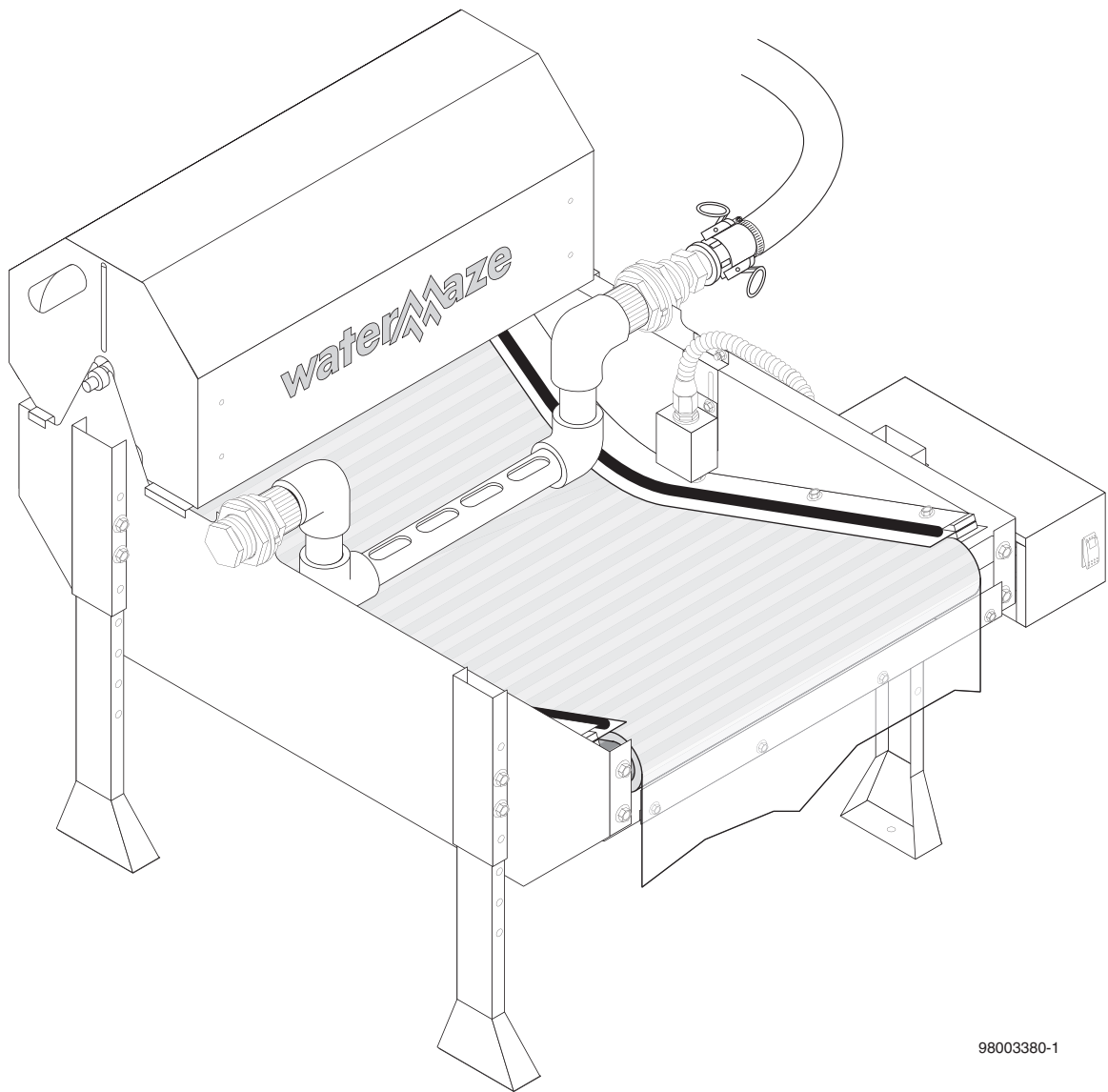




OPERATOR'S MANUAL

■ IPF2-20 Water Treatment System



98003380-1

Patent Pending

For the dealer nearest you, consult our web page at www.wmaze.com

9.800-338.0

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Part Number _____

Serial Number _____

Date of Purchase _____

The part and serial numbers will be found on a decal attached to the machine. You should record both serial number and date of purchase and keep in a safe place for future reference.

