

OWNERS MANUAL

WaiHome LLC - Mata Solid Waste Interceptor
All work must conform to local electrical, plumbing, and building codes.

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THANK YOU and congratulations on your new Mata Solids Interceptor! You have chosen a cutting-edge solution for responsible wastewater management. By mechanically separating solids at the source, your Mata provides a superior level of primary treatment that protects the environment and ensures the longevity of your household utility system.

Please take the time to read the information in this manual. Safe and proper operation of your Mata system will ensure a long product life.

With Aloha,

The WaiHome Team

Warning and Danger Labels

These labels are located on the Orenco control panel, motor box, Mata Lid, heating loop, and solid bins. Follow the information on these labels to ensure your safety. If you have questions regarding safety, operation, or maintenance of Mata, contact WaiHome or your authorized service provider before taking action.



Dangers

Electrical equipment located in flooded areas presents an electrical hazard. Should the unit become flooded, call your WaiHome authorized service technician. Do not enter a flooded area. Entering a flooded area may result in electrical shock causing death or serious bodily injury. There are electrical cables located near this equipment. Contact your WaiHome authorized service technician before performing work around wiring. Failure to do so may result in electrical shock causing death or serious bodily injury.



Warnings

1. DO NOT attempt to modify or repair Mata yourself. Repairs, electrical work, and internal mechanical servicing must be performed by WaiHome or an authorized technician. Routine solids-bin changes may be performed in accordance with the procedures in this manual.
2. DO NOT remove covers, access panels, or piping connections unless authorized. Unauthorized access may expose you to wastewater or electrical components.
3. DO NOT allow children to play on or around the Mata unit, vents, piping, or blower housing. Climbing or tampering may result in falls or serious injury.
4. Use caution when walking near the system.
5. The bottom of the heating loop may be hot.
6. Anyone who comes into contact with untreated or partially treated wastewater must:
 - a. Remove contaminated clothing immediately
 - b. Wash exposed skin thoroughly with soap and water
 - c. Seek medical advice if illness is suspected
7. Site Protection and Loading
 - a. The Mata solids interceptor may be damaged if heavy items are placed on or against the system enclosure or supporting surface.
 - b. Do not place anything on or against the Mata unit.
 - c. Maintain a clear buffer around Mata to prevent accidental impact, vibration, or structural damage to the unit and connected piping.
8. Ventilation and Airflow
 - a. Proper airflow is essential to Mata's treatment performance.
 - b. The area around the Mata unit's air intake, blower housing, and vents must remain clear at all times.
 - c. DO NOT allow debris, vegetation, tools, snow, ice, or other objects to block vents or air pathways.
 - d. When mowing or performing yard maintenance, direct clippings and debris away from the Mata unit and ventilation openings.



INTRODUCTION

Thank you for choosing the Mata, an advanced above-ground wastewater treatment system designed to improve sanitation performance while reducing environmental impact. The Mata is compatible with standard household plumbing fixtures and appliances, including toilets, sinks, showers, washing machines, and dishwashers.

The Mata is designed to operate reliably in challenging site conditions, including small lots, shallow soils, high groundwater tables, and areas where conventional septic or advanced treatment systems may be infeasible.

HOW MATA WORKS

Solid Interception

The Mata™ solids interceptor utilizes a mechanically driven, physical separation and dewatering process to remove suspended and settleable organic solids from residential wastewater prior to downstream biological treatment or disposal (Figure 1). Unlike biological reactors that rely on microbial growth and aeration, Mata operates as a pre-treatment and primary solids management device, concentrating and removing fecal and fibrous solids at the point of entry to the treatment train.

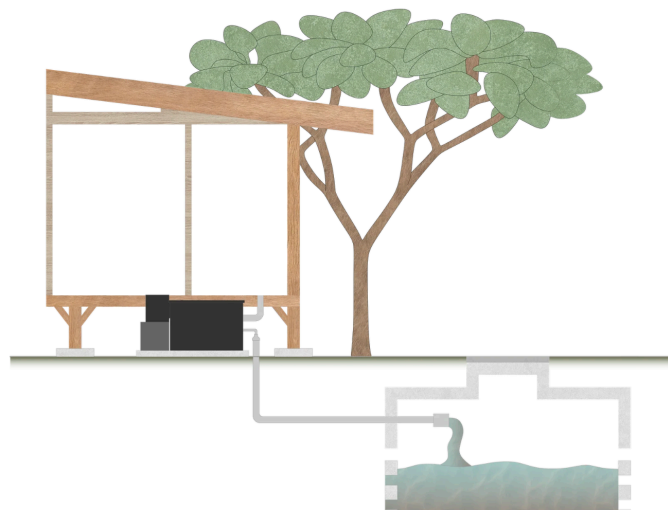


Figure 1: Mata Solid Waste Interceptor installed between a home and a seepage pit or cesspool.

