FujiClean USA™ LLC

Toward Clean Water…

User's Manual – Commercial Systems

(not including Model CE6KG)

Rev. 11-24-2020

Certified to NSF/ANSI Standards 40 & 245

Intelligently Engineered Treatment Systems for Commercial Wastewater

Service Provider:

Name: _____

Company: _____

Address: _____

Telephone: _____

Email: _____

Model:

□ CE5 □ CE7 □ CE10 □ CE14 □ CE21 □ CE30

□ CEN5 □ CEN7 □ CEN10 □ CEN14 □ CEN21

CE models are certified to NSF/ANSI 40 Standards

CEN models are certified to NSF/ANSI 40/245 Standards

System Serial # _____

Blower Serial # _____

FujiClean USA™ LLC
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User's Manual – Commercial Systems

Sections

Welcome and General Information

Thank You!
Thank you for choosing a Fuji Clean treatment system. You have selected a technology from the world's #1 onsite treatment manufacturing company with over 2 million treatment systems installed and operating world-wide. We want you to understand this treatment system and how to treat it wisely to assure smooth operation and treatment effectiveness over the long term.

What it Does
Designed to accept septic wastewater influent and discharge highly treated effluent from your facility, the Fuji Clean treatment system is a biological-based treatment plant that relies on billions of living microbes to consume the pollutants and produce a consistent, high-quality treated effluent. The treatment process includes the introduction of oxygen to keep the microbes alive and healthy (via the detached linear diaphragm air blower), various forms of high surface area plastic "media" to provide space for microbes to live and consume waste material and an internal continuous recirculation loop to optimize performance.

Why Does Our Facility Have this System?
The designer of this system likely specified treatment because site conditions (such as lot size, soil conditions, proximity to an environmentally sensitive area) or regulatory requirements demanded treatment. Treated wastewater helps assure the long-term health of the facility's drainfield, and helps protect aquifers, drinking water and the environment surrounding your facility. Thank you for treating it with respect and care.

The Fuji Clean Story
The lack of available land in Japan for on-site wastewater disposal has been the driver for Japanese on-site wastewater treatment technology for the past 70 years. For example, in Japan, treated domestic wastewater is discharged directly into storm water drains, so the quality of treated water must be consistently high to avoid serious public and environmental health issues.

In its 50-year history of manufacture and sales of wastewater treatment systems, Fuji Clean's innovative R&D scientists and engineers have continuously improved and refined the product into the compact, highly effective, and efficient wastewater treatment system that it is today and helped Fuji Clean Company grow into the world-wide market leader in the onsite wastewater treatment industry.

Fuji Clean USA now assembles many Fuji Clean treatment system models in the United States and through our trained distributor network offers comprehensive support from installation to service and operation. We pride ourselves not only high quality, low maintenance treatment systems, but also on friendly, respectful and effective customer service.

Again, welcome to Fuji Clean. We're here to help you.

Service and Support

The system's local distributor will provide you with a trained and certified service provider and a service plan, which will be in effect from the date of system installation. Please contact Fuji Clean USA directly if you need assistance locating the system distributor or a certified service provider in your area.

Service providers typically will provide you with a service plan tailored to this system and state and local regulations. At a minimum, here is what you should expect from the system's Initial Service Policy covering the first two years of system warranty:

1. Name and contact information for system service provider including emergency contact information. (Note: print this information on the cover of this Manual and be certain that system service provider has affixed contact information in a visible location – typically on the alarm/control panel.

2. Provisions for at least 4 inspection/service visits made within 2 years of initial system installation. With some commercial systems we recommend a higher frequency of service visits.

3. A service plan that includes a check sheet or inspection report made available after each visit that includes at least the following information:
    a. Date.
    b. Purpose of visit.
    c. Evidence of inspection and specific maintenance to treatment system (including the air blower).
    d. Reports of any problem or concern with a plan and schedule for corrective action.
    e. Report on effluent quality.
    f. A clause that states that the owner shall be notified in writing about improper system operations that cannot be remedied at the time of inspection.
    g. Information on an extended service policy available for purchase by the owner with terms comparable to those in the initial service policy.

