FX-88

HYDRO-FORCE

Models:

FX-88
FX-88HP

Operating and Maintenance Manual

Congratulations and thank you for buying a FX-88™ portable extractor. The FX-88 is designed to give you truck-mount performance in a portable machine that is versatile to use and easy to transport. Years of experience, engineering, planning, and practical know-how has gone into the design and manufacture of the FX-88. We take a great deal of pride in FX-88 and want you to be completely satisfied with your purchase. Please take the time to read this manual before operating the machine—it will be time well spent.

SETUP AND OPERATION

ELECTRICAL CONNECTIONS

Plug electrical cords into grounded wall outlets. FX-88 is designed to run on a 15 AMP and a 20 AMP circuit (the left hand cord). You will normally find 20 AMP separate circuits in the kitchen and in bathrooms. Never remove the ground plug from the end of the cord. If a circuit breaker trips during operation, reset the breaker and move electrical cord to different outlet and resume operation. When cords are plugged into "live" receptacles, the control switches will glow. If the lights on the switches do not glow, this indicates that the wall receptacle may be dead. Simply move the cord to a different outlet.

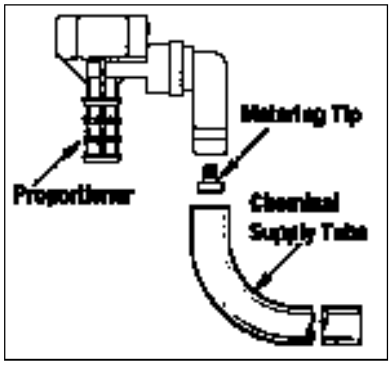
WARNING: The FX-88 is designed for use with water based cleaning solutions, such as, low foaming detergents or acid rinses. NEVER USE DRY SOLVENT SOLUTIONS! The use of dry solvents in your FX-88 will void the warranty.

AUTOMATIC CHEMICAL FEED

Chemical Metering: The FX-88 may be equipped with an automatic water fill / chemical feed metering system. As the solution tank fills with water, cleaning concentrate is drawn into the solution tank at a designated rate via a metering tip. A complete set of metering tips is included.

To adjust the amount of cleaning concentrate being drawn, simply remove the plastic supply tube from the chemical feed metering valve (see Figure 1). Unscrew the colored metering tip and replace with the tip that corresponds to the portable dilution ratio for your cleaning product (refer to Figure 2). Reconnect the plastic supply tube.

Figure 1



Metering Tip Replacement

Liquid Concentrates: FX-88 comes with the purple metering tip installed at the factory. This tip is rated for .25 oz. of chemical per gallon of water, which is a standard dilution ratio for the most popular liquid cleaning products on the market. Refer to your product's dilution ratio for portable extractors, and select the proper metering tip from Figure 2 ("Liquid Concentrated Dilution Ratio").

Powder Concentrates: For powdered cleaning detergents, a liquid concentrate must be made. Combine two (2) cups of powder in a one gallon solution jug. Fill the jug with water up to the one gallon mark. Use the tip that corresponds to the portable dilution ratio for your powdered cleaning product (refer to Figure 2, "Powder Concentrated Dilution Ratio").

Fresh Water Rinse: For fresh water rinsing simply leave the chemical supply tube in the solution tank.

Manual Filling: To use the FX-88 without the automatic filling system, simply pre-mix your solution in a bucket of water, and pour into the solution tank. See Figure 3 for a detailed break-down of the chemical feed system.

Figure 2

	Concentrated Dilution Ratio (oz/gal)	
Tip Color	Liquids	Powders
Clear	0.25	—
Purple	0.50	—
Yellow	1.00	—
Green	1.50	—
Pink	2.00	0.25
Turquoise	3.20	0.40
Black	4.00	0.50
Gray	5.00	0.63
Red	6.50	0.81
Blue	8.00	1.00
Brown	10.50	—
White	13.00	—
Orange	16.00	—
None	35.00	—

Metering Tip Dilution Ratios

Setup: Inside the solution tank is a bottle float suspended on a chain. The length of the chain determines the level of solution in the tank and can be adjusted. Check the chemical feed supply foot valve for debris, and clean if necessary. Insert the line into the cleaning concentrate so that it touches the bottom of the bottle. Set cleaning concentrate in the solution holder/pouring funnel provided.

Connect the fill hose to the quick disconnect located on the side of the machine. Attach the water supply hose to any available faucet. A faucet-to-hose adapter is provided to properly attach your water supply hose to the most commonly found faucets. It may require adapters to fit the various faucet combinations you will encounter. Never force a threaded fitting. Place a towel over the faucet connection so that any spray will be controlled. Turn on the water and check the hose connections for leaks.

The solution tank will fill approximately 14 gallons, which can be increased by shortening the chain. As the tank is filling, cleaning concentrate is being drawn into the solution tank.

Shutdown: Before the end of each job, turn off the water supply, to prevent the solution tank from being completely full. With the cleaning completed and the solution pump turned off, disconnect the fill hose from the faucet, drain the water in the fill hose back into the solution tank, and remove the fill hose. Remove the chemical feed supply tube from the chemical solution jug and clean the filter. Vacuum out the solution tank.

MODEL SPECIFICATIONS

Electrical	115 Volt, 60 hz (230 Volt, 50 hz)
Vacuum	Dual 2-stage; Three 2-stage
Solution Pump	500 PSI 1200 PSI
Solution Tank	22 Gallons (83 liter)
Waste Tank	15 Gallons (56 liter)
Height	45½ inches (116cm)
Length	32 inches (81cm)
Width	24½ inches (62cm)
Power Cords	50 feet (15m)

The FX-88 utilizes either a PumpTec™ twin piston 500 PSI or 1200 PSI pump. Both pumps are adjustable from either 50–500 PSI for the FX-88 or 100–1200 PSI for the FX-88HP. Do not exceed the pressure limitations of 500 PSI for the FX-88 or 1200 PSI for the FX-88HP. The FX-88 pump is adjustable with a pressure relief valve shown on page 14. The pressure regulator is located by the pressure gauge on the front of the machine and is easily adjusted by turning the regulator clockwise to increase the pressure and counterclockwise to decrease the pressure. The FX-88HP pump is adjustable with an unloader valve which is also located by the pressure gauge on the front of the machine. The pressure gauge on the FX-88HO will register pressure when your wand or other tool is hooked up to your high pressure solution line and the valve is depressed, allowing solution to go through the wand or tool. The pressure on the FX-88HP is adjusted by turning the unloader valve clockwise to increase pressure and counter-clockwise to lower the pressure. Do not exceed 1200 PSI on the FX-88HP.

Priming the Solution Pump: If you are experiencing pressure fluctuations, pulsation in the solution hose, or not maintaining pressure, you will need to prime the solution pump by engaging the Power Prime Valve located next to the pressure regulator on the front of the machine. Making sure there is sufficient water in the solution tank, depress the Power Prime Valve and any air will be immediately purged out of the pump system and pressure should immediately be restored. ***Caution: Please be aware that depressing the Power Prime Valve will also spray both air and water out the bottom of the valve. If you wish to avoid having water on the floor, you should have your vacuum hose hooked up to the machine, have the vacuum motors on and have the vacuum cuff on the end of the vacuum hose held under the Power Prime Valve to catch any water coming out of the valve.***

VACUUM SYSTEM

Vacuum Motors: The FX-88 utilizes a unique two- or three-vacuum system which produces both outstanding vacuum lift and air flow for superior extraction and drying times. The vacuum system can be used with one or two vacuum motors for cleaning delicate fabrics, or all three vacuum motors for carpet cleaning and water extraction.

