



DONE TO PERFECTION.

# INSTALLATION & OPERATIONAL MANUAL

## GRM SERIES GAS FRYERS

### MODELS:

1GR35M	ML-136407
1GR45M	ML-136408
1GR65M	ML-136409
1GR85M	ML-136410
2GR45MF	ML-136417
2GR65MF	ML-136418
2GR85MF	ML-136419
3GR45MF	ML-136420
3GR65MF	ML-136421
3GR85MF	ML-136422
4GR45MF	ML-136423



1GR45M Shown

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

VULCAN-HART  
DIVISION OF ITW FOOD EQUIPMENT GROUP, LLC  
[WWW.VULCANEQUIPMENT.COM](http://WWW.VULCANEQUIPMENT.COM)

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F-31233 REV. N (June 2013)

## 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 800-814-7028.

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) Total System</b>	<b>Shortening lbs. (kg) Each Fry Tank</b>
1GR35M	3	90,000	15.5" (39)	35-40 (16-18)
1GR45M	4	120,000	15.5" (39)	45-50 (21-23)
1GR65M	5	150,000	21.0" (53)	65-70 (29-32)
1GR85M	5	150,000	21.0" (53)	85-90 (39-41)
2GR45MF	4	120,000	31.0" (79)	45-50 (21-23)
3GR45MF	4	120,000	46.5" (118)	45-50 (21-23)
4GR45MF	4	120,000	62.0" (158)	45-50 (21-23)
2GR65MF	5	150,000	42.0" (107)	65-70 (29-32)
3GR65MF	5	150,000	63.0" (160)	65-70 (29-32)
2GR85MF	5	150,000	42.0" (107)	85-90 (39-41)
3GR85MF	5	150,000	63.0" (160)	85-90 (39-41)

### 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
- ◆ Basket Hanger
- ◆ Twin Fry Baskets (2)
- ◆ 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 Basket (2) per fry tank.
- ◆ Cleanout Rod for freestanding fryers only.
- ◆ Crumb Scoop for freestanding fryers only.
- ◆ Manual and Warranty – Retain for future reference.
- ◆ 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

## 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 fryerThe fryer may be installed on combustible floors

## GRM SERIES GAS FRYERS

- ◆ 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.
- ◆ 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 cm) 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.

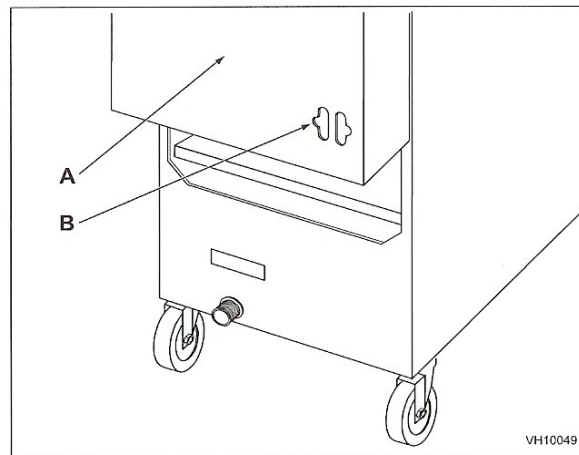
When test pressures are ½ PSI (3.45 kPa) or less, the fryer must be isolated from the gas supply piping system by closing its individual shutoff valve.

### 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, 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 CSA 6.9 or Quick-Disconnect Devices for Use with Gas Fuel,
- ◆ 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)

- ◆ 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. If disconnection of the restraint is necessary, to reconnect this restraint after the fryer has been returned to its originally installed position.

## 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.

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.

**▲ WARNING** Fryer is not to be used during a power outage

## 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 relight the pilot 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.

