FujiClean USA™
Toward Clean Water...

ENGINEER PACKAGE

Intelligently Engineered
Onsite Wastewater Treatment Systems
Distributed By

AWS
Advanced Wastewater Solutions

Cell: 631-405-0358
Website: www.awsli.com
Email: bryan@awsli.com

FujiClean USA LLC
Toward Clean Water…

Reasons for Using Fuji Clean Treatment Systems in Suffolk County

- Worldwide Leader in Onsite Treatment Systems
- Over 2 Million Systems Installed Worldwide
- Smallest Footprint
- Category 1 System: Allows for Best Reduction in PSD sizing
- No Interior Moving Parts (no pumps, agitators, emitters, etc.)
- Very Low Power Consumption; 1.1 kWh/day
- Lightest Weight System
- Low Cost Installation
- Low Operation & Maintenance Costs
- Quietest Operation; 40 dB
- At-grade Installation

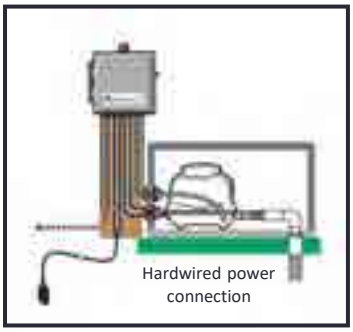
FujiClean USA™ LLC
Toward Clean Water…

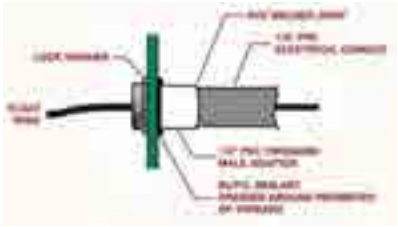
Designer and Engineer Manual
Residential and Commercial Systems

Sections

Installation Overview

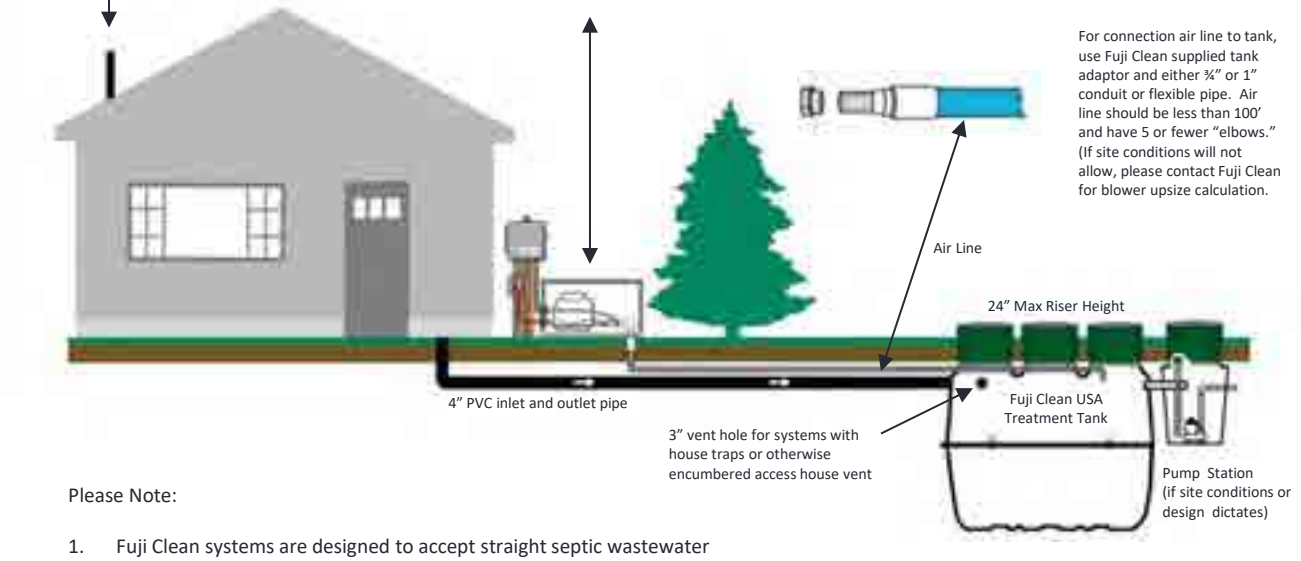
System Controller/Alarm (supplied by Fuji Clean USA) Suffolk County requires FujiMACRII series blower power connection to be hardwired to control panel.





For connection of SJE Rhombus Signalmaster float switch cord to alarm panel, drill hole in riser and use male fitting and electrical conduit. Plug fitting with sealant standard that meets ASTM C990-96 to assure water-tight seal and to prevent septic gas transmission into control panel. Install on the pumpback line using the provided hose clamp and mounting fixture in the center of Chamber 2, (Anaerobic Contact Filtration Chamber) with 3-1/2" (9 cm) of electrical cord tether.

System vents through house vent system. For houses with house traps installed, vent system separately through vent hole.



For connection air line to tank, use Fuji Clean supplied tank adaptor and either ¾" or 1" conduit or flexible pipe. Air line should be less than 100' and have 5 or fewer "elbows." (If site conditions will not allow, please contact Fuji Clean for blower upsize calculation.

Please Note:

1. Fuji Clean systems are designed to accept straight septic wastewater and do not require a preceding septic or settling tank

2. "Clearwater" water softener backwash should be discharged directly to a separate drywell or leaching pool.

Using grommets or a waterproof adhesive, labels meeting NSF standards (supplied by Fuji Clean USA) shall be affixed in two locations, inside the inlet riser and on the inside of the controller.

Sample Label

Section 2. 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. Storage Chamber (settling zone)

Sludge Transfer (Recirculating air lift pumpback) See airlift pump info below.

Outlet

Inlet

Powered by the FujiMACRII 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 residential systems.

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

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

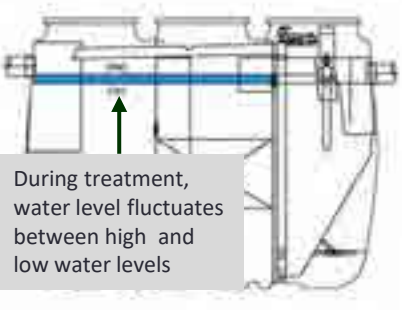
Chamber 1. Sedimentation Chamber (separates solids and greases)

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

Section 3a. System Components and Specifications – CEN Summary

FUJI CLEAN USA CEN SYSTEM SPECIFICATION TABLE	CEN Series BOD, TSS, and Enhanced TN			
Model	CEN5	CEN7	CEN10	CEN21
Load Hydraulic* (GPD)	450	630	900	1,900
Effluent** (assumes domestic strength influent)				
BOD (mg/L)	10	10	10	10
TSS (mg/L)	10	10	10	10
TN (mg/L)	10	10	10	10
Blower Model / CFM (Standard)	FujiMAC80RII 2.8 CFM	FujiMAC100RII 2.8 CFM	FujiMAC100RII 3.5 CFM	FujiMAC200RII 7.0 CFM
Power Use (kWh/day)	1.1	1.6	1.6	3.4
Tank Detail:				
Material	Fibre-reinforced plastic			
Height (inches)	65.7	73.6	77.4	87.2
Length (inches)	95.7	98.8	118.9	183.7
Width (inches)	49.2	56.7	68.9	78.3
Weight (lbs.)	463	705	926	1,543
Inlet Invert (inches, to 1/8")	53	61	62	71
Outlet Invert (inches to 1/8")	51	59	59.5	69
Access Ports (number)	3	3	3	3
Access Port Diameter (inches)	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"
Volume Total (gallons)	749	1069	1498	3,199
Vol. Chamber 1, Sedimentation (gal)	277	397	558	873
Vol. Chamber 2, Anaerobic(gal)	278	396	556	839
Vol. Chamber 3, Aeration (gal)	127	181	248	378
Vol. Chamber 3a, Storage (gal)	63	90	124	186
Vol. Chamber 3b, Disinfection (gal)	4	6	12	12

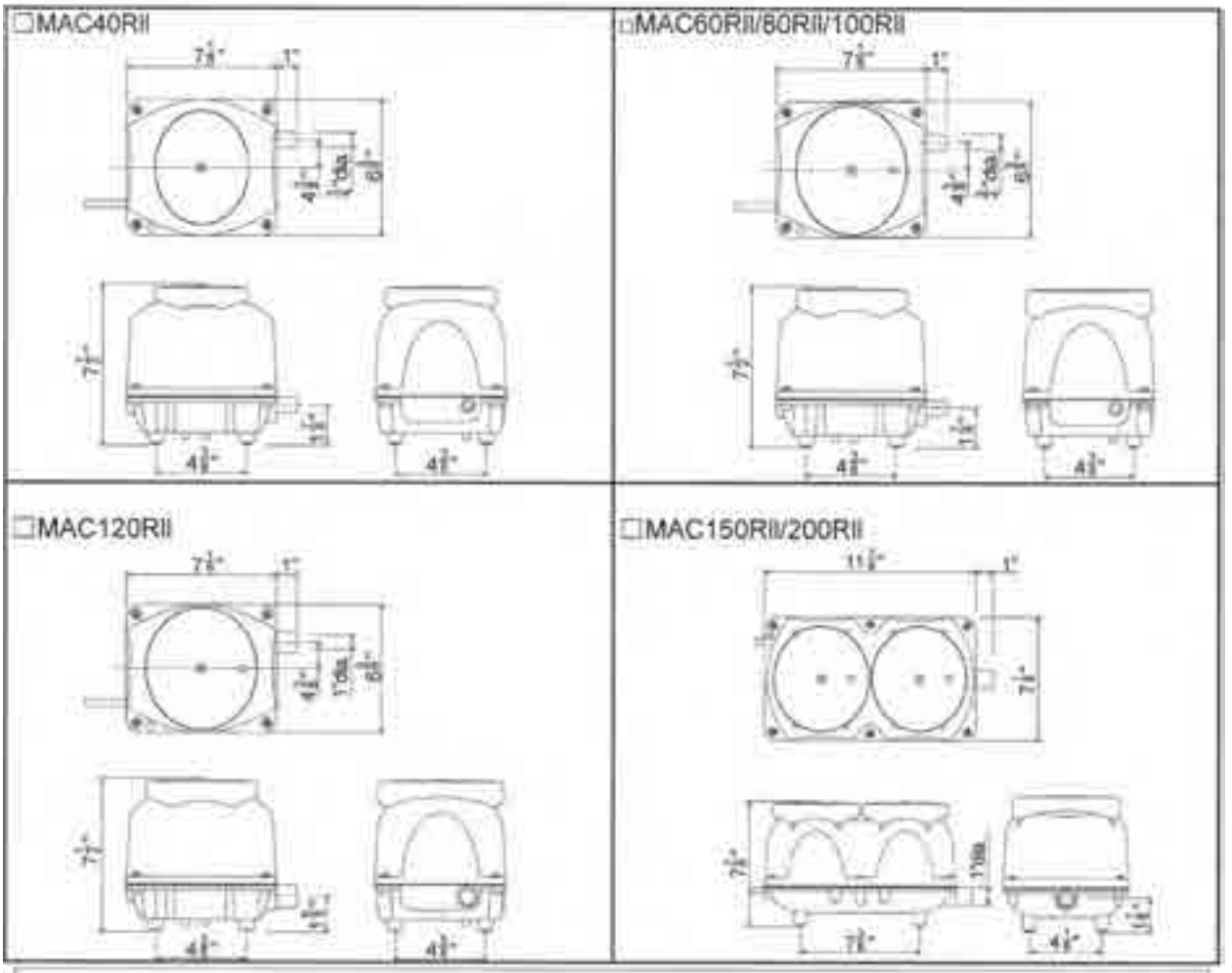
* Please consult with distributor or Fuji Clean USA for commercial models designed to treat hydraulic flows above those listed in this table.

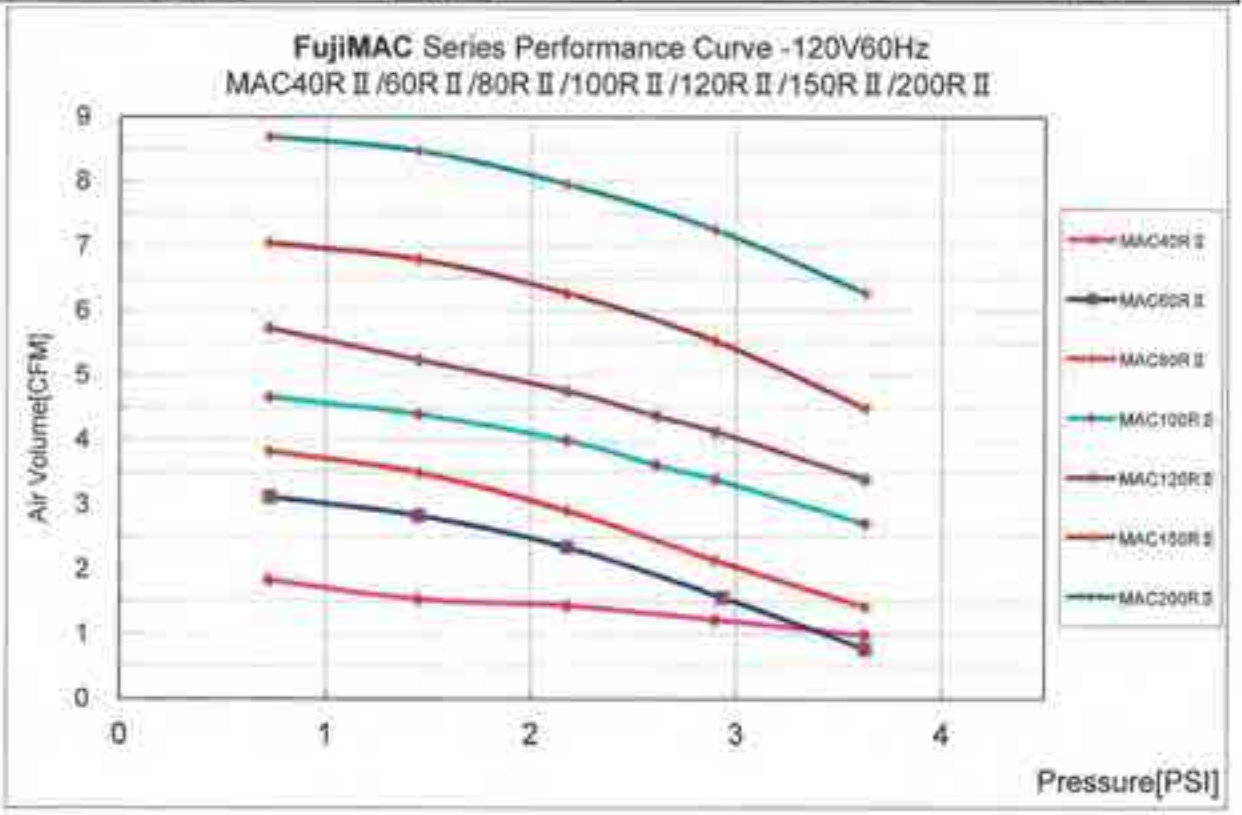
** Please consult with distributor or Fuji Clean USA for system specification and sizing in cases where influent biologic strength is greater than domestic strength.

Section 3b. System Components – FujiMACRII Blowers

The Table below includes specifications for FujiMACRII series blowers. The table below includes blower models associated with each standard system installation. Some installations may require upsized blowers based on overall distance (i.e. air conduit length and diameter) and number of elbows from blower to treatment system. Please refer to Fuji Clean installation guidelines.

Fuji Clean USA Treatment System Model	CE5 CE7 CEN5	CE10 CE14 CEN7 CEN10	CE21	CE30 CEN21
MACBlower Model	FujiMAC 80RII	FujiMAC 100RII	FujiMAC 150RII	FujiMAC 200RII
Air Flow Volume	80 L/min 2.8 cfm	100 L/min 3.5 cfm	150 L/min 5.3 cfm	200 L/min 7.0 cfm
Normal Pressure	15 kPa 2.2 psi	18 kPa 2.6 psi	18 kPa / 2.6 psi	
Rated Voltage	120V			
Frequency	60Hz			
Outlet Pipe Size	13mm ID (18mm OD) 33/64 inch ID (45/64 inch OD)		20mm ID (26mm OD) 25/32 inch ID (1-1/32 inch OD)	
Weight	5.0kg 11 lbs.		9.0kg 19 lbs. 13 oz.	
Power Consumption kWh/day	1.1	1.6	2.4	3.4
Amperes	1.0A	1.7A	2.3A	3.1A
Power Cable	3 × 18AWG × 1.8m (5ft.11in.)			
Manufacturer	Made in Japan by Fuji Clean			


□MAC40RII
□MAC60RII/80RII/100RII
□MAC120RII
□MAC150RII/200RII


FujiMAC Series Performance Curve -120V60Hz
MAC40R II /60R II /80R II /100R II /120R II /150R II /200R II
Air Volume[CFM]
Pressure[PSI]
0
1
2
3
4
5
6
7
8
9
MAC40R II
MAC60R II
MAC80R II
MAC100R II
MAC120R II
MAC150R II
MAC200R II

Section 3c. System Components - Alarm / Control Panel

NEMA 4X rated, the Alarm/Control Panel monitors tank water level and blower operation. An audible horn and red beacon light will activate in the event of either a tank high water condition or if the blower ceases to operate (causing a drop in air pressure). Please note: upgraded controllers with telecommunication, alarm tracking and data logging capabilities are available.

A 3-way toggle switch (Test-Normal-Silence) allows check for proper operation by toggling the side panel switch to "Test" mode. When switch is released, it will return to normal operation.