Waste Tank: The vacuum system requires proper maintenance of the waste tank filter bag. Refer to the MAINTENANCE section for removal and proper cleaning of the filter.

It is also necessary to use a defoamer to eliminate foam build-up in the waste tank which could lead to foam/moisture entering the vacuums and contributing to early failure of the vacuum motors. Failure to properly maintain the filtration system and utilize defoamer, will void the warranty on the vacuum motors.

If moisture does enter the vacuum motors, refer to "WD-40 Vac Motors" under MAINTENANCE. To prevent moisture from damaging the vacuum motors during storage, empty the waste tank and store with the lid open.

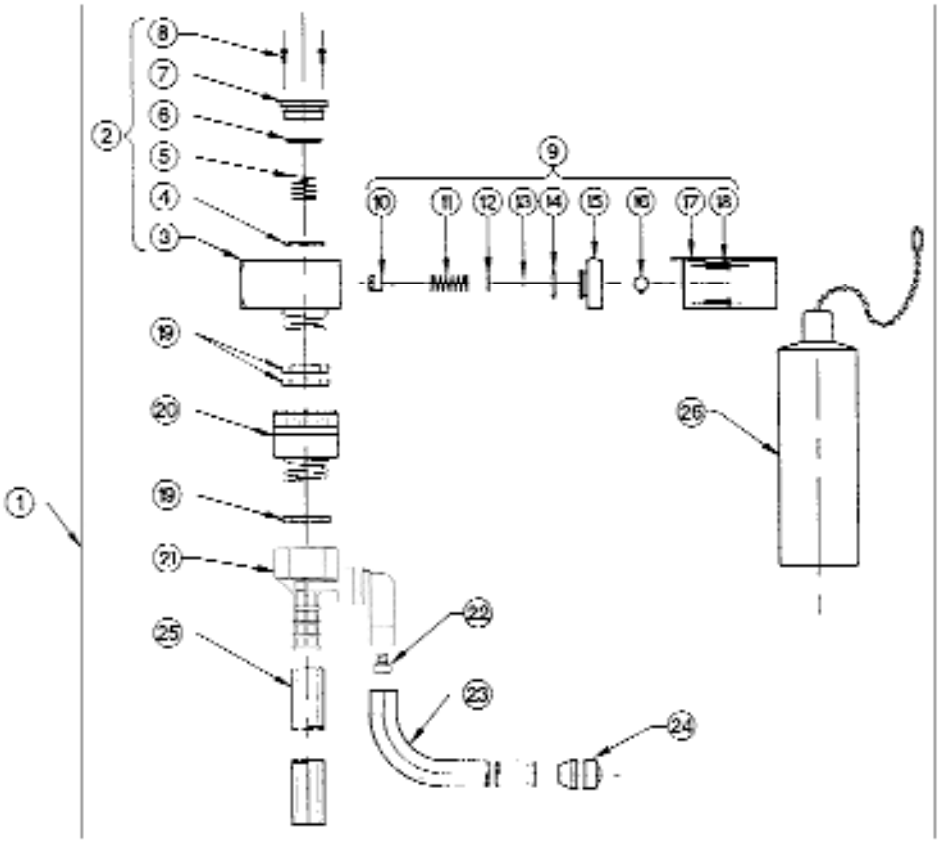
AUTOMATIC WASTE PUMP-OUT

Connect the black 1 1/4" x 50' drain hose to the automatic pump-out port located in the upper left corner on the front of the machine. Secure the other end of hose where you wish to direct the discharge of waste water, such as a toilet or sink.

Fasten the discharge end of hose tightly. Turn on the Automatic Pump-Out switch. The pump will turn on automatically when water in the waste tank is approximately 2/3 full. The pump will discharge the waste water down to a level of about 2 inches in the waste tank. DO NOT TURN ON THE AUTOMATIC PUMP-OUT SWITCH WITHOUT THE DRAIN HOSE IN PLACE. This pump-out system has been designed to stay up with flood restoration work and is capable of pumping 20 gallons per minute.

Figure 3

AUTOMATIC CHEMICAL FEED SYSTEM



ITEM#	PART#	PART DESCRIPTION
1	740100	COMPLETE ASSEMBLY
2	740102	BODY/DIAPHRAGM ASSEMBLY
3	740103	BODY
4	740104	DIAPHRAGM
5	740105	CLOSING SPRING
6	740106	VALVE COVER O-RING
7	740107	VALVE COVER
8	740108	VALVE COVER SCREWS (PAIR)
9	740109	SHUT OFF VALVE ASSEMBLY
10	A	SHUT OFF DISC & STEM ASSM
11	B	SHUT OFF SPRING
12	C	SHUT OFF PLATE
13	D	SHUT OFF STEM O-RING

ITEM#	PART#	PART DESCRIPTION
14	E	SHUT OFF COVER O-RING
15	F	SHUT OFF COVER
16	G	STEM NUT WITH SET SCREW
17	H	LEVER ASSEMBLY
18	I	LEVER ASSEMBLY SCREWS (2)
19	740119	RUBBER WASHER
20	740120	BACKFLOW PREVENTER
21	740121	PROPORTIONER
22	740122	METERING TIP KIT
23	740123	CHEMICAL SUPPLY TUBING
24	740124	FOOT VALVE
25	740125	DISCHARGE TUBING
26	740126	FLOAT ASSEMBLY

ACCESSING COMPONENTS

Drain the solution and waste tanks, disconnect all hoses, and unplug the electrical cord(s).

To access the pump/motor, fresh water filter, and plumbing components, including the heater on Model 2200H, lay the FX-88 on its back and remove the 6 Phillips-head screws holding the bottom plate to the body. Slowly lower the bottom plate to the ground.

To access the vacuum motors, cooling fan(s), switches, and other electrial components: remove the 6 Phillips-head screws on the back plate and the 3 Phillips-head screws securing the switch plate. Slowly lower the back plate. When the back plate is partially open, loosen and remove the vacuum hose from vacuum #1 by loosening the clamp with a 5/16 driver or screwdriver. This vacuum hose is not long enough to allow the back plate to be completely lowered to the ground.

To retrun to operation, reverse the above steps. Make sure the vacuum hose is properly re-installed on vacuum #1 and that the hose clamp is secure.

FILL HOSE SCREEN

Located in the female garden hose fitting on the Automatic Fill Hose. Remove screen, clean, and replace.

CHEMICAL FEED FOOT VALVE

The foot valve is on the end of the chemical supply tube of the automatic chemical feed system. It is not necessary to remove the filter from the tubing. Just rinse with fresh water. If necessary, use a tooth brush to remove detergent build-up. Note: a heavy build-up is a warning sign that the solution system should be flushed—see "Flushing Solution System."

