OPERATORS MANUAL FOR Mi-T-M®

WCP-SERIES

WATER RECYCLING TREATMENT SYSTEM

⚠ CAUTION
RISK OF INJURY!
READ MANUAL BEFORE OPERATING!
This manual is an important part of the water recycling treatment system and must remain with the unit when you sell it!

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Form #37-0614-071522

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⚠ WARNING

⚠ WARNING: This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

⚠ WARNING

⚠ WARNING: This product can expose you to chemicals including carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

INTRODUCTION

Congratulations on the purchase of your new Mi-T-M water recycling treatment system! You can be assured your Mi-T-M water recycling treatment system was constructed and designed with quality and performance in mind. Each component has been rigorously tested to ensure the highest level of acceptance.

This operator's manual was compiled for your benefit. By reading and following the simple safety, installation, operation, maintenance and troubleshooting steps described in this manual, you will receive years of trouble free operation from your new Mi-T-M water recycling treatment system. The contents of this manual are based on the latest product information available at the time of publication. Mi-T-M reserves the right to make changes in price, color, materials, equipment, specifications or models at any time without notice.

! IMPORTANT !

These paragraphs are surrounded by a "SAFETY ALERT BOX". This box is used to designate and emphasize Safety Warnings that must be followed when operating this water recycling treatment system.
Accompanying the Safety Warnings are "signal words" which designate the degree or level of hazard seriousness. The "signal words" used in this manual are as follows:

***DANGER*: Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.**

***WARNING*: Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.**

***CAUTION*: Indicates a potentially hazardous situation which, if not avoided MAY result in minor or moderate injury.**







The symbols set to the left of this paragraph are "Safety Alert Symbols". These symbols are used to call attention to items or procedures that could be dangerous to you or other persons using this equipment.

ALWAYS PROVIDE A COPY OF THIS MANUAL TO ANYONE USING THIS EQUIPMENT. READ ALL INSTRUCTIONS BEFORE OPERATING THIS WATER RECYCLING TREATMENT SYSTEM AND ESPECIALLY POINT OUT THE "SAFETY WARNINGS" TO PREVENT THE POSSIBILITY OF PERSONAL INJURY TO THE OPERATOR.

Once the unit has been uncrated, immediately write in the serial number of your unit in the space provided below.

SERIAL NUMBER_____

Inspect for signs of obvious or concealed freight damage. If damage does exist, file a claim with the transportation company immediately. Be sure that all damaged parts are replaced and that the mechanical and electrical problems are corrected prior to operation of the unit. If you require service, contact Mi-T-M Customer Service at 1-800-553-9053 for the Sales or Service Center nearest you.

Please have the following items available for all Service calls:

1. Model Number
2. Serial Number
3. Date and Place of Purchase

CONTENTS OF WCP-SERIES WATER RECYCLING TREATMENT SYSTEM

Carefully unpack your new Mi-T-M WCP-Series Water recycling treatment system. Check the contents against the packing list. Contact the freight line if a damage claim is required on any component. The following items are the basic equipment sent with your WCP-Series Water recycling treatment system.

1. Water recycling treatment system Platform
    a. Clarifier Type Oil/Solids Separator
        1. Clarifier Tank
        2. Tank Stand
    b Ozone Generator
    c. Ozone Pump
    d. Filter Pump
    e. Inlet Flow Meter
    f. Filter Flow Meter
    g. Multi-Media Filter
    h. Cartridge Filter
    i. Polishing Filter
    j. Transfer Pump
    k. Pressurized Water Storage Tank
    l. Waste Oil Decanter
2. Sump Pump
3. Three Unattached Floats for Sump Pit
    a. Blue: Protects sump pump low level.
    b. Red: To fill pit from the water recycling treatment system.
    c. Green: High pit level discharge.
4. Sludge Tub
5. Sludge Hose
6. Water Test Kit
7. Manual
8. pH Sensor Probe
9. ORP Sensor Probe

SPECIFICATIONS

MODEL	WCP-10-0M10	WCP-20-0M10	WCP-30-0M10
MAX FLOW	10 GPM	20 GPM	30 GPM
ELECTRICAL	230 VOLT / 1 PHASE / 30 MAX AMP	230 VOLT / 1 PHASE / 35 MAX AMP	230 VOLT / 1 PHASE / 37 MAX AMP
SUMP PUMP	1 HP	1 HP	1 HP
OZONE PUMP	1/2 HP	1/2 HP	1/2 HP
CLARIFER CAPACITY	300 GALLONS	600 GALLONS	600 GALLONS
OIL COALESCING AREA	275 SQUARE FEET	425 SQUARE FEET	425 SQUARE FEET
FILTER PUMP	1 1/2 HP	1 1/2 HP	1 1/2 HP
MULTI-MEDIA FILTER	350 LBS	350 LBS	900 LBS
CARTRIDGE FILTER	100 SQ FT / 30 MICRON	400 SQ FT / 30 MICRON	400 SQ FT / 30 MICRON
POLISHING FILTER	110 LBS DEGASSED	110 LBS DEGASSED	165 LBS DEGASSED
TRANSFER PUMP	3/4 HP	3/4 HP	2 HP
DIMENSIONS	96" X 60" X 101"	96" X 72" X 110"	108" X 84" X110"
NET WEIGHT	1800 LBS	2650 LBS	3225 LBS

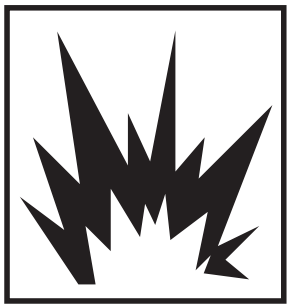
IMPORTANT SAFETY WARNINGS

WARNING: When using this product, basic precautions should always be observed, including the following:
READ ALL SAFETY WARNINGS BEFORE USING WATER RECYCLING TREATMENT SYSTEM

HAZARD	POTENTIAL CONSEQUENCE	PREVENTION
RISK OF ELECTRIC SHOCK OR ELECTROCUTION 	Serious injury or death could occur if the water recycling treatment system is not properly grounded. Your water recycling treatment system is powered by electricity and may cause electric shock or electrocution if not installed properly.	Installation of this unit, including all electrical connections, must comply with all local, state and national codes. This product must be grounded. Connect to a GFCI circuit breaker when available. If the unit should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. Do not ground to a gas supply line. 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 system is properly grounded. Always be certain the unit is receiving proper voltage (+/- 5% of the voltage listed on the nameplate). Before installing electrical connections, be certain the power switches are in the "OFF" position.
	Electrical shock may occur if water recycling treatment system is not operated properly.	Keep all connections dry and off the ground. DO NOT allow metal components of the water recycling treatment system to come in contact with live electrical components. Never operate the water recycling treatment system with safety guards/covers removed or damaged. Ensure all electrical covers are securely in place when unit is operating.
	Serious injury or death may occur if electrical repairs are attempted by unqualified persons.	Any electrical wiring or repairs performed on this water recycling treatment system should be done by Authorized Service Personnel in accordance with National and Local electrical codes. Before opening any electrical enclosure, always shut off the water recycling treatment system and drain the water. Disconnect the water recycling treatment system from the power source. If the power disconnect is not in sight, lock it in the open position and tag it to prevent power usage. (Never assume the water recycling treatment system is safe to work on just because it is not operating, it could restart at any time! Always disconnect from the power source.)

IMPORTANT SAFETY WARNINGS

READ ALL SAFETY WARNINGS BEFORE USING WATER RECYCLING TREATMENT SYSTEM

HAZARD	POTENTIAL CONSEQUENCE	PREVENTION
RISK OF EXPLOSION OR FIRE  	Serious injury or death could occur from an explosion or fire caused by a system electric spark.	This unit must be placed in an area that is well ventilated, free of flammable vapors, combustible dust, gases or other combustible materials.
RISK OF BURSTING 	Serious injury or death could occur from bursting caused by excessive pressure in the system. Serious injury may occur if attempting to start the water recycling treatment system when the pump is frozen.	Do not mistreat the pressure gauges on the system. Pressure gauges will malfunction if they are subjected to excessive pressure, vibration, pulsation or temperature or if they are placed in an environment which causes corrosion of parts. Incorrect readings on a pressure gauge could mislead the operator and place him in a dangerous working condition. Do not use a booster pump or any type of additional pumping system. Pressurizing the suction of the pump may cause the pump body to explode. Do not use this water recycling treatment system to pump flammable material! An explosion could occur from a gas vapor buildup inside the system. In freezing temperatures, the unit must always be warm enough to ensure there is no ice formation in the pump. Do not start the water recycling treatment system if it has been in a freezing environment without first allowing the pump to thaw.
RISK OF BURNS 	Serious injury may occur from touching the electrical motor. This area can remain hot for some time after the water recycling treatment system is shutdown.	Never allow any part of your body to contact the electrical motor until cooled.

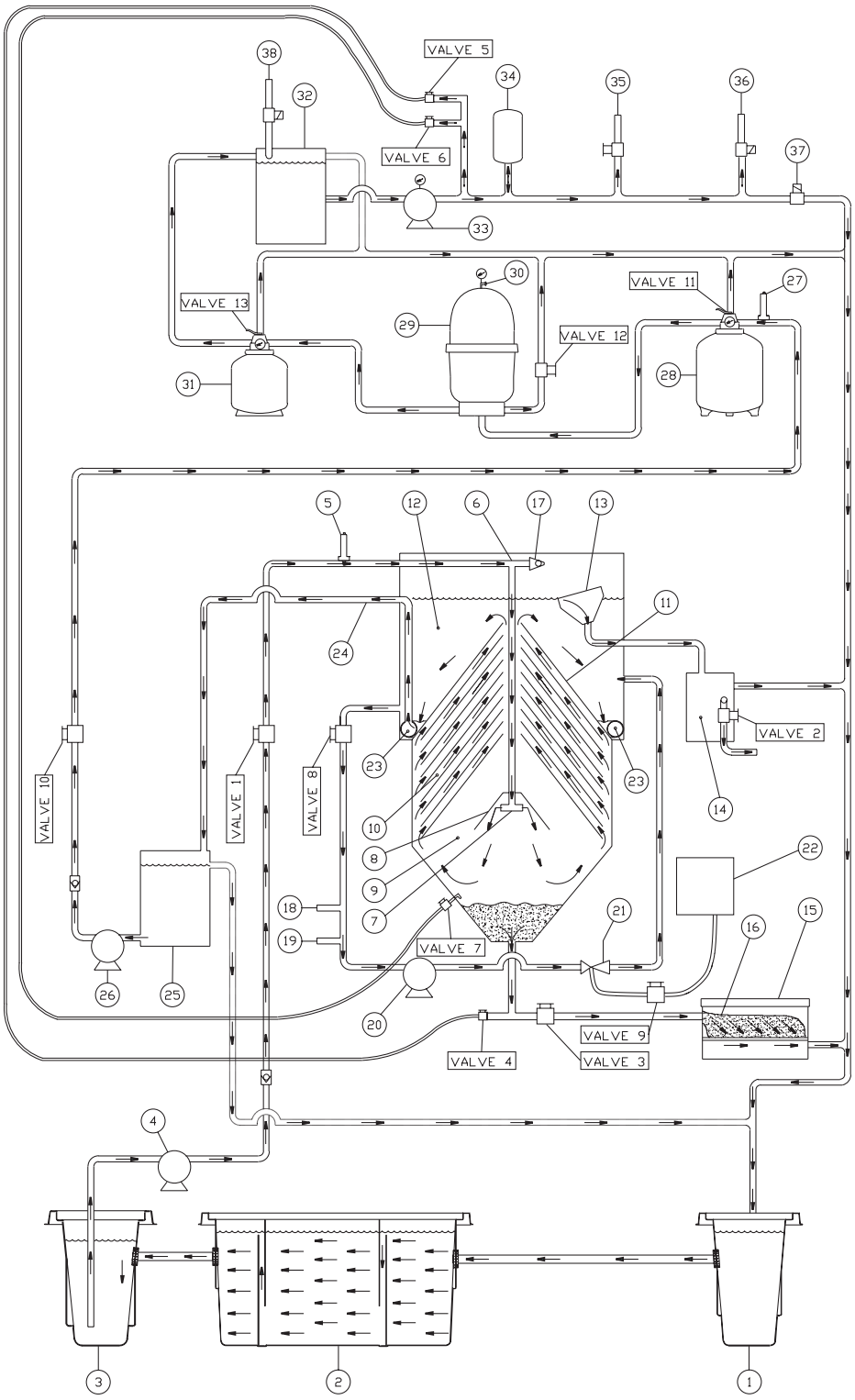
IMPORTANT SAFETY WARNINGS

READ ALL SAFETY WARNINGS BEFORE USING WATER RECYCLING TREATMENT SYSTEM

HAZARD	POTENTIAL CONSEQUENCE	PREVENTION
RISK FROM MOVING PARTS 	Serious injury may occur to the operator from moving parts on the water recycling treatment system.	Do not operate the unit without all protective covers in place. Follow the maintenance instructions specified in the manual.
RISK OF BODILY INJURY 	Injury may occur from the water recycling treatment system. Injury may occur from chemicals contacting the skin.	DO NOT DRINK THE WATER IN THE WATER RECYCLING TREATMENT SYSTEM!! This is non-potable water and is not suitable for consumption. The Cartridge Filter operates under pressure. DO NOT attempt to loosen the locking ring or open the filter tank unless the pump is turned off an the air relief valve is opened. DO NOT allow children to operate this unit. DO NOT overreach or stand on unstable support. Wet surfaces can be slippery, wear protective foot gear and keep good footing and balance at all times. Know how to stop the water recycling treatment system. Be thoroughly familiar with controls. Before servicing, ALWAYS shut off the water recycling treatment system. Never use any solvents or highly corrosive detergents or acid type cleaners with this water recycling treatment system. Keep all chemicals out of the reach of children! Consult Material Safety Data Sheets for safe handling of chemicals used with your system, especially oxidizers and acids.

!SAVE THESE INSTRUCTIONS!

FLOW DIAGRAM



WCP FLOW DIAGRAM-080700-JJ

As pressure washers are being operated, used water flows into the **Wash Water Catch Pit (1)**. From there, it moves to the **3-Stage Collection Pit (2)**. Heavy debris falls to the bottom of the pit where it is trapped by a weir which is designed to stop heavy debris while allowing the remaining water to move into the **Sump Pit (3)**. The **Sump Pump (4)** draws water from the **Sump Pit (3)** and brings it through the *Water Inlet Flow Control Valve 1*. This adjustable valve is used to regulate the flow of water entering the water clarification tank. A **Flow Meter (5)** is positioned just ahead of the water clarification tank. The water enters the water clarification tank through the **Inlet Tee (6)** and is directed down to the **Diverted Tee (7)**. From there the water is deflected downward by the **Solids Deflection Cone (8)**, then to the **Solids Separation Chamber (9)**. The **Solids Separation Chamber (9)** allows the velocity of the water to slow so that any suspended solids settle to the bottom. The water then rises up through the **Oil Coalescing Cones (10)**.

FLOW DIAGRAM

1) The non-emulsified oil molecules in the water adhere to the **Oil Coalescing Cones (10**). When enough oil molecules attach to each other, they form oil droplets. The oil droplets are carried along with the water through the **Top Separator Cone (11)** and into the **Oil Separation Chamber (12)**, where the oil droplets float to the surface. The **Oil Skimmer (13)** is positioned near the top of the **Oil Separation Chamber (12)** which allows the thin layer of surface oil and water to drain into the **Waste Oil Decanter (14)**. Since oil is lighter than water, the oil floats to the top and is released from the **Waste Oil Decanter (14)** when the *Waste Oil Release Valve 2* is opened. Excess water is returned to the **Wash Water Catch Pit (1)**.
2) The solids that accumulate in the bottom of the **Solids Separation Chamber (9)** should be regularly drained through the *Solids Drain Valve 3* into the **Sludge Tub (15)** where the solids are filtered out and the water is returned to the **Wash Water Catch Pit (1)**. The **Filter Bag (16)** is biodegradable and may be tied off and disposed of as it is filled. If the solids accumulated at the bottom of the **Solids Separation Chamber (9)** are unable to drain, open *Valve 4* and *Valve 5* to push the solids towards the **Sludge Tub (15)**. If the solids are still unable to drain, open *Valve 6* and *Valve 7* to break up the solids on the inside of the **Solids Separation Chamber (9)**. When the solids from the **Solids Separation Chamber (9**) is empted, close *Valve 4, Valve 5, Valve 6* and *Valve 7*.
3) An **Anti-siphon Device (17)** is attached to the **Inlet Tee (5)** to relieve any suction that may develop when the **Sump Pump (4)** is turned off, preventing any siphoning of water back out of the water clarification tank.

