OPERATORS MANUAL FOR Mi-T-M®

BIO-15-0M10 /BIO-15-0M30

BIOLOGICAL RECYCLING

SYSTEM WITH OZONE

CAUTION
RISK OF INJURY!
READ MANUAL BEFORE OPERATING!
This manual is an important part of the Biological Recycling System and must remain with the unit when you sell it!

©Copyright 2006, Mi-T-M Corporation®

Form #37-0955-101821

Table of Contents

INTRODUCTION 3
CONTENTS OF BIOLOGICAL RECYCLING SYSTEM 4
SPECIFICATIONS 4
PURPOSE 4
IMPORTANT SAFETY WARNINGS 5-7
- RISK OF ELECTRIC SHOCK OR ELECTROCUTION 5
- RISK OF EXPLOSION OR FIRE 6
- RISK OF BURSTING 6
- RISK OF BURNS 6
- RISK FROM MOVING PARTS 7
- RISK OF BODILY INJURY 7

FLOW CHARTS 8-9
- BIOLOGICAL RECYCLING SYSTEM FLOW CHART 8-9

FEATURES 10-11
- BIOLOGICAL RECYCLING SYSTEM FEATURES 10-11

INSTALLATION 12-14
- ATTIRE 12
- INSTALLATION 12-13
- PRESTART CHECKLIST 14

PREPARATION 15
- PRESTART PROCEDURES 15
- START-UP 15

OPERATION 16
- MICROBES 16

MAINTENANCE 16-17
- ROUTINE MAINTENANCE 16
- WINTERIZING 17

TROUBLESHOOTING 18-20
REPLACEMENT PARTS 21
NOTES 22
STATEMENT OF WARRANTY 23

⚠ 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

! IMPORTANT !

ALUMINUM TANK AND CHEMICAL USE

The chemicals listed below should not be used in any aluminum tank because of reactions with the alloy. These chemicals may cause premature failure of your tank. Use of any of the listed chemicals will void any warranty expressed or implied by Mi-T-M with regard to your water treatment system.

CHEMICALS TO AVOID:
Aluminum Chloride, Ammonia, Ammonia Hydroxide, Barium Salts, Calcium Chloride, Carbon Tetrachloride, Caustic Soda, Chlorine, Chloroform, Hydrochloric Acid, Hydrogen Peroxide, Methyl Chloride, Oxalic Acid, Ozone, Perchloric Acid, Phosphoric Acid, Potassium Carbonate, Potassium Hydroxide, Sodium Carbonate, Sodium Chloride, Sodium Hydroxide, Sulfuric Acid, Trichloro-acetic Acid, Zinc Chloride.

If you are unsure about a chemical reacting with your aluminum tank, please consult with your Mi-T-M representative.

INTRODUCTION

Congratulations on the purchase of your new Mi-T-M Biological Recycling System! You can be assured your Mi-T-M Biological Recycling 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 Biological Recycling 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 Biological Recycling 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 BIOLOGICAL RECYCLING 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.

CUSTOMER SERVICE
CALL OUR TOLL-FREE NUMBER
for the Sales or Service Center nearest you!
800-553-9053

Please have the following information available for all service calls:

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

CONTENTS OF THE BIOLOGICAL RECYCLING SYSTEM

Carefully unpack your new Mi-T-M Biological Recycling 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 Biological Recycling System.

1. Blue float for sump pit (protects sump pump low level)
2. Biological Recycling System Platform
   A. Transfer Pump
   B. Pressurized water storage tank
   C. Aerator Pump
   D. Ozone Generator
   E. Ozone Pump
3. Manual

SPECIFICATIONS

MODEL	BIO-15-0M10	BIO-15-0M30	WX-0043
Maximum Flow	15 GPM		
Electrical	230 Volt 1Phase 30Amps	208-230V 3Phase 15Amps	460v 3Phase 7.5Amps
Sump Pump	1 HP		
Operating Capacity	600 gallons		
Biological Media	1042 sq. ft.		
Transfer Pump (centrifugal)	3/4 HP		
Aerator Pump	3/4 HP		
Ozone Pump	1/2 HP		
Dimensions L x W x H	96" x 60" x 110"		

PURPOSE

The Mi-T-M Biological System was designed to offer a solution to waste disposal that is economical, efficient and foremost, *environmentally safe*. As we make progress through the 21st century, environmental waste codes are becoming more and more strict. Surcharges and fines are being mandated to companies that are unable to operate within acceptable guidelines. Chemicals used to treat waste water often create by-products which in themselves cause additional code violations. Mi-T-M Corporation has solved this problem by engineering a Bio-System that utilizes *microbes,* not chemicals, to literally feed off of the waste in the water allowing the final output to be cleansed of any hazardous by-products. We at Mi-T-M realize the need to protect and respect our environment and therefore, our Bio-Systems operate under specific microbe guidelines, utilizing microbes that (1) is natural, not genetically formulated and (2) will not cause disease.

