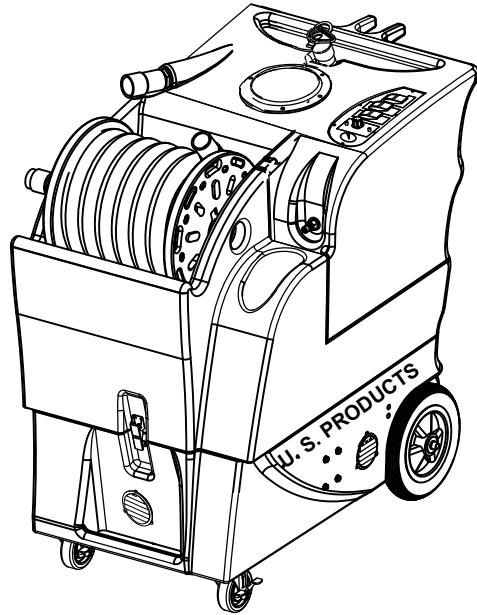




# KING COBRA® 500-ADAF 120V

## INFORMATION & OPERATING INSTRUCTIONS



**CAUTION: DO NOT OPERATE MACHINE UNTIL YOU HAVE  
READ ALL SECTIONS OF THIS INSTRUCTION MANUAL**



### IMPROPER USE OF THE MACHINE WILL VOID THE WARRANTY

1. Always use a defoamer when foaming occurs to prevent vacuum motor damage.
2. Connect the machine to a properly grounded outlet, only.
3. Keep machine from rain and snow, extremes in temperatures, and store in a heated location. Use the machine indoors. Do not use outdoors.
4. Use approved chemicals only. NO SOLVENTS.
5. Never use water above 130° F/54° C in the solution tank.

## IMPORTANT SAFETY INSTRUCTIONS

The KING COBRA-500-ADAF is only suitable for commercial use, for example in hotels, schools, hospitals, factories, shops, and offices. The KC-500-ADAF is not intended for normal residential housekeeping purposes.

**NOTE:** Read all instructions before using this machine.

When using any electrical appliance, basic precautions should always be followed, including the following warnings:



### **WARNING!**

#### **To reduce the risk of fire, electric shock, or injury:**

- Do not leave the machine unattended when it is plugged in. Unplug the unit from the outlet when not in use and before servicing.
- Never turn on the solution pump without first connecting either the priming hose or your solution hose to your machine and to your tool.
- Always turn off the pump and release the pressure in the pump before disconnecting hoses.
- To avoid electric shock, do not expose to rain or snow. Use and store indoors.
- Always use solution with a pH between 5 and 10.
- Do not allow to be used as a toy. Close attention is necessary when used near children.
- Use only as described in this manual. Use only the manufacturer's recommended attachments.
- Never add water over 54° C/130° F to the solution tank.
- Do not use with damaged cord or plug. If the machine is not working as it should, has been dropped, damaged, left outdoors or dropped into water, return it to a service center.
- Do not pull by the cord, use the cord as a handle, close a door on the cord, or pull the cord around sharp edges or corners. Do not run the machine over the cord. Keep the cord away from heated surfaces. To unplug, grasp the plug, not the cord.
- Do not handle the plug, the cord, or the machine with wet hands.
- Extension cords must be 12/3 and no longer than 50 feet. Replace the cord or unplug immediately if the ground prong becomes damaged.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
- Keep loose clothing, hair, fingers, and all parts of body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, hot ashes, or any health endangering dusts. Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where these liquids may be present.
- Turn off all controls before unplugging.
- Use extra care when cleaning on stairs.
- Connect to a properly grounded outlet only.
- Liquid ejected at the spray nozzle could be dangerous as a result of its temperature, pressure, or chemical content.

## **INSPECTION:**

Carefully unpack and inspect your KC-500-ADAF for shipping damage. Each machine is tested and inspected before shipping. Any shipping damage incurred is the responsibility of the carrier. You should notify the carrier immediately if you notice damage to the box, the machine, or its parts.

## **CLEANING SOLUTIONS:**

We recommend liquid cleaning chemicals. Powder chemicals may be used, but unless mixed very thoroughly they could cause a build-up in the pump, lines, and quick disconnects. Any problem caused by a chemical is not covered by warranty. Use a neutral cleaner with a pH between 5 and 10 to avoid premature wear of the pump, seals, and/or other components. It is a good idea to test an inconspicuous area of the floor.



