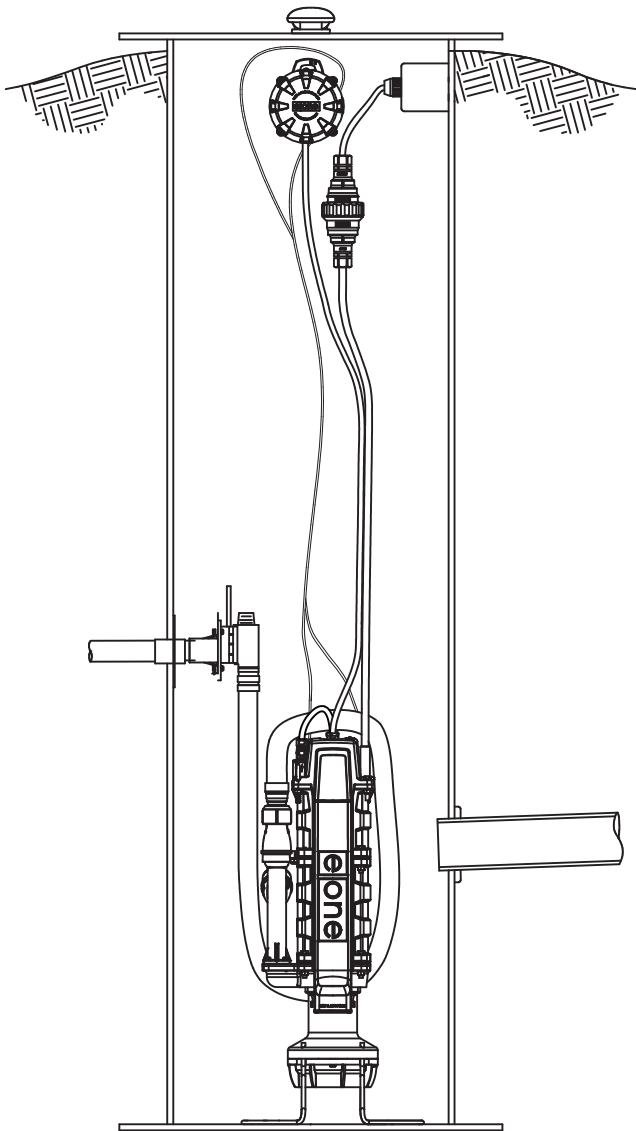


## Typical Installation Instructions & Warranty Information

### Replacement Grinder Pump






# Safety Instructions

Please read prior to the installation and operation of pump. The information provided is for SAFETY and to help PREVENT EQUIPMENT PROBLEMS.

To help you understand this information, refer to the symbols and definitions below:

 **WARNING** Indicates a hazard that can result in serious personal injury, death, or major property damage if ignored.

 **CAUTION** Indicates a hazard that can or will cause minor personal injury or property damage if ignored.



Biohazard can cause serious personal injury.



HOT! Severe burns could occur on contact.



Rotating machinery. Amputation or severe laceration can result.



Hazardous fluids can cause fire or explosions, burns or death could result.



Hazardous voltage can shock, burn, or cause death.



General warning that can result in personal injury or factors related to install, operation, or maintenance to equipment if ignored.

Only qualified personnel should install, operate, and repair pump. Any electrical work should be performed by a qualified electrician



**WARNING**

To reduce risk of electrical shock, pump and control panels must be properly grounded in accordance with the National Electric Code (NEC) and all applicable codes and ordinances.



**WARNING**

To reduce risk of electrical shock, always disconnect the pump from all power sources before handling or servicing. Follow lock out tagout procedures.



**CAUTION**

This station has more than one power supply connection point. To prevent electrical shock, disconnect all power sources before service.



**CAUTION**

Thermally protected automatic reset motor will restart without warning after protector trips. Always disconnect motor from power supply before servicing.

Regulatory agencies advise that certain materials should not be introduced into any sewer, please refer to the user instructions for a more detailed list of items.

In the event of power failure or blackouts, minimize water consumption within the home to prevent backup. Refer to user instructions, **Power Failure**, if service is interrupted.