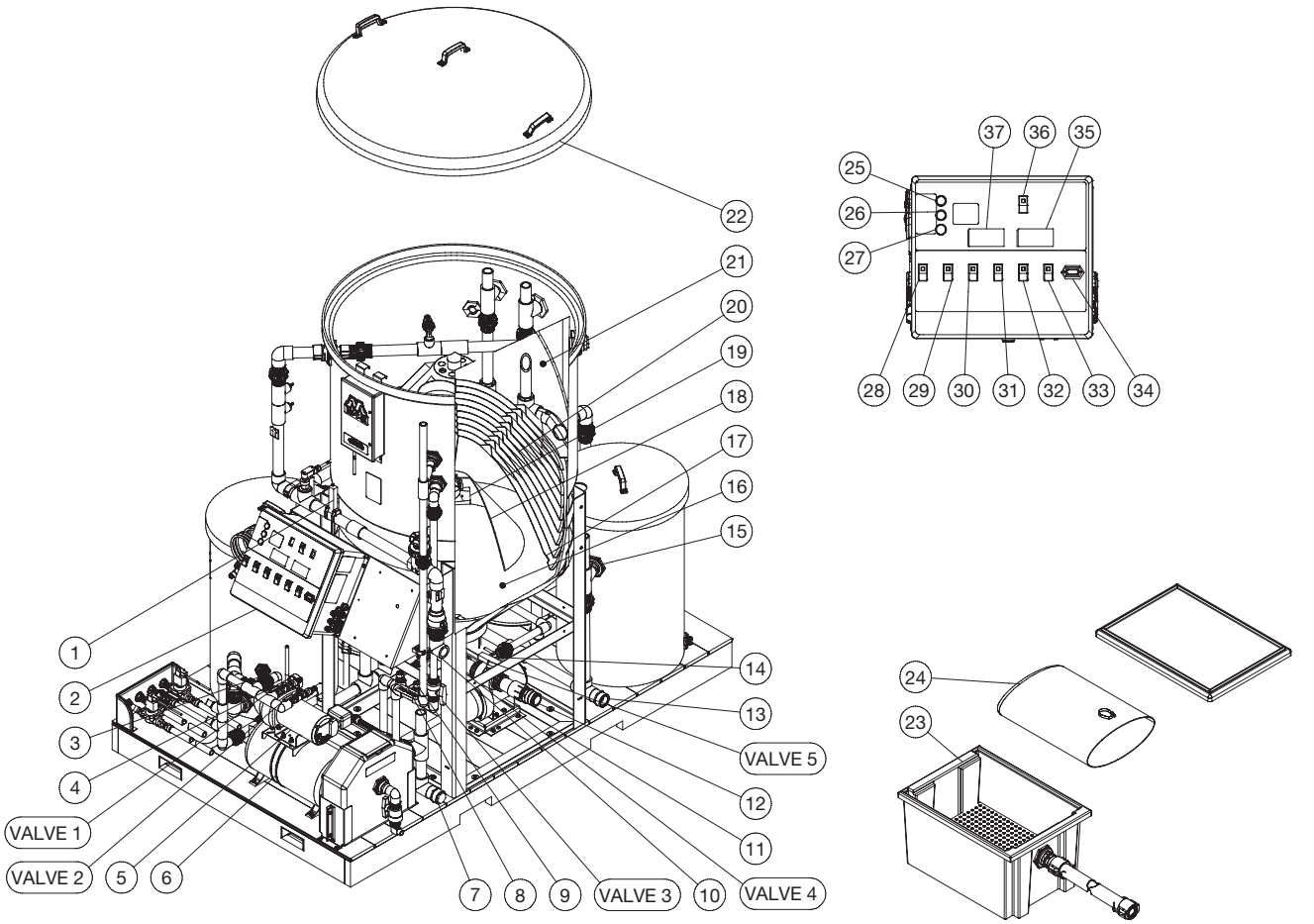
Water then flows through the *Ozone Pump Valve 8* down past the **Sensor Probes (18 & 19)** then into the **Ozone Pump (20)** where it is forced through the **Ozone Injector (21)** and back up into the **Oil Separation Chamber (12)**. (See “pH & ORP Control System” pg. 16 for details.)

1) Ozone is generated by oxygen molecules passing through a corona discharge **Ozone Generator (22)**. This is an electric charge which causes the oxygen atoms to become ozone molecules. Since ozone molecules are extremely unstable, they only retain their structure for a very short time. For this reason, ozone cannot be stored, but must be continually produced by the **Ozone Generator (22)**.
2) Ozone kills bacteria approximately 3,000 times faster than chlorine.
3) The flow of ozone is controlled by the *Ozone Flow Control Valve 9*.

Water then flows from the **Oil Separation Chamber (12)** through the **Outlet Ring (23)** and into the **Outlet Y (24)**. The **Outlet Tee (24)** directs the water into the **Product Tank (25)** where the **Filter Pump (26)** sends the water to the *Filter Control Valve 10* which regulates the amount of water going into the filtering system. A **Flow Meter (27)** is positioned just ahead of the **Multi-Media Filter (28)** to monitor flow. (Flow should be set at no more than the rating of the machine.) The *Multi-Media Filter Valve 11* has many settings, with only two being utilized: Filter and Backwash. When in the “Filter” Position, water flows into the **Multi-Media Filter (28)** from the top and passes through several layers of filtering product as it moves toward the bottom. By the time the water reaches the bottom to the filter tank, the contaminants have been filtered down to approximately 30 microns. Laterals are positioned at the bottom of the filter tank, which absorb the filtered water and move it up through the center and out the top of the tank. From there, the water flows into the bottom of the **Cartridge Filter (29)**. A *Cartridge Filter Drain Valve 12* is located at the bottom of the **Cartridge Filter (29)** for filter cleaning purposes. This valve should be closed during the water recycling treatment operation. On initial start-up, the **Air Bleed Valve (30)** must be opened to let air escape while the **Cartridge Filter (29)** fills with water. Once full, and the **Air Bleed Valve (30)** is closed, the water passes through the Reemay Polyester Fiber filter which reduces the contaminants down to 20 microns. The water moves out of the **Cartridge Filter (29)** and into the *Polishing Filter Valve 13*. This valve has many settings, two of which are utilized. “Filter” and “Backwash” When in the “Filter” position, water flows into the **Polishing Filter (31)** from the top and passes through the activated carbon or filtering agent. As it moves toward the bottom, the activated carbon or filtering agent absorbs odor and contaminants while “polishing” the water. Laterals are positioned at the bottom of the tank, which absorb the water and move it up through the center and out the top of the tank. From there, the water moves to the **Product Tank (32)** where the recycled water is held until usage is required. When needed, water is pulled from the **Product Tank (25)** by the **Transfer Pump (33)** and moved into the **Pressure Tank (34)**. This tank holds water at 30-50 PSI/2.0-3.5 Bar. Water moves directly from this tank to the water discharge outlets upon demand.

If water is needed for washing, water is sent to the **Outlet To Pressure Washer (35)**.
If the **Wash Water Catch Pit (1)** water level is low, water is added through the **Fresh Water Makeup (38)**.
If the **Wash Water Catch Pit (1)** water level is too high, water is sent to the **Rain Water Overflow (36)**.
If the recycle timer turns on, water is sent through the **Recycled Wash Water (37)** to the **Wash Water Catch Pit (1)**.

FEATURES FOR WCP-10



WCP-10-0M10 FEATURES FRONT ISO 022422

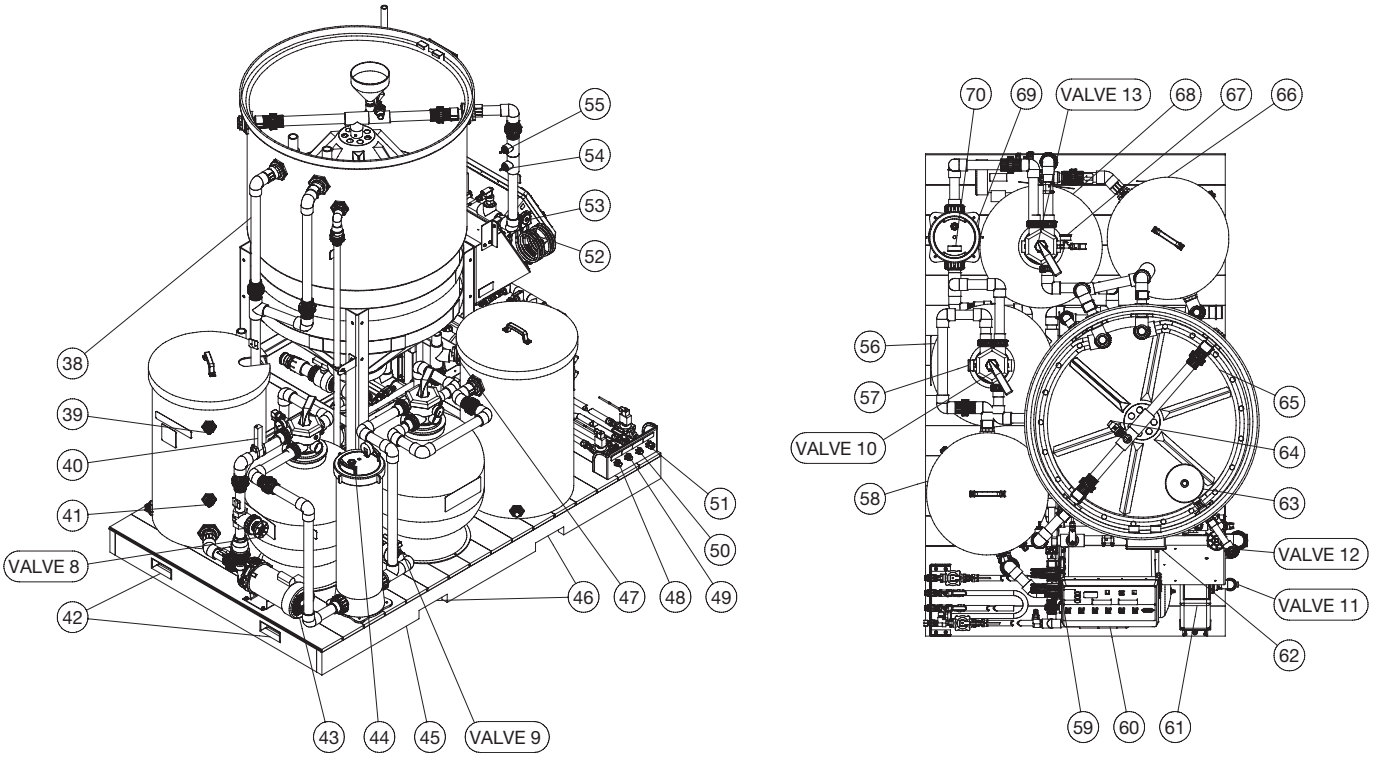
VALVE DESCRIPTIONS

1. Pressurized Clean-Out (Sludge Outlet)
2. Pressurized Clean-Out (Solids Chamber)
3. Ozone Pump
4. Ozone Flow Control
5. Solids Drain
6. Sludge Outlet Pressurized Clean-Out (Not Shown)
7. Solids Chamber Pressurized Clean-Out (Not Shown)

UNIT DESCRIPTIONS

1. Inlet Flowmeter
2. High Filter Pump Float (Not Shown)
3. Transfer Pump Float
4. Pressure Gauge: Transfer Pump
5. Transfer Pump
6. Pressure Tank
7. Outlet Return To Pit
8. Orp Sensor Probe
9. Ph Sensor Probe
10. Inlet From Sump Pump
11. Ozone Pump
12. Sludge Outlet
13. Optional Return To Pit
14. Ozone Injector
15. Holding Tank Overflow
16. Solids Separtaion Chamber
17. Oil Coalescing Cones
18. Solids Deflection Cone
19. Diverter Tee
20. Top Separator Cone
21. Oil Separation Chamber
22. Lid
23. Sludge Tub
24. Filter Bag
25. Power Indicator Light
26. Indicator Ligh: Backwash Required
27. Backwash Switch
28. Sump Pump Switch (On/Off)
29. Filter Pump Swithc (On /Off)
30. Transfer Pump Switch (On /Off)
31. Ph/Orp Meters Switch (On/Off)
32. Ph Pump Switch (On/Off)
33. Orp Pump Switch (On/Off)
34. Hour Meter
35. Orp Meter
36. Ozone Generator Switch (On/Off)
37. Ph Meter

FEATURES FOR WCP-10



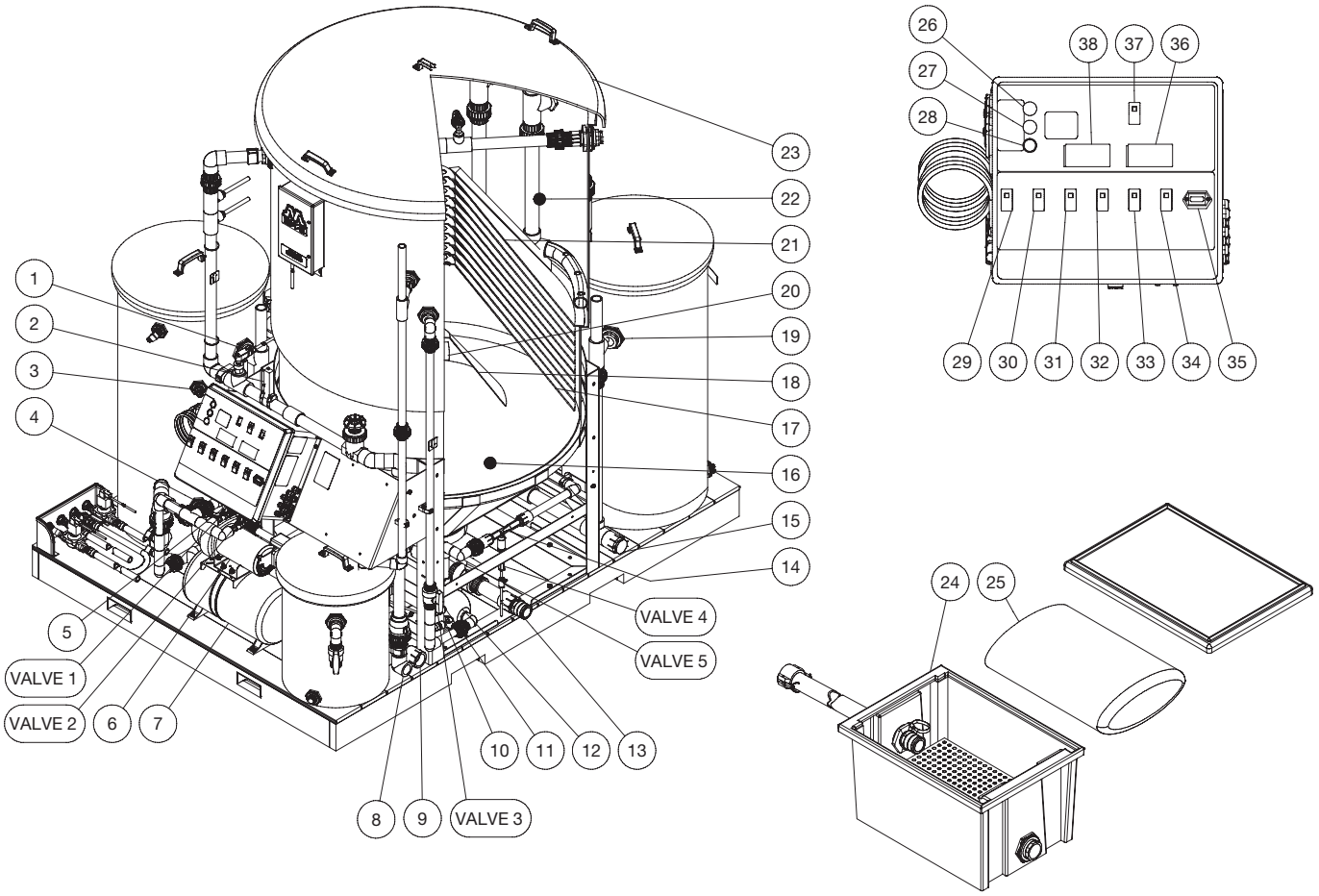
WCP-10-0M10 FEATURES REAR AND TOP 022422