FRESH WATER TANK FILTER

Located inside the bottom plate by the pump at the bottom of the solution tank. Unscrew the filter counterclockwise and rinse with fresh water. If necessary use a tooth brush to remove detergent build-up. Note: a heavy build-up is a warning sign that the solution system should be flushed—see "Flushing Solution System."

WASTE TANK FILTER BAG

The waste tank filter bag should be cleaned out after every job. This filter bag will catch the larger debris and most lint. The filter bag is attached by a drawstring. Loosen the drawstring, clean the filter bag, and reinstall. Never operate the FX-88 without the filter bag in place.

Maintenance

OPERATION	INTERVAL
Clean Fill Hose Screen	Each Job/Daily
Clean Chemical Feed Foot Valve	Each Job/Daily
Clean Fresh Water Filter	Weekly
Clean Waste Tank Filter Bag	Each Job/Daily
Clean Vac Shut Off Screen	Daily
Clean Auto Pump-out	Daily As Needed
Clean Wand Jets	Weekly
Run Auto Pump-out	Every Two Weeks
Flush Solution System	Monthly
WD-40 Vac Motors	As Needed

The above operations are fully outlined on the following two pages. Proper maintenance is necessary to achieve maximum operating performance from your FX-88. Failure to properly maintain your machine could void the warranty.

VAC SHUT OFF

The FX-88 utilizes a ball float shutoff system, which shuts off the flow to the vacuum motors when solution reaches the appropriate level to activiate the ball shutoff. This shutoff has been designed to protect the vacuum motors from excess water entering the vacuum motors **provided that the owner is utilizing a defoamer chemical to prevent foam and moisture from entering the vacuum stack and, therefore, the vacuum motors.**

Twist off the ball assembly from the stand pipe, and clean the screen. It may be rinsed with water. This screen should be cleaned frequently if the FX-88 is being operated in an environment which has an abnormal buildup of lint and debris, such as cleaning newly installed carpet. Loss of vacuum is most normally associated with lint and hair buildup in the waste filter bag and the float ball shutoff assemble at the top of the vacuum stand pipe.

AUTO PUMP-OUT

The Automatic Pump-Out system is capable of handling most debris that passes through the waste filter bag. However, for optimum performance, keep the waste tank clean and remove debris from the filter screen of the pump-out. This should be done on a daily basis, or as needed, depending upon use, and amount of debris.

Every two weeks, run the pump-out with a full tank of clean water, to insure that debris and lint are not accumulating in the base of the pump.

To service the pump-out more thoroughly, unhook the vacuum cuff, cut the zip tie around the looped electrical cord, and lift it out of the waste tank. Unsnap the screen from the bottom, clean the screen, and clean out the area inside.

If necessary, remove the six screws holding the base to the motor housing, and clean the base. If the impeller is removed make sure that a spacing of .050" with shaft pushed toward housing is maintained when reassembled.

WAND JETS

Remove jets and visually check for wear and debris. Water or compressed air is best for cleaning—NEVER use a metal object to remove debris, as it may damage the jet orifice. If excessive wear is apparent, the jet should be replaced. If the wand is equipped with jet screens, those should be cleaned by rinsing with water. Hook up the wand to machine, and check jet alignment.

FLUSH SOLUTION SYSTEM

At least once a month, the FX-88, hoses, and tools should be flushed to remove alkaline residues. Follow the steps on page 8 of the "Recommended Procedure for Storage," using a solution of one part warm water with three parts white vinegar, in place of the antifreeze solution. Then, repeat the steps using two gallons of fresh water.

WD-40 VAC MOTORS

Should moisture ever enter the vacuum motors, completely drain the waste tank, open the waste tank lid, remove the vac shut off ball assembly, turn on all vacuum motors, and spray a five second burst of WD-40 into the standpipe. Continue to run the vacuum motors for at least three minutes.

To prevent moisture from damaging the vacuum motors during storage, empty the waste tank and store with the lid open.

STORAGE AND FREEZE PROTECTION

Care must be taken to protect your FX-88® from freezing. Freezing could seriously damage the FX-88 as well as fittings and valves. Freezing is not covered under the limited warranty and you should always store your equipment in areas where the temperature remains above 40° F. If you plan on storing the FX-88 for a prolonged period of time, the following procedure should help prevent your FX-88 from freezing, and prevent the pump seals from drying out.

Recommended Procedure for Storage:

STEP ONE: In a separate container, mix 1 gallon of water with 1 gallon of automotive radiator antifreeze (ethylene glycol type). Mix well, and pour into the solution tank, keeping approximately 1 pint for use in Step Five.

STEP TWO: Connect the pressure hose to the female quick disconnect (QD) on the front of the machine. Turn the shut off valve on the pressure hose to the off position. Insert an open-ended male QD into the female QD on the end of the pressure hose.

STEP THREE: Prime the solution pump, directing the flow of solution back into the solution tank. When primed, turn down the pressure to 100psi.

STEP FOUR: Disconnect the open-ended QD and connect the solution hose to the male QD at the auto fill/chemical feed connection.

CAUTION: Applying high pressure (over 100 psi) to the chemical feed system will damage the mechanism.

STEP FIVE: Place the chemical feed supply tube into the container with the pint of anitfreeze from Step One, turn on the pump, and allow to circulate for 10 minutes. Check to make sure the chemical supply tube is drawing the antifreeze solution. This will introduce antifreeze into the chemical feed system.

STEP SIX: Disconnect the solution hose from the chemical feed, and allow the system to bypass for 10 minutes. This will work antifreeze into the pressure gauge.

STEP SEVEN: Attach any wands and hand tools that will also be stored with your FX-88. Open valve for 30 seconds, directing the spray to the solution tank. Disconnect hose and with valve open and the jets pointing down, depress the dimple on the male QD. This will drain the solution out of the tool. Drain thoroughly before storing.

STEP EIGHT: Vacuum out the solution tank and thoroughly drain the waste tank and vacuum hose. Turn off the pump and disconnect all hoses and tools.

The automatic pump-out does not require freeze protection, as long as the waste tank is completely drained, and allowed to thoroughly dry.