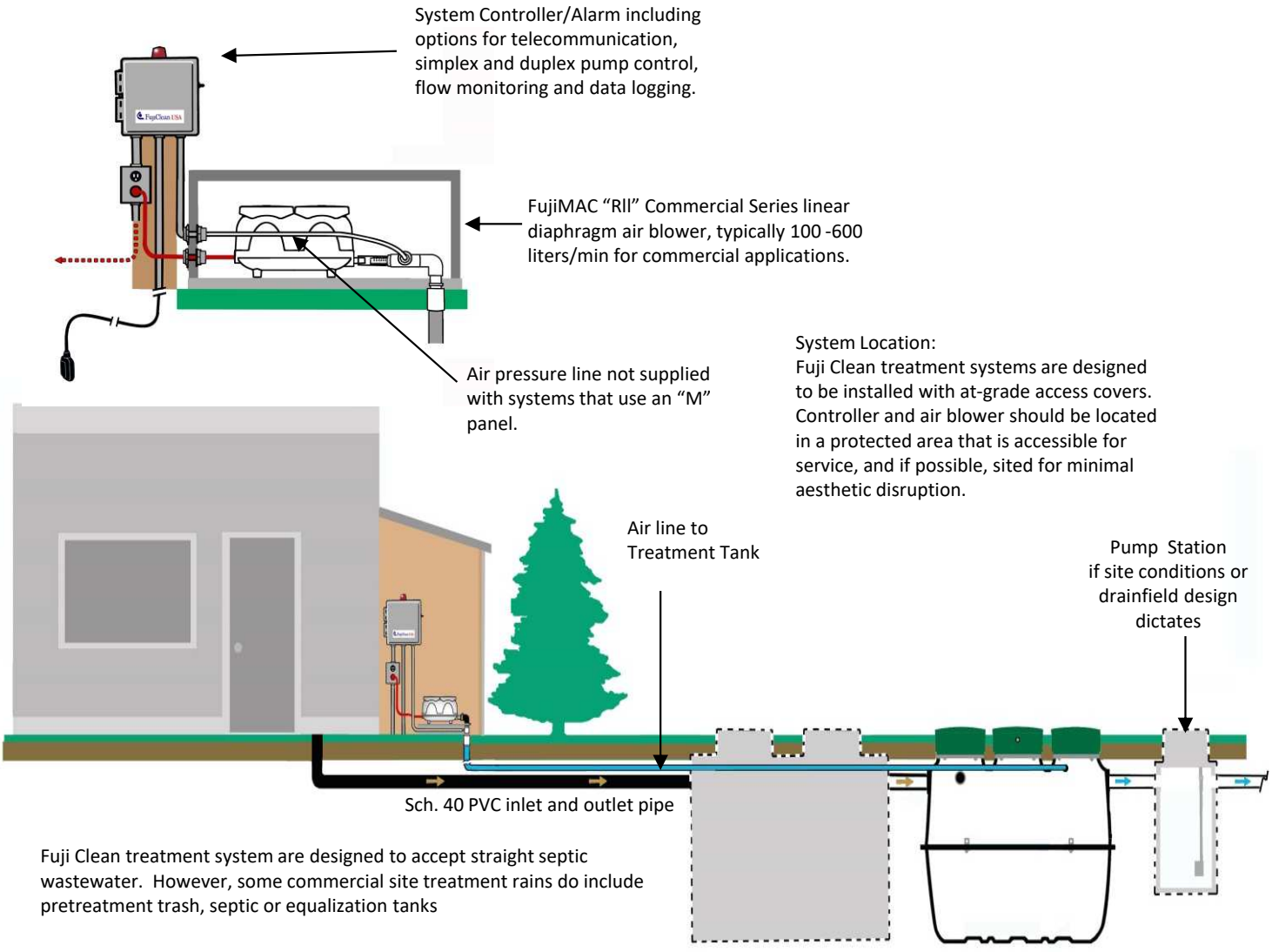
Fuji Clean USA requires that an "Extended Service Policy" is in place following the expiration of the Initial Service Policy (2 years from date of installation). Implementation of the Extended Service Policy shall be provided by a trained and certified service technician (trained by either Fuji Clean USA or one of its distributors).

System Layout

This Fuji Clean treatment system is designed to accept wastewater directly from this facility, clean it using a proprietary "contact filtration" process and prepare it for final discharge such as to a soil absorption leachfield or drainfield. Oxygen, necessary for treatment, is introduced via a FujiMAC linear diaphragm air blower. An alarm/controller monitors the system and is triggered in the event of high water or the blower stops operating. If an alarm is triggered, the system's service technician should be notified. A "silence" switch, located on the side of the control panel will silence the audible alarm.

Some sites may have additional tankage or components to the overall treatment train such as grease traps, septic or equalization tanks, additional blowers, carbon feed system, or discharge pump tanks. It is important that the service provider understand the layout of the entire system.

This Fuji Clean treatment system has been engineered to be simple to operate, quiet and hassle-free. However, it must be inspected and serviced on a regular basis – at least semi-annually.

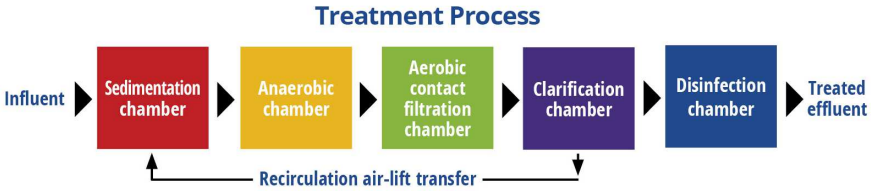


Fuji Clean treatment system are designed to accept straight septic wastewater. However, some commercial site treatment rains do include pretreatment trash, septic or equalization tanks

Treatment Process Overview

Fuji Clean's "contact filtration" treatment is a simple, well engineered process that consists of a controlled, circuitous flow train through anaerobic and aerobic chambers and in direct contact with assorted proprietary fixed film medias on which biological digestion of organic matter occurs. Media is also designed and positioned to provide mechanical filtration of process wastewater.

The system includes two air lift pumps (see diagram below) The Recirculating Airlift Pump returns process water and sludge from the aerobic zone to the sedimentation chamber, recirculating 2-4 times inflow per day for CE models and 4-6 times inflow for CEN (enhanced denitrification) models. The Effluent Airlift Pump is designed to help equalize flow and discharge treated effluent.



Two Air Lift Pumps. One Recirculating Air Lift pump sending process water and solids back to Chamber 1, and one Effluent Air Lift Pump for measured discharge of treated effluent. (See airlift pump info below).