By physically removing fecal solids, toilet paper fibers, and other particulate organic matter prior to biological treatment, Mata reduces total suspended solids (TSS), particulate biochemical oxygen demand (BOD), and particulate nitrogen loading to downstream treatment or disposal. This improves downstream process stability, oxygen utilization efficiency, and nitrogen-removal performance.

Because the Mata process is mechanical rather than biological, its performance does not depend on dissolved oxygen, microbial population stability, or temperature-sensitive biochemical reactions. Instead, solids capture efficiency is governed by screen geometry. This allows the unit to maintain consistent separation performance across a wide range of flow rates, organic loadings, and operating conditions, including intermittent and shock loading typical of residential use.

The Solids Separation tank consists of a screened influent zone and a liquid collection zone within a single tank. Incoming wastewater enters the Mata unit and is directed toward an auger screen assembly. As wastewater flows through the screen, liquid and dissolved constituents pass through the perforations, while particulate solids are retained on the screen surface (Figure 2).

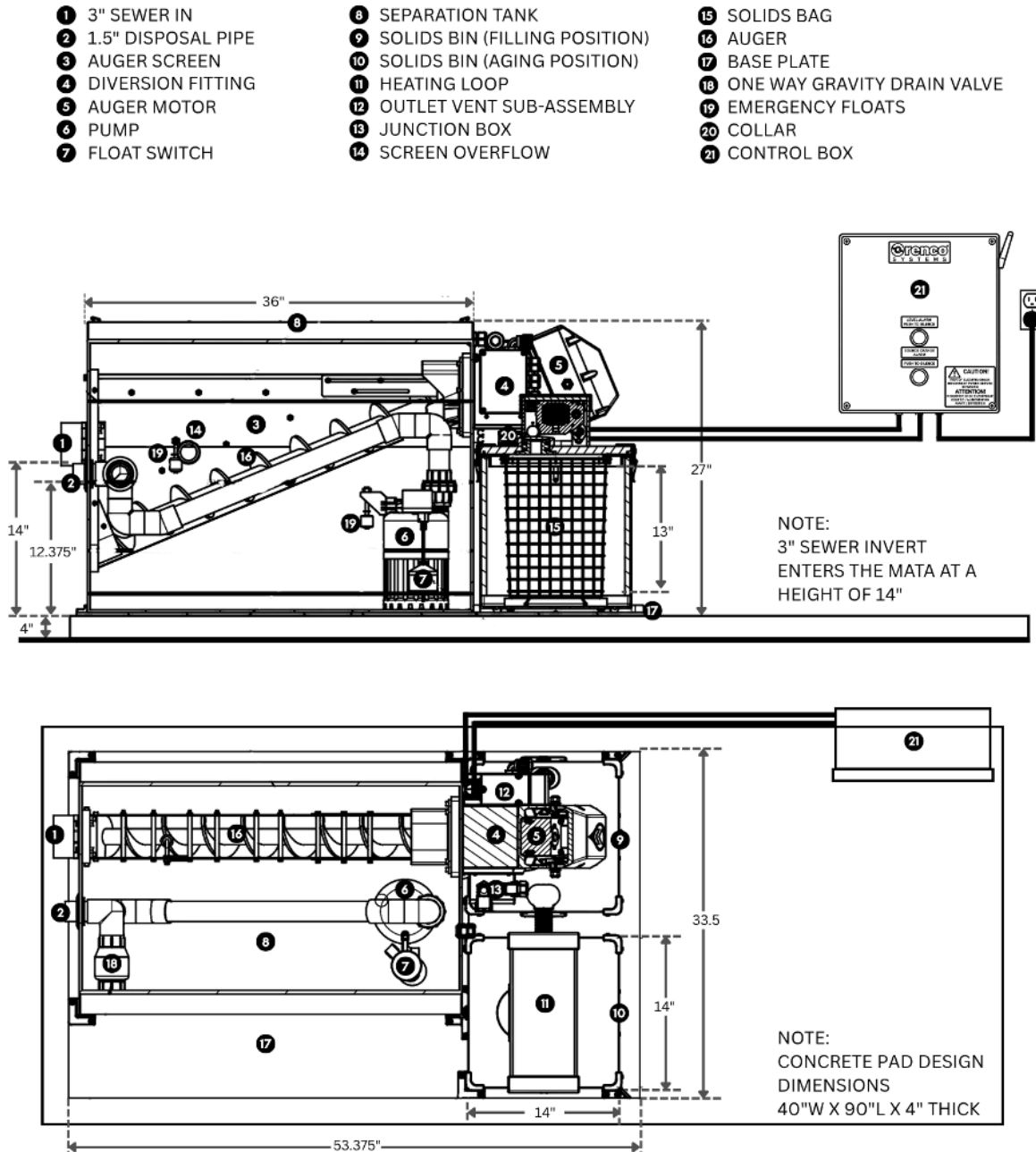


Figure 2: Mata Solid Waste Interceptor components

Liquid effluent that passes through the screen accumulates in the lower portion of the tank. When the liquid level reaches a preset elevation, a float-activated control system energizes a flow-assist sump pump, which transfers the clarified liquid to the downstream treatment or disposal system. Simultaneously, the same float signal activates the auger drive, causing the auger to rotate and advance the retained solids along the screen. When the liquid level drops below the float setpoint, both the flow-assist sump pump and auger motor are de-energized.