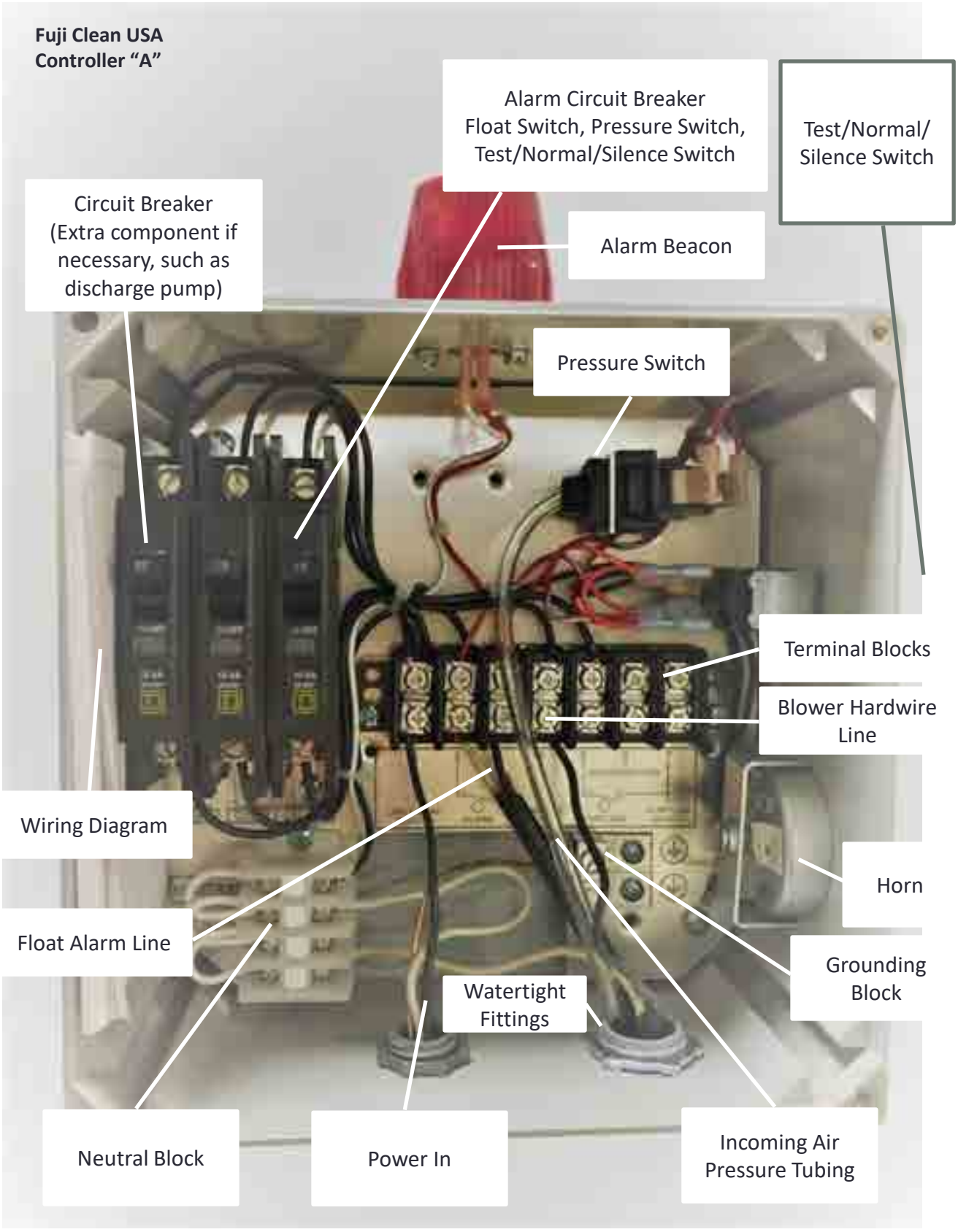
In the event of an alarm condition the "Silence" switch may be engaged to silence the audible alarm. The beacon will continue to flash until normal operation is restored and the alarm will reset. If a new alarm condition occurs, the "Silence" mode will expire and the unit's horn will begin sounding again.

All conduits between panel and treatment tank must be sealed to prevent gas leakage into panel.

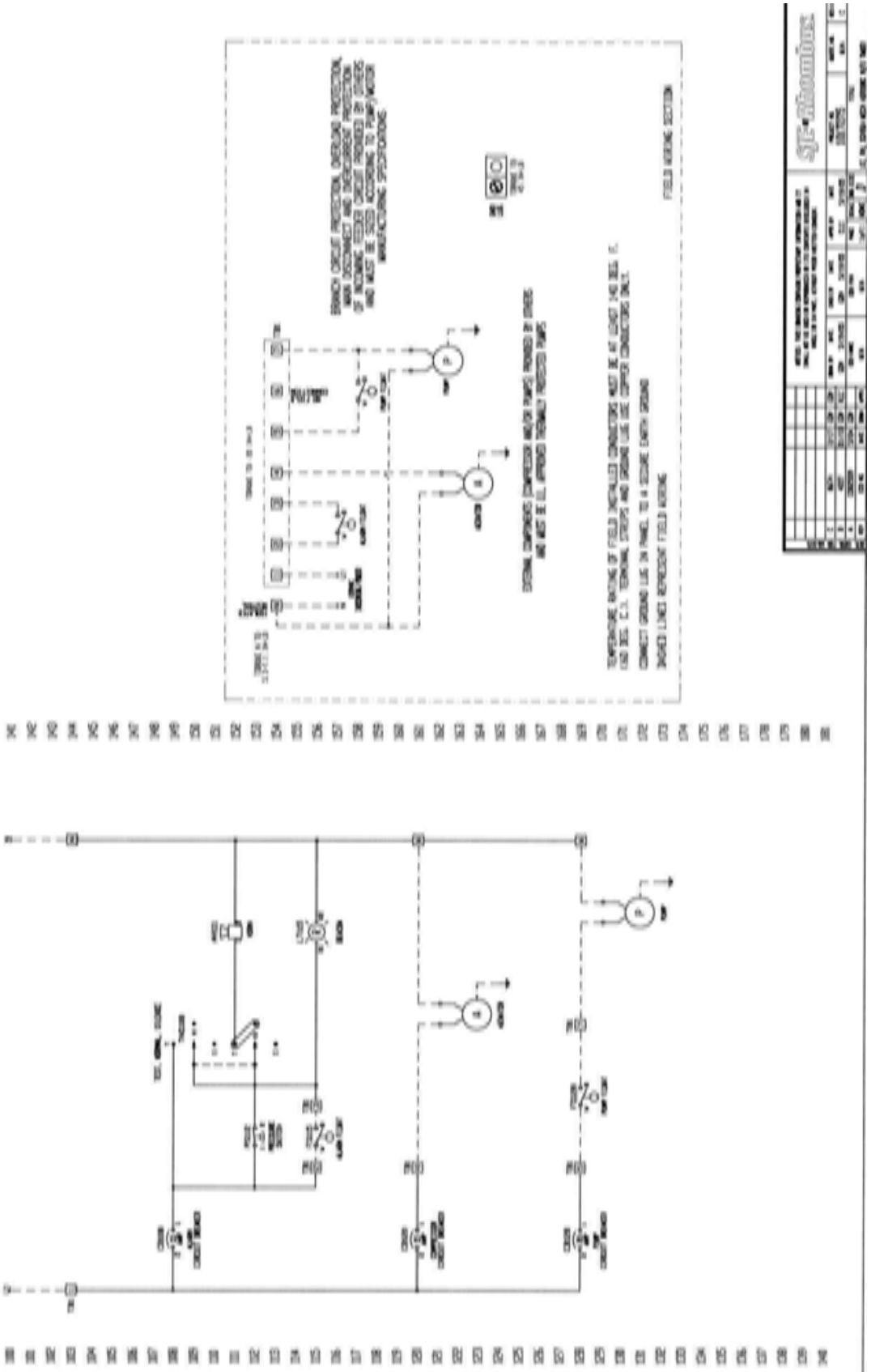
Fuji Clean USA offers a choice of customized alarm/control panels, each with different features. Control panel customization is also available to match unique site or job requirements. Please consult Fuji Clean USA for details.

Model Features	Controller A	Controller C	Controller D	Controller E
SJE Rhombus Model #	1041972	1045040	IFS41W914X6A8AC10E27D	IFI41W914X6A8AC10E27D
NEMA 4X Weather Proof Enclosure	X	X	X	X
Three 120 Volt AC Breakers (Pump, Compressor, Alarm)	X	X	X	X
Alarm/Test/ Normal/Silence Switch	X	X	X	X
Compressor Low Pressure Alarm Switch	X	X	X	X
Communication Contacts (Alarm Aux)		X	X	X
Elapsed Time Meter		X	X	X
Duplex Pump Demand or Timed Dosing Control			X	X
Data Logging Panel via USB Port to Flash Drive				X
UL Listed to Meet and/or Exceed Industry Safety Standards			X	X
Dual Safety Certification for U.S and Canada			X	X

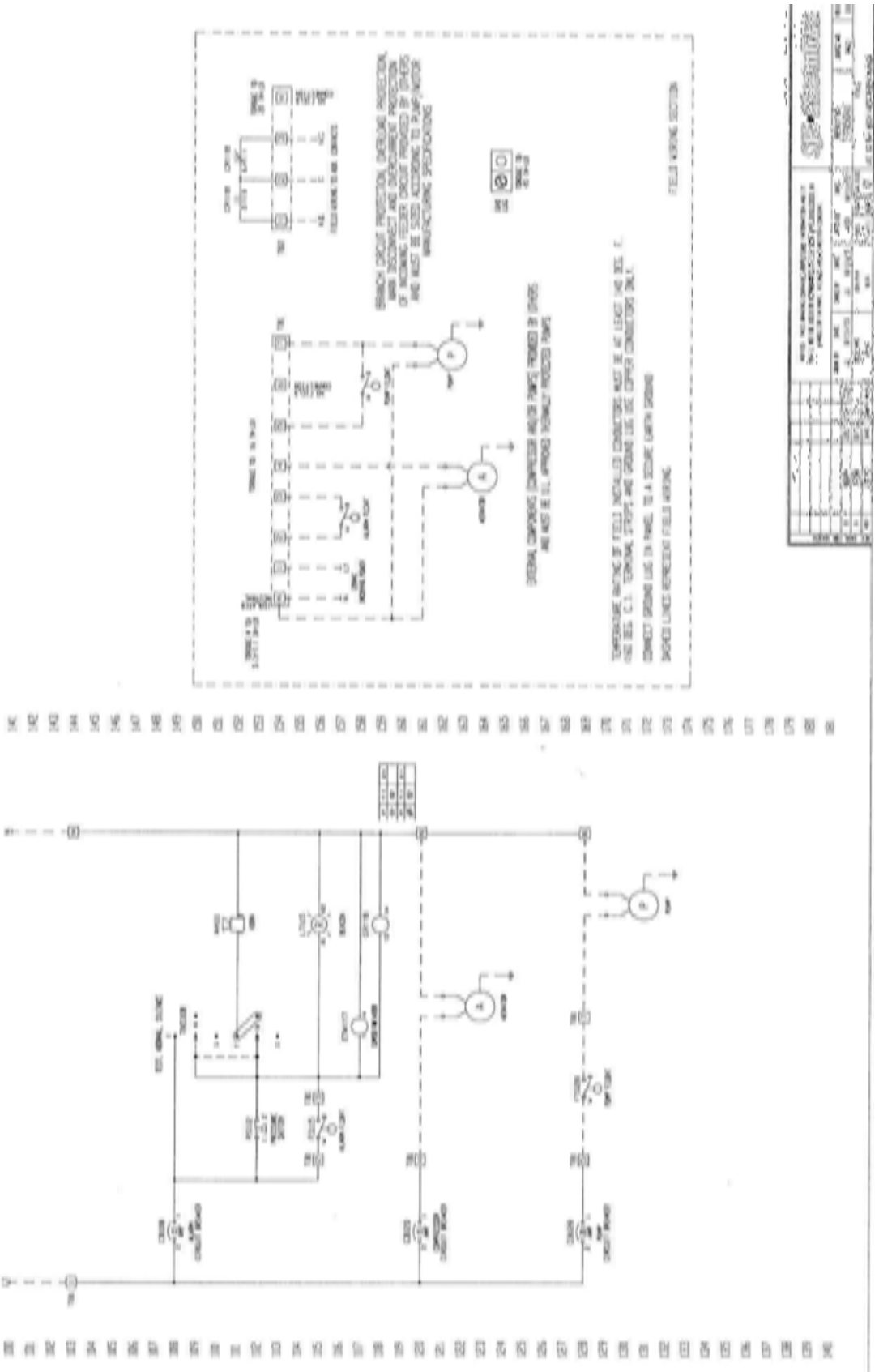
Fuji Clean USA
Controller "A"



Controller “A” Wiring Diagram



Controller “C” Wiring Diagram



Section 3d. System Components – Wi-Fi Communications Device

The SJE Rhombus MySpy Wi-Fi Messenger requires controller communication contacts. Fuji Clean USA Controller "C" is the most basic controller model that provides these contacts. This device must be mounted within range of home Wi-Fi signal.

MySpy® WiFi Messenger Alarm System

Easy-to-install indoor alarm system with WiFi connectivity, remote notification, battery backup, and auto reset.

The MySpy® WiFi Messenger system monitors and reports any residential alarm condition (contact closure), including sump high water level (float switch), or under/over temperature alarms. When the contact closes, the alarm notifies the user locally (audible and visual alarm) and remotely via SMS text messages and/or emails over a WiFi or Ethernet network to a smartphone, tablet or computer. The horn can be silenced when the alarm is active, but the alarm light remains on until the condition is cleared. Once the condition is cleared, the alarm will automatically reset.

No cellular connection needed (no monthly fees), but it is necessary for the home owner to have a reliable WiFi network and connection to the internet for this alarm to send remote notifications. Text message notifications can be sent to a cell phone with an active SMS service.

FEATURES

- NEMA 1 enclosure rated for indoor use.
- Automatic alarm reset.
- Red "alarm" light, green "power on" light, blue "network status" light, alarm "test" switch, horn "silence" switch, and WiFi Protected Setup (WPS) connection button.
- WiFi connectivity for remote alarm reporting
  - WiFi Protected Setup (WPS) push-button connect feature for simplified connection.
  - Manual WiFi setup done through Ethernet connection.
- Ethernet connectivity for remote alarm reporting - for cabled connection to router or modem (cable not included).
- Notifies the user via text and/or email notifications of the following conditions: Alarm, Power Lost, Power Restored, Low Battery, and Alarm Offline.

  NOTE: Installation of an Uninterruptible Power Supply (UPS) on internet modem and wireless router is recommended. The internet connection must be maintained to receive notifications.
- Notifies up to 4 contacts (2 text and 2 email contacts).
- Alarm horn sounds at 87 decibels at 10 feet (3 meters).
- Can be used with any switching mechanism rated to include 1 amp, 9 VDC load.
- If primary power fails, the alarm system continues to work locally due to battery backup feature. (battery not included.)

  NOTE: A Power Lost notification will be sent when entering battery backup mode, but other email and text notifications will not be sent in this mode.
- Complete package includes standard SJE SignalMaster® control switch with 15 feet (4.57 meters) of cable and mounting clamp.
- Switching mechanism operates on low voltage and is isolated from the power line to reduce the possibility of shock.
- Auxiliary alarm contacts for easy attachment of remote devices
- Low battery chirp.
- Easy access battery compartment.
- External terminal block for easy float switch installation.
- CSA Certified.
- Five-year limited warranty.

Hydraulic

OPTIONS

When ordered with the alarm, this system is available with:

- Alternate float switch models for high or low level warning.
- Splice kit.

SEE BACKSIDE FOR ORDERING INFORMATION.
SEE PRICE BOOK FOR LIST PRICE.

SPECIFICATIONS

VOLTAGE FOR 120 VAC MODEL:
Primary: 120 VAC, 60 Hz, 2.4 watts max. (alarm condition)
Secondary: 9 VDC

BATTERY BACKUP POWER: 9 VDC

ALARM ENCLOSURE: 6 x 4 x 2.25 inch (15.24 x 10.16 x 5.71 cm), NEMA 1 plastic.

ALARM HORN: 87 decibels at 10 feet (3 meters)

AUXILIARY ALARM CONTACTS
Voltage: 120 VAC
Current: 0.5 amps maximum N/O
0.5 amps maximum N/C

POWER CORD: 6 foot (1.8 meter)

FLOAT SWITCH CONNECTION TERMINAL: For float switch connection only. Do not apply power. (Voltage across terminals is 8-9 VDC).

FLOAT SWITCH: SJE SignalMaster® control switch with mounting clamp
Cable: 15 feet (4.57 meters), flexible 18 gauge, 2 conductor (UL) SJOW, water-resistant (CPE)
Float: 2.74 inch diameter x 4.83 inch long (7.0 cm x 12.3 cm), high impact, corrosion resistant polypropylene housing for use in sewage and water up to 140°F (60°C)

WIFI: Connect using push-button WiFi Protected Setup (WPS) or manually by using Ethernet connection (ethernet cable not provided). WPA2 security required on wireless router.

ETHERNET: Requires an ethernet connection (ethernet cable not provided).

NOTE: Cellular WiFi hotspots are not recommended for use with this WiFi alarm, as intermittent or unreliable notification service can result.

SJE RHOMBUS
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: customer.service@sjerhombus.com
www.sjerhombus.com D.1

MySpy® WiFi Messenger Alarm System

Easy-to-install liquid level alarm system with WiFi connectivity, remote notification, auto-reset, and battery backup features for indoor use.

ORDERING INFORMATION

120 VAC Part #	Description	Shipping Weight
1043586	MSWF-01H (120 VAC w/15' SJE SignalMaster® High Level)	2.73 lbs.
1043655	MSWF-01L (120 VAC w/15' SJE SignalMaster® Low Level)	2.73 lbs.
1043656	MSWF-01H (120 VAC w/15' Sensor Float® High Level)	2.81 lbs.
1043657	MSWF-01X (120 VAC no float)	1.44 lbs.

H = **H**igh Level **L** = **L**ow Level **X** = **N**o **F**loat

MASTER CARTON holds 16 boxed units.
SEE PRICE BOOK FOR LIST PRICE.

OPTIONS

CONTROL SWITCH OPTIONS
The MySpy® WiFi Messenger alarm system comes standard with a 15ft **SJE SignalMaster®** control switch with mounting clamp. Other float switches are available. See control switch section of the catalog.

To determine the price of alarm with an alternate float, add the price of the part number with "no float" to the price of the float switch.

