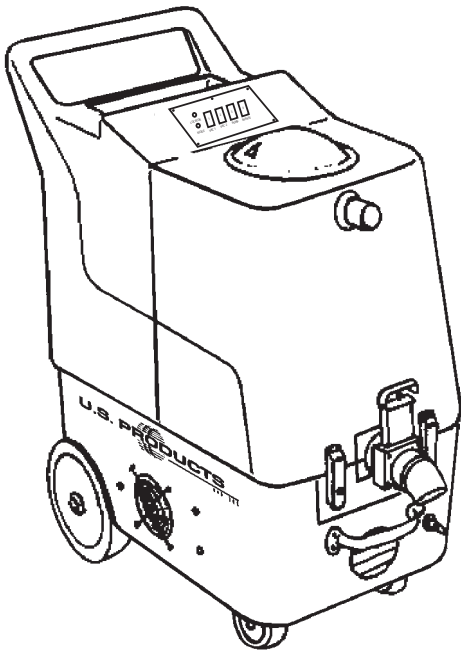




HHP-310 EXTRACTOR 120V



INFORMATION & OPERATING INSTRUCTIONS

**DO NOT OPERATE MACHINE UNTIL YOU HAVE READ
ALL SECTIONS OF THIS INSTRUCTIONS**

IMPROPER USE OF THE MACHINE WILL VOID THE WARRANTY

1. Always use a defoamer when foaming occurs to prevent vacuum motor damage.
2. Keep machine from rain and snow, extremes in temperatures, and store in a heated location. Use the machine indoors. Do not use outdoors.
3. Do not let the pump run dry.
4. Use approved chemicals only. NO SOLVENTS.
5. Wear gloves or use rags when removing quick disconnects to prevent burns.
6. Never use water above 130° F/54° C in the solution tank.

IMPORTANT SAFETY INSTRUCTIONS

This machine is only suitable for commercial use, for example in hotels, schools, hospitals, factories, shops and offices other than normal residential housekeeping purposes.

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

NOTE: Read all instructions before using this machine.

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.
- To avoid electric shock, do not expose to rain or snow. Store, and use, indoors.
- 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 130° F/54° C 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, or 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 they 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 HHP-310 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 or to the machine or parts.

CLEANING SOLUTIONS:

We recommend liquid cleaning chemicals, such as our Magic Fabric Cleaner. Powder chemicals may be used, but unless mixed very thoroughly they could cause a build-up in the pump, lines, heat exchanger and/or quick disconnects. Any problem caused by a chemical build-up is not covered by warranty. Use a neutral cleaner with a pH between 6 and 9 to avoid premature wear of the pump, seals, and/or other components. Damage caused by the use of strong chemicals is not covered by the warranty.

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. U.S. Products' "X-1500" is recommended. The vacuum motor, pump motor, and the pump do not require any scheduled maintenance; however, the motors may require replacement brushes after 1000 - 1500 hours, and the pump and bypass valve may require rebuild kits after 1000 - 1500 hours, typically (refer to machine part list for numbers). 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 and service. Be sure to specify the machine model. Have your serial number handy.

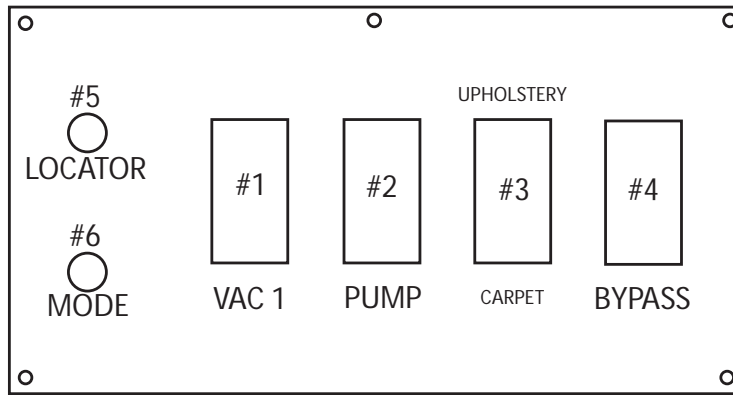
(and be sure to mail your warranty card)

Serial Number: _____

Model: HHP-310

Purchase Date: _____

Write the name and phone number of your distributor:



VAC (1) & PUMP (2) SWITCHES:

These switches are powered by cord #1. Switches are on when illuminated.