Make certain that all discharge shutoff valves are fully open (curb stops, slider valve, etc.). Valves must not be closed when the pump is operating. Refer to **Test Procedures**.

Refer to user instructions, **Periods of Disuse**, if your home or building is left unoccupied for long periods of time.



**CAUTION**

Pump may build up heat and pressure during operation. Allow time for pump to cool prior to the start of handling or servicing.



**CAUTION**

**DO NOT** pump hazardous materials (flammable, caustic, etc.)



**DO NOT** wear loose clothing that may become entangled in the grinder cutter wheel or other moving parts.

Ensure that rope is securely fastened before lifting. Do not operate pump without safety devices in place and always replace safety devices that have been removed during service or repair.

Secure the pump in its upright position so it cannot tip over, fall, or slide.

Do not exceed manufacturers recommendation for maximum psi, as this could cause the pump to overheat.

Inspect cables and ensure they are protected to avoid punctures, cuts, bruises, and abrasions.



Never handle connected power cords with wet hands.

To reduce the risk of electric shock, all wiring and junction connections should be made per NEC and all applicable codes and ordinances.

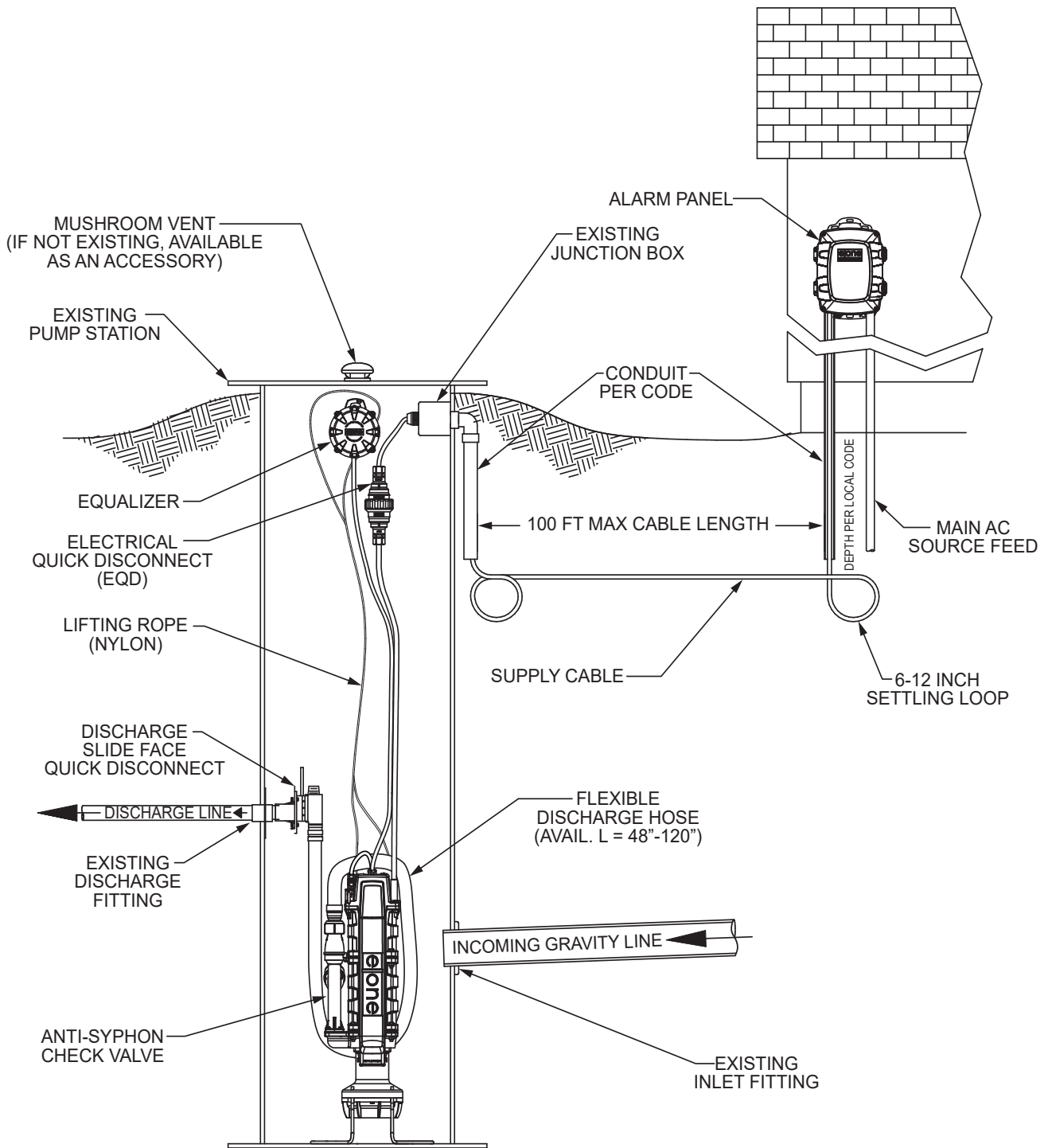
To protect the health and safety of our employees, products returned must be cleaned, sanitized, or decontaminated as necessary prior to shipment.