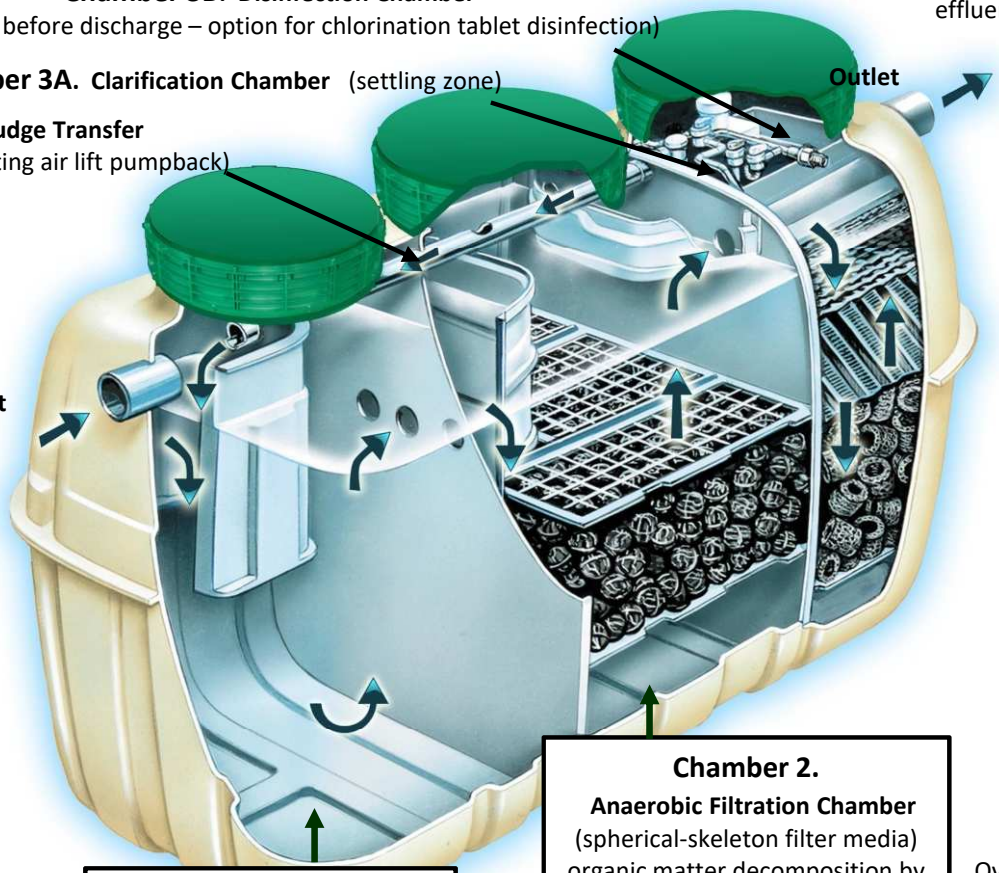
Chamber 3B. Disinfection Chamber
(final zone before discharge – option for chlorination tablet disinfection)

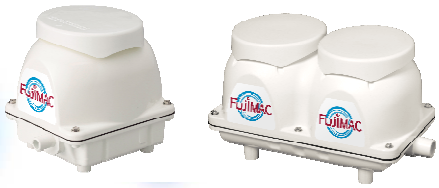
Chamber 3A. Clarification Chamber (settling zone)

Sludge Transfer
(Recirculating air lift pumpback)

Outlet

Inlet





Powered by the MACBlower "RII" Series Blowers State-of-the-art linear diaphragm air blowers manufactured by Fuji Clean Co sized to provide about 2.8 cubic feet per minute to most Commercial systems.

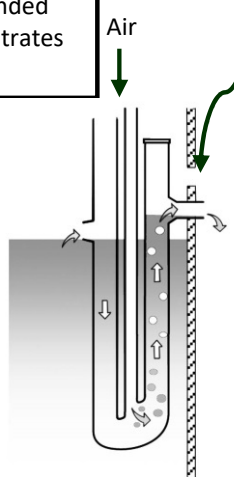
Chamber 1.
Sedimentation Chamber
(separates solids and greases)

Chamber 2.
Anaerobic Filtration Chamber
(spherical-skeleton filter media) organic matter decomposition by micro-organisms, suspended solids are captured and nitrates are denitrified

Chamber 3. Aerobic Contact Filtration Chamber
(both board and cylindrical hollow mesh media) oxygen rich zone for aerobic microbe digestion activity, solids filtration and nitrification of ammoniac nitrogens to nitrates

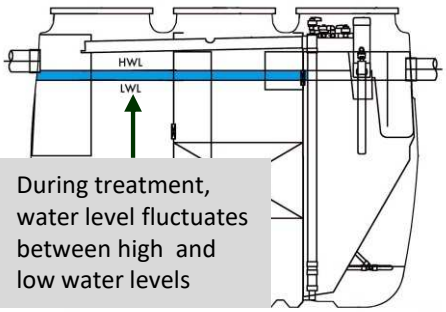
Overflow Effluent Weir

Air



Flow Equalization
When water level exceeds LWL, treated water is discharged through Chamber 3B via the Effluent Air Lift pump. If water level exceeds HWL, then treated water is also discharged through an overflow effluent weir.

Airlift Pumps. This generic illustration shows the mechanics of the "airlift pumps" used in this system, which are simple pipe conduits through which pressurized air (from blower) is introduced at the bottom and by fluid pressure, water is carried up the pipe by ascending bubbles.



During treatment, water level fluctuates between high and low water levels

Fuji Clean Model Specification

The designer of this system has specified a specific Fuji Clean USA model based on three main criteria:

- Wastewater Volume (or Hydraulic Load, typically expressed as gpd, or gallons per day):

- Wastewater Strength (or Biologic Load): For example, wastewater characteristics from a restaurant will differ and typically be of higher strength than domestic wastewater coming from an apartment complex.

- Effluent Requirements: Typically based on state or local regulations, designating how much of what type of pollutants may be discharged to the environment.

Fuji Clean USA has two major series models; the CE-Series and the CEN-Series. Both models are designed to remove organic pollutants as measured by BOD5, (Biochemical Oxygen Demand, which is a measure of the concentration of oxygen, expressed as mg/L, utilized by microorganisms in the oxidation of organic matter during a 5-day period at a temperature of 68-degrees F) and solids as measured by TSS, (Total Suspended Solids, which is the quantity of solids, expressed as mg/L, which can be readily removed from a well-mixed sample with standard laboratory filtering procedures).

While the CE models remove some of the nutrient, Nitrogen, (expressed as TN for Total Nitrogen), from the waste stream, the CEN-Series systems are specifically designed to remove higher levels of nitrogen from the waste stream, hence the “N” designation.

Please refer to the Design Specification Table on the following page, which lists specifications for each Fuji Clean model.

