER ENVELOPE

FOR ABSOLUTE FILTRATION & MAXIMUM FLOW RATE WE RECOMMEND YOU CHANGE YOUR FILTER ENVELOPES AT EVERY OIL CHANGE (10-14 DAYS DEPENDING ON OIL USAGE).



### Step 1

Discard all oil from the filter vessel, (see pages 23 or 24). When the filter pan is empty, use a spatula and scrape off all debris left on the filter envelope and in the filter pan.



### Step 2

Unscrew "S" Tube from filter by turning the Bottom Knurled fitting counter- clockwise.



### Step 3

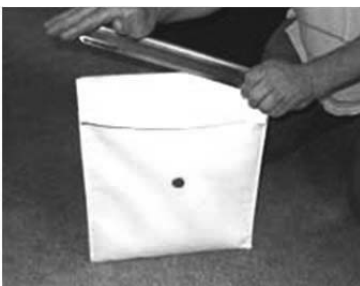
Remove SST Closure Clip by lifting off one side.



### Step 4

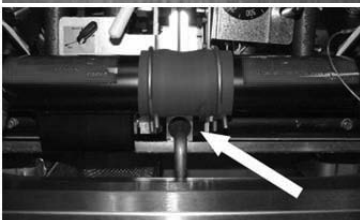
Remove SST Filter Screen Insert and wash insert with hot water and dry thoroughly. The Filter Screen Insert is dishwasher safe. Place the insert into a new KleenScreen *PLUS*® Filter envelope.

## DO NOT WASH FABRIC ENVELOPE



### Step 5

Place Filter Screen Insert into the fabric envelope making sure that the holes line up. Fold over the other end of the envelope and place SST Closure Clip on – hinge over and firmly press clip all the way down to secure and seal filter assembly. Making sure that the folded end is face down; screw "S" Tube Assembly onto the Filter Assembly. Tighten the Bottom Knurled fitting. When tightened, the "S" Tube assembly should be perpendicular to the long side of the filter assembly.



### Step 6

Reposition the filter tube into the provided clip. Align filter tube so that the end of the "S" Tube engages the Oil Receptacle fitting each time the drawer is opened and closed.

## Operation

**▲ WARNING** Hot oil and parts can cause burns. Use care when operating, cleaning and servicing the fryer.

**▲ WARNING** Spilling hot frying compound can cause severe burns. Do not move fryer without draining all frying compound from the tank.