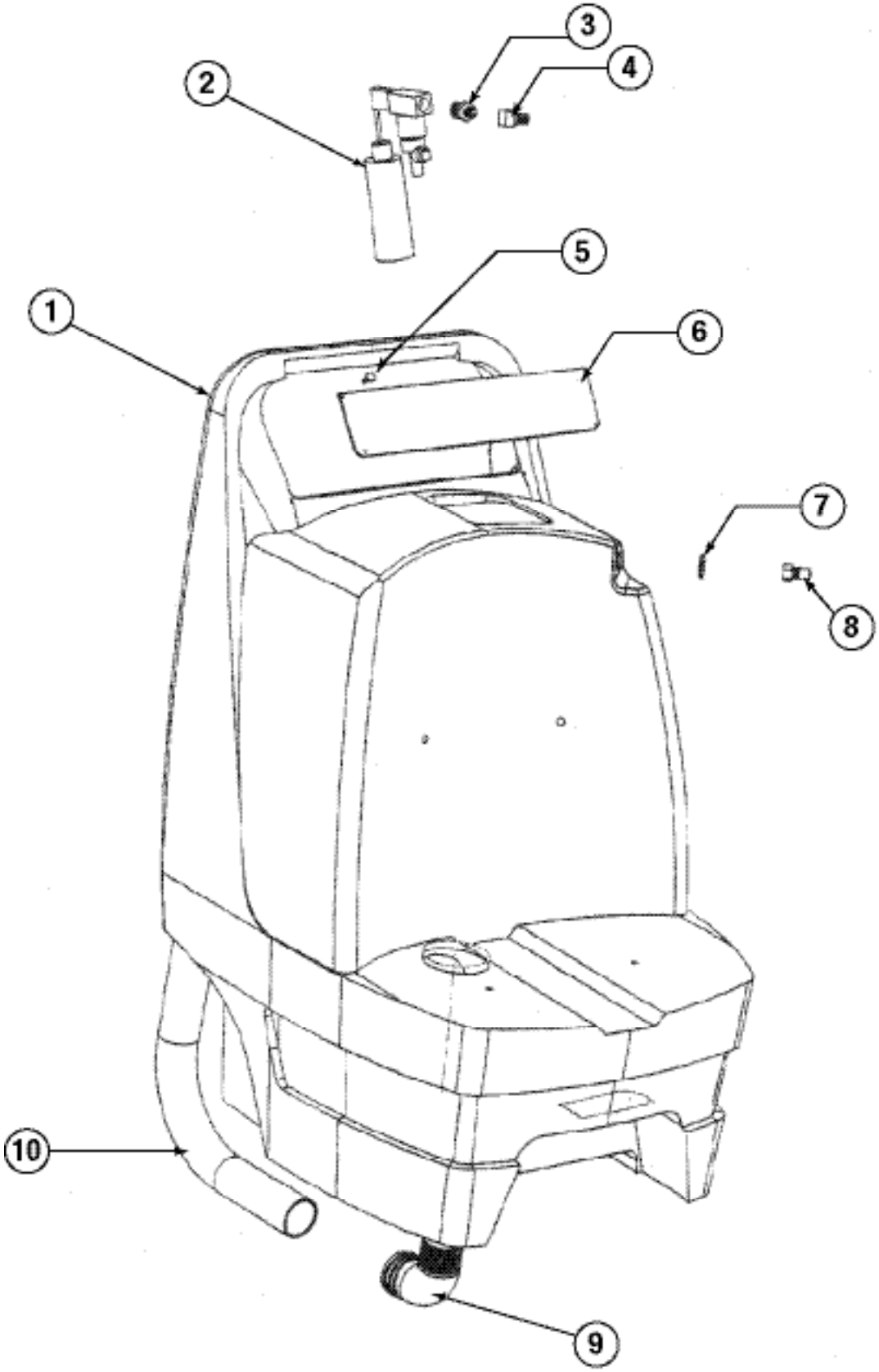
Return to Service: To return the FX-88 to service, flush the pressure system by repeating the above steps, using fresh water in place of the antifreeze solution.

FX-88® PARTS LIST

ITEM #	PART #	QTY FX-88HP/ FX-88	DESCRIPTION	NOTES
1	740215	1	SOLUTION TANK	
2	740100	1	CHEMICAL FEED COMPLETE	SEE FIGURE 3
3	700236	1	HEX NIPPLE 1/2"X1/4"	
4	700313	1	ELBOW STREET 1/4" 45*	
5	780617	4	SCREW-MACH PHIL-4X1/2" SS	
6	740235	1	SIGN PLATE	
7	780214	1	WASHER-9/16"X1 1/8" SS	
8	700111	1	MALE QD 1/4"	
9	740181	1	PVC ELBOW BARB 2"X2"MPT	
10	740041	1	VAC HOSE/TANK TO VAC 24.5"	
11	705110	2	DRAIN VALVE 45* EXT-2"	
12	705102	1	DRAIN VALVE 2" X 1 1/2" MPT	
13	740033	1	PVC BARB 2" X 2" MPT	
14	740027	1	CAM LOCK MALE 1 1/4" MPT	
15	740256	2	RUBBER WASHER 5/16"X1 3/8"	
16	780213	2	WASHER-3/8"X1 1/2"	
17	780017	2	BOLT-1/4-20SAE X 1" SS	
18 & 28	740232	1	PUMPOUT ASSEMBLY W/SWITCH(115V)	
18 & 28	740237	1	PUMPOUT ASSEMBLY W/SWITCH(230V)	
19	705008	2	VAC CUFF 1 1/4" X 1 1/4"	
20	705107	1	DRAIN VALVE NUT 1 1/4"	
21	740028	1	CHECK VALVE 1 1/4"	
22	740029	2	PVC BARB 1 1/4" X 1 1/4" MPT	
23	740092	1	VAC HOSE/ AUTO PUMPOUT-9"	
24	740257	1	8" DECK LID W/ GASKET	
-	740173		GASKET ONLY	
-	740174		8" DECK LID ONLY	
25	740218	1	FLOAT SHUTOFF ELBOW	
26	740200	1	FLOAT BALL SHUTOFF	
27	702905	3	HOSE CLAMP 2 1/4"	
18 & 28	740232	1	PUMPOUT ASSEMBLY W/SWITCH(115V)	
18 & 28	740260	1	PUMPOUT ASSEMBLY W/SWITCH(230V)	
29	705106	1	DRAIN VALVE NUT 1 1/2"	
30	740253	1	PVC 2" ELBOW WASTE BAG RET.	
31	740036	1	WASTE FILTER BAG	
32	740214	1	WASTE TANK	
33	740258	1	VAC HOSE/VAC II TO MUFFLER 7.5"	FX-88HP
34	780401	32/35	NUT-NYLOC 1/4"X20SAE	
35	780201	68/80	WASHER-1/4"	
36	740231	1	VACUUM MANIFOLD 2-2 STAGE	FX-88HP
37	740226	6/9	VAC SPACER	
38	740209	2/3	VAC GASKET	
39	740043	2/3	2" VAC MOTOR INTAKE FLANGE	
40	780016	6/9	BOLT-1/4"-20SAE X 3 1/2"	
41	724001	1	VAC MOTOR 2-STAGE/093/115V	
42	740219	2	AXIAL FAN 115V	
42	740236	2	AXIAL FAN 230V	
43	740203	1/0	BACK PLATE W/CORD WRAPS	
44	780001	18	BOLT-1/4"-20SAE X 3/4"	
45	780613	12	SCREW-PHIL TRUSS 1/4"-20X 5/8"	
46	724000	1/2	VAC MOTOR 2-STAGE/096/115V	