INTRODUCTION & IMPORTANT SAFETY INSTRUCTIONS

Your owner's manual has been prepared to provide you with a simple and understandable guide, for equipment operation and maintenance, based on the latest product information available at the time of printing. To keep your machine in top running condition follow the specific maintenance and troubleshooting procedures given in this manual. When ordering parts please specify model and serial number.

NOTE: Water Maze reserves the right to make changes at anytime without incurring any obligations.

Owner/User Responsibility:

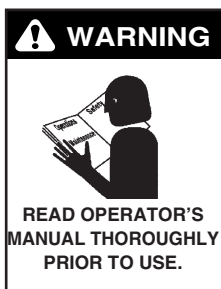
The owner and/or user must have an understanding of the manufacturer's operating instructions and warnings before using this equipment. Warning information should be emphasized and understood. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/owner, making sure that the operator comprehends its contents.

Owner and/or user must study and maintain for future reference the manufacturers' instructions.

This manual should be considered a permanent part of the machine and should remain with it if machine is resold.

When ordering parts, please specify model and serial number.

GENERAL SAFETY INFORMATION



WARNING: When using this machine basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. To reduce the risk of injury, close supervision is necessary when a product is used near children.
3. Know how to stop the product quickly. Be thoroughly familiar with the controls.
4. Stay alert – watch what you are doing.
5. Do not operate the product when fatigued or under the influence of alcohol or drugs.
6. Keep operating area clear of all persons.
7. Do not overreach or stand on unstable support. Keep good footing and balance at all times.
8. Follow the maintenance instructions specified in the manual.



WARNING: Wire the system for correct voltage. Refer to the information located on the serial plate.

WARNING: All wiring must be performed by a qualified electrician.

WARNING: Risk of Electric Shock

DANGER – Improper connection of the equipment-grounding conductor can result in a risk of electrocution. Check with a qualified electrician or service personnel if you are in doubt as to whether the outlet is properly grounded.

GROUNDING INSTRUCTIONS

This product must be connected to a grounded, metal, permanent wiring system; or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the product.

GROUND FAULT CIRCUIT INTERRUPTER PROTECTION

To comply with the National Electrical Code (NFPA 70) and to provide additional protection from the risk of electric shock, this machine should only be connected to a circuit protected by a ground fault circuit interrupter (GFCI).

9. Know the system application, limitations, and potential hazards.



WARNING: Do not use near concentrations of flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in explosive atmospheres. Liquids compatible with component materials should only be used. Failure to follow this warning can result in personal injury and/or property damage.

10. The main power must be brought from the circuit breaker and wired into the electrical box on the IPF2-20. This line must be run through conduit to protect it from damage. A power disconnect should be located next to the machine for maintenance purposes.
11. Protect all electrical cords from sharp objects, hot surfaces, oil, sunlight, and chemicals. Avoid kinking the cords. Replace or repair damaged or worn cords immediately.

IMPORTANT SAFETY INSTRUCTIONS

12. Never make adjustments on the machine while it is in operation.
13. Follow the maintenance instructions specified in this manual.
14. Before servicing the machine, refer to all the MSDS's on the material identified in the waste stream. You must comply with all warnings and wear all protective clothing as stated on the MSDS's.
15. Inlet water temperature must not exceed 85°F.
16. The best insurance against an accident is precaution and knowledge of the equipment.
17. *Water Maze* is not liable for modifications or use of components not purchased from *Water Maze*.



18. Personal Safety:
 - a. Wear safety glasses and other applicable protective clothing at all times when working on this machine.
Refer to item #14 under Important Safety Information.
 - b. Keep your work area clean, uncluttered and properly lighted
 - c. Keep visitors at a safe distance from work area.
19. Drain all liquids from the component before servicing.
20. Check hoses for weak or worn conditions before each use, making certain that all connections are secure.
21. Periodically inspect system components. Perform routine maintenance as required.
22. Do not touch an operating motor. Modern motors are designed to operate at high temperatures.
23. Do not touch any electrical component with wet hands, when standing on a wet or damp surface, or in water.

24. **Keep machine from freezing.**

25. Do not spray water directly at machine.

WARNING: This system contains moving parts. Follow safe practices when performing maintenance and when troubleshooting. Disconnect the power before servicing this machine. If the power disconnect is out of sight, lock it in the open position and tag it to prevent unexpected application of power.

