



Filtration

General Instructions

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Contents

Preface	3
Filter Tub Assembly and Installation.....	5
Polishing Shortening.....	9
Shortening Disposal.....	10
Fryer Boil-Out Procedures.....	11
Cleaning.....	12

Preface

This Manual was written and published by the Engineering Department, Ultrafryer Systems for use by personnel who will operate a Model 2006 fryer in a commercial cooking environment.

Scope

This manual is intended as a general guide for filtration procedures that are common to all Model 2006 fryers regardless of the filtration configuration. These common procedures include the following:

- Filter Tub Assembly and Installation
- Polishing Shortening
- Shortening Disposal
- Fryer Maintenance Boil-Out
- General Cleaning Instructions

There are other filtration-related procedures that will be different from fryer to fryer based on what type of filtration configuration a particular fryer has. These procedures include the following:

- Shortening Filtration (specify “R” type, “S” type, or “T” type filtration)
- Wash Wand Operation

These specific procedures **are not** addressed in this manual since they will vary depending on a fryer’s filtration configuration. **Please refer to the additional filtration instructions that have been included with your fryer** to carry out these procedures.

 **NOTICE**

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

 **DANGER**

Copper wire suitable for at least 167°F (75°C) must be used for power connections.

 **DANGER**

The electrical power supply for this appliance must be the same as indicated on the rating and serial number plate located on the outside of the fryer door on the right hand side.

 **DANGER**

This appliance must be connected to the voltage and phase as specified on the rating and serial number plate located on the outside of the fryer door on the right hand side.

 **DANGER**

All wiring connections for this appliance must be made in accordance with the wiring diagrams furnished with the equipment. Wiring diagrams are located on the inside of the fryer door on the right hand side.

 **DANGER**

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

 **WARNING**

Do not attach accessories to this fryer unless fryer is secured from tipping. Personal injury may result.

 **WARNING**

Do not use water jets to clean this equipment.

 **WARNING**

This equipment is intended for indoor use only. Do not install or operate this equipment in outdoor areas.

 **WARNING**

Oil and shortening are HOT!

 **WARNING**

Wash Wand must be plugged in before attempting filtration and Wash Wand procedures.

 **WARNING**

ONLY use a commercial, "non-chlorine" boil-out compound for boil-out procedures.

 **WARNING**

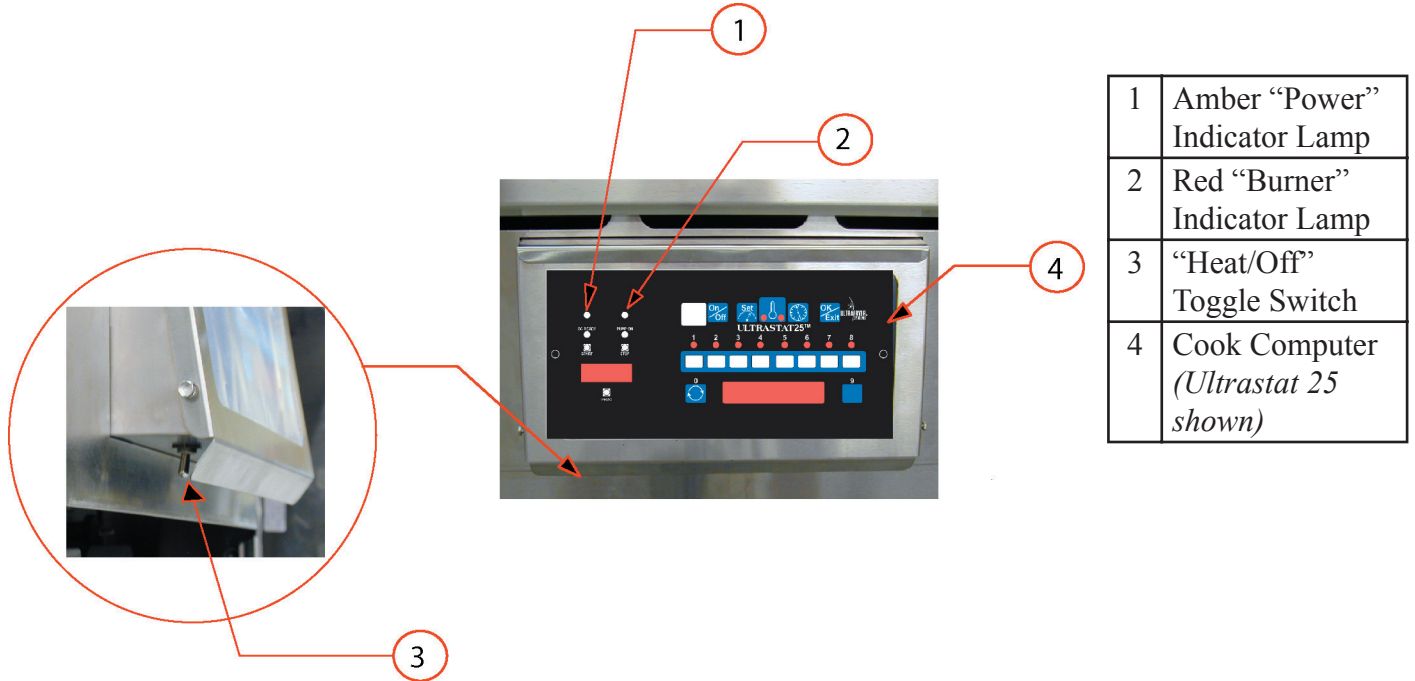
Wash Wand and shortening are HOT!