ITEM #	PART #	QTY FX-88HP/ FX-88	DESCRIPTION	NOTES
41 & 46	724003	2/3	VAC MOTOR 2-STAGE/196/230V	ALL MODELS
47	780615	4/8	SCREW-PHIL/PAN 6-32X1/2"	
48	780413	4/8	NUT-NYLOC 6-32 18.8	
49	740208	1	VACUUM MANIFOLD 3-2 STAGE	FX-88
*	740233	1	CHEMICAL HOLDER/FUNNEL	
50	740206	1	SWITCH PLATE (specify model)	
51	740193	1	HOUR METER	
52	740211	1	SWITCH DPST RED LIGHTED	
53	740210	3/4	SWITCH DPST GREEN LIGHTED	
54	780614	3	SCREW-PHIL-TRUSS-10-24X3/8"	
55	780411	2	NUT-NYLOC-5/8"X11SAE	
56	780218	4	WASHER-5/8"X1 1/8"	
57	740212	2	WHEEL 12" FOAM	
58	740213	2	CASTER 4" X 1.25"	
59	700270	2	COUPLER 1/4" X 1/4" FPT	
60	719000	1	PRESSURE GAUGE "U" CLAMP	
61	719002	1	PRESSURE GAUGE-1000 PSI	FX-88
61	719003	1	PRESSURE GAUGE-2000 PSI	FX-88HP
62	780617	4	SCREW-PHIL/PAN 10-32X1/2"	
63	780221	4	WASHER-#10SS	
64	780410	4	NUT-10-32	
65	700101	1	QD 1/4" FEMALE	
66	78214	1	WASHER-9/16"X1 1/16"SS	
67	715022	1	PRESSURE REGULATOR-600PSI	FX-88
-	715023		PRESSURE REG. KIT-600 PSI/PISTON/	FX-88
			UCUP/SEAT/ORING	
67	715011	1	UNLOADER VALVE-1200PSI	FX-88HP
68	715025	1	PRESSURE REG. BACK PLATE	FX-88
68	715014	1	UNLOADER BACK PLATE	FX-88HP
69	700303	8	ELBOW STREET 1/4"	
70	715024	1	PRESSURE REG. FRONT PLATE	FX-88
70	715013	1	UNLOADER FRONT PLATE	FX-88HP
71	721123	1	PULSEHOSE-REGULATOR TO QD	FX-88
71	721223	1	PULSEHOSE-REGULATOR TO QD	FX-88HP
72	721122	1	PULSEHOSE-PUMP TO REGULATOR	FX-88
72	721222	1	PULSEHOSE-PUMP TO REGULATOR	FX-88HP
73	721121	1	PULSEHOSE-PUMP TO PRES. GAUGE	FX-88
73	721221	1	PULSEHOSE-PUMP TO PRES. GAUGE	FX-88HP
74	740259	2	HOSE 1/2" CLEAR REINF. 9" SOLUTION/PUMP	
75	702902	2	HOSE CLAMP 1/2"	
76,77,78,79	740221	1	FRESH WATER FILTER 1/2" BARBS	
	721102		500 PSI PUMP/MOTOR	FX-88
80	721103	1	500 PSI PUMP	FX-88
	721202		1200 PSI PUMP/MOTOR	FX-88HP
80	721203	1	1200 PSI PUMP	FX-88HP
81	721104	1	MOTOR/115V/230.5HP/FOR 500 PSI PUMP	FX-88
81	721204	1	MOTOR/115V/230V/1.5HP/FOR 1200 PSI PUMP	FX-88HP
82	740142	4	MOTOR MOUNT	
83	740055	1	HOSE BYPASS TO SOLUTION TANK	
84	700293	1	HEX PLUG 1/4"	
85	740202	1	BOTTOM PLATE/AXEL/HINGE	