WARNING: If any cords or electrical wires appear to be frayed, damaged, or in poor condition, proceed with caution and immediately take steps to have the cords repaired or replaced.

WARNING: Make sure to take precautions when performing maintenance on the IPF2-20 and make sure electrical cords are well maintained.

APPLICATION AND INTENDED USE

IPF2-20 Water Treatment Unit:

The IPF2-20 can be installed as a component of a system that incorporates multiple water treatment technologies. In certain applications the constituents in the water may require additional pre-treatment or post treatment of the fluid stream. The IPF2-20 is effective in removing a wide range of constituents from water including:

- Oils (emulsified and free-oils)
- Suspended solids
- Heavy metals

As in all water treatment technologies, and without additional complementary technologies, the IPF2-20 has its limitations. It does not and/or is less effective in removing the following from industrial waste water:

- Dissolved solids: (i.e., salts, sugars, etc.)
- Some miscible liquids: (i.e., milk and water)
- Chelated solutions (e.g., metal ions held in solution using chemical agents) – typically found in metal plating applications
- Water soluble liquids (i.e., machining coolants)

To assure the best processed water quality, pretreatment of the waste water should be applied to address the following waste water characteristics:

- Heavy solids: Excessive amounts of heavy solids (especially solids that quickly fall out) should be removed prior to entering the IPF2-20 system.
- Free-oils (oils that are floating on the surface of the water): Although the IPF2-20 will typically address both free-oils and emulsified oils, excessive amounts of free-oils should be removed prior to entering the EC system.
- pH of the water: Typically, the IPF2-20 system performs best when the pH of the influent waste water is between 6 and 8. If the pH is outside these limits, pH adjustment will be necessary. Consult Water Maze for recommendation.
- Post-treatment: Subject to the application requirements, additional water treatment may be required.

Consult a Water Maze representative prior to combining the IPF2-20 with other pre-treating and post treating equipment.

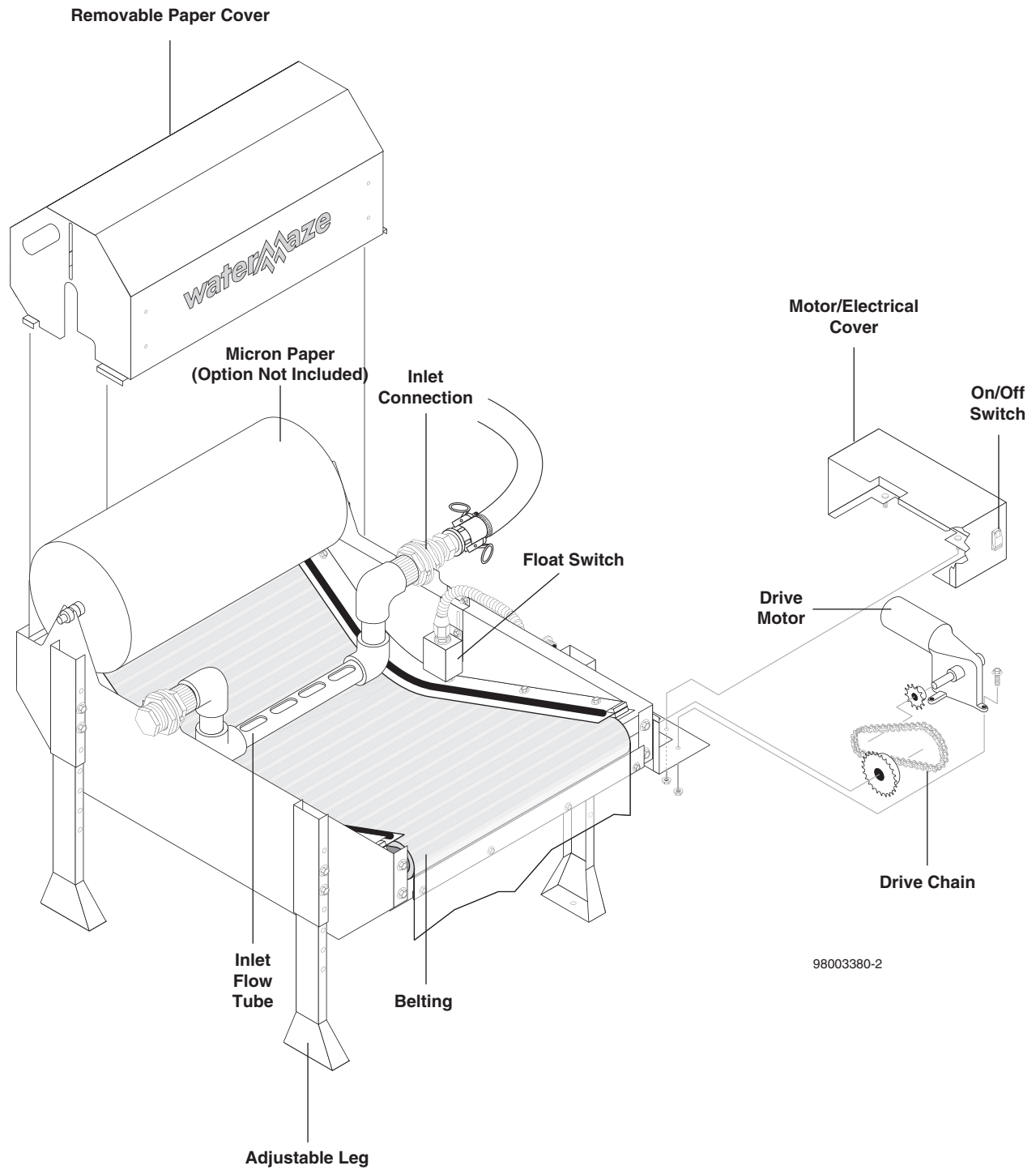
TCLP Testing:

TCLP is one of the Federal EPA test methods that are used to characterize waste as either hazardous or non-hazardous for the purpose of disposal. TCLP is an acronym for Toxicity Characteristic Leaching Procedure. A TCLP test may be required prior to disposal of your solid waste. Consult a Water Maze representative for details.

Site Preparation:

The installation site surface should be of compacted materials, such as concrete, asphalt or pavement and capable of supporting the IPF2-20 treatment system.

IPF2-20 COMPONENT IDENTIFICATION



INSTALLATION & OPERATING INSTRUCTIONS

The following instructions will provide adequate information to fully install your Water Maze IPF2-20 System. Please follow these instructions step by step to ensure proper installation.

Equipment and Supplies Needed for Installation

Aside from having a general assembly of tools on hand, you will need to supply a few additional items to complete the installation of your system.

- Forklift
- Level
- Tape Measure
- Chalk

Equipment Installation

The model IPF2-20 water treatment system must be installed on a level surface.

- If surface is not level, shimming may be required.

Installation Checklist

- Are all piping and electrical float switches connected as shown on the "Water Panel View"
- Is electrical wiring connected as shown on the Electrical Connection Diagram?
- Is the voltage correct?

START-UP

1. Make sure that all equipment is level.
2. Attach incoming water hose to connection located on side of polishing filter.
3. Connect electrical power to control panel: When connecting to the power supply, follow all electrical and safety codes as well as the most recent National Electric Code (NEC) and Occupational Safety and Health Act (OSHA). Ground system before connecting to the power supply.

WARNING: All wiring must be performed by a qualified electrician.

UTILITY USAGE

Electrical: 120 Volts, 3 Amps

OPERATING ENVIRONMENT

The IPF2-20 is designed to work in a wide variety of operating conditions. In normal operating environments, the system should perform as specified. In extremely hot or cold environments certain precautions need to be taken.

Operating Conditions

Air Temperature Range 40° - 120°F

Water pH 6.0 - 8.0

Cold Weather



Protect The IPF2-20 from damage that can occur when freezing water expands. Freezing water may cause pipes to burst.

Drain all pipes if a prolonged hard freeze is expected. Make sure all valves are open so water can completely drain from the system.

Environmental

To reduce deterioration of equipment it is recommended that the IPF2-20 Water Treatment System be protected from environmental elements such as rain, snow, hail, direct sunlight, as well as freezing temperatures.