SPECIFICATIONS

VOLTAGE FOR 120 VAC MODEL:
Primary: 120 VAC, 50/60 Hz, 2.4 watts max. (alarm condition)
Secondary: 9 VDC

BATTERY BACKUP POWER: 9 VDC

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ALARM HORN: 87 decibels at 10 feet (3 meters)

AUXILIARY ALARM CONTACTS: 120 VAC, 0.5 amps max N/O, 0.5 amp max N/C

POWER CORD: 6 foot (1.8 meter)

FLOAT SWITCH CONNECTION TERMINAL: for float switch connection only (voltage across terminals is 8-9 VDC)

FLOAT SWITCH: SJE SignalMaster® control switch with mounting clamp

CABLE: 15 feet (4.57 meters), flexible 18 gauge, 2 conductor (UL) SJOW, water resistant (CPE)

FLOAT: 2.74 inch diameter x 4.83 inch long (7.0 cm x 12.3 cm), high impact, corrosion resistant polypropylene housing for use in sewage and water up to 140°F (60°C)

WIFI: Connect using push-button WIFI Protected Setup (WPS) or manually by using Ethernet connection (ethernet cable not provided).

ETHERNET: Requires an ethernet connection (ethernet cable not provided). WPA2 security required on wireless router.

NOTE: Cellular WiFi hotspots are not recommended for use with this WiFi alarm, as intermittent or unreliable notification service can result.

LR54245

Call or fax your order!
1-888-DIAL-SJE (1-888-342-5753) Fax 218-847-4617

SJE RHOMBUS

www.sjerhombus.com
customer.service@sjerhombus.com

Product offering and pricing are subject to change without notice.
*Please visit **www.sjerhombus.com** for the most current information.*

Section 4. Maintenance Program

Scheduled Maintenance – General

If sampling is required, please draw samples prior to maintenance protocol. Refer to Appendix 3 for proper sampling procedure.

Regularly scheduled maintenance by a qualified service professional is necessary for efficient operation of this system. Recommended frequency of scheduled maintenance; semi-annually (about 20-30 minutes to complete per visit). Proper maintenance also requires sludge be pumped out from the system on a periodic basis. The frequency of pump-out depends on the system's loading but is recommended approximately once every two years, and more frequently for systems that treat heavy flows and loads.

Consumable parts for the blower such as the blower diaphragms and air filter should be replaced regularly. The recommended replacement interval for these parts is 12 months, although site conditions (such as air quality) may warrant a longer or shorter interval.

Regular Maintenance Procedures

1. **Outside Environment Check. (Recommended frequency: start-up and 1x every 6 months)**
   - The system is accessible and nothing inhibits access to maintenance.
   - Surface water is draining away from risers and covers.
   - No signs of physical damage to the treatment system, piping, alarms or components
   - No unusual smells around the system.
   - No unusually loud blower noise, such as rattling.

2. **Blower Box Check. (Recommended frequency: Start-up and 1x every 6 months)**
   Open the blower box, make sure that it is operating properly.
   Inspect all fittings and vents to ensure they are clean and dry.

3. **Blower Operation and Blower Alarm Check. (Recommended frequency: Start-up and 1x every 6 months)**
   Make sure the blower operates properly. Clean the air filter or replace it, if necessary. Turn off the blower for few moments to check that the alarm is triggered.

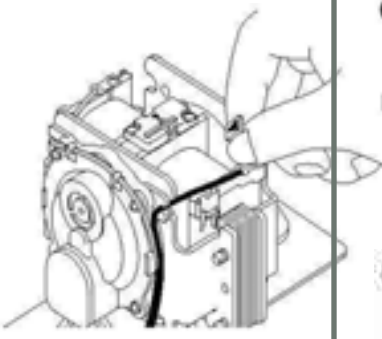
4. **Blower Consumable Components (Recommended frequency: air filter inspection 1x every 6 months. Diaphragm replacement as required.)**
   The blower contains an air filter and diaphragms, which are considered “consumables.” The air filter should be inspected and cleaned/replaced regularly. Diaphragms and their casings should be replaced regularly to maximize blower life and efficiency. The recommended frequency for each of these procedures is once annually. Please follow steps on the following page.

Blower Air Filter Cleaning / Replacement Procedure

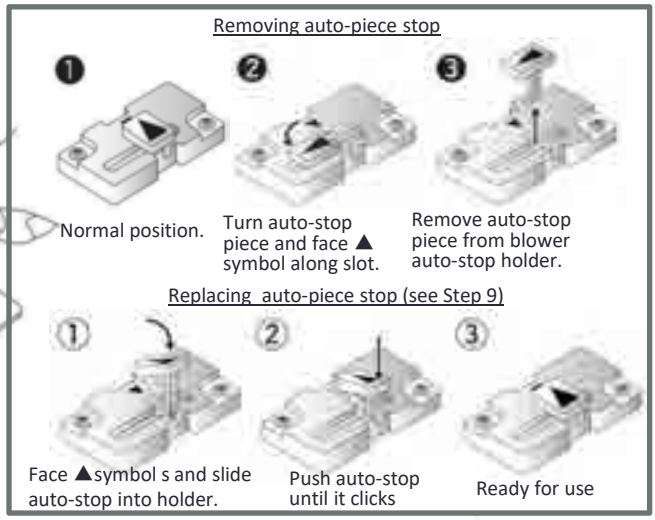
Replacing the blower air filter is very simple and consists of removing the filter cover with a Phillips screwdriver, removing the old, cleaning it (blow clean with air pressure) or replacing it with a new filter, and then screwing the cover back into place.

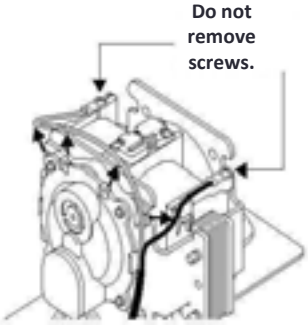
Blower Diaphragm Replacement Procedure

Step 1. Remove cover bolts and screw with 8mm socket and screwdriver

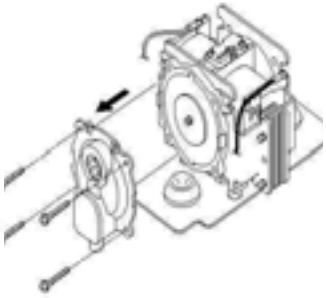


Step 2. Remove autopiece stop as shown:

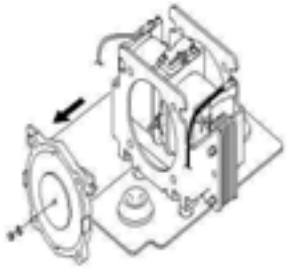




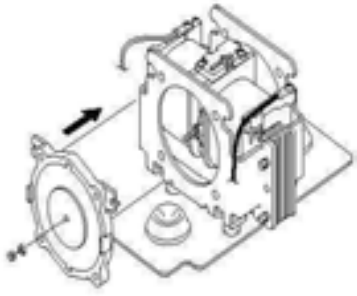
Step 3. Remove power cable from 4 hooks. **Do not remove screws.**



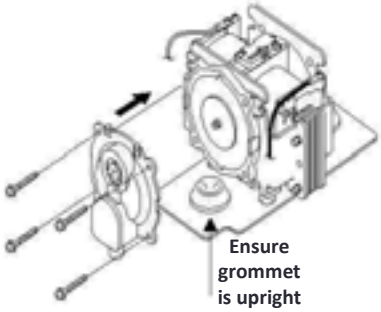
Step 4. Remove 4 screws from one casing.



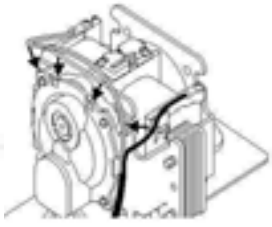
Step 5. Remove nylon nut and diaphragm from body



Step 6. Install new diaphragm using new nylon nut provided. Torque tighten to about 1 Nm.



Step 7. Insert casing air outlet into rubber grommet. Secure with 4 screws. Repeat Steps 4-7 for 2nd diaphragm.



Step 8. Fit power cable onto 4 hooks.

Step 9. Re-set auto-piece stop as shown above

Step 10. Replace cover bolts and screw.

Open all access covers and secure the area around the access openings.

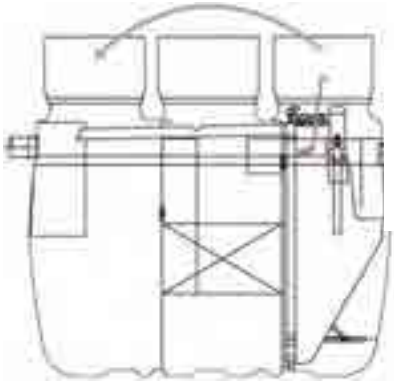
Take samples from either "Storage Chamber" or "Disinfection Chamber" (unless chlorine is used).

5. **Treated Effluent Check. (Recommended frequency: 1x every 6 months)**
   Collect a sample of treated effluent from the aeration chamber and evaluate for clarity and odor and pH. Sample should be nearly clear and with a faint musty smell. If sample is cloudy or exhibits a septic odor, then the system is not treating properly and requires maintenance. Please refer to the Troubleshooting Guide for direction. pH should be checked. If too low, procedures should be implemented to correct. (see Troubleshooting Guide).

6. **High Water Float Switch Check. (Recommended frequency: Start-up and 1x every 6 months)**
   Check that the high water float switch is operating freely. Lift up the high water float switch to check that the alarm is triggered. (Note: Float's activation horizon is 1.5" above or below level horizon).

7. **Inflow Pipe Check. (Recommended frequency: Start-up and 1x every 6 months)**
   Make sure that the inflow pipe is not blocked.

8. **Transfer Scum. (Recommended frequency: 1x every 6 months)**
   If any scum appears in the Chamber 3, scoop with a ladle or a collection jar and transfer it into the sedimentation chamber.



Use ladle or sample jar to transfer scum back to Chamber 1.

9. Set Recirculation Control Valve. (gray) (Recommended frequency: Start-up and 1x every 6 months)
The recirculation valve (gray) should be set to its default setting range according to the table below for ALL flows.

Model	Default Setting (%)
CE5	30% to 35%
CE7	25% to 30%
CE10	25% to 30%
CEN5	40% to 45%
CEN7	35% to 40%
CEN10	35% to 40%

At start-up, and for standard operation, the Recirculation Control Valve (gray) should be set according to the table and instructions listed under Procedure #9. NOTE: CEN systems have a higher recirculation rate than CE systems.


CE Systems


CEN Systems

(Within the ranges shown in the table above, set at lower end for projected below average hydraulic flows and at the higher end for higher average projected hydraulic flows.)

Important! Normal recirculation flow should be level with the top edge of the airlift pumpback line cut-out spilling into Chamber 1. If backflow is too high or too low, this typically indicates that service cleaning is required (O&M Steps 12-16).

10. Check/Set Aeration Balance Control Valve (blue). (Recommended frequency: Start-up and 1x every 6 months).
The default, normal setting for the Aeration Control Valve is 50%. Visually observe the airflow rates on each side of the plant by checking to see if bubbles are evenly distributed on both sides of the aeration chamber. If there is an obvious discrepancy in airflow between the two sides, adjust the Aeration Balance Control Valve so that the airflow is equal. Important! If adjustment of this valve is ineffective, then the likely cause of uneven bubbles is usually a blockage in the aeration pipes and is corrected with aeration pipe cleaning: See O&M Step # 14.


At start-up, and for standard operation, the Aeration Balance Control Valve (blue) should be set to 50%,

11. Check/Set Effluent Airlift Valve (white). (Recommended frequency: Start-up and 1x every 6 months)
The Effluent Control Valve is initially set to 40% and there is typically no need for it to be adjusted under standard conditions.


At start-up, and for standard operation, the Effluent Airlift Valve (white) should be set to 40%.

12. Backwash and Sludge Transfer. (Recommended frequency: 1x every 6 months) Perform a backwash and sludge transfer operation.

Excessive biofilm growth on the contact and filter media (Chambers 2 and 3) may cause partial clogging or short circuiting and deteriorate the performance of the system. <u>It is essential to carry out this backwash operation and sludge transfer at every maintenance visit</u>.

Step 1. Shut off the Effluent Air-lift Pump by turning the Effluent Control Valve (white valve) clockwise until it won't turn any more.

Step 2. Transfer the sludge on the bottom of the aeration chamber by turning the Recirculation Control Valve (grey valve) to 70-80 and wait for one minute.

Step 3. Reset the Recirculation Control Valve (grey valve) to the original position.

CE Systems

CEN Systems

Step 4. Aerate one side of the chamber by turning the Aeration Balance Control Valve (blue valve) fully one way. Wait for one minute, and then turn the valve fully to the opposite direction. Wait for another minute, and then reset the valve to the original position

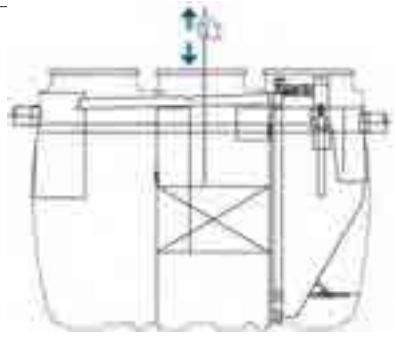
Step 5. Repeat Steps 2 - 4 three times.

Step 6. Final repeat of Step 2.

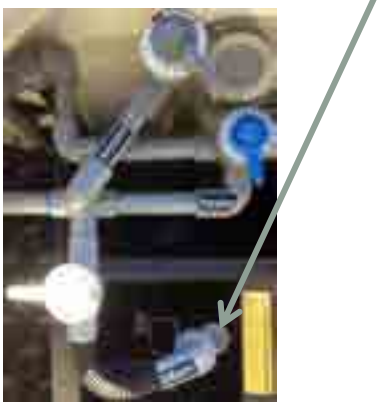
Step 8. Flush the Effluent Control Valve (white) by rotating the valve back and forth from 0 to 100 several times.

Step 9. Reset the Recirculation Control Valve (grey valve) and the Effluent Control Valve (white valve) to their original positions. Make sure that the aeration is working properly.

Step 10. Poke and penetrate into the anaerobic filtration media with a small diameter PVC pipe (e.g. ½-inch) gently and evenly throughout Anaerobic Filtration Chamber for media degassing. <u>This is a simple but essential procedure to assure uniform media contact and filtration.</u>



13. Check / Clean Effluent Airlift Pipe. (Recommended frequency: Start-up and 1x every 6 months) Check the observation port in the airlift line to see if there is smooth water flow from the effluent airlift pump. If there is uneven flow or a disruption in flow, then clean the airlift pipe with a cleaning brush.

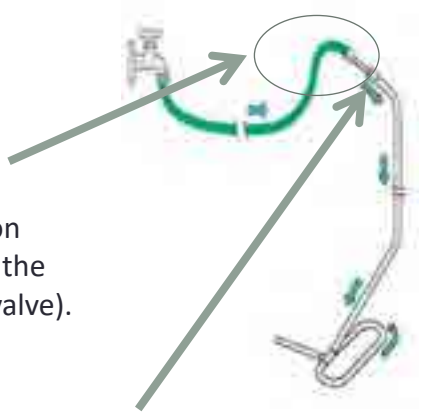


14. Clean Recirculation Air-lift Pump (Recommended frequency: 1x every 6 months) Excessive biofilm build-up in the recirculation air-lift pump may affect the recirculation rate. Remove the plastic cap on the air-lift head, clean inside the pipe with a pipe cleaning brush. Also clean the recirculation pumpback line as shown.

15. Refill the chlorinator (if applicable). Place refill chlorination tablets in the chlorinator tube and adjust the dissolve rate by rotating the bottom cap of the chlorinator.

16. Cleaning Aeration Pipes (Recommended frequency: 1x every 6 months or as required) Aeration Pipes should be cleaned if bubbles are unevenly distributed even after adjusting the aeration balance or the recirculation flow rate has increased considerably without resetting Recirculation Valve (gray valve).

Use hose adaptor supplied by Fuji Clean USA.



Step 1. Close the Recirculation Control Valve (grey valve) and the Effluent Control Valve (white valve).

Step 2. Turn off the blower.

Step 3. Disconnect a barrel union. HINT: Just unscrew union and pull off air line. Do not totally disconnect barrel union.

Clean With Hose: (<u>Use for standard cleaning</u>) Attach adaptor with check valve (provided by manufacturer) to garden hose and connect with aeration pipe. Run water from spigot for 1 minute. Repeat for the 2nd aeration pipe.

Step 4. Reconnect aeration pipes, turn on blower and re-set standard valve settings (see O&M Procedure #'s 10-12)

17. Measure Sludge and Pump Out if Necessary
(Recommended frequency: 1x every 2 years or as required)

- Biological treatment performance is severely deteriorated due to excessive amounts of oil or chemicals which interfere with the bacterial activity.
- For residential models, when sludge levels reach more than 35-inches in Chamber 1 or more than 16-inches in Chamber 2.
- Abnormal rise of the water level
- Excessive scum builds up in Chamber 2, the Anaerobic Filtration Chamber and large amounts of solids flow into Chamber 3, the Aerobic Filtration Chamber, even after performing a sludge transfer operation (O&M procedure #12).

PUMP-OUT INSTRUCTIONS

Step 1. Turn off all electrical components.

Step 2. Clean the inlet and outlet pipe.

Step 3. Transfer suspended solids and scum from Chamber 3 back to Chamber 1.

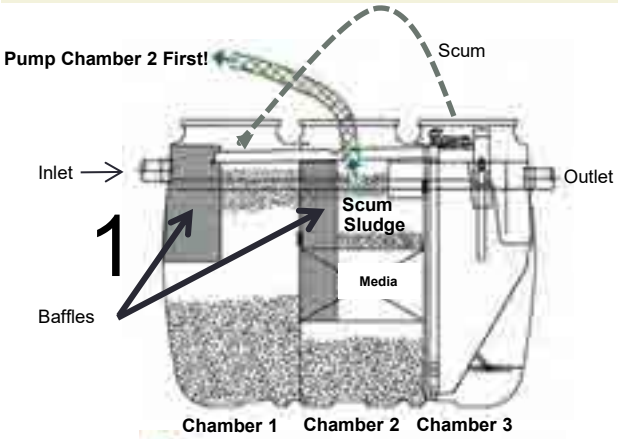
Step 4. With pumpout hose, remove scum and sludge on the filtration media from Chamber 2 FIRST! Otherwise you risk solids being drawn up into the media in Chamber 2.

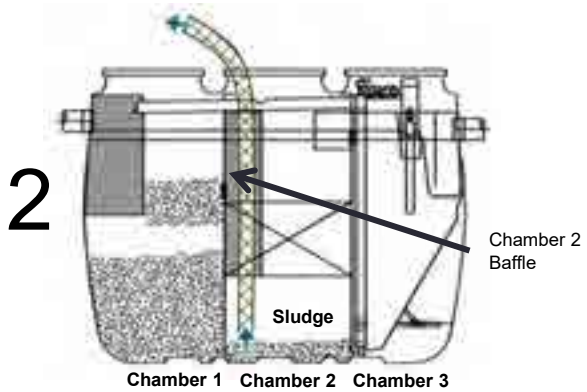
Step 5. Insert suction hose into the baffle. Remove sludge from the bottom Chamber 2. Wash media and chamber wall.