Filter Tub Assembly and Installation

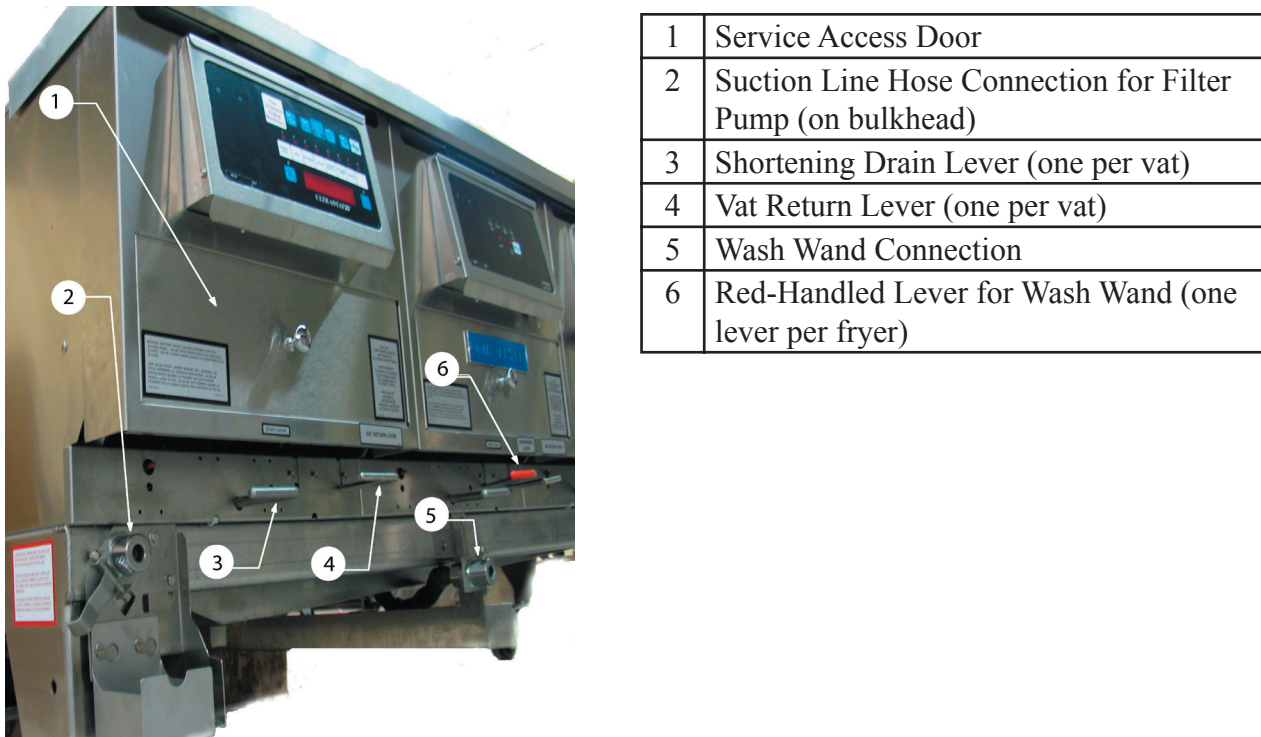
General

This fryer is equipped with a Filter Assembly which is located in a Filter Tub Caddy typically beneath the left side of the fryer. The “HEAT/OFF” (previously “COOK/FILTER”) toggle switch, AMBER “POWER” indicator lamp, and RED “BURNER” indicator lamp are located on the Controller Door assembly. The Drain Levers are located beneath the Service access door.

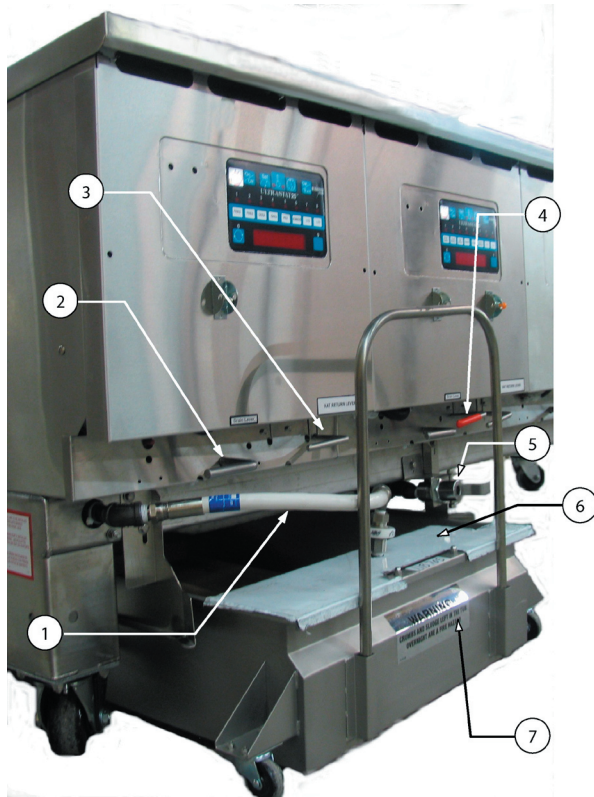
Operating Controls (Ultrafryer-style model shown)



Filtration Controls (Ultrafryer-style model shown)



Filtration Controls (Cadet-style model shown with filter tub attached)



1	Suction Line Hose Assembly
2	Shortening Drain Lever (one per vat)
3	Vat Return Lever (one per vat)
4	Red-Handled Lever for Wash Wand (one lever per fryer)
5	Wash Wand Connection
6	Filter Tub Cover
7	Filter Tub

Filter Tub Assembly

 **CAUTION:** Be sure that the filter screen is not blocked with sediment or foreign objects!

Assemble the filter tub as follows:

1. Make sure the FILTER TUB, FILTER TUB HANDLE, FILTER TUB COVER, SUCTION LINE HOSE, and FILTER ASSEMBLY are clean and dry. *(If necessary, consult the “Cleaning” section of the filtration manual for procedures to clean the filters.)*
2. Assemble the Filter Tub by placing the components in the following sequence:

a. FILTER ASSEMBLY

Attach STAND PIPE to FILTER. Carefully insert the FILTER ASSEMBLY in the bottom of the FILTER TUB with the STAND PIPE centered in the handle end of the tub.