MAINTENANCE INSTRUCTIONS

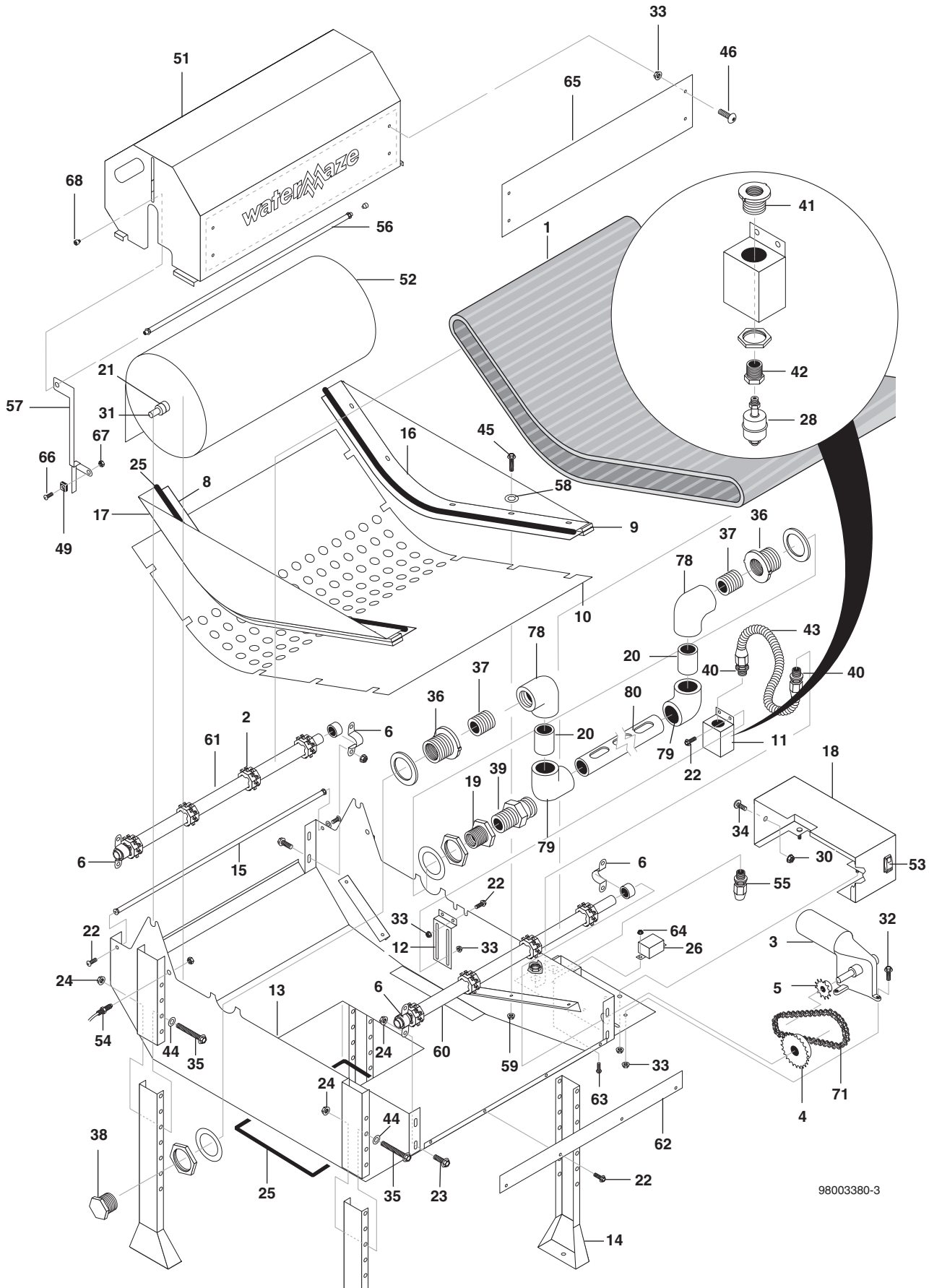
Daily and weekly maintenance is important for your system to function consistently and properly. Maintenance frequency depends on many factors, such as usage, volume of sludge, etc. On-site personnel should be trained and be aware of the daily and weekly maintenance that is required to meet these performance factors. We recommend the following:

Daily Schedule:

(Performed by customer personnel)

1. Become familiar with the IPF2-20 and make sure the electrical switch is in the ON position. When the switch is in the ON position, your system can operate automatically.
2. While operating the system, observe and repair any water leaks.