**DANGER: DO NOT USE SOLVENTS, OR ANY CHEMICALS THAT MAY BE FLAMMABLE, EXPLOSIVE OR COMBUSTIBLE.**

## **MAINTENANCE:**

For optimum performance flush the machine with clear water at the end of each working day. Once a month, minimum, run a flushing compound through the machine to break up any mineral or chemical build-up that may have formed. The vacuum motor and the pump do not require any scheduled maintenance; however, the motor may require replacement brushes after 1000 - 1500 hours. Clean the body with an all-purpose detergent, and protect it with an automobile interior polish. Lubricate the wheels, castors, and quick disconnects with an all purpose silicone spray.

## **PARTS AND SERVICE:**

Repairs, when required, should be performed by your authorized distributor who maintains an inventory of original replacement parts and accessories. Call the distributor from whom you purchased this machine if you need parts or service. Be sure to specify the machine model. Have your serial number handy.

### **RECORD THIS IMPORTANT INFORMATION, AND SAVE THESE INSTRUCTIONS**

**Serial Number:** \_\_\_\_\_

**Model:** KC-500-ADAF

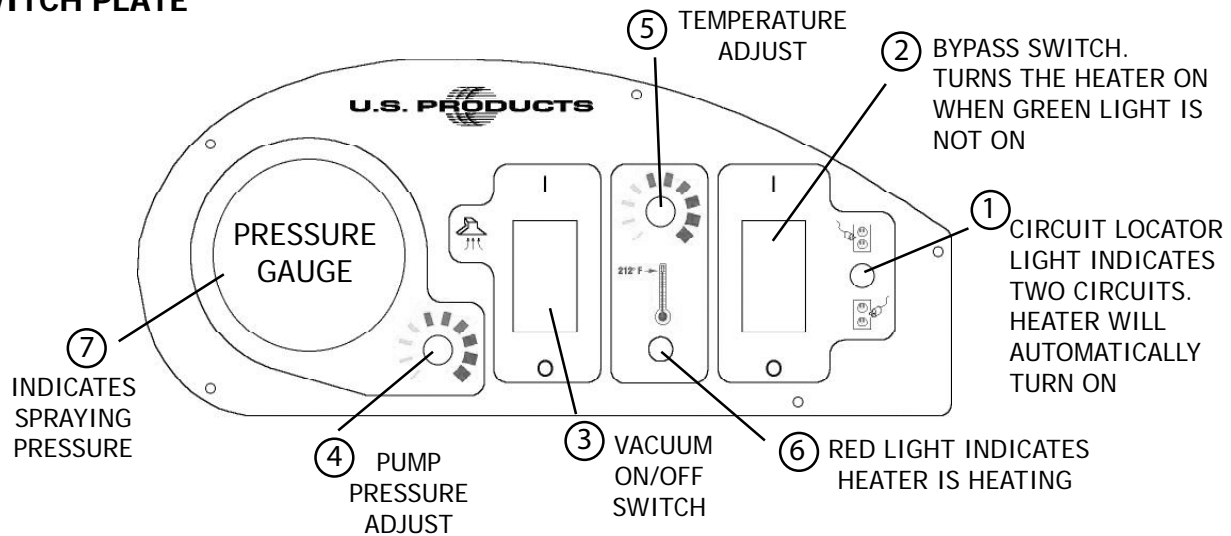
**Purchase Date:** \_\_\_\_\_

**Write the name and phone number of your distributor:**

\_\_\_\_\_  
\_\_\_\_\_

**(and be sure to register your purchase to activate your warranty)**

## SWITCH PLATE



## **SET-UP and OPERATION**

1. Before each use, inspect the machine, hoses, and cleaning tools for cleanliness and completeness. Make sure hoses are in good condition and the spray nozzles are tight.
2. If not using the auto-dump feature, just make sure the brass cap is on the drain hose connector on the dump pump on the rear of the base of the machine.

If you choose to use the auto-dump feature, remove the brass cover on the hose connector on the dump pump outlet, on the rear of the machine, attach the dump hose, and place the open end of the hose in a drain. Make sure the recovery tank drain hose is capped tightly, and the lid is tight on the recovery tank.

3. If you choose not to use the auto-fill feature, just **fill** the tank with water and cleaning chemical. Follow chemical directions regarding dilution and mixing. Do not use harsh chemicals; they may damage seals in pumps and valves.