UNIT DESCRIPTIONS

38. Outlet Y
39. High Sump Pump Float
40. Filter Flowmeter
41. Low Filter Pump Float
42. End Fork Lift Holes (6' Fork Required)
43. Filter Pump
44. Air Relief Valve
45. Skid
46. Side Fork Lift Holes
47. Product Tank Overflow
48. Rain Water Overflow
49. Rinse Water Outlet
50. Outlet To Pressue Washer
51. Fresh Water Makeup
52. Ph Pump
53. Orp Pump
54. Orp Chemical Injector
55. Ph Chemical Injector
56. Polishing Filter
57. Pressure Gauge: Polishing Filter
58. Product Tank
59. Recycled Wash Water
60. Control Panel
61. Waste Oil Decanter
62. Ozone Generator
63. Oil Skimmer
64. Anti-Siphon Device
65. Outlet Ring
66. Holding Tank
67. Pressure Gauge: Multi-Media Filter
68. Multi-Media Filter
69. Cartridge Filter
70. Pressure Gauge: Cartridge Filter

FEATURES FOR WCP-20

FEATURES FRONT ISO & CONTROL PANEL - WCP-20-0M10 031122



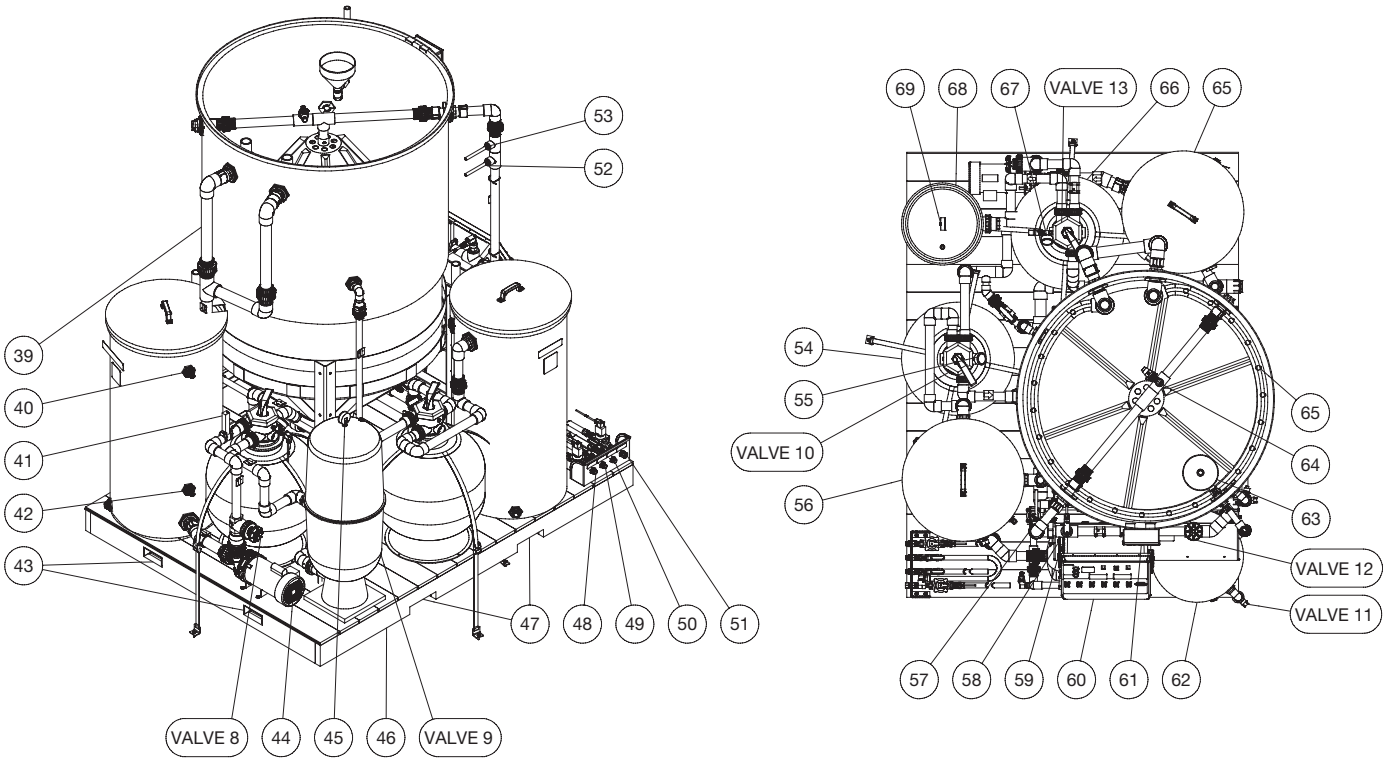
VALVE DESCRIPTIONS

1. Pressurized Clean-Out (Sludge Outlet)
2. Pressurized Clean-Out (Solids Chamber)
3. Ozone Pump
4. Ozone Flow Control
5. Solids Drain
6. Sludge Outlet Pressurized Clean-Out (Not Shown)
7. Solids Chamber Pressurized Clean-Out (Not Shown)

UNIT DESCRIPTIONS

1. Product Tank Overflow
2. Inlet Flowmeter
3. High Filter Pump Float
4. Transfer Pump Float
5. Pressure Gauge: Transfer Pump
6. Transfer Pump
7. Pressure Tank
8. Inlet From Sump Pump
9. Outlet Return To Pit
10. Orp Sensor Probe
11. Ph Probe
12. Ozone Pump
13. Sludge Outlet
14. Ozone Injector
15. Optional Return To Pit
16. Solids Separation Pit
17. Oil Coalescing Cones
18. Solids Deflections Cone
19. Holding Tank Overflow
20. Diverter Tee
21. Top Separator Cone
22. Oil Separation Chamber
23. Lid
24. Sludge Tub
25. Filter Bag
26. Power Indicator Light
27. Indicator Light: Backwash Required
28. Backwash Switch
29. Sump Pump Swtich (On/Off)
30. Filter Pump Switch (On/Off)
31. Transfer Pump Switch (On/Off)
32. Ph/Orp Meters Switch (On/Off)
33. Ph Pump Switch (On/Off)
34. Orp Pump Switch (On/Off)
35. Hour Meter
36. Orp Meter
37. Ozone Generator Switch (On/Off)
38. Ph Meter

FEATURES FOR WCP-20



FEATURES REAR ISO & TOP DOWN - WCP-20-0M10 031122

VALVE DESCRIPTIONS

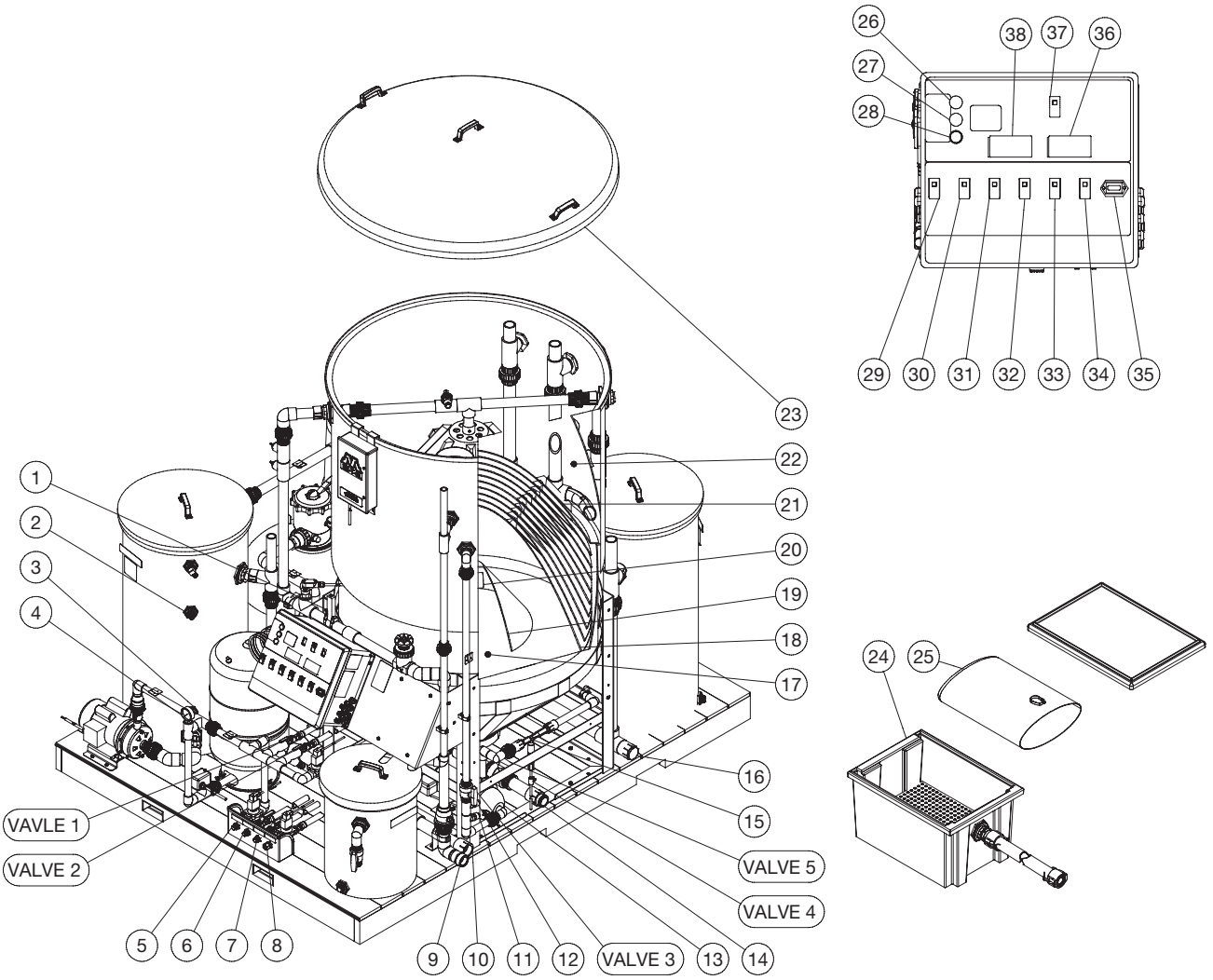
8. Filter Control
9. Cartridge Filter Drain
10. Polishing Filter Drain
11. Waste Oil Release
12. Water Inlet Flow Control
13. Multi-Media Filter

UNIT DESCRIPTIONS

39 Outlet Y
40 High Sump Pump Float
41 Filter Flowmeter
42 Low Filter Pump Float
43 End Fork Lift Holes (6' Fork Required)
44 Filter Pump
45 Air Relief Valve
46 Skid
47 Side Fork Lift Holes
48 Rain Water Overflow
49 Rinse Water Outlet
50 Outlet To Pressure Washer
51 Fresh Water Makeup
52 Orp Chemical Injector
53 Ph Chemical Injector
54 Polishing Filter
55 Pressure Gauge: Polishing Filter
56 Product Tank
57 Recycled Wash Water
58 Ph Pump
59 Orp Pump
60 Control Panel
61 Ozone Generator
62 Waste Oil Decanter
63 Oil Skimmer
64 Anti-Siphon Device
65 Holding Tank
66 Multi-Media Filter
67 Gauge: Multi-Media Filter
68 Cartridge Filter
69 Gauge: Cartridge Filter

FEATURES FOR WCP-30

FEATURES FRONT ISO & CONTROL PANEL - WCP-30-0M10 021722



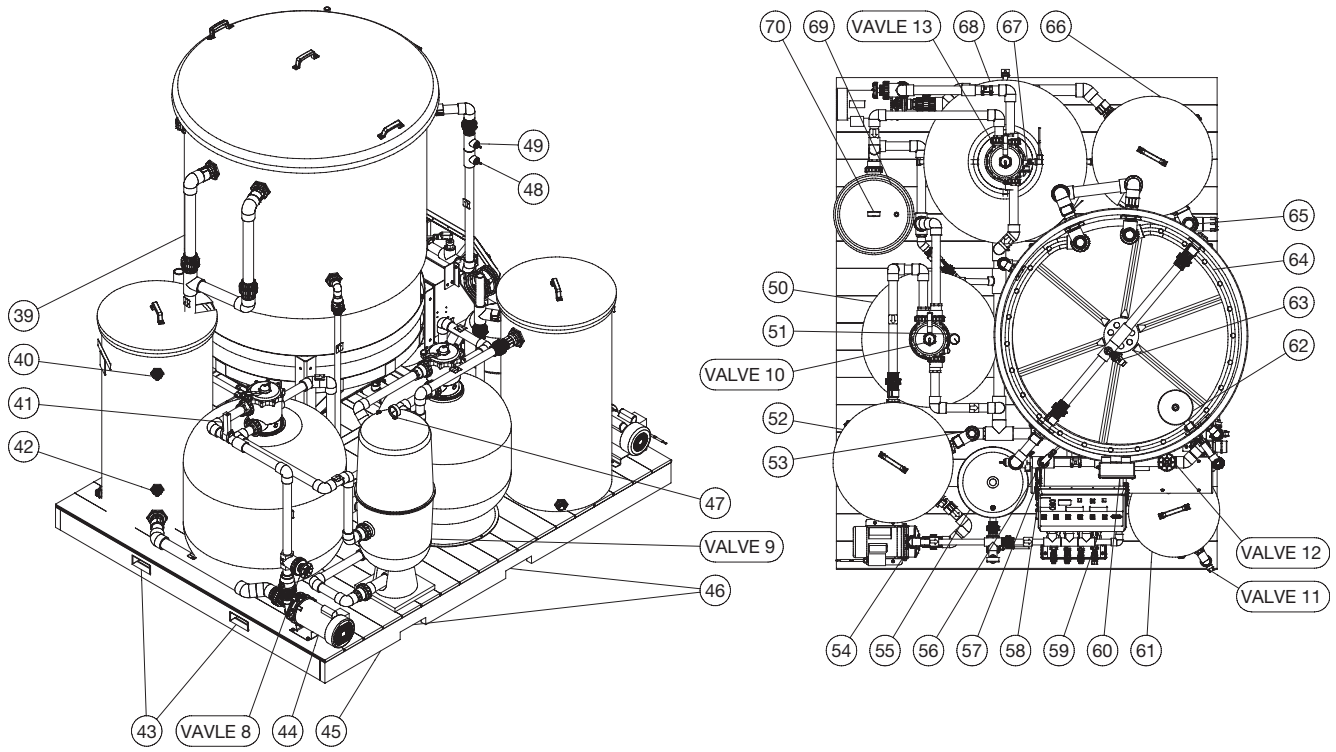
VALVE DESCRIPTIONS

1. Pressurized Clean-Out (Sludge Outlet)
2. Pressureized Clean-Out (Solids Chamber)
4. Ozone Pump
3. Ozone Flow Control
5. Solids Drain
6. Sludge Otlet Pressurized Clean-Out (Not Shown)
7. Solids Chamber Pressurized Clean-Out (Not Shown)

UNIT DESCRIPTIONS

1	Inlet Flowmeter
2	High Filter Pump Float
3	Transfer Pump Float
4	Pressure Gauge: Transfer Pump
5	Rain Water Overflow
6	Rinse Water Oulet
7	Outlet To Ressure Washer
8	Fresh Water Makeup
9	Inlet From Sump Pump
10	Outlet Return To Pit
11	Orp Sensor Probe
12	Ph Sensor Probe
13	Ozone Pump
14	Sludge Outlet
15	Ozone Injector
16	Optional Return To Pit
17	Solids Separation Chamber
18	Oil Coalescing Cones
19	Solids Deflection Cone
20	Diverter Tee
21	Top Separator Cone
22	Oil Separation Chmaber
23	Lid
24	Sludge Tub
25	Filter Bag
26	Power Indicator Light
27	Indicator Lisht Backwash Required
28	Backwash Switch
29	Sump Pump Switch (On/Off)
30	Filter Pump Switch (On/Off)
31	Transfer Pump Switch (On/Off)
32	Ph/Orp Meters Switch (On/Off)
33	Ph Pump Switch (On/Off)
34	Orp Pump Switch (On/Off)
35	Hour Meter
36	Orp Meter
37	Ozone Pump Switch (On/Off)
38	Ph Meter