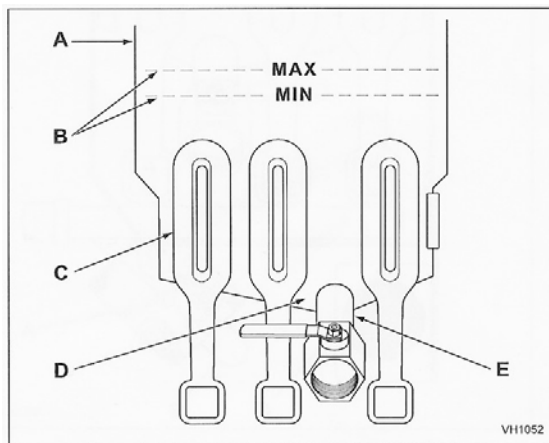
Before any food preparation, thoroughly wash the protective oil from all surface parts and the tank interior with hot soapy water to remove any film residue and dust or debris.

**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

**NOTICE** Solid shortening should NOT be used with GRM fryers. Melting solid shortening will damage the tank and void your warranty.

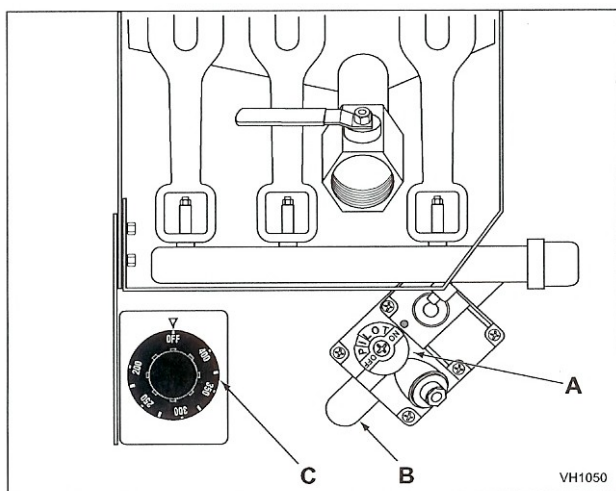


- A Fryer Tank
- B MIN and MAX Fill Level Lines
- C Heat Pipes
- D Cold Zone
- E Drain Pipe

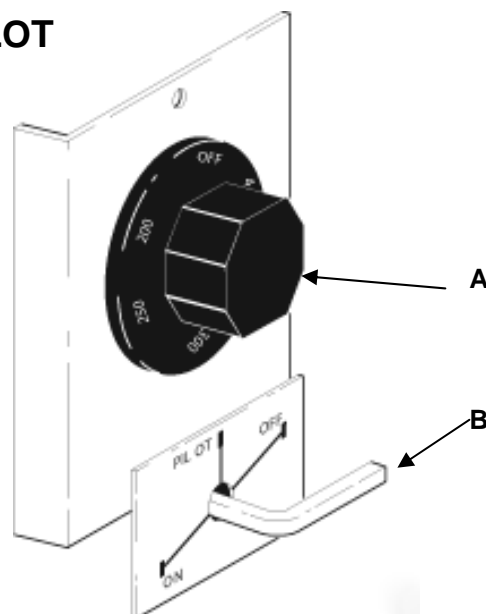
## GRM SERIES GAS FRYERS

- ◆ Close the drain valve.
- ◆ Fill the fryer tank with 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.
- ◆ Add fresh shortening as needed to maintain oil level.

### LIGHTING THE PILOT

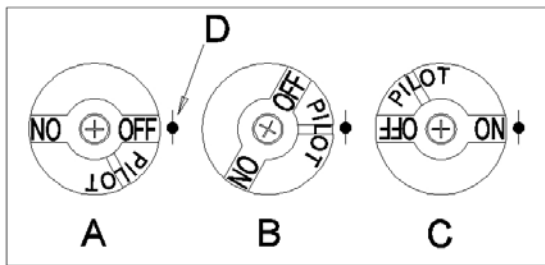


- A Gas Valve Knob**
- B Gas Supply**
- C Thermostat Knob**



- A Thermostat Knob**
- B Gas Control Handle**

1. Open the door.
2. Turn the thermostat to OFF (see figure below, view A). The thermostat is located behind the door.
3. Push the gas control valve knob and turn to OFF. Wait 5 minutes for unburned gas to vent.
4. Push and turn gas control valve knob to the "L" in PILOT (see figure below, view B).
5. While still holding the knob in, light the pilot with a lit flame. Continue to depress the knob until pilot remains lit when knob is released. If the pilot does not remain lit, repeat step 3 through 5.
6. Depress and turn gas control knob to ON (See figure below, view C).
7. If gas supply is interrupted, repeat steps 2 through 6.