NOTE: Depending upon the fryer purchaser’s choice, an Ultrafryer Filtration Tub may be equipped either with a **Micromesh Stainless Steel Filter Screen** or with a **Filter Pad Envelope**. Regardless of the type of filter, the connection between the filter and the tub is the same.

b. FILTER TUB COVER

Place the cover on the FILTER TUB.

c. SUCTION LINE HOSE

- 1) On Ultrafryer-style fryers, the Suction Line Hose may be installed by first connecting the Suction Line Hose FEMALE Quick-Connect fitting to the MALE Quick-Connect fitting on the filter STANDPIPE. Then insert the Filter Tub between FILTER TUB GUIDES (typically located beneath the LEFT side of the fryer) until the tub contacts the STOP bracket. Then connect the MALE plug on the Suction Line Hose Assembly to the Suction Line Hose Connection on the fryer bulkhead.
- 2) On Cadet-style fryers, the Suction Line Hose is permanently connected to the fryer.

d. FILTER TUB HANDLE

Install the HANDLE on the FILTER TUB.



Caution: If the unit uses a micro-mesh filter, make sure there are no finger loops on the standpipe side of the micro-mesh filter after assembly.

3. Refer to the “Filter Shortening” section of this manual for shortening filtration procedures.

Figure: Micro-Mesh Stainless Steel Filter Assembly

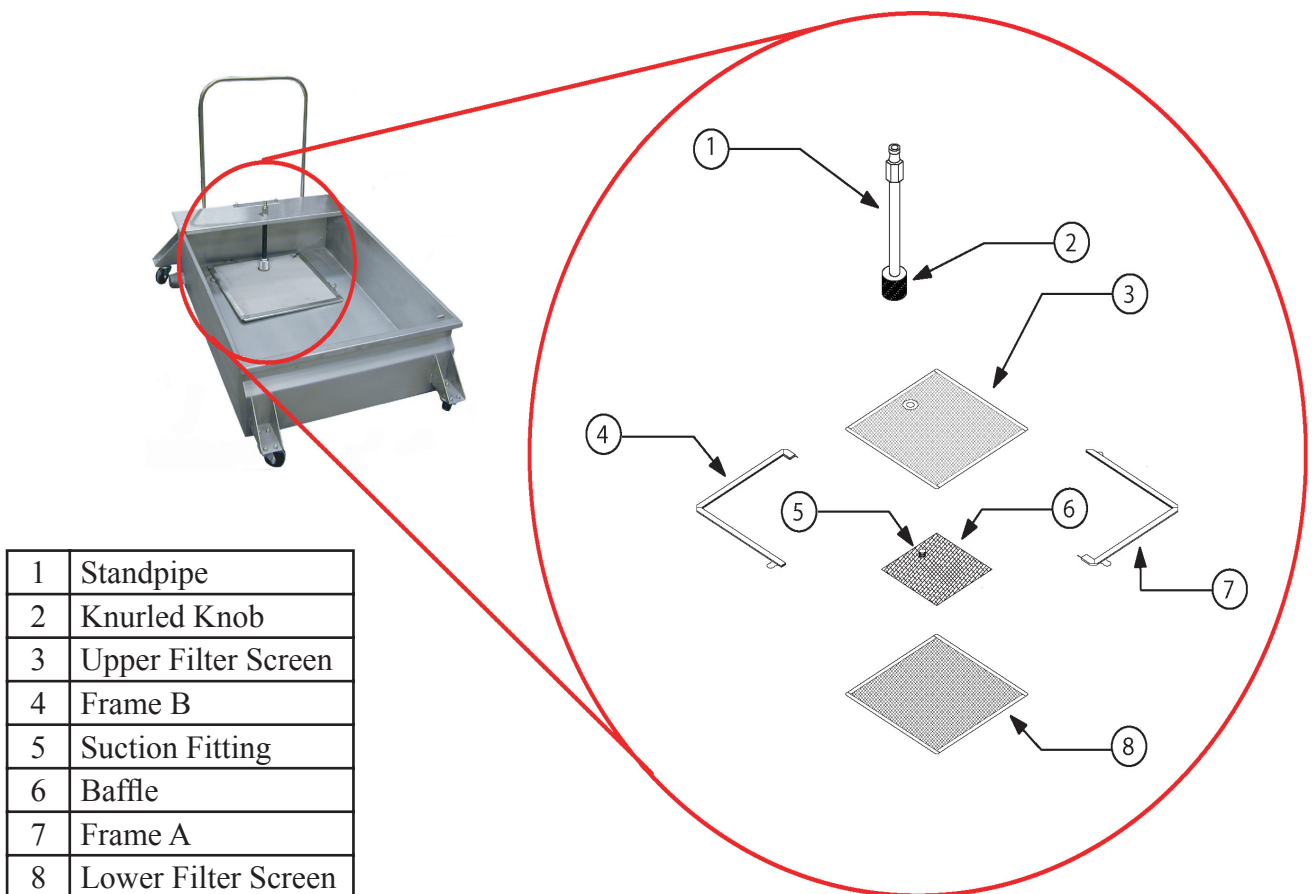
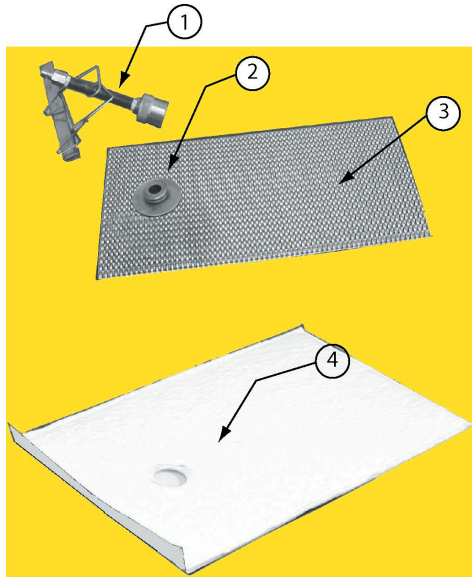
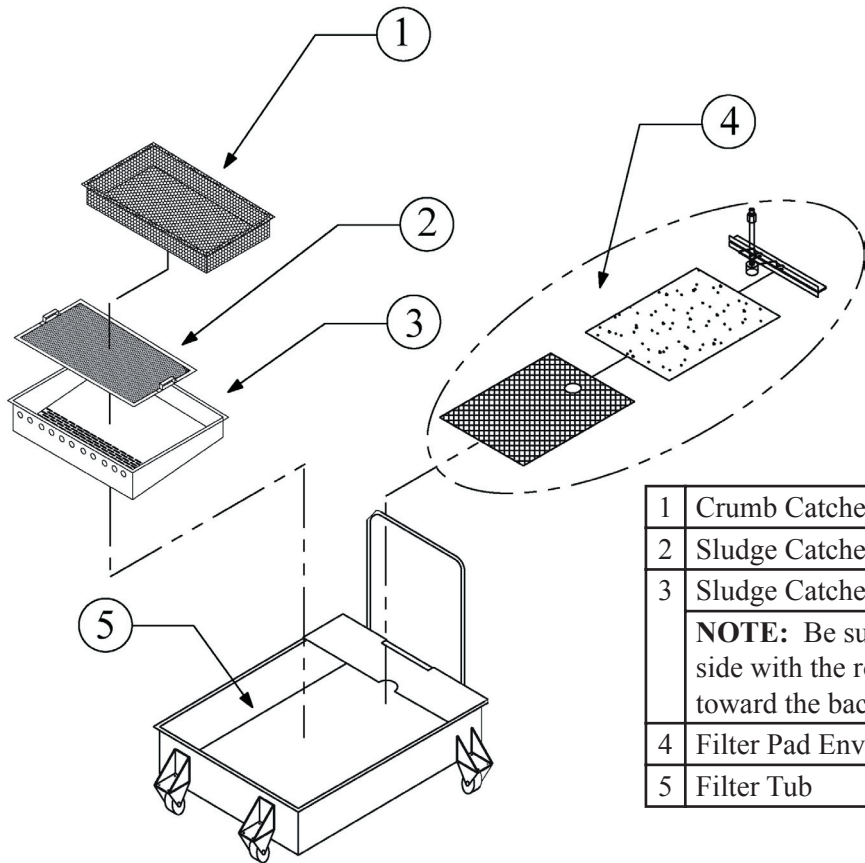