Environment One is not responsible for losses, injury, or death resulting from a failure to observe these safety instructions, misuse or abuse of pump or equipment.



# Upgrade Installation Layout



The Environment One Upgrade is a well-engineered, reliable and proven product; proper installation will ensure years of trouble-free service. The Upgrade is designed to replace a troublesome grinder pump in a residential or light commercial sewage handling application.

**Read all instructions before starting unit replacement. If you have any questions, call your local distributor or Environment One for assistance at (518) 346-6161.**

This is a sewage handling pump and must be vented in accordance with local plumbing codes. **This pump is not to be installed in locations classified as hazardous** in accordance with National Electric Code, ANSI/NFPA 70. All piping and electrical systems must be in compliance with applicable local and state codes.



Note: Occupational Safety and Health Standard (OSHA) mandates that anyone entering a confined space (such as sewage tank, manhole, septic tank, etc.) must follow the confined spaces rules and regulations. This can be found in Code of Federal Regulations Book 29, Section 1910.146, distributed by OSHA. This gives guidelines on how to safely enter tanks to make needed changes or repairs. **If possible, make all changes without entering the tank.**

Before beginning unit replacement, unpack hardware to ensure all items needed to complete the installation are accounted for. Inspect station to see if additional items not supplied by Environment One will be needed to complete the job, such as plumbing hardware kit, replacement tank, special tools, electrical hardware, etc.

## Preparation of Tank

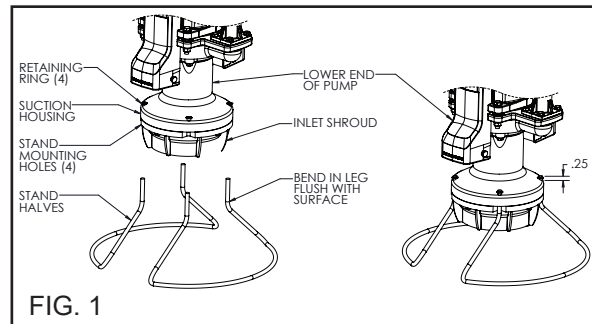
1. Instruct homeowner to cease water usage.
2. Remove tank lid.
3. Inspect lid integrity:
  - Clean all debris from lid
  - Inspect lid to ensure it is capable of supporting loads it may encounter (people, lawn tractor, trailer, etc.).
  - Inspect to ensure that lid can be sealed to prevent ground water infiltration. Note: If tank lid is deficient in any way, replace it.
4. Wash tank wall, rail assembly, pump and tank floor using a high-pressure water line.
5. Use existing grinder unit to pump down to "off" level. If manual-run is available, use it to pump tank down to lowest level possible.
6. Turn off all electrical power to old control panel at main house supply. Test with voltmeter, at panel, to ensure all power is off.
7. Close curb stop or discharge valve at street.
8. Disconnect and remove float assembly from tank.
9. Remove existing pump from tank.
10. Remove rail assembly and discharge assembly.
11. Remove all remaining brackets in tank that are not pertinent to tank structure. This can be accomplished by making an extension wrench out of a metal rod that is long enough to reach the bottom of the tank.
12. Pump out remaining sewage and debris from tank. Clean tank floor.
13. Seal all holes in tank interior left by the removal of hardware in the tank.
14. Inspect tank interior for structural integrity and leak tightness. Verify that the tank has been installed level for proper operation. **Failure to prevent all infiltration may cause premature pump failure and void warranty.**
15. Disconnect the power and remove the existing alarm/disconnect panel.
16. Grade around the tank to prevent ground water infiltration during heavy rain.