**NOT SHOWN ON SCHEMATIC*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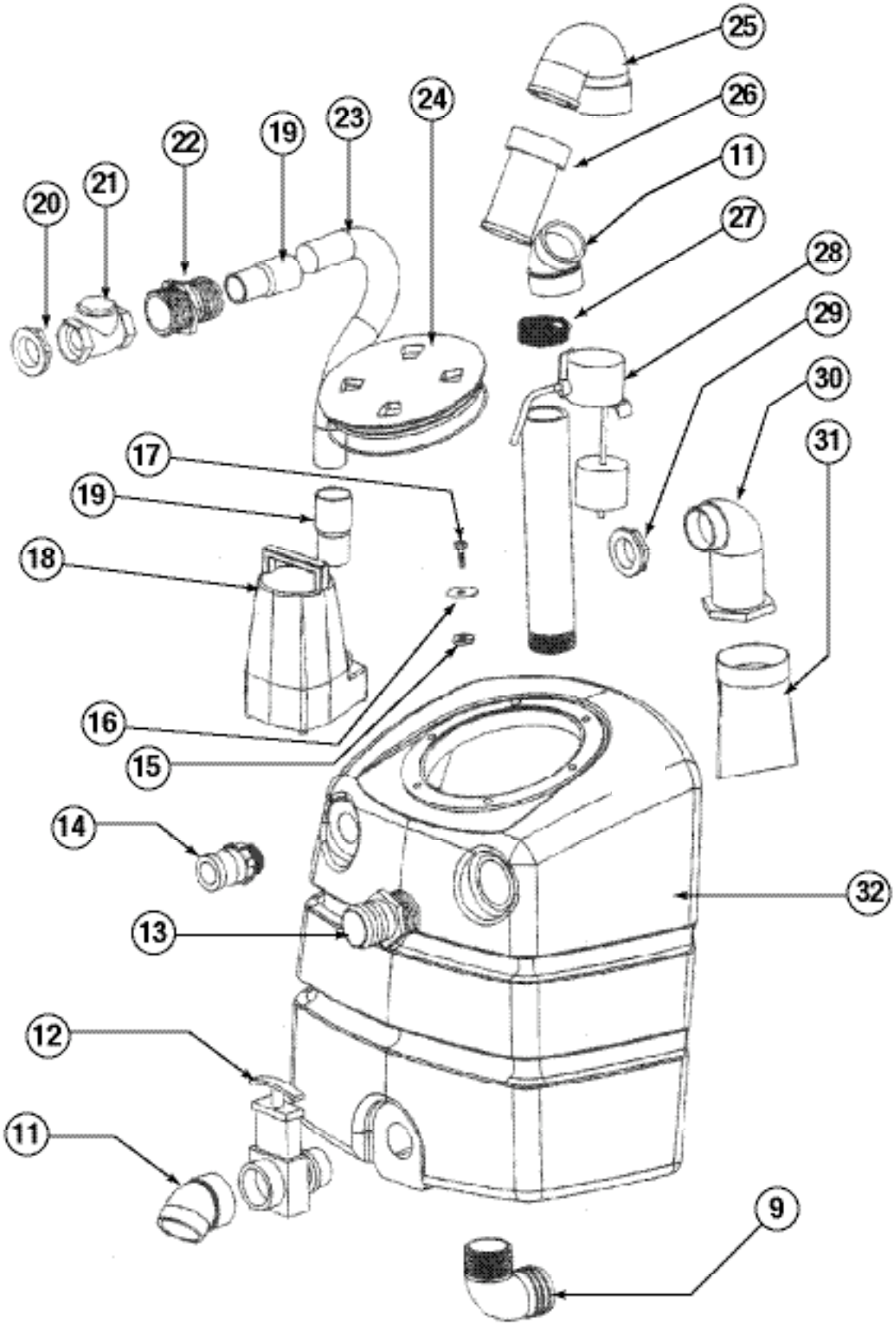
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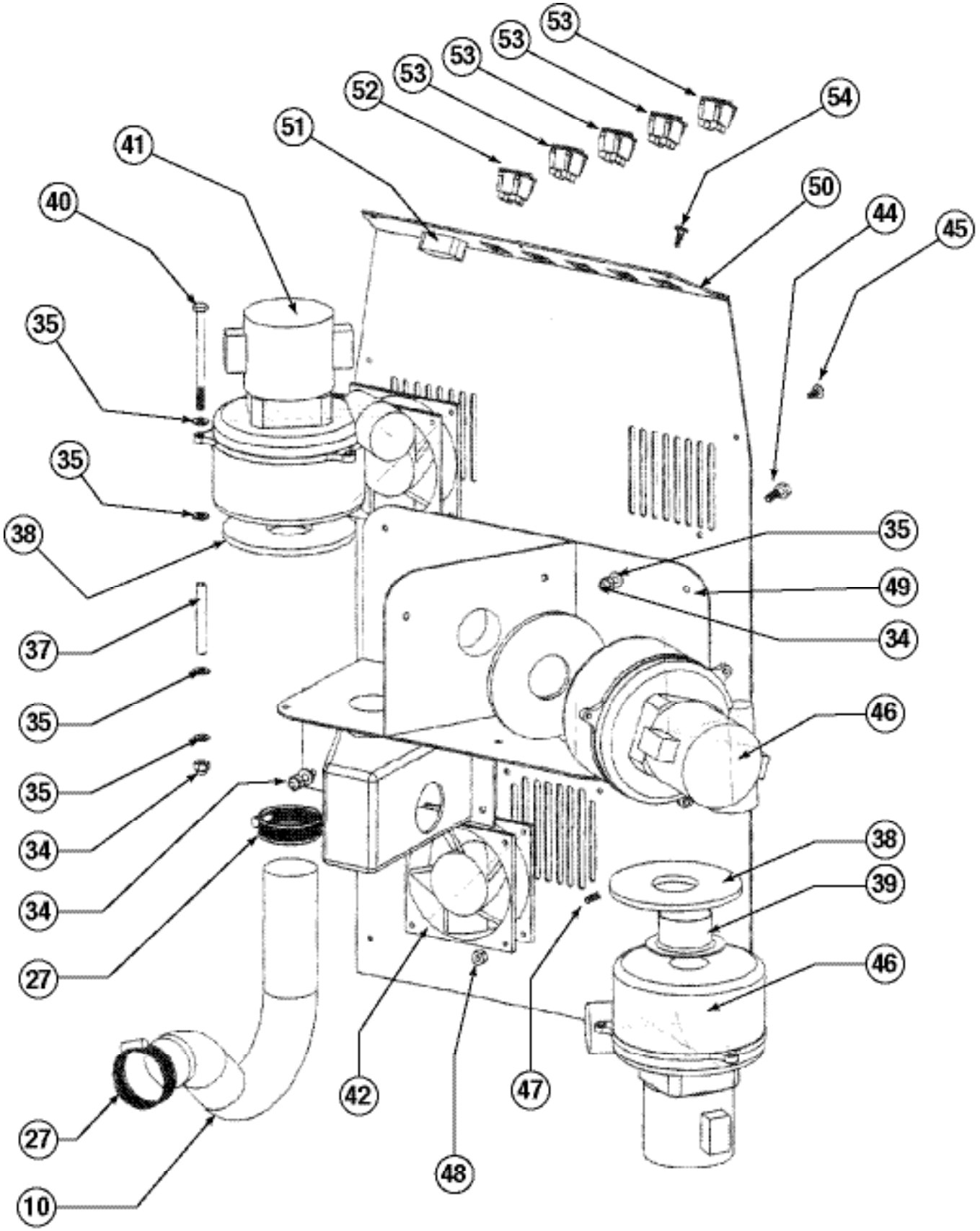
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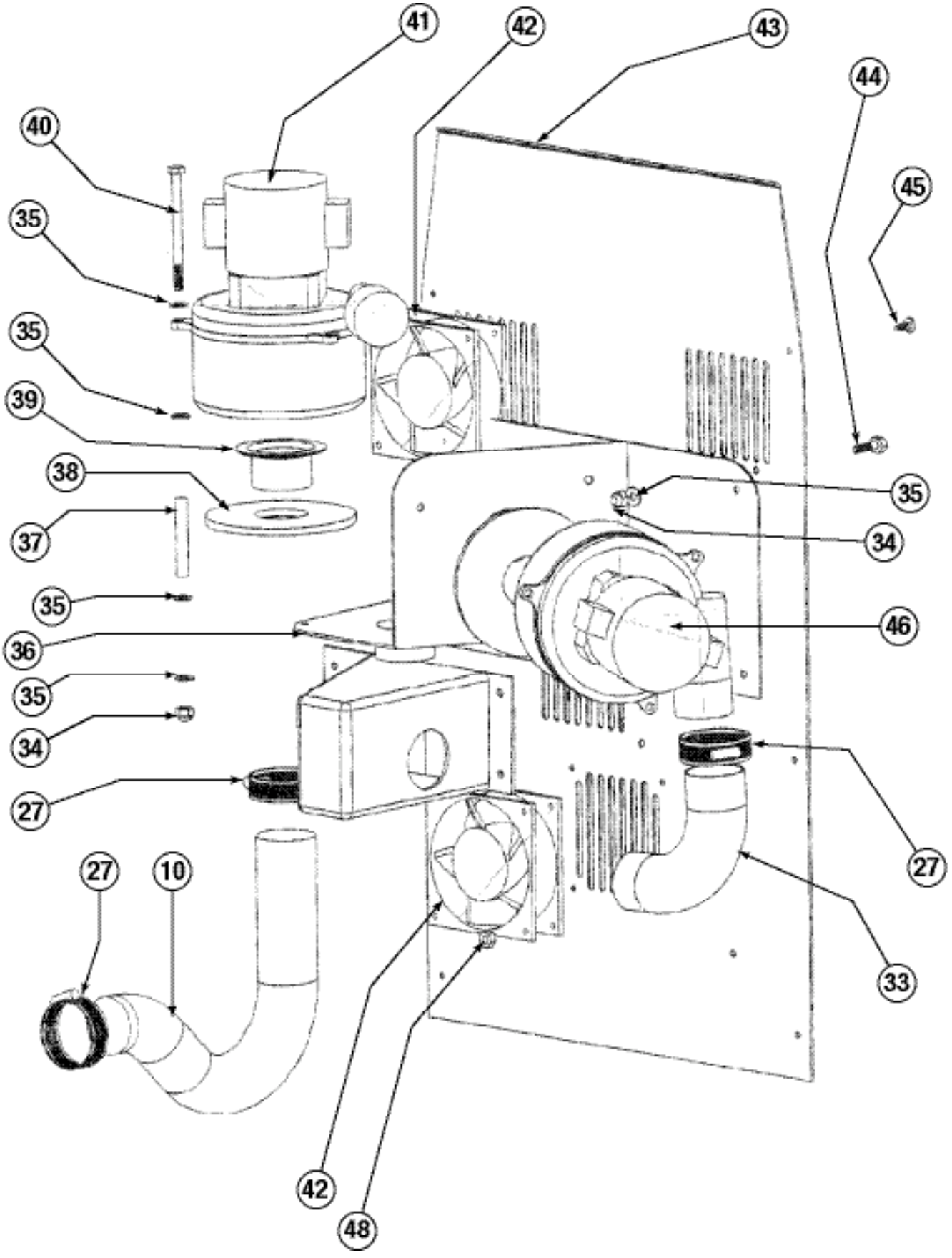
