



MODELS 90, 90.5 & 94
MANUAL AQUEOUS PARTS WASHERS
MODEL 2387/2388 HPM
Operator Booklet



Customer should read and retain this booklet.

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LOCAL SAFETY-KLEEN BRANCH

OFFICE ADDRESS

PHONE NUMBER

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SAFETY MEASURES



Safety in the workplace is dependent upon the proper use of this unit and the cleaning solution used in it. Therefore, it is important to carefully follow all safe-use instructions and operational procedures provided in this booklet, as well as all instructions included in the cleaning solution's Safety Data Sheet (SDS) and on the unit labels. Failure to do so may create a dangerous working environment.



Keep a copy of this booklet and the SDS near the unit for quick and easy reference.

In accordance with Occupational Health and Safety Administration (OSHA) in the U.S. and the Workplace Hazardous Materials Information System (WHMIS) in Canada, these units have been tested by a Nationally Recognized Testing Laboratory (NRTL), Intertek Services, and are found to be in compliance with the following standards:

- UL 1204: The Standard For Parts Cleaners
- CAN/CSA C22.2 No. 68: The Standard for Motor Operated Appliances

Important Safety Instructions

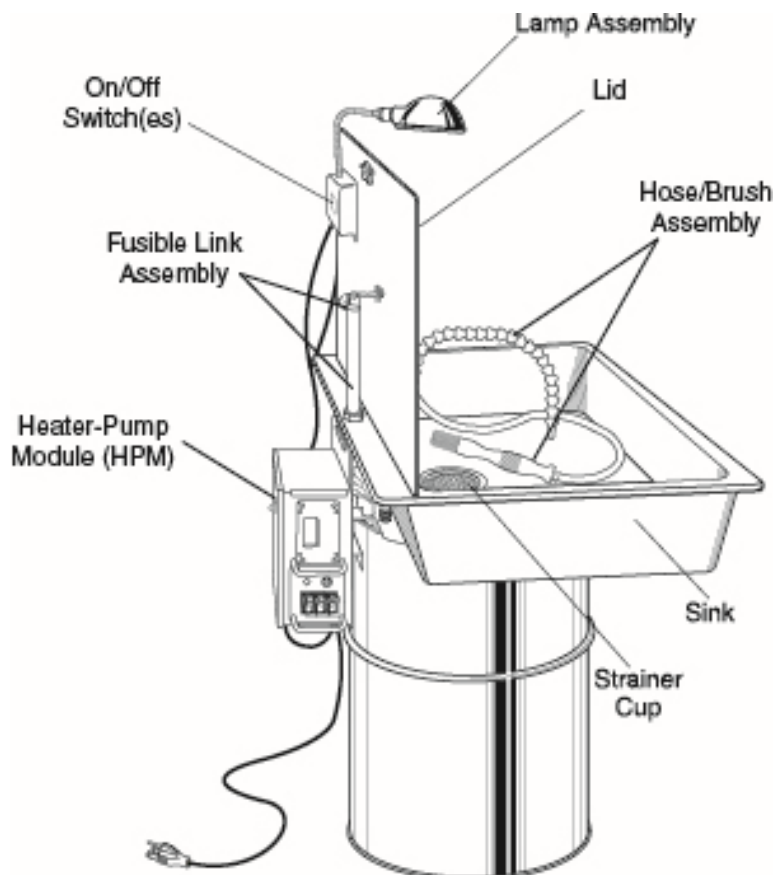
1. Read and understand this Booklet and the Safety Data Sheet for the cleaning solution used in the parts washer before operating. Operate the unit only as described in this booklet. Use only manufacturer's supplied attachments.
2. Set the three power switches (if equipped), located on the control box, to OFF before plugging in the equipment.
3. Do not modify the unit. Modification may cause personal injury and/or property damage, and will void the warranty.
4. Do not replace, modify, or obstruct the fusible link. Do not leave unattended objects in the equipment that can interfere with lid closure. Lid will close automatically during a fire.
5. Do not hang anything on the lid that will obstruct closure. Close the lid when the equipment is NOT in use.
6. Do not use a light bulb rated over 40 watts.
7. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged until it has been examined by a qualified serviceman.
8. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
9. Always unplug equipment from the electrical outlet when not in use or when being maintained, serviced, or repaired. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
10. Use only the cleaning solution provided. Do not add foreign cleaning solutions or chemicals to the cleaning solution. The use of other chemicals may cause a hazardous condition. Do not remove cleaning solution from the unit.
11. Do not operate the unit in any manner that can cause splashing or mist to form. Do not spray aerosols into or around the unit.
12. Avoid contact with solvent or vapor. Always wear appropriate personal protective equipment ([PPE] i.e., gloves, apron, eyewear, respirator [where required]) to meet OSHA and WHMIS protection standards. **Always wear safety glasses.** Everyday eyeglasses only have impact resistant lenses, they are not safety glasses. Consult the SDS and follow all recommended PPE and safety information.
13. Do not smoke, eat, or drink in the work area. Use good personal hygiene. Wash hands thoroughly with soap and water after handling. Make sure clean water is available in the work areas for flushing the eyes and skin.