If you choose to use the auto-fill feature, connect the fill hose to the auto-fill hose connector (located over the Solution tank fill hole). Turn on the water source -- HIGH PRESSURE IS NOT NECESSARY -- and allow the tank to fill with water. When using the auto-fill system, the auto-fill float will automatically turn on and turn off as the tank empties and then fills.

**NOTE:** Never put water with a temperature exceeding 130 °F / 54 °C in the solution tank

4. Pre-spray the area to be cleaned with a pump-up sprayer, while the tank is filling, if you are not using cleaning chemicals in the solution tank. Follow chemical directions.
5. Plug in the two power cords. Do not connect both cords to the same outlet. The green, 'separate circuit' locator light (1) on the switch plate should light up. If the locator light does not come on, check the circuit breaker box in the wall, and/or try different outlets until it does turn on. Although all systems in the machine may work correctly if you are not on two circuits, a circuit breaker in a wall panel may trip. If you make sure the green light is turned on, you will prevent tripped circuit breakers. When the red light is on, the heater is actively heating the water.

## REFER TO THE DIAGRAMS ON THE PREVIOUS PAGES

6. Connect the red priming hose to the solution outlet Quick Disconnect on the front of the machine and hold the open end of the hose over the Holding tank or over a bucket.

**CAUTION -- NEVER TURN ON THE SOLUTION PUMP BEFORE CONNECTING EITHER YOUR PRIMING HOSE OR YOUR SOLUTION LINE TO YOUR MACHINE AND TO YOUR TOOL. If the pump builds pressure before you connect a way to release the pressure you will not be able to connect a hose**

To prime the pump: turn on the pump. You may notice a 'tone' change in the sound of the pump (smoother, with less of a rattle). Priming usually takes 20 - 60 seconds, but it can take longer if the pump is full of air. Turn off the pump, then remove the priming hose.

7. **Use defoamer to prevent foam.**
8. Attach the solution spray hose to the solution quick disconnect. Attach the vacuum hose to the hose barb on the front of the recovery tank. Connect the other ends of the hoses to the tool.
9. Allow the heater about two minutes to reach operating temperature. It may take a few cycles for the heated water to warm the hoses and fittings and reach the spray tips.
10. Turn on the solution pump.
11. Turn on the vacuum (3) and turn on the dump pump, if you are using it (3). **NOTE:** the on/off switch for the dump pump is on the back of the machine next to the pump. **NOTE:** the vacuum will start slowly.
12. Begin cleaning.
13. When the job is finished, turn off the water source. Vacuum the remaining solution from the solution tank into the recovery tank.
14. Run a few gallons of clean water through the system. Drain the recovery tank by opening the drain hose over a bucket or drain. Unplug the power cords
15. Disconnect the hoses from the cleaning tool. Reel-up the hoses.
16. Clean the machine and the tool. Never store your machine outside, and always keep it from extremes in temperatures.

## **ELECTRIC CIRCUIT LOCATOR**

**NOTE:** if the green, circuit locator light does not illuminate when the cords are plugged in, then both cords are on the same circuit. Try other outlets with one of the cords until you get the locator light to come on. **NOTE:** if the heat switch is turned on when both cords are on the same circuit, the breaker in the wall may trip.

## **ELECTRONIC FLOAT SHUT-OFF**

When the recovery tank is full, the electronic float switch will turn off the vacuum motor. This will prevent water from entering the vacuum motor. The float may not work properly if the float filter rod is dirty or if there is heavy foam in the tank. To reset, turn the Vacuum switch off, and empty the tank.



**CAUTION: Use care when handling hazardous chemicals.**

**CAUTION: Never leave the machine running when you are not actively using it.**

**CAUTION: Always use a defoamer when foaming occurs to prevent vacuum motor damage.**

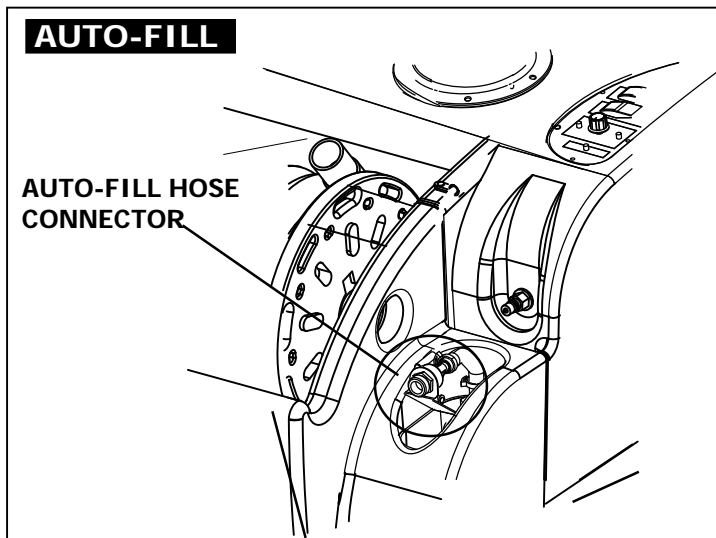
**DANGER: Do NOT use solvents, or any chemicals that may be flammable, explosive, or combustible.**