Figure: Filter Pad Envelope Assembly



1	Clip and Standpipe Assembly
2	Suction Fitting
3	Baffle Assembly
4	Filter Pad Envelope



Figure: Optional Triple Filtration Sieve Assembly (Filter Pad Envelope shown)



1	Crumb Catcher Pan
2	Sludge Catcher Screen
3	Sludge Catcher Pan
NOTE: Be sure to orient the pan so that the side with the row of drain holes is pointed toward the back of the filter tub.	
4	Filter Pad Envelope Assembly
5	Filter Tub

Polishing Shortening

To polish shortening, perform the Shortening Filtration Procedures as outlined in the specific filtration manual that came with this fryer, and then follow the steps below:

1. With the Shortening Drain Lever still in the OPEN position, set a timer for the amount of time established for POLISHING shortening. Then turn counterclockwise the VAT RETURN LEVER to the OPEN position. This will turn the pump on and will allow shortening to circulate through the system to POLISH the shortening. Keep the VAT RETURN LEVER in the OPEN position while polishing the shortening.
 **Caution:** DO NOT polish the shortening more than the established time; doing so will aerate the shortening and cause it to break down.
2. At the end of the established time, turn BOTH the VAT RETURN LEVER and the DRAIN LEVER clockwise to the CLOSED position; then turn ONLY the VAT RETURN LEVER counterclockwise to the OPEN position to automatically return shortening in the filter tub to the fryer vat.
3. When all shortening has been returned to the vat, turn the VAT RETURN LEVER clockwise to the CLOSED position. This will turn the pump off. If necessary, add fresh shortening to the vat until it is at its proper level.
4. Repeat steps 1, 2, and 3 for the remaining vats.
5. Disconnect the plug on the suction line hose assembly from the fryer's SUCTION LINE HOSE CONNECTION and remove the filter tub from beneath the fryer by grasping its handle. Disconnect the suction line hose from the filter screen STANDPIPE. Thoroughly clean the suction line, cover, filter, and filter tub.
 **Caution:** DO NOT use the standpipe or the suction line hose assembly to pull the filter tub from beneath the fryer. **Doing so will damage the hose and filter screen.**
6. Reassemble the filter. Replace the filter tub, cover, handle, and suction line assembly.