14. Do not lean into the unit.
15. Use only in a well-ventilated area.
16. Do not use below garage floor or grade level.
17. Do not operate unit in the vicinity of any open containers of flammable and/or combustible liquids (e.g., gasoline) or near any ignition source. Keep away from heat, spark, or flame.
18. Pre-clean dirty parts coated with excess soil before placing them into the unit for cleaning. Empty the waste into an appropriate waste container.
19. Do not place hot parts in contact with the cleaning solution.
20. Do not clean friction materials (e.g., brake linings and clutch surfaces) in this unit. Do not clean or degrease porous or absorbent materials, such as; cloth, leather, wood, or paper in this unit.
21. Do not operate any electrical apparatus inside the unit.
22. Do not operate the unit if a leak is apparent or occurs during use. Clean up spills immediately. Slippery conditions can result. Use caution when attempting to stop the leak (only attempt if possible to do without risk). Consult the SDS for clean-up measures. Contact your Safety-Kleen Representative.
23. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
24. Care must be taken as burns can occur from touching hot parts.

Save These Instructions

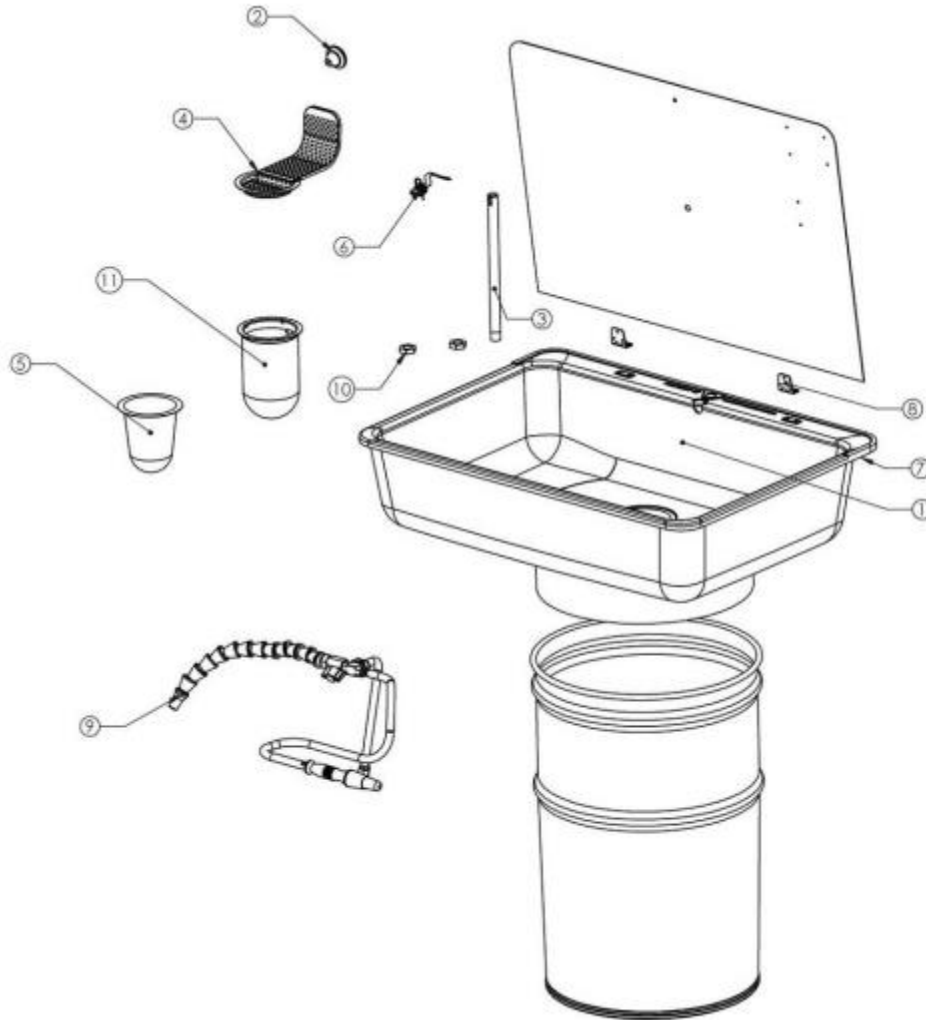
SAFETY-KLEEN M90/90.5/94 AND HPM 2387/2388