Mi-T-M has been involved in water products for over thirty years. Our commitment to quality is passed on to our customers, our commitment to the environment is passed on to our children.

IMPORTANT SAFETY WARNINGS

WARNING: **When using this product, basic precautions should always be observed, including the following:**

READ ALL SAFETY WARNINGS BEFORE USING BIOLOGICAL RECYCLING SYSTEM

HAZARD	POTENTIAL CONSEQUENCE	PREVENTION
RISK OF ELECTRIC SHOCK OR ELECTROCUTION 	Serious injury or death could occur if the Biological Recycling System is not properly grounded. Your Biological Recycling 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. Keep all connections dry and off the ground. Do not touch pump, pump motor, discharge piping or water when the unit is connected to the power supply; regardless of whether the unit is operating correctly or experiencing an operation failure.
	Electrical shock may occur if Biological Recycling System is not operated properly.	DO NOT allow metal components of the Biological Recycling System to come in contact with live electrical components. Never operate the Biological Recycling 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 Biological Recycling 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 Biological Recycling System and drain the water. Disconnect the Biological Recycling 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 Biological Recycling System is safe to work on just because it is not operating, it could restart at any time! Always disconnect from the power source.) Allow the Biological Recycling System components to cool down.

IMPORTANT SAFETY WARNINGS

READ ALL SAFETY WARNINGS BEFORE USING BIOLOGICAL RECYCLING 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.	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 Biological Recycling System to pump flammable material! An explosion could occur from a gas vapor buildup inside the system.
	Serious injury may occur if attempting to start the Biological Recycling System when the pump is frozen.	In freezing temperatures, the unit must always be warm enough to ensure there is no ice formation in the pump. Do not start the Biological Recycling 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 Biological Recycling System is shutdown.	Never allow any part of your body to contact the electrical motor until cooled.