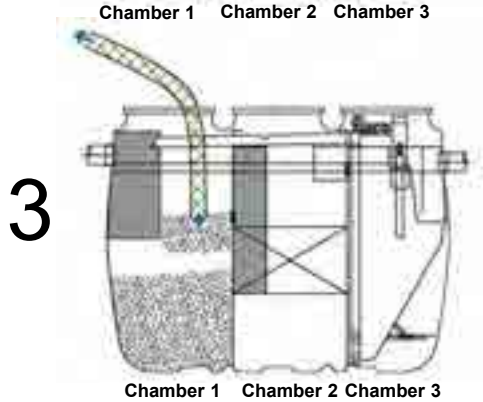
Step 6. Remove scum and sludge Chamber 1.

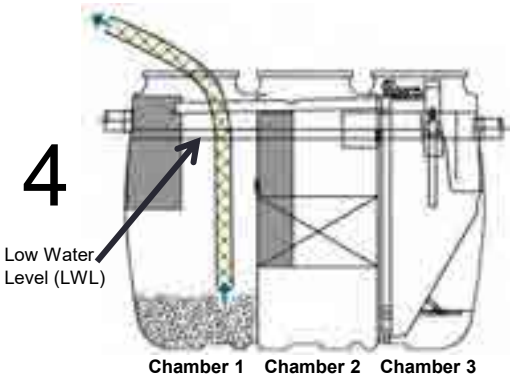
Step 7. Re-fill the system with water to Low Water Level (LWL).

Step 8. Turn on all electrical components.









FujiClean USA
Toward Clean Water...

SYSTEM INSPECTION CHECKLIST REPORT – Fuji Clean CE & CEN Systems

To be completed by authorized service provider at each inspection/service visit - once every 6 months. Please follow the O&M Maintenance Program in the Fuji Clean O&M Manual. Contact Fuji Clean USA with questions, comments and/or troubleshooting assistance. Authorized Service Provider must maintain a copy of this report in records.

SYSTEM SITE	AUTHORIZED SERVICE PROVIDER
Name: _____	SERVICE DATE: _____
Address: _____	Name: _____
_____	Company: _____
Town/State: _____	Town/State: _____
Contact: _____	License No. (if applicable): _____
Contact Info: _____	Contact Info: _____

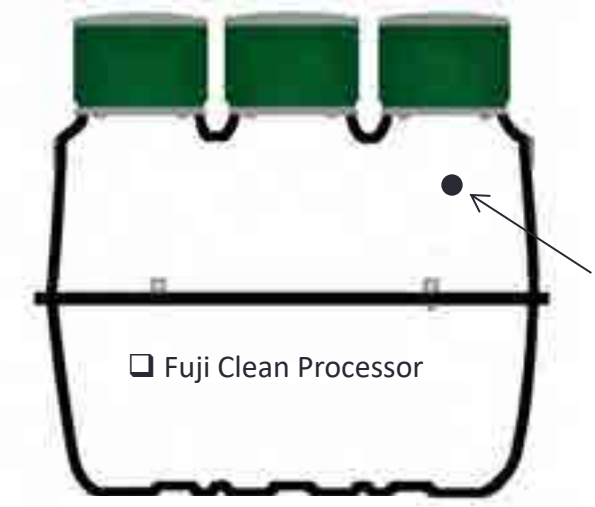
SERVICE PROCEDURE / OPERATION	COMMENT / DATA / OBSERVATION (use reverse if nec.)
☐ 1. Outside Environment Check	
☐ 2. Blower Box Check	
☐ 3. Blower Operation and Blower Alarm Check	
☐ 4. Replace blower Consumable Components if nec.	
☐ 5. Treated Effluent Check	
Clarity (Required)	
Odor (Required)	
pH (Required)	
DO (Recommended)	
☐ 6. High Water Float Switch Check	
☐ 7. Inflow Pipe Check	
☐ 8. Transfer Scum to Sedimentation Chamber	
☐ 9. Check/Set Recirculation Control Valve	
☐ 10. Check/Set Aeration Balance Control Valve	
☐ 11. Check/Set Effluent Airlift Valve	
☐ 12. Backwash and Sludge Transfer (Important!)	
☐ 13. Check/Clean Effluent Airlift Pipe	
☐ 14. Check/Clean Recirculation Airlift Pipe	
☐ 15. Refill Chlorinator (if applicable)	
☐ 16. Clean Aeration Pipes (if necessary)	
☐ 17. Measure Sludge and Pump out if necessary*	
Sedimentation Chamber (Chamber 1)	
Anaerobic Chamber (Chamber 2)	
☐ 18. Check Flow Monitor Component (if Applicable)	

* Pump out reminder. If 35" or more of sludge accumulates in the Sedimentation Chamber (1st chamber) or 16" or more in the Anaerobic Chamber (2nd chamber), the system should be pumped. Pump Anaerobic Chamber (2nd chamber) first, followed by the Sedimentation Chamber (1st chamber). Please refer to Fuji Clean USA O&M Manual.

41-2 Greenwood Road • Brunswick, Maine 04011 • Tel: 207-406-2927 • Fax: 207-406-2929

Thank you for choosing to install a Fuji Clean USA treatment system. We care that the system is installed properly and thoughtfully. Fuji Clean USA or your qualified distributor will train and certify you for proper installation. PLEASE contact your distributor or Fuji Clean USA for assistance or with ANY questions.

Equipment Supplied by Fuji Clean USA



❑ Fuji Clean Processor

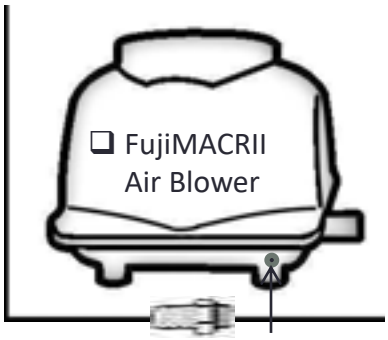
❑ SJE Rhombus Signalmaster Float Switch
(Center chamber with 3-1/2" tether)

❑ Air Vent Plug
(Tighten clockwise. Plugs the vent hole if venting through house)

❑ 1/8" (ID) Vinyl Micro-Tubing for Air Pressure Sensing Alarm

❑ Air Blower Adapter
(Unglued. Glue / clamp during installation.)

❑ Tank Adapter
(Unglued. Glue during installation.)



❑ FujiMACRII Air Blower

❑ Pressure Line Barb
(Screws with rubber washer into blower)

❑ NSF Dataplates (2)

❑ Installation Manual
❑ Owner's Manual
❑ Warranty Card

❑ Alarm / Control Panel
(NEMA 4X Rated)

Contractor Installation Manual – Residential Systems

Equipment Supplied by Contractor

Risers and Covers per Site & Regulatory Requirements
Note: Tuf-Tite and Polylok Risers in 6" or 12" height increments and covers are available from your distributor . If not already installed, please refer to page 5 for installation instructions.
Allowed 24" riser height or less.

Model CE5: Three (3) 20" Risers
Models CE7, CE10 and CEN Series: Two (2) 20" Risers plus One (1) 24-inch Riser

Insulation for Cold Climate Installations
To maintain optimal treatment conditions, Fuji Clean recommends insulated risers and covers as well as foam board or insulating material (min. R-Value 8) over the upper half of the treatment tank.

Septic Tank and/or Pump Station.
If local code or site conditions mandate. Fuji Clean system are designed to accept straight wastewater.

Fresh Water
Systems must be filled with fresh water to Low Water Mark (LWM) before start-up. Approx. gallons required per model: (CE5: 435; CE7: 610; CE10: 925; CEN5: 610; CEN7: 925; CEN10: 1,230).

Piping/Conduit
- 4" Schedule 40 for inlet and outlet lines.
- ¾" PVC conduit for air line (minimum 6-in. deep).
- Electrical conduit for float switch line (or use direct burial line).

Electrical
- Please use licensed electrician and adhere to applicable national/local electrical code(s).
- Two (2) standard 115V, 15A circuits for control/alarm panel connection.
- Float Switch Wire: #18 AWG (comes with standard 30'-ft. length). May extend up to 50-ft.
- Float Switch: May come pre-installed in treatment system. For electrical hookup, please refer to SJE Rhombus installation instructions.
- Miscellaneous fittings and connectors to assure watertight connections.

Anti-Float Devices, if necessary
- Please refer to high water, anti-float recommendations in this manual.

Materials for Blower / Controller Installation
- Concrete base (or equivalent) on which to set air blower.
- Protective cover for air blower (vented and able to achieve free airflow in all conditions).
- Materials or location on which to mount control panel and protect from elements.

Crushed Stone, Fill, Loam etc.
- Fuji Clean USA is not responsible for design, installation or materials associated with leachfield or treated wastewater disposal area.

Please note: Proper installation permitting is the responsibility of the installing contractor.

Installation Procedure

Unloading Instructions:

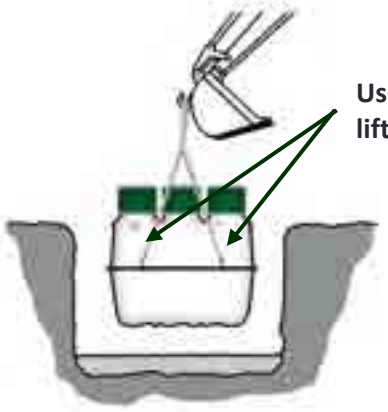
- ❑ Upon delivery, inspect Fuji Clean tank, both outside and inside for possible damage incurred during transport. If you find damage, or have a question, please contact your distributor immediately.

❑ **Step 1: Prepare excavation to be at least 1 to 2 feet larger than Fuji Clean system dimensions as listed below. Important Note: Riser height should not exceed 24".**

❑ **Step 2. Prepare 4"- 6" bed of stone (¼" to ½"), level to within 1/8".**

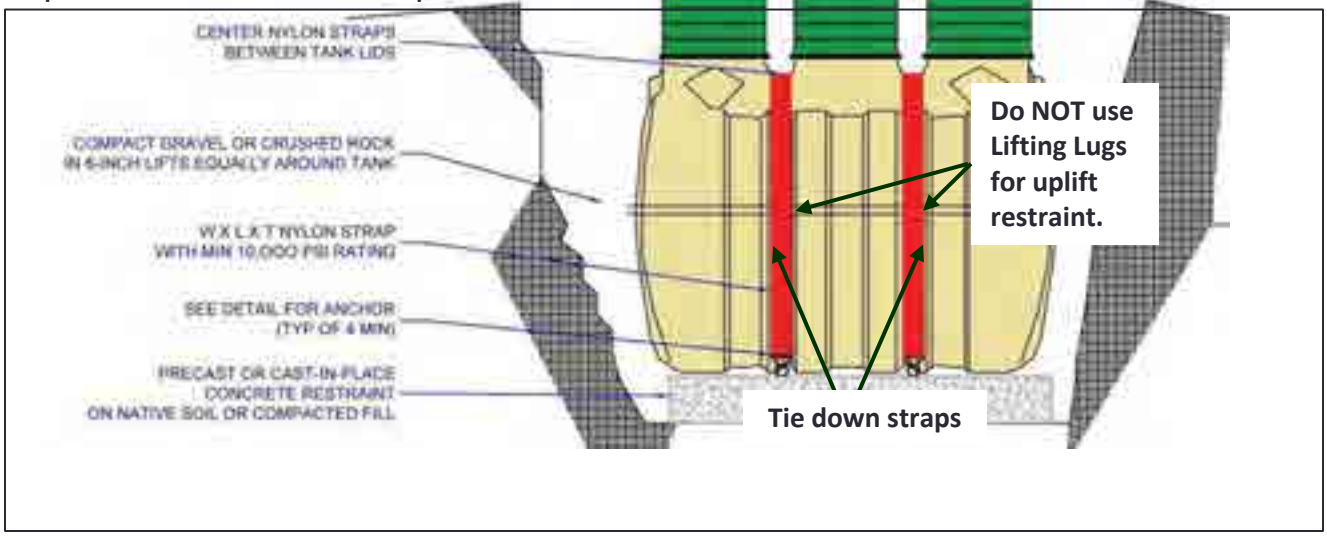
CEN Series, BOD, TSS, and Enhanced TN				
Model	**CEN5**	**CEN7**	**CEN10**	**CEN21**
Load Hydraulic* (GPD)	450	630	900	1,900
Blower Model / CFM (Standard)	FujiMAC80RII 2.8 CFM	FujiMAC100RII 2.8 CFM	FujiMAC100RII 3.5 CFM	FujiMAC200RII 7.0 CFM
Power Use (kWh/day)	1.1	1.6	1.6	3.4
Tank Detail:				
Height (inches)	65.7	73.6	77.4	87.2
Length (inches)	95.7	98.8	118.9	183.7
Width (inches)	49.2	56.7	68.9	78.3
Weight (lbs.)	463	705	926	1,543
Inlet Invert (inches, to 1/8")	53	61	62	71
Outlet Invert (inches to 1/8")	51	59	59.5	69
Access Ports (number)	3	3	3	3
Access Port Diameter (inches)	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"	2@20" 1@24"

❑ **Step 3: Carefully lower and set tank. Level to within 1/8-inch.**

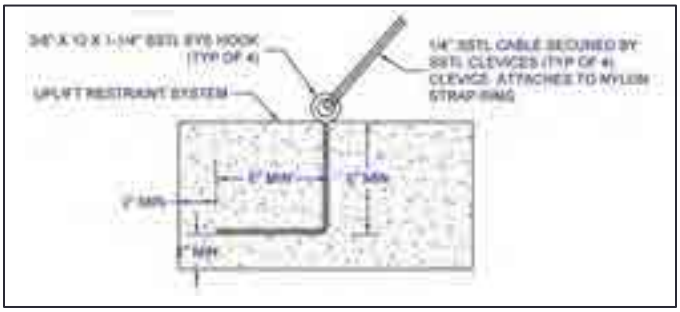


- **Step 4: If any part of the tank is below the estimated seasonal high water table, then engineer shall provide buoyancy calculations to assure adequate tank uplift restraint. Recommended uplift restraint options include:**

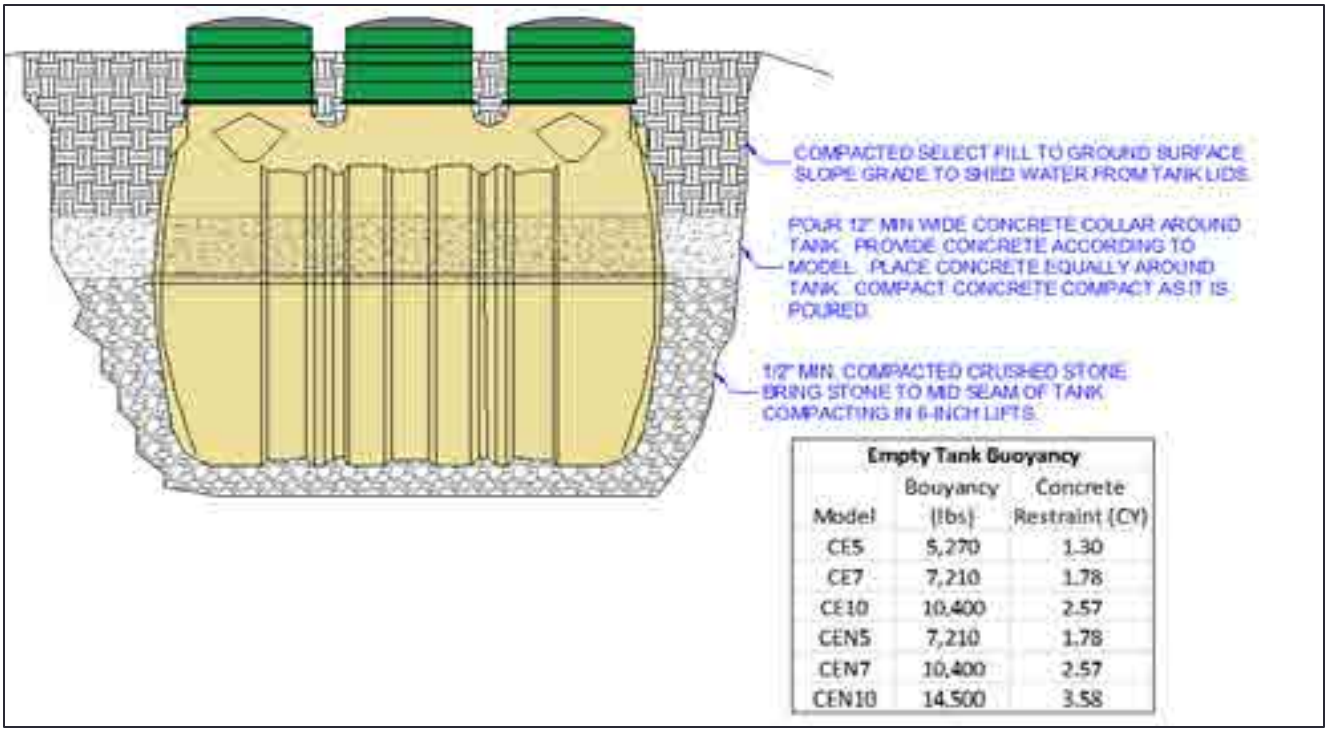
Uplift Restraint with Tie-Down Straps



Cable tie-down detail.