As a gravity flow non-trap interceptor, the system is designed to operate by gravity should a power outage or pump failure occur (Figure 3).

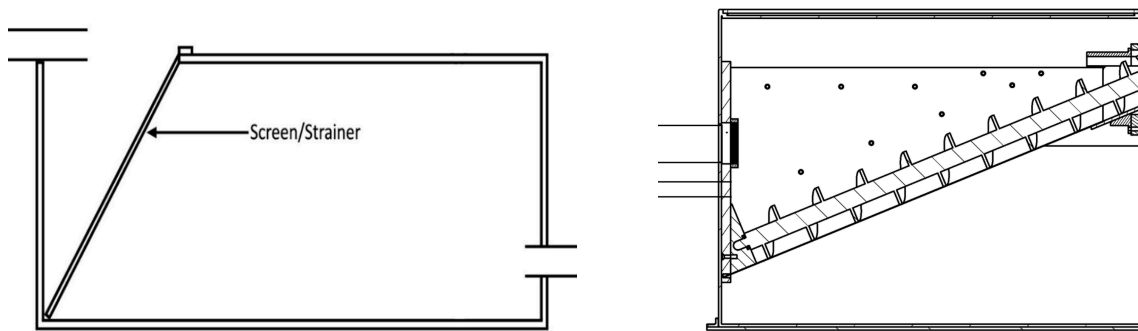


Figure 3: (left) IAPMO/ANSI Z1167 non-trap interceptor; (right) Mata solid waste interceptor without active components.

Solid Drying and Sterilization:

As the auger turns, the captured solids are mechanically conveyed and compressed, allowing entrained liquid to drain back through the screen into the liquid compartment. The dewatered solids are discharged into a solids collection bin, where they are retained for drying and subsequent removal.

The Mata comes complete with at least two solids collection bins to allow a full bin of solids to age while the other is filling (Figure 4). A heating and ventilation loop is mounted onto the top of the aging bin to support dehydration and sterilization. A typical heating cycle can be set to a couple hours per day or activated intermittently based on use. The heating process is designed to dehydrate solids and kill pathogens and bacteria by bringing the internal temperature of the solids above 50C. The frequency with which bins are filled and swapped is roughly 1-12 weeks depending on occupancy of the household served. When it is time to swap the bins, the Orenco control panel will notify the homeowner locally via auditory and visual alarms or maintenance personnel via cloud monitoring. The aged and now thermally treated bin may then be emptied.

The Mata is kept at negative pressure by an outlet fan that draws air from the system and passes it through a refillable activated carbon filter prior to venting. The vent pipe should be directed away from trafficked areas to minimize the risk of odors. Should the user notice any odors, the activated carbon can be replaced with any commercially available 4mm diameter

activated carbon pellets. An engineer may include a supplemental wood chip filter for systems with heavy loading in humid climates.