Safety-Kleen's Model 90, Model 90.5 and Model 94 are Aqueous Parts Washers, similarly operated, but differing sink sizes and fabrication. The Model 90 is fabricated with stainless steel; the Models 90.5 and 94 are carbon steel with plastic sink inserts. The Model 90's sink is the largest of the three; Models 90.5 and 94 include smaller sinks. Each model's sink sits atop a drum filled with aqueous cleaning solution. Other shared components include the heater-pump module (HPM), the hose/brush assembly, work lamp and the fusible link assembly.



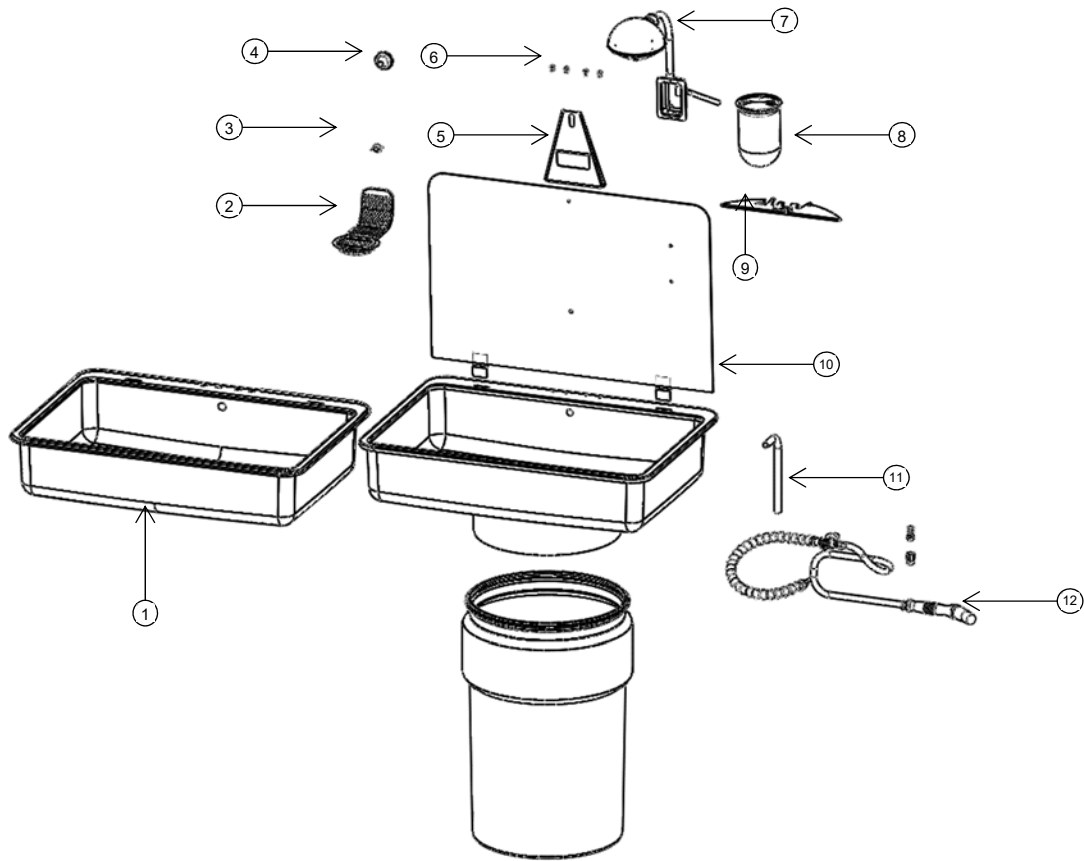
EXPLODED VIEWS

MODEL 90



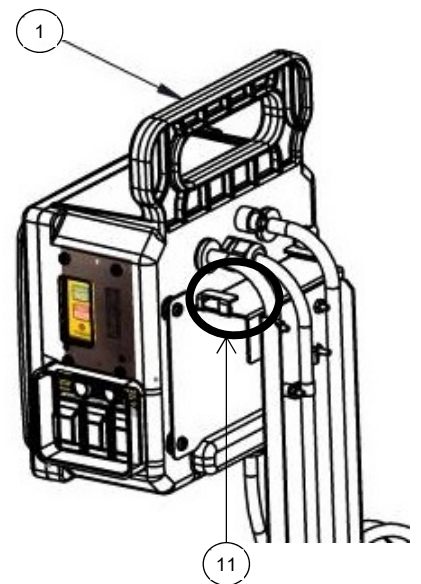