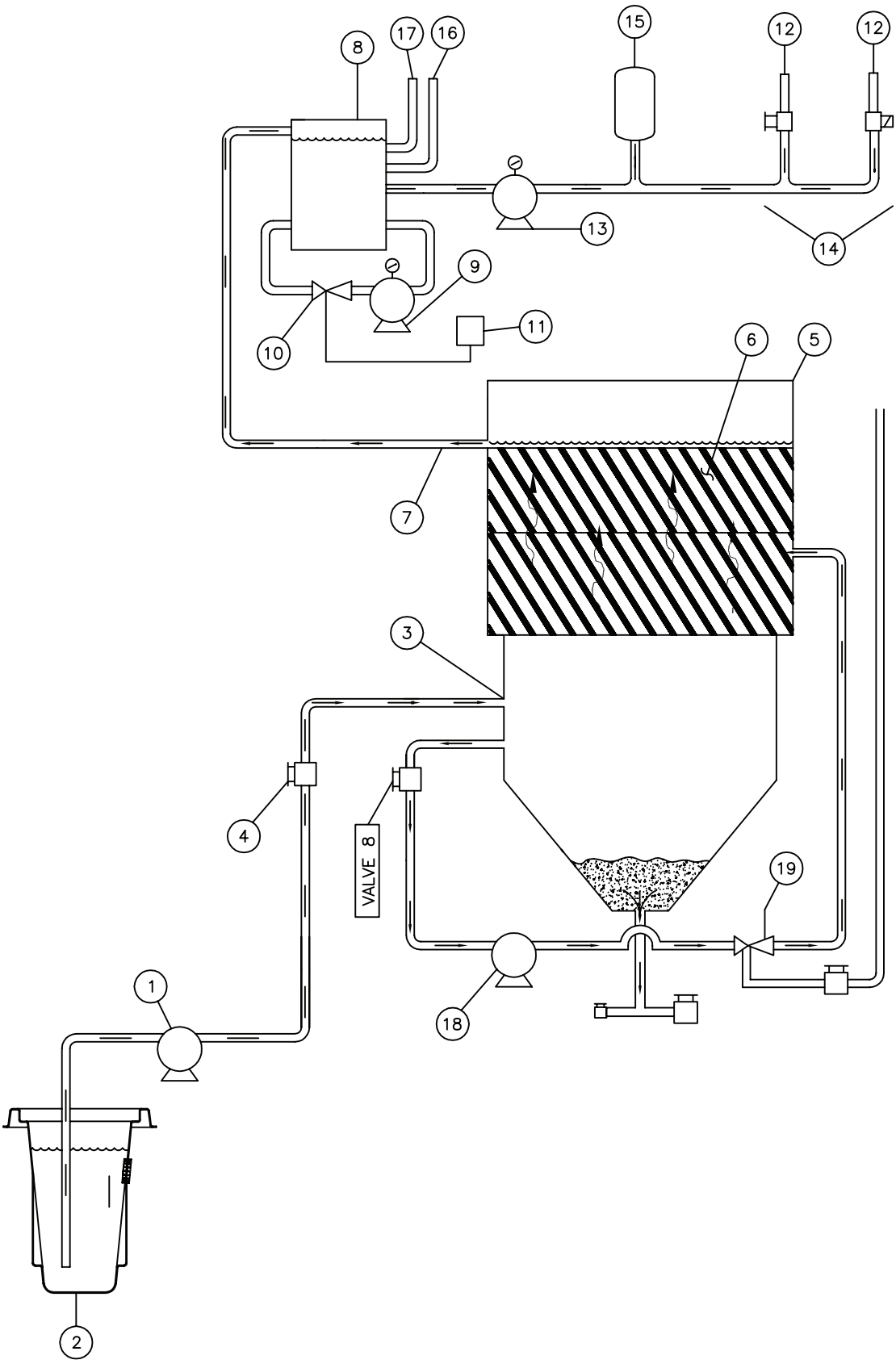
IMPORTANT SAFETY WARNINGS

READ ALL SAFETY WARNINGS BEFORE USING BIOLOGICAL RECYCLING SYSTEM

HAZARD	POTENTIAL CONSEQUENCE	PREVENTION
RISK FROM MOVING PARTS 	Serious injury may occur to the operator from moving parts on the Biological Recycling 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 Biological Recycling System.	DO NOT DRINK THE WATER IN THE BIOLOGICAL RECYCLING SYSTEM!! This is non-potable water and is not suitable for consumption. 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 Biological Recycling System. Be thoroughly familiar with controls. Before servicing components, ALWAYS shut off the Biological Recycling System. Consult Material Safety Data Sheets (MSDS) for safe handling of system, especially oxidizers and acids.

!SAVE THESE INSTRUCTIONS!

