PROCEDURES FOR ASSEMBLY AND INSTALLATION

(500-800 GPD)

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Thank you for purchasing the Sybr-Aer advanced wastewater treatment system. The following will provide step-by-step installation instructions.

Each Syber-Aer kit has been pre-engineered for your specific application. Where possible, components have been factory installed for ease of installation. Your kit should include everything needed for a complete installation.

Kit Includes:

- Vented fiberglass blower enclosure with electrical junction box, cord grips, gel coated cover and exterior tamper proof latches

- (2) 24” diameter risers with pre-installed air manifolds, cord grips, junction box for electrical connections (1) and covers

- (2) adaptor rings for risers with butyl selant and concrete anchors

- (1) blower with galvanized fittings and mission couplings

- (1) discharge pump with quick disconnect fittings, floats and pedestal

- Engineered diffusers

- 1 1/2” air drops with quick disconnect fittings

- Outdoor alarm with logic control module and individual circuit breakers for service disconnect

- 60’ twelve-conductor direct burial wire

- All required miscellaneous hardware for installation

NOTE: Individual systems typically ship on standard skid

Sybr-Aer Installation Instructions Revised July 2015
Install the supplied 1/2” butyl sealant to the bottom of air manifold risers, sealant should be overlapped to form a watertight seal.

If the application is not going to require a riser press the air manifold riser into the adapter ring and secure with the supplied screws.

If the application is going to require a riser install the butyl sealant into the riser and press the riser onto the adapter ring and secure with the supplied screws.

When using a riser it will go under the air manifold riser that way you can still reach the quick disconnects easily.

* Blower housing riser also goes under the blower housing.
Install butyl sealant to bottom of adapter rings, sealant should be installed closer to the inner diameter as shown.

Overlap seams 3/4” minimum

Knead overlapped seams together to form watertight seal

Air manifold risers with butyl sealant applied.
Center air manifold assembly over tank opening
Note: 1 1/2” airline stubs face center of tank measure and mark middle of the tank to help center airline stubs

Press assembly down onto concrete tank to seat butyl sealant

Center blower housing between air manifold assemblies and anchor with (4) concrete anchors provided.

Note: Butyl sealant is not required
Using a rubber mallet drive 4" airline sleeves pre-installed in blower housing into couplings installed on air manifold assemblies
Note: Pipe lube recommended

Ensure 4" sleeve is glued and seated to prevent groundwater infiltration

Anchor assembly with concrete anchors provided, (8) anchors per manifold riser assembly

Install (glue) provided 1 1/2" airline stubs into air manifold assemblies
Note: Airlines must be cut to size to install blower

Install 4"x1 1/2" Ferncos to secure air lines and tighten all stainless clamps on Ferncos to prevent groundwater infiltration
Assemble blower as shown below
Note: Use thread sealant or Teflon tape on all threaded joints to prevent air loss.
Install airline disconnect couplings to 1 1/4” galvanized pipe and 1 1/2” airline

Tighten clamps on disconnect couplings to prevent air loss

Completed blower installation
1 1/2” pump line (provided)

Thread 1 1/2” male adaptor into pump discharge
Note: Teflon tape should be utilized to prevent bypass.

Secure pump flange to pedestal with 2 stainless screws

Pump pedestal
<table>
<thead>
<tr>
<th>GPD</th>
<th>On/Off</th>
<th>High Water</th>
<th>Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 GPD</td>
<td>19”</td>
<td>39”</td>
<td>43.5”</td>
</tr>
<tr>
<td>600 GPD</td>
<td>19”</td>
<td>37”</td>
<td>41.5”</td>
</tr>
<tr>
<td>800 GPD</td>
<td>24”</td>
<td>48”</td>
<td>52.5”</td>
</tr>
<tr>
<td>1000 GPD</td>
<td>22”</td>
<td>45”</td>
<td>49.5”</td>
</tr>
<tr>
<td>1500 GPD</td>
<td>30”</td>
<td>61”</td>
<td>65.5”</td>
</tr>
</tbody>
</table>

Chart A: Float Settings for Discharge Pump

90° quick disconnect to pump line

Pump discharge line

Note: Care must be taken to protect 1 1/2” discharge line across over dig, failure to sleeve or bed in sand/gravel can result in damage during backfilling.
Cut provided diffuser legs to correct height

