



Installation & Operation Manual



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Water is Life

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Both The Invader and the Slim Bubbler Mixing and Aeration Systems enhance bioremediation by adding diffused oxygen to the septic environment. This diffused oxygen creates an aerobic environment that helps stimulate and support the population of naturally occurring facultative microorganisms. The oxygen also aids in mixing Micro-Solve® Bioremediation Solution with the wastewater, which gives the ability to use less chemical. The Bubbler should be used with Micro-Solve® for optimal results.

The Bubbler Mixer and Aeration Systems produce diffused oxygen by using an air compressor pump/motor and a diffuser plate. The diffuser will be submerged within the wet well to provide oxygen to the septic environment.



IMPORTANT SAFETY INSTRUCTIONS:**Safety Messages & Signal Words:****⚠ DANGER**

Indicates an immediate hazardous situation which if not avoided, will result in death or serious injury to the operator or to bystanders.

⚠ WARNING

Indicates a potentially hazardous situation which if not avoided, could result in death or serious injury to the operator or to bystanders.

⚠ CAUTION

Indicates a potentially hazardous situation which if not avoided, may result in moderate or minor injury to the operator or to bystanders.

NOTICE

Indicates a potentially hazardous situation which if not avoided, may result in moderate or minor injury to the operator or to bystanders.

⚠ DANGER

Moving parts can cause severe trauma.
Keep hands and feet away from rotating parts, tie up long hair, remove jewelry, and DO NOT wear loose clothing.

⚠ DANGER

There is a danger of electric shock. Use only undamaged electrical cords.
DO NOT touch bare wires or receptacles.
DO NOT operate air compressor in wet weather or in wet conditions.
DO NOT touch air compressor or cords if hands or feet are wet.
Ensure that all cords are free of damage before connecting to the power supply.
Ensure that you have a sufficient electrical supply for supporting the requirements of the motor.

⚠ WARNING



BREATHING RISK

Dust or dust-like particulates caused by power-sanding, sawing, grinding, drilling or any other construction-like activities can contain contaminants that are harmful to breathe. Always use your air compressor in a well-ventilated and clean area. Never breathe the air that comes directly out of the air compressor or air hose. This air is not suitable for breathing. Always wear approved safety equipment. When performing dust-creating activities, securely wear properly-fit face masks or respirators. If you feel ill from breathing while operating your air compressor, stop and seek medical attention immediately.

⚠ WARNING



FLYING OBJECTS

Flying objects can cause injury to the eyes, head and other parts of the body. Air-powered equipment and power tools are capable of propelling items (metal chips, fasteners and particulates) at high speed into the air and could result in injury. Always wear approved head and eye protection. Never point the air stream at any part of your body, or at another person or animal. When operating the air compressor, make sure all other people and animals maintain a safe distance. Do not move the air compressor when the air tank is under pressure. Never use the air hoses to pull or move the air compressor.

⚠ WARNING



HOT SURFACE



FIRE

Air compressor surfaces become hot during operation. DO NOT touch hot surfaces, because they can cause severe burns. Do not touch the air compressor's cylinder head. During operation, the cooling fins of the cylinder head and delivery pipe become hot. Allow the air compressor to cool before touching it. DO NOT place a storage cover on the unit during operation. Only place a cover on the air compressor after it has thoroughly cooled down.

⚠ WARNING



EXPLOSION

Exercise caution when using pressurized air. To prevent injury and for your general safety, only use high-pressure hoses, fittings and couplings designed for use with air compressors. Inspect all hoses, fittings and couplings for leaks and wear. When leaks and wear are detected, stop use and replace those items immediately. Do not repair. Never leave pressurized air in the air tank when performing maintenance. Never leave the air compressor unattended with the power supply in use and the air hose connected.



WARNING



EXPLOSION

Improper care could lead to the air tank bursting or exploding.

Drain air tank daily or after each use to prevent moisture buildup in the air tank.