System Components and Specifications - Summary

Design Specification Table	CE Series BOD, TSS, TN*							CEN Series BOD, TSS, Enhanced TN				
Model:	CE5	CE7	CE10	CE14	CE21	CE30	CE6KG	CEN5	CEN7	CEN10	CEN14	CEN21
Load Hydraulic (GPD)	500	700	1,000	1,350	1,900	2,700	6,000	500	700	1,000	1,350	1,900
Effluent (assumes domestic strength influent):												
BOD – Effluent (mg/L)	≤20	≤20	≤20	≤20	≤20	≤20	≤20	≤10	≤10	≤10	≤10	≤10
TSS (mg/L)	≤20	≤20	≤20	≤20	≤20	≤20	≤20	≤10	≤10	≤10	≤10	≤10
TN (mg/L)	*≤20	*≤20	*≤20	*≤20	*≤20	*≤20	*≤20	≤10	≤10	≤10	≤10	≤10
Blower Detail:												
Blower Model	80RII	80RII	100RII	150RII	200RII	150RII (2)	200RII (4)	80RII	100RII	150RII	200RII	150RII (2)
Normal Pressure (kPa)	15	15	18	20	20	20	20	15	18	20	20	20
CFM; L/Min	2.8 CFM 80 L/MIN	2.8 CFM 80 L/MIN	3.5 CFM 100 L/MIN	5.3 CFM 150 L/MIN	7.0 CFM 200 L/MIN	10.6 CFM 300 L/MIN	28.0 CFM 800 L/MIN	2.8 CFM 80 L/MIN	3.5 CFM 100L/MIN	5.3 CFM 150 L/MIN	7.0 CFM 200 L/MIN	10.6 CFM 300 L/MIN
Power Use (kWh/day)	1.2	1.2	1.7	2.7	3.7	5.4	14.8	1.2	1.7	2.7	3.7	5.4
Weight (lbs.)	11	11	11	20	20	20 x 2	20 x 4	11	11	20	20	20 x 2
Outlet Diameter OD-inches)	0.70	0.70	0.70	1.0	1.0	1.0	1.0	0.70	0.70	1.0	1.0	1.0
Tank Detail:												
Material	Fiber-reinforced plastic							Fiber-reinforced plastic				
Height (inches)	61.8	65.4	73.2	77.4	81.3	87.2	87.2	65.4	73.2	77.4	81.3	87.2
Length (inches)	85	95.7	98.8	118.9	152.8	183.7	434.7	95.7	98.8	118.9	152.8	183.7
Width (inches)	43.7	49.2	56.7	68.9	72.4	78.3	115.3	49.2	56.7	68.9	72.4	78.3
Weight (lbs.)	397	463	705	926	1,168	1,543	2,900	463	705	926	1,168	1,543
Inlet Invert (inches)	49	53	61	62	65	71	67	53	61	62	65	71
Outlet Invert (inches)	47	51	59	59.5	63	69	64	51	59	59.5	63	69
Access Ports (number)	3	3	3	3	3	3	7	3	3	3	3	3
Access Port Diameter (inches)	3@20"	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"	6@24"x24" 2@24"x48"	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"
Volume Total (gallons)	545	749	1,069	1,498	2,252	3,199	7,239	749	1,069	1,498	2,252	3,199
** TN removal for CE systems based on field testing. Contact Fuji Clean USA for details.*												

* TN data was obtained during CE testing, but not to NSF245 testing protocol. CEN testing was to NSF245 protocol.

** Please consult with distributor or Fuji Clean USA for commercial models designed to treat hydraulic flows above those listed in this table.

*** Please consult with distributor or Fuji Clean USA for system specification and sizing in cases where influent biologic strength is greater than domestic strength.

Structural drawings of all Commercial models are available in both .dwg and pdf formats online at www.fujicleanusa.com

Keep This System Healthy!

Do's and Don'ts

KEEP THESE ITEMS OUT OF YOUR SYSTEM!
THEY WILL HARM THE LIVING ORGANISMS
WORKING TO CONSUME POLLUTANTS FROM YOUR WASTEWATER!

CHEMICALS
Excessive Bleach or Laundry Fabric Softeners
Paint & Paint Thinners
Herbicides & Insecticides
Motor Oil and Antifreeze
Antibiotic Pills
Chemical De-Clogging Agents (like liquid Drano™)
Septic System Treatment Products (like Rid-X™)
Water Softener Backwash
Cleaning Solutions with Quaternary Ammonium Compounds ("Quat")

TRASH
Sanitary Napkins
Cigarette Butts
Baby Wipes
Dental Floss
Condoms
Kitty Litter
Paper Towels

FOOD
Excessive Cooking Grease
Coffee Grounds
Fruit and Vegetable Peels

Here's the common-sense bottom line…. Please remember that this treatment system is a living system. Billions of living microbes consume pollutants from incoming wastewater. Excessive fats, oils and greases can smother living microbes. Toxic substances can poison them. Therefore, please refrain from introducing items such as these into your system.

GARBAGE DISPOSALS
Garbage disposals are not recommended for this or any onsite septic system. These devices inject heavy and inconsistent organic loads into the system, which can interfere with normal processing.

WELL DISINFECTING
Sometimes a contaminated well must be disinfected with bleach. In this event, we strongly recommend that you flush chlorinated water from the system through outdoor faucets to prevent an excessive slug of chlorine from entering this treatment system.

System Components: Controller and Alarm

This Fuji Clean system is equipped with a control panel that monitors system operation. Fuji Clean USA offers a variety of panels based on system design and regulatory requirements. At a minimum , there are two types of events that will trigger an alarm (both audio and visual).