## **USING THE AUTO-FILL AND/OR AUTO-DUMP FEATURES**

### **AUTO-FILL**

#### **Operation:**

- Attach a 3/4" garden hose to the auto-fill valve, located just above the fill-hole on the solution tank.
- Connect the other end of the hose to your water source.
- • Make sure the float that hangs from the auto-fill valve into the tank is free of obstruction and can move freely.
- Turn on the water supply. The auto-fill does not require high pressure -- just turn the water on, but not on full pressure.
- The auto-fill float will automatically shut-off the flow of incoming water when the tank is nearly full, and it will allow the valve to open again once the water level has dropped to a predetermined level.



**SEE THE NEXT PAGE FOR INFORMATION ON THE AUTO-DUMP FEATURE**

## **AUTO-DUMP**

### **1 Operation:**

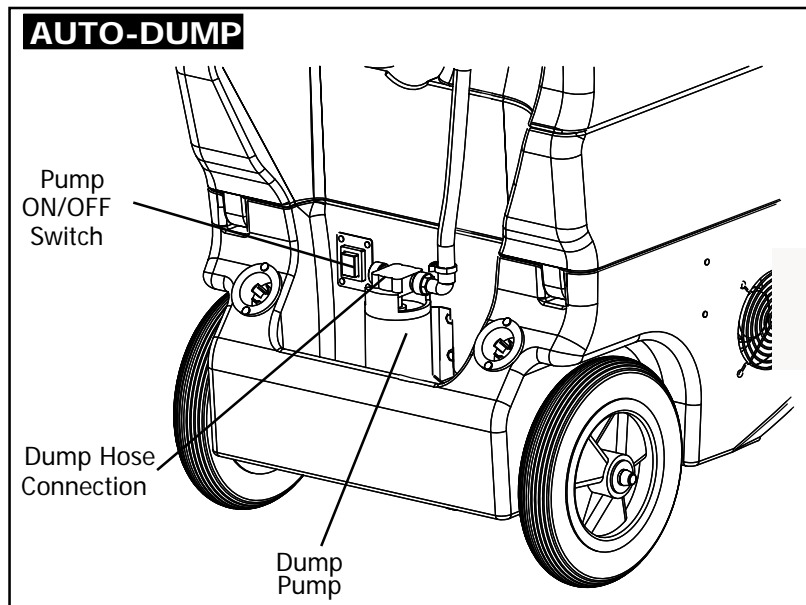
**Before each use:** if necessary, unscrew the stainless steel filter at the bottom of the recovery tank and clean it.

- Attach a 3/4" garden hose to the dump pump outlet fitting on the pump on the back of the base of the machine. Refer to illustration below
- Run the other end of the hose into a drain.
- Turn the dump pump switch ON (switch is located on the back of the machine next to the pump).
- **NOTE:** the dump pump is 'self-priming.' You should see water start to flow within 30 seconds of the pump turning on, if the water level in the tank is high enough. If water does not begin to flow, check the filter to make sure it is not plugged with debris.

**After each job:** run clear water through the dump pump to wash out any chemical residue. Remove and clean the stainless steel filter in the back of the tank. Reinstall the filter once it is clean. Empty and clean the recovery tank.