Rust can weaken the air tank and cause leaks or bursting. If rust is detected, replace tank immediately. Do not try to repair the air tank by welding, drilling or modifying it in any other way. These modifications can weaken the air tank and cause a hazardous condition.

If air tank develops a leak, replace the air tank immediately. Never repair, weld or make modifications to the air tank or its attachments. Never make adjustments to the factory-set pressures.

Never exceed manufacturer's maximum-allowable pressure rating attachments.

Because of extreme heat, do not use plastic pipe or lead tin solder joints for a discharge line.

WARNING



EXPLOSION



FIRE

Use caution to minimize risk of fire or explosion.

It is normal for the air compressor motor and pressure switch to produce sparks while operating. If sparks come in contact with vapors from gasoline or solvents, they may ignite and cause a fire or explosion.

Abrasive tools such as grinders, drills and other tools are capable of making sparks that can ignite flammable materials.

Always operate the air compressor a safe distance away from flammable items. Use in well-ventilated areas.

Never exceed the maximum rated pressure.

CAUTION

Use caution when using extension cords.

Use an extension cord which is no more than 25 feet long and at least 14 gauge.

Using an excessively long or thin-wired extension

cord will cause severe damage to the motor.

Use only a 3-wire extension cord that has a 3-blade grounding plug.

Compressor Box and Stand:

- 16" x 12" x 15" Aluminum all-weather compressor box
- 18" Compressor stand
- 8ft Extension cord
- PRIME mechanical timer

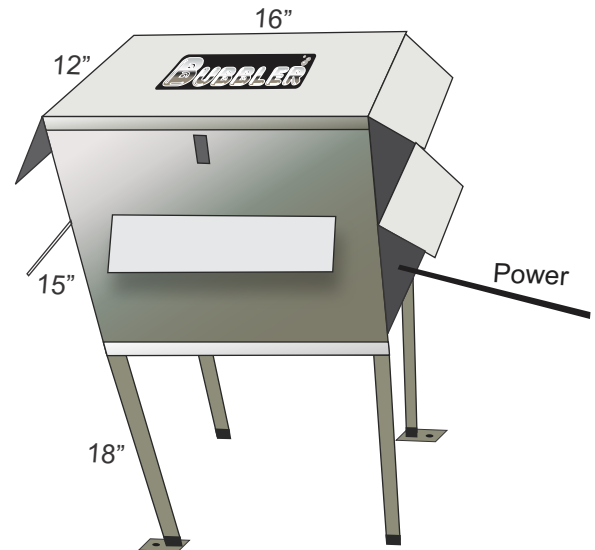
Oil-Free Air Compressor Pump/Motor:

- KM - 120C 115V

The Bubbler Invader and Slim - Aeration and Mixing Units:

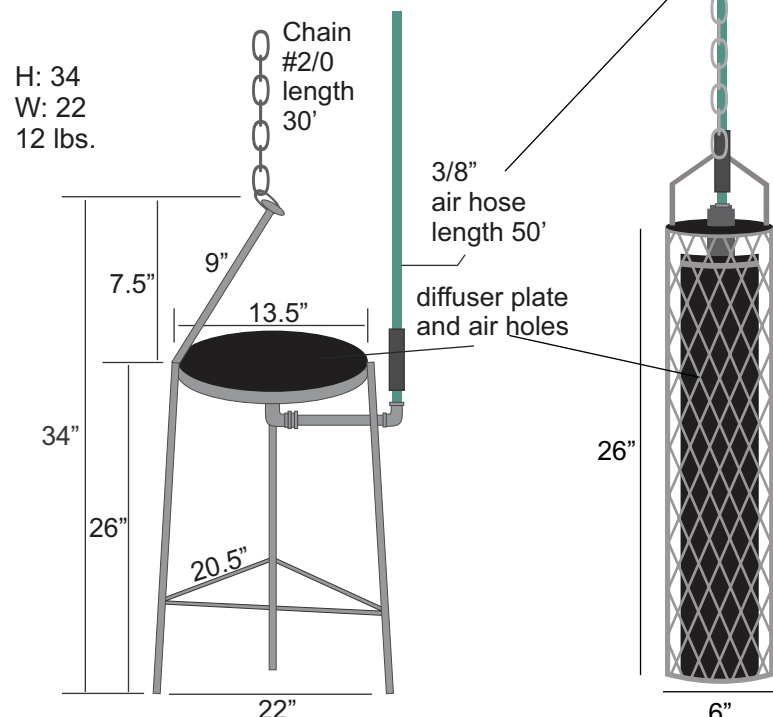
- Diffuser plate and stand
- #2/0 Chain (30' - 75')
- 50' 3/8" Air hose
- Quick-link chain clamp
- 1/4" NPT air hose insert fitting
- Quick connect air hose fitting
- Worm gear air hose clamp
- (6) Zip ties
- Tapcon cement anchors
- (1) drill bit