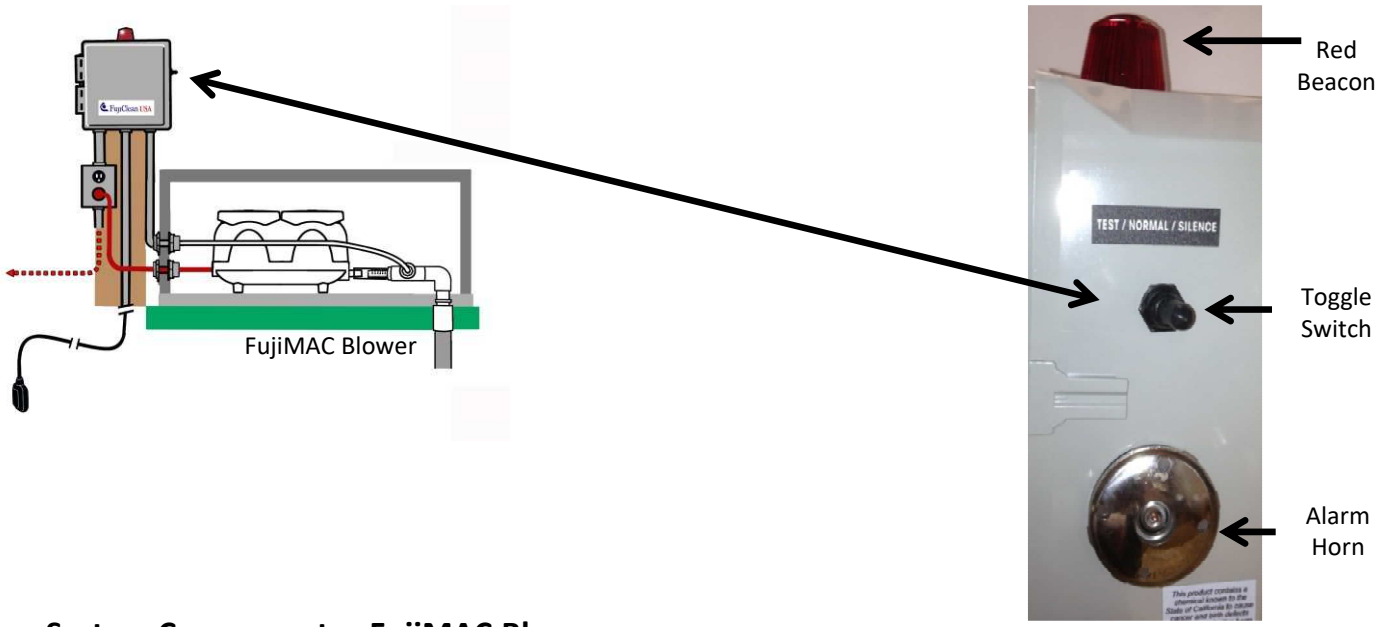
1. High-Water Alarm: Triggered if the water in the tank reaches levels well above standard operating levels. This is a very rare event but may occur for example if run-off ground water infiltrates the treatment tank or if a post-treatment discharge pump station malfunctions and water backs up.

2. Blower Fault Alarm: Triggered if the air blower stops operating and there is a drop in air pressure to the system.

In either case, if the alarm is triggered, push the toggle switch to "Silence," and contact the system's service provider for assistance. If requested, system information is posted on the data plate affixed to the alarm controller panel. (See detail) The service provider may be able to resolve the problem over the phone (for example there may be debris blocking the air intake to the air blower), or they may need to come onsite to service the system.

Please note, following an alarm event, the red beacon will remain on while the system is in "silent" mode, until the system controller is reset to run in "Normal" mode.

At any time, you may pull the Toggle Switch to the "Test" position to assure that the light beacon and horn alarm are operating properly. Reset the switch to "Normal" for normal operation.



System Components: FujiMAC Blower

A separate technical Manual is provided for the system's air blower. Please keep all manuals together and accessible to the system service provider.

Frequently Asked Questions

Our business operates seasonally. Should I turn system off when we are closed? Fuji Clean systems are designed to accommodate variable and intermittent flows, including only weekend use, but this assumes that the air blower operates continuously regardless of inflow. However, for seasonal use properties, the air blower may be shut down if the system is not going to be used for an extended period of time. The blower should be re-started at least three days in advance of system re-use if possible. It is recommended to perform the first maintenance as soon as possible after using.

What if there is a power outage? During a power outage, the blower will cease operation and after about 24-hours, treatment quality may begin to diminish. However, the Fuji Clean system will still allow wastewater to pass through the system and will not create a backup in the facility unless a separate pump station has been installed.

Does this system need servicing? Inspection and service at least every 6-months is necessary to assure proper operation. Some commercial systems will require more frequent servicing. Please check with your service provider.

Does this system need to be pumped out? Like an ordinary septic tank, sludge must be removed from this system periodically (such as once every 2 years). Your service provider will measure sludge build-up during each inspection and will provide pump-out guidance for you. Pump out frequency depends on waste stream strength and use. Please consult with your service provider to help determine the pump-out frequency that is best for you. Please note: Specific pump out instructions are provided in this Manual as well as the Operation and Maintenance Manual. These instructions must be followed to maintain system warranty.

What are electricity costs to operate this system? This Fuji Clean USA system has been designed to operate continuously. Therefore, it is easy to calculate power cost. A system specification sheet that includes power use is provided on Page #8 of this Manual. Simply multiply the local cost of power by the draw per day to calculate daily power cost.

Can garbage disposals be used with this system?
As noted in another section of this manual of how to maintain system's health, garbage disposals are not recommended for this or any onsite septic system due to the heavy and inconsistent organic loads injected into the system, which can interfere with normal processing. Use of a garbage disposal may also greatly increase the frequency of sludge pumpouts.

Is there a warranty with this system?
Fuji Clean's Limited Warranty is on the following page of this Manual.

Fuji Clean USA, LLC Limited Warranty

Warranty Activation
To activate Fuji Clean USA Warranty, a Warranty Activation Card, ("Orange Card") provided with each system, must be returned to Fuji Clean USA by the system installer, service provider, distributor or system owner after system installation. Fuji Clean USA's physical or electronic receipt of this card activates system Warranty.

Period of Coverage
Fuji Clean USA, LLC warrants the parts in each treatment unit to be free of defects in material and workmanship for a period of two years from date of system installation at the site where wastewater is to be treated. An Extended Service Policy shall be made available by Fuji Clean USA, its authorized dealers or service providers after the initial two-year coverage period.

Obligations of Fuji Clean USA, LLC
Fuji Clean USA, LLC warrants its products only. At its sole expense, Fuji Clean USA, LLC will service and repair the installed unit including all parts and labor that show evidence of defective material or workmanship when operated within design parameters, provided that all financial obligations of the owner/purchaser are in compliance with the Sales Agreement provided by an authorized dealer of Fuji Clean USA treatment systems. Determination of defective material or workmanship shall be made by a Fuji Clean USA authorized dealer, distributor and/or service provider.