CARPET/UPHOLSTERY SWITCH (3):

This switch is also powered by cord #1. The carpet setting (down position) is high pressure (approximately 300 PSI). The upholstery setting (up position) is low pressure (approximately 50 PSI with a K1 or V2 spray tip). NOTE: Switch does not illuminate.

BYPASS SWITCH (4):

Turning on this switch (switch illuminates when on) bypasses the circuit locator.

GREEN CIRCUIT LOCATOR LIGHT (5):

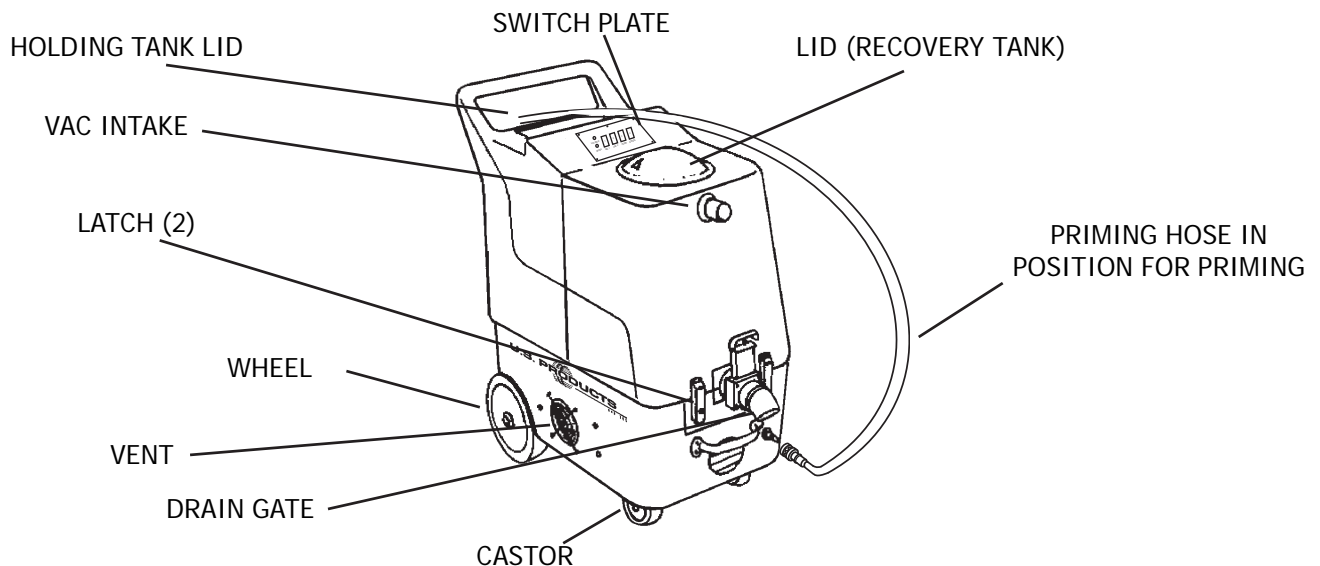
When this light is illuminated, it confirms that the machine is on two separate circuits.

HEAT MODE LIGHT (6):

This light will only illuminate when the heater is heating and will turn off when it reaches operating temperature. Note: this light will be on most of the time during normal operation.

CAUTION:

THE CIRCUIT BREAKER CAN TRIP IF BOTH CORDS ARE ON THE SAME CIRCUIT AND THE BYPASS SWITCH IS TURNED ON.



SET-UP:

Fill the holding tank with clear water and the detergent of your choice. Mix well. Although this machine is designed to supply instant hot water, the addition of warm water (not above 130° F/54° C) to the holding tank would increase heater efficiency.

1. Plug in cord #1 (vac and pump.) Attach the priming hose to the machine (see illustration). Turn the pump on and set the switch to the upholstery setting. Run until the pump is fully primed, then turn off the pump. Remove the priming hose and attach the cleaning hoses and tool.
2. Turn on the pump and spray through the cleaning tool for a few seconds to fill the lines with solution.
3. Plug in cord #2 (identified by the red "H" on the back of the extractor). IF THE GREEN LIGHT ILLUMINATES, THE HEAT EXCHANGER WILL TURN ON AUTOMATICALLY (SEE NOTE BELOW). Wait 2 minutes for the heat exchanger to reach operating temperature. You may now begin cleaning. It will take about 10 seconds for the initial heat to reach the wand.