**NOTICE** Never run water or boil out solution through filter and motor / pump. Doing so will void your fryer warranty.

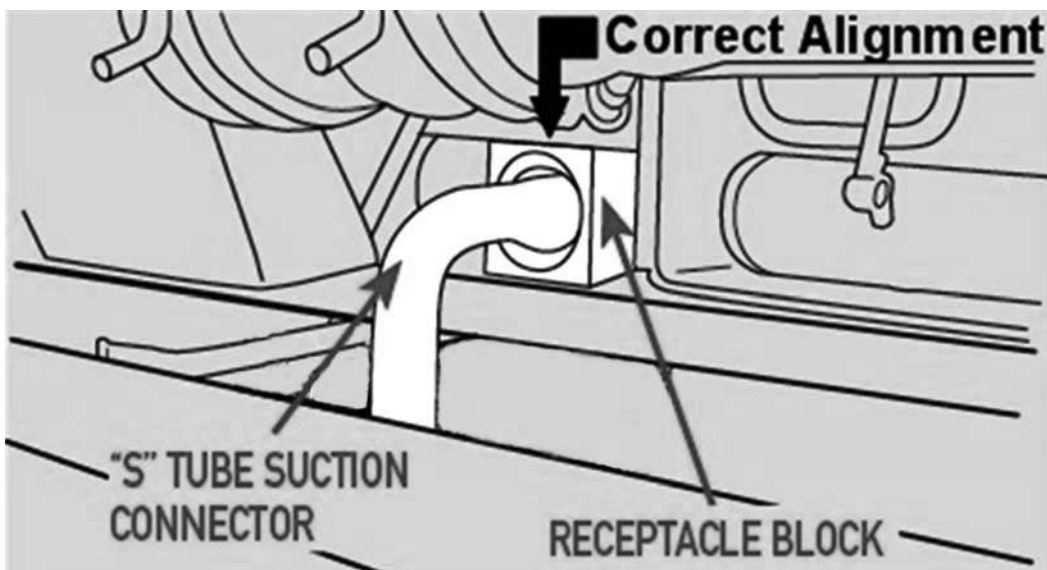
### FILTERING PROCEDURE

Oil Temperature should be 300-350° F (149-177°C). Use the provided crumb scoop to remove and suspend crumbs on the bottom of the tank before proceeding to Step 1.

1. Do not turn off the Fryer. The power must be on throughout the entire filtering process.

**NOTICE** Do **NOT** heat the fryer during the filtering procedure. Permanent damage to your fry tank may occur and warranty may be voided.

2. Vulcan recommends adding an oil treatment media to the oil prior to filtering.
3. Make sure that the filter drawer is closed completely and that the suction tube and receptacle block are in the correct position. Fig. 5



**Fig. 5**

# VULCAN FRYERS

## SOLID STATE KNOB CONTROLS GUIDE



### FILTERING in 7 Easy Steps

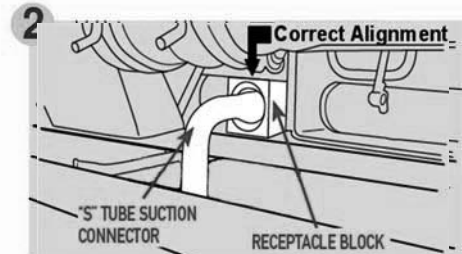
#### STEPS 1-4

**TIP:** Use provided crumb scoop to remove and suspend crumbs on the bottom of tank before proceeding to Step 1.



**1** Make sure that the Power is on. Do NOT turn off the power to the fryer

- Vulcan recommends adding an oil treatment media to the oil prior to filtering.
- Make sure that the filter drawer is closed completely and that the suction tube and receptacle block are in the correct position.



**2** Correct Alignment. Open the fryer doors and ensure that the filter drawer is pushed back into place under the fryer with the "S" Tube Suction Connector and Receptacle Block engaged.



**3** Open the drain valve slowly allowing the oil to drain down into the filter pan. The burners or heating elements will automatically turn off.

**TIP:** Use the provided tank brush to clean and remove food particles from the fry tank.



**4** Press **FILTER** switch to engage the motor/pump. Allow the oil to cycle for a few minutes until the oil and fryer are clean.

#### STEPS 5-7



**5** Close the drain valve slowly allowing the oil to fill the fry tank with clean oil. The burners or heating elements will not turn on at this point. Allow the oil to fill back into the fry tank from the filter pan. It is normal to see a few air bubbles during this process.



**6** When the filter pan is empty push the **FILTER** switch to turn off the motor / pump. Oil level should be between the MIN and MAX lines.



**7** Once the level of the oil has been checked and verified, press the **START** switch. The red light will turn to green. The burners or heating elements will automatically turn back on and the fryer will resume heating. Yellow light will display when heating.

### DRAINING AND DISCARDING OIL FROM THE FRYER



- Follow filtering instructions steps 2-3, however DO NOT put oil treatment media into fryer. Drain the fryer oil into the filter pan.
- Attach the quick disconnect hose to the discard male quick disconnect fitting. Do not connect hose while motor/pump is running.
- Place other end of the discard hose into a container that is large enough to retain the discarded shortening.
- To start the discard operation, filter switch behind door must be in the "use hose to discard only" position.
- Before pressing the FILTER button located behind the door, hold the hose firmly and point to the discard container. Press the FILTER button and the motor/pump will start immediately. Oil will begin to flow through the hose into the container.
- To turn off the motor/pump, simply push the FILTER button on the control again. Push the filter switch behind the door back to the "use hose to rinse & fill" position. Disconnect the discard hose. Be careful to let the hose drain before putting away. Close the drain valve and refill the fry tank with new oil.