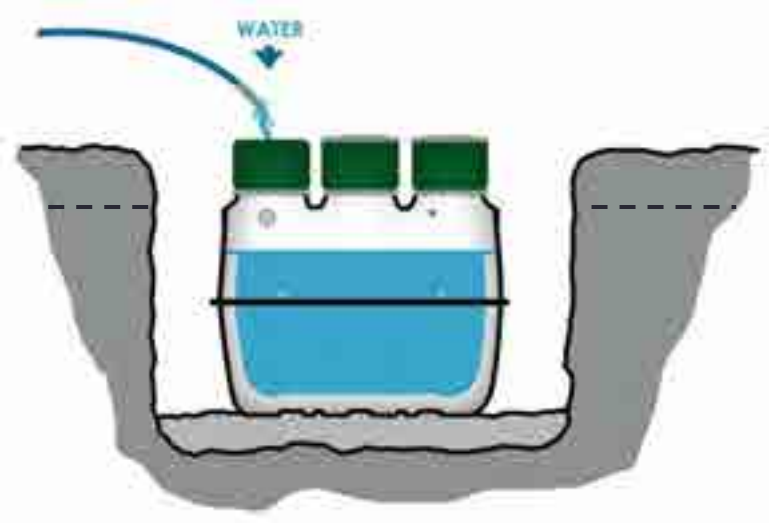
Uplift Restraint with Concrete Collar



Empty Tank Buoyancy

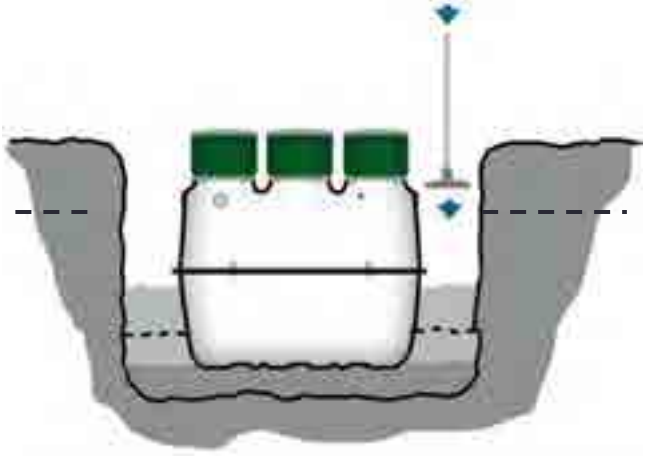
Model	Bouyancy (lbs)	Concrete Restraint (CY)
CE5	5,270	1.30
CE7	7,210	1.78
CE10	10,400	2.57
CEN5	7,210	1.78
CEN7	10,400	2.57
CEN10	14,500	3.58

- **Step 5: After rechecking that tank is level to 1/8-inch, (fore and aft as well as side to side), fill tank with fresh water to the low water line mark. Note: Alternate chambers while filling for evenly balanced fill.**



Low water line in sedimentation chamber

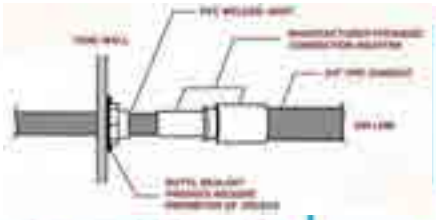
Please note: To assure tank water tightness, please check in 24 hours to be sure that the water level has not dropped. Please contact your distributor or Fuji Clean USA if water level has dropped.



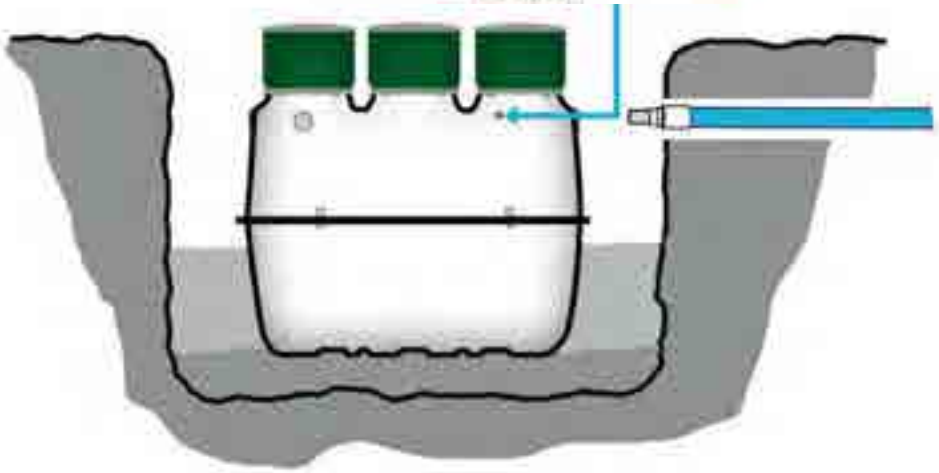
- **Step 6: Backfill about ¾ way up tank in layered, compacted 6" lifts using peastone or equivalent material that form-fits into tank corrugations.**

❑ **Step 7: Using supplied adaptors and fittings, attach air pipe fitting to tank and connect to ¾" conduit in prepared trench (min. 6" deep) to location of air blower. Please note: ¾" flexible irrigation line, 100 PSI Max, may also be used for the airline.**

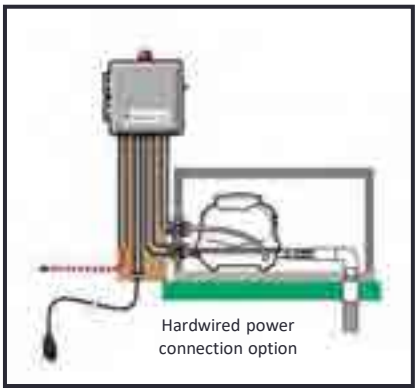
For connection air line to tank, use sealant meeting ASTM C990-96 standard to prevent septic gas transmission into control panel.



Note: Some states and contractors require a flexible airline adaptor as shown. (adaptors supplied by Fuji Clean USA)



❑ **Step 8: Locating and Installing Blower/Control Panel.**

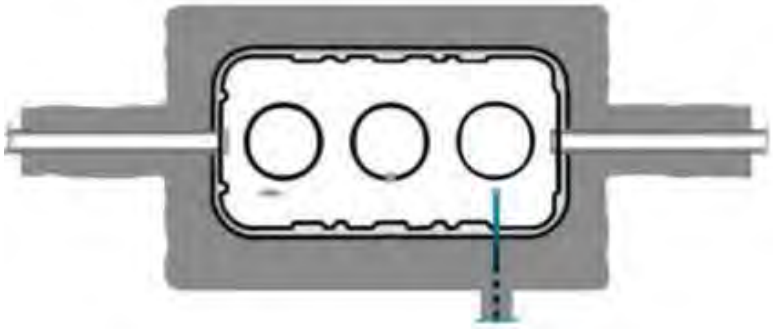


Hardwired power connection option

✓ **USING ¾-INCH CONDUIT, LOCATE BLOWER WITHIN 100-FT. OF TREATMENT TANK AND WITH NO MORE THAN FIVE (5) ELBOWS. <u>If site conditions prevent this, please contact your distributor or Fuji Clean USA for technical assistance</u>.**

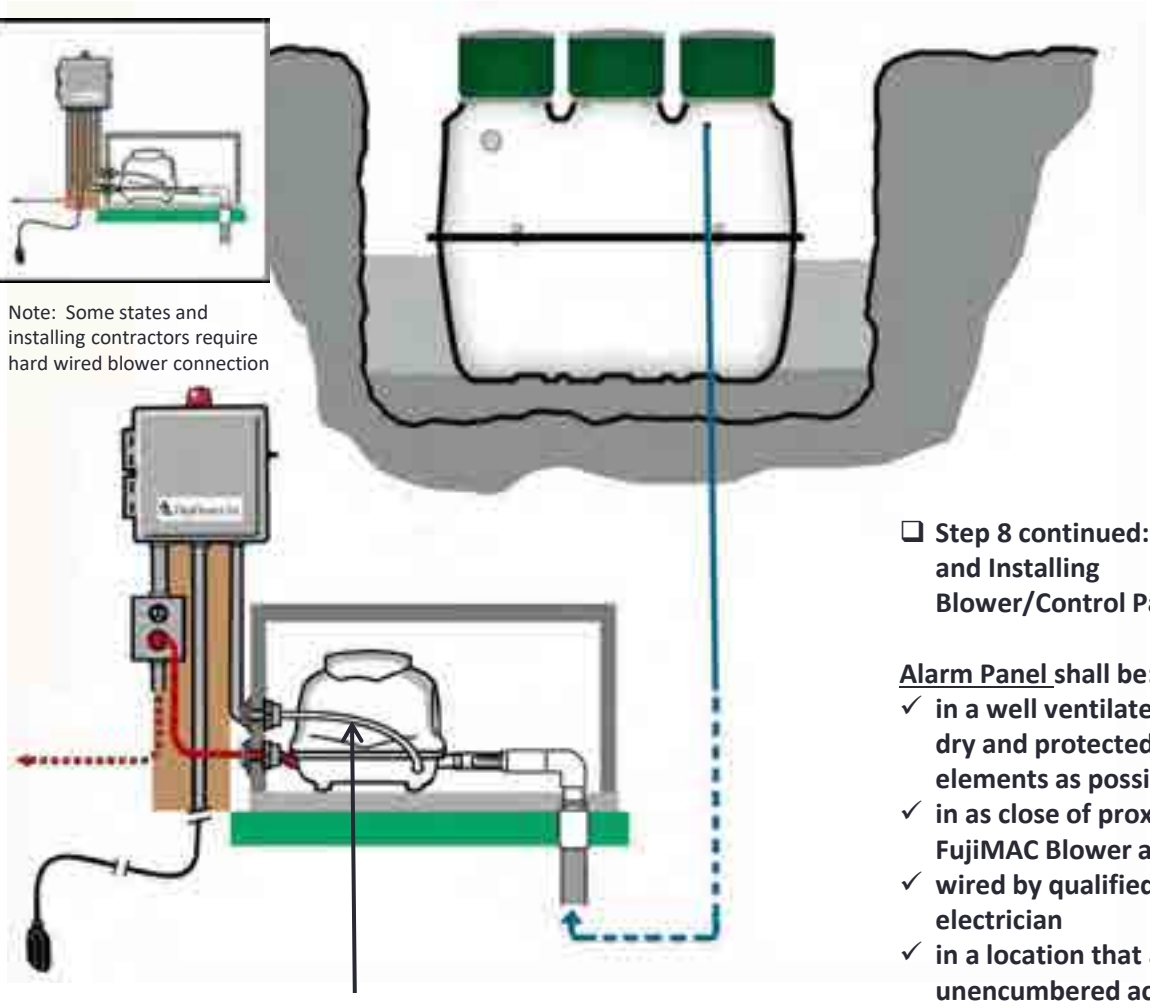
<u>Air Blower</u> shall be:

- ✓ **in as close proximity to control panel as possible**
- ✓ **on a solid (e.g. concrete) pad to minimize vibrations**
- ✓ **in a location <u>above</u> water level**
- ✓ **away from grease exhaust fans.**
- ✓ **away from bedroom windows and other locations where operational sounds (although minimal) may be a nuisance**
- ✓ **In a location that allows unencumbered access for inspection and maintenance activity**
- ✓ **with proper electrical grounding**
- ✓ **with wiring and electrical connections made by a licensed electrician.**
- ✓ **with no objects on top of electrical cord.**
- ✓ **in a well-ventilated space out of direct sunlight and protected from elements such as direct rain or snowfall.**
- ✓ **Hardwired to power in states and jurisdictions that require a hardwired connection.**



Plan view shows trench excavations for inlet and outlet lines

Note: Some states and installing contractors require hard wired blower connection



1/8" (ID) Vinyl Micro-Tubing for Air Pressure Sensing Alarm

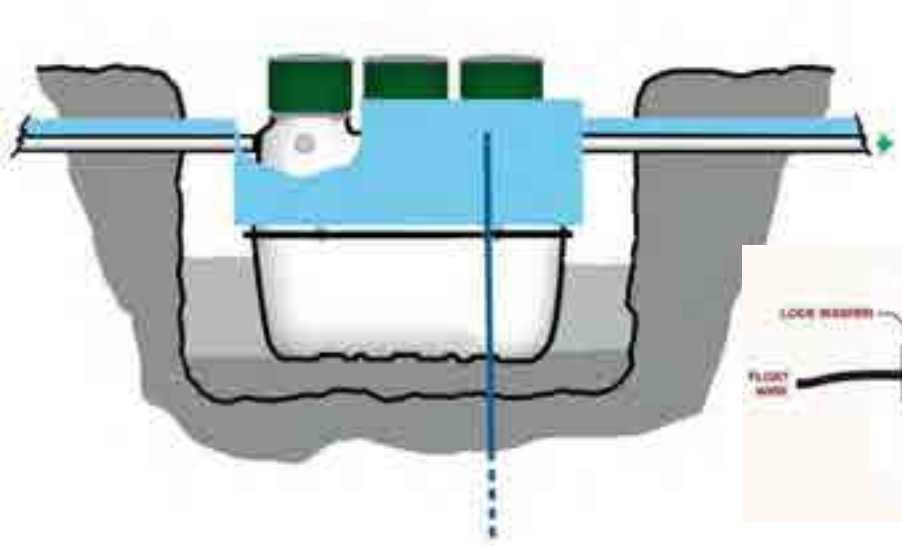
❑ **Step 8 continued: Locating and Installing Blower/Control Panel cont.**

<u>Alarm Panel</u> shall be:

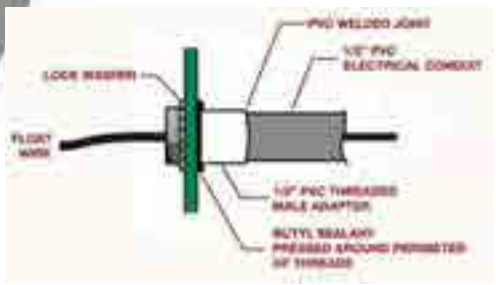
- ✓ **in a well ventilated area as dry and protected from elements as possible**
- ✓ **in as close of proximity to FujiMAC Blower as possible**
- ✓ **wired by qualified electrician**
- ✓ **in a location that allows unencumbered access for inspection and maintenance activity**

❑ **For additional important detail about installing and maintaining blower, please review and refer to provided <u>FujiMAC Blower Installation-Maintenance Manual, which is provided inside the blower box.</u>**

❑ **Step 9: For cold climate installations, please install insulated risers and covers and cover upper half of treatment unit with min. R-8 value insulating material (i.e. foam board)**



For connection of float switch cord to alarm panel, drill hole in riser and use male fitting and electrical conduit. Plug fitting with sealant standard that meets ASTM C990-96 to assure water-tight seal and to prevent septic gas transmission into control panel.



❑ **Step 10: Install Float Switch on pumpback line in 2nd chamber with 3-1/2" tether. Float switch electrical cord should exit riser wall through male adaptor (caulked watertight to prevent gas leakage) or watertight fitting. An interior connection to direct burial cable is also acceptable.**

3-1/2" tether for float switch

❑ **Step 11: Prepare Tank Inlet and Outlet for 4" Sched. 40 Inlet and Outlet Lines**

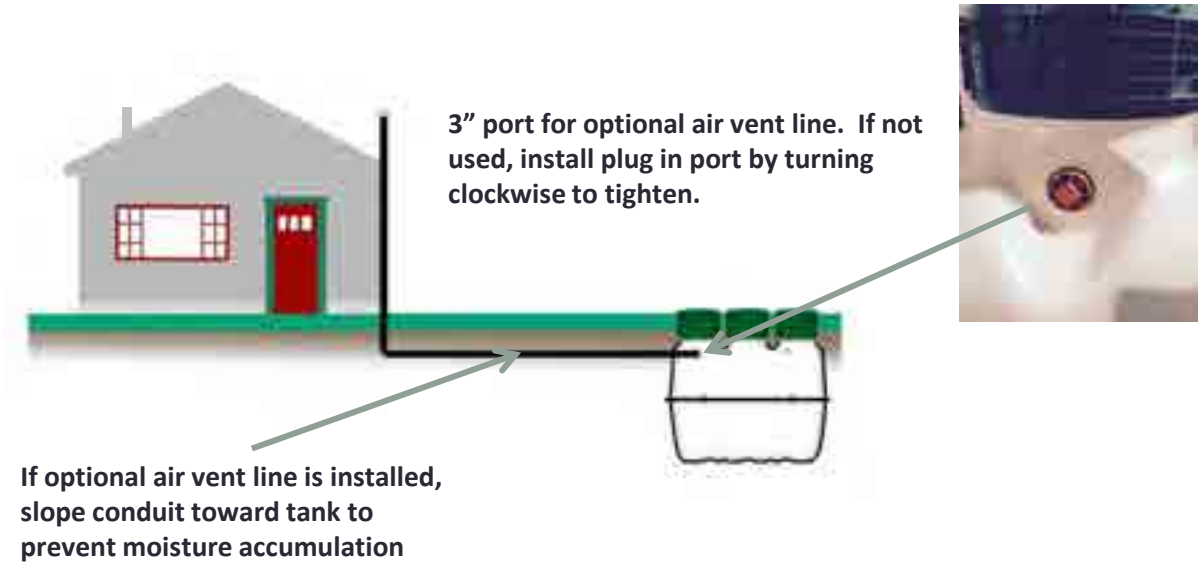
Seal around inlet and outlet tank fittings using a sealant that meets ASTM C990-96 standards

Approx. 1-inch deep cuts

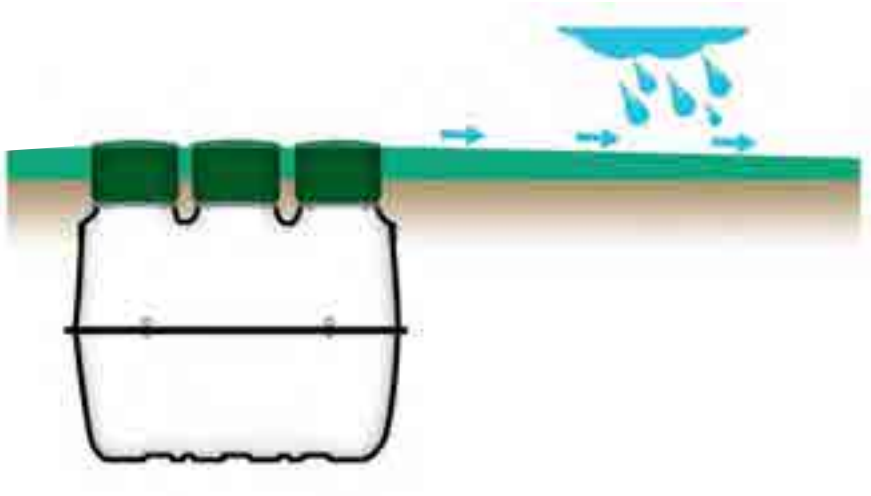
Apply primer and cement to 4" PVC inlet and outlet pipe sections.