EXPLODED VIEW

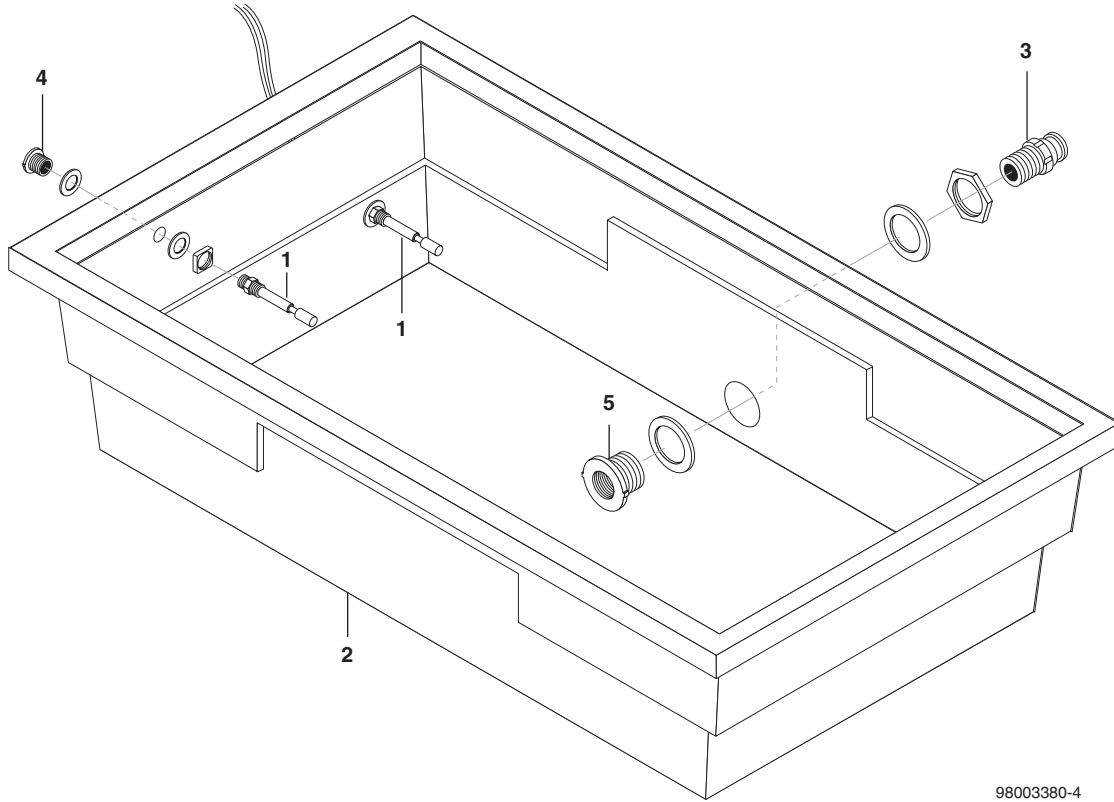


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EXPLODED VIEW

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	8.749-948.0	Belting, 1" Pitch, Conveyer, Plastic	1	42	8.706-914.0	Bushing, 1/2" x 1/8" Pipe	1
2	8.749-949.0	Sprocket, 1" Pitch, 2.6 Diam x 1" Bore	8	43	9.802-448.0	Conduit, Wtr Tight, Flex, 1/2, 100' / Box	2.5 ft
3	8.749-950.0	Motor, 90°, 115V AC/DC, 1/15HP	1	44	9.802-807.0	Washer, Flat 3/8"	8
4	8.749-952.0	Sprocket, Drive Belt	1	45	8.731-131.0	Screw, 1/4" x 1-3/4" Whiz	10
5	8.749-953.0	Sprocket, Shaft Motor	1	46	9.803-541.0	▲ Screw, 5/16"-18 x 1/2" CS SOC BH NC ZN	4
6	8.749-954.0	Bearing, UHMW S.S. Base Mounted	4	47	8.716-524.0	▲ Terminal, Female, Socket	2
7	8.749-956.0	▲ Link, Chain, Single Strand	1	48	8.716-706.0	▲ Tubing, .25 ID Blk Shrink, 48" 25/	3 in
8	8.749-957.0	Guide, Paper, Tank, Micron FP	2	49	9.804-120.0	Magnet, Reed Sensor Target	1
9	8.749-958.0	Spacer, Guide, Belt, UHMW	4	50	8.707-168.0	▲ Coupler, 1.5" Fem x 1.5" Hose Barb C	1
10	8.916-851.0	Filter Pan, Tank Assy, Micron FP1		51	8.917-157.0	Wlmt, Paper Cover	1
11	8.916-902.0	Bracket, Float Switch	1	52	8.749-959.0	Paper, Filter, 50 Micron (Option Not Included)	1
12	8.916-903.0	Adjustable Bracket, Float Switch	1		8.750-240.0	Paper, Filter 20 micron	1
13	8.916-853.0	Wlmt, Tank, Micron FP	1		8.750-239.0	Paper, Filter 5 micron	1
14	8.916-854.0	Wlmt, Leg, Micron FP	4		8.719-179.0	▲ Tub, Black Sludge, Rectangular w/Lid	1
15	8.916-855.0	Wlmt, Guide, Tank, Micron FP	1	53	9.802-451.0	Switch, Rocker, Carling w/Green Lens	1
16	8.916-856.0	Wlmt, Right, Splash Pan, Micron FP	1	54	9.804-118.0	Magnet, Reed Sensor N/O	1
17	8.916-857.0	Wlmt, Left, Splash Pan, Micron FP	1	55	9.802-514.0	Strain Relief, 1/2"	1
18	8.916-858.0	Wlmt, Cover, Motor, Micron FP	1	56	8.917-360.0	Switch, Rod	1