NOTE: If the green circuit indicator light does not illuminate when cord #2 is plugged in, then both cords are on the same circuit. Try other outlets until the light comes on. See bypass switch section (below) if you are unable to get a green light.

ELECTRIC CIRCUIT LOCATOR:

This unique, patented "smart system", operated by a solid state circuit, will inform the operator when the two cords are plugged into separate lines by illuminating the green indicator light. This helps prevent tripping circuit breakers.

BYPASS SWITCH:

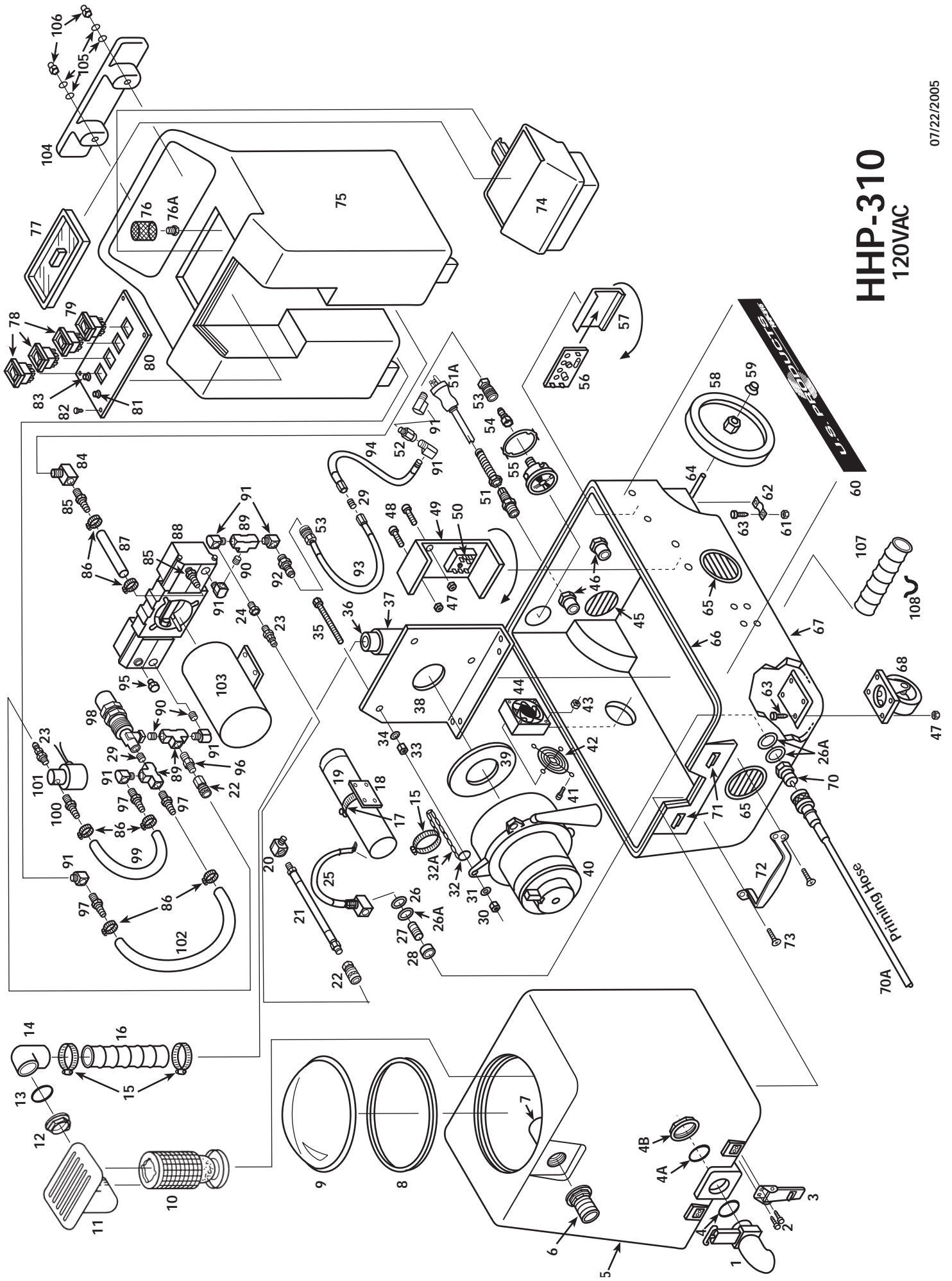
The bypass switch completely bypasses the circuit locator system. Use this feature when you cannot get the green light to come on and you believe that the two cords are on separate circuits.