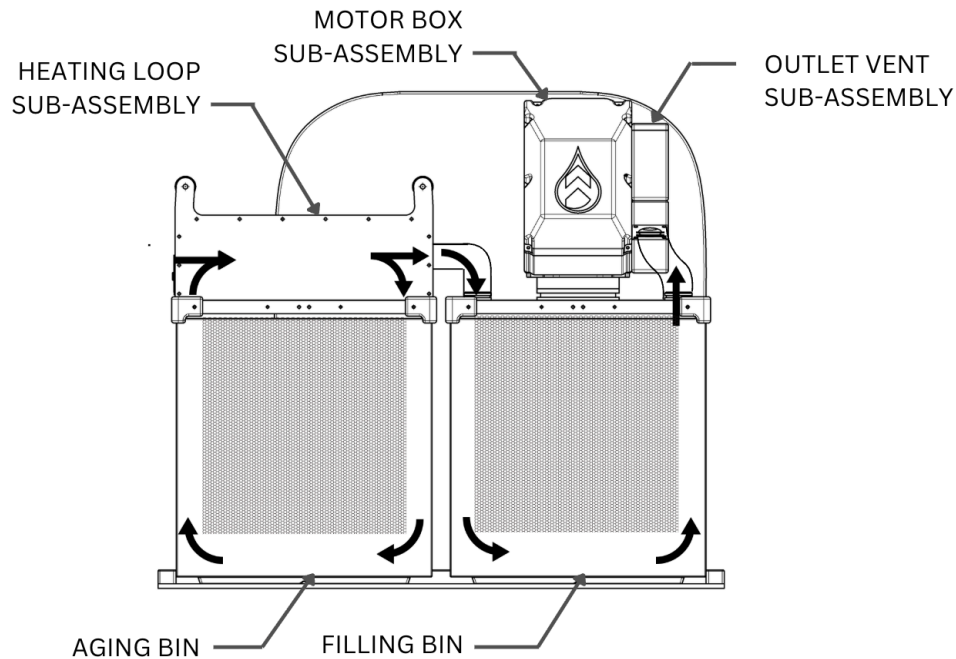


Figure 4: Airflow pathway through Mata's Dehydration Assembly, Solids Bins Assembly, and Ventilation Assembly.

Liquid Effluent Management:

The 1.5" pump-assisted drain leaving the Mata is connected to downstream treatment or disposal environments. Within the separation tank, small holes in this effluent pipe act as jets to disturb the bottom of the tank and sides of the screen to prevent the build up of any solids that have clogged or passed through the screen. Water leaving the tank is not disinfected and direct exposure should be avoided.

PRODUCT COMPONENTS

The Mata is composed of the 8 sub-assemblies, a 100G UV Resistant Polyethylene Tank, and 1/4" HDPE Base Plate, as seen in the diagram below.

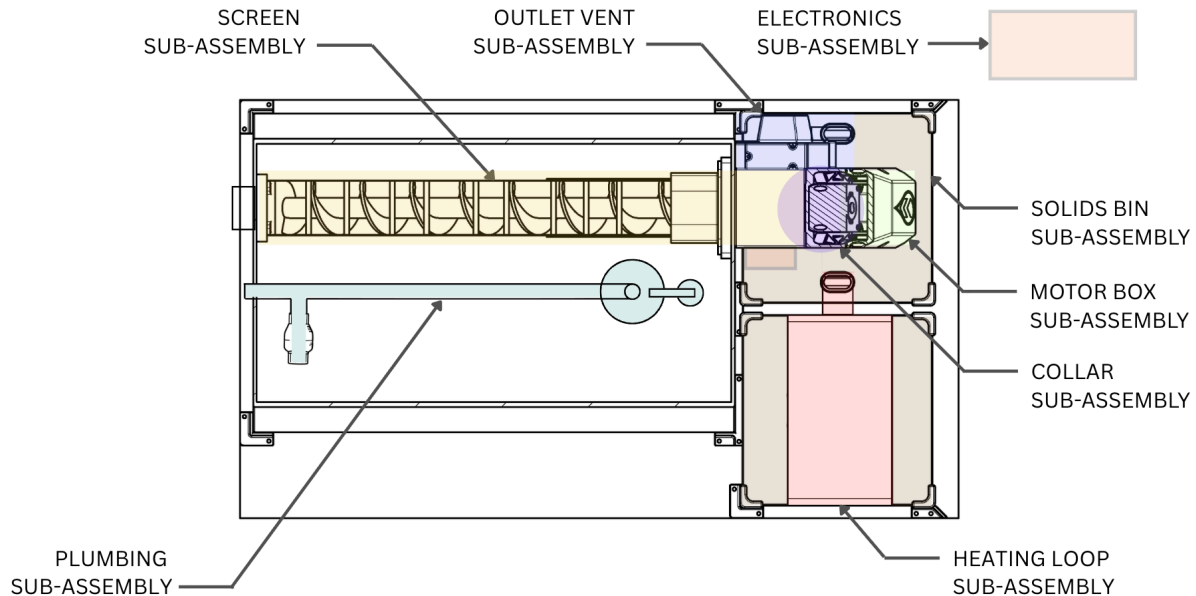


Figure 5: Mata Solid Waste Interceptor component assemblies.