Shortening Disposal

Dispose of shortening as follows:

1. If not already done, assemble the Filter Tub as described earlier. Then, SECURELY connect the Suction Line Hose female quick-connect fitting to the Filter Screen STANDPIPE, insert the Filter Tub beneath the fryer; then SECURELY connect the male plug on the Suction Line Hose to the fryer's BULKHEAD Suction Coupling.
2. Turn the fryer's "Heat / Off" switch on the fryer vat to "Off". *(On older fryer models, turn the "Cook / Filter" toggle switch to "Filter".)*



ATTENTION: Prior to proceeding to the next step, don safety goggles, neoprene-insulated gloves, and an apron.

3. Turn the Vent hood Exhaust Fan ON and drain shortening from the fryer vat by turning the Shortening Drain Lever counterclockwise.

NOTE: Be sure to drain only one vat at a time.

4. To dispose of shortening, proceed as follows:

For restaurants NOT equipped with a Shortening Disposal System

- a. Connect the Wash Wand hose to the Wash Wand Connection, place the hose nozzle into a METAL container, and hold the nozzle firmly against the inner wall.
- b. Turn the WASH WAND (RED) LEVER counterclockwise to the "open" position, turn on the WASH WAND SWITCH, and pump shortening from the Filter Tub into the METAL container.
- c. Repeat steps "a" and "b" above to remove and dispose of shortening in the remaining vats.
- d. Once all shortening in the filter tub has been pumped into the metal container, turn off the WASH WAND SWITCH, turn the WASH WAND (RED) LEVER clockwise to the "closed" position, and disconnect the Wash Wand hose. Then replace the wire grill in the fryer and hang the Wash Wand hose in an upright position so residual shortening can drain into a container.

NOTE: Failure to hang the Wash Wand hose in an upright position to drain may cause the hose to become clogged with hardened shortening.

For restaurants EQUIPPED with a Shortening Disposal System

- a. SECURELY connect the SHORTENING DISPOSAL SYSTEM hose fitting to the Wash Wand Connection. Then connect the fitting on the other end of the hose to the disposal system connector on the wall.
- b. Turn the WASH WAND (RED) LEVER counterclockwise to the "open" position, turn on the WASH WAND SWITCH, and pump shortening from the filter tub into the EXTERIOR RENDERING TANK.
- c. Repeat steps "a" and "b" above to remove and dispose of shortening in the remaining vats.
- d. Once the shortening has been removed from all fryer vats turn off the WASH WAND SWITCH, turn the WASH WAND (RED) LEVER clockwise to the "closed" position, and remove the shortening disposal hose from the disposal system connector on the wall and from the fryer. Then hang the disposal hose in an upright position so shortening can drain into a container.

NOTE: Failure to hang the Wash Wand hose in an upright position to drain may cause the hose to become clogged with hardened shortening.

5. When shortening has been removed from all fryer vats, THOROUGHLY clean and reinstall the filter tub assembly.

Fryer Boil-Out Procedures

Fryer vats should be BOILED-OUT at least every 7 DAYS to remove carbon buildup and other encrusted materials. BOIL-OUT each fryer following cleaning instructions contained in the Cleaning Manual provided by your approved chemical supplier. The following are generic procedures:

1. Ensure all Drain Levers are in the closed (UP) position, then add water to each vat until it reaches a point two 2” (51 mm) BELOW the middle line of the “E” in the word LEVEL of the UPPER level mark on the rear wall of the vats.



Caution: ONLY use a commercial, “non-chlorine” boil-out compound!

2. Add the amount of BOIL-OUT COMPOUND in each fryer vat as prescribed in the Cleaning Manual provided by the Chemical Supplier.
3. Turn the “Heat / Off” Switch on the fryer vat to “Heat” (*on older fryer models, turn the “Cook / Filter” switch to “Cook”*) and the manual Gas Valve for the fryer to the ON position; then momentarily depress first the START and then the EXIT MELT buttons on the DTMR.
4. When the boil-out solution starts to BOIL set a timer for 30 minutes and frequently scrub the heat exchanger joints and the sides, front, and back of the vat with a long handled scrub brush.
5. While the fryer is being BOILED OUT, clean the filter tub assembly according to procedures in the CLEANING section.



Note: If the boil-out solution starts to boil over, shut the fryer OFF for a few minutes, add water as necessary, then turn it back ON.

6. When the timer sounds, turn the fryer’s “Heat / Off” Switch to “Off” (*on older fryer models, turn the “Cook / Filter” switch to “Filter”*) and Manual Gas Valve for the fryer to the OFF position; then CAREFULLY dispose of the boil-out solution in the fryer in a floor drain.



Caution: DO NOT use the PUMP/MOTOR unit to remove water from the fryer vats or the filter tub. Doing so will cause premature pump failure and will void the warranty.

7. Use a scrubbing pad to remove carbon buildup from the top of the heat exchanger. To remove carbon buildup on the sides and bottom of the heat exchanger, slide one end of a stropping pad under each heat exchanger, grasp that end with a pair of tongs and rock the pad up and down along the length of each heat exchanger until all encrusted material has been removed. Replace the wire rack in the vat.
8. Rinse the fryer with hot water until the water coming out of the drain valve is clear.
9. Mix a solution of ONE PART vinegar to 25 PARTS of water. Place this mixture into a one-gallon garden pressure sprayer and THOROUGHLY spray this solution onto the SIDES, HEATING MECHANISM, and BOTTOM of the fryer to neutralize the Boil Out Compound.