- A Gas Valve Knob, View A
- B Gas Valve Knob, View B
- C Gas Valve Knob, View C
- D Indicator Point, All Views

## TURNING ON THE FRYER

- ◆ Set the temperature knob to desired temperature.
- ◆ After the set temperature has been reached, the thermostat shuts off the gas flow to burners.
- ◆ The pilot remains lit. The burners will cycle on and off, maintaining the set temperature.

## TURNING OFF THE FRYER

1. Turn the thermostat OFF.
2. To keep the pilot lit, turn the gas valve to “L” in Pilot.
3. To shut off all gas to the system, including the pilot, turn the gas valve knob to the OFF position.

## EXTENDED SHUTDOWN

1. Turn the thermostat knob to OFF.
2. Push in the pilot knob and turn to OFF.
3. Thoroughly drain the fryer. Refer to DRAINING THE FRYER.
4. Clean the fryer according to CLEANING.
5. Turn off the main gas shutoff valve.

## 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 table for recommended basket capacities 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:**

1GR35M: Recommended pounds per basket are 1.5 lbs. (0.7 kg).

1GR45M: Recommended pounds per basket are 2.5 lbs. (1.1 kg).

1GR65M: Recommended pounds per basket are 3.0 lbs. (1.4 kg).

1GR85M: Recommended pounds per basket are 3.5 lbs. (1.6 kg).

## **EXTENDING SHORTENING LIFE**

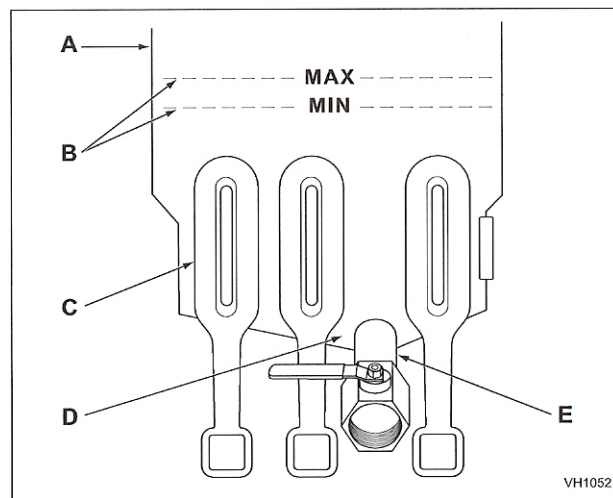
Shortening life can be extended by the following guidelines:

- ◆ 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. Use tank covers when not in use. (accessory).
- ◆ Set thermostat correctly.
- ◆ Remove excess moisture and particles from food products before placing on fryer.
- ◆ Use a fitted tank cover (accessory) to keep oil covered from light and oxygen

## DRAINING THE OIL – Free Standing Fryers Only

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

1. Turn the thermostat knob to the OFF position. .
2. Insert the drain extension into the drain valve. Tighten only hand tight.
3. Direct the drain extension into the mobile filtering device that you want to use.
4. Slowly open the drain valve to allow oil to flow from the fry tank to the filter pan. Then open the drain valve all the way.
5. When fry tank is empty use the tank brush to remove any additional debris.
6. Close the drain valve.
7. Fill tank with new shortening. Fill to a minimum of the MIN level but no higher than halfway between MIN and MAX. Oil will expand as it is heated.
8. After the fry tank is filled with new oil, turn the thermostat knob to the desired set temperature. The burners will come on and will heat the oil.