Obligations of Installing Contractor
Fuji Clean USA, LLC is not and does not purport to be a contractor or contracting service. Fuji Clean USA does not perform or offer to perform services that a licensed contractor would provide, including, but not limited to, installation of the Fuji Clean treatment processing unit, excavation, plumbing installation, electrical installation, and other similar work performed by a contractor. An installing contractor must follow all installation instructions in the Fuji Clean Installation Manual provided with every Fuji Clean treatment processing unit shipped from Fuji Clean USA, LLC.

If a tank or any components of the Fuji Clean treatment processing unit shipped from Fuji Clean USA, LLC is found to be damaged or defective during shipping or installation, the damage or defect must be reported within one (1) business day to Fuji Clean USA, its distributors or authorized service providers. Fuji Clean USA, in a timely manner, shall service, repair, or replace the damaged or defective tank or component parts. If the discovered damage or defect is not reported to Fuji Clean USA, its distributors or authorized service providers within one (1) business day, and the tank or component part is installed with damage or defects known to the installing contractor, this Warranty shall not apply.

Exclusions and Disclaimers - General
This Warranty does not apply to Fuji Clean USA units that have been tampered with or altered by unauthorized persons, improperly installed, damaged by an installing contractor, have been subject to external physical damage, or acts of god. Further, this Warranty does not cover Fuji Clean USA units that have been flooded by external means or damage done by altered or improper wiring or overload protection. Additionally, this Warranty does not apply if the Fuji Clean USA unit has been operated beyond its maximum capacity or permit, if approved design has been altered after the fact, or if the Fuji Clean USA unit has been contaminated with chemicals injurious to biological growth.

Exclusions and Disclaimers – H-20 Rated Concrete Slabs

Design details for H-20 rated concrete slabs (slabs) and uplift restraints included in the Fuji Clean Installation Manual convey concepts and approaches design professionals and contractors can consider in their projects. The design details for slabs and uplift restraints are intended for informational purposes only and are not intended as professional design advice and shall not be relied upon as such. The contents of the design details are not a substitute for the advice or consultation of a licensed engineer, contractor, or other design professional that you should consult with in the design and construction of the slabs and uplift restraints. Design professionals must exercise their own best judgment with regard to appropriate slab design and uplift restraint for their specific projects. Fuji Clean reserves the right to make additions, deletions, or modifications to the design details for slabs and uplift restraints at any time and without prior notice. Fuji Clean USA, LLC assumes no responsibility for errors or omissions in the design details for slabs and uplift restraints. In no event shall Fuji Clean USA be liable for any special, direct, indirect, consequential, or incidental damages or for any damages whatsoever arising out of or in connection with the use of the H-20 concrete slab design details.

Exclusions and Disclaimers – Sludge Pumpout – Water Refill

For all Fuji Clean USA units, particularly H-20 units, water refill to the low water level (LWL) mark in all chambers must immediately follow all sludge pump-out operations to avoid damage to the unit. During all sludge pump-out operations and water refill, no vehicles of any kind (including the pump tank truck performing pump-out operations) shall be parked or located on the slab. Fuji Clean USA, LLC does not perform or offer to perform any pump-out operations on commercial or residential Fuji Clean USA units. Fuji Clean USA assumes no responsibility for any error, omission, or failure that occurs during sludge pump-out operations. Fuji Clean is not responsible for any damage to units during sludge pump-out operations, including but not limited to damage caused by a failure to refill water to the low water level mark or vehicles parked or located on the slab during sludge pump-out operations and water refill.

Other Provisions

This Warranty only applies to the Fuji Clean USA, LLC treatment processing system and does not include any wiring, plumbing, drainage, disposal or leaching systems. Fuji Clean USA, LLC or its dealers or authorized service providers also reserves the right to furnish a component part which, in its judgment, is equivalent to the company part replaced. Further, owner agrees to provide to Fuji Clean USA, or its authorized dealers or service providers with clear access to the processor covers on a year-round basis.

Under no circumstances will Fuji Clean USA, LLC be liable for direct or consequential damages including but not limited to lost profits, lost income, labor charges, delays in production or idle production time of habitability which results from any defect in material and/or workmanship of Fuji Clean USA, LLC's system or units.

This Warranty is expressly in lieu of any other expressed or implied warranties. Further, any implied warranties for merchantability and fitness for a particular purpose are hereby disclaimed.

This Warranty provides the owner/purchaser specific legal rights. You may have other rights, which vary from state to state.

IMPORTANT NOTICE!

As part of routine maintenance, your Fuji Clean treatment system will periodically require "pump-out" servicing, which removes accumulated solids such as sludge and scum from your system. Frequency of pump-out varies widely based on individual system use but we generally estimate that it should occur approximately once every two years. Your service provider will inform you when your system is in need of pump-out.
It is important that your pump out provider be familiar with proper pump-out technique.
Questions? Please call your local distributor or Fuji Clean USA (207-406-2927).

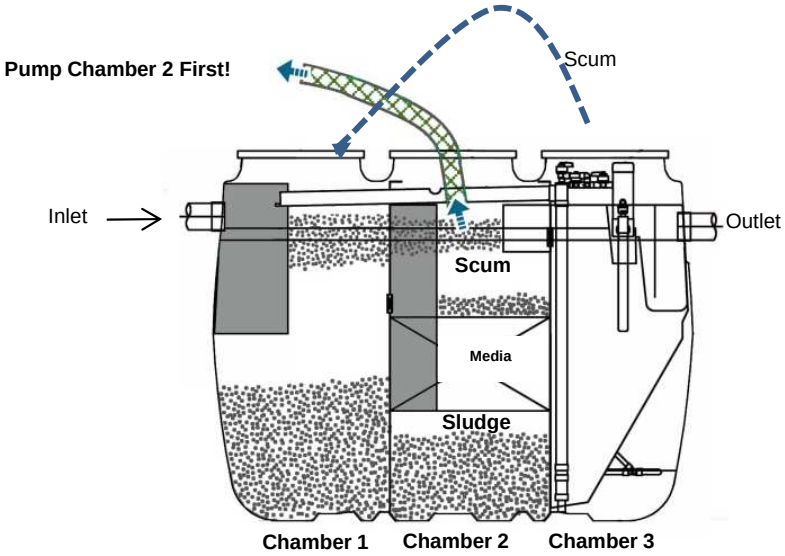
FUJI CLEAN PUMP-OUT INSTRUCTIONS

During pump-out, no vehicles of any kind (including the pump truck performing pump-out operations) shall be parked or located on the slab