BIOLOGICAL RECYCLING SYSTEM FLOW CHART



FLOW DIA. BIO-15-0M10 W/OZONE-072006-PJH

BIOLOGICAL RECYCLING SYSTEM FLOW CHART

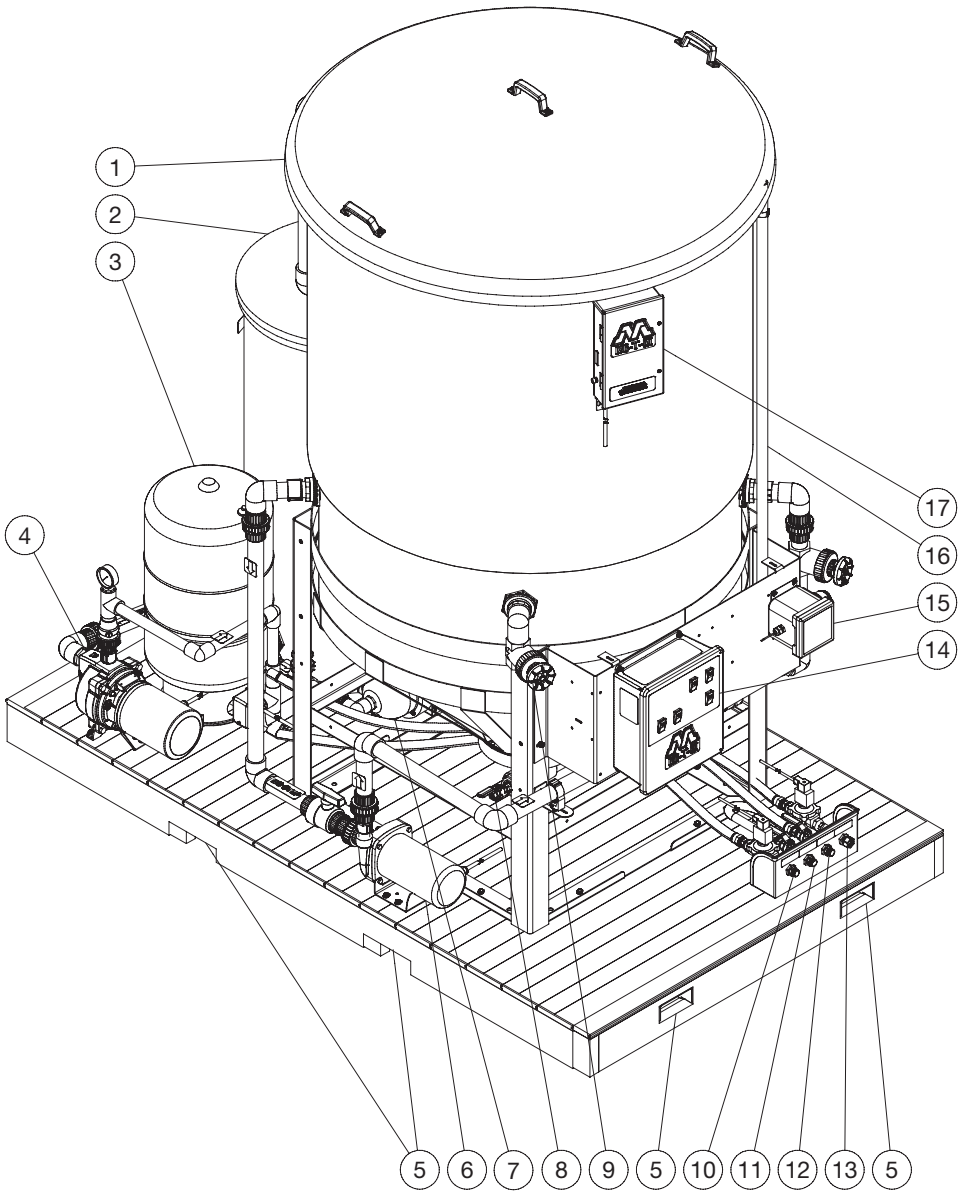
The **Sump Pump (1)** draws water from the **Sump Pit (2)** and pumps it to the **Inlet (3)** of the Biological Recycle System. The **Inlet Flow Control Valve (4)** can be used to control the f low of water into the unit. The **Biological Recycling Tank (5)** is the complete reaction tank. The wastewater enters below the **Biological Media (6)** and moves up through the **Biological Media (6)**. The media packs provide a surface for the microbes to live on. As water passes through the biological media, the microbes feed off of the organic compounds in the water, producing by-products of water and carbon dioxide.

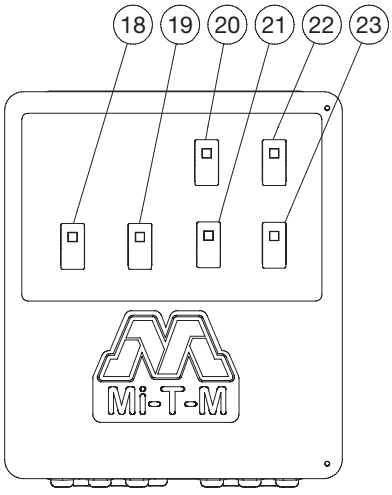
From the **Biological Recycling Tank (5)**, the wastewater gravity feeds through the **Biological Recycling Tank Outlet Plumbing (7)** into the **Product Tank (8)**. Water in the product tank is continually pumped with the **Ozone Pump (9)** through an **Injection Venturi (10)**. The injection venturi draws air through the **Ozone Generator (11)** to treat the product water. Treated water is stored in the product tank until called for from the **Pressure Washer Outlets (12)**.

Water is pulled from the **Product Tank (8)** by a **Transfer Pump (12)**, and pushed to a pressure washer outlet **Manifold (14)** and a **Pressure Tank (15)**. The **Pressure Tank (15)** maintains a pressure of 30 to 50 psi until needed. When water is needed for washing, water is sent from the **Manifold (14)** to the **Pressure Washer Outlets (12)**. A garden hose or pressure washer may be connected to the **Pressure Washer Outlets (12)**. As a system is used, water will tend to be "lost," or evaporate. For this purpose, a **Freshwater Makeup Connection (16)** is provided. A system may also be "flooded" from rain or other circumstances. For this purpose, a **Rainwater Over Flow (17)** has been provided.

Aerobic microbes need air to live. An **Aerator Pump (18)** moves water from the top of the **Biological Recycling Tank (5)** through an **Air Injector (19)**, and back into the lower portion of the **Biological Recycling Tank (5)**. A venturi on the **Air Injector (19)** creates air bubbles, which rise up through the **Biological Media (6)**. These air bubbles carry oxygen, which is a source of energy for the microbes.