Screen Sub-Assembly:

Consists of the key auger screen components that separate the solids and convey them to the solids bins. Key components include:

- Poly-Cupped Stainless Steel 4" Auger
- Perforated 1/16" Hole Stainless Steel Screen
- Solids Diversion Fitting
- Emergency Float Switch

Solids Bin Sub-Assembly (x2):

The Filling Solids bin is defined as the bin temporarily located beneath the motor box assembly. This is where solids are collected, and the drying process begins. The Aging Solids Bin is located adjacent to the Filling Solids Bin and is operatively connected to the Heating Loop Assembly. This is where solids are further dried, and the sterilization of pathogens occurs. Key components include:

- 14"x14"x14" Fiberglass Bin
- 14"x14" UV Resistant PE Lid with inlet and outlet vents, and solids port
- 10"x10"x12" Stainless Steel Solids Basket
- 7 Gallon Nonwoven Aeration Fabric Solids Bag

Heating Loop Sub-Assembly:

Creates a drier atmosphere for the solids by intermittently heating and recirculating air around the Aging Solids Bin. An air vent on one side allows fresh dry air to be drawn into the heating loop assembly while an outlet vent on the other side is connected to the Filling Solids Bin and allows process air to exhaust to the Filling Solids Bin. Key components include:

- 300W, 120V Heater
- 24V Fan
- Heating Loop Conduit with recirculation and inlet vents
- Filling Bin Flexible Connection

Collar Sub-Assembly:

Provides an air-tight seal between the Screen Sub-Assembly and the Solids Bin Sub-Assembly. Key components include:

- ASA Collar body
- Stainless steel supporting brackets
- Rectangular EPDM Seal

Outlet Vent Sub-Assembly:

Creates an odor free environment by using a fan to actively draw air from the Filling Solids Bin and through an activated carbon filter. The activated carbon requires periodic replacement to maintain effectiveness. Key components include:

- Removable Activated Carbon Compartment
- 24V Fan
- Outlet Manifold
- Filling Bin Flexible Connection
- 1" Sch. 40 Outlet Vent Port

Motor Box Sub-Assembly:

Acts as an enclosure for the motor that rotates the auger, and junction box for the 24V wire connections. Key components include:

- 150W, 24V Gear Motor
- Gear Motor Driver
- Motor Box

Electronics Sub-Assembly:

Digital, programmable Orenco control panel that incorporates multiple timing and logic functions used to:

1. Activate the sump pump and auger when the high level of the working volume is reached until the low level of the working volume is reached.
2. Activate the heating loop when a set number of pump events has occurred.
3. Activate an audible, visual, and remote alarm after a set number of pump events occurred indicating time to swap and empty the filling bin.
4. Activate an audible, visual, and remote alarm if an emergency level alarm condition is reached.
5. Activate a remote alarm if a malfunctioning part is sensed and requires preventative maintenance.

Key components in the control panel include:

- Orenco Control Panel
- Junction Box

Plumbing Sub-Assembly:

Consists of screened water collection and conveyance components. The plumbing sub-assembly will drain water by both pump and gravity. The fill and draw pumped operation allows the control panel to track system usage while also jetting the inside of the system to prevent solids accumulation or clogging. Key components include:

- ¼ HP Submersible Sump Pump
- Vertical Latching Float
- Emergency Float Switch
- 1.5" Pipe and Fittings
- 1.5" Swing Check Overflow Valve

PROHIBITED AND ACCEPTED LOADING

Unlike traditional wastewater systems (Septic/ATU) that rely on "good bacteria" to digest waste, the Mata uses mechanical auger separation to separate waste. If your Mata system discharges into a specific secondary treatment unit or specialized drain field, you should follow the chemical usage recommendations provided for those components.

Accepted Items

Mata is designed to handle a home's typical greywater and blackwater solids, including food waste from garbage disposals. This includes:

- Standard household cleaning products and mild bleaches
- Antibacterial soaps and detergents
- Urine, feces, toilet tissue
- Food waste from garbage disposals

Prohibited Items

The user acknowledges that Mata is designed specifically for residential wastewater management and therefore holds the sole responsibility for ensuring that no improper items are introduced into the system. This is critical to ensuring the mechanical longevity of the Mata and for protecting the downstream disposal environment. Prohibited items include, but are not limited to:

- Hazardous Chemicals: Motor oil, gasoline, paint thinners, and pesticides.
- Heavy Grease: Large quantities of cooking oil or lard (which can solidify in your home's pipes before they even reach the Mata).
- Construction Debris: Drywall mud, gravel, or wood scraps.
- Non-biodegradable objects: clothing, fabrics, metal, or heavy plastics



IMPORTANT NOTE: WaiHome is not responsible for the condition or performance of downstream treatment products.