Tech-Aire Compressor



The Bubbler Slim

The Bubbler Invader



Carefully examine the shipping box(s) upon receipt to ensure that all components are present and there is no apparent damage.

To get the best results and most efficient performance, we recommend the following:

Recommended Tools:

- Adjustable wrench
- Knife or box cutter
- screwdrivers
- Portable drill
- 1/4" Driver attachment



Prior to Installation:

- Inspect wet well and remove any grease or debris that may prevent lowering of the diffuser to a suitable resting spot on the floor of the wet well.

** In certain situations where your diffuser cannot penetrate the grease layer, you will either need to pump the wet well down or treat with Micro-Solve®.*

Install the Compressor and Stand:

- The stand and compressor box should be mounted first using the Tapcon cement anchors.

** Compressor box and stand needs to be mounted near 115-volt single phase power source.*

Install the Diffuser:

- Thread one end of the air hose into the 1/4"galvanized fitting coming out from the diffuser plate.
- Attach the air hose to the chain using the provided (6) zip ties to prevent slack (approx. every 5ft.).
** Trim zip ties*

- **Invader:** Lower the unit onto the floor of the wet well.

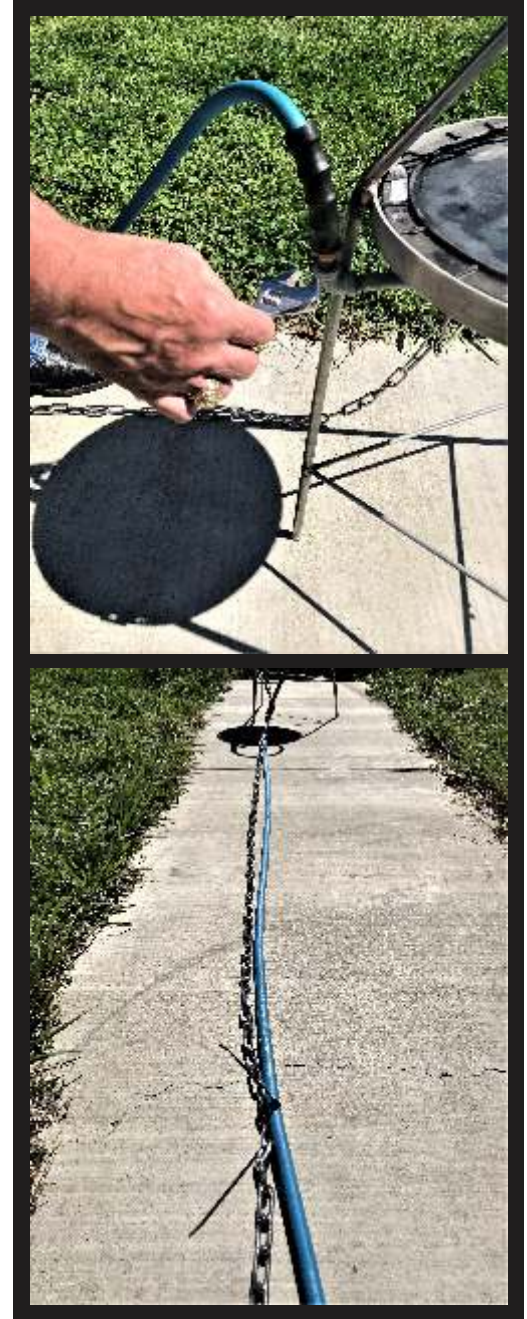
** Ensure that the diffuser is stabilized without interfering with pumps and/or other equipment.*