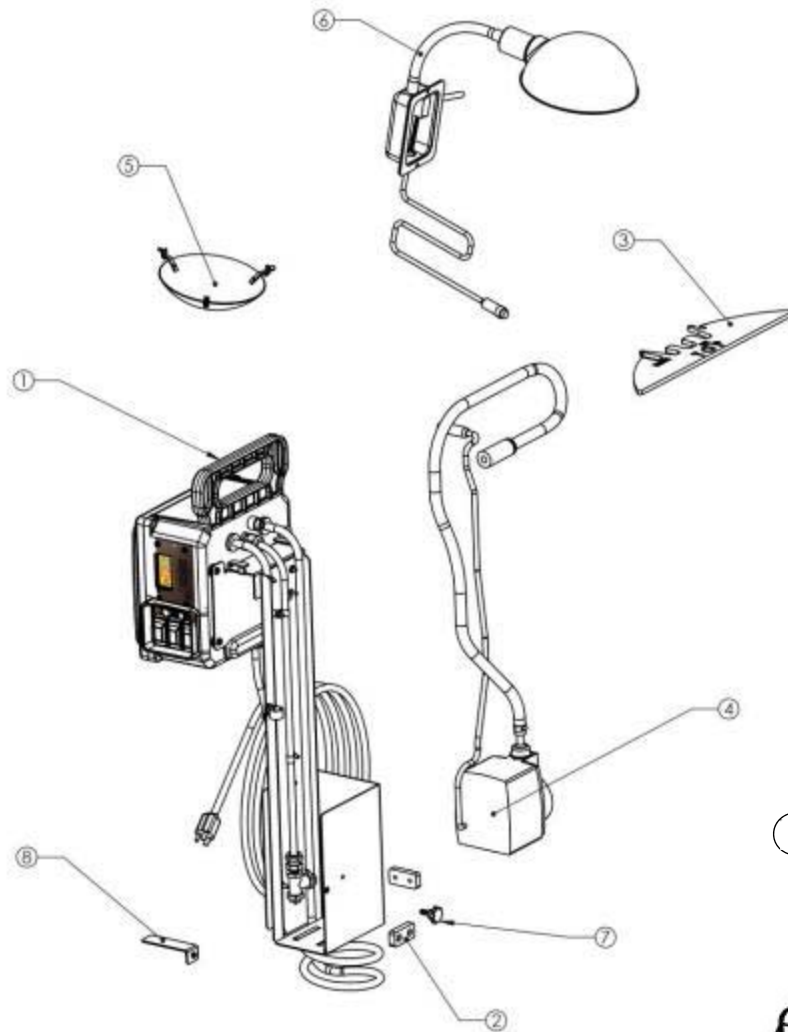
1	Sink Assembly
2	Lid Knob
3	Fusible Link Standpipe
4	Crumb Cup
5	Filter Screen
6	J-Hook Fusible Link Assembly
7	Not Applicable
8	Lid Hinge
9	Hose & Brush Assembly
10	Lock Nut
11	Sock Filter

MODEL 90.5 AND 94



1	Sink Liner
2	Crumb Cup
3	Fusible Link Wing Nut
4	Lid Knob
5	Fusible Link Bracket
6	Fusible Link Hardware
7	Lamp Assembly
8	Sock Filter
9	Half Moon
10	Sink Lid
11	Pump Hose
12	Hose and Brush Assembly

LAMP ASSEMBLY / HEATER-PUMP MODULE (HPM)



1	HPM Control Box
2	Magnet
3	Half-Moon
4	Pump Assembly
5	Lens Cap Assembly (if equipped)
6	Lamp Assembly
7	Retention Knob
8	Retention Bracket
9	Heater
10	Power Cord
11	Half-Moon Bracket