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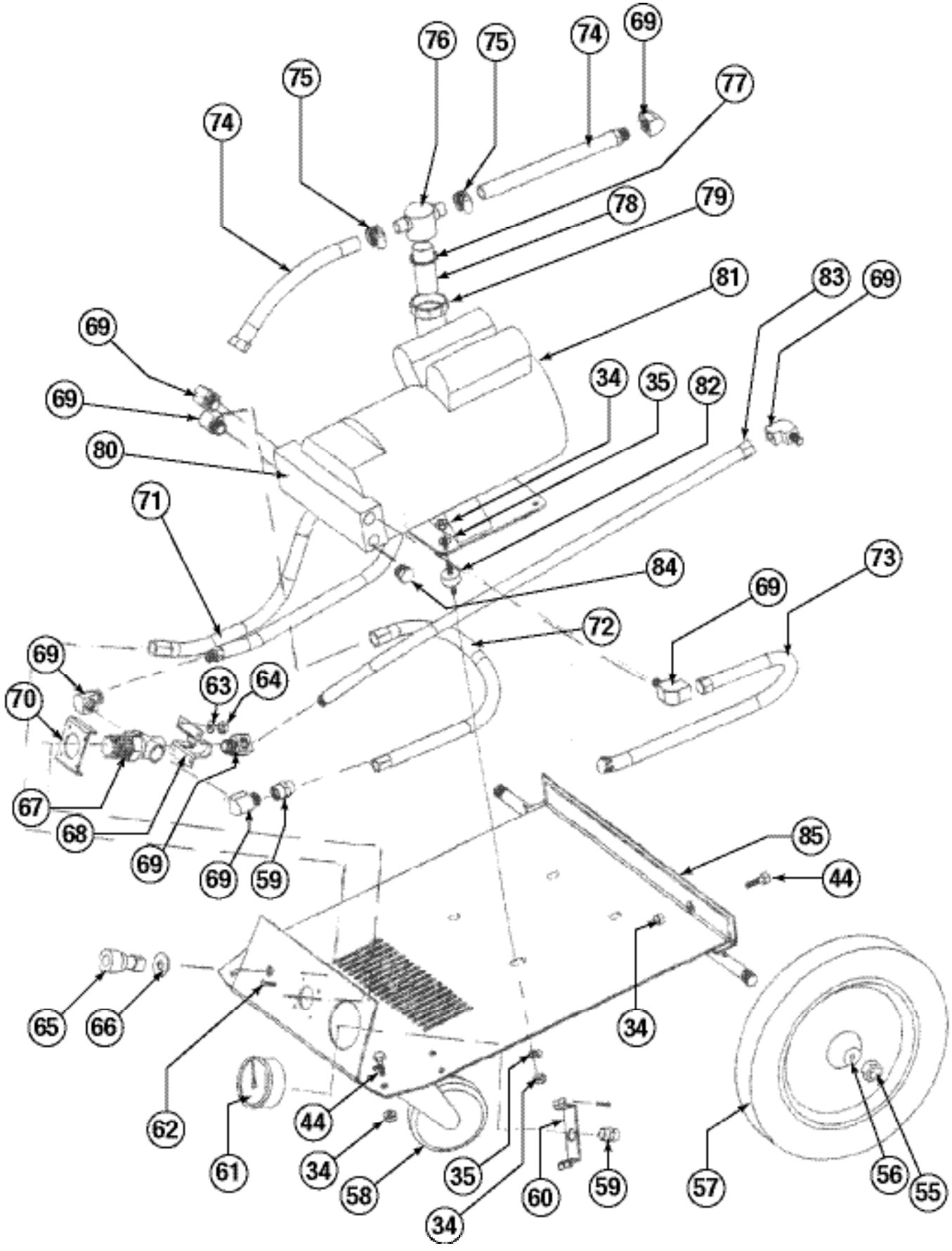
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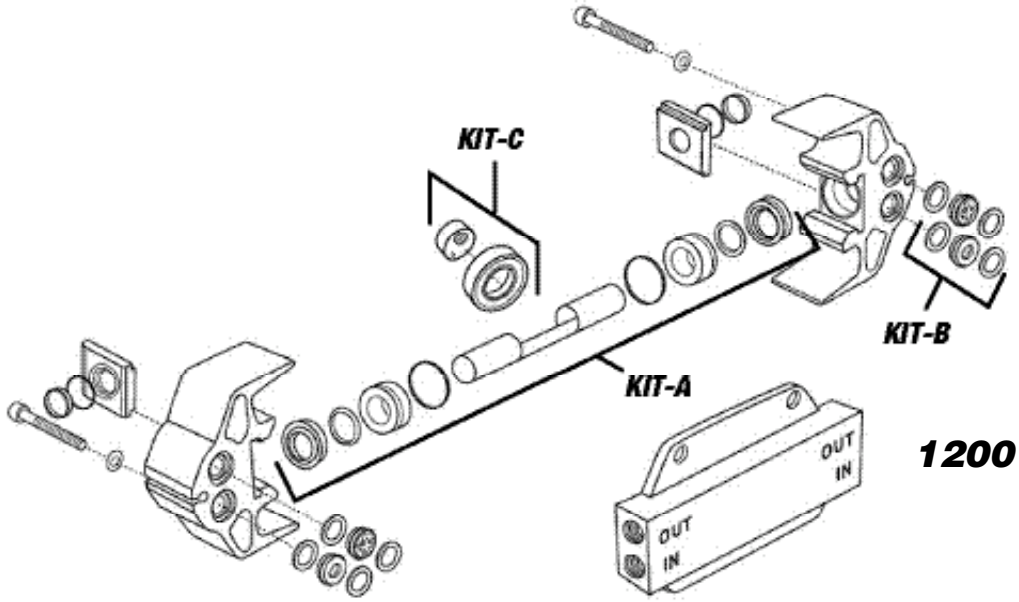
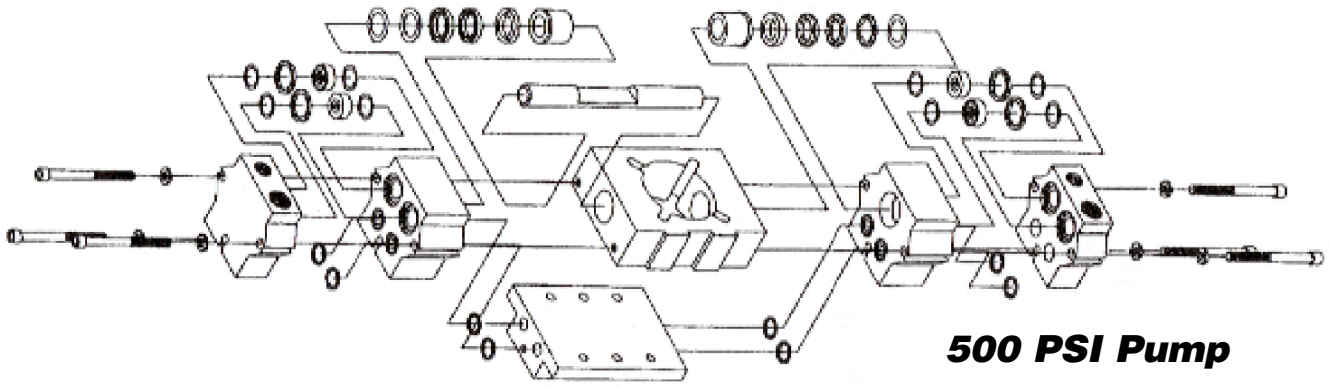
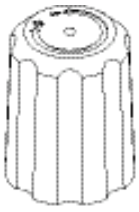