## Installing the Upgrade Pump

1. Unpack all materials. **Warranty registration and user instructions must be given to the owner.** Hardware packed with the unit will be used during installation.
2. Do not drop, roll or impact pump. Lift using the rope on the pump.
3. Attach pump stand. (Fig. 1) Temporarily rest the grinder pump on its side. Using a block of wood or similar object, prop up the lower pump end to allow installation of the pump stand. Align the two legs of each pump stand half with two of the holes in the pump lower end. Push the stand legs into the pump lower end. Using a mallet, ensure that the stand legs bottom into the mounting holes. Repeat for the other stand half. Turn the pump upright on the installed stand. Install the four retaining rings on each leg of the stands.
4. Install slide face discharge receiver to tank's discharge hub. The slide face has a 1 ¼-inch solvent weld socket. A 1 ¼-inch PVC nipple is supplied if a threaded connection is necessary. Glue nipple to slide face with Schedule 80 primer and glue. Take care not to get glue on slide face surfaces. (Fig. 2)

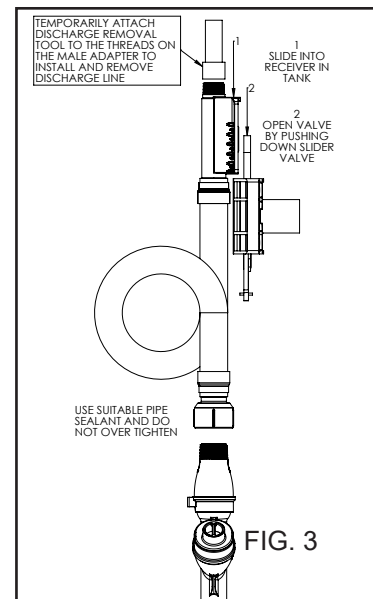
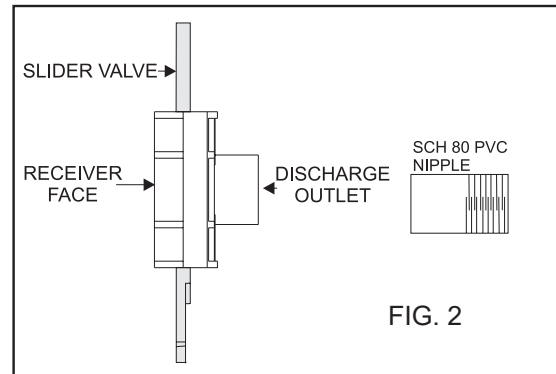
### Refer to any documentation that may have shipped with your discharge.

5. Attach the discharge hose to the anti-siphon check valve. Use pipe sealer on threads to ensure leak tightness. (Fig. 3)
6. Check the O-ring on the slideface adapter for adequate lubrication. (Fig. 5)
7. Attach discharge installation tool on male adapter. (Figs. 3 and 4)



### Complete Pump Installation

8. Carefully lower Upgrade pump into tank. Place pump so anti-siphon check valve is on opposite side of discharge in tank. Refer to "Installation Layout" drawing in the front of this manual.
9. Rotate discharge hose and male adapter to create a loop or coil. Slide male adapter into slide face receiver until it seats. Push down on slider valve assembly to open. (Fig. 6)
10. **Hang power cable, breather tubing with Equalizer, and lifting rope to prevent them from laying in sewage.** Keep between 18 inches and 24 inches of power supply cable in tank. The Equalizer and electrical quick disconnect (EQD) should be hung as high as possible in the tank. Refer to the "Installation Layout" drawing in the front of this manual.
11. Install vent assembly in cover assembly. Hole size for vent grommet is 3 inches. The vent must be installed per national and local codes to ensure proper operation. Failure to vent tank properly will result in faulty operation and will void the warranty.
12. Connect the pump to the alarm panel. New cable should be installed between tank and electrical panel per National Electric Code and local codes. Maximum distance between pump and panel is 150 feet for 240V pumps and 60 feet for 120V pumps. Consult factory for longer lengths. Minimum burial depth without conduit is 24 inches. **NOTE: Environment One cable should be used to ensure proper operation. When an underground splice is needed, use E/One-approved splice kit, E/One part number PC0606G01.** If existing cable is used, perform continuity tests for shorts (result from damaged cable underground). Replace if a