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

## 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.

## BOIL OUT PROCEDURE

### Weekly or as required:

1. Drain the tank as described under DRAINING THE TANK.
2. Once the shortening has been drained, flush out scraps and sediment using the provided tank brush.
3. Close the drain valve and fill tank 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.

4. Solution level must be between the MIN and MAX levels on the fryer tank.

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5. Set the temperature knob to 200°F or for the recommended solution being used. Allow solution to simmer for about 15 to 20 minutes.
6. Drain the cleaning solution from the tank.
7. 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.
8. Bring the solution to a simmer only, turn the thermostat off. Allow 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.

### **KleenScreen *PLUS*® Filtration System Installation and Operational Manual For GRMF Models**

<b>2GR45MF</b>	<b>ML-136417</b>
<b>2GR65MF</b>	<b>ML-136418</b>
<b>2GR85MF</b>	<b>ML-136419</b>
<b>3GR45MF</b>	<b>ML-136420</b>
<b>3GR65MF</b>	<b>ML-136421</b>
<b>3GR85MF</b>	<b>ML-136422</b>
<b>4GR45MF</b>	<b>ML-136423</b>



## 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.

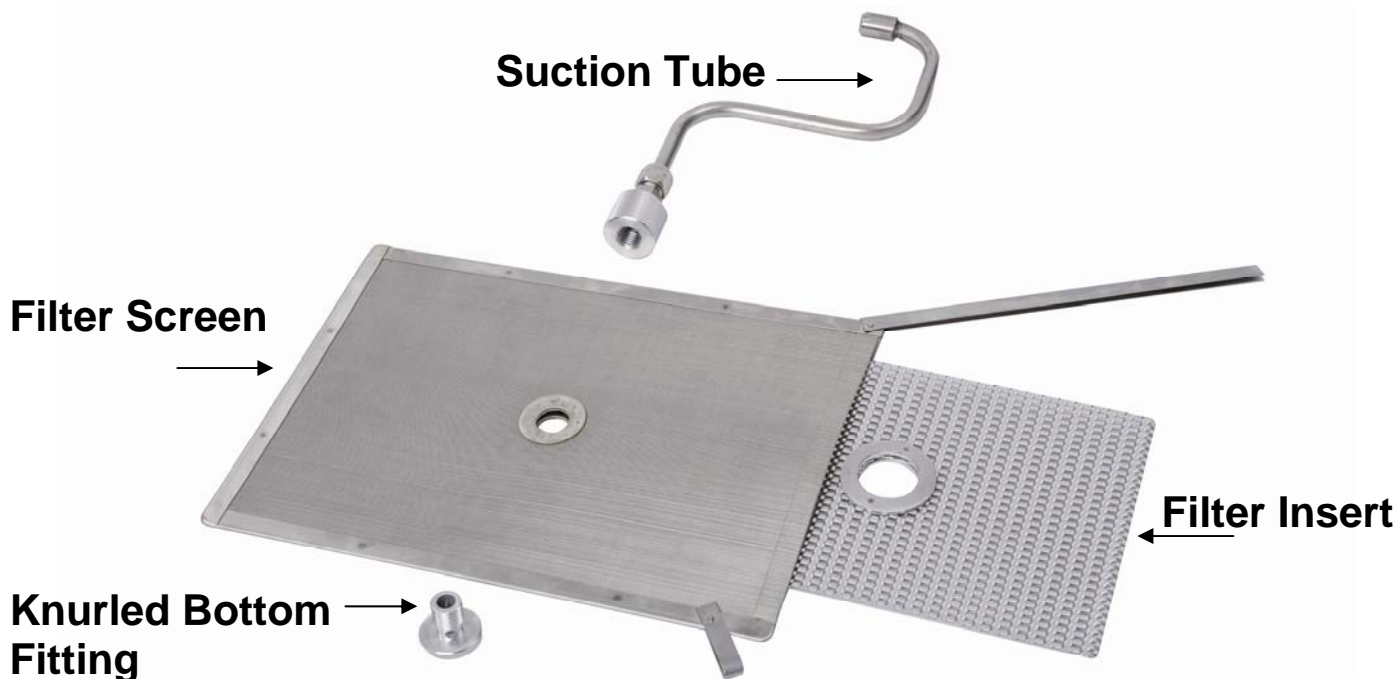


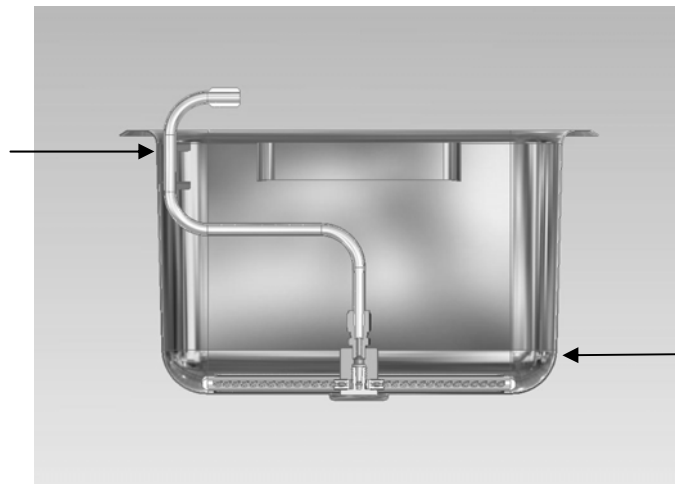
Fig. 1

**Fully assembled filter screen assembly:**



**Fig. 2**

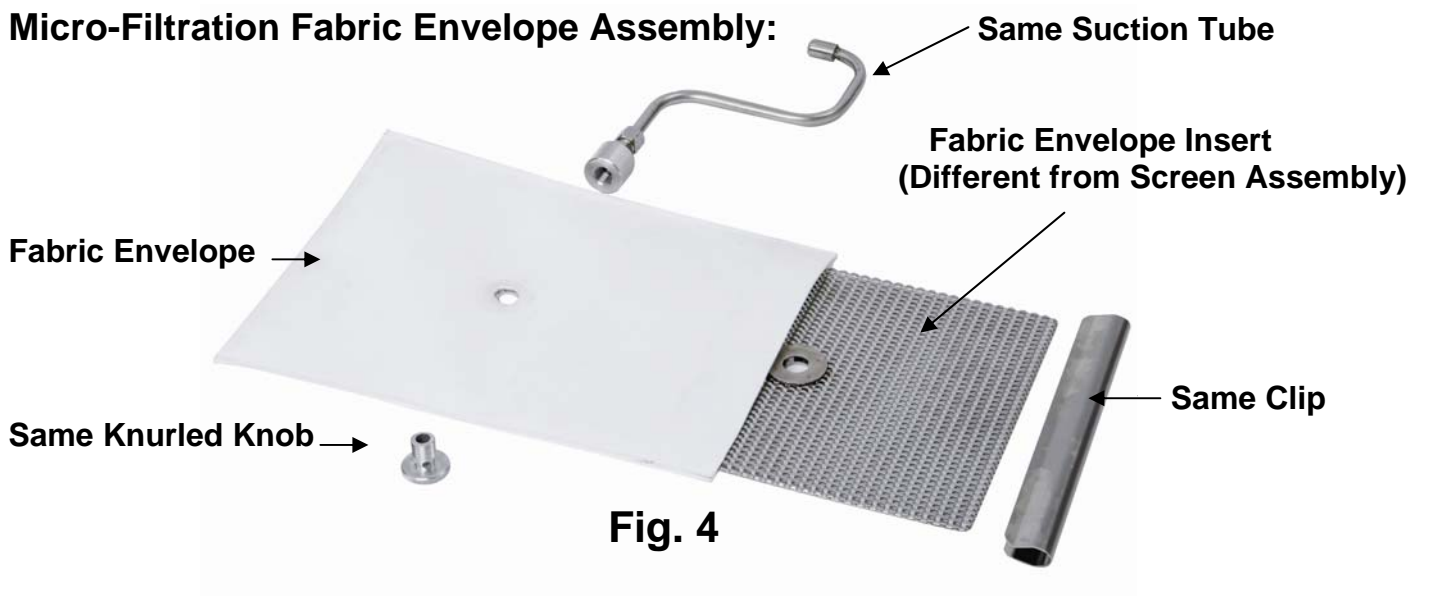
**Secure Tube with Suction Tube Clip**



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

**Fig. 3**

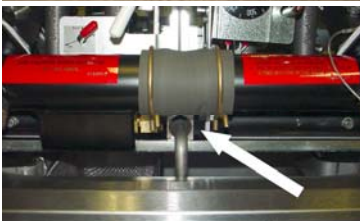
**Micro-Filtration Fabric Envelope Assembly:**



**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.

**NOTICE** Solid shortening should NOT be used with GRM fryers. Melting solid shortening will damage the tank and void your warranty.

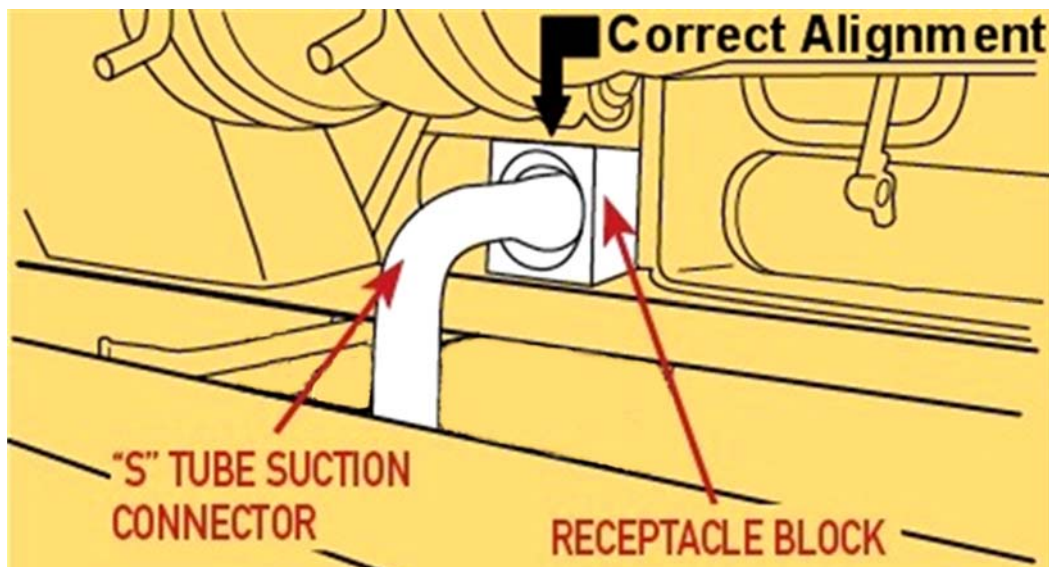
### FILTERING PROCEDURE WHEN USING LIQUID SHORTENING:

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

1. Turn the Fryer temperature knob to the **OFF** position.

**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. Turn the Filter Power switch to the **ON** position. 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**

4. Drain the oil out of the fry tank by turning the red handle drain valve. The filter pan will begin to fill with oil. When the oil level fills half of the filter pan, pull the red handled filter lever towards you. The motor / pump will begin and oil will flow back into the fry tank. The oil will flow into the back of the tank towards the front and down the drain back into the filter pan. Use the provided filter brush to help wash down the residue from the bottom and sides of the fry tank and allow it to flow down into the filter pan.
5. Close the red handle drain valve turning off the flow of oil into the filter pan. The fry tank will begin to fill. It is normal to see air bubbles in the tank towards the end of filtering. The motor / pump sound will change when the filter pan is empty of oil. Push in the red filter handle lever and turn the power switch **OFF**.
6. The oil level is correct when it is between the Min / Max lines on the fry tank.
7. Turn the Thermostat knob to the desired temperature. Burners should turn on and the oil should begin to heat.
8. Repeat this procedure for the remaining tank(s) in the battery.
9. When finished filtering, clean all of the filter components as in step 1 under Assembly section.