Important: Boil-Out Compound will cause shortening to break down rapidly if it is not neutralized.

10. THOROUGHLY wipe the sides, heating mechanism, and bottom of the fryer with clean, lint-free, dry towels to remove any remaining water. Turn the DRAIN LEVERS clockwise to the “closed” position; then fill the fryer with NEW shortening to the shortening level mark as described in the “Shortening Installation” section.

Cleaning

General

As mentioned earlier, any item of equipment operates better and lasts longer when it is kept cleaned and properly maintained. The FRYER and FILTER TUB ASSEMBLY are no exception. Clean the FILTER SCREEN after filtering shortening and at closing; and thoroughly clean the FILTER TUB ASSEMBLY each DAY and WEEK as described below.

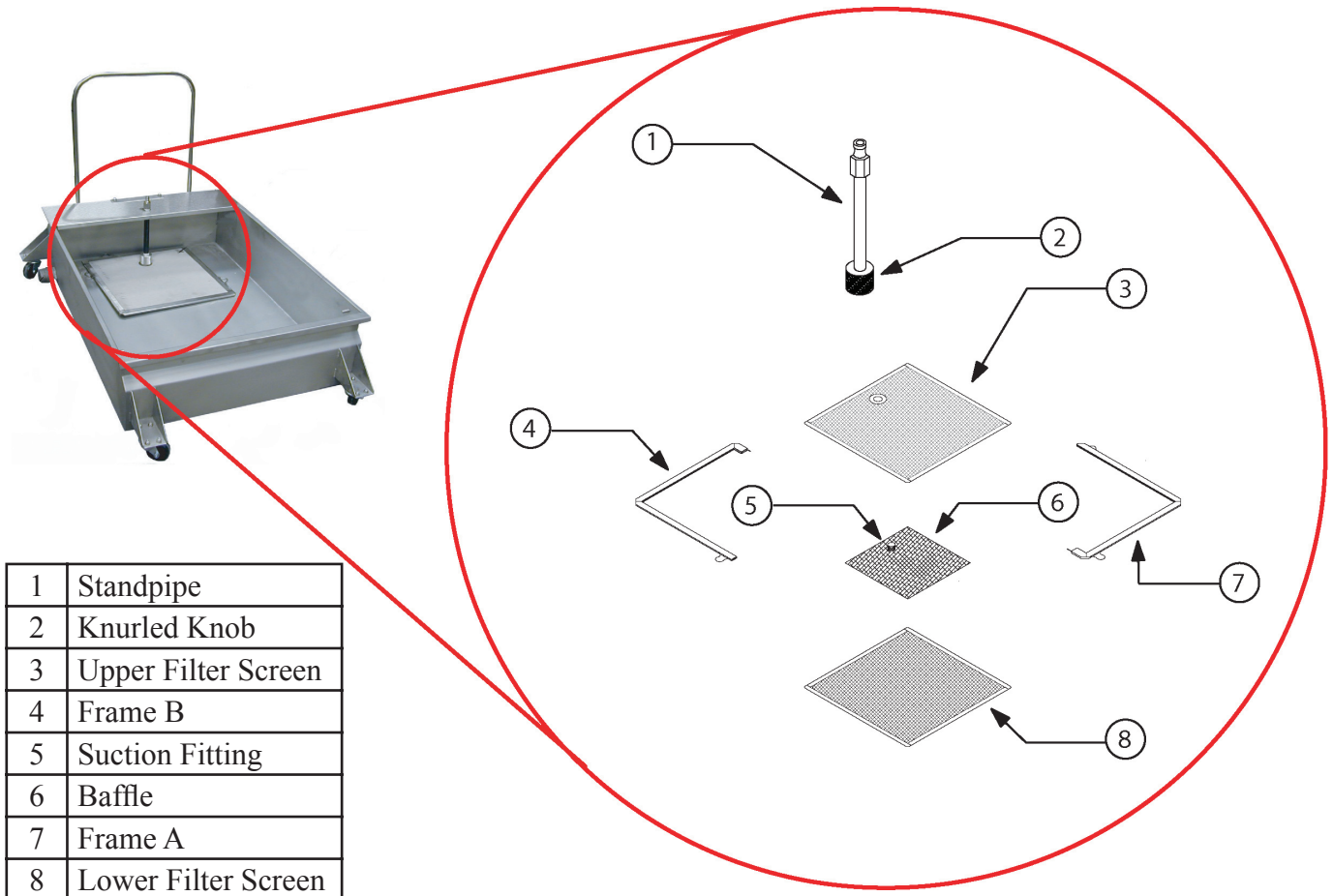
Daily Cleaning

(**Note:** The cleaning procedures outlined below should be performed AT LEAST ONCE A DAY. A fryer might have to be cleaned MORE THAN ONCE A DAY if the fryer is filtered several times during the course of a business day.)