BIOLOGICAL RECYCLING SYSTEM FEATURES





BIOLOGICAL RECYCLING SYSTEM FEATURES

ITEM	DESCRIPTION
1	BIO Coalescing Tank
2	Product Tank
3	Pressure Tank
4	Transfer Pump
5	Fork Lift Holes
6	Aerator Pump
7	Ozone Pump
8	Drain Assembly
9	Inlet Plumbing
10	Rain Water Overflow
11	Rinse Water Outlet
12	Pressre Washer Outlet
13	Fresh Water Inlet
14	Control Box
15	Peristaltic Pump
16	Aerator Air Intake
17	Ozone Generator
18	Sump Pump Switch
19	Aerator Pump Switch
20	Master Switch
21	Ozone Pump Switch
22	Peristaltic Metering Pump Switch
23	Transfer Pump Switch

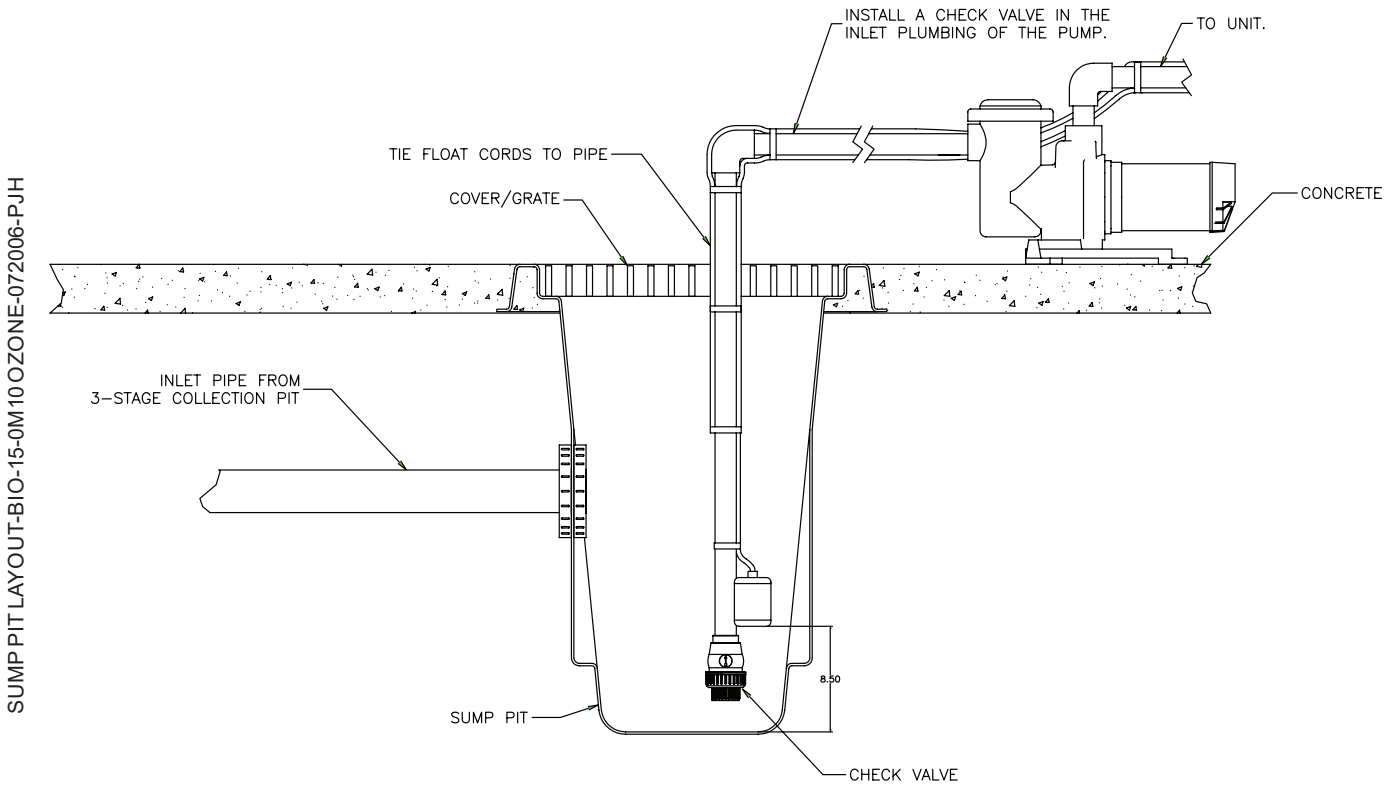
INSTALLATION

ATTIRE:

1. Proper attire is essential to your safety. It is advised to utilize whatever means necessary to protect eyes, ears, and skin.