SPECIFICATIONS

Floor Space	Model 90	Model 90.5	Model 94
Width	36.0" (91.4 cm)	36.0" (91.4 cm)	31.0" (78.7 cm)
Depth	26.0" (66.0 cm)	26.0" (66.0 cm)	20.0" (50.8 cm)
Height with lid open	64.0" (162.5 cm)	60.0" (152.4 cm)	56" (142.2 cm)
Sink Space			
Width	36.0" (91.4 cm)	33.0" (83.8 cm)	31.0" (78.7 cm)
Depth	26.0" (66.0 cm)	27.0" (68.5 cm)	20.0" (50.8 cm)
Height	8.0" (20.3 cm)	8.0" (20.3 cm)	7.0" (17.8 cm)
Sink Load Capacity	25 lbs (11.4 kg)	25 lbs (11.4 kg)	25 lbs (11.4 kg)
Weight Capacity			
Weight of unit w/ empty drum	88 lbs. (40.0 kg)	88 lbs. (40.0 kg)	67 lbs. (30.5 kg)
Electrical			
Grounded, dedicated outlet requirements	115V, 60hz, 15A	115V, 60hz, 15A	115V, 60hz, 15A
Current Draw	10.5A	10.5A	10.5A
Light Bulb Wattage	40 Watts	40 Watts	40 Watts
Temperature			
Cleaning Solution Temperature	120° F (48.9°C)	120° F (48.9°C)	120° F (48.9°C)
Miscellaneous			
Operation type	Manual	Manual	Manual
Machine color	Stainless/Black	Blue/Black	Blue/Black
NRTL listings	cETLus	cETLus	cETLus
Maximum Cleaning Solution Volume	25 gal (94.8L)	25 gal (94.8L)	17 gal (64.4L)

THE CLEANING SOLUTION



Prior to using any cleaning solution, review the associated Safety Data Sheet (SDS) for important health and safety information.

Use ONLY the cleaning solution provided such as ARMAKLEEN™ 4 in 1 Cleaner or other aqueous cleaning solutions offered by Safety-Kleen Systems. Do not spray aerosols into or around this equipment. Do not add any other cleaning solutions or chemicals to the cleaning solution. The use of other chemicals may cause a hazardous condition. Do not remove cleaning solution from the equipment.

This unit has only been investigated for use with non-flammable and non-combustible water-based cleaning solutions with a pH in the range of 7.0 to 11.6

PRE-INSTALLATION

1. Confirm the unit will be located
 - ✓ on a level surface
 - ✓ within 6 feet of a grounded, dedicated electrical outlet
2. Use an outlet tester to verify that the power outlet meets the required specifications: 115V, 60hz, 10.5 A.



INSTALLATION AND ASSEMBLY

1. Place a 30-gallon drum filled with Safety-Kleen aqueous cleaning solution into the location intended for use by the unit.
2. **Model 2387 HPM:** Connect the half-moon to the HPM by firmly inserting the half-moon leads into the HPM's brackets, located on the back of the control box, as shown. Ensure all hoses and tubing are aligned with the half-moon cut-outs in order to avoid crimps and blockages.

Model 2388 HPM: Connect the half-moon to the HPM by using screws to attach the half-moon to the bracket, ensuring all hoses and tubing are aligned with the half-moon cutouts.

3. Hang the HPM, with the half-moon attached, and the control box situated on the drum's exterior, over the drum's rim. Leave the pump hose exposed on the drum's exterior to connect to the sink hose.



The Sink

1. Place the sink assembly onto the drum.
2. Next, take the black sink drain hose, and quick connect its free end to the pump hose.
3. Place the sock filter, then the crumb cup, into the sink's drain.
4. Install the small black sink lid knob using the provided hardware.

The Lamp Assembly

1. Use the two provided screws to install the lamp assembly to the sink's lid. Install a 40-watt bulb, then use the thumb screws to attach the clear lens to the lamp shade (if equipped). CAUTION: Do not use a light bulb with a higher wattage. Doing so will cause the unit to malfunction.
2. Connect the lamp's power cord to the open port located on the bottom left corner of the HPM control box.
3. Connect the unit to a grounded, dedicated, 115V, 60Hz, 15A electrical outlet.



Completely
Assembled
Unit

FUSIBLE LINK INSTALLATION



The fusible link holds the sink lid open via the fusible link latch which will melt and disengage, allowing the lid to close, in the event of a fire.