IMPORTANT NOTE: Inlet and outlet fittings are slightly <u>tapered</u>. 4" Sched. 40 pipe must be cut as shown to fit completely into fitting.

❑ **Step 12: In nearly all cases, the Fuji Clean system will vent properly through the house septic influent line. In cases where there is a influent pump, or in severe downdraft locations, a separate vent should be considered. If you do choose to install a vent, be sure that the vent slopes toward the tank so that any moisture accumulation drips back down toward the tank.**



❑ **Step 13: During final landscaping, seeding etc., be sure to pitch final grade away from covers to sweep surface water away from treatment tank.**



❑ **Step 14: Fill out Warranty Activation Card (received with this Installation Manual) and return to Fuji Clean USA to activate system Warranty. If this card cannot be found, please contact Fuji Clean USA for voice or online Warranty activation. 207-406-2927.**

Start-Up Procedures

☐ **1. Outside Environment Check.**

The system is accessible and nothing inhibits access to maintenance.

- Surface water is draining away from risers and covers.
- No signs of physical damage to the treatment system, piping, alarms or components
- No unusual smells around the system.
- No unusually loud blower noise, such as rattling.

☐ **2. Blower Box Check.**

- Open the blower box, make sure that it is operating properly.
- Inspect all fittings and vents to ensure they are clean and dry and that blower is located so that it is protected from dust and particles, will remain dry and not be submerged.

☐ **3. Blower Operation and Blower Alarm Check.**

- Make sure the blower operates properly.
- Turn off the blower (unplug or turn off at alarm/control panel breaker switch) for few moments to check that the alarm is triggered.

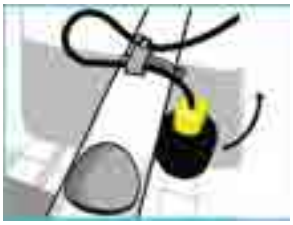
Open all access covers and secure the area around the access openings.

☐ **4. Water Level is at LWL.**

- Check that tank has been filled to LWL mark in Chamber 1.

☐ **5. High Water Float Switch Check.**

- Check that the high water float switch is operating freely. Lift up the high water float switch to check that the alarm is triggered.
- (Note: Float should have 3.5" tether. Activation horizon is 1.5" above or below level horizon).



☐ **6. Set Recirculation Control Valve. (gray)**

The recirculation valve (gray) should be set to its default setting range according to the table below for ALL flows. At the discretion of the system's start-up technician, <u>within each default range</u>, the valve shall be at the lower end for anticipated below average hydraulic flows and at the higher end for hydraulic flows that are anticipated to be above average.

Model	CE5	CE7	CE10
Default Valve Setting (%)	30% to 35%	25% to 30%	25% to 30%

☐ **7. Check Recirculation Flow Rate.**

- Normal recirculation flow should be level with the top edge of the airlift pumpback line cut-out spilling into Chamber 1, the Sedimentation Chamber.

☐ **8. Check/Set Aeration Balance Control Valve (blue).**

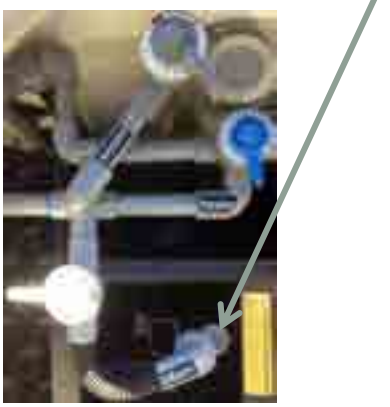
- The default, normal setting for the Aeration Control Valve is 50%.

- Visually observe the airflow rates on each side of the plant by checking to see if bubbles are evenly distributed on both sides of Chamber 3, The Aeration Chamber. If there is an obvious discrepancy in airflow between the two sides, adjust the Aeration Balance Control Valve so that the airflow is equal. Important!

☐ **9. Check/Set Effluent Airlift Valve (white).** The Effluent Control Valve is initially set to 40% and there is typically no need for it to be adjusted under standard conditions.

☐ **10. Check Effluent Airlift Pipe.**

Check the observation port in the airlift line to see if there is smooth water flow from the effluent airlift pump. If not, then check to be sure that there isn't a clog in the airlift pipe with a cleaning brush.

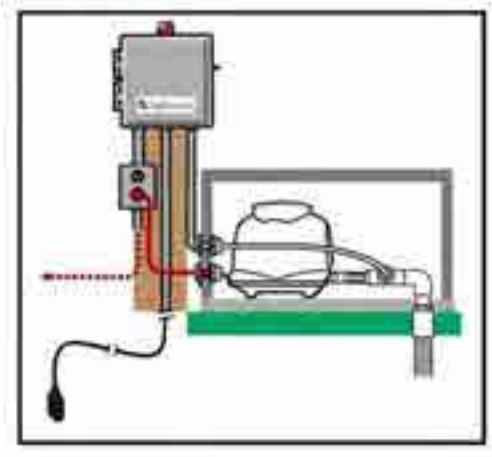


☐ **11. Add Disinfectant Tablets to Chlorinator (if appropriate)**

- If chlorine tablets are to be used for disinfection, check to be sure that they are removed from packaging and placed in the disinfectant cylinder.
- Be sure that disinfectant cylinder remains closed for all start-up steps to prevent corrosive activity to exposed metallic surfaces.
- Note: Chlorine dissolve rate can be adjusted by rotating the bottom cap of the Chlorinator.

☐ **12. Check Alarm/Control Panel**

- Check to be sure that Alarm/Control Panel is located in a secure, accessible location.
- Check fittings and wire connections are tight and secure. This includes connection between air hose and pressure switch.
- Important: Check to be sure that all panel penetrations are air and watertight. Be sure no gas from treatment system can leak into Alarm/Controller.
- Be sure electrical cord between blower and outlet is free and clear and no object is on cord.
- Check to be sure that panel is closed, secure and toggle switch is set to "Normal" setting.



☐ **13. Final Site Preparation**

- Close and secure all access covers.
- Close and secure blower cover.

☐ **14. Owner Communication**

- Be sure that home/business owner has a copy of the Fuji Clean USA Owner's Manual (with Warranty information included).
- Be sure that service provider contact information is affixed to Alarm/Control Panel as well as on Homeowner's Manual.

Fuji Clean USA Installation Procedure Checklist

Note: Please consult Installation Manual for detailed instructions.

Unloading Instructions:

- ❑ Upon delivery, inspect Fuji Clean tank, both outside and inside for possible damage incurred during transport. If you find damage, or have a question, please contact your distributor immediately.

- ❑ **Step 1: Prepare excavation to be at least 1 to 2 feet larger than the Fuji Clean tank dimensions. Note: Riser height should not exceed 24".**

- ❑ **Step 2: Prepare 4"- 6" bed of stone (¼" to ½"), level to within 1/8".**

- ❑ **Step 3: Use 4-point lifting lugs. Carefully lower and set tank. Level to within 1/8-inch.**

- ❑ **Step 4: If any part of the tank is below the estimated seasonal high water table, adequate tank uplift restraint measures should be taken. Please refer to Installation Manual for recommended options.**

- ❑ **Step 5: Re-check that tank is level to 1/8-inch, (fore and aft as well as side to side) and then fill tank with fresh water to the low water line (marked inside tank). Start 24-hour water tightness test. (Please contact your distributor or Fuji Clean USA if water level has dropped after 24 hours).**

- ❑ **Step 6: Backfill about ¾ way up tank in layered, compacted 6" lifts using peastone or equivalent material that form-fits into tank corrugations.**

- ❑ **Step 7: Using supplied adaptors and fittings, attach air pipe fitting to tank and connect to ¾" or 1" conduit in prepared trench (min. 6" deep) to location of air blower. Please note: flexible irrigation line, 100 PSI Max, may also be used for the airline.**

- ❑ **Step 8: Locate blower within 100-ft. of treatment tank with no more than 5 elbows. If site conditions prevent this configuration, please contact your distributor or Fuji Clean USA for technical assistance.**

Air Blower shall be:

- ✓ **in as close proximity to control panel as possible**
- ✓ **on a solid (e.g. concrete) pad to minimize vibrations**
- ✓ **in a location above water level**
- ✓ **away from grease exhaust fans.**
- ✓ **away from bedroom windows and other locations where operational sounds (although minimal) may be a nuisance**
- ✓ **In a location that allows unencumbered access for inspection and maintenance activity**
- ✓ **with proper electrical grounding**
- ✓ **with wiring and electrical connections made by a licensed electrician.**
- ✓ **with no objects on top of electrical cord.**
- ✓ **in a well-ventilated space out of direct sunlight and protected from elements such as direct rain or snowfall.**

Fuji Clean USA Installation Procedure Checklist cont.

Alarm Panel shall be:

- ✓ **in a well ventilated area as dry and protected from elements as possible**
- ✓ **in as close of proximity to the FujiMAC blower as possible**
- ✓ **wired by qualified electrician**
- ✓ **in a location that allows unencumbered access for inspection and maintenance activity**

- ❑ **Step 9: For cold climate installations, please install insulated risers and covers and cover upper half of treatment unit with min. R-8 value insulating material (i.e. foam board)**

- ❑ **Step 10: Float switch electrical cord should exit riser wall through a male adaptor (caulked watertight to prevent septic gas leakage) or watertight fitting. An interior connection to direct burial cable is also an acceptable option.**

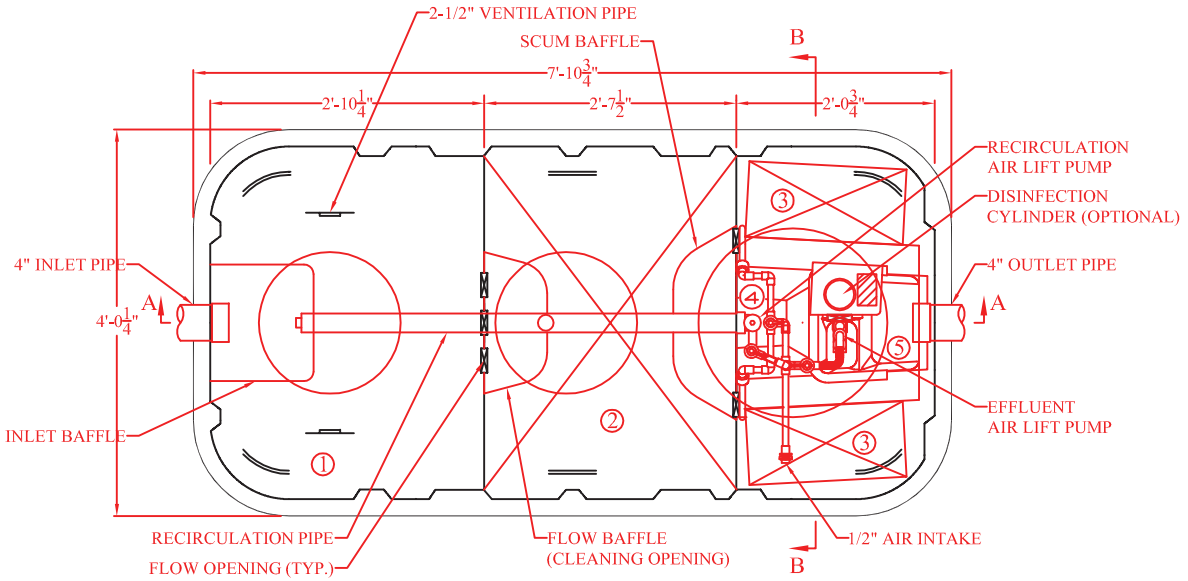
- ❑ **Step 11: Prepare Tank Inlet and Outlet for 4" Sched. 40 Inlet and Outlet Lines (secure with PVC cement).**

- ❑ **Step 12: In nearly all cases, the Fuji Clean system will vent properly through the house septic influent line. In cases where there is an influent pump, or in severe downdraft locations, a separate vent should be considered. If you do choose to install a vent, be sure that the vent slopes toward the tank so that any moisture accumulation drips back down toward the tank.**

- ❑ **Step 13: During final landscaping, seeding etc., be sure to pitch final grade away from covers to sweep surface water away from treatment tank.**

- ❑ **Step 15: Finalize Controller Wiring. Please have licensed electrician refer to wiring diagram (in Installer Manual and enclosed separately in alarm/control panel). Upgraded Fuji Clean USA controllers are available if telecommunications, elapsed time meter or other functions are required. Please contact Fuji Clean USA for details.**

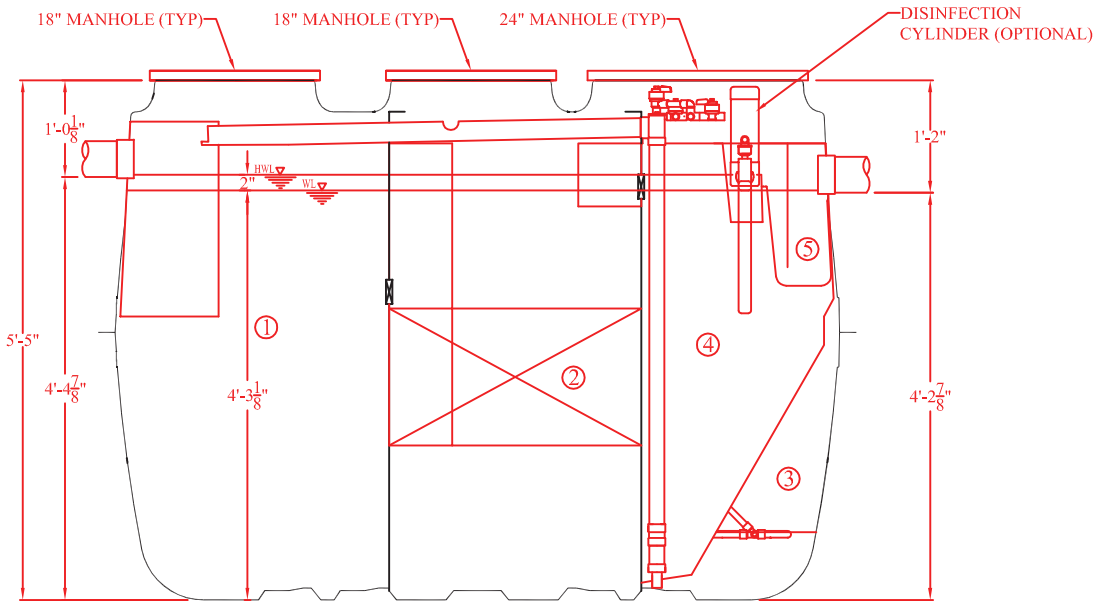
- ❑ **Step 16: Follow start-up procedure detailed in Installation Manual:**
  - ☐ **1. Outside Environment Check.**
  - ☐ **2. Blower Box Check.**
  - ☐ **3. Blower Operation and Blower Alarm Check**
  - ☐ **4. Water Level is at LWL.**
  - ☐ **5. High Water Float Switch Check.**
  - ☐ **6. Set Recirculation Control Valve. (gray)**
  - ☐ **7. Check Recirculation Flow Rate.**
  - ☐ **8. Check/Set Aeration Balance Control Valve (blue).**
  - ☐ **9. Check/Set Effluent Airlift Valve (white).**
  - ☐ **10. Check Effluent Airlift Pipe.**
  - ☐ **11. Add Disinfectant Tablets to Chlorinator (if appropriate)**
  - ☐ **12. Check Alarm/Control Panel**
  - ☐ **13. Final Site Preparation**
  - ☐ **14. Owner Communication - Service Provider and Manual Delivery**



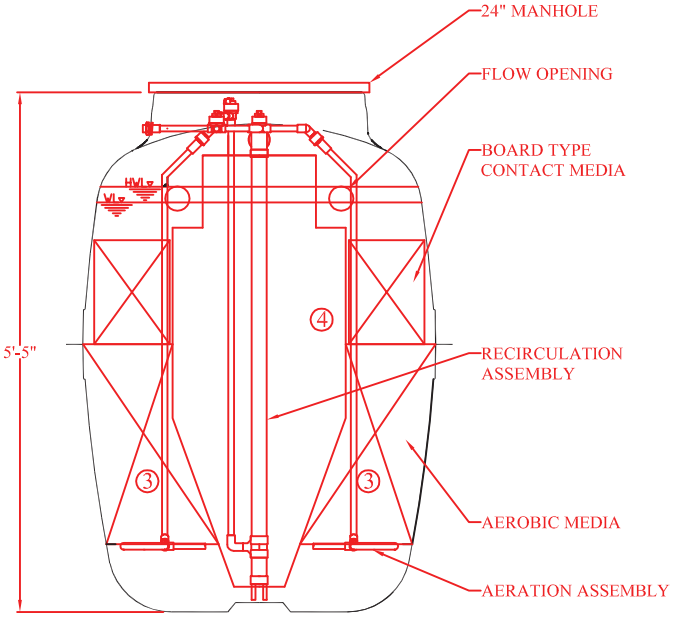
PLAN VIEW

	CHAMBER	Volume (gal)
①	Sedimentation Chamber	277
②	Anaerobic Filtration Chamber	278
③	Aerobic Contact Filtration Chamber	127
④	Storage Chamber	63
⑤	Disinfection Chamber	4
	Total Volume	749

SPECIFICATIONS			
Anaerobic Media	PP / PE	Filling Rate	32%
Board Type Aerobic Media	PVC / PP / PE	Filling Rate	16%
Aerobic Media	PP / PE	Filling Rate	57%
Blower	2.8 cfm		
Tank	FRP		
Piping	PVC / PP / PE		
Access Covers	Plastic / Cast Iron		
Disinfectant (Optional)	Chlorine Tablets		



