

# Biological Recycle System/Clarifier



NEMA-4 rated corrosion-proof control panel for safe and reliable operation.

Peristaltic pump is self priming for passive automatic liquid microbe injection. This feature drastically reduces the amount of hands-on operation time required.



Mazzei® venturi air injection system sustains beneficial aerobic microbes while destroying odor-causing anaerobic bacteria.



Available in 300 gallon tank (BIO-10) or 600 gallon tank (BIO-15)

BIO-15-0M10 shown with WX-0020 ozone option

Mi-T-M manufactures a wash-water recycle system with enhanced design technology offering:

- Cone-shaped tank for easy handling of accumulated solids.
- Quality recycled wash-water without common odor problems.
- Easy operation and maintenance that saves you time and money.
- Conveniently located instrument panel and controls.
- Heavy duty, corrosive-resistant and UV-resistant poly-skid.

Excellent for removal of hydrocarbons from wastewater before recycling or discharge

System provides efficient handling of tough organic applications, such as:

- **Golf Courses:** Designed to handle equipment wash-water for various golf course configurations.
- **Solid-Waste Haulers:** Able to effectively treat vehicle wash-water, like that from garbage trucks.
- **Food Processing Plants:** Pre-treatment of a broad range of food processing waste-water before discharging.
- **Petro-Chemical:** Capable of treating waste streams containing multiple, organic particulate matter.

Model #	Flow Rate	Clarifier Tank	Sump Pump	Transfer Pump	Power Requirements	Poly Skid Dimensions L x W x H	Shipping Weight
BIO-10-0G10	0-10 GPM	300 Gallons	N/A	1/2 HP	230V, 1Ø, 20 amps	4' x 6' x 110"	1,300 lbs.
BIO-15-0M10*	0-15 GPM	600 Gallons	3/4 HP	1/2 HP	230V, 1Ø, 20 amps	5' x 8' x 110"	1,500 lbs.