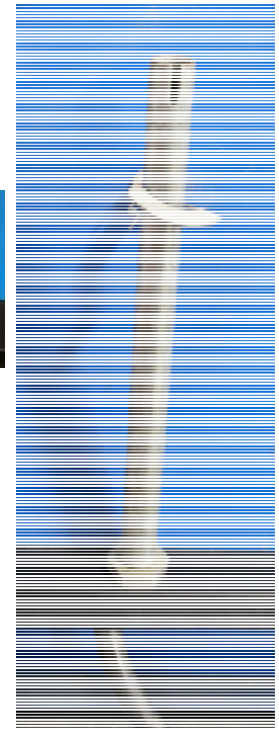
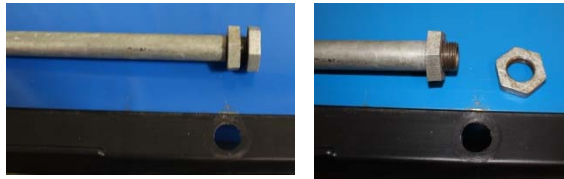
IMPORTANT! DO NOT ALLOW ANY COMPONENT TO OBSTRUCT THE LID'S CLOSURE. POSITION THE LAMP AND HOSE/BRUSH ASSEMBLIES SO THEY DO NOT INTERFERE WITH LID CLOSURE IN THE EVENT OF A FIRE.

The Model 90 utilizes the J-Hook fusible link standpipe assembly, while the Models 90.5 and 94 have an updated fusible link assembly with a bracket replacing the standpipe.

J-Hook Standpipe Fusible Link / Model 90

The Standpipe

1. Locate the two nuts illustrated below, either already attached to the stand pipe, or provided loose in the component's hardware bag.
2. If the nuts are both attached to the standpipe, remove one. If provided separately, attach one securely to the standpipe.
3. Now locate the hole on the sink's rear edge, and position and hold the spare nut around that hole from underneath. Next, working from above, insert the standpipe through the hole, then twist and thread the standpipe into the bottom nut until the standpipe is secured to the sink in an upright position, with the top slot facing away from the lid.



The J-Hook

1. Position and insert the J-Hook through the hole in the lid from the sink's interior so that it is accessible with the lid closed.
2. Position the components on the J-Hook in this order:
 - a) First slotted washer
 - b) Compression spring
 - c) Second slotted washer
3. Compress the assembled components down to expose the cotter pin hole on the J-Hook.
4. Insert the cotter pin as illustrated and secure the pin to hold the entire J-hook assembly in place.
5. Open the lid and position the J-Hook around the standpipe to secure the lid in an open position.



Bracket Fusible Link / Model 90.5 / Model 94

1. Align the four holes on the fusible link bracket with the holes located on the rear middle sink edge. Position with the bracket's flat side facing the sink lid.
2. Secure the bracket to the sink with the provided hardware.
3. Open the lid so it rests flush against the bracket and turn the fusible link wing nut to secure the assembly to the bracket.
4. The fusible link bracket also serves as a carrying handle.