FEATURES FOR WCP-30



FEATURES REAR & TOP DOWN - WCP-30-0M10 021722

VALVE DESCRIPTIONS

8. Filter Control
9. Cartridge Filter Drain (Not Shown)
10. Polishing Filter
11. Waste Oil Release
12. Water Inlet Flow Control
13. Multi-Media Filter

UNIT DESCRIPTIONS

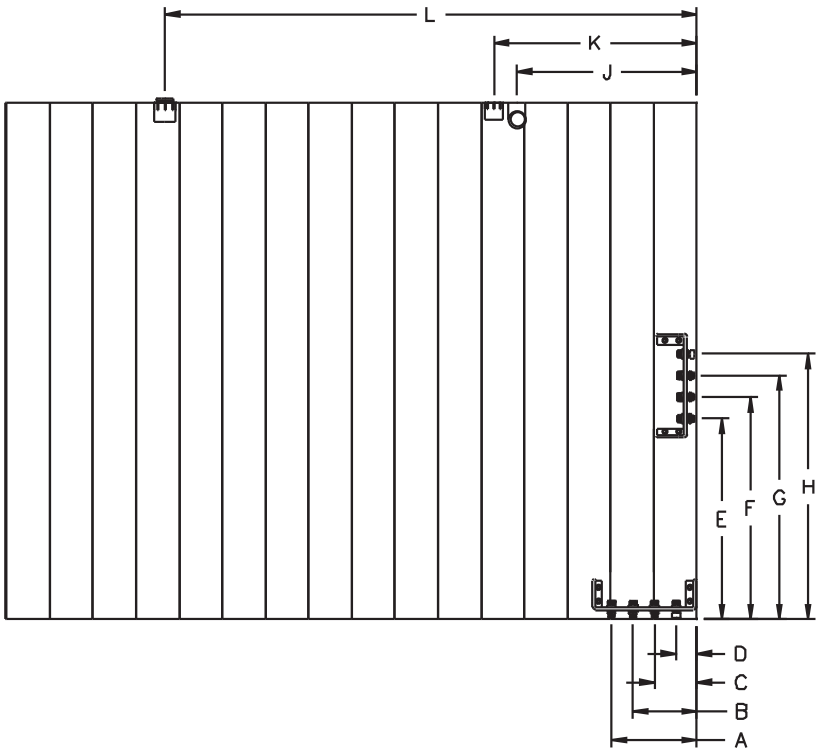
39 Outlet Y
40 High Sump Pump Float
41 Filter Flowmeter
42 Low Filter Pump Float
43 End Fork Lift Holes (6' Fork Required)
44 Filter Pump
45 Skid
46 Side Fork Lift Holes
47 Air Relief Valve
48 Orp Chemical Injector
49 Ph Chemical Injector
50 Polishing Filter
51 Pressure Gauge: Polishing Filter
52 Product Tank
53 Product Tank Overflow
54 Transfer Pump
55 Pressure Tank
56 Ph Pump
57 Orp Pump
58 Recycled Wash Water
59 Control Panel
60 Ozone Generator
61 Waste Oil Decanter
62 Oil Skimmer
63 Anti-Siphon Device
64 Outlet Ring
65 Holding Tank Overflow
66 Holing Tank
67 Pressure Gauge: Multo-Media Filter
68 Multi-Media Filter
69 Cartridge Filter
70 Pressure Gauge: Cartridge Filter

INSTALLATION

NOTE: *Proper Attire is essential to your safety. It is advised to utilize whatever means necessary to protect eyes, ears, and skin.*

1. A Collection Pit System must already be an established structure before installing the WCP-Series water recycling treatment system. A well designed pit system is critical for the proper operation of the recycle system. Consult your Mi-T-M dealer for installation requirements.
2. Place the water recycling treatment system platform on a hard, level surface in an area free of flammable vapors, combustible dust, gases or other combustible materials.
3. Set the unit so you have access to all four sides.
4. Do not place unit in an area:
   a. with insufficient ventilation.
   b. where environmental hazards (i.e. rain and snow) can come in contact with the water recycling treatment system.
   c. where the unit may freeze.
5. The water recycling treatment system is shipped with some union connections loosened to protect the unit from shipping damage. Tighten all union connections at this time.

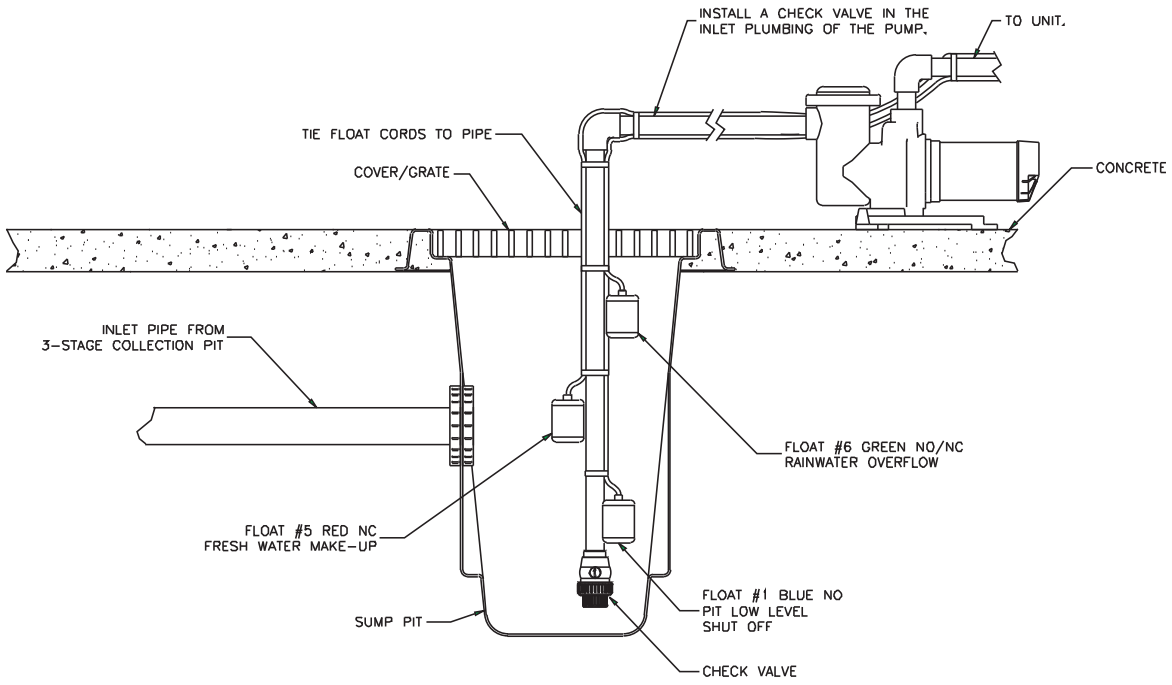
INLET & OULET LOCATION-WCP-071101-KS



Ref.	Description	WCP-10	WCP-20	WCP-30
A	Rainwater Overflow	11 3/4"	11 3/4"	N/A
B	Rinse Water Outlet	8 3/4"	8 3/4"	N/A
C	Pressure Washer Outlet	5 3/4"	5 3/4"	N/A
D	Fresh Water Inlet	2 3/4"	2 3/4"	N/A
E	Rainwater Overflow	N/A	N/A	48"
F	Rinse Water Outlet	N/A	N/A	51"
G	Pressure Washer Outlet	N/A	N/A	54"
H	Fresh Water Inlet	N/A	N/A	57"
J	Inlet From Sump Pump	18 1/2"	18"	25"
K	Outlet Return to Pit	21"	21 1/2"	28 1/4"
L	Optional Outlet Return to Pit	35 1/2"	68"	74"

6. Use schedule 80 PVC slip connections.
   a. Install the **Sump Pump** in the plumbing in between the **Sump Pit** and the unit. Install the **Sump Pump** close to the **Sump Pit** to reduce priming time.
   b. Install plumbing from the Sump Pit to the **Sump Pump** using minimum connection sizes of 1-1/2" for WCP-10 and 2" for the WCP-20 and WCP-30.
   c. Install a check valve between the **Sump Pit** and the **Sump Pump.**
   d. Install plumbing from the **Sump Pump** to the unit using 1-1/2" minimum plumbing.
   e. Install plumbing from the **Outlet Return To Pit** to the **Wash Water Catch Pit** using a minimum pipe size of 2" for the WCP-10 and 3" for the WCP-20 and WCP-30.
   f. Install plumbing from the **Sludge Tub** to the **Wash Water Catch Pit**. Position the **Sludge Tub** so that the **Sludge Hose** can be connected from the **Sludge Outlet** to the **Sludge Tub**.
7. Install the three floats in the **Sump Pit**. Allow a 2" tether and enough room for them to move freely without interfering with the plumbing.
   a. Float #1 Blue: Pit low level shut-off. Attach this float 10" above the inlet.
   b. Float #5 Red: Fresh water makeup. Height of this float must be adjusted to the individual pit system.
   c. Float #6 Green: Rain water overflow. Height of this float must be adjusted to the individual pit system.

NOTE: *The above information is for reference only. Professional installers or architects may use this guideline to meet specific site requirements.*

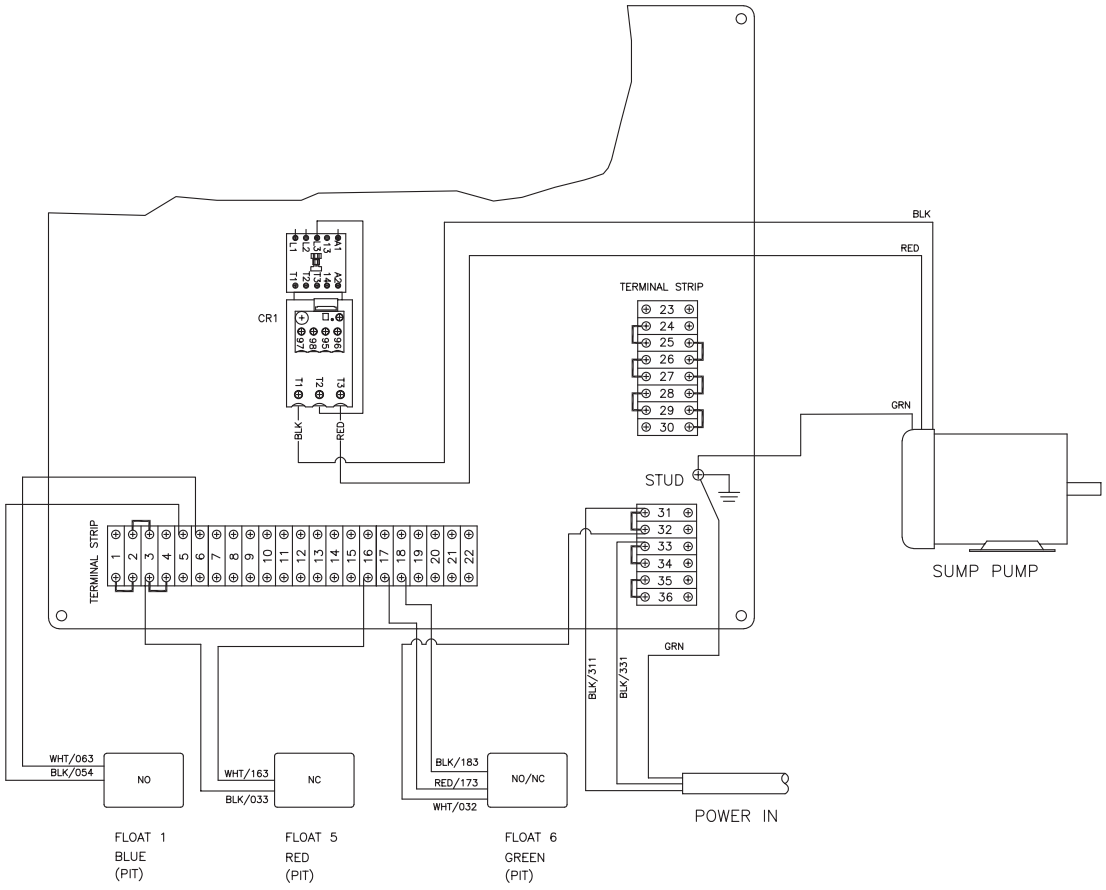


SUMP PUMP-071101-KS

INSTALLATION

> ***WARNING***
> **RISK OF ELECTROCUTION!**
> **TO REDUCE THE RISK OF ELECTROCUTION, KEEP ALL CONNECTIONS DRY AND OFF THE GROUND.**

8. A qualified electrician must hook up the electrical system.
   a. Verify the electrical supply at the power source is off.
   b. Be certain all switches on the **Control Panel** are in the "OFF" position.
   c. Run water tight conduit or cord from the **Sump Pump** and Floats to the **Control Panel.**
   d. Run water tight conduit from the local disconnect to the **Control Panel**.
   e. The electrician will need to drill holes in the **Control Panel** for the conduit and/or cord(s).
   f. Make connections to the terminal strips as shown below.



FIELD WIRING DIAGRAM WCP 10-20-30 230V 1PH 041818 MLK

9. Make the following hose connections:
   a. From a pressurized water supply to the **Fresh Water Makeup**.
   b. From the **Outlet to Pressure Washer** to the pressure washer.
   c. From the **Rain Water Overflow** to a storage tank for further processing or disposal. ***DO NOT SEND THIS WATER BACK TO THE WASH WATER CATCH PIT!***
   d. Connect the **Sludge Hose** to the **Sludge Outlet** and the **Sludge Tub**.

NOTE: *In most cases, you must have a permit to legally dispose discharged water.*

STOP

TO ENSURE YOUR WATER RECYCLE TREATMENT SYSTEM OPERATES SAFELY AND EFFICIENTLY, COMPLETE THE PRE-OPERATION CHECKLIST BEFORE PROCEEDING.

PRE-OPERATION CHECKLIST

Before proceeding, answer all the questions on this checklist.	YES	NO
CODES: 1. Does the electrical wiring meet all codes?		
2. Does plumbing meet all codes?		
LOCATION: 1. Is the unit located on a hard level surface free of flammable vapors, combustible dust, gases or other combustible materials?		
2. Is the unit located in a large ventilated area?		
ELECTRICAL: 1. Is the unit properly grounded?		
2. Does the power supply, voltage and amperage match the data plate?		
PLUMBING: 1. Is the plumbing sized correctly?		
2. Is the check valve installed before the **Sump Pump**?		
3. Are all plumbing connections secured?		
4. Are all hose connections secured?		
GENERAL: 1. Have all operators using this unit read and understood this entire manual?		
2. Has the unit been installed by qualified service people who followed the instructions listed in this manual?		

IF "NO" WAS MARKED TO ANY OF THESE QUESTIONS, CORRECT THE SITUATION BEFORE OPERATING.

PREPARATION

PRESTART PROCEDURES:

1. Position the valves on the WCP water recycling treatment system in the "Start-up Mode".

   -*Water Inlet Flow Control Valve*: Turn valve one rotation short of completely closed.
   -*Filter Control Valve*: Turn valve one rotation short of completely closed.
   -*Multi-Media Filter Valve*: Turn valve to "Filter".
   -*Polishing Filter Valve*: Turn valve to "Filter".
   -*Cartridge Filter Drain Valve*: Turn valve completely closed.
   -Air Bleed Valve: Turn valve open.
   -*Oil Release Valve*: Turn valve completely closed.
   -*Ozone Pump Valve:* Turn valve open.
   -*Pressurized Clean-Out Valves*: Turn valves completely closed.

2. Be certain all hoses are securely connected.
3. Be certain the incoming air tube to the **Ozone Generator** is not obstructed.
4. Be certain all switches on the **Control Panel** and **Ozone Generator** are in the "OFF" position.
5. Turn on the power supply. The **Power Indicator Light** should glow.