CAUTION: If the bypass switch is on and the two cords are plugged into the same circuit, the breaker may trip.

BALL FLOAT VAC SHUTOFF:

When the recovery tank is full, the float system will shut off the incoming air flow and prevent water from entering the vacuum motors. The float may not work properly if the float ball cage is clogged or if there is foam in the tank. Foam may not lift the ball float.

CAUTION: To avoid vac motor damage, always make sure the float cage is clean and the ball travels freely before turning on the machine, and use a defoamer whenever foam is present.



HHP-310

120VAC

HHP-310 120V

PARTS LIST

ITEM # PART # DESCRIPTION

#1	903	Drain Gate (see Misc.)*
#2	21	Screw, Button Head, 10-32 x 5/8"
#3	908	Latch
#4	187	O-Ring, Small
#4A	190	O-Ring, Large
#4B	185	Nut, 1-1/2"
#5	FP208B	Vacuum Tank, HHP
#6	907	Hose Barb, 1-1/2"
#7	922	PVC Elbow, 1-1/2"
#8	2009	Gasket (Vacuum Dome)
#9	FP201	Vacuum Dome
#10	924	Float, Ball & Cage
#11	FP193	Ball Float Assembly, Complete
#12	185	Nut, 1-1/2"
#13	190	O-Ring, Large
#14	922	PVC Elbow, 1-1/2"
#15	156	Hose Clamp, (size 28)
#16	FP171	Hose, Vacuum, Rubber, 2 X 20"
#17	76	Hose Clamp, (Size 36)
#18	455	Heat Exchanger Mount
#19	FP159H	Heat Exchanger, Complete (120V)
#20	103	Elbow, Brass, 1/8 p.t.
#21	2012	Hose, 26"
#22	222	Quick Disconnect, Open, 1/8, p.t.
#23	223	Quick Disconnect, Male, Open, 1/8, p.t.
#24	97	Bushing, Brass
#25	FP164	Hose Assy, Braided, for Heat Exchanger, Outlet
#26	31	Washer, Brass
#26A	115	Washer, Fiber
#27	92A	Nipple, S/S, 1/4"
#28	116	Bushing, Fiber
#29	92A	Nipple, S/S, 1/4"
#30	7	Lock Nut, 5/16" X 4"
#31	15	Washer, 5/16"
#32	194	Split Ring
#32A	FP233A	Chain Assembly, 9.5"
#33	320AB	Nut, 5/16"
#34	34	Washer, 5/16"
#35	179	Bolt, 5/16" X 4"
#36	935	Sleeve, PVC, 3"
#37	921	Elbow, PVC,
#38	926	Manifold, Vacuum
#39	959	Gasket (Vacuum Motor)
#40	FP323	Vacuum Motor, 3-Stage, w/Connectors
#41	2B1	Screw, 6-32" X 2"-1/4"
#42	2015	Guard, Fan
#43	16	Lock Nut
#44	2014	Fan, Cooling
#45	459	Louver, 2-1/2" (includes screws)
#46	937	Reducer, PVC
#47	8	Lock Nut, 1/4-20
#48	4	Bolt, 3/4" X 1"
#49	918	Heat Sink Plate
#50	See Misc.	Thermistor Control with Potentiometer**
#51	184	Cord Retainer
#51A	495A	Power Cord, 25', Yellow
#52	210	Snubber
#53	220	Quick Disconnect, Female, Open, 1/4 p.t.
#54	219	Quick Disconnect, Male, Open, 1/4 p.t.
#55	951A	Pressure Gauge, 2-1/2"
#56	923B	Circuit Board, Dual Cord Sensor***
#57	931	Mounting Track, Circuit Board
#58	2003	Wheel, 8"
#59	27A	Axle Cap, Black
#60	966	Label, HHP-310
#61	8	Lock Nut, 1/4-20