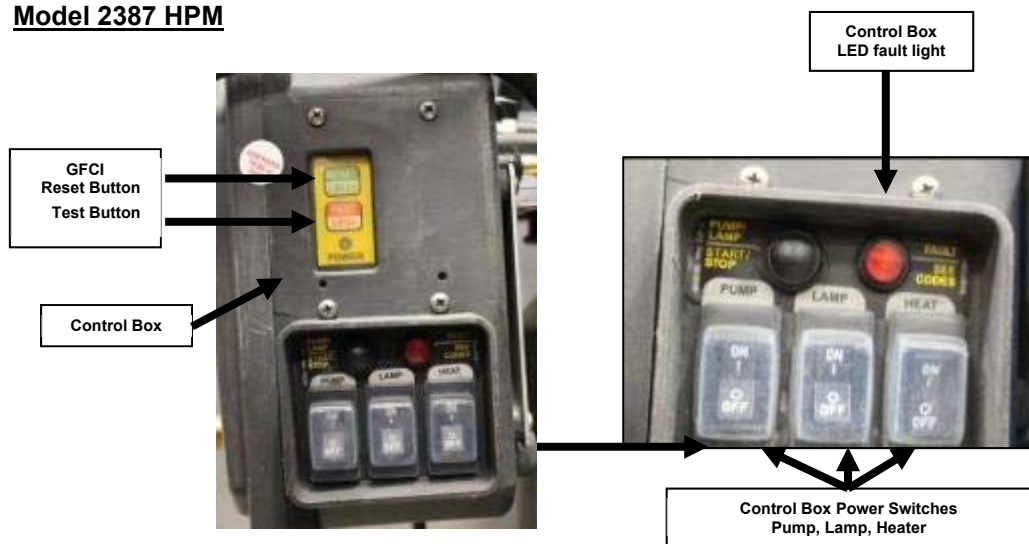


OPERATION



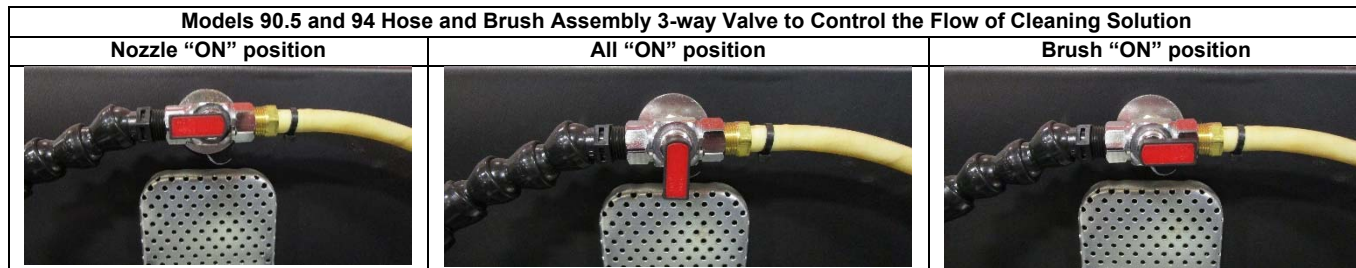
Warning: The HPM control box contains electrical circuits that could electrocute and should only be opened by a qualified technician.

Model 2387 HPM



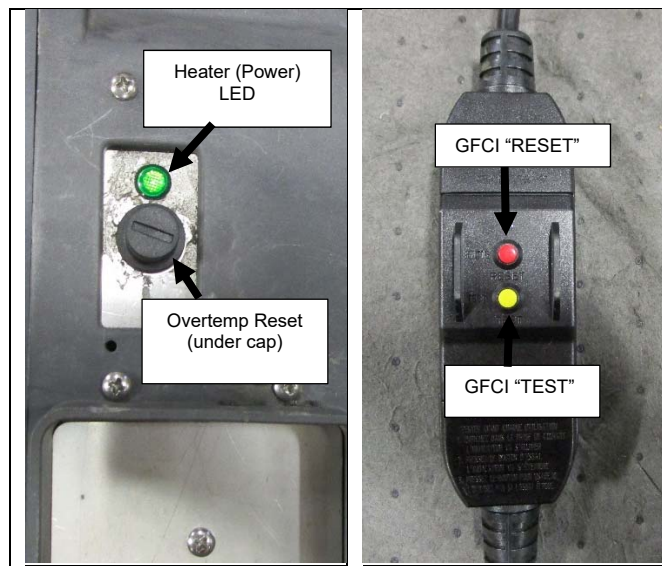
1. Ensure the pump, lamp and heater control box power switches are "OFF" before connecting the unit to an electrical outlet.
2. Connect the unit to a grounded, dedicated, 115V, 60Hz, 15A electrical outlet.
3. Reset the unit.
 - a. Press the GFCI Test button.
 - b. Wait five seconds for programming to reset.
 - c. Press the GFCI Reset button
4. Set the heater power switch, to the "ON" position. **NOTE:** To maximize cleaning efficiency, allow the cleaning solution to pre-heat for 30-90 minutes.
5. Set each pump and lamp power switch, located on the control box, to the ON position.
6. Raise the sink lid and engage the fusible link to secure the lid in an open position.

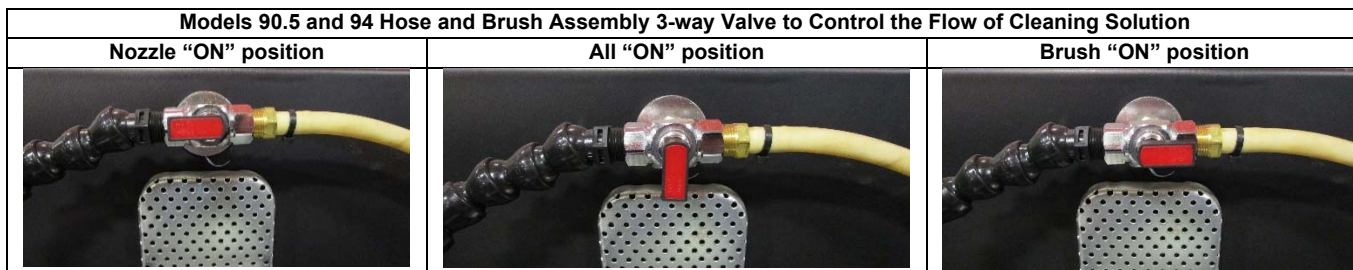
7. Toggle the lamp assembly's power switch, located on the side of the lamp assembly, in an upward motion, to power on the pump and lamp assemblies. **NOTE:** The pump and lamp are programmed to shut down every 15 minutes. To restart, confirm the control box power switches are in the "ON" position and toggle the lamp assembly power switch again.
8. Clean parts with the nozzle or hose/brush assembly.
9. When finished, either wait for the pump/lamp to turn off, or toggle the lamp assembly's power switch in an upward motion to manually turn off.
10. When all parts cleaning operations are complete, close the sink lid and set all control box power switches to "OFF".