INSTALLATION:

1. A Collection Pit System must already be an established structure before installing the Biological Recycling 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 Biological Recycling 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 the Control Panel and Drain Ports.
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 Biological Recycling System.
   c. in a freezing environment.
5. Check all union connections for tightness.
6. Install schedule 80 PVC connections to the water inlet of the Biological Recycling System.
7. Install the Sump Pump in the Sump Pit as shown below.
8. Install plumbing from the Sump Pump using 1 1/2" minimum connection sizes.
9. Install the low level float as indicated in the drawing below.



10. 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
       1. From the Sump Pump and Float to the Control Panel.
       2. From the local disconnect to the Control Panel. The electrician will need to drill holes in the Control Panel for the conduit.
    d. Make connections to the terminal strips as shown in the wiring diagram below.

INSTALLATION

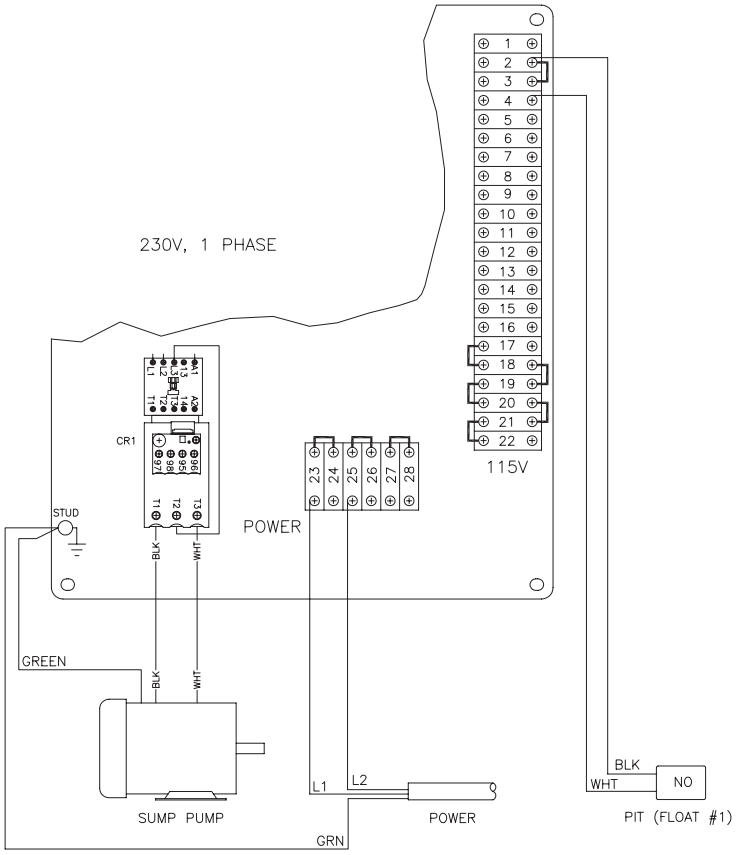
11. Make the following piping connections:
    a. From a pressurized water supply to the Fresh Water Makeup.
    b. From the Pressure Washer Outlet to a pressure washer or garden hose.
    c. From the Rain Water Overflow to storage tank for further processing or disposal. Do not send the water back to Sump Pit.

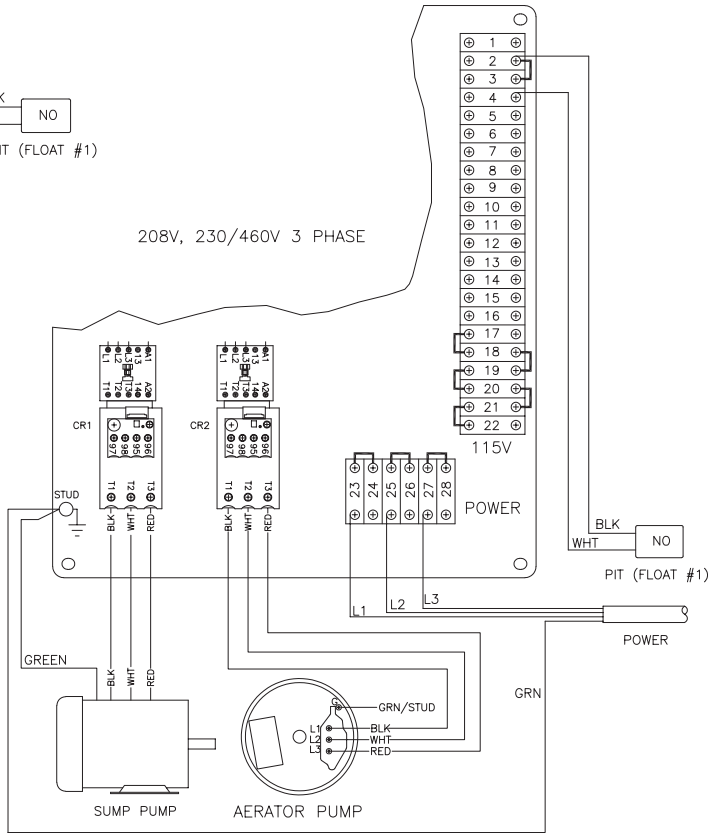
NOTE: In most cases, you must have a permit to legally dispose recycled water.