START-UP:

1. Ensure water supply to the **Fresh Water Makeup** is turned on and pit is filled with water. If the pit is not full, water will fill the **Product Tank** and overflow through the **Product Tank Overflow** and back to the **Sump Pit**.
2. To prime the **Sump Pump**, remove the lid over the **Basket Strainer** and fill the **Basket Strainer** and the plumbing from **Sump Pit** to the **Sump Pump**, then replace the lid.
3. Turn on the **Sump Pump Switch**; water will flow into the **Clarifier Tank.**
4. Flow can be increased by opening the *Water Inlet Flow Control Valve* and reading the **Inlet Flowmeter**. Fill the **Clarifier Tank.**
5. After the water fills the **Solids Separation Chamber**, it will begin to flow through the **Top Separator Cone** and fill the **Oil Separation Chamber.**
6. As water fills the **Oil Separation Chamber**, the **Ozone Pump** will prime.
7. When the **Oil Separation Chamber** is full, the water will begin to flow through the **Outlet Ring** and into the **Outlet Y**.
8. The **Outlet Y** directs the water into the **Holding Tank** where it is ready to be processed.
9. As the water fills the **Holding Tank**, it will begin to flow out the **Overflow Drain** at the top of the tank. At this point, flow can be adjusted to the rated flow rate with the Water Inlet Flow Control Valve.
10. Ensure that the Ozone Pump Valve is open and turn on the **Ozone System Switch** located on the **Ozone Generator**. The ozone system is working properly when air bubbles are seen in the **Oil Separation Chamber**. if no air bubbles are observed, turn off the **Ozone System Switch** and loosen the union after the **Ozone Pump** until the pump is primed. (The *Ozone Flow Control Valve* is set at the factory and should not need adjusting.) The **Ozone Generator Switch** can now be turned on.
11. Turn on the **Filter Pump Switch**. The **Filter Pump** will automatically turn off when the **Product Tank** is full of water.
12. As water flows to the filters, use the Filter Control Valve to adjust the water flow to the GPM rating of the Water Treatment System. Check the **Filter Flowmeter** located ahead of the **Multi-Media Filter.**
13. Water will begin to flow from the **Multi-Media Filter** to the **Cartridge Filter**. As water flows through the **Multi-Media Filter**, air will automatically bleed from the **Multi-Media Filter** to the **Cartridge Filter**.
14. Air will release from the **Air Bleed Valve** as the **Cartridge Filter** fills. Close the **Air Bleed Valve** when water begins to exit from it. This indicates the **Cartridge Filter** is filled and water will begin flowing to the **Polishing Filter.** Since it may take some time for the air to bleed out of the **Multi-Media Filter**, occasionally open the **Air Bleed Valve** while the **Filter Pump** is operating to relieve any air buildup. For optimum efficiency, the **Air Bleed Valve** may need to be periodically opened to relieve any air that builds up in the **Cartridge Filter** during operation.
15. As water flows through the **Polishing Filter**, air will automatically bleed from the **Polishing Filter** to the **Product Tank.**
16. When the **Product Tank** is full and the **Filter Pump** turns off, prime the **Transfer Pump** by opening the **Outlet to Pressure Washer** valve until water exits.
17. Turn on the **Transfer Pump Switch** to allow water to flow into the **Pressure Tank**.
18. Water is now completely cycled in the system.

PREPARATION

pH AND ORP CONTROL SYSTEM:

Proper pH and ORP levels must be maintained in the pit to prevent growth of bacteria, algae, odors, etc. Water must be chemically balanced to effectively recycle. The effectiveness of Safe 0^3 in the water depends on the pH level.

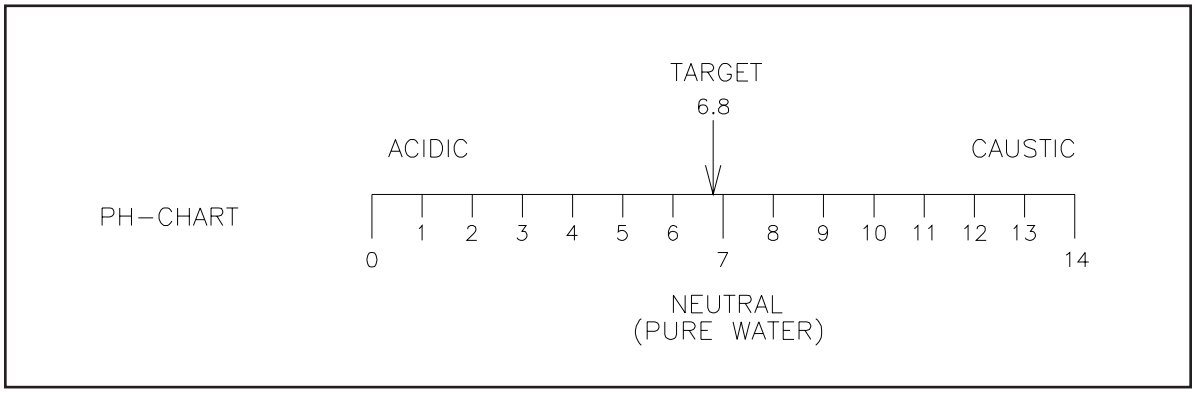
-The optimum pH level to add Safe 0^3 is 6.5 - 6.8.

-As the pH level rises to 7.5, about 5% more Safe 0^3 must be added to achieve the same ORP reading.

-At a pH level of 8.0 and above, a large amount of Safe 0^3 must be added to increase the ORP reading.

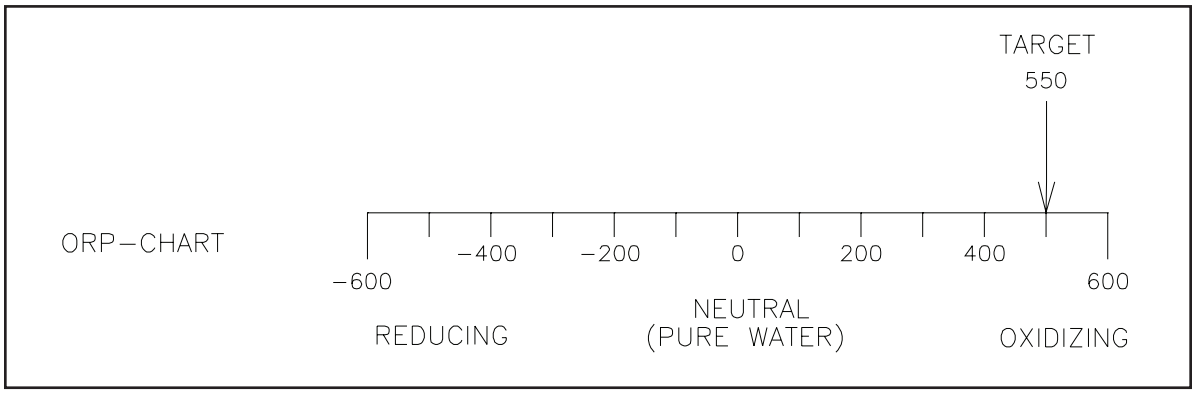
As excess water flows through the **Ozone System** , it moves past the **pH and ORP Sensor Probes** before returning to the **Oil Separation Chamber** . The **Sensor Probes** analyze the pH and ORP levels in the water.

a. **pH Sensor Probe.** This probe analyzes the pH (acidity & alkalinity) in the water. If the water is too acidic (low pH) the acid will breakdown the iron present in the water to a liquid form, thus causing rusty looking water in the system. If the water is too alkaline (high pH) the bacteria killing potential of the ORP agent will be drastically lowered.



WLP-0008-112098-JJ

b. **ORP Sensor Probe.** This probe analyzes the Oxidation Reduction Potential (ORP). This reading states amount of bacteria killing agent in the water.



WLP-0009-112098-JJ

The probes analyze the pH and ORP levels of the water and display the readings on the digital **pH and ORP Meters**.

PREPARATION

INSTALLATION OF PH AND ORP PROBES:

CAUTION

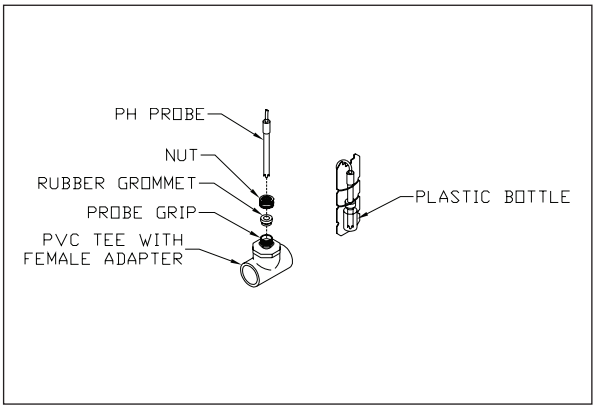
RISK OF PROBE DAMAGE!

-DO NOT ALLOW PROBES TO BE EXPOSED TO AIR. ONCE PROBES ARE IN PLACE, TURN WATER ON IMMEDIATELY.

-HANDLE PROBES CAREFULLY AS THEY ARE MADE OF GLASS.

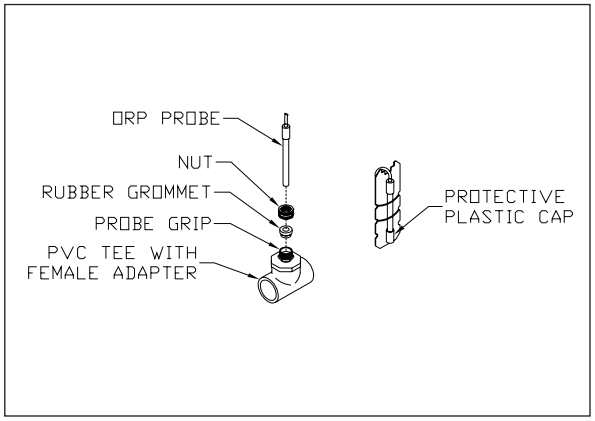
-DO NOT ALLOW PROBES TO BE EXPOSED TO FREEZING ENVIRONMENTS. KEEP THE ORIGINAL CONTAINERS IN WHICH THE PROBES WERE SHIPPED. THEY WILL BE NEEDED FOR PROBE STORAGE DURING WINTERIZING.

pH SENSOR PROBE



WLP-0006-110298-JJ

ORP SENSOR PROBE



WLP-0007-112098-JJ

1. Turn off the **Ozone System Switch** and close the *Ozone Pump Valve*.
2. Locate the probe grips in the **Ozone System** plumbing and unscrew the nut from one of the grips.
3. Remove one of the probes (pH or ORP) from its storage container. (Be certain to save the container for probe storage during winterizing.)
4. Carefully slide the probe grip nut over the glass probe.
5. Gently push the probe through the probe grip approximately 2 inches and tighten the nut onto the probe grip.
6. Repeat process for the remaining probe.
7. Immediately open the *Ozone Pump Valve* to refill the plumbing with water.

   THE PROBES CANNOT BE ALLOWED TO DRY OUT.
8. Turn on the **Ozone System Switch.**
9. Turn on the **pH/ORP Meters Switch.**

PREPARATION

PH CONTROLLER PROGRAMMING

pH controller will come programmed and on measure mode with the following parameters set.
Measure Mode: pH

- **Temperature Compensation:** 03 MAN (No use of a temperature probe, manually can adjust temperature but this is normally is not required as long as temperature is in the 60°F-80° it has a small effect on pH reading.)
- **Manual temperature set at 70°F.**
- **7.00 Buffer and 4.01 Buffer:** Controller is calibrated on STAND using a 7 pH buffer solution or calibrator, then a 4.00 buffer calibrator for SLOPE. This will never need to be changed.
- **pH relay 1 selected for HI1:** Relay 1 will be closed if the probe reads HIGH over the set point (+ 1/2) the hysteresis. This relay will turn on the chemical pump, low pH chemical to be used to lower pH. Relay 1 can be changed to LOW1 to work in the opposite direction; if probe reads below set point the chemical pump will turn on to add high pH chemical.
- **Set point 1 is 7.00:** pH point at which (+,-) half the hysteresis, the relays will close to turn on chemical pump.
- **Hysteresis is at 0.20:** The range around the set point that the relays will turn on and off. At a set point of 7.00, the relay will close between 7.10 and 6.90.
- Set point 2, Relay 2 and Hysteresis 2 is not used for pH controller.

For ORP controllers will come programmed and on measure mode with the following parameters set.

ORP CONTROLLER PROGRAMMING:

ORP controllers will come programmed and on measure mode with the following parameters set.

MEASURE MODE: ORP RMV

- **Temperature Compensation:** 03 MAN (No use of a temperature probe) does not affect ORP reading.
- **Manual temperature set at 70°F.**
- **7.00 Buffer and 4.01 Buffer:** Controller is calibrated on STAND using a 7 pH buffer solution or calibrator, then a 4.00 buffer calibrator for SLOPE. This will never need to be changed.
- **Relay 1:** Set for ORP RMV
- **ORP relay 1 selected for LOW1:** Relay 1 will be closed if the probe reads LOW under the set point (- ½) the hysteresis. This relay will turn on the ORP chemical pump.
- **Set point 1 is 350rmv:** ORP point at which (+,-) half the hysteresis, the relays will close to turn on chemical pump.
- **Hysteresis is at P10.0:** The range around the set point that the relays will turn on and off. At a set point of 350mv, the relay will close between 345mv and 355mv.
- Relay 2 is not used for ORP controller.

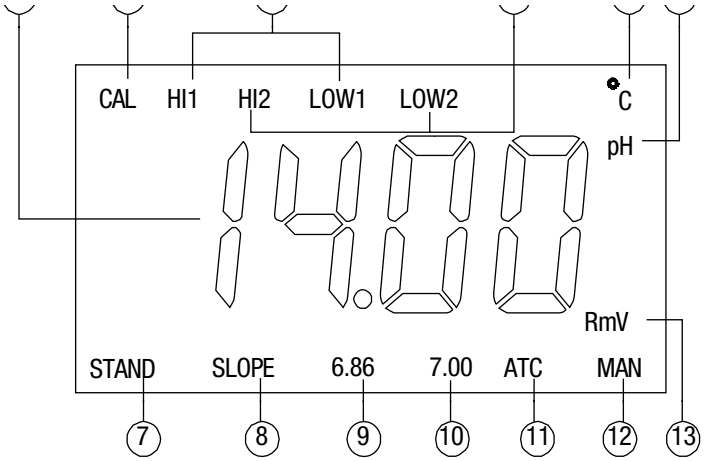
FRONT PANEL

The front panel consists of a 4-digit LCD display and 4 keys.

1. **[MODE]** key:
   1a. In the Measure mode, this key will switch the display in sequence from pH, Temperature, ORP absolute mV, ORP relative mV and back to pH again.
   1b. In the Calibration/Setting mode, pressing this key for three seconds will move you back to the previous parameter in the case when recalibration / resetting is required.
2. **[UP]** key:
   2a. In the Calibration mode, pressing this key will show the next possible option. In the Setting mode, pressing this key will show the next possible option and increases the numeral increment.
   2b. In the Measure mode, pressing this key and **[ENTER]** key at the same time, the unit will enter the Calibration mode.
3. **[DOWN]** key:
   3a. In the Calibration mode, pressing this key will show the next possible option. In the Setting mode, pressing this key will show the next possible option and decreases the numeral increment.
   3b. In the Measure mode, pressing this key and **[ENTER**] key at the same time, the unit will enter the Setting mode.
4. **[ENTER]** key:
   In any mode where the user can change the settings, pressing this key will save the new settings. If no change has been made then pressing this key will just move the user to the next setting.