Model 2388 HPM

1. Ensure both power switches on the lamp assembly are "OFF" before connecting the unit to an electrical outlet.
2. Connect the unit to a grounded, dedicated, 115V, 60Hz, 15A electrical outlet.
3. Reset the unit.
 - a. Press the GFCI Test button on the cord.
 - b. Press the GFCI Reset button
4. Set the heater power switch, located on the lamp assembly, to the "ON" position. The LED on the control box should illuminate. **NOTE:** To maximize cleaning efficiency, allow the cleaning solution to pre-heat for 30-90 minutes.
5. Raise the sink lid and engage the fusible link to secure the lid in an open position.
6. Toggle the lamp assembly's "Pump/Lamp" power switch, located on the side of the lamp assembly, in an upward motion, to power on the pump and lamp assemblies.
7. Clean parts with the nozzle or hose/brush assembly.
8. When all parts cleaning operations are complete, toggle the lamp assembly's "Pump/Lamp" power switch and "Heater" power switch in a downward motion to turn off. Close the sink lid.





TROUBLESHOOTING

No Power	<ul style="list-style-type: none"> • Check the power cord connection. • Reset the GFCI. • Ensure the control box is connected to a dedicated, grounded and working electrical outlet with sufficient voltage: 115V, 60Hz, 15A • Check that the lamp assembly connection to the lamp port, located on the bottom of the control box, is secure. • <u>Model 2387</u>: Check that the control box PUMP, LAMP and HEAT power switches are in the ON position. Reset if necessary. • <u>Model 2388</u>: Check to ensure the HEAT switch is in the ON position. If Power LED is not on, check drum and refill with water if necessary. Remove Overtemp Reset button cap, press button to reset, reattach cap. • Toggle the lamp assembly's power switch in an upward motion.
Lamp Doesn't Turn On	<ul style="list-style-type: none"> • Ensure the unit is connected to a dedicated, grounded and working electrical outlet with sufficient voltage: 115V, 60Hz, 15A. • Check that the lamp assembly connection to the lamp port, located on the bottom of the control box, is secure. • <u>Model 2387</u>: Check that the control box LAMP switch is in the ON position. Reset if necessary. • Toggle the lamp assembly's power switch in an upward motion. • Replace bulb (40-watt maximum).
Pump Pulsates (Model 2387 only)	<ul style="list-style-type: none"> • Check that the pump hose/sink hose connection is secure. • Check hoses for blockages or crimps. • Remove the sink's crumb cup and sock filter to check that the pump is fully submerged in cleaning solution in the drum below. If not, add 5 gallons of water to the drum of cleaning solution and reset the GFCI. • Reset the GFCI.
LED Fault Light Flashing (Model 2387 only)	<ul style="list-style-type: none"> • Remove the sink's crumb cup and sock filter to check that the pump is fully submerged in cleaning solution in the drum below. If not, add 5 gallons of water to the drum of cleaning solution and reset the GFCI. • If the flashing is persistent, reset the unit. • If the flashing continues after resetting, contact a Safety-Kleen Representative.
Drainage Issue	<ul style="list-style-type: none"> • Remove debris from the sink's crumb cup and sock filter and dispose according to local regulations. Do NOT dump debris into drum as it may clog the pump assembly. • Ensure the unit is placed on level ground.

SERVICE AND REPAIR

In accordance with your service agreement with Safety-Kleen Systems, Inc., a Safety-Kleen service representative will:

- install and set up the Safety-Kleen equipment
- be your primary contact with Safety-Kleen
- put the name and phone number of the nearest Safety-Kleen branch on the equipment and/or on the inside cover of this booklet
- provide information about your service contract with Safety-Kleen
- explain what cleaning solution is provided with the equipment, provide SDS's and answer any questions about the cleaning solution

This equipment is to be serviced only by authorized Safety-Kleen personnel using an approved cleaning solution. If you have any questions, require repairs, or need early service, contact your local branch or Safety-Kleen at 1-800-669-5740. Additional assistance can be found at www.safety-kleen.com.



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