1200 PSI Pump

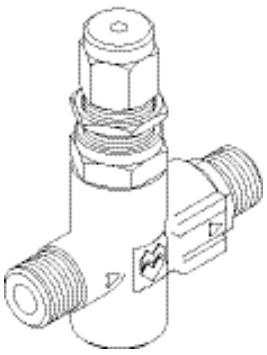


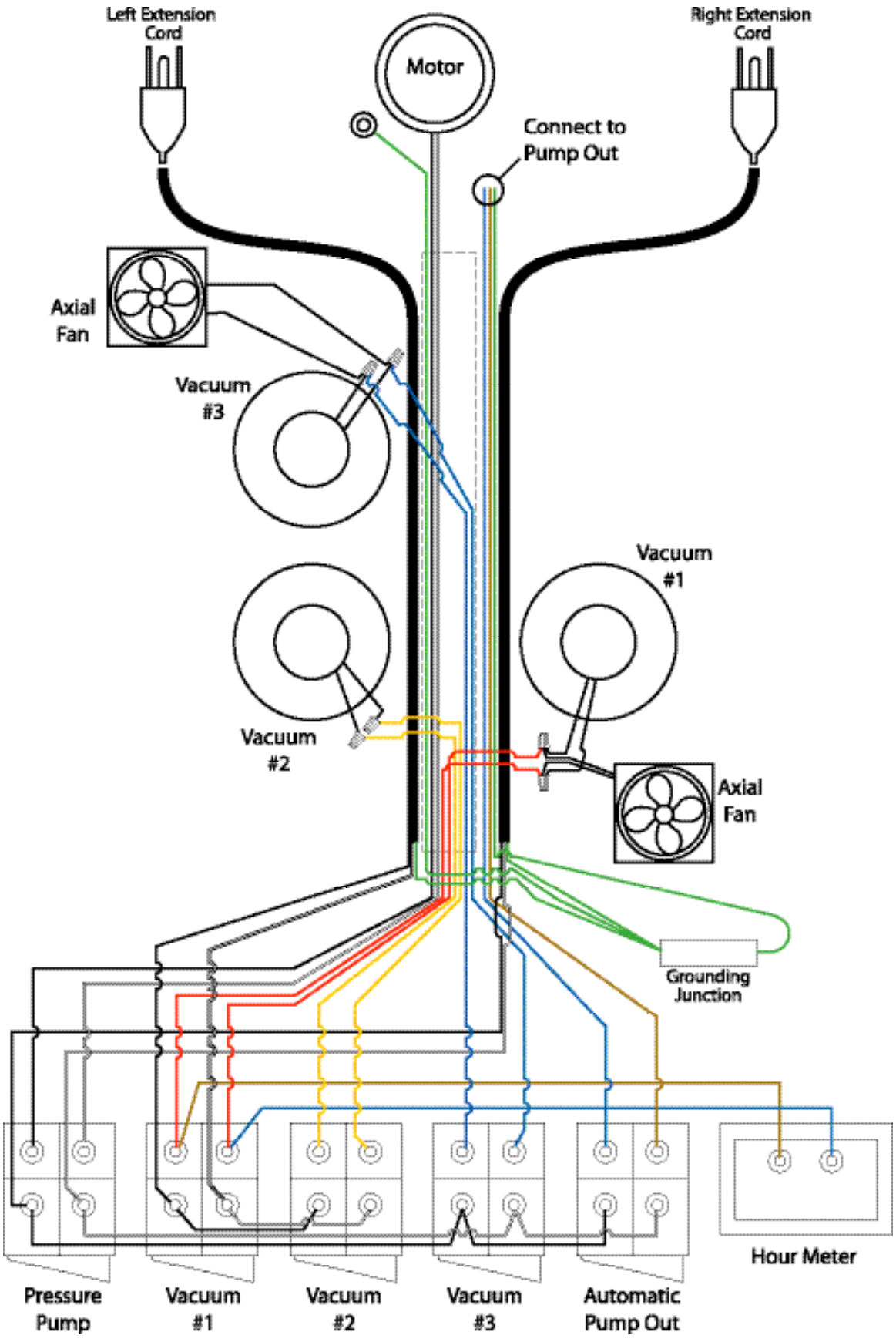
500 PSI Pump

Part #67 – 500 PSI Pressure Regulator



1200 PSI Unloader Valve




Left Extension Cord
Motor
Right Extension Cord
Connect to Pump Out
Axial Fan
Vacuum #3
Vacuum #1
Vacuum #2
Axial Fan
Grounding Junction
Hour Meter
Pressure Pump
Vacuum #1
Vacuum #2
Vacuum #3
Automatic Pump Out

FX-88® ONE YEAR LIMITED WARRANTY

FX-88® is warranted to be free of defects in material and workmanship for a period of twelve (12) months under normal use and service from the date of original purchase when operated and maintained in accordance with our Operating and Maintenance instructions. This warranty does not apply to damage or failure caused by improper use, abuse, or neglect. During the warranty period, we will repair or replace, at our sole option, any part found to be defective upon our examination, but will not pay shipping costs, labor, or other costs. To obtain warranty service, write us at HydroForce, 556 West Confluence Ave., Salt Lake City, Utah 84123, or call us at (toll free)1-800-637-3789 or 801-268-2673. Parts may not be returned without prior permission and must be returned to us with freight prepaid.

This warranty does not cover normal wear items such as hoses, power cords, filters, gaskets, valves, quick disconnects and other parts that require replacement in ordinary use.

Replacement parts are warranted only for the remaining period of the original warranty.

This warranty is for the replacement of defective parts or workmanship only. It **does not** provide for the replacement of entire units due to defective parts or workmanship.

This warranty does not cover labor or any other charges in connection with the replacement of defective parts. No local service or repair charges are allowed.

This warranty service is an exclusive remedy and we **are not** responsible for any consequential or incidental damages or injury to person or property.

WARRANTY INFORMATION

SERIAL NUMBER: _____

DATE OF PURCHASE: _____

PURCHASED FROM: _____

PLEASE RETURN THE WARRANTY REGISTRATION CARD