Clean the Filter Machine and Filter Assembly after filtering and at closing as follows:

1. Disassemble the Filter Machine by removing the following items in the order listed:
 - a. FILTER TUB HANDLE
 - b. SUCTION LINE HOSE
 - c. COVER
 - d. FILTER ASSEMBLY
2. Clean the SUCTION LINE HOSE and WASH WAND HOSE with sanitizer solution; then hang these hoses in an upright position so any shortening and sanitizer solution can drain into a container.
3. Raise the Filter Assembly above the Filter Tub and let any sediment or shortening drain into the tub; then THOROUGHLY clean the filter assembly as follows:

Figure: Micro-Mesh Stainless Steel Filter Assembly

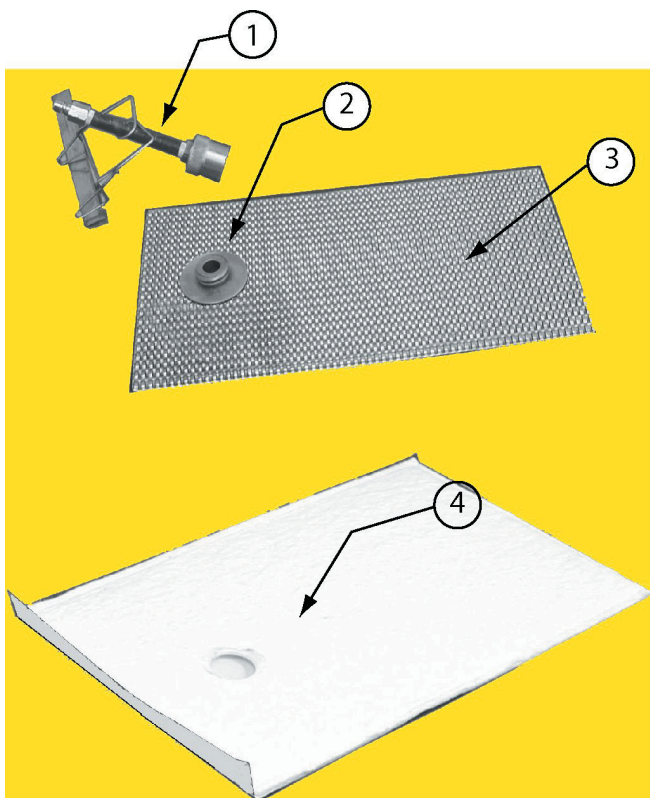


1	Standpipe
2	Knurled Knob
3	Upper Filter Screen
4	Frame B
5	Suction Fitting
6	Baffle
7	Frame A
8	Lower Filter Screen

Micro-mesh Stainless Steel Filter Screen


- a. CAREFULLY remove any debris from the screen using a scraper.
- b. Remove the STANDPIPE and KNURLED KNOB from the FILTER SCREEN assembly. Then grasp the FINGER LOOP on FRAME A and adjacent FINGER LOOP on FRAME B, EVENLY pull the frames apart; then HINGE FRAME A to remove it from the FILTER SCREENS FIRST.
- c. Grasping the FINGER LOOP on the straight side of FRAME B, pull FRAME B to separate it from the FILTER SCREENS.
- d. Separate the UPPER FILTER SCREEN and BAFFLE from the LOWER FILTER SCREEN.
- e. CAREFULLY clean the two frames, screens and baffle in a 3 compartment sink with hot water and allow these items to air dry. DO NOT USE SOAP. If necessary, the channels in each frame can be cleaned with the edge of a scotch-brite pad.
- f. Insert the SUCTION FITTING on the BAFFLE in the hole of the UPPER FILTER SCREEN; then place these items on top of the LOWER FILTER SCREEN.
- g. ENSURE all sides of the FILTER SCREEN assembly are aligned, place the PIN end of FRAME A on the FILTER SCREENS, place the CHANNEL on the frame adjacent to the PIN end over the FILTER SCREENS; then HINGE the frame so the edge of the FILTER SCREENS are inserted in the other CHANNEL of FRAME A.
- h. Place the PIN end of FRAME B on the FILTER SCREENS so the PIN is seated in the CHANNEL of FRAME A near the FINGER LOOP, place the CHANNEL on the frame adjacent to the PIN end over the edge of the FILTER SCREENS; then HINGE the frame so the edge of the FILTER SCREENS are inserted in the other CHANNEL of FRAME B and the PIN of FRAME A is seated in the CHANNEL of FRAME B .
- i. Adjust FRAME A and B so both PINS are properly seated in the CHANNEL of the opposite frame; then CAREFULLY connect the KNURL KNOB and STANDPIPE to the SUCTION FITTING on the FILTER SCREEN assembly. **Do NOT overtighten!**

Figure: Filter Pad Envelope Assembly



1	Clip and Standpipe Assembly
2	Suction Fitting
3	Baffle Assembly
4	Filter Pad Envelope

Filter Pad Envelope

- a. Remove and discard the **USED** Filter Pad Envelope, **CAREFULLY** clean the Baffle Assembly and Clip / Standpipe Assembly in the 3 compartment sink with **HOT** water and allow these items to air dry. **DO NOT USE SOAP!!**
 - b. Re-assemble the Magnepad Envelope Filter using a **NEW** Filter Pad Envelope as follows:
 - 1) Insert the **BAFFLE** into the **FILTER PAD ENVELOPE**; when inserted properly the **SUCTION FITTING** will protrude through the hole in the pad.
 - 2) Fold **FLAP** over (in the direction of the hole), securing the Baffle inside the **FILTER PAD ENVELOPE**.
 - 3) **CAREFULLY**, align the **CLIP & STANDPIPE ASSEMBLY** so that the **CLIP** can secure the **FLAP** on the Envelope and the **STANDPIPE** will align over the **SUCTION FITTING** protruding through the Envelope.
 - 4) Tighten the knurled **NUT** on the **STANDPIPE** to the **SUCTION FITTING** protruding through the Envelope.
4. Remove any sediment and shortening in the Filter Tub using a scraper; then wipe the tub dry with paper towels.
 5. Carefully insert the Filter Assembly in the bottom of the Filter Tub with the **STANDPIPE** centered in the handle end of the tub.
-  **Caution: After assembly, make sure there are no finger loops on the standpipe side of the filter.**
6. **SECURELY** connect the **FEMALE** fitting on the Suction Line Hose to the **MALE** stem on the Filter Screen **STANDPIPE**, install the assembled Filter Tub beneath the fryer until it is butted against the **STOP** bracket; then connect the **MALE** plug on the Suction Line Hose to the fryer's **FEMALE** Bulkhead Socket shown to the right.