#### **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 FILTER:**

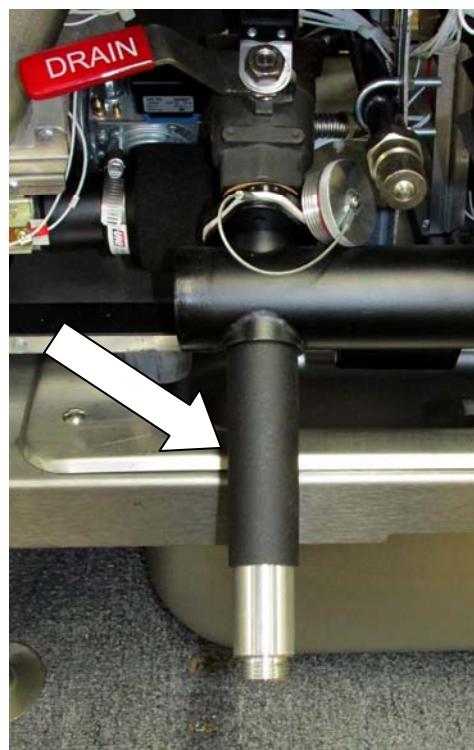
1. Pull the filter drawer out and remove the crumb basket and empty any debris into the trash.
2. Remove the filter screen assembly. Scrape debris from the filter screen. Then remove the insert by unlatching the latch. Clean all parts thoroughly as mentioned in the Assembly section on page 17.
3. Scrape debris from the bottom of the filter pan and discard in the trash. Clean all parts thoroughly as mentioned in the Assembly section on page 17. Clean all parts thoroughly as mentioned in the Assembly section on page 17.
4. Reassemble all filter components after being dried thoroughly as in the Assembly section on page 17.

### 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.
3. Place other end of the discard hose into a container that is large enough to retain the discarded shortening.
4. To start the discard operation, turn Power Switch ON.
5. Pull the Yellow Discard Handle Lever Rod towards you and the Motor/Pump will begin to operate. NOTE: Oil will come out immediately out of the nozzle end of the hose.
6. Once the oil has been discarded completely and the filter pan is empty, push the Discard Lever back in. The Motor/Pump will stop and turn the Power Switch OFF.
7. Disconnect the discard hose. 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 high temperature rated water 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.



**Fig. 6**



**Boil Out By-Pass™ Extension Tube**



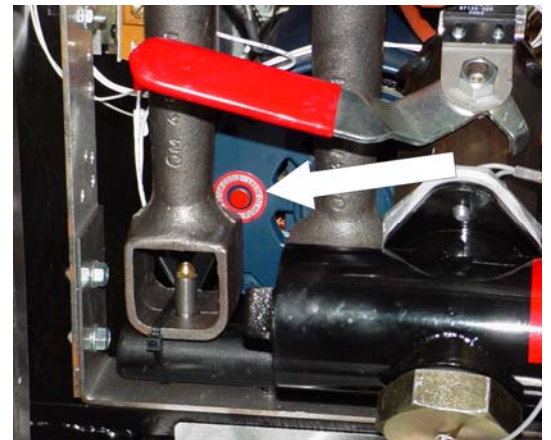
**Standard Hose End (Smaller Thread Side)**



**Drain Tube End (Larger Size Threads)**

### **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 of the motor / pump facing towards you.



**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**

Check [www.vulcanequipment.com](http://www.vulcanequipment.com) for the closest service office.

<b>Troubleshooting Chart:</b>	
<b>Problem:</b>	<b>Probable Cause:</b>
No Heat:	Thermostat dial not turned on. Pilot not lit. Gas supply not turned on. Wire connections loose (call service) Wires connections need cleaning (call service) Thermopile (call service)
Insufficient or too much heat:	Thermostat dial 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. Thermal overload protection button tripped.