

BIO Series

WATER TREATMENT SYSTEMS

H2O

Equipment Services

Our popular BIO Series Systems utilize fixed-film bacteria in conjunction with coalescing media. Various tank sizes and flow rates are used to create retention time for the treatment of wastewater streams. Oxygen is supplied to the bacteria in the waste stream by venturi injection.

Biological Recycle /Discharge Systems

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 costs
- Simple equipment operation
- CSA approved control panel which meets the requirements of the US and Canadian standards for an Industrial Control Panel



BIO-25R-1M30



BIO Series *Custom Biological Combination Units*

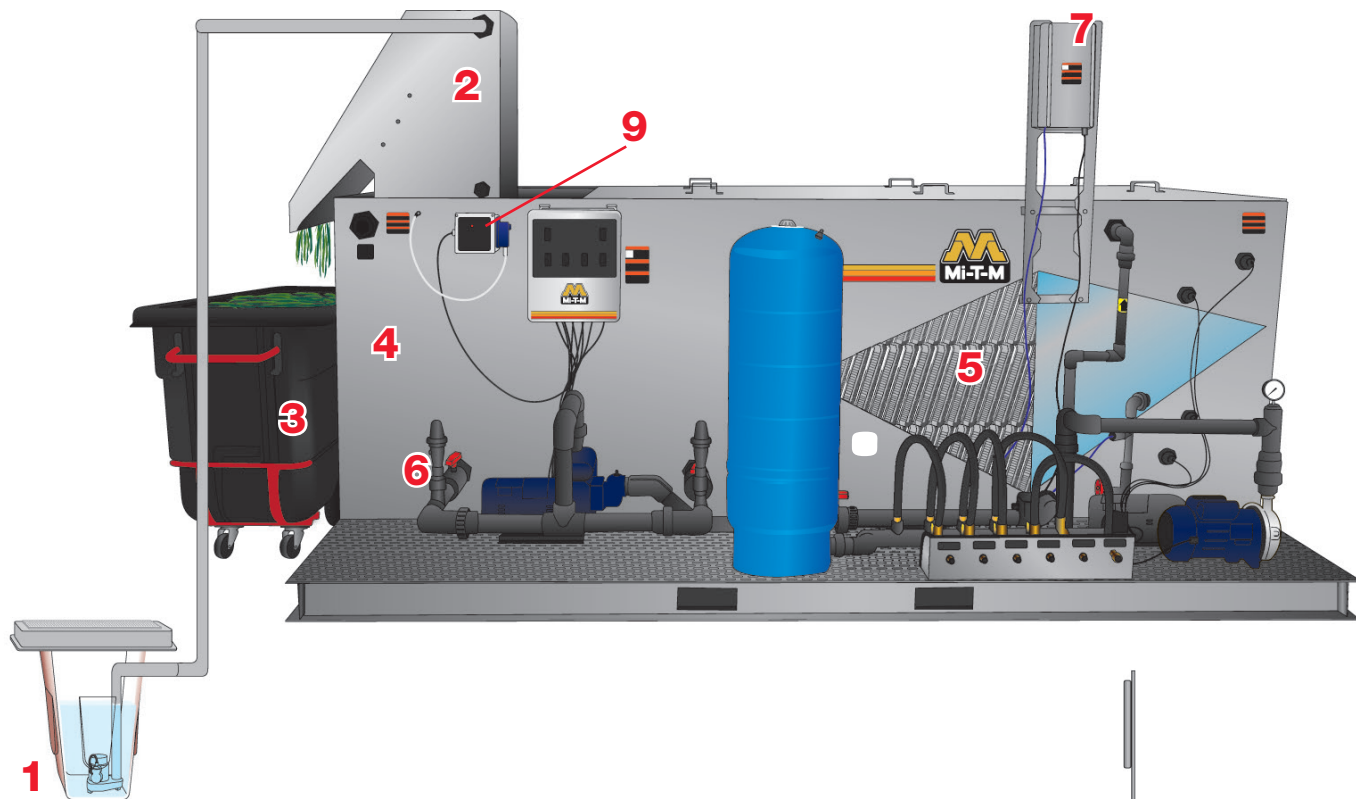


BIO-20R-OM11

MODEL NUMBER	FLOW RATE	BIOLOGICAL MEDIA	TANK CAPACITY	MATERIAL OF CONSTRUCTION	SUMP PUMP (INCLUDED)	TRANSFER PUMP	POWER REQUIREMENTS	DIMENSIONS (LxWxH)	SHIP WT.
BIO-20D-OM10	0-20 GPM	2,304 sq. ft.	890 gallons	Marine aluminum	1/2 HP	—	230V, 1Ø, 15.0A	8ft.x4ft.x4ft.	950 lb.
BIO-20D-1M10	0-20 GPM	2,304 sq. ft.	890 gallons	Stainless-steel	1/2 HP	—	230V, 1Ø, 15.0A	8ft.x4ft.x4ft.	950 lb.
BIO-20D-OM30	0-20 GPM	2,304 sq. ft.	890 gallons	Marine aluminum	1/2 HP	—	230V, 1Ø, 10.0A	8ft.x4ft.x4ft.	950 lb.
BIO-20D-1M30	0-20 GPM	2,304 sq. ft.	890 gallons	Stainless-steel	1/2 HP	—	230V, 3Ø, 10.0A	8ft.x4ft.x4ft.	950 lb.
BIO-20R-OM10	0-20 GPM	2,304 sq. ft.	890 gallons	Marine aluminum	1/2 HP	2.0 HP	230V, 1Ø, 25.0A	8ft.x4ft.x4ft. with 3ft.x3ft. skid	1092 lb.
BIO-20R-1M10	0-20 GPM	2,304 sq. ft.	890 gallons	Stainless-steel	1/2 HP	2.0 HP	230V, 1Ø, 25.0A	8ft.x4ft.x4ft. with 3ft.x3ft. skid	1092 lb.
BIO-20R-OM30	0-20 GPM	2,304 sq. ft.	890 gallons	Marine aluminum	1/2 HP	2.0 HP	230V, 3Ø, 15.0A	8ft.x4ft.x4ft. with 3ft.x3ft. skid	1092 lb.