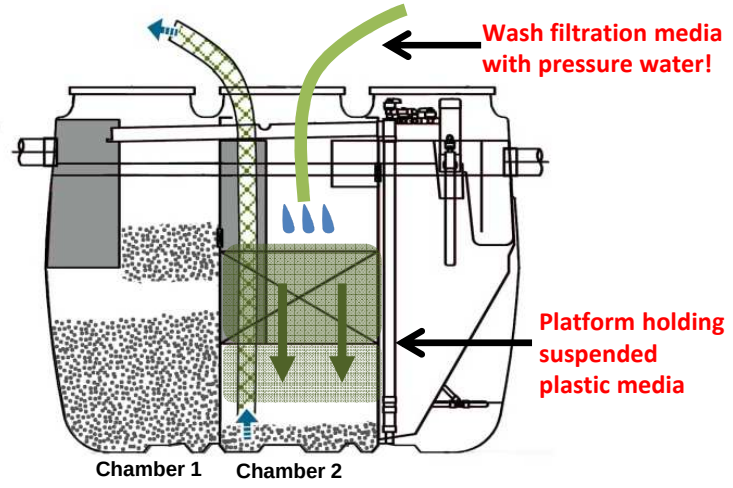
A distance of at least 20 feet must be maintained between pump-out vehicle and tank.

Step 1. Use ladle and Air-lift pump to transfer sludge and scum from Chamber 3 back to Chamber 1.

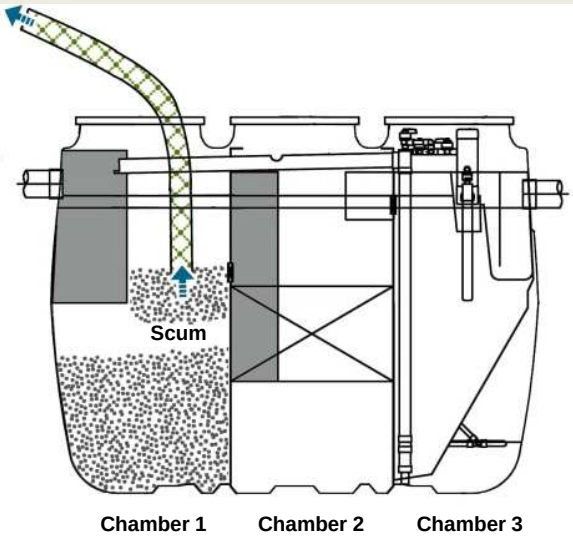
Step 2. Turn off all electrical components.

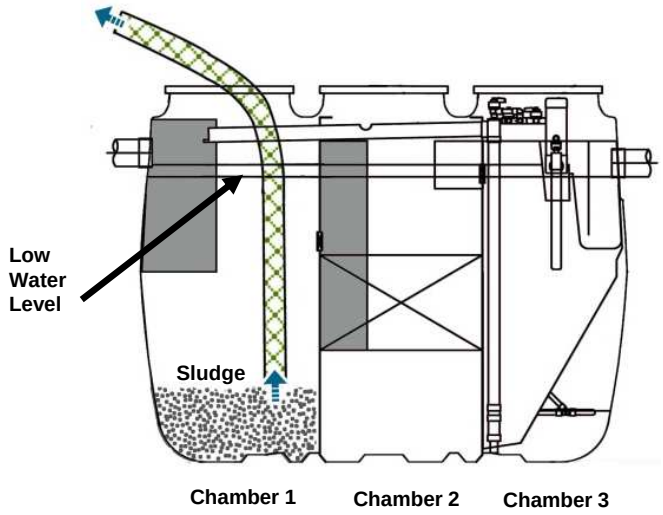


Step 3. With pumpout hose, remove scum and sludge on the filtration media from Chamber 2
START WITH THE CHAMBER 2 FIRST! Pumping Chamber 1 first may draw solids up into the media in Chamber 2.



Step 4. Insert suction hose into the baffle. Remove sludge from the bottom of Chamber 2.
Rinse filtration media with pressure water during pumpout. This prevents the weight of loaded media in Chamber 2 from damaging the suspended platform on which it rests.





Step 5. Remove scum and sludge Chamber 1.

Step 6. Refill water to the low water level (LWL) mark in all chambers immediately following all sludge pump-out operations. This operation is necessary to prevent tank damage or breeching from exterior pressure.

Step 7. Turn on all electrical components.

Troubleshooting Guide

This Troubleshooting Guide is provided to help identify system malfunctions or problems. However, please be aware that in most cases, system inspection, maintenance, repair and adjustment requires the services of a trained service provider, whose contact information can be found on the cover of this manual and/or on the inside of the system's control/alarm panel. System covers should only be opened by a trained and certified service technician!

You are always welcome to contact Fuji Clean USA for additional assistance or if you have comments or questions.

TROUBLESHOOTING

General

SYMPTOM	SOLUTION
Water is ponding around risers and covers	• Landscaping is necessary (possibly involving addition of fill material) so that water drains away from risers and covers. Note: risers may be added to the unit as necessary, but service personnel must be able to reach into the unit and move controls. Recommended maximum riser height is 24-inches.
Strong and unusual odor exists even with the manhole lids closed.	• During the first few weeks of operation there may be noticeable odor from the system. This should cease once the bacteria are established. • If odor persists, seeding material may be added to both anaerobic and aeration chambers, and/or the recirculation rate may be increased the upper end of the normal operation range. • If odor continues to persist, please contact manufacturer for instructions. Installation of a vent may be necessary.
Blower is making an unusually loud noise	• Normal blower operation is quiet. Typically a loud or rattling blower noise is created when the blower is in contact with its housing, or has slipped off its base platform.