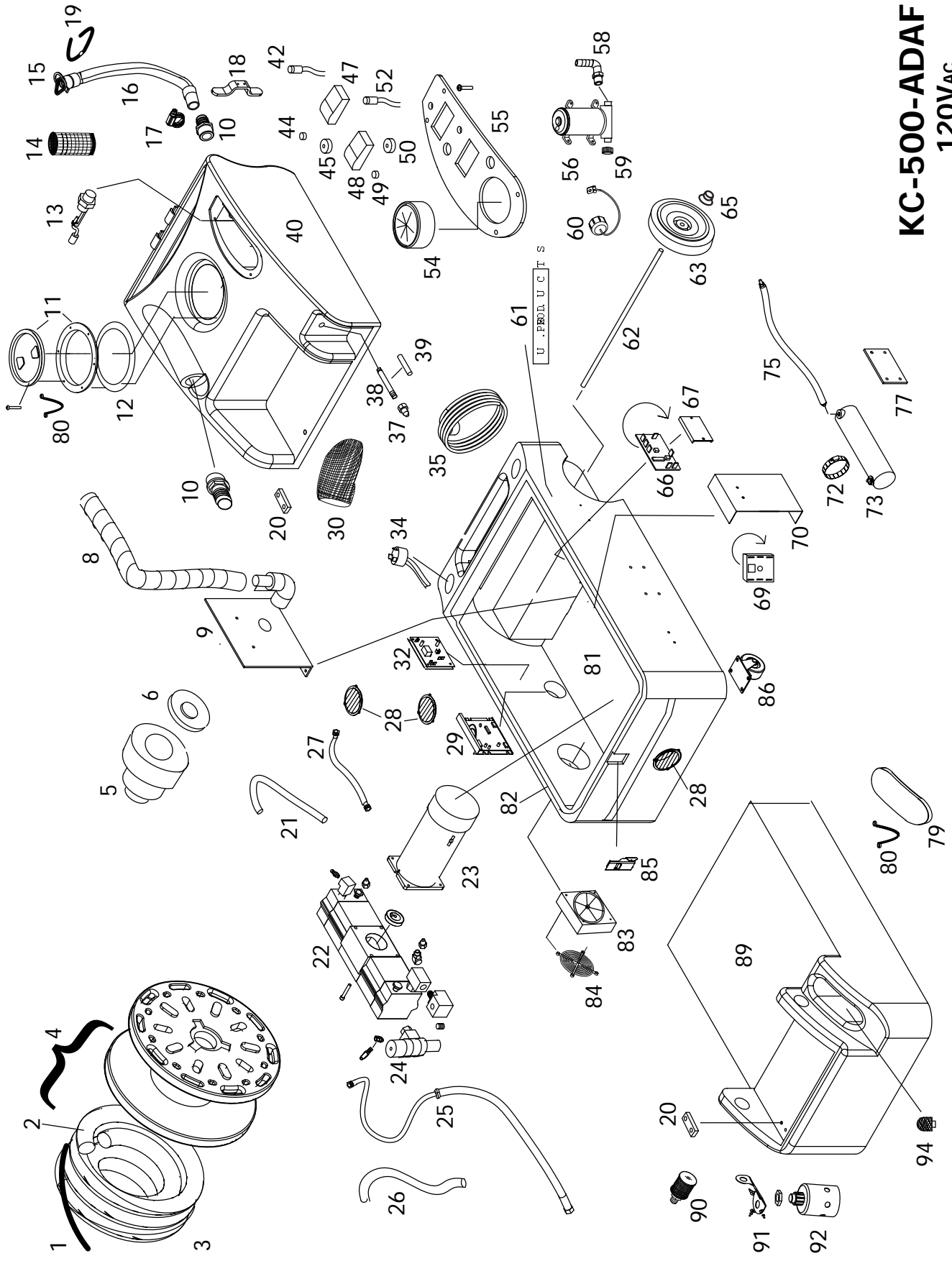


**DANGER: DO NOT USE OR PICK-UP SOLVENTS, OR ANY CHEMICALS THAT MAY BE FLAMMABLE, EXPLOSIVE OR COMBUSTIBLE.**



**DANGER: always unplug the King Cobra from the electrical outlet(s) before cleaning or maintaining. Certain internal components are electrically live, even with switches in their OFF position.**