PREPARATION

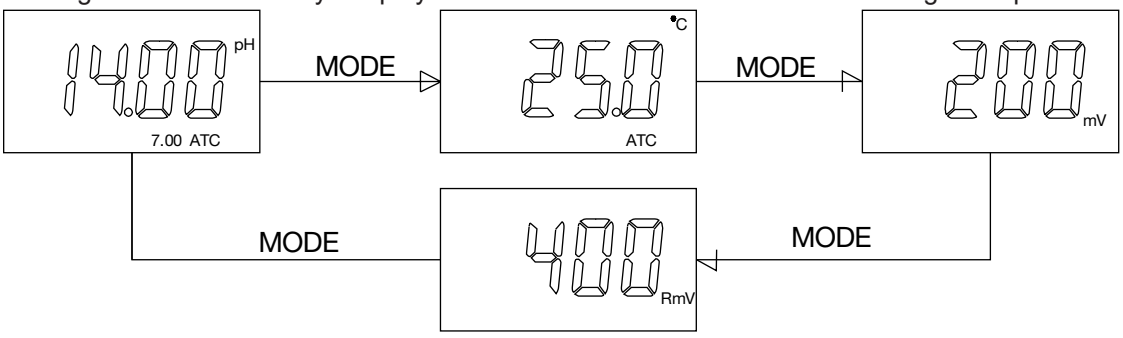
LCD SCREEN



1. Major LCD display.
2. **CAL** – This icon will be displayed if the meter is in the Calibration/Setting mode.
3. **HI1 & LOW1** – These icons, when displayed, indicate relay action and relay number.
4. **HI2 & LOW2** –These icons, when displayed, indicate relay action and relay number.
5. **°C** – Temperature and unit display.
6. **pH** – Unit indicator.
7. **STAND** – This icon will blink before Buffer 1 calibration. The icon will stay on while Buffer 1 is being calibrated.
8. **SLOPE** – This icon will blink before Buffer 2 calibration. The icon will stay on while Buffer 2 is being calibrated.
9. **6.86** – The 6.86 buffer group: 6.86, 4.00, 9.18.
10. **7.00** – The 7.00 buffer group: 7.00, 4.01, 10.01.
11. **ATC** –This icon will be displayed when a temperature probe is connected.
12. **MAN** –This icon will be displayed when a temperature probe is not connected.
13. **RmV** – Unit indicator.

MEASURE MODE

Turning on the unit will always display the **Measure mode**. This instrument is designed to provide 4 distinct measurements:



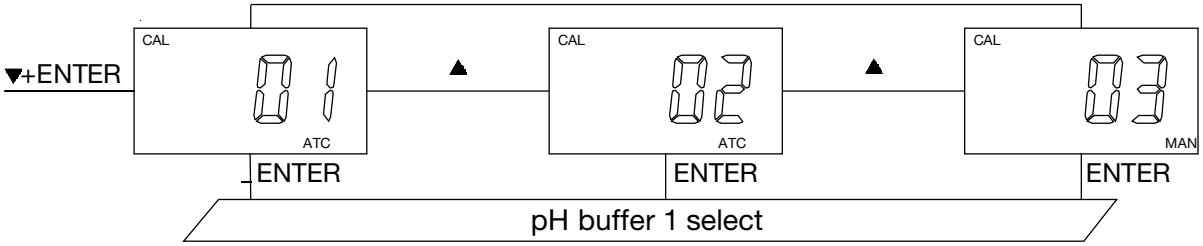
1. **pH** – The degree of acidity or alkalinity of the solution.
2. **Temperature** – Current temperature of the solution.
3. **ORP mV** – A measurement of absolute ORP mV.
4. **ORP RmV** – A measurement of relative ORP mV. The offset value at the RmV calibration will be added to the ORP absolute value to display the ORP relative value.

   *Note: ORP relative value range: ORP absolute value - 1000mV to ORP absolute value + 1000mV Pressing **[MODE]** key in the **Measure mode** will cycle the display from the four modes above.*

PREPARATION

SETTINGS MODE

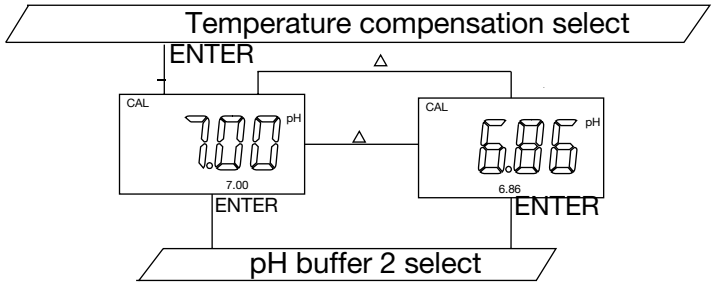
Pressing **[DOWN]** key and **[ENTER]** key at the same time, the meter will enter into the Setting mode.
1. Temperature compensation select:

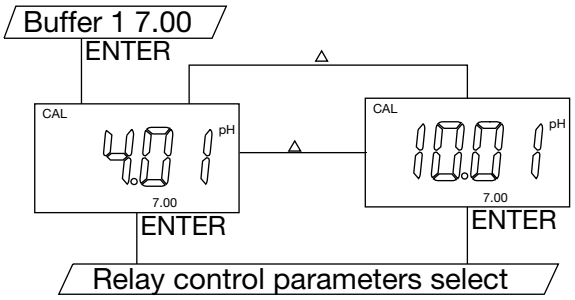


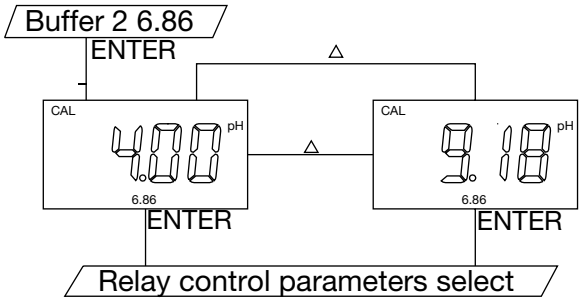
Pressing **[UP]** key or **[DOWN]** key in this screen will cycle the display from 01 (Thermistor: 10k ohm), 02 (Resistor: PT1000), 03 (Manual) modes above.
Select the preferred temperature compensation mode, press **[ENTER]** key to save, and enter the next setting screen.

PH BUFFER 1 SELECT:

Pressing **[UP]** key or **[DOWN]** key in this screen will cycle the display from 7.00, 6.86 buffer above.
Select the preferred buffer, press **[ENTER]** key to save, and enter the next setting screen.





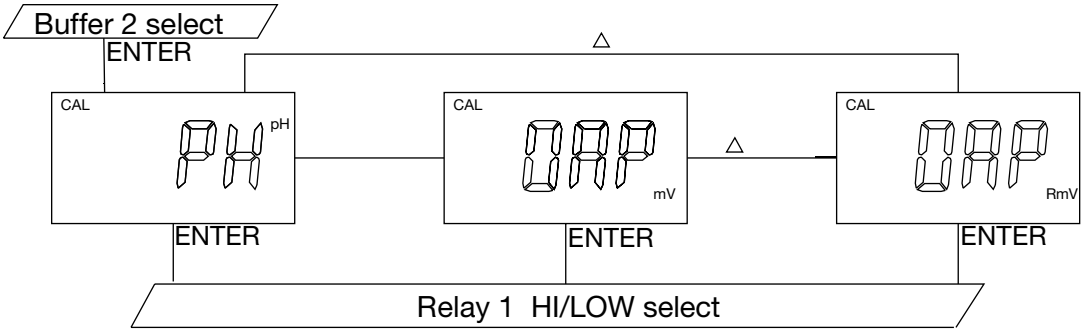


Pressing **[UP]** key or **[DOWN]** key in this screen will cycle the display from 4.01, 10.01 (or 4.00, 9.18) buffer above.
Select the preferred buffer, press **[ENTER]** key to save, and enter the next setting screen.

Note: The pH buffer 2 is either 4.01 or 10.01 if select 7.00 buffer at pH buffer 1 select screen. The pH buffer 2 is either 4.00 or 9.18 if select 6.86 buffer at pH buffer 1 select screen.

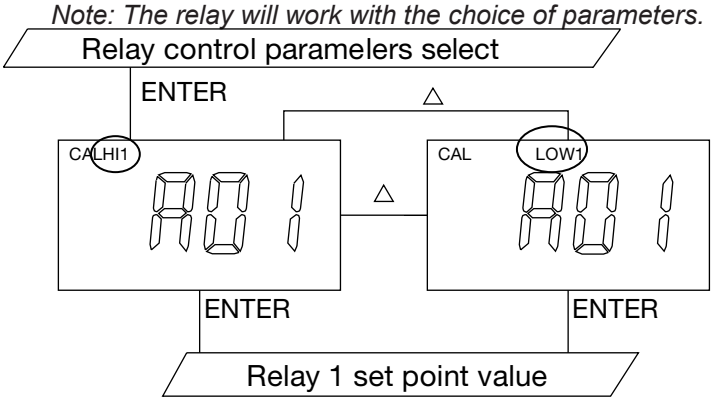
PREPARATION

RELAY CONTROL PARAMETERS SELECT:



Pressing **[UP]** key or **[DOWN]** key in this screen will cycle the display from pH, ORP mV ORP RmV modes above. Select the preferred mode, press **[ENTER]** key to save, and enter the next setting screen.

Note: The relay will work with the choice of parameters.

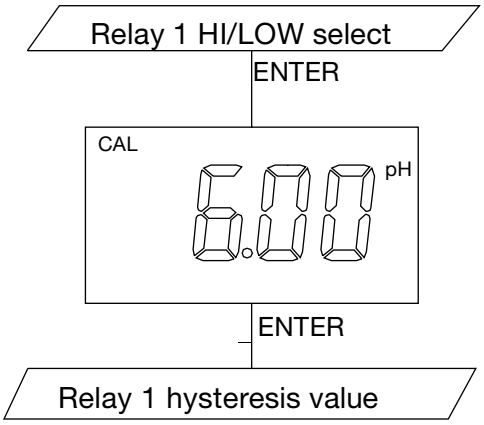


Pressing **[UP]** key or **[DOWN]** key in this screen will cycle the display from HI, LOW modes above. Select the preferred mode, press **[ENTER]** key to save, and enter the next setting screen.

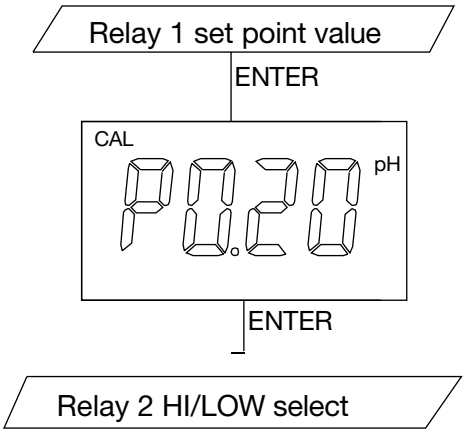
Note: See "Controlling the relays " page.

Relay 1 set point value:

Pressing **[UP]** key or **[DOWN]** key in this screen to adjust the value, press **[ENTER]** key to save, and enter the next setting screen.



Relay 1 hysteresis value:
Pressing **[UP]** key or **[DOWN]** key in this screen to adjust the value, press **[ENTER]** key to save, and enter the next setting screen.



Relay 2 High / Low select: Same as “Relay 1 work way select”
Relay 2 set point value: Same as “Relay 1 set point value”
Relay 2 hysteresis value: Same as “Relay 1 hysteresis value”

PH CALIBRATION MODE

The TX20 uses 2-point calibration for pH. The first point must be 6.86/7.00, and the second point can either be 4.00/4.01 or 9.18/ 10.01.
In the pH Measure mode, pressing [UP] key and [ENTER] key at the same time to allow the meter to go to the pH Calibration mode.

CONTROLLING THE RELAYS

1. ISOLATION VOLTAGE:

The maximum isolation voltage of the relay output contacts is 1500 VDC. The voltage differential between the relay output contacts and the load should not exceed 1500 VDC.

2. OUTPUT LOAD:

The current through the relay output contacts should not exceed 5 Amp at 115 VAC and 2.5 Amp at 230 VAC in order not to cause permanent damage to the relay contacts. This rating is specified for resistive loads only.

3. RELAY ACTION, RELAY SET POINT AND HYSTERESIS VALUE:

Relay Action	Effective RELAY-ON Set Point	Effective RELAY-OFF Set Point
HI	S.P. + (1/2 H.V)	S.P. – (1/2 H.V)
LOW	S.P. – (1/2 H.V)	S.P. + (1/2 H.V.)

If the relay action is set to **HIGH**, the relay will turn **ON** at (Set Point +1/2 Hysteresis), and will turn **OFF** at (Set Point -1/2 Hysteresis).
If the relay action is set to **LOW**, the relay will turn **ON** at (Set Point -1/2 Hysteresis), and will turn **OFF** at (Set Point +1/2 Hysteresis).
There are two Independent relays the user can bind to the **pH, ABSOLUTE mV** or **RELATIVE mV mode**. The user can only bind the two relays to one reading mode at a time. The user can change this anytime by changing option at the **setting mode**.

Note:

1. The ideal set point range for pH is 0.00 to 16.00 pH.
2. The ideal set point range for absolute mV is –2000 to 2000 mV.
3. The ideal set point range of for relative mV is -3000 to 3000 mV.

PREPARATION

OPERATION:

At this point the PH and ORP control system is ready for operation. The system will now read the PH and ORP of the water and the metering pump will activate when the PH or ORP is out of the range of the desired set point.

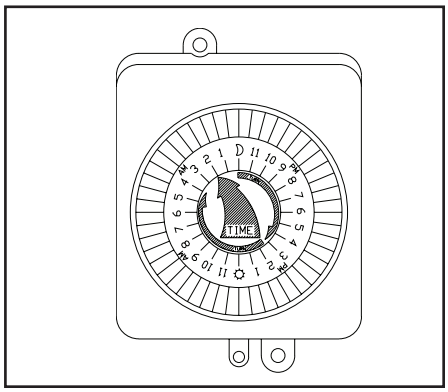
NOTE: If the metering pump is activated but the rollers fail to spin, the rollers of the pump might be stuck. You should be able to manually spin the roller by hand to get these started. Add lubricant to the rollers if the problem persists.

FINAL pH AND ORP SYSTEM SETUP:

1. Place the hoses from the **pH and ORP Pumps** into the **Adjustment Chemicals.**
   a. The recommended pH chemical for this system is aluminum sulfate.
   b. The recommended ORP chemical for this system is bleach or sodium hypochlorite at 5%.
2. Turn on the **pH and ORP Pump Switches**. Chemicals will be inserted into the water as necessary.

PREPARATION

WATER RECYCLING TIMER



WLP-0012-112098-JJ

SETTING OF THE WATER RECYCLING TIMER:

1. Dormant water creates bacteria buildup and odor. If the water recycling treatment system is going to be dormant for more than six (6) hours, a water recycle mode should be setup.
2. The water recycling treatment system should be set to recycle in accordance with the unit dormant time.

   Example 1: If the unit will be dormant for approximately 10 hours, the recycle time should be set to run for 3-4 hours half way between the dormant time.

   Dormant time: 8:00 p.m. to 6:00 a.m
   Recycle time: 11:00 p.m. to 3:00 a.m.

   Example 2: If the unit will be dormant for approximately 3 hours, the recycle time should be set to run for 1 hour half way between the dormant time.

   Dormant time: 2:00 a.m. to 5:00 a.m
   Recycle time: 3:00 a.m. to 4:00 a.m.

   NOTE: *If odor is still present, increase recycle times.*
3. Disconnect power to the system and open the **Control Panel.** Located inside the **Control Panel** , the water recycling timer consists of individual pins which surround a 24 hour clock display.
   a. Turn the dial until the arrow points to the correct time.
   b. Each pin represents 1/2 hour of water recycling time.
   c. Using your fingertips, pull the amount of pins needed for water recycling time to correspond to the clock on the timer.
   d. The water recycling treatment system will automatically recycle during the set time.
4. Close the **Control Panel** and reconnect power supply.

OPERATION

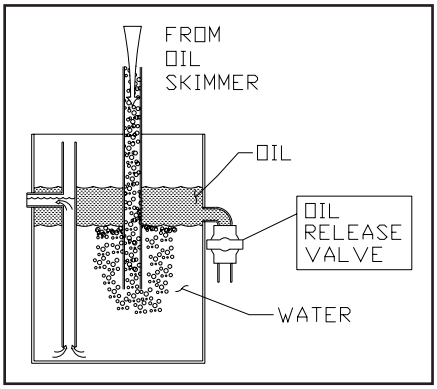
1. The water recycling treatment system is now ready to operate.
2. Ensure all switches on the **Control Panel** are on.
3. With the sump pump running, set *Water Inlet Flow Control Valve* so that the **Inlet Flowmeter** reads the rated flow rate of the systems.
4. **Oil Skimmer** positioning must be done when water is flowing into the **Clarifier Tank** at the rated flow rate.
   a. Tilt the **Oil Skimmer** so that it just breaks the surface of the water.
   b. When a thick layer of oil accumulates in the **Waste Oil Decanter**, place a container below *Waste Oil Release Valve* and open the valve until water begins to come out.
5. Monitor the system closely the first few days to ensure smooth operation.