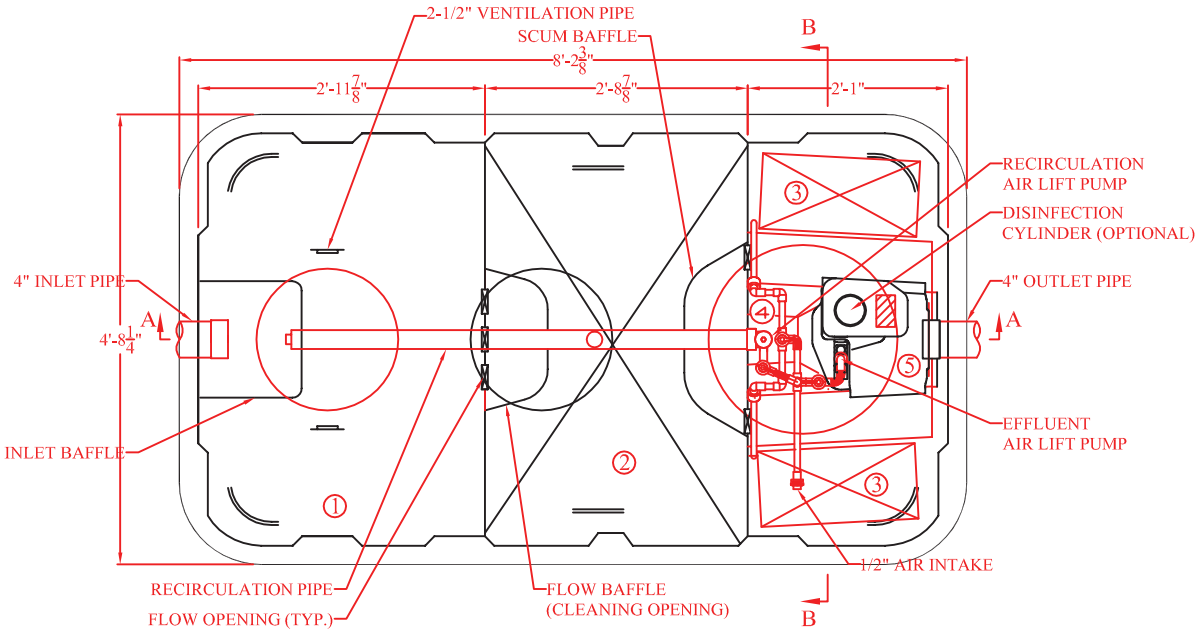
SECTION A-A VIEW



SECTION B-B VIEW

CEN-5
Structural Drawing

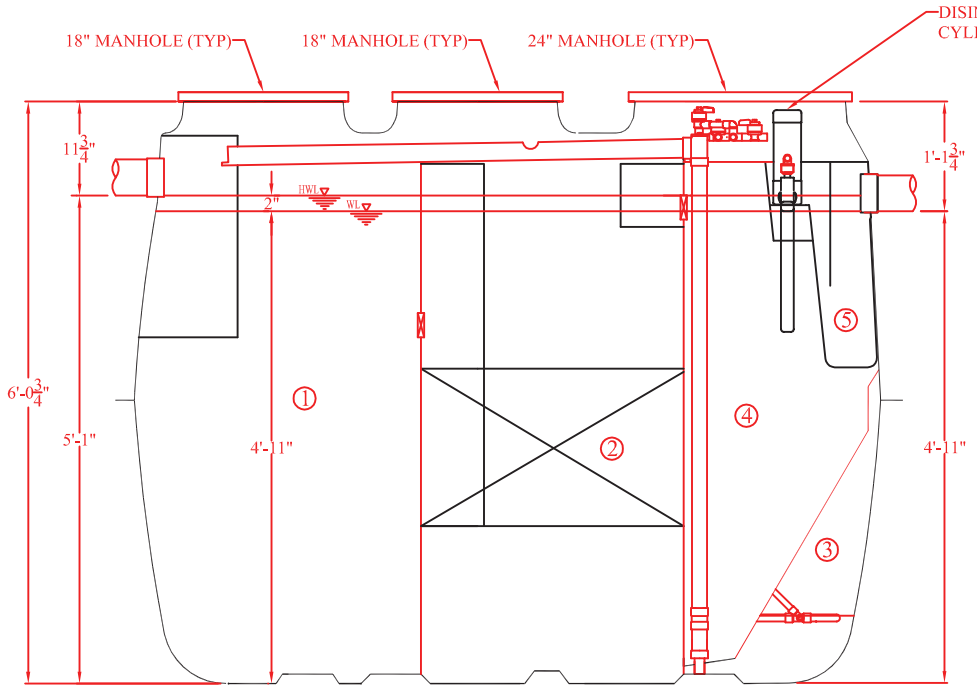
DATE:	07/01/2014	SCALE:	1/2" = 1"



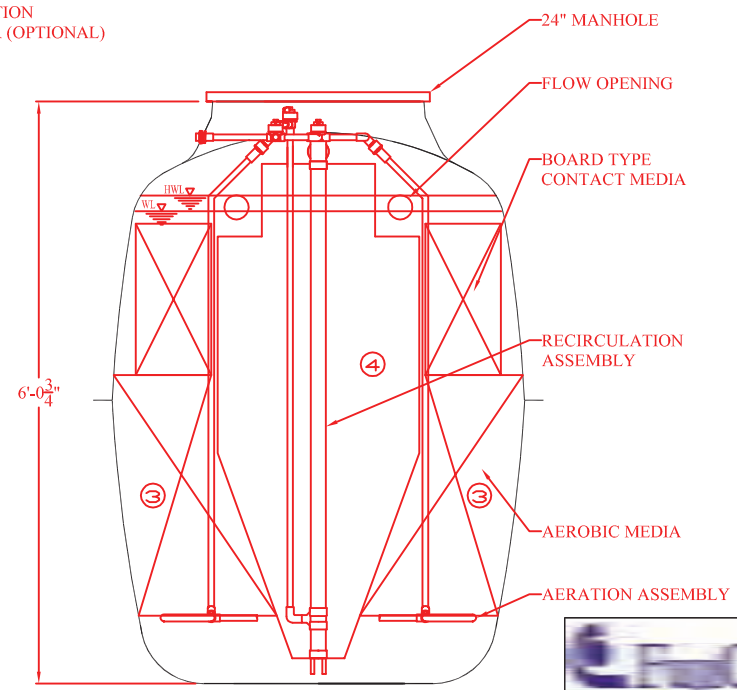
PLAN VIEW

	CHAMBER	Volume (gal)
①	Sedimentation Chamber	397
②	Anaerobic Filtration Chamber	396
③	Aerobic Contact Filtration Chamber	181
④	Storage Chamber	90
⑤	Disinfection Chamber	6
	Total Volume	1069

SPECIFICATIONS			
Anaerobic Media	PP / PE	Filling Rate	32%
Board Type Aerobic Media	PVC / PP / PE	Filling Rate	17%
Aerobic Media	PP / PE	Filling Rate	55%
Blower	2.8 cfm		
Tank	FRP		
Piping	PVC / PP / PE		
Access Covers	Plastic / Cast Iron		
Disinfectant (Optional)	Chlorine Tablets		



SECTION A-A VIEW



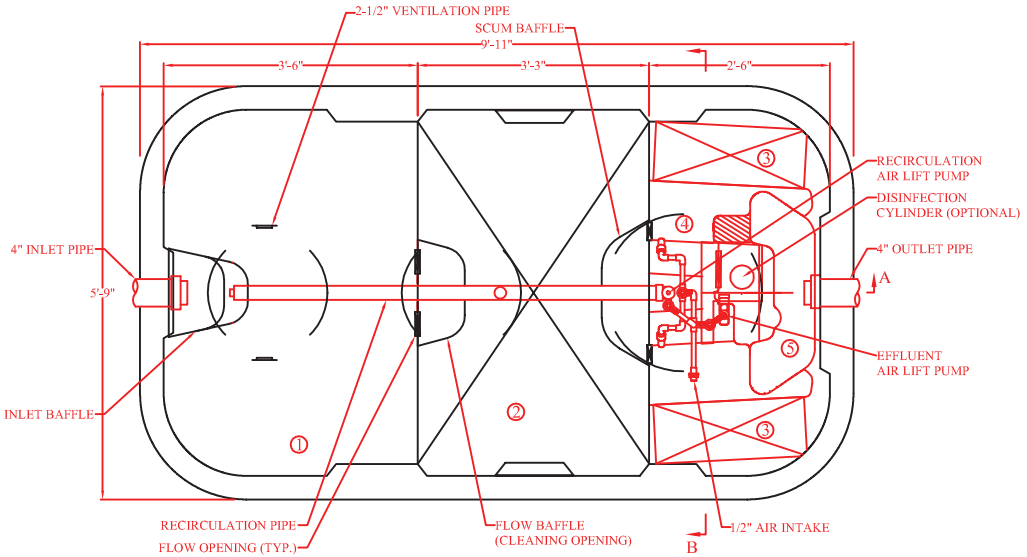
SECTION B-B VIEW

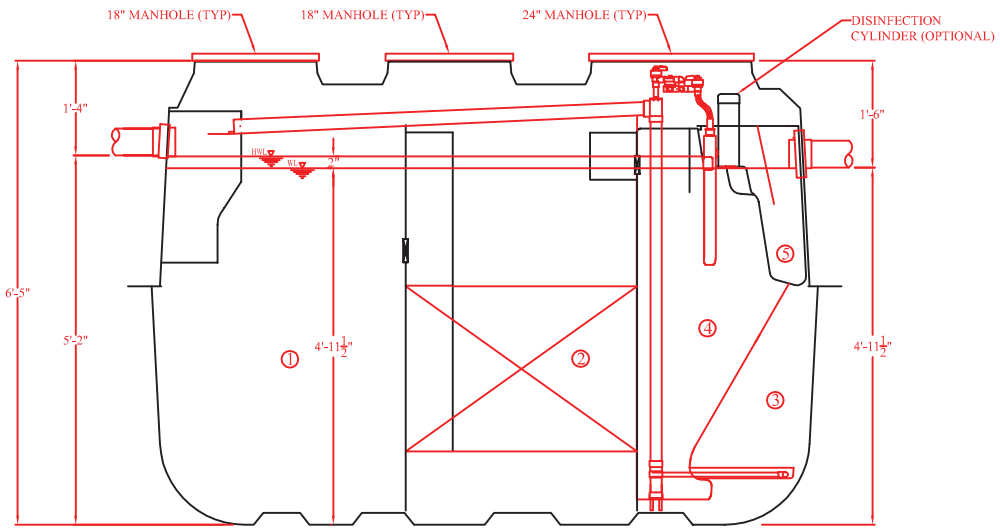
CEN-7
Structural Drawing

DATE:	07/01/2014	SCALE:	1/2" = 1"

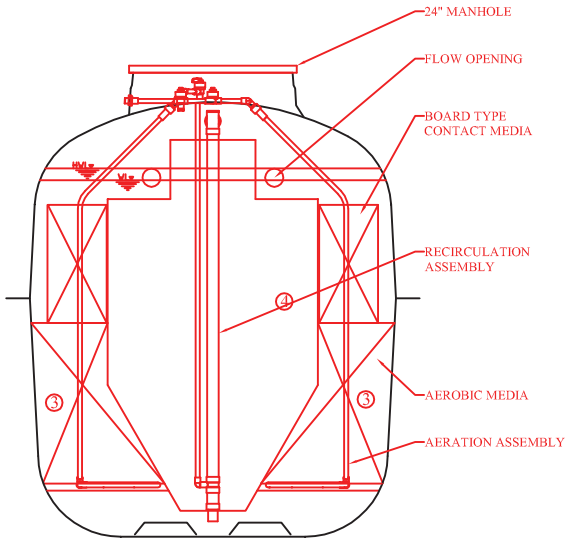
	CHAMBER	Volume (gal)
①	Sedimentation Chamber	558
②	Anaerobic Filtration Chamber	556
③	Aerobic Contact Filtration Chamber	248
④	Storage Chamber	125
⑤	Disinfection Chamber	11
	Total Volume	1,498

SPECIFICATIONS			
Anaerobic Media	PP / PE	Filling Rate	46%
Board Type Aerobic Media	PVC / PP / PE	Filling Rate	17%
Aerobic Media	PP / PE	Filling Rate	54%
Blower	3.0 cfm		
Tank	FRP		
Piping	PVC / PP / PE		
Access Covers	Plastic / Cast Iron		
Disinfectant (Optional)	Chlorine Tablets		





SECTION A-A VIEW



SECTION B-B VIEW

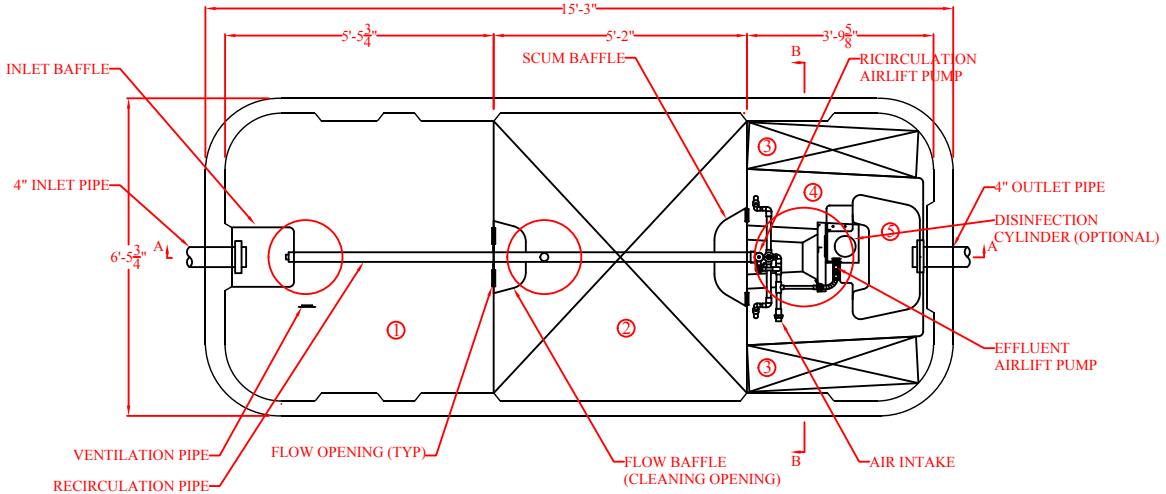
CEN-10
Structural Drawing

DATE:	11/2014	SCALE:	3/8" = 1'

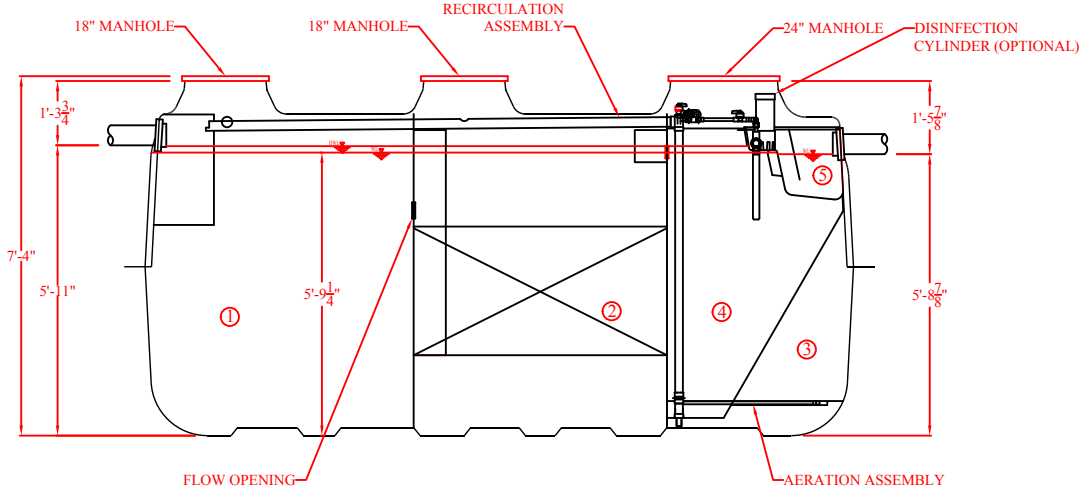
	CHAMBER	Volume (gal)
①	Sedimentation Chamber	1,200
②	Anaerobic Filtration Chamber	1,198
③	Aerobic Contact Filtration Chamber	550
④	Storage Chamber	268
⑤	Disinfection Chamber	17
	Total Volume	3,233

SPECIFICATIONS			
Anaerobic Media	PP / PE	Filling Rate	47%
Board Type Aerobic Media	PVC / PP / PE	Filling Rate	17%
Aerobic Media	PP / PE	Filling Rate	56%
Blower	7 cfm		
Tank	FRP		
Piping	PVC / PP / PE		
Access Covers	Plastic / Cast Iron		
Disinfectant (Optional)	Chlorine Tablets		

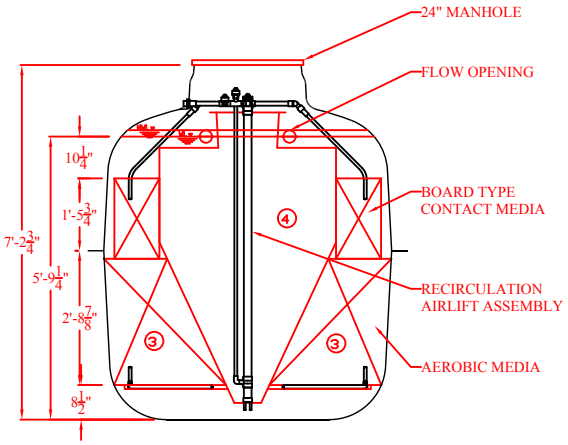
CEN21	
Standard Hydraulic Load	1900 GPD



PLAN VIEW



SECTION A-A VIEW



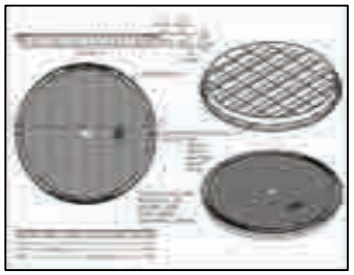
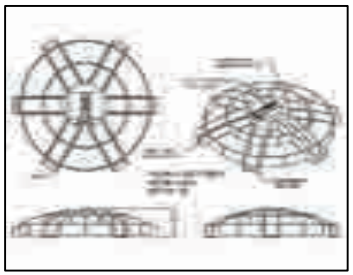
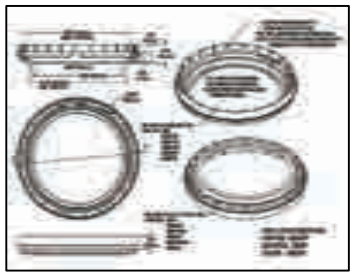
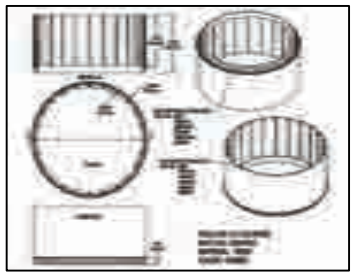
SECTION B-B VIEW