TROUBLESHOOTING

General

SYMPTOM	SOLUTION
Alarm beacon is lit and/or audible alarm horn is sounding.	• System alarm is triggered by either too much water flowing through the system or the air from the blower is not reaching the system. Please silence the horn by pushing the toggle switch located on the right side of the alarm/control panel the “Silent” mode. Please call you service technician for assistance. Service technician contact information can be found on the cover of this Manual or on the inside of the alarm/control box. Please note: Alarm beacon will stay lit even if horn is silenced.
There is a water back-up in the house	• Fuji Clean systems are equipped with a system overflow relief weir so it is extremely unlikely that a septic system backup is caused by the Fuji Clean system. More likely any backup will be the result of clogging in a preceding septic tank (usually the effluent filter) or possible from a pump station that is not operating. However, a pump station fault should trigger an alarm. Contact the system’s service provider immediately.

Troubleshooting Guide – for Service Professionals

This Troubleshooting Guide is provided to assist the system's service professional. A much more detailed guide as well as explanation of service procedures is provided in the Fuji Clean USA Operation and Maintenance Manual. Please do not remove system covers unless you are a trained and certified Fuji Clean USA service technician.

TROUBLESHOOTING

Chamber 1. Sedimentation Chamber

SYMPTOM	SOLUTION
Inlet pipe is blocked	• Remove the blockage.
Excessive scum accumulations. (Scum layer reaches the top of the influent baffle)	• Measure sludge level. (see page 27), break the scum layer, otherwise have the system pumped out.
Excessive sludge accumulations.	• If the sludge exceeds the holding capacity, have the system pumped out. (see page 27)
Foreign materials, excessive oil or fat entering the system.	• Remind the homeowner to refrain from disposing harmful substances into their system. (Please refer to Homeowner's Manual for listing.)

TROUBLESHOOTING

Chamber 2. Anaerobic Filtration Chamber

SYMPTOM	SOLUTION
Excessive sludge accumulations	• If the bottom sludge layer is thicker than table page 27, and excessive sludge has accumulated on the filtration media, have the system pumped out.
Filtration media is blocked up. (The water level in Chamber 2's media is lower than that in the baffle.)	• Perform a degassing operation on the filtration media. Poke media with a section of PVC pipe. (O&M Procedure #9) • If the problem still persists even after the degassing and sludge transfer operation, pressure wash the filtration media using blower and hose affixed to a PVC pipe.
Foreign materials, excessive oil or fat entering the system.	• Remind the homeowner to refrain from disposing prohibited substances and limited-use substances.

TROUBLESHOOTING

Chamber 3. Aerobic Contact Filtration Chamber

SYMPTOM	SOLUTION
Bubbles are not evenly distributed throughout the chamber or there are no bubbles at all.	• Check to make sure that the blower operates properly. • Check to make sure that there is no leakage from the aeration pipework. • Perform a backwash operation. (O&M Procedure #10) • Clean the aeration pipes. • Adjust the aeration control valve.
Dissolved Oxygen is less than 3.0mg/L.	• Check with homeowner for abnormal flow activity • Check to make sure that the blower operates properly. • Perform a backwash operation. (O&M Procedure #10)
Recirculation rate is unable to be adjusted or no recirculation at all.	• Adjust the recirculation control valve. • Check to make sure that there is no leakage from the aeration pipework. • Check to make sure that the blower operates properly. • Perform a backwash operation. (O&M Procedure #10)
Recirculation flow rate is too high	• Perform a backwash operation. (O&M Procedure #10) • Clean the aeration pipes. • Adjust the aeration control valve.
Recirculation flow rate is too low	• Clean the recirculation pipe and airlift pump.
Excessive foaming.	• Some foaming may occur during the early stage of operation. This should cease once the bacteria are established. Seeding may also be effective. Please contact your distributor for additional seeding information.
Excessive suspended solids.	• Perform a backwash operation. (O&M Procedure #10) • Transfer the sludge to Chamber 1, the Sedimentation Chamber, using airlift pump.

TROUBLESHOOTING

Chamber 3a. Clarification Chamber

SYMPTOM	SOLUTION
Scum forming.	• Transfer the scum to Chamber 1, the Sedimentation Chamber, using a pump, ladle or suitable container. • Increase the recirculation rate (within the normal operating range). • Perform a backwash operation. (O&M Procedure #10) • Transfer the sludge to Chamber 1, the Sedimentation Chamber, using airlift pump.
Excessive sludge accumulations.	• Transfer the sludge to Chamber 1, the Sedimentation Chamber, using airlift pump. • Increase Recirculation volume.
Ph is too low or too high. (Ph < 5.8 or Ph > 8.6)	• Check to make sure the recirculation rate is appropriate. • Remind homeowner of what cannot be put into this system (refer to Homeowner's Manual). • Install a slow-release lime dispersal system into the sedimentation chamber to raise the pH. Please contact Fuji Clean USA for details.
Excessive biofilm on the chamber wall.	• Clean the wall with brush or water pressure and transfer solids to the sedimentation chamber.
Effluent airlift pump is not working.	• Clean the airlift pump. • Flush the effluent control valve. • Check to make sure there is no leakage from the blower pipework. • Check to make sure that the blower operates properly.

TROUBLESHOOTING

Air Blower

What to observe	Status	How to solve the problem
Blower is not working		
Power plug	Power plug is disconnected.	Connect the power plug to the outlet.
Alarm triggered (if alarm exists)	Diaphragm is damaged. Auto-stop function is activated.	Replace the diaphragm kit. Re-insert the auto-stop piece.
	Check if blower is electrified.	Replace the power cable.
		Reset the auto-stop piece.
Blower is making an abnormal or excessive operating noise.		
Installed condition	Blower is not secured	Secure blower in horizontal position.
Low air volume or misplaced air from aeration pipes (treatment plant)		
Aeration leak	Blower	Check Blower outlet port
Air filter is clogged	Air filter	Clean or replace air filter.
Aeration pipes	Pipes are disconnected.	Reattach / repair pipes.
	Clogging	Clean the inside of aeration pipes.