WARNING

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

FIELD WIRING DIAGRAM - BIO-20R-25R-35R





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. Are all plumbing connections secure?		
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 Biological Recycling System in the “Start-up Mode”.
   A. Aerator Pump Inlet Valve: Turn valve open.
   B. Aerator Pump Outlet Valve: Turn valve closed.
   C. Water Outlet Valves: Turn valves closed.
2. Be certain all plumbing/hoses are tight and properly connected.
3. Be certain the incoming air to the Air Injectors is not obstructed.
4. Be certain all switches on the Control Panel are in the “OFF” position.

START-UP:

1. Ensure all Hold Down Angles are fastened into Biological Tank
2. Turn power from main disconnect “ON”.
3. Turn on the Master Switch, water from the Freshwater Inlet will start filling the Product Tank.
4. When the Product Tank is full, prime the Transfer Pump by opening the union immediately after the Transfer Pump until water starts to flow out, then retighten union.
5. Turn on the Transfer Pump Switch to pressurize the Manifold and Pressure Tank.
6. Turn on the Sump Pump Switch.
7. Operate the Biological System for one hour before turning on the Microbe Metering Pump.

OPERATION

MICROBES:

The Peristaltic Metering Pump supplied with your Biological Recycling System should be set to dose 5 to 6 ounces of liquid microbes per day into the system. Please allow your system to run about 1 hour before turning the metering pump switch on.

The Mi-T-M microbes are most active and effective when the water temperature is between 70°F and 100°F. For climates where freezing temperatures are experienced, the Biological System should be enclosed in a heated room.

MAINTENANCE

ROUTINE MAINTENANCE:

1. Pits should be kept free from large amounts of sludge.
2. The media pack should feel "slimy" to the touch when the microbe colony is established. (Some applications may require more or less microbes depending on the contaminant level.)
3. The pH of the water should not be lower than 5.5 or higher than 8.5 at any given time.
4. If soap is necessary for washing, the soap should be of a neutral pH (approximately 7).

MAINTENANCE

WINTERIZING:

1. Turn all switches on the Control Panel to the off position and disconnect power to the Control Panel.
2. Shut off all water connections to the Biological Recycling System
3. Remove the drain plug from the Transfer Pump.
4. Drain the main tank by using the dump valve located at the bottom of the tank. Clean the tank and Biological Media, and wipe down the system.
5. Open all valves on the Manifold.
6. Loosen the Freshwater Make-up connection, Pressure Washer Outlet connection, Rainwater Overflow connection and Tank Inlet connection.
7. Make sure to drain and clean product tank.
8. Open the check valve near the Sump Pit and drain the water transport line. Remove the Sump Pump from the Sump Pit.
9. Store all chemicals at room temperature.

TO OPERATE UNIT AFTER WINTERIZING:

1. Follow Installation Instructions on page 12.
2. For ease of reinstalling Biological Media, place media at an angle. After media is replaced, the Hold Down Angles must be fastened into the Biological Tank before filling. This prevents the Biological Media from rising out of the tank and also supports the tank sides.
3. Follow Prestart Procedures on page 15.
4. Follow Start-up Procedures on page 15.
5. Follow Procedures for Microbes on page 16.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
ELECTRICAL		
No power at Control Panel (26).	Power failure to Control Panel.	Check circuit breaker at power source or contact your local distributor.
Power Indicator Light (34) is OFF.	Blown fuses inside Control Panel on step down transformer.	Check fuses, replace if necessary. If fuses are OK, contact your distributor.
SUMP PUMP		
Sump Pump will not run.	Float is not adjusted correctly in the Sump Pit.	Readjust.
	Float 1 is defective.	Replace.
	Level Limit Switch in the Product Tank has flipped up.	Push Level Limit Switch down, or remove excess water in the Product 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.
	Motor is defective.	Replace motor.
Sump Pump motor starts and stops frequently during operation.	This is a common occurrence.	Allow pits to fill.
	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.
Sump Pump runs, but there is little or no water discharge.	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. Turn the Sump Pump on and off several times.
	Low voltage.	Ensure wire size is capable of handling the rated amperage of the unit. If wire size is correct, contact your distributor.
	Sump Pump impeller is clogged.	Disconnect power and unclog impeller.
	Worn pump parts.	Contact your distributor.
Sump Pump will not turn off.	Defective switch inside Float 1.	Replace.
	Pump is air locked.	Cycle pump in one minute increments several times to clear air from pump. If system includes a check valve, a 3/16" hole should be drilled in the discharge pipe approximately 2" above the discharge connections.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
BIO-SYSTEM TANK		
Water will not flow into the Bio-System 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".
	Dirt is lodged in the inlet 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 if necessary.
	Freshwater Make-up solenoid malfunctioning.	Repair or replace.
	Freshwater Make-up Float #4 in Product Tank tangled or malfunctioning.	Repair or replace.
TRANSFER PUMP		
Transfer Pump will not run.	Circuit overload/breaker has tripped.	Reset breaker or replace fuse.
	Motor overload.	Allow motor to cool. Motor will automatically restart when cool.
	Transfer Pump Float #3 tangled or malfunctioning.	Repair or replace.
	Pressure Switch malfunctioning.	Replace.
Transfer Pump runs but there is no water discharge OR Transfer Pump cycles excessively.	Pump sucking air.	Eliminate leaks and tighten all connections on intake line.
	Check valve is leaking or stuck in closed position.	Clean or replace as necessary.
	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.	Contact your local distributor.
	Pump motor is operating below maximum RPM.	Contact your local distributor.
	Too much pressure in Pressure Tank.	Check PSI in Pressure Tank with no water in tank. Pressure should be 18 PSI / 1.24 Bar.
	Pressure Switch needs adjusting.	Pressure Switch should be set to start Transfer Pump at 20 PSI / 1.4 Bar.
Transfer Pump is hot or turns off.	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
SHAFT SEALS		
Water is leaking at **Transfer Pump**.	Damaged mechanical seal.	Seal ran dry. Ensure seal chamber is filled with liquid.
Short seal life.	Unexpected temperature and chemical usage.	Replace.
ODOR		
Excessive odor in water system.	Not enough microbes in the system to maintain water balance.	Increase the microbe inoculation.
	Too much waste water for microbes to digest.	Use of chemical injection or use of an additional Bio-System may be necessary.
	*****Water remains dormant in the system too long causing bacteria buildup.	The Biological System and Aerator System should be on 24 hours per day.
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.
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.

REPLACEMENT PARTS

DESCRIPTION	REORDER#
Microbes-Hydrocarbon/VOC mix	RC-2001-0001
Microbes-Golf Course Mix	RC-2002-0001
Microbes-Fats, Oil and Grease	RC-2003-0001
Test Strips	33-0314
Microbes: Grease treat conc. (5 gal)	RC-2008-0005
Microbes: Hydrocarbon conc. (5 gal)	RC-2009-0005
Microbes: Pond con. (5 gal)	RC-2010-0005
Microbes: Enzyme/Microbe con. (5 gal)	RC-2011-0005
Microbes: Grease treat 2lb solid	RC-2012-0002
Microbes: Waste treat 2lb solid	RC-2013-0002
Microbes: Hydrocarbon 2lb solid	RC-2014-0002
Microbes: Grease treat tab	RC-2015-0001
Microbes: Waste treat tab	RC-2016-0001
Microbes: Hydrocarbon tab	RC-2017-0001
Microbes: Grease treat con. (1 qt.)	RC-2018-0001
Microbes: Hydrocarbon con. (1 qt.)	RC-2019-0001
Microbes: Pond conc. (1qt.)	RC-2020-0001
Bio Enhancer nutrient	RC-2021-0005

NOTES

STATEMENT OF WARRANTY

Mi-T-M warrants all parts (except those referred to below) of your new Biological Recycling System to be free from defects in materials and workmanship during the following periods:

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	Microbes
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.

Manufactured by Mi-T-M
50 MI-T-M Drive, Peosta IA 52068
563-556-7484/ Fax 563-556-1235