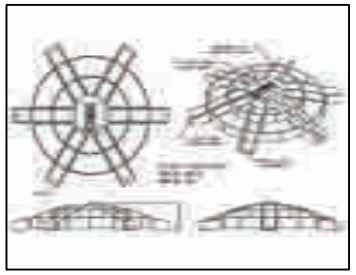
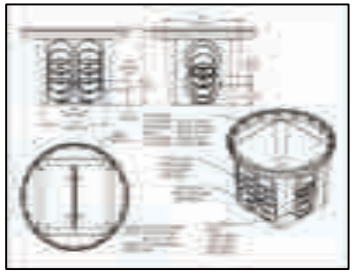
FujiClean USA

CEN21 Structural Drawing

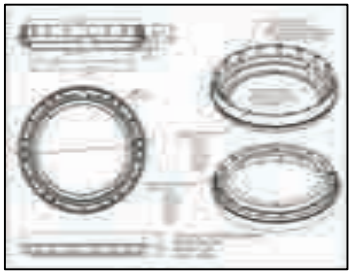
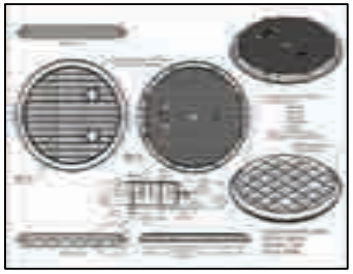
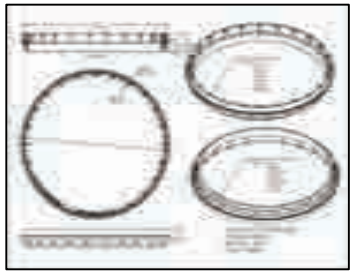
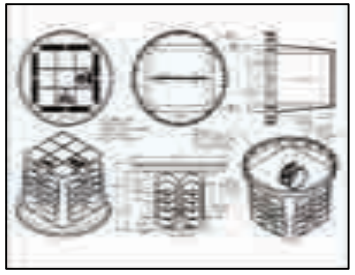
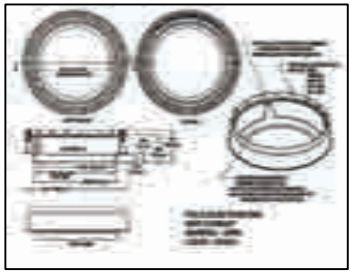
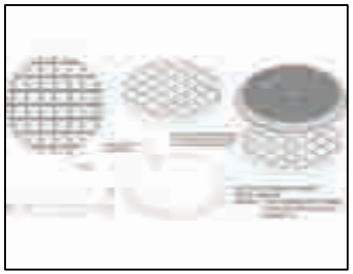
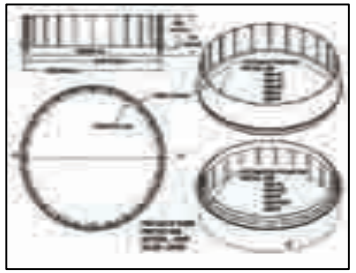
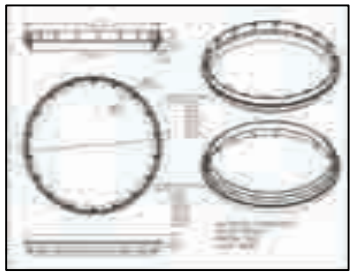
DATE:	05/21/2014	SCALE:	1/4" = 1"

MODEL SPACE ENGINEERING DRAWINGS AND DETAILS

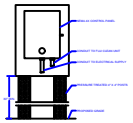
RISER AND PUMP VAULT DETAILS

MODEL SPACE ENGINEERING DRAWINGS AND DETAILS

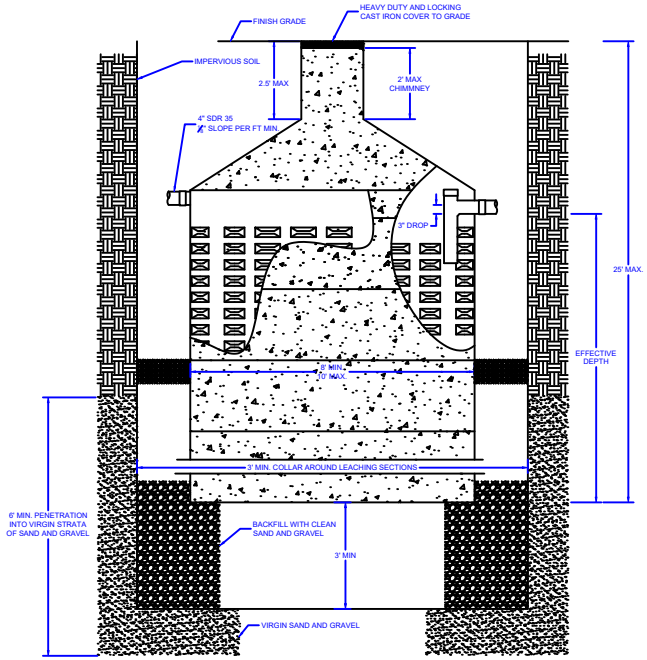
CONTROL PANEL A DETAILS

CONTROL PANEL C DETAILS

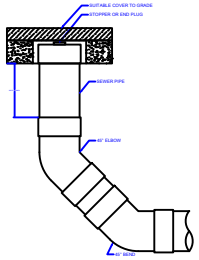


CONTROL PANEL

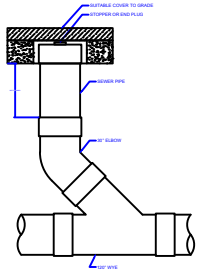
COMPRESSOR DETAILS



LEACHING CHAMBER

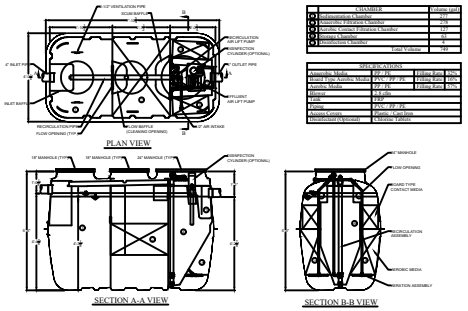


ALTERNATE A

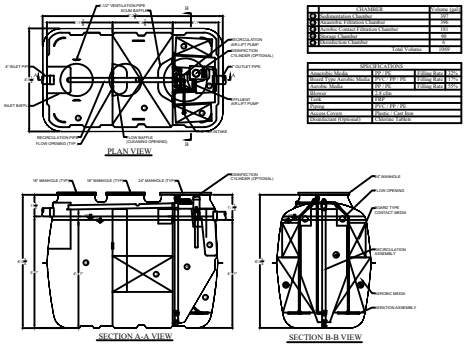


ALTERNATE B

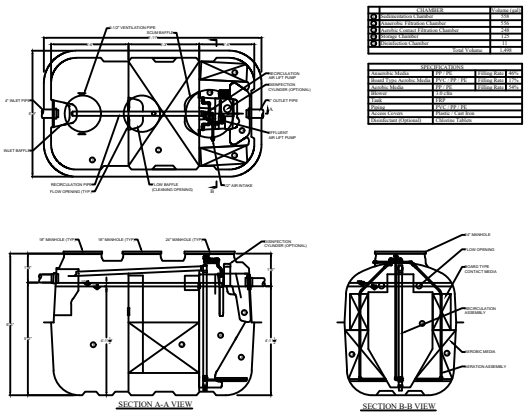
ENGINEERING DRAWINGS AND DETAILS



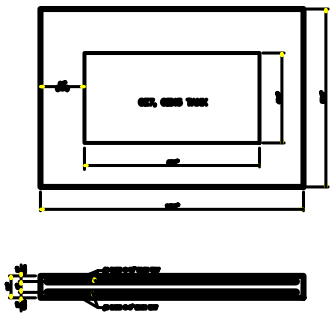
CEN5

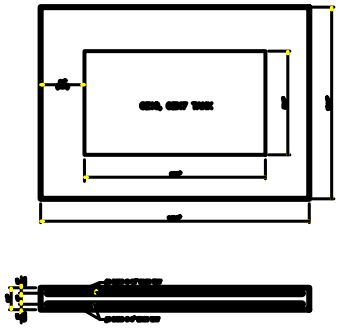


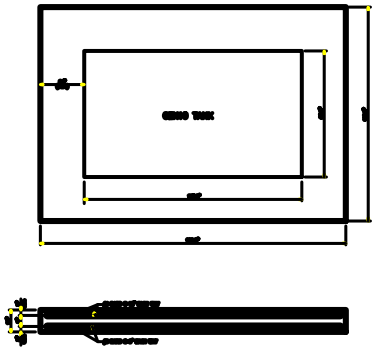
CEN7



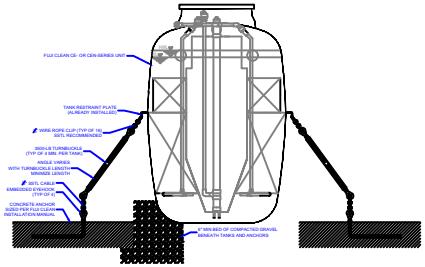
CEN10

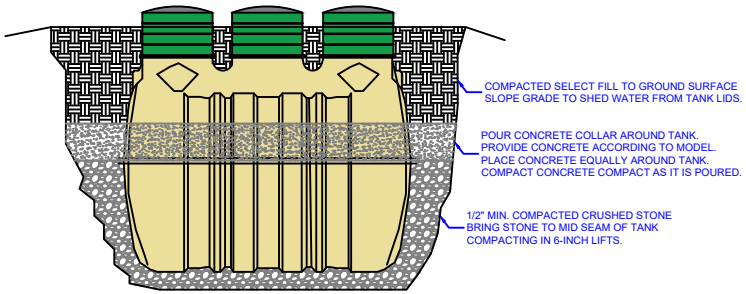






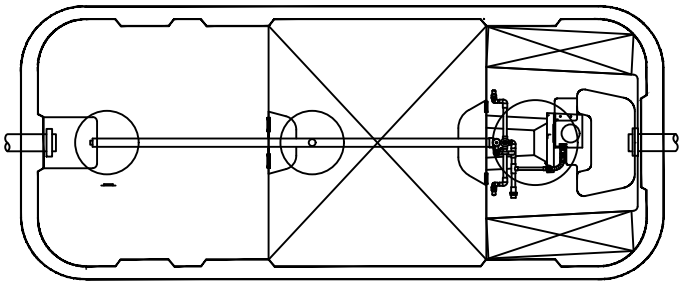
ENGINEERING DRAWINGS AND DETAILS

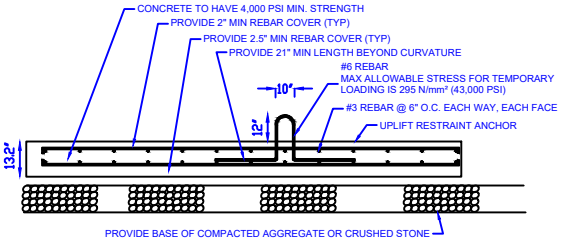


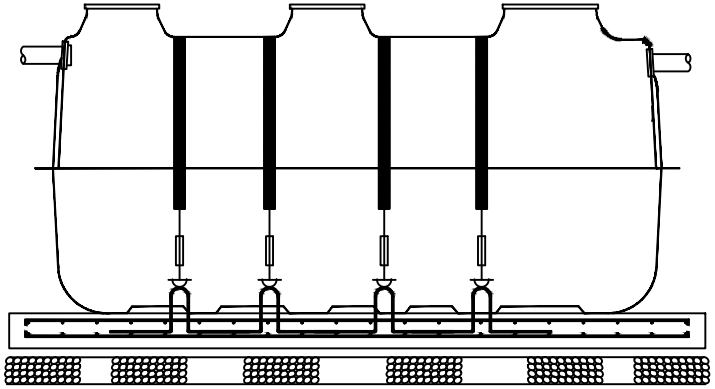


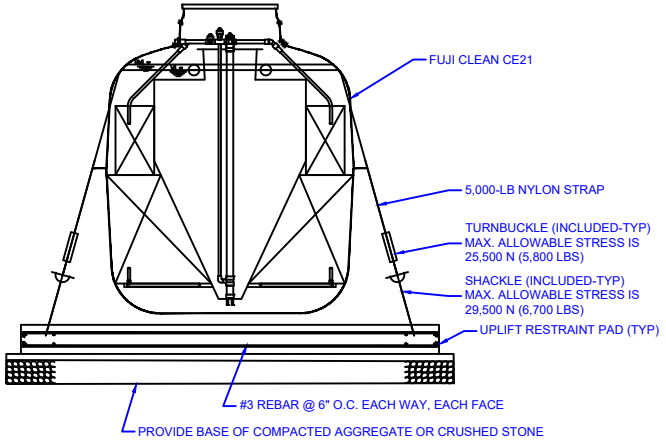
Empty Tank Buoyancy

Model	Buoyancy (lbs)	Concrete Restraint (ft³)
CE5	5,275	1.85
CE7	7,210	1.78
CE10	10,400	2.57
CEN5	7,210	1.78
CEN7	10,400	2.57
CEN10	14,500	3.58

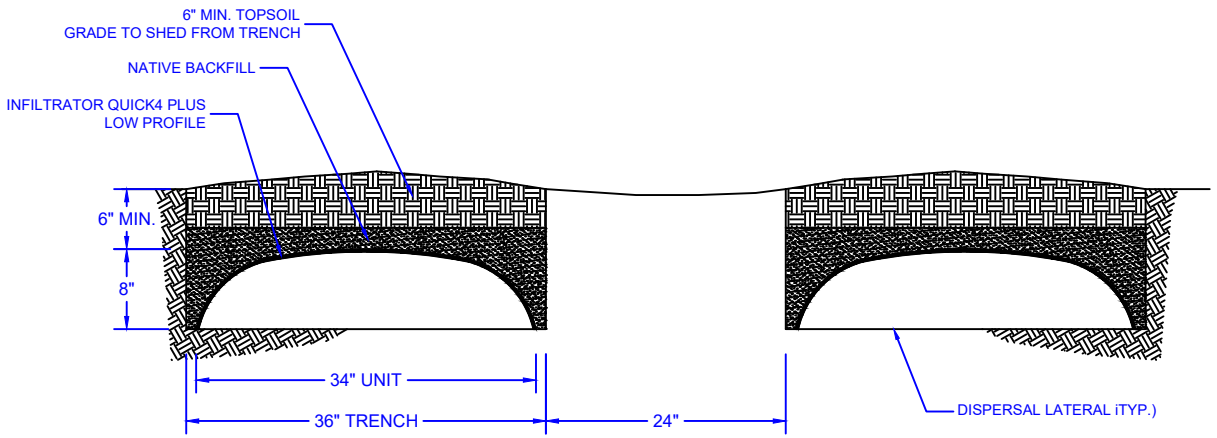




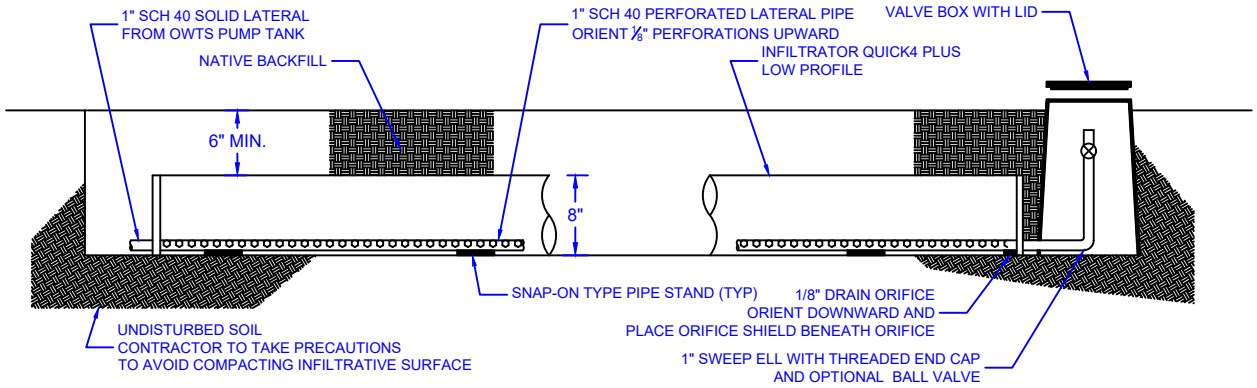




CE21 EMPTY TANK BUOUNCY:	17,614 LBS
25% SAFETY FACTOR:	4,403 LBS
TOTAL UPLIFT RESTRAINT:	22,017 LBS
CONCRETE WEIGHT:	130 LB/FT³
CONCRETE PAD:	16' X 10' X 1.1' X 130 = 22,880 LBS > 22,017 --> OK



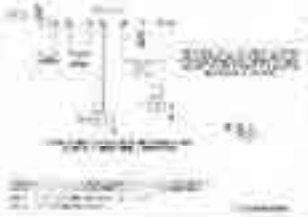
GRAVITY DISPERSAL SECTION



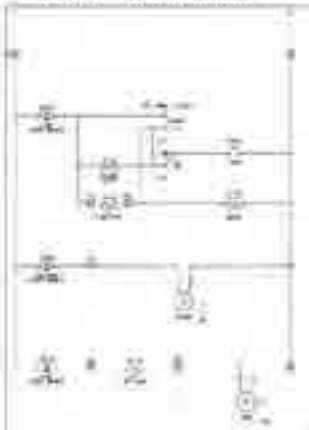
PRESSURE DISTRIBUTION PROFILE

SITE PLAN

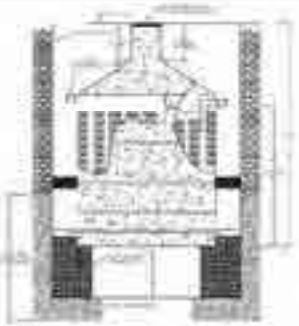
CONTROL PANEL DETAIL



FIELD WIRING LINE DRAWING



ELECTRICAL LINE DRAWING



PROPOSED SANITARY SYSTEM PROFILE

TEST HOLE DATA

DESIGN COMPANY
TITLE BLOCK

DRAWING TITLE

SHEET NO.

FujiClean USA™

Toward Clean Water...

Intelligently Engineered
Onsite Wastewater Treatment Systems
Distributed By

AWS

Advanced Wastewater Solutions

Cell: 631-405-0358
Website: www.awsli.com
Email: bryan@awsli.com