\*Includes sump pump



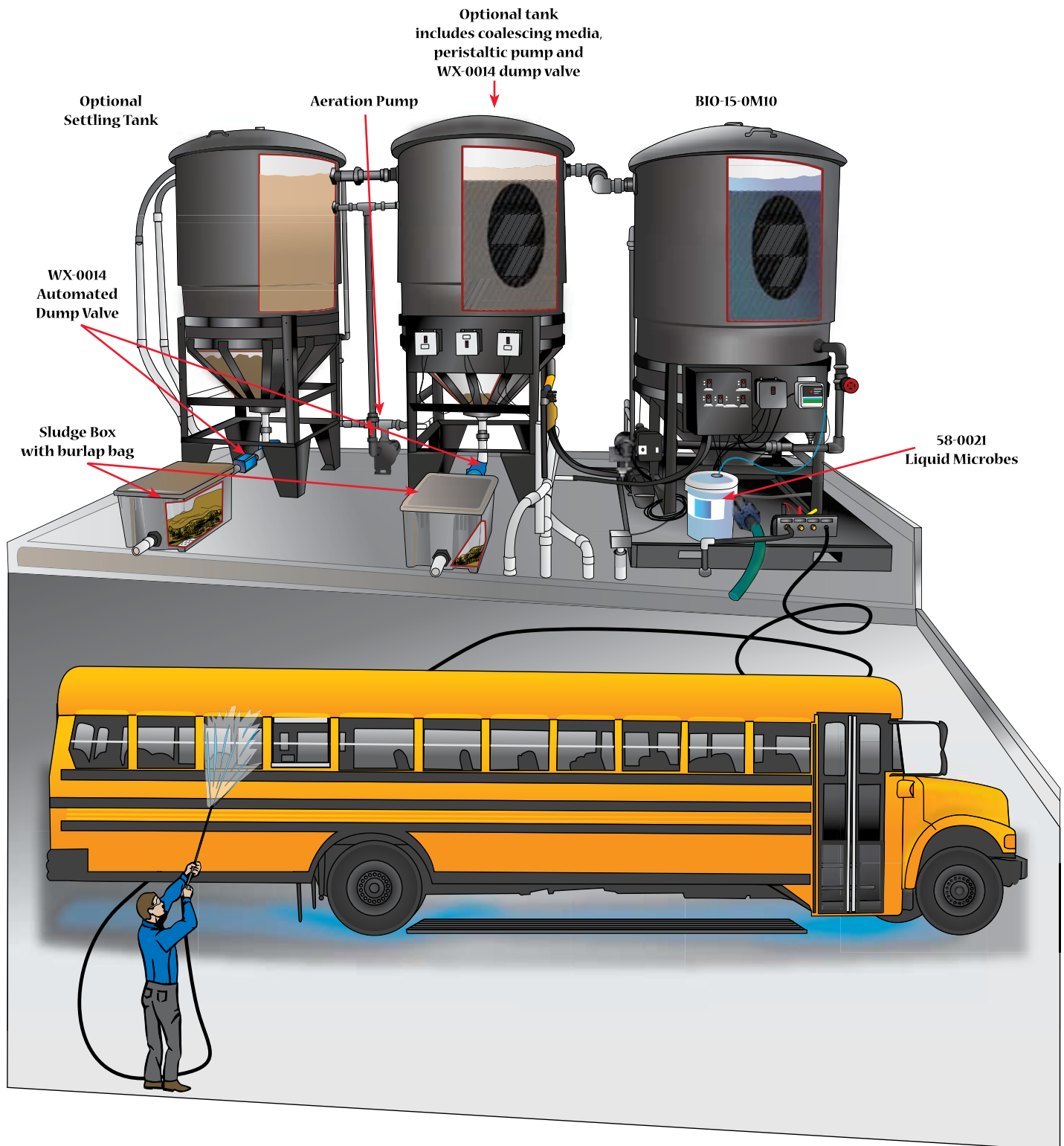
WX-0014

## Options:

Part #	Description
3-0214	3/4 HP sump pump
WX-0014	2" automated dump valve
WX-0017	Ozone option for BIO-10-0G10
WX-0020	Ozone option for BIO-15-0M10

# Custom Biological Combination Units

Optional custom biological combination units are available within the Mi-T-M Bio Series family to satisfy your specific application needs. These set-ups offer your choice of 600-gallon or 300-gallon tank(s). Please contact Mi-T-M Corporation or an Authorized Mi-T-M Dealer for more information about available BIO Series combinations, or how we can custom-build a water treatment system to meet your requirements.



*Just one of several examples of a custom biological setup.*

Consult Mi-T-M or an authorized distributor to help with your specific needs.

# Biological Recycle/Discharge System

This system offers models available for either Recycle or Discharge operations. Each unit offers added benefits, such as:

- Lower maintenance than any recycle system on the market today.
- Low operating cost.
- Simple equipment operation.



BIO-25R-0M10



NEMA-4 rated corrosion-proof control panel for safe and reliable operation.