19	8.706-403.0	Bushing, 2" x 1-1/2" MT x FT, PVC 80, Spearso	2	57	8.917-154.0	Bracket, Left	1
20	8.706-583.0	Pipe, 2" Gray, PVC 80" Cut to Fit		58	9.802-805.0	Washer, 5/16"	10
21	9.802-782.0	Collar, 5/8" Bore	4	59	8.718-817.0	Nut, 1/4" x 20	10
22	9.802-754.0	Screw, 1/4" x 1/2" HH, NC, Whiz Loc	10	60	8.917-039.0	Wlmt, Axle, Front	1
23	9.802-767.0	Bolt, 3/8" x 3/4" Whiz	8	61	8.917-040.0	Wlmt, Axle, Rear	1
24	9.802-781.0	Nut, 3/8" Whiz	16	62	8.725-517.0	Scraper, Filter	1
25	9.802-072.0	Trim, 6100 B3 x 1/16" A. w/Sponge	11.5 ft.	63	9.802-749.0	Screw, 8/32" x 3/4"	2
26	8.716-088.0	Relay, 120V-5A SPDT	1	64	9.802-785.0	Nut, 8/32"	2
27	9.802-487.0	▲ Wire, Nut, Brown, Twister, 8.22 AWG	2	65	8.917-155.0	Cutout Background	1
28	8.716-294.0	Switch, Liquid Level, M-5000	1	66	8.731-134.0	Screw, 4-40	1
29	9.802-486.0	▲ Wire Nut, Orange 73B	1	67	8.718-847.0	Nut, 4-40	1
30	9.802-695.0	Nut, 10/32" Keps	4	68	8.725-548.0	Bolt, Shldr 5/16"	2
31	8.911-371.0	Axle, 5/8" x 31.625"	1	69	8.716-524.0	▲ Terminal, Female	2
32	9.802-753.0	Screw, 1/4" x 3/4"	3	70	8.716-317.0	▲ Plug, Housing	1
33	9.802-775.0	Nut, 1/4" Flange, Zn	7	71	8.749-955.0	Chain, Single Strand	13"
34	9.802-771.0	Screw, 10/32" x 3/4" BHSOC Blk2		72	8.716-517.0	▲ Disconnect, Female	4
35	9.802-733.0	Bolt, 3/8" x 3-1/2"	8	73	8.716-473.0	▲ Connector, Butt	1
36	8.706-479.0	Bulkhead, 2" NPT, Polypro	2	74	9.804-069.0	▲ Disconnect, Female	5
37	8.706-466.0	Nipple, 2" Close	2	75	8.716-377.0	▲ Terminal Ring	4
38	8.706-395.0	Plug, 2" PVC 80"	1	76	8.712-861.0	▲ Edge Trim	6 ft
39	8.707-169.0	Adapter, 1.5" Male x 1.5" Male THRD C	1	77	9.802-073.0	▲ Weatherstrip	2 ft
40	8.716-547.0	Connector, 1/2" L/T, Straight, Black	2	78	8.706-384.0	Elbow, 2" S x T	2
41	9.802-051.0	Bulkhead, 1/2" PVC	1	79	8.706-382.0	Elbow, 2" S x S	2
				80	8.750-629.0	Pipe, Machined, 2" Gray PVC	1
						▲ Not Shown	