**NOTICE** If discard vessel is not large enough to hold the entire shortening amount, stop the flow by pushing the FILTER button to turn the motor/pump off. Empty the container and resume discard operation by pushing the FILTER button and holding it for approximately 3 seconds.

**NOTICE** Open the filtering drawer approximately 1" to allow any oil in the return line to run back into the filter pan. This will take about 30 seconds to complete. Then open the drawer completely to clean filter components.

THESE INSTRUCTIONS ARE FOR FRYERS WITHOUT REAR OIL RECLAMATION CONNECTIONS.

### WARNING

HOT FRYING COMPOUND AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING, OR SERVICING THE FRYER. USE CARE WHEN FILTERING. DO NOT LEAVE UNATTENDED.

SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE THE FRYER WITHOUT FIRST DRAINING ALL FRYING COMPOUND FROM TANK.

**NOTICE** IF POWER IS MISTAKENLY TURNED OFF DURING THE FILTERING OPERATION, THE CORRECTIVE ACTION IS AS FOLLOWS:

1. CLOSE DRAIN VALVE
2. TURN POWER SWITCH ON
3. IMMEDIATELY OPEN DRAIN VALVE
4. CONTINUE FILTERING OPERATION PER STEPS 1-7

**NOTICE** NOT RECOMMENDED TO BE USED WITH SOLID SHORTENING.

### **FILTERING TIP:**

Open the filtering drawer approximately 1” to allow any oil in the return line to run back into the filter pan. This will take about 30 seconds to complete. Then open the drawer completely to clean filter components.

### **REMOVING EXCESS DEBRIS FROM THE SCREEN FILTER:**

1. Pull the filter drawer out and remove the crumb basket and empty any debris into the trash.
2. Remove the filter screen assembly. Scrape debris from the filter screen. Then remove the insert by unlatching the latch. Clean all parts thoroughly.
3. Scrape debris from the bottom of the filter pan and discard in the trash.
4. Reassemble all filter components after being dried thoroughly.

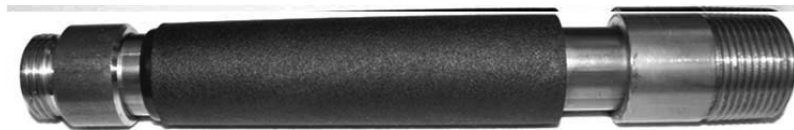
### **FLUSH AND DISCARD:**

1. Follow filtering instructions 1-3, however do not put oil treatment media into the fryer. Drain the fryer oil into the filter pan.
2. Attach the quick disconnect hose to the discard male quick disconnect fitting, (hose not supplied with fryer – Accessory Option).
3. Place other end of the discard hose into a container that is large enough to retain the discarded shortening.
4. With the power switch still ON; pull the Yellow Discard Handle Lever Rod towards you. Press the FILTER switch and the Motor/Pump will begin to operate. NOTE: Oil will come out immediately out of the nozzle end of the hose.
5. Once the oil has been discarded completely and the filter pan is empty, push the Discard Lever back in. Press the FILTER switch to the OFF position to stop motor/pump.
6. Disconnect the discard hose. The hose connection will be hot due to the temperature of the oil that was discarded. Be careful to let the hose drain before putting away. Close the drain valve and fill the fry tank with new oil.