short is found. Plug and seal all electrical components (junction box, conduit, etc.) inside tank and control panel to ensure a watertight connection. **Failure to seal all moisture may cause premature pump failure and void warranty.** Waterlogged junction boxes are one of the most common sources of grinder pump problems.

- Power source to the panel must be 240 VAC (or 120 VAC for a 120V model). A dedicated 30-amp breaker with ground and separate neutral is required before all alarm panels. Additionally, a dedicated 40 amp breaker is required before a 120V duplex alarm panel.

## If an Environment One Alarm Panel will be Installed

### Electrical Connection — Supply panel to E/One Alarm Panel

Before proceeding, verify that the service voltage is the same as the motor voltage shown on the name plate. An alarm device is to be installed in a conspicuous location where it can be readily seen by the homeowner. An alarm device is required on every installation. There shall be no exceptions.

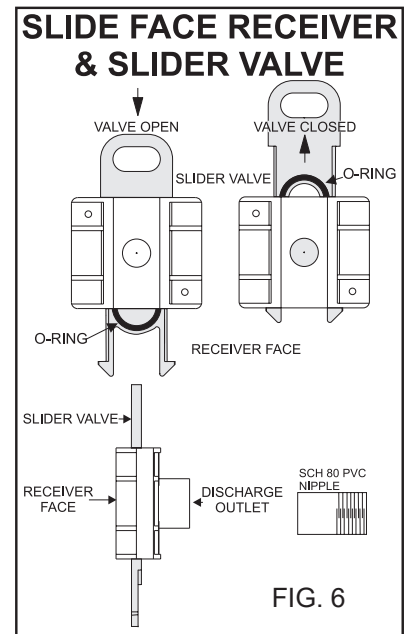
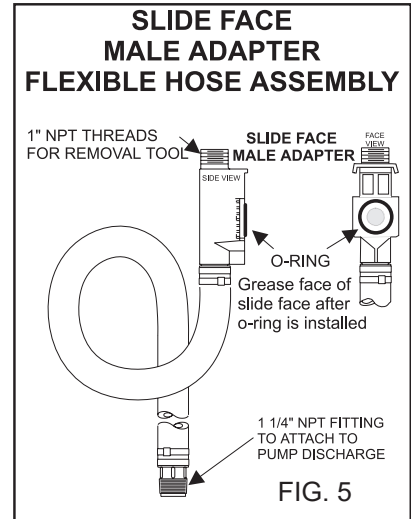
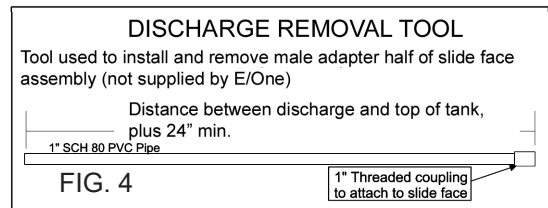
Wiring of supply panel and alarm panel shall be per alarm panel wiring diagrams located inside the Alarm Panel enclosure and in accordance with local codes. A dedicated 30 amp breaker is required before all simplex alarm panels. Additionally, a dedicated 40 amp breaker is required before a 120V duplex alarm panel.