Slim: Lower the unit to the floor then raise the unit to hang 2-4" above the floor.

** Installation is recommended in the near proximity to float bulbs or any device used to control operation of pumps.*

Connect Compressor to Diffuser:

- Tie off or secure the chain once you have stabilized the suspended diffuser in the desired location.
- Route the air hose from the point where it exits the wet well to the compressor.
- Remove the quick connect, cut the hose to the correct length, and secure with worm-gear clamp. Re-install the quick connect.
- Connect the air hose to the compressor using the quick connect.



Obstructions to Airflow:

Problem	Possible Causes	Possible Solutions
Air release valve popping off, releasing air	Obstructions present	Check air line and diffuser for obstructions.
	Obstructions present	Check air line and diffuser for obstructions.
Stoppage or decrease in air flow	Connections not airtight	Start at compressor. Disconnect air hose from compressor and then from diffuser. Check each connection.

Compressor and/or Power Source:

Problem	Possible Causes	Possible Solutions
The compressor stopped and does not start.	Overloaded because of motor overheating.	Check that the main voltage corresponds to specifications. An extension cord that is too thin or too long can cause a voltage drop and the motor to overheat. Allow the motor to cool down. use heavy duty extension cords. ensure that the compressor is plugged into a socket as close as possible to the consumer unit or fuse box.
	Motor windings are burned out.	Contact EGSW.
The compressor runs continuously without rest.	The timer has failed.	Verify that the compressor operates by unplugging the compressor power cord from the timer and plugging it directly into the extension cord from the power source. If the compressor runs, then the timer should be replaced and re-programmed. Contact EGSW for a replacement timer
The motor does not start and makes a humming noise.	Switch is in the "Outlet on" position. Switch	Switch timer switch to "Timer on" position.
	Capacitor is burned out.	Stop the compressor, and contact EGSW.
The motor does not start or starts slowly.	Low voltage supply to the motor.	Check that the main voltage corresponds to specifications. An extension cord that is too thin or too long can cause a voltage drop and cause the motor to overheat. Allow the motor to cool down. Use the heavy duty extension cords. Ensure that the compressor is plugged into a socket as close as possible to the consumer unit or fuse box.

troubleshooting continued

Stoppage or decrease in air flow	Compressor head gasket broken or valve plate faulty.	Stop the compressor and contact EGSW..
	Compressor worn or broken piston ring	Stop the compressor and contact EGSW.
	Compressor worn or broken piston ring	Stop the compressor and contact EGSW.

CHANGE THE AIR FILTER EVERY THREE MONTHS!!

Changing the Air Filter:

The air filter is designed to reduce noise and help prevent particles in the air from entering and damaging the air compressor.

After being used for a period of time, the air filter will become clogged. This will reduce the air intake capabilities of the air compressor, reducing performance. Therefore, the air filter must be replaced every four months or when dirty.

- Open the lid on the air filter, then remove the old filter.
- Replace it with a new filter, then close the lid.
- Replacement filters and parts may be purchased from:

EGSW
5804 Babcock Rd. #169
San Antonio, TX 78240
512-775-5358
WWW.EGSW.US

Cleaning:

Clean items with a soft brush, or wipe with a moistened cloth using a biodegradable solvent. Do not use flammable liquids such as gasoline or alcohol. Always keep parts clean from dirt and dust for better performance.

Limited Warranty:

Warranty is for 12 months against manufacturer defects.

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