MAINTENANCE

WASTE OIL DECANTER:

1. The **Oil Skimmer** removes the top layer of oil and water from the **Oil Separation Chamber** and sends it to the **Waste Oil Decanter.**
2. As the **Waste Oil Decanter** fills with the oil/water mixture, the oil will float to the top while the water remains on the bottom.
3. The water then moves up the standpipe, through the **Oil Decanter Outlet**, and back to the **Wash Water Catch Pit** to be recycled again.
4. As oil accumulates, it will have to periodically be removed from the **Waste Oil Decanter.**
   a. Place a 5 gallon bucket below the hose on the *Waste Oil Release Valve*
   b. Open the *Waste Oil Release Valve* and allow oil to flow into the 5 gallon bucket. Turn off valve when water begins flowing into the bucket.
   c. Dispose of oil according to EPA Standard

WASTE OIL DECANTER



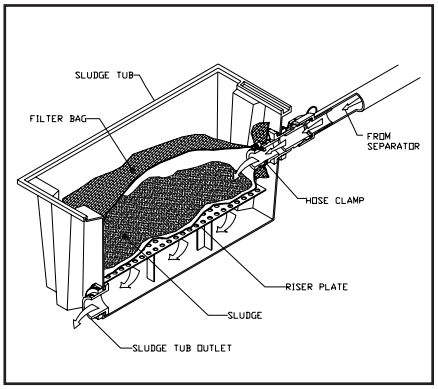
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SOLIDS COLLECTION AREA:

The solids collection area of the **Solids Separation Chamber** will need to be cleaned occasionally to prevent overflow of solids into the **Holding Tank.** Do not use pressure washers while performing this maintenance.

1. Ensure the **Sludge Hose** is connected to the **Sludge Tub** and the **Sludge Outlet Assembly** and a **Filter Bag** is secured in the **Sludge Tub.**
2. By opening the *Solids Drain Valve*, sludge from the **Solids Separation Chamber** will enter the **SludgeTub.**
3. If the solids accumulated at the bottom of the **Solids Separation Chamber** are unable to drain, open *Valve 4* and *Valve 5* to push the solids towards the **Sludge Tub**. If the solids are still unable to drain, open *Valve 6* and *Valve 7* to break up the solids on the inside of the **Solids Separation Chamber**. When the solids from the **Solids Separation Chamber** is empted, close *Valve 4, Valve 5, Valve 6* and *Valve 7*.
4. As sludge is forced into the disposable **Filter Bag**, solids in the **Sludge** are retained by the disposable **Filter Bag** and fluids drain out into the area created by the **Riser Plate.**
5. The remaining water drains out of the bottom of the **Sludge Tub** through **Sludge Tub Outlet** and back to the **Wash Water Catch Pit.**
6. When the **Filter Bag** is filled with accumulated solids, loosen the **Hose Clamp** used to retain the **Filter Bag**, tie the **Filter Bag** off and dispose of in a manner consistent with local and federal regulations.
7. To replace the **Filter Bag**, bunch up the neck and feed it through the **Hose Clamp**, place the **Hose Clamp** and **Filter Bag** over the inside nipple on the inlet coupling and tighten the **Hose Clamp.**

SOLIDS COLLECTION AREA



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BACKWASHING OF FILTERS:

1. Backwashing removes debris from the filters and sends the sediments back to the pit where they will settle. Always backwash the filters if the **Indicator Light** or **Audio Alarm** turns on. The **Multi-Media Filter Pressure Gauge** should be checked daily for pressure elevation. When the pressure difference between the **Multi-Media Filter Pressure Gauge** and **Cartridge Filter Pressure Gauge** registers more than 10 PSI, the **Multi-Media Filter** needs to be cleaned even if the **Indictor Light** is not lit.
2. Pressure washers cannot be in use when backwashing any filters.
3. When performing backwash maintenance, backwash the **Polishing Filter** immediately after backwashing the **Multi-Media Filter.** When backwashing is complete, be certain to clean the **Cartridge Filter.**

CAUTION!

Filter Pump Switch must be turned off before repositioning any valves on the Filters! Failure to do so can cause equipment damage.

MAINTENANCE

a. **Multi-Media Filter & Polishing Filter:**

1. Turn the **Filter Pump Switch** to OFF.
2. Set the *Multi-Media Filter Valve* to "Backwash".
3. Turn the *Filter Control Valve* one rotation short of completely closed.
4. Turn the **Filter Pump Switch** to ON.
5. Press the **Backwash Switch** until the **Filter Pump** turns on.
6. Use the *Filter Control Valve* to adjust the rate on the **Filter Flow Meter** as listed:

WCP-10	WCP-20	WCP-30
10 GPM	15 GPM	20 GPM

CAUTION!

Do not set flow above chart. If flow is set too high, water will begin pushing the filtering agent out with the backwash debris.

7. When the backwash water is the same color as the incoming water, the backwashing process is complete. (Approximately 5 minutes.)
8. Turn the **Filter Pump Switch** to OFF.
9. Set the *Multi-Media Filter Valve* to "Filter"
10. Set the *Polishing Filter Valve* to "Backwash".
11. Turn the **Filter Pump Switch** to ON. If the **Filter Pump** does not turn on, press the **Backwash Switch** until the **Filter Pump** turns on.
12. Set the *Filter Control Valve* as listed in #6, above. See "Caution" above.
13. Backwash approximately 5 minutes.
14. Turn the **Filter Pump Switch** to OFF.
15. Set the *Polishing Filter Valve* to "Filter"
16. Turn the **Filter Pump Switch** to ON.
17. Clean **Cartridge Filter** as explained below.

b. **Cartridge Filter:**

When the pressure difference between the **Cartridge Filter Pressure Gauge** and the **Polishing Filter Pressure Gauge** is more than 10 PSI, it is time to clean the **Cartridge Filter**.

1. Turn the **Filter Pump Switch** to OFF.
2. Open the *Cartridge Filter Drain Valve* to allow water to be released from the **Cartridge Filter.**
3. Open the **Air Bleed Valve** to allow air to displace the outgoing water.
4 When water is drained from tank, loosen knob on middle clamp assembly.
5. Remove clamp and pry off the top portion of the filter housing.
6. Remove the Polyester Fiber filter(s).

CAUTION!

Risk of bodily injury! Filters may weigh up to 70 pounds each. Use caution when lifting the filters.

7. Use a garden hose to spray clean the filter(s).
8. Rinse out the **Cartridge Filter** tank.
9. If filter(s) are in good condition, reinsert them into the **Cartridge Filter.** If excessive wear is noted, replace with new filter(s).
10. Lubricate the o-ring with petroleum jelly and replace around the outside of the **Cartridge Filter** body.
11. Reinstall the tank lid.
12. Reinstall and tighten the middle clamp assembly, tighten knob completely.
13. Close the *Cartridge Filter Drain Valve* to stop water from flowing out the bottom of the **Cartridge Filter.** tank.
14. Turn the **Filter Pump Switch** to ON.
15. Leave the **Air Bleed Valve** open as the tank fills with water. Close completely when water begins to emerge from the **Air Bleed Valve.**

MAINTENANCE

ACTIVE CARBON TEST:

To ensure the **Polishing Filter** is working effectively, you should perform an active carbon test.

I. **TEST PROCEDURE A**: For systems with pH & ORP Control, your test kit will include test strips.
   A. Following the directions included with the test strip kit, test the water in the **Holding Tank**.
      1. The test strip should show chlorine present in the system.
      2. If no chlorine is present, check the following:
         a. The **ORP Adjustment Chemical** is empty. Replace.
         b. The **ORP Pump** is turned off or malfunctioning. Ensure the **ORP Pump Switch** is in the ON position. Contact your local distributor if additional maintenance is needed.
         c. If you are not using chlorine as an ORP control, you must refer to TEST PROCEDURE B to ensure the carbon is still active.
   B. With the **Filter Pump** operating, use a test strip to test the incoming water to the **Product Tank**.
      1. The test should not show chlorine present in the system.
      2. If chlorine is present, the carbon must be replaced. See REMOVING AND REFILLING MEDIA section pg. 21.

II. **TEST PROCEDURE B**: For systems without pH & ORP Control, your test kit will include a Carbon removal scoop, 4 oz. empty container, 2 oz. empty container, 2 oz. bottle of chlorine, Chlorine test paper with color chart. Contact your local distributor if any parts are missing.
   A. Turn off the **Filter Pump Switch**.
   B. Unscrew the six head bolts and remove the *Polishing Filter Valve*.
   C. Remove the following items from the **Polishing Filter** tank in the order given:
      1. Upper dispersing cup.
      2. Small section of PVC.
      3. Lower dispersing cup.
   D. Fill the Carbon Removal Scoop with a sample of carbon from the **Polishing Filter** tank.
   E. Add 2 oz. of the carbon sample into the 4 oz. empty container.
   F. Fill the 2 oz. empty container with water.
   G. To the water, add one drop of chlorine.
   H. Follow the directions on the bottle of test strips. Dip a chlorine test paper into the 2 oz. container. The chlorine reading should be at least 10 parts per million. If not, add another drop of chlorine.
   I. Add the 2 oz. of chlorine/water solution to the carbon sample in the 4 oz. container.
   J. Tightly cap the chlorine/carbon mixture and shake occasionally for 3 minutes.
   K. Dip a new strip of chlorine test paper into the liquid part of the 4 oz. container. Do not dip the test paper into the solid carbon as this will produce incorrect results. Read the directions on the bottle of test strips.
   L. Check the reading against the color chart.
      1. A reading of zero means the carbon is still active.
         a. Reassemble the dispersing section of the **Polishing Filter** and replace the *Polishing Filter Valve*.
         b. Turn the **Filter Pump Switch** on.
      2. A positive reading means the carbon is inactive and must be recharged or replaced. Refer to pg. 18.

MAINTENANCE

REMOVING & REFILLING MEDIA FROM THE MULTIMEDIA & POLISHING FILTER:

1. New media can be ordered from your local distributor using the part numbers listed below.

Model	Part number	Description	Quantity	Weight (lbs.)
WCP-10-0M10	**19-0557**	**24" MEDIA FILTER**	**1**	
	33-0303	GRAVEL #3		100 LBS
	33-0304	GARNET #12		100 LBS
	33-0305	GARNET #50		100 LBS
	33-0306	FILTER AG		50 LBS
	19-0557	**24" POLISHING FILTER**	**1**	
	33-0302	ACTIVATED CARBON	2	110 LBS
WCP-20-0M10	**19-0557**	**24" MEDIA FILTER**	**1**	
	33-0303	GRAVEL #3		100 LBS
	33-0304	GARNET #12		100 LBS
	33-0305	GARNET #50		100 LBS
	33-0306	FILTER AG		50 LBS
	19-0557	**24" POLISHING FILTER**	**1**	
	33-0302	ACTIVATED CARBON		110 LBS
WCP-30-0M10	**19-0559**	**36" MEDIA FILTER**	**1**	
	33-0303	GRAVEL #3		300 LBS
	33-0304	GARNET #12		200 LBS
	33-0305	GARNET #50		300 LBS
	33-0306	FILTER AG		100 LBS
	19-0558	**30" POLISHING FILTER**	**1**	
	33-0302	ACTIVATED CARBON		165 LBS

2. Be certain to wear proper attire such as goggles, gloves, coveralls, dust mask, etc. to protect eyes and skin.
3. Turn off the **Filter Pump Switch**.
4. Remove the valve from the desired filter tank.
5. Remove the following items from the filter tank in the order given:
   Upper dispersing cup, Small section of PVC, Lower dispersing cup.
6. Use a vacuum to remove the media from the filter.
7. Cover the PVC opening to prevent media from entering the laterals.
8. Ensure the lateral assembly remains centered and flush on the bottom of the tank and the layers are level when pouring media into the filter tank.
9. Reassemble the dispersing section of the filter tank and replace its corresponding valve.
10. Turn on the **Filter Pump Switch**.
11. Dispose of used media according to EPA standards.

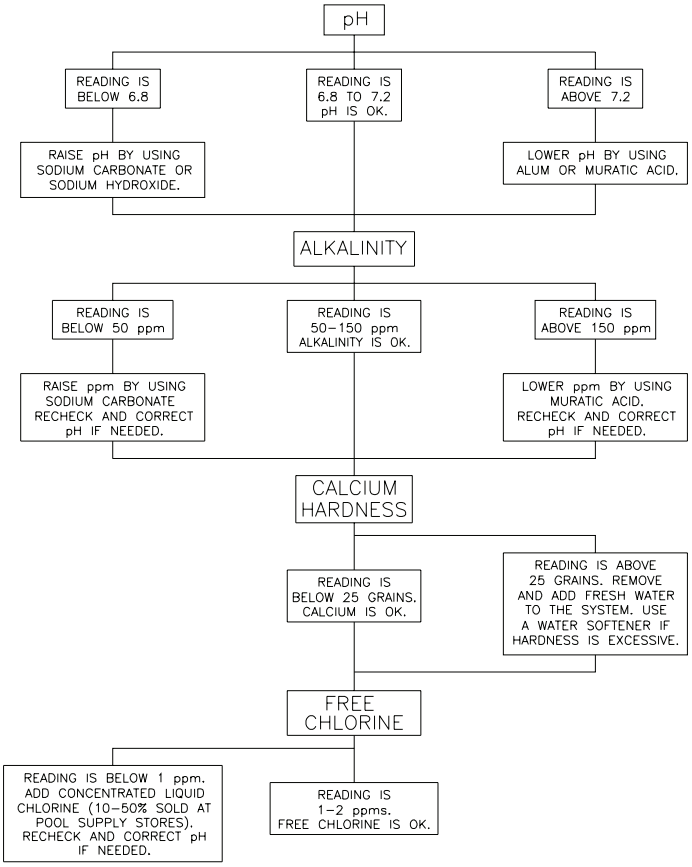
MAINTENANCE

WATER TESTING:

Water chemical makeup should be tested on a weekly basis. With the **Sump Pump** operating, use a test strip, test the incoming water to the **Holding Tank.** (Follow the directions given with your test strips.) Use the flow chart below to check and correct the following:

1. pH: Acidity and alkalinity in the water. Low pH (acidic) will cause rusty looking water.
2. Alkalinity: Dissolvable salts in the water. Too much alkaline causes cloudiness and reduces filter life.
3. Calcium Hardness: Calcium in the water. Too much calcium creates scale buildup in coils of hot water pressure washers.
4. *Free Chlorine: Chlorine which is not combined with dirt, oils, etc. Controls odor, bacteria and algae formation.

   *If using chlorine as a water purifying agent.



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MAINTENANCE:

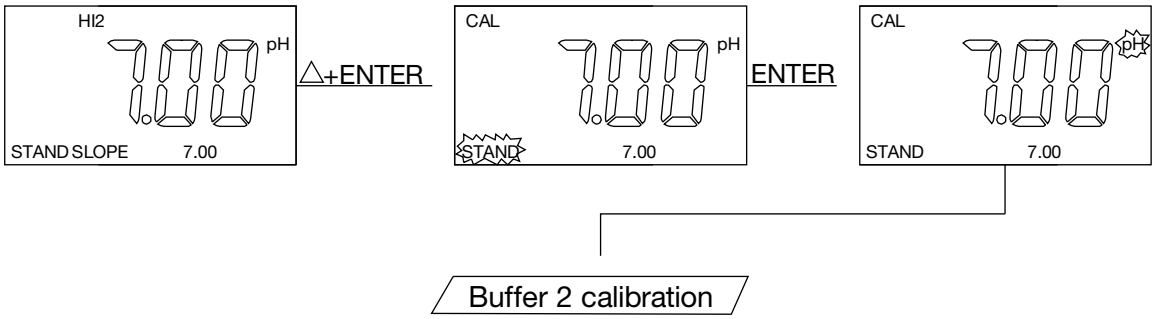
1. Clean pH AND ORP probes every 1-2 months.
   a. Shut off sump pump, wait for drain line to dran and loosen aluminum strain relief around probe to remove.
   b. Use water or vinegar and a soft cloth or Q-tip to wipe away build up on the probe.
   c. Place probe back in line, with tip at center of piping. Tighten strain relief around probe. DO NOT OVERTIGHTEN.