SIZING EXAMPLES

As a Solid Waste Interceptor with no biological treatment component, the Mata is sized for solids retention time in the dehydration process. Maximum loading is recommended to be 6 persons. Design flow for residential domestic sewage is normally considered to be 200 gallons per bedroom containing 0.2 pounds of TSS per capita. Check with local and/or state agencies to find out what the actual requirements are. The following examples are reasonable methods for plant sizing:

Example 1: *Select a treatment plant for a one bedroom house.*

2 people (Bed 1) = 2 persons

200 GPD X 1 Bed = 200 GPD

200 GPD / 15 Gallons per dose = 13 pump events/day

Mata will require solids removal roughly once every 4 weeks (see chart).

Example 2: *Select a treatment plant for a three bedroom house.*

Assume two people in the first bedroom and one in each additional bedroom.

2 persons (Bed 1) + 1 (Bed 2) + 1 (Bed 3) = 4 persons

200 GPD X 3 Bed = 600 GPD

600 GPD / 15 Gallons per dose = 40 pump events/day

Mata will require solids removal roughly every 2 weeks (see chart).

Example 3: *Select a treatment plant for a 3 bedroom house and 1 bedroom ADU.*

Assume two people in the first bedroom and one in each additional bedroom.

2 persons (Bed 1) + 1 (Bed 2) + 1 (Bed 3) = 4 persons

2 persons (ADU Bed 1) = 2 persons

Require 2 Mata's

Main House: 200 GPD X 3 Bed = 600 GPD (40 pump events/day, emptying every 2 weeks)

ADU: 200 GPD X 1 Bed = 200 GPD (13 pump events/day, emptying every 4 weeks)

Table 1: Estimated solids emptying frequency.

Users	1	2	3	4	5	6
Estimated Solids Loading (lbs/day)	0.2	0.4	0.6	0.8	1	1.2
Fill Cycle Time (days)	60	30	20	14	10	7

SYSTEM MAINTENANCE AND MONITORING

General Servicing and Solids Removal

Routine servicing includes removal of processed solids using the solids bin swap procedure described in this manual. If you have a maintenance contract, your technician can track system capacity and perform the solids change as part of scheduled service.

To maintain system function, remove solids with the following process (Figure 6):