Glue diffuser drop legs together

Ensure diffuser legs are sealed to prevent air loss
Note: Diffusers thread to bottom of drop legs

Note: Bottom of diffuser should be located 3.25” from bottom of tank
• Run provided multi-conductor wire from control panel through cord grip on pump riser housing into junction box

• Run blower power cord into junction box in blower housing

• Run 14-2 with ground direct burial wire from blower junction box to pump junction box

• Run pump power cord and floats into pump junction box

Note: Cord grips are pre-installed for all penetrations, ensure grips are tightened securely to prevent water infiltration.

⚠️ CAUTION: Make sure power is disconnected before wiring system. All connections should be in accordance with local codes and regulations.
• Compressor: red conductor is hot, blue conductor is neutral (common ground)

• Pump: red w/ black stripe is hot, blue w/ black stripe is neutral (common ground)
  Note: Control float is wired between hot leg as a switch

• High water Float: yellow and yellow w/ black stripe conductors

• Emergency Pump Float: orange and orange w/ black stripe conductors

• Black conductor is common ground

• Both Brown wires and Black wire with Red stripe are not used

Note: Optional indoor remote alarm available upon request. A separate 110 Volt power source will be required. Alarm wires pigtail off buzzer located on door of main control panel.

CAUTION: Make sure power is disconnected before wiring system.
All connections should be in accordance with local codes and regulations.
Electrical Connections

There needs to be a minimum of a 20-amp circuit breaker provided for the 500-800 GPD system and a 30-amp circuit breaker provided for the 1,000-1,500 GPD system at the main power source. Mount the control panel in a visible location and connect it to the main power supply.

Wiring should be connected to the terminals, as shown in the wiring diagram. Each terminal is appropriately marked for the incoming power, blower, effluent pump, and alarm leads.

Caution: Wiring is dependent on your specific application. Please refer to the wiring diagram supplied with your control panel. All connections should be in accordance with local codes and regulations.
START-UP PROCEDURES

Checking the Alarm
Once electrical work is completed, power should be supplied to the alarm. Turn on all breakers and press and hold the toggle switch on the control panel door down to “test” to activate the alarm.

Checking the Blower
With the breakers on, make sure the blower is running and all the diffusers are bubbling. Shut the blower breaker off and the alarm should sound and the light on control panel should come on solid.

Checking the Pump
Push and hold the toggle switch to the right towards “test” in the control panel to ensure the pump runs. This is a momentary switch and will manually run the pump. * Note: there must be enough water in the tank for the redundant on/off float to be up all the way to activate the pump.

Checking the Floats
Lift the high water float and the alarm should sound and the light should be flashing. With the blower running raise both the high water float and EPC float and the blower should turn off. (The EPC float is the emergency float and will shut the blower off to start a one hour settling cycle and then will turn the pump on and pump out the excess water.)

Programming
The Logic module is pre-programmed so once all the components are checked and operational, the unit is ready to receive sewage flows.
BLOWER REPLACEMENT

Procedure:

1. Turn off electricity
2. Remove the three wire nuts and disconnect the blower cord from the main power cable.
3. Loosen the 1 ½” rubber connectors and slide over the PVC airline.
4. Loosen and remove the air filter assembly
5. Unbolt the mounting hardware.
6. Lift out the blower and remove the iron fittings.
7. Change the blower and follow the above procedures in reverse.

Alarm Replacement
Procedure:

1. Turn off the electricity
2. Disconnect the main power supply and remove.
3. Loosen the terminal strips and remove the individual component wires
4. Remove the mounting hardware and disconnect the old panel.
5. Install the new control panel.
6. Reinstall the individual component wires into their respective terminals.
7. Reinstall the main power supply.
8. Test the new control panel.

Pump Replacement
Procedure:

1. Turn off the electricity.
2. Remove the wire nuts and disconnect the pump electrical cord from the main power cable.
3. Disconnect the quick release coupling and grasp the pump pipe and raise the pump up out of the tank.
4. Loosen and remove the pump pipe.
5. Change the pump and replace in the tank by following the above procedures in reverse.