BIO-20R-1M30	0-20 GPM	2,304 sq. ft.	890 gallons	Stainless-steel	1/2 HP	2.0 HP	230V, 3Ø, 15.0A	8ft.x4ft.x4ft. with 3ft.x3ft. skid	1092 lb.
BIO-20R-OM11	0-20 GPM	2,304 sq. ft.	890 gallons	Marine aluminum	1/2 HP	1.5 HP	230V, 1Ø, 25.0A	8ft.x6ft.x4ft.	1092 lb.
BIO-20R-1M11	0-20 GPM	2,304 sq. ft.	890 gallons	Stainless-steel	1/2 HP	1.5 HP	230V, 1Ø, 25.0A	8ft.x6ft.x4ft.	1092 lb.
BIO-20R-OM31	0-20 GPM	2,304 sq. ft.	890 gallons	Marine aluminum	1/2 HP	1.5 HP	230V, 3Ø, 15.0A	8ft.x6ft.x4ft.	1092 lb.
BIO-20R-1M31	0-20 GPM	2,304 sq. ft.	890 gallons	Stainless-steel	1/2 HP	1.5 HP	230V, 3Ø, 15.0A	8ft.x6ft.x4ft.	1092 lb.
BIO-25R-OM10	0-25 GPM	3,456 sq. ft.	1,434 gallons	Marine aluminum	1/2 HP	2.0 HP	230V, 1Ø, 25.0A	12ft.x6ft.x4ft.	1680 lb.
BIO-25R-1M10	0-25 GPM	3,456 sq. ft.	1,434 gallons	Stainless-steel	1/2 HP	2.0 HP	230V, 1Ø, 25.0A	12ft.x6ft.x4ft.	1680 lb.
BIO-25R-OM30	0-25 GPM	3,456 sq. ft.	1,434 gallons	Marine aluminum	1/2 HP	2.0 HP	230V, 3Ø, 15.0A	12ft.x6ft.x4ft.	1680 lb.
BIO-25R-1M30	0-25 GPM	3,456 sq. ft.	1,434 gallons	Stainless-steel	1/2 HP	2.0 HP	230V, 3Ø, 15.0A	12ft.x6ft.x4ft.	1680 lb.
BIO-35R-OM10	0-35 GPM	6,480 sq. ft.	2,244 gallons	Marine aluminum	1/2 HP	2.0 HP	230V, 1Ø, 25.0A	12ft.x7ft.x5ft.	1900 lb.
BIO-35R-1M10	0-35 GPM	6,480 sq. ft.	2,244 gallons	Stainless-steel	1/2 HP	2.0 HP	230V, 1Ø, 25.0A	12ft.x7ft.x5ft.	1900 lb.
BIO-35R-OM30	0-35 GPM	6,480 sq. ft.	2,244 gallons	Marine aluminum	1/2 HP	2.0 HP	230V, 3Ø, 15.0A	12ft.x7ft.x5ft.	1900 lb.
BIO-35R-1M30	0-35 GPM	6,480 sq. ft.	2,244 gallons	Stainless-steel	1/2 HP	2.0 HP	230V, 3Ø, 15.0A	12ft.x7ft.x5ft.	1900 lb.

D - Designates Discharge / R - Designates Recycle
 230/208/460V 3-phase available.
 Power requirements reflect pump change.