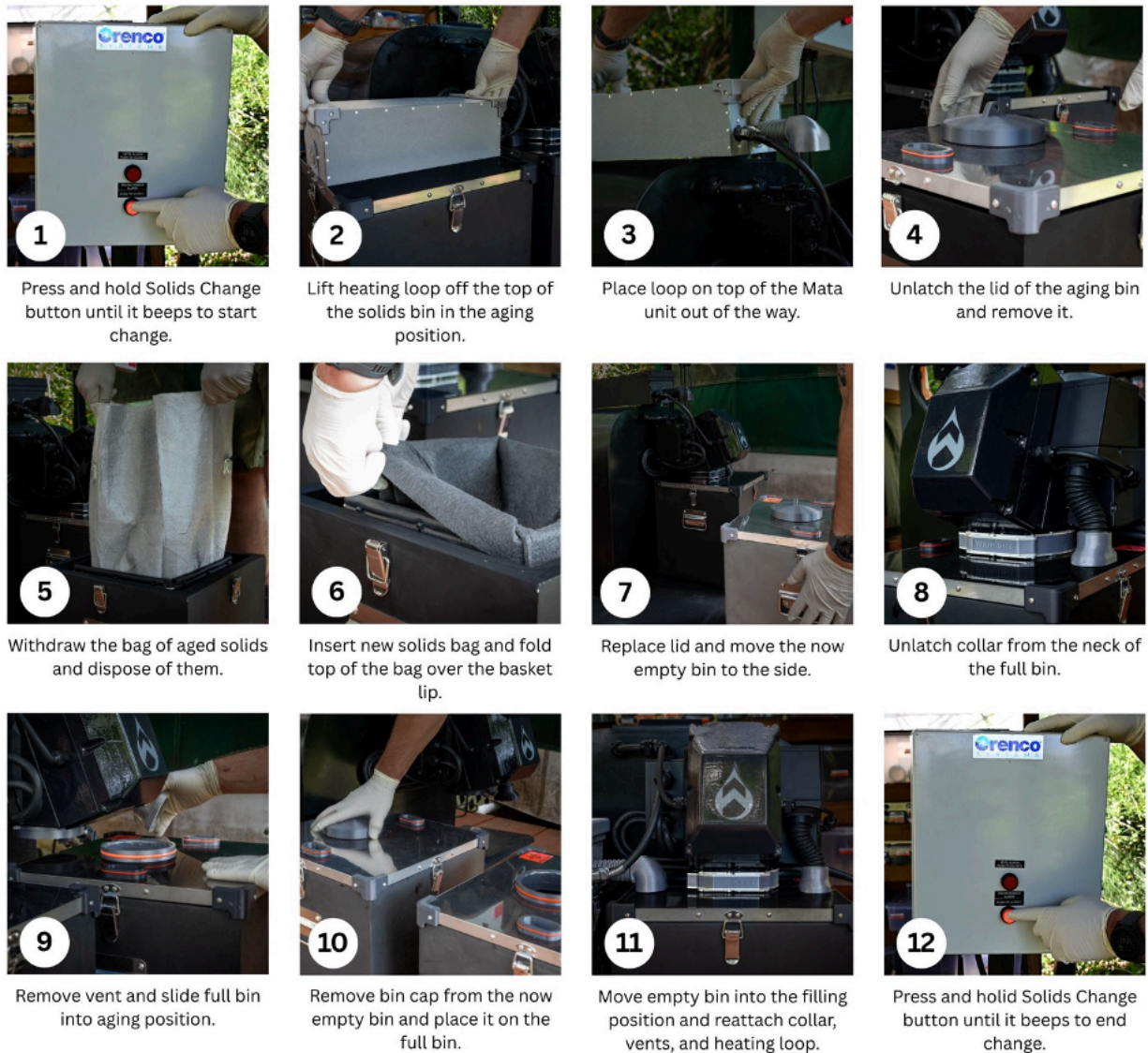


Figure 6: Mata Solid Waste Interceptor solids emptying procedure.



IMPORTANT NOTE: Solids produced by Mata have been heat treated but are not completely sterilized. It is good practice to wear gloves during solids change procedure. Per 11-62-41(c)(6), the use or disposal of screenings is not regulated by Subchapter 4, Chapter 62, Title 11 of the Hawaii Administrative Rules.

Smart Controls and Monitoring

The Mata features a top-of-the-line Orenco control system that connects via Wi-Fi to provide status updates. This system is designed to notify WaiHome if any operational anomalies occur.

- **Automated Alarms:** The system monitors for several critical conditions, including:
 - High Water Alarm: Triggered if tank levels exceed safe operating parameters.
 - **Component Malfunctions:** Detects issues with the auger motor or heater.
- **Usage Tracking:** The Orenco control system tracks usage patterns to predict and schedule servicing needs. Dehydration times and emptying frequencies should be set conservatively initially and tuned by an approved technician based on usage.

Long-Term Maintenance Schedule

Beyond routine solids removal, the Mata system requires periodic professional inspections and component replacements to ensure its 20+ year design life:

- Carbon Filter Replacement (Every 6 Months): Ensures the outlet ventilation assembly remains odor-free.
- Annual Inspection (Every 1 Year): A general inspection of all mechanical components and sensors to verify optimal performance.
- Mechanical Overhaul (Every 10 Years): Proactive replacement of the motor and pump units to prevent unexpected downtime.

ELECTRICAL POWER OUTAGE

The Mata Solid Separator requires a consistent electrical supply to perform as designed. The system's monitoring, mechanical separation, and sterilization cycles are dependent on power.

Short-Term Outages: For power outages lasting less than 24 hours, the system is designed to remain stable. Once power is restored, the Mata will automatically power up and resume its normal functions. Water is designed to flow through the interceptor by gravity in the interim. Loading should be kept to a minimum to avoid overaccumulation of solids on the screen.

Prolonged Outages: A prolonged power outage will eliminate the efficacy of the system's screening potential and may lead to backups if not addressed.

Required Action: If an electrical outage exceeds 24 hours while loading continues, the homeowner should contact WaiHome immediately. A service technician may be required to inspect the unit and ensure the system continues to operate as expected.



IMPORTANT NOTE: Intentionally disconnecting the power for a prolonged period will result in a total failure of the treatment process and can lead to significant plumbing and repair expenses.

FLOODING

Where flooding is possible, the Mata Solid Separator should be sited or elevated above anticipated floodwater levels whenever practicable. When anchored to a concrete pad, Mata is engineered to withstand minor flooding conditions and will continue to operate as designed during such events. Floodwater levels exceeding 12 inches above the base of the unit may submerge electrical connections, resulting in component failure and creating a significant electrical hazard. If your system has been subjected to flooding above this level, do not attempt to inspect, operate, or reset the unit. Contact WaiHome immediately to schedule a professional evaluation and any necessary repairs.