EXPLODED VIEW - SUMP PIT. OPTION



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EXPLODED VIEW PARTS LIST- SUMP PIT. 8.917-279.0

ITEM	PART NO.	DESCRIPTION	QTY
1	8.725-513.0	Switch, Level	2
2	8.749-960.0	Sump Tank	1
3	8.707-169.0	Adapter, 1.5 Male x 1.5	1
4	9.802-051.0	Bulkhead, 1/2" PVC	2
5	8.706-490.0	Bulkhead, 1-1/2" Polypro	1



LIMITED NEW PRODUCT WARRANTY WASH WATER / WATER TREATMENT SYSTEMS

WHAT THIS WARRANTY COVERS

All *WATER MAZE* water treatment systems are warranted by to the original purchaser to be free from defects in materials and workmanship under normal use, for the periods specified below. This Limited Warranty, subject to the exclusions shown below, is calculated from the date of the original purchase, and applies to the original components only. Any parts replaced under this warranty will assume the remainder of the part's warranty period. A 60 day grace period will be given for installation.

ONE YEAR PARTS AND 30 DAY LABOR WARRANTY:

All components excluding normal wear items as described below.

WARRANTY PROVIDED BY OTHER MANUFACTURERS:

Motors, which are warranted by their respective manufacturers, are serviced through these manufacturers' local authorized service centers. *WATER MAZE* cannot provide warranty on these items.

WHAT THIS WARRANTY DOES NOT COVER

This warranty does not cover the following items:

1. Normal wear items, such as seals, filters, gaskets, O-rings, packings, pistons, brushes, filtering media, ozone bulbs, sensors, UV scanners, oil-skimmer belt, impedance sensor. Minor leaks covered first time on original start-up only.
2. Damage or malfunctions resulting from accidents, abuse, modifications, alterations, incorrect installation, improper servicing, failure to follow manufacturer's maintenance instructions, or use of the equipment beyond its stated usage specifications as contained in the operator's manual.
3. Damage due to freezing, sludge build-up, chemical deterioration (oxidation, chloride or fluoride corrosion), and rust.
4. Damage to components from fluctuations in electrical or water supply.
5. Normal maintenance service, including adjustments.
6. Transportation to service center, field labor charges, or freight damage.
7. Consumables and water quality.

WHAT YOU MUST DO TO OBTAIN WARRANTY SERVICE

While not required for warranty service, we request that you register your *WATER MAZE* Product by returning the completed registration card. In order to obtain warranty service on items warranted by *WATER MAZE*, you must return the product to your Authorized *WATER MAZE* Dealer, freight prepaid, with proof of purchase, within the applicable warranty period. If the product is permanently installed, you must notify your Authorized *WATER MAZE* Dealer of the defect. Your Authorized *WATER MAZE* Dealer will file a claim with *WATER MAZE*, who must subsequently verify the defect. In most cases, the part must be returned to *WATER MAZE* freight prepaid with the claim. For warranty service on components warranted by other manufacturer's, your Authorized *WATER MAZE* Dealer can help you obtain warranty service through these manufacturers' local authorized service centers.

LIMITATION OF LIABILITY

WATER MAZE'S liability for special, incidental, or consequential damages is expressly disclaimed. In no event shall *WATER MAZE'S* liability exceed the purchase price of the product in question. *WATER MAZE* makes every effort to ensure that all illustrations and specifications are correct, however, these do not imply a warranty that the product is merchantable or fit for a particular purpose, or that the product will actually conform to the illustrations and specifications. Our obligation under this warranty is expressly limited at our option to the replacement or repair at a service facility or factory designated by us, of such part or parts as inspection shall disclose to have been defective. **THE WARRANTY CONTAINED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY WATER QUALITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WARRANTY.** This warranty gives you specific legal rights and you may also have other rights which vary from state to state. *WATER MAZE* does not authorize any other party, including authorized *WATER MAZE* Distributors, to make any representation or promise on behalf of *WATER MAZE*, or to modify the terms, conditions, or limitations in any way. It is the buyer's responsibility to ensure that the installation and use of *WATER MAZE* products conforms to local codes. While *WATER MAZE* attempts to assure that its products meet national codes, it cannot be responsible for how the customer chooses to use or install the product. Some states do not allow limitations or exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