**KC-500-ADAF**  
**120VAC**  
 06-04-2009



# KING COBRA-500-ADAF

## Part List

### 120V

<b>ITEM</b>	<b>PART No</b>	<b>DESCRIPTION</b>	<b>ITEM</b>	<b>PART No</b>	<b>DESCRIPTION</b>
1	FP436	Chain, for lid	55	943B	Plate, switch holding
2	901B	Lid, for solution tank	56	2067	Pump, auto pump out
3	HKCR-1	Holding Tank	58	1081	Elbow/Hose barb, 90°
4	1088	Glide, Teflon, for reel	59	239	Coupling, Hose adaptor
5	913	Vacuum motor	60	237	Cap, for hose fitting
6	959	Gasket, vacuum	61	1128	Label
8	1136	Hose, vacuum	62	910-21.00	Axle rod, 21"
9	926	Manifold, gasket	63	2084	Wheel, 10"
10	907	Hose barb, vacuum inlet	65	27A	Axle cap
11	2086A	Lid & Ring, vacuum tank	66	932B	Circuit board, dual circuit detect
12	1074	Gasket, vacuum lid	67	FP336	PCB mounting track, 4"
13	2026	Float, electronic	69	FP194E	Heat repair kit
14	926	Filter, vacuum inlet	70	918	Heat sink plate
15	1060C	Cap, drain hose	72	198	Clamp, hose
16	1060B	Hose, drain	73	FP348	Heat exchanger, complete
17	1518	Clamp, hose	75	1134	Hose, Heater to outlet, 29"
18	CWKC-BLK	Cord Wrap	77	445	Plate, heater mounting
19	1130	Strap, hook & loop	79	901B	Lid, for solution holding tank
20	1088	Glide, for reel	80	805	Chain
21	925	Hose, pump inlet, 1/2" X 24"	81	BKCR-BLK	Base compartment
22	FP410	Pump complete, no motor	82	1043A	Gasket, 93.5"
23	948B	Motor, pump drive	83	1014	Fan, cooling
24	945D	Valve, pressure regulator	84	2015	Guard, fan
25	944	Hose, pump to gauge	85	908A	Latch and strike
26	946	Hose, pump bypass, 3/8" X 24"	89	HKCR-1	Holding tank
27	FP411A	Hose, pump to heater, w/QDs	90	2069	Filter, dump pump inlet
28	928	Louver, 3"	91	1320A	Bracket
29	FP361	Control board, pump motor speed	92	1310A	Valve, auto-fill shut-off
30	2088	Pre-filter, vac inlet	94	207A	Filter, solution pump inlet
32	FP225	Control board, vacuum soft start			
34	1062	Receptacle, power cord			
35	1057B	Power cord, 25 ft			
37	45	Quick disconnect, solution output			
38	1146	Pipe, 1.4 pipe X 6.85"			
39	1144A	Tubing, 5/8" X 5"			
40	HKCR-1	Tank, solution holding			
42	78B	Light, Red			
44	248	Knob, red			
45	FP347	Potentiometer, with wires, for heat			
47	FP346	Switch, Heat Bypass			
48	FP345	Switch, Vacuum			
49	249	Knob, Pump pressure control			
50	FP399	Potentiometer, with cable, pump			
52	78	Light, green			
54	951B	Gauge, pump pressure			

### **Miscellaneous parts and Assemblies**

FP409	Pump and motor, complete w/unloader
950CP	Pump rebuild kit, valves and O-Rings
250	Pump rebuild kit, piston and seals
SYP1	Priming hose
FP350C	Pressure line and vacuum hose, complete
FP469	Swivel and hose assembly, 16-1/2"
948C	Brush, carbon, for pump motor (order 2)

## **MAINTENANCE SCHEDULE**

<b>KC-500-ADAF</b>	DAILY	MONTHLY	YEARLY	OTHER
CLEAN FILTERS	<b>X</b>			
CHECK POWER CORD	<b>X</b>			
DESCALE		<b>X</b>		
REPLACE VAC MOTOR BRUSHES				Around 1500 hours
REPLACE PRESSURE REGULATOR			<b>X</b>	Or as needed
REBUILD PUMP				As needed

## **TROUBLE SHOOTING:**

### **IF THIS OCCURS**

### **CHECK THIS**

NO SPRAY	Solution tank is empty. Clogged spray tip. Pump not running or not primed. Valve on wand not operating.
LOW SUCTION	Debris is plugging cleaning tool or vacuum hose. Drain hose is not completely closed. Vacuum tank lid is not closed or seal is damaged.
NO SUCTION	No power to motor. Test the switch. Test the vacuum motor.
LOW HEAT	Spraying too long. Try spraying for 8 - 10 seconds, or about three strokes. Heat exchanger needs to be flushed. Wrong tool being used. Too much water passing through. Longer hose or larger diameter hose, than standard.
NO HEAT	Heat is not turned on. No power in the wall outlet - check to see if the breaker has tripped. No power to the heat switch - check wiring for "opens." No power out of heat switch, follow troubleshooting steps to isolate the problem. Call your distributor for additional help.



425-322-0133 / 800-257-7982 / FAX: 425-322-0136  
 11015 - 47th Ave. W. / Mukilteo, WA 98275  
 VISIT US AT: <http://www.usproducts.com>