Mazzei® venturi air injection system sustains beneficial aerobic microbes, while destroying odor causing anaerobic bacteria.

Recycle systems are equipped with a bronze manifold to withstand heat and high pressure.



### Options:

Part #	Description
WX-0005	Ozone for BIO-25R-1M10
WX-0015	Ozone for BIO-35R-1M10

\*Ozone not available on aluminum models

Model #	Flow Rate	Biological Media	Tank Capacity	Material of Construction	Sump Pump	Power Requirements	Dimensions L x W x H	Shipping Weight
BIO-20D-0M10	0-20 GPM	2,304 sq.ft.	890 gal.	Marine Aluminum	Standard	230V, 1Ø, 20 amps	8' x 4' x 4'	950 lbs.
BIO-20D-1M10	0-20 GPM	2,304 sq.ft.	890 gal.	Stainless Steel	Standard	230V, 1Ø, 20 amps	8' x 4' x 4'	950 lbs.
BIO-25R-0M10	0-25 GPM	3,456 sq.ft.	1,434 gal.	Marine Aluminum	Standard	230V, 1Ø, 25 amps	12' x 6' x 4'	1,400 lbs.
BIO-25R-1M10	0-25 GPM	3,456 sq.ft.	1,434 gal.	Stainless Steel	Standard	230V, 1Ø, 25 amps	12' x 6' x 4'	1,400 lbs.
BIO-35R-0M10	0-35 GPM	6,480 sq.ft.	2,244 gal.	Marine Aluminum	Standard	230V, 1Ø, 25 amps	12' x 6' x 5'	1,900 lbs.
BIO-35R-1M10	0-35 GPM	6,480 sq.ft.	2,244 gal.	Stainless Steel	Standard	230V, 1Ø, 25 amps	12' x 6' x 5'	1,900 lbs.