DANGER-ELECTRICAL HAZARD: Any electrical equipment located in flooded areas presents an immediate electrical hazard. You must stay away from the area surrounding the Mata system if flooding is present. Failure to do so may result in electrical shock causing serious injury or death.

EVALUATION OF SYSTEM PERFORMANCE

System monitoring is primarily conducted remotely and is intended for use by WaiHome technicians only. Homeowners can identify signs of proper operation through several indicators:

- Visual Indicators: The PLC inside the Orenco control box should be on.
- Acoustic Indicators: You may hear periodic pumping and auger motor sounds during normal operation; these sounds should not exceed 60 dB five feet from the unit.
- Odor Control: There should be no noticeable odor present around the unit.

If you detect any unusual odors or if the status lights on the Orenco control box change, please contact a WaiHome technician immediately to evaluate the system.

INTERMITTENT USE

The Mata Solid interceptor is designed for homes with varying occupancy levels, such as vacation rentals or seasonal residences. Because the system utilizes mechanical separation and heat sterilization rather than a continuous biological process, it does not require a constant "food" source of wastewater to remain effective.

The Mata is equipped with an intelligent Orenco control system that automatically detects when a house is vacant based on influent flow. Once vacancy is identified, the system will autonomously adjust its scheduled maintenance and sterilization cycles to conserve energy while maintaining a sterile environment within the solids bin. No special winterization or manual "hibernation" steps are required by the homeowner. Upon your return, the system will immediately resume standard operation as wastewater flow begins.

While the system handles these adjustments automatically, if you anticipate the home being vacant for longer than six months, please notify WaiHome. This ensures the remote monitoring and long-term service planning are aligned with your home's usage patterns.



Important Note: Do not unplug the Mata if intermittent use is expected.

ABANDONMENT OR DECOMMISSIONING

If the residence is being connected to a municipal sewer system, integrated with different downstream treatment units, or if the Mata system is otherwise no longer required, the homeowner should contact WaiHome directly. Decommissioning must be performed by authorized technicians to ensure the system is safely disconnected, the solids bin is properly processed for the final time, and all mechanical components are handled in accordance with Hawaii regulations.

SPECIFICATIONS

Specifications can be found on the dataplate attached to the Mata tank.

Power Requirements: 120VAC, 60HZ, 15A
Certified to IAPMO/ANSI/CAN Z1167:2023

 **WAIHOME**

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Model Number: WHSM005
Serial Number: WHSM005202605110010001
Date of Inspection: 5/11/2026

Rated Treatment Capacity: 1-6 persons
Effluent Removal Efficiency: BOD5:87%, TSS:90%, TN:46%
Electrical Requirements: 120 VAC, 60 Hz, 15A

This unit is manufactured and certified in compliance with the
IAPMO/ANSI/CAN Z1167:2023 Standard

For optimal performance, this system requires routine checks and professional
servicing. Refer to the Owner's Manual for detailed maintenance procedures



LIMITED 36-MONTH WARRANTY

WaiHome warrants each Mata to be free from defects in material and workmanship under normal use and service for a period of three (3) years from the date of installation. During this period, WaiHome will, at its discretion, repair or replace any component—including the auger motor, pump, and Orenco control panel—that is proven to be defective.

This warranty does not cover service charges for any replacement parts. This warranty also does not include damage caused by natural disasters, unauthorized modifications, or external plumbing failures not associated with the Mata unit itself. Please see warranty agreement for more details.

If you suspect a mechanical failure or receive a system malfunction alert, contact WaiHome support immediately. Our technicians will remotely evaluate the system performance and schedule a service visit if a warranted repair is necessary.

Terms and Conditions

This warranty is specifically contingent upon the following:

Authorized Service Only: Any unauthorized repair or tampering with the internal mechanics or Orenco control panel will void this warranty.

Intended Use: The system must be used in accordance with the guidelines provided in this manual. Damage resulting from the introduction of prohibited substances (e.g., hazardous chemicals, heavy grease, or non-biodegradable debris) is not covered.

Power and Connectivity: The homeowner is responsible for maintaining a consistent electrical supply and Wi-Fi connectivity as required for system monitoring. Damage caused by intentional power disconnection or prolonged neglect of system alerts is excluded from coverage.

Document Control

Rev #	Revision Description	Revision Date	Revised by	Approved by	Implementation Date
1.0	New Document	4/1/26	James Roberts	Greg Wong	4/10/26
1.1	Modified Product Component Section to reflect MK5	5/22/26	Greg Wong	Greg Wong	5/25/26
1.2	Refined capacity calcs	6/5/26	James Roberts	Greg Wong	6/5/26
1.3	Updated Solids Change Photos	9/29/26	James Roberts	Greg Wong	9/29/26