ITEM #PART # DESCRIPTION

#62	180	Axle Bracket
#63	5	Bolt, 1/4" X 3/4"
#64	910	Axle, 1/2 x 17-1/2"
#65	928	Louver, 3", includes screws
#66	FP228A	Gasket, Base
#67	B-1	Base, HHP
#68	905	Castor, Swivel, 4"
#70	45	Quick Disconnect, Male, 1/4 p.t.
#70A	SYP1	Priming Hose
#71	909A	Latch Strike for Latch, S/S
#72	2010	Handle, Chrome
#73	193	Screw, Flathead, 1/4"
#74	FP204	Funnel, Black
#75	T-1	Holding Tank, HHP
#76	207A	Filter, 40 Mesh, S/S
#76A	92B	Nipple, PVC, 1/2 n.p.t.
#77	901	Lid, Holding Tank
#78	FP311	Switch, Pump & Vacuum
#79	FP312	Switch, Rocker, Bypass
#80	2065	Switch Plate
#81	78B	Light, Red, Small
#82	28	Screw
#83	78	Light, Green, Small
#84	216	Elbow, Brass
#85	165	Hose Barb, 1/2" Hose x 1/4 p.t., Brass
#86	166	Hose Clamp
#87	946	Hose, Pump Inlet, 1/2" X 14"
#88	950	Pump, Raw, See Misc.
#89	168	"T", brass
#90	92A	Nipple, S/S
#91	91	Elbow, Brass
#92	221	Quick Disconnect, Male, Open, 1/4 p.t.
#93	944	Hose, Pulsation Dampening, 28"
#94	FP477	Hose, 24", with Swages
#95	211	Plug, Brass
#96	105	Reducer Nipple, Brass
#97	164	Hose Barb, 3/8" Hose x 1/4 p.t., Brass
#98	945	Bypass Valve
#99	925	Hose, 3/8" X 8"
#100	208	Hose Barb, Brass
#101	2062	Solenoid (120V)
#102	925	Hose, Pump Bypass, 3/8" X 14"
#103	2060	Motor, for Pump (AC, 120V)
#104	CWBLK	Cord Wrap, Black
#105	203	Washer, Nylon
#106	260	Nut, Acorn, 3/8"
#107	FP171B	Hose, Exhaust, 2" x 12"
#108	928A	Bracket, Exhaust Hose

MISCELLANEOUS ASSEMBLIES/PARTS

291	Bypass Rebuild Kit
229	Valve/O-Ring Kit
FP236	Pump Complete (no Motor or Solenoid)
FP236A	Pump Complete with Solenoid
FP236B	Pump & Motor Complete with Solenoid
950A	Bearing/Cam Assembly (for Pump)
**FP194C	Thermistor control, Potentiometer, Probe, Circuit Board, Cutout
**FP194A	Thermistor control, Potentiometer, Probe, Circuit Board
*FP231	Drain Gate Complete w/O-Rings, Nut & Spout
FP2008	Vacuum Dome, w/Gasket
***923	Circuit Board, Dual Cord Sensor (Machines made before 7-22-05)

(NOTE: Items in kits not sold separately.)

TROUBLE SHOOTING:

<u>IF THIS OCCURS</u>	<u>CHECK THIS</u>
NO SPRAY	Solution tank is empty. Clogged spray tip. Pump not running or not primed. Valve on wand not operating.
PUMP DOESN'T RUN	Check the brushes in the pump motor. Replace if necessary. No power to pump. Test the Motor Speed Control Circuit Board.
LOW SUCTION	Debris plugging cleaning tool or vacuum hose. Drain gate is not completely closed, or seals are damaged. Vacuum dome is not seated or is damaged.
NO SUCTION	No power to motor. Test the switch. Test the Electronic Float. Test the vacuum motor. Test the Vacuum Circuit Board.
LOW HEAT	Spraying too long. Try spraying for 12-15 seconds per cycle. 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. Either the green light must be on or the bypass switch must be turned on. No power in the wall outlet - check to see if the breaker has tripped. No power to the bypass switch - check wiring for 'opens.' No power out of bypass switch, follow troubleshooting steps to isolate the problem. Call your distributor for additional help.

SPECIFICATIONS:

Rotomolded Body: Lifetime Warranty

Vacuum: 7.2", 3-stage

VAC Shutoff: Ball float

Pump: Positive displacement, 300 psi for carpet and 75 psi for upholstery

Waterlift: 140"

Heat: Adjustable to 212° F

Heater: 2000 Watts

Wand: Stainless steel, double bend, twin tip

Weight: 99 lbs.

Dimensions: 26.5H x 18W x 28.75L (inches)



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Coeur d'Alene, Idaho

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