D - designates discharge  
R - designates recycle



**The Mi-T-M Touch**

*Our stainless-steel tanks go through a passivation process after the welding phase of production. This ensures a quality product with low maintenance.*



Before



After

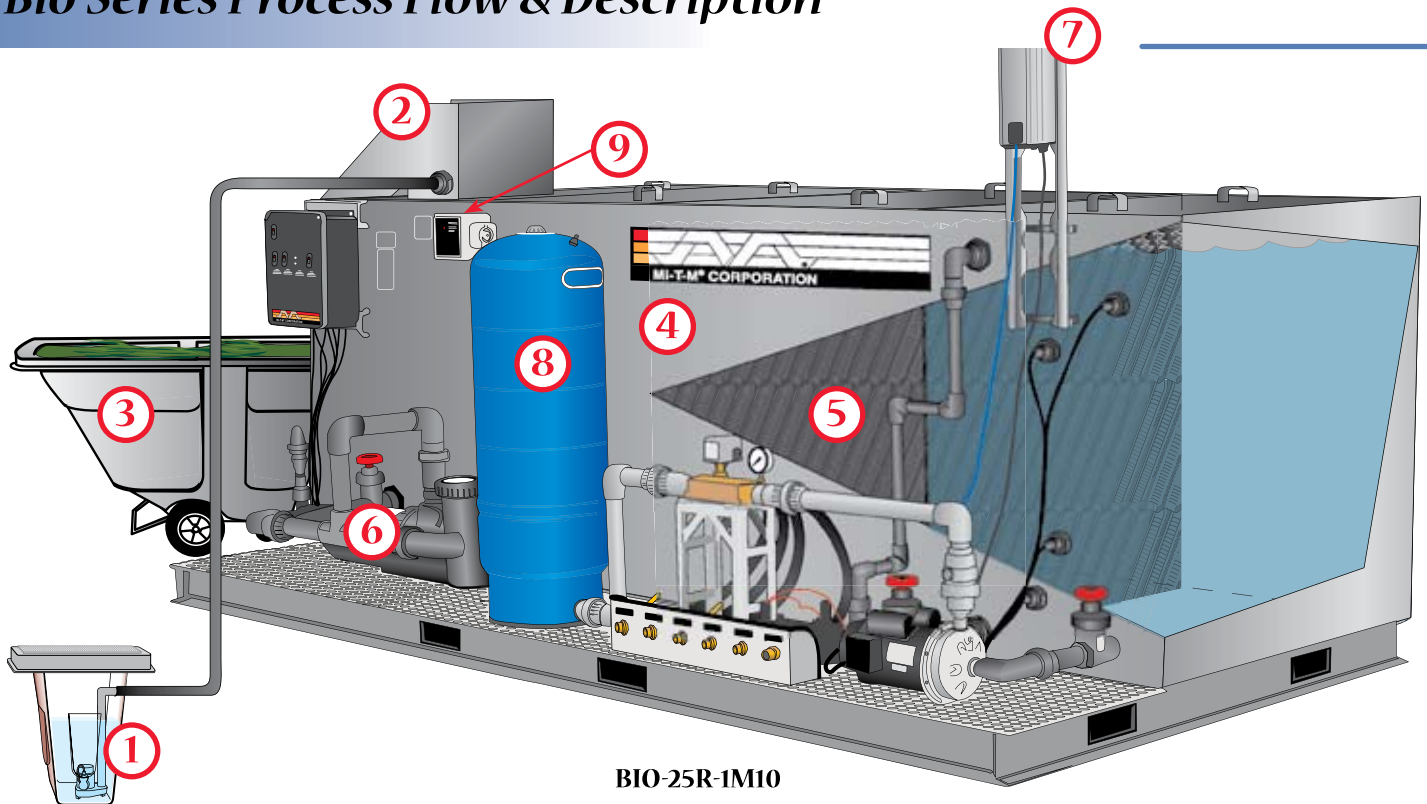
**BIO Series Accessories**

Part #	Description
3-0214	Replacement sump pump, surface mount; 3/4 HP, 115V, 10 amps OR 3/4 HP, 230V, 5 amps
3-0216	Submersible sump pump; 1/2 HP, 230V, 1Ø, 5 amps
21-0152	Tank-mount bracket for waterfall filter
21-0153	Wall-mount bracket for waterfall filter
32-0920	Tank heater
55-0068	2" air fine-bubble injector
RC-0004-0001	Grass cart for use on golf course
RC-0008-0001	Waterfall filter
RC-0009-0001	Bio system filter; includes: filter housing, filter, mounting bracket and wrench
RC-0010-0120	Timed peristaltic pump, 120V
RC-0010-0230	Timed peristaltic pump, 230V
WX-0005	Bio System ozone option (for BIO-25R)

**BIO Series Consumables**

Part #	Description
RC-2001-0001	Hydrocarbons/VOCs mix; microbes; monthly inoculation
RC-2002-0001	Golf Course mixture; microbes; monthly inoculation
RC-2003-0001	Fats, oils, and greases; microbes; monthly inoculation
RC-2006-0001	Biological water socks; for use in oily pits with petroleum-based oils and greases
58-0020	Liquid concentrate hydrocarbon bacteria (to use with peristaltic pump)
58-0021	Liquid microbe for concrete and parts cleaning. Removes hydrocarbons.