BIO Series *Process & Flow Description*



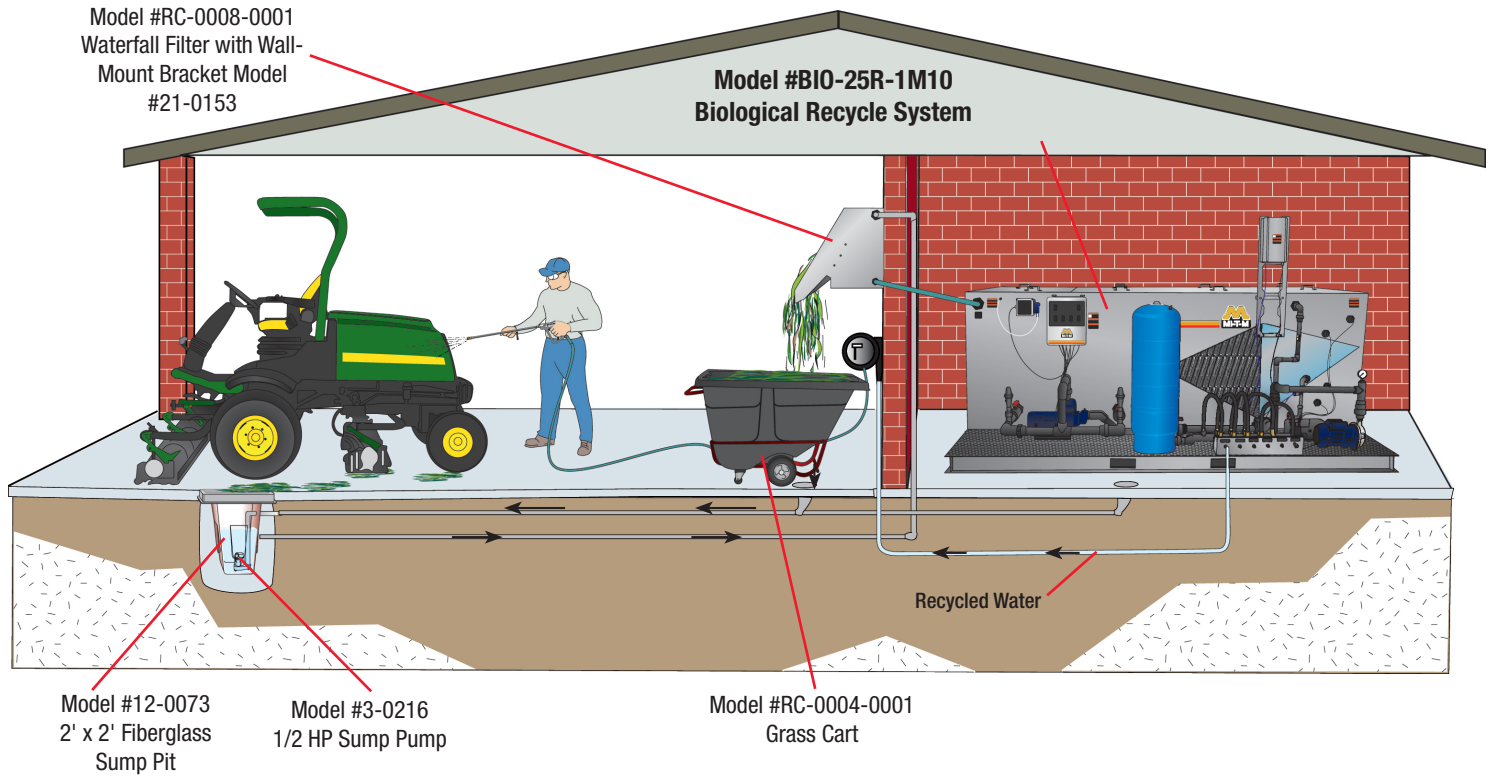
- 1. Submersible Sump Pump** - Untreated water is introduced into the BIO system via a 1/2 HP submersible sump pump.
- 2. Waterfall Filter (Accessory #RC-0008-0001)** - Especially useful in golf course applications, water is typically pumped into a stainless-steel waterfall filter for effective grass and particle separation. Water flows into the system while grass and debris are separated and dropped into the grass cart.
- 3. Grass Cart (Accessory #RC-0004-0001)** - Grass from the waterfall filter is collected in the grass cart. 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.



Side view

- 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 for 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, grease, etc.) turning them into carbon dioxide and water. To ensure proper and continued colonization, microbes are added periodically - a process called inoculation.
- 6. Aeration System** - A unique aeration system quietly injects large amounts of oxygen into the waste water. Generating dissolved oxygen is critical for maximizing the health and activity level of microbes and the size of the colony.
- 7. Ozone (Option)** - 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 (Option)** - Self-priming for passive automatic liquid microbe injection.
- 10. Sloped Bottom Tanks (Option)** - Makes regular scheduled maintenance easier.

BIO Series *Sample Equipment Wash Pad Application*



The WCL 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

The Importance of a Proper Pit System

Once equipment is washed, the untreated wash-water flows into your pit system. A proper pit system for your application is the first step in proper wash-water treatment, and a critical element in any wash-water recycle system.

We can help you determine the pit system configuration that works best with your application.

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