Weekly Cleaning

Perform the following steps Weekly to maximize product quality and equipment operation:

1. Disassemble the Filter Machine by removing the following items in the order listed:
 - a. **FILTER TUB HANDLE**
 - b. **SUCTION LINE HOSE**
 - c. **COVER**
 - d. **FILTER ASSEMBLY**
2. Clean the **SUCTION LINE HOSE** and **WASH WAND HOSE** with sanitizer solution; then hang these hoses in an upright position so any shortening and sanitizer solution can drain into a container.
3. Raise the Filter Assembly above the Filter Tub and let any sediment or shortening drain into the tub; then **THOROUGHLY** clean the filter assembly as follows:

Micro-mesh Stainless Steel Filter Screen

- a. **CAREFULLY** remove any debris from the screen using a scraper.
- b. Remove the **STANDPIPE** and **KNURLED KNOB** from the **FILTER SCREEN** assembly. Then grasp the **FINGER LOOP** on **FRAME A** and adjacent **FINGER LOOP** on **FRAME B**, **EVENLY** pull the frames apart; then **HINGE FRAME A** to remove it from the **FILTER SCREENS FIRST**.
- c. Grasp the **FINGER LOOP** on the straight side of **FRAME B**; then **HINGE** it to remove **FRAME B** from the **FILTER SCREENS**.
- d. Separate the **UPPER FILTER SCREEN** and **BAFFLE** from the **LOWER FILTER SCREEN**.
- e. Place the upper and lower **FILTER SCREENS** in the fryer with **BOIL-OUT SOLUTION** for cleaning. **Do NOT place the BAFFLE or STANDPIPE in this solution.**

- f. BOIL-OUT the fryer vat according to instructions contained in the cleaning manual provided by your chemical supplier.
- g. After the filter screens have been cleaned in the Boil-Out Solution, ENSURE they are THOROUGHLY sprayed with a solution of 1 PART vinegar to 25 PARTS of water to NEUTRALIZE the boil-out solution, then allow the screens to air dry.

NOTE: Any residue of boil-out solution on the filter screens could cause the rapid breakdown of the shortening.

- h. Insert the SUCTION FITTING on the BAFFLE in the hole of the UPPER FILTER SCREEN; then place these items on top of the LOWER FILTER SCREEN.
- i. ENSURE all sides of the FILTER SCREEN assembly are aligned, place the PIN end of FRAME A on the FILTER SCREENS, place the CHANNEL on the frame adjacent to the PIN end over the FILTER SCREENS; then HINGE the frame so the edge of the FILTER SCREENS are inserted in the other CHANNEL of FRAME A.
- j. Place the PIN end of FRAME B on the FILTER SCREENS so the PIN is seated in the CHANNEL of FRAME A near the FINGER LOOP, place the CHANNEL on the frame adjacent to the PIN end over the edge of the FILTER SCREENS; then HINGE the frame so the edge of the FILTER SCREENS are inserted in the other CHANNEL of FRAME B and the PIN of FRAME A is seated in the CHANNEL of FRAME B .
- k. Adjust FRAME A and B so both PINS are properly seated in the CHANNEL of the opposite frame; then CAREFULLY connect the KNURL KNOB and STANDPIPE to the SUCTION FITTING on the FILTER SCREEN assembly. **Do NOT overtighten!**

Filter Pad Envelope

- a. Carefully remove any debris from filter pad / envelope using a scraper.
 - b. Remove the STANDPIPE and KNURLED KNOB from the FILTER PAD ENVELOPE.
 - c. Slide CLIP off end of STANDPIPE.
 - d. Remove BAFFLE ASSEMBLY from inside of FILTER PAD ENVELOPE.
 - e. Discard the used FILTER PAD ENVELOPE.
 - f. Carefully clean BAFFLE and STANDPIPE in sink with hot water. **Do NOT use soap.** If necessary, use the edge of a Scotch-Brite pad to clean the clip channel.
 - g. Allow BAFFLE and STANDPIPE to dry.
 - h. Carefully insert BAFFLE into a new FILTER PAD ENVELOPE.
 - i. Fold the end of the FILTER PAD ENVELOPE over. Slide the CLIP on.
 - j. Carefully connect the KNURLED KNOB and STANDPIPE to the SUCTION FITTING on the FILTER PAD ENVELOPE assembly. **Do NOT overtighten!**
 - k. Carefully insert the Filter Assembly into the bottom of the Filter Tub with the STANDPIPE centered at the handle of the Filter Tub.
4. THOROUGHLY clean the Filter Tub and Cover with HOT SANITIZER SOLUTION and allow them to air dry.
 5. Carefully insert the Filter Assembly in the bottom of the Filter Tub with the STANDPIPE centered in the handle end of the tub.



Caution: After assembly, make sure there are no finger loops on the standpipe side of the filter.

6. Replace Handle, Cover
7. SECURELY connect the FEMALE fitting on the Suction Line Hose to the MALE stem on the Filter Screen STANDPIPE; install the assembled Filter Tub beneath the fryer until it is butted against the STOP bracket; then connect the MALE plug on the Suction Line Hose to the fryer's FEMALE Bulkhead Socket.