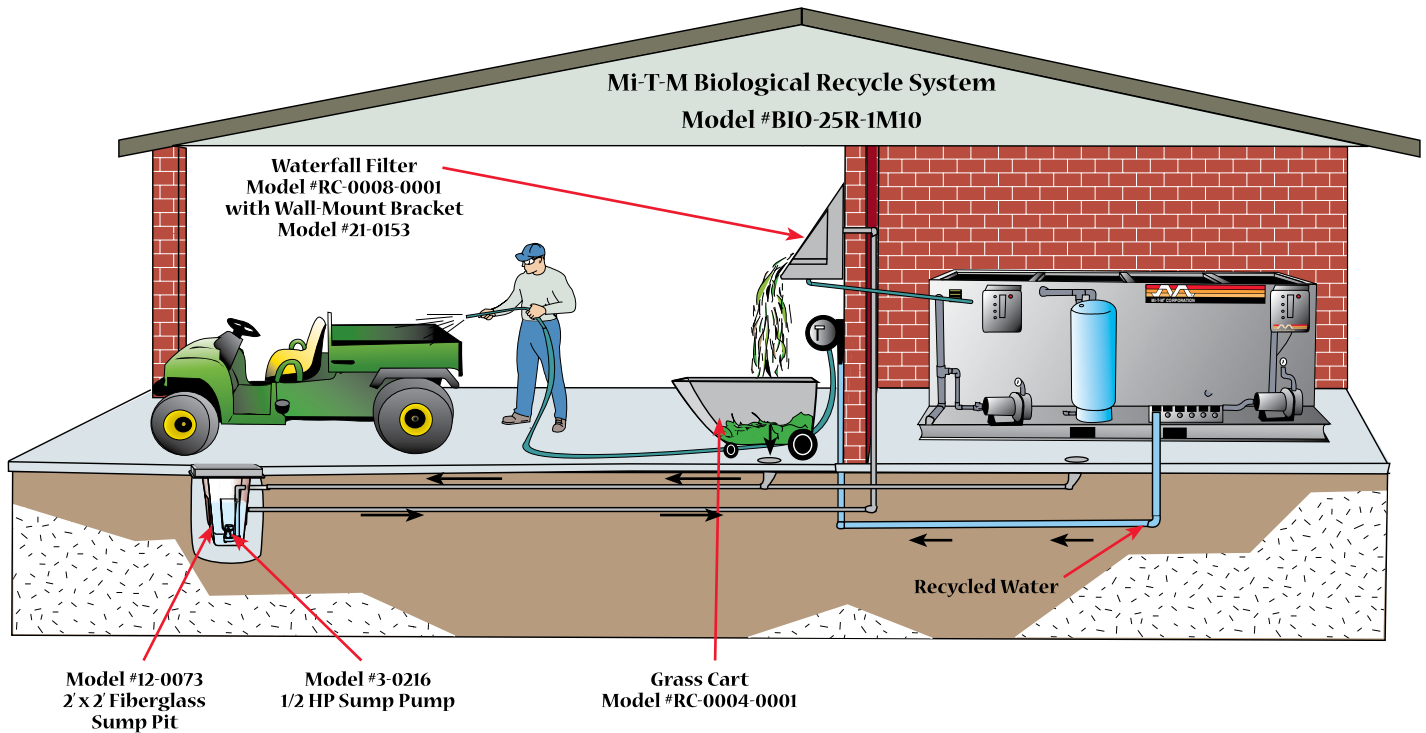
# Bio Series Process Flow & Description



**BIO-25R-1M10**

- 1. Submersible Sump Pump:** Untreated water is introduced into the bio system via a ½ HP submersible sump pump.
- 2. Waterfall Filter** (optional): Especially useful in golf course applications, water is typically pumped to a stainless steel waterfall filter (Part # RC-0008-0001) for effective grass and particle separation. Water flows into the system while grass and debris are separated and dropped into the grass cart.
- 3. Grass Cart** (optional): Grass from the waterfall filter is collected in the grass cart (Part # RC-0004-0001). Grass is de-watered through a specially designed stainless steel screen in the grass cart that allows the cart to be filled with grass and debris without plugging up the screen. Water drains back to the pit, and the grass can be easily transported for disposal.
- 4. Bioreaction Tank:** Untreated wastewater is pumped into the first chamber of the stainless steel tank, where solids are precipitated and the microbes begin their work. The tank has up to 2,244 gallons of holding capacity to provide maximum treatment time from the biological microbes.
- 5. Biofilm Generative Media:** The bioreaction portion of the system houses literally thousands of square feet of biological media surface area, where the microbe growth is maximized. Water flows through the media and around a series of baffles, changing direction countless times, and maximizing contact with “hungry” microbes. The microbes then treat the water by consuming a broad range of organic constituents (such as herbicides, pesticides, oils, greases, etc.), turning them into carbon dioxide and water. To ensure proper and continued colonization, microbes are added monthly—a process called inoculation.
- 6. Aeration System:** A unique aeration system quietly injects large amounts of oxygen into the wastewater. Generating dissolved oxygen is critical for maximizing the health and activity level of the microbes and the size of the colony.
- 7. Ozone** (optional): An ozone generator is an option for specialized applications where sterilization of the waste stream is desired. (Please note that ozone injection is not available for aluminum tank systems.)
- 8. Pressurized Tank:** Once water is biologically treated, a pressurized tank and pump deliver up to 35 GPM of recycled water to three outlet ports.
- 9. Peristaltic Pump** (optional): Self priming for passive automatic liquid microbe injection.

# Sample Equipment Wash Pad Application with Bio Series Recycle System



The BIO Series is perfect for the following applications:

- Rental Yards
- Golf Courses
- Heavy Equipment Dealers
- Trucking Facilities
- Military Bases
- Truck Rental Fleets
- Diesel Repair Facilities
- Forklift Washing Operations
- Aircraft Maintenance & Restoration
- Shipyards
- Municipalities/State DOTs
- Oil Fields
- Engine Rebuilders & Manufacturers