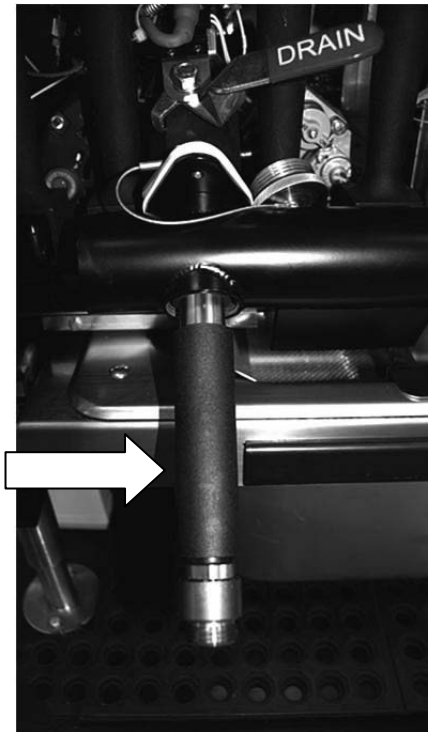


**BOIL OUT PROCEDURE:**

Use the Boil Out By-Pass™ drain extension allowing the boil out solution to exit the fry tank without using the filtering system. Do not allow water to run through the motor / pump. Drain the boil out solution into a bucket or place a hose on the end of the drain extension allowing the other end to flow into a floor drain. In Fig. 6 the arrow is pointing to the drain extension. It is threaded into the top coupling of the oil drain tube. Drain extension needs to be only hand tightened.



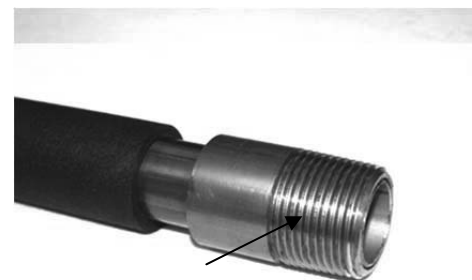
**Boil Out By-Pass™ Extension Tube**



**Fig. 6**



**Standard Hose End**



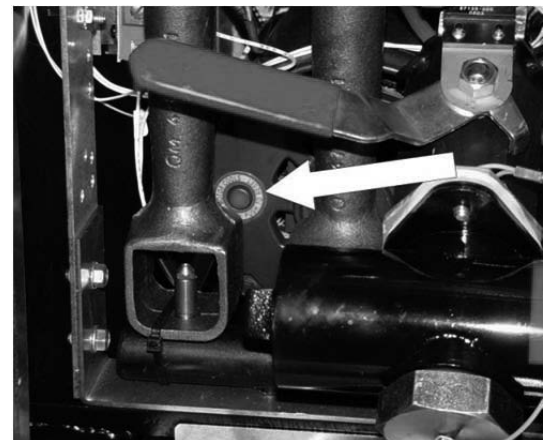
**Drain Tube End**

**THERMAL OVERLOAD PROTECTION BUTTON:**

The motor/pump supplied with the filtering system has a thermal overload protection circuit that senses when excess heat occurs due to filtering for long periods of time or under heavy load prior to discarding debris buildup. If the thermal overload protection is tripped, wait 5 minutes and then reset the motor by pushing in the red button. The arrow in Figure 7 shows the location of the reset button; located on the front off the motor / pump facing towards you.

**⚠ WARNING**

**Hot oil and hot parts can cause burns.**



**Fig. 7**

## MAINTENANCE

**▲ WARNING** Hot oil and hot parts can cause burns. Use care when operating, cleaning, and servicing the fryer.

**▲ WARNING** Spilling hot fryer compound can cause severe burns. Do not move fryer without draining all frying compound from the tank.

## FLUE VENT INSPECTION

When the fryer is cool, inspect annually. Check the flue and clear any obstructions.

### Service in the US and Canada

Contact your local Vulcan-Hart Service office or address on the front of this manual.

### In Australia

Contact Hobart Food Equipment PTY. LTD., 16 Hilly Street Morlake, N.S.W. 2137 Australia; P.O. Box 100, Concord N.S.W. 2137; Tel: (02) 9736 1200; Fax: (02) 9736 1555.  
[www.hobartfood.com.au](http://www.hobartfood.com.au)

<b>Troubleshooting Chart:</b>	
Problem:	Probable Cause:
No Heat:	Power switch not turned on. Gas supply not turned on. Wire connections loose (call service) Wires connections need cleaning High Limit (call service)
Insufficient or too much heat:	Temperature not set to desired temperature. High limit tripped (call service) Temperature probe (call service)
Tank will not drain:	Shortening too cold. Drain pipe clogged with debris.
Motor / pump will not pump oil:	Suction tube not seated correctly in receptacle block. Filter screen is clogged and needs cleaning. Shortening is too thick / cold. Heat oil up to min. 300° F. Discard valve lever not fully engaged either for filtering or discarding.