Float Replacement
Procedure:

1. Turn off the electricity
2. Remove the wire nuts and disconnect the float from the main power cable.
3. Change the float and re-wire nut to the main power cable.

Diffuser Replacement
Procedure:

1. Turn off blower.
2. Disconnect the airline quick-release coupling.
3. Lift the airline drop leg out of the tank.
4. Unscrew the diffuser and replace with a new one.
5. Lower the airline drop leg back into the tank and reconnect to the manifold.
Initial service policy

The purchase of every SYBR-AER Wastewater Treatment System includes a [2] year initial service policy furnished to the owner by the manufacturer or the authorized service representative. The initial policy contains provisions for 4 inspections/service visits (scheduled once every six months over a two year period) during which electrical, mechanical, and other applicable components are inspected, adjusted, and serviced. The initial service policy also contains provisions for effluent quality inspection consisting of visual assessment for color, turbidity, and scum overflow, and olfactory assessment for odor.

A authorized service representative will notify you, in writing regarding any improper system operations that cannot be remedied at the time of inspection and the written notification shall include an estimated date of correction. Following your initial [2] year service policy, an extended service policy will be made available for purchase by the owner, with terms comparable to those in the initial service policy. The only exception to the above is for the replacement of “out of warranty” and “physically abused” parts or abuse to the treatment process. Moreover, this warranty will not cover other treatment and dispersal components and devices, such as pre-tanks, drain fields, pump stations, and the like.

In the event a problem arises or service is required, refer to the unit’s data plate (located on the alarm and access lid) or the service label for instructions on contacting your closest service provider. Occasional pumping is required, due to the accumulation of solids. The pumping cost may not be covered under your maintenance and service program. If you need parts or service, you may also contact the factory for assistance in locating an authorized service provider.
Permit# ___________

SYBR-AER
SERVICE/INSPECTION FORM
Name of Owner: ____________________________________________ Serial Number: 

Name of Resident [if different than owner]: 

________________________________________________________

Address:

City: ____________________________ County: ________________ State: ________ Zip: __________

Phone: (home) ____________________________ (business)

[ ] Residential [ ] Commercial [ ] Warranty [ ] Service Contract
REASON FOR SERVICE CALL: [ ] Routine [ ] Owner Request [ ] Complaint
[ ] Alarm Activated [ ] Sewer Back-up
[ ] Septic Odor [ ] Poor Effluent Quality
[ ] High Water Level [ ] Other: _______________________________

Date Service Requested: ________________________________

INSPECTION RESULTS:
I. Checked ALARM [ ] YES [ ] NO
[ ] Alarm Working Properly [ ] Faulty Alarm
II. Checked Blower [ ] YES [ ] NO
[ ] Blower Working Properly
[ ] Blower Not Running [ ] Air Leakage @ __________________
[ ] Insufficient Air Pressure: _____psi [ ] Blower is Noisy
[ ] External Filter Dirty [ ] Blower is Overheating
III. AERATION CHAMBER
[ ] Brown [ ] Clear [ ] Grey/Black (Septic)
[ ] White Suds [ ] Thick, Brown Foam [ ] Grease Balls
% Settled Solids = __________________

Odor: [ ] None [ ] Slight [ ] Septic
Scum Layer = [ ] 0” - 2” [ ] 2” - 4” [ ] 4” - 6” [ ] > 6”
Effluent Quality = [ ] Clear [ ] Turbid [ ] Septic, Grey
V. Other Observations:

_______________________________________________________________

SERVICE OR REPAIR PERFORMED: Date Performed: __________________________
[ ] Pumped SYBR-AER
[ ] Removed Scum/Grease Balls
[ ] Repaired/Replaced Alarm Warranty; [ ] YES [ ] NO
[ ] Repaired/Replaced Blower Warranty; [ ] YES [ ] NO
[ ] Peripheral Equipment (i.e. Pumps, Chlorinator, etc.): __________________________
[ ] Other: (describe) __________________________

[ ] Service Work To Be Performed At A Later Date: __________________________

[ ] Additional Comments: ________________________________________________

__________________________________________
Service performed By:

__________________________________________
Signature of Owner Date

__________________________________________
Signature of Serviceman Date

Authorized SYBR-AER Service Representative

Sybr-Aer Installation Instructions Revised July 2015