   Note: probes will be damaged if they are allowed to dry out. If they will be exposed to air for more than a few hours keep tip submerged in water or the storage solution that comes with the probe.

   Note: probes have a shelf life of about 1 year so it's recommended to replace the probes yearly.
2. Calibration of pH meter. You should recalibrate the external meter 1 or 2 times a year. You should also always recalibrate the meter when a pH probe has been replaced. Follow the calibration instructions below for the pH meter. An electronic calibrator can be used in place of the buffer solutions.

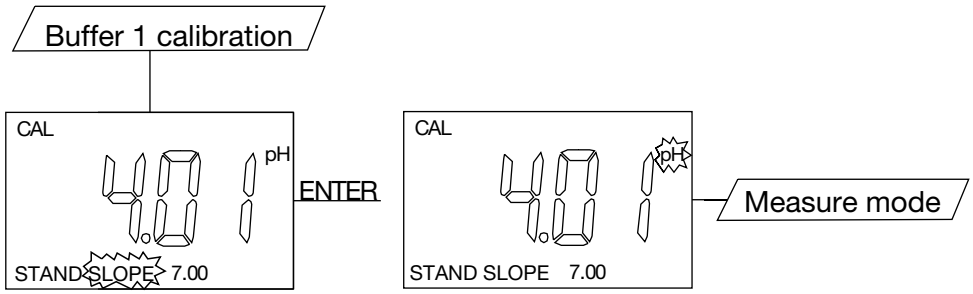
MAINTENANCE

BUFFER 1 (STAND) CALIBRATION:



Enter into the pH calibration mode, the “STAND” icon will flash, the unit is ready to be standardized at the first buffer. Rinse the pH and ATC/Temp probes in distilled water and immerse them in the first buffer solution (either 7.00 or 6.86). Allow temperature reading to stabilize, then press “ENTER” key to calibrate. The “pH” icon will flash until the unit detects a stable reading. Once the unit calibrates the first point, the “SLOPE” icon will flash. The unit is ready to be sloped at the second buffer.

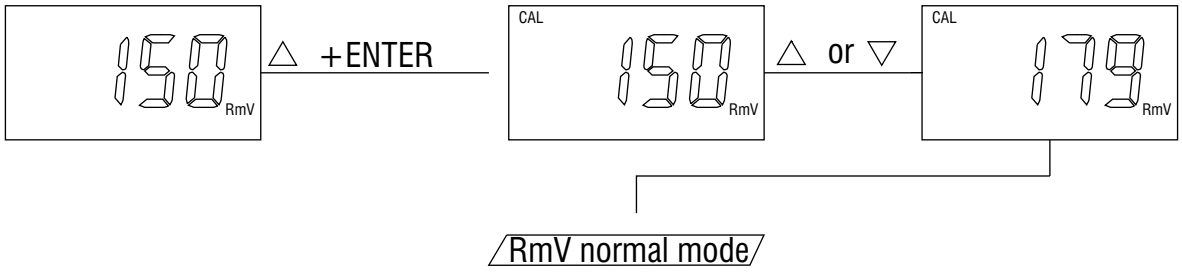
BUFFER 2 (SLOPE) CALIBRATION:



Rinse the pH and ATC/Temp probe in distilled water and immerse them in the second buffer solution (either 4.00/4.01 or 9.18/10.01). Allow temperature reading to stabilize, then press “ENTER” key to calibrate. The “pH” icon will flash until the unit detects a stable reading. Once the unit calibrates the second point and the unit will automatically exit the calibration mode and goes to the pH Measure mode. Dual point calibration is complete.

Note: In the Setting mode (1. Temperature compensation select), select 03 (Manual temperature compensation mode) if no temperature probe is being used. Press the [UP] key or [DOWN] key in the Manual temperature compensation mode to adjust the value to that of the test solution temperature. Then calibrate buffer 1 and buffer 2.

ORP CALIBRATION:



The model TX20 uses 1-point calibration for RmV. In the **RmV Measure mode**, pressing **[UP]** key and **[ENTER]** key at the same time, the meter will enter into **RmV calibration mode**. Rinse the ORP probe in distilled water and immerse it in the ORP standard solution, then press **[UP]** or **[DOWN]** key to adjust the ORP value to that the ORP standard. Press **[ENTER]** key to save. The unit beeps to indicate a successful calibration. Calibration is now complete and the unit will automatically switch to the ORP relative mV **Measure mode**.

MAINTENANCE

WINTERIZING:

If you must store your unit in an area where the temperature may fall below 32°F/0°C, you can protect your water recycling treatment system by draining all water from the system.

1. Follow the backwashing/cleaning procedures outlined on pages 15-16 for the **Multi-Media Filter**, **Polishing Filter** and **Cartridge Filter**, but DO NOT refill the **Cartridge Filter**.
2. Turn all switches on the **Control Panel** to the OFF position and disconnect power to the **Control Panel**.
3. Open the check valve near the **Sump Pit** and drain the water transport line. Drain **Sump Pump**.
4. Open check valve at the inlet and drain the inlet line.
5. Set the *Multi-Media Filter Valve 3* and the *Polishing Filter Valve 4* to "Winterize".
6. Remove drain plug from **Multi-Media Filter** and **Polishing Filter**.
7. Open the *Cartridge Filter Drain Valve 5* and open the **Air Bleed Valve**. Break the unions on each side.
8. Remove the drain plug from the **Filter Pump**.
9. Remove the drain plug from the **Transfer Pump**.
10. Follow the procedures listed for the solids collection area in the maintenence section. Completely drain the **Clarifier Tank**.
11. Remove the **pH and ORP Sensor Probes** and place them in their original containers filled with deionized water. Store at room temperature.
12. Drain the pH and ORP lines.
13. Store all chemicals at room temperature.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
SUMP PUMP		
Sump Pump will not run.	Floats are not adjusted correctly in the **Sump Pit**.	Readjust.
	Not enough water in the **Sump Pit.**	Add water to the **Sump Pit**.
	Float 1 is defective.	Replace.
	Level Limit Switch in the **Holding Tank** has flipped up.	Push **Level Limit Switch** down, or remove excess water in the **Holding Tank**.
	Circuit overload/breaker has tripped.	Reset breaker or replace fuse at power source.
	Motor overload.	Allow motor to cool. Motor will automatically restart when cool.
Sump Pump motor starts and stops frequently.	Motor is defective.	Replace pump.
	This is a common occurrence on initial start-up while pits are filling.	Allow pits to fill.
	Excessive water flow to reclaim unit.	Turn valve clockwise to reduce flow.
Sump Pump runs, but there is little or no water discharge.	**Sump Pump** impeller is clogged.	Disconnect power and unclog impeller.
	Motor overload.	Allow motor to cool. Motor will automatically restart when cool.
	Sump Pit is not large enough.	Expand size of pit.
	Strainer basket in **Sump Pump** is clogged.	Clean, repair or replace
	Water level is below pump inlet.	Ensure Float 1 is not caught in plumbing.
	There is an air lock in the **Sump Pump**.	Manually fill the inlet pipe with water.
	Low voltage.	Ensure wire size is capable of handling the rated amperage of the unit. If wire size is correct, contact your distributor.
	Clogged impeller or worn pump parts. Defective switch inside Float 1.	Contact your distributor.
Sump Pump will not turn off.	Pump is air locked.	Replace. Cycle pump in one minute increments several times to clear air from pump.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
ELECTRICAL		
No power at **Control Panel**.	Power failure to **Control Panel**.	Check circuit breaker at power source or contact your local distributor.
Power Indicator Light is OFF.	Blown fuses inside **Control Panel.** on step down transformer.	Check fuses, replace if necessary. If fuses are OK, contact your distributor.
CLARIFIER TANK		
Water will not flow into the **Clarifier Tank.**	**Sump Pump** is not turned on.	Move **Sump Pump Switch** to "ON".
	Circuit breaker has tripped or is "OFF".	Reset or turn breaker "ON".
	High Sump Pump Float in Holding Tank is malfunctioning.	Check On/Off with voltmeter, repair or replace.
	Strainer basket in **Sump Pump** is clogged.	Clean, repair, or replace.
	Dirt is lodged in the check valve.	Clean.
	Sump Pump impeller is clogged.	Disconnect power and clean.
	Lines or valves contain frozen water.	Allow to thaw. Inject with warm water. water if necessary.
FILTERS		
Indicator Light remains on after backwashing.	Debris is packed too tightly.	Increase backwash flow to 5 GPM above the maximum listed on pg.16.
SHAFT SEALS		
Water is leaking at pumps.	Damaged stationary shaft seal.	Seal ran dry. Ensure seal chamber is filled with liquid.
Short seal life.	Unexpected temperature and chemical usage.	Replace.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
FILTER PUMP		
Filter Pump will not run.	**Filter Pump Switch** is off.	Turn switch on.
	Circuit overload/breaker has tripped.	Reset breaker or replace fuse.
	Motor overload.	Allow motor to cool. Motor will automatically restart when cool.
	Filter Pump Switch is malfunctioning.	Replace switch.
	Low Filter Pump Float or **High Filter Pump Float** is malfunctioning.	Check On/Off with voltmeter, repair or replace.
Filter Pump runs but there is no water discharge OR Filter Pump cycles excessively.	Plumbing is obstructed.	Remove obstruction.
	Pump sucking air.	Eliminate leaks and tighten all connections on intake line.
	Low water in **Holding Tank**.	Increase flow by opening *Water Inlet Flow Control Valve 1*.
	Rain Water Overflow is discharging too much water.	Reduce flow by adjusting solenoid on the **Rain Water Overflow**.
	Check valve is leaking or stuck in closed position.	Clean or replace as necessary.
	Filters are dirty.	Backwash filters. (See pg.15-16.)
	Lines or valves contain frozen water.	Allow to thaw. Inject with warm water if necessary. Ensure the **Sump Pit** remains above freezing.
	Pump impeller is obstructed.	Disconnect power and clean.
	Pump motor is operating below maximum RPM.	Contact your local distributor.
Filter Pump is hot or turns off.	**Multi-Media Filter** is dirty.	Backwash.
	Low voltage.	Ensure wire size is capable of handling the rated amperage of the unit. If wire size is correct, contact your local distributor.
	Motor overload.	Allow motor to cool. Motor will automatically restart when cool.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
TRANSFER PUMP		
Transfer Pump runs but there is low water discharge.	Water is being used elsewhere.	Reduce flow to other source or contact your local distributor.
	Low Transfer Pump Float is not functioning.	Check On/Off with voltmeter. Repair or replace.
	Timer kicked in. Water is recycling	Do not run pressure washers while water is in timed recycle mode.
	Rain Water Overflow is discharging back to pit.	Do not run pressure washers while water is discharging.
	Plumbing is obstructed or too small.	Remove obstruction or use larger plumbing.
	Scale buildup in metal piping.	Replace with plastic plumbing.
Transfer Pump cycles excessively.	Solenoid valve(s) is open or stuck open.	Fix Solenoid valve(s) or reduce flow.
	Pump sucking air.	Eliminate leaks and tighten all connections on intake line.
	Bladder failure in **Pressure Tank**.	Replace **Pressure Tank**.
	Pressure switch malfunction.	Adjust pressure settings.
	Too low of pressure in the **Pressure Tank**.	Increase pressure.
Transfer Pump does not turn off.	Pressure switch line is obstructed.	Disconnect line and remove obstruction. Replace.
	Pressure switch is out of alignment.	Realign or replace.
	Pressure switch contacts are frozen.	Replace if necessary.
	Impeller is obstructed.	Contact your local distributor.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
SOLENOIDS		
Solenoid valve won't turn on.	Low or no water pressure.	Turn off water, switch solenoids between valves. Turn on water. If problem is corrected, replace faulty solenoid.
	No electrical contact to solenoid.	Contact your local distributor.
Solenoid valve leaks when turned off.	Solenoid is obstructed.	Turn off water, remove and clean solenoid.
	Damaged solenoid.	Replace.
	Solenoid o-ring is misaligned or damaged.	Realign or replace.
	Diaphragm seat is dirty.	Clean or replace.
	Diaphragm is damaged.	Replace.
ODOR		
Excessive odor in water system.	Not enough chemicals in the system to maintain water balance.	Increase the pH and ORP set points. (See pg.14)
	Water remains dormant in the system too long causing bacteria buildup.	Increase timer settings to recycle water.
CHEMICALS		
Excessive chemical usage.	**pH and ORP Meters** are calibrated incorrectly or faulty probes.	Recalibrate meters or change probes.
Low chemical usage (with possible odor.)	Chemical pumps are not working.	Replace chemical hose inside pump. Recalibrate **pH and ORP Meters.**
WATER FLOW		
Air shoots from Water Outlet.	This is a common occurrence while pump is priming.	Air will stop shooting from the water outlet when pump is primed.
	Transfer Pump is sucking air at suction inlet.	Eliminate leaks or tighten connection.
Water will not turn off.	Solenoid failure.	Repair or replace.

TROUBLESHOOTING

pH/OPR DISPLAY	TEMPERATURE DISPLAY	DISPLAY MODE	POSSIBLE CAUSE(S) [ACTION(S)]
OvEr	-10.0~120.0 °C	pH measure mode	pH > 16.00pH [Recalibrate], replace probe
Undr	-10.0~120.0 °C	pH measure mode	pH > -2.00pH [Recalibrate], replace probe
OvEr	OvEr	pH measure mode	a. Temperature > 120.0 °C [Bring buffer solution to lower temperature.] [Replace temperature probe.] b. No temperature sensor. [Adjust the manual temperature to -10~120 °C.]
OvEr	Undr	pH measure mode	a. Temperature > -10.0 °C [Bring buffer solution to higher temperature.] [Replace temperature probe.] b. No temperature sensor. [Adjust the manual temperature to -10~120 °C.]
OvEr	Temperature reading	Absolute ORP mV or relative ORP	Absolute ORP mV > +1999 mV a. Bring solution down to lower ORP b. Recalibrate c. Replace probe
Undr	Temperature reading	Absolute ORP mV or relative ORP	Absolute ORP mV > -1999 mV a. Bring solution up to higher ORP b. Recalibrate c. Replace probe

REPLACEMENT PARTS

DESCRIPTION	REORDER PART #
Replacement Cartridge Filter for WCP-10	19-0274
Replacement Cartridge Filter for WCP-20/30	19-0264
pH Sensor Probe	32-0538
ORP Sensor Probe	32-0540
Activated carbon	33-0302
Gravel	33-0303
Garnet #12	33-0304
Garnet #50	33-0305
Filter Ag.	33-0306
Test Strips	33-0314

STATEMENT OF WARRANTY

Mi-T-M warrants all parts (except those referred to below) of your new WCP Water Recycling Treatment system to be free from defects in materials and workmanship for One (1) Year from the date of original purchase.

Defective parts not subject to normal wear and tear will be repaired or replaced at Mi-T-M's option during the warranty period. In any event, reimbursement is limited to the purchase price paid.

EXCLUSIONS

1. The motor is covered under separate warranty by its respective manufacturer and is subject to the terms set forth therein.
2. Normal wear parts:

Seals	Filters	Gaskets
O-rings	Packings	Pistons
Valve Assembly	Brushes	Filtering Media
Sensors		

3. Parts damaged due to:
   -normal wear, misapplication, modifications/alterations, abuse,
   -operation at other than recommended speeds, pressures or temperature,
   -the use of caustic liquids,
   -chloride corrosion or chemical deterioration,
   -fluctuations in electrical or water supply,
   -operating unit in an abrasive, corrosive or freezing environment.

4. Parts damaged by failure to follow recommended:
   -installation, operating and maintenance procedures.

5. This warranty does not cover the cost of:
   -normal maintenance or adjustments,
   -labor charges,
   -transportation charges to Service Center,
   -freight damage.

6. The use of other than genuine Mi-T-M parts will void warranty. Parts returned, prepaid to Mi-T-M's factory or to an Authorized Service Center will be inspected and replaced free of charge if found to be defective and subject to warranty. There are no warranties which extend beyond the description of the face hereof. Under no circumstances shall Mi-T-M bear any responsibility for loss of use of the unit, loss of time or rental, inconvenience, commercial loss or consequential damages.