### Electrical Connection — Pump to Panel

The grinder pump is provided with a cable for connection between the pump and the alarm panel (supply cable). The supply cable, a six conductor tray cable, meets NEC requirements for direct burial as long as a minimum of 24" burial depth is maintained. Those portions of the cable which have less than 24" of cover must be contained in suitable conduit. This includes the vertical portion dropping to a 24" depth at the station and the length rising out of the ground at the control panel. *NOTE: Wiring must be installed per national and local codes. Conduit must enter panel from bottom and be sealed per NEC section 300.5 & 300.7.*

### Installing E/One supply cable:

- Open the lid of the station. Locate the cable and the feed-thru connector on the wall of the tank. Ensure connector is the proper size for the cable. Replace if necessary with cable connector assembly NA0285G01. Be sure both halves of the EQD are securely assembled together. Loosen the nut on the connector and pull the supply cable out through the connector until it hits the crimped-on stop feature on the cable, approximately 24" from the EQD. **\*\*IMPORTANT:** *All but 24" of the cable must be pulled out of the station, and the EQD and Equalizer should be hung as high in the station as possible to ensure that the pump functions properly. Do not leave the excess cable in the station.*
- Retighten the nut. This connection must be tight or ground water will enter the station.
- Feed the wire through the length of conduit (contractor provided), which will protect it until it is below the 24" burial depth.
- Run the cable underground, in a trench or tunnel, to the location of the alarm panel. Leave a 6- to 12-inch vertical loop of cable at each end to allow for shifting and settling. Connections made at the panel are shown in the alarm panel wiring diagrams included inside the Alarm Panel enclosure.



## Test Procedure

This unit has more than one power supply. Identify and isolate/disconnect all power supplies before troubleshooting and/or performing service work. When the system is complete and ready for use, the following steps should be taken for each grinder pump in the station to verify proper pump and high-level alarm operation.

a) Make certain that all discharge shutoff valves are fully open (curb stops, slider valve, etc.). Valves must not be closed when the pump is operating.

b) Turn off the power at main power supply and panel(s). (Ignore all Trouble indications, LEDs and/or messages until the panel is reset at the end of this procedure.) Use an ohmmeter set at the 2-meg scale. Check the continuity between the following leads from the pump (tests should be performed with the pump and alarm breakers inside the panel OFF):

- Green/yellow (ground) to red (L1)
- Green/yellow (ground) to black (L2 or neutral)
- Green/yellow (ground) to brown (manual run)
- Brown (manual run) to yellow (alarm power feed)
- Brown (manual run) to blue (alarm power return)

All of these tests must read an open circuit. A short at any of these test points will cause premature pump failure if not corrected.

c) Turn on power at main power supply only.

d) Check voltage from the main power supply. The voltage must be within 10% of the nameplate voltage (i.e. 240=216 to 264 and 120=108 to 132). Note the voltage.

e) Verify the panel wiring matches the wiring diagram located in the alarm panel enclosure. Then turn on the alarm power circuit breaker. Leave pump breaker(s) off.

f) Fill the tank with water until the alarm turns on. This should occur when the water level reaches the top of the pump approximately. Then turn off the water.

g) Turn on the pump power circuit breaker. (Note: If this is a multiplex station, the pumps should be energized one at a time so amperage can be recorded individually). The pump should turn on within a few seconds.

h) Take a current (amperage) reading off the black lead (L2 or neutral) to the pump. Note the amperage. Repeat Step "g" and Step "h" for additional pumps at this station. Ensure that only the pump being tested has its associated breaker energized. The reading should be as follows:

- Between 5 and 8 amps for 240VAC/60Hz service.
- Between 10 and 16 amps for 120VAC/60Hz service.
- For the acceptable current range of other service power types, reference the appropriate service manual.

To view technical documentation, including service manuals visit [eone.com/technician](http://eone.com/technician).

Higher amperage readings equal a higher discharge pressure. If the amperage is greater than the listed maximum check the discharge line for a blockage.

The alarm should turn off after a few minutes. Following that, it should be a few additional minutes before the pump turns off.

i) Clear/Reset the alarm panel(s):

- Sentry panels: Reset is not required.
- Protect Panel: Turn pump and alarm breakers off and back on simultaneously.
- Protect Plus Panels: Perform a "cold start" from the Initialize System menu. Any user settings that were previously chosen will not be reset.

If any Trouble or alarm conditions are indicated after the panel is reset, contact your local service provider.

j) Close and lock the alarm panel(s).

k) Inspect the lid gasket and fasten lid to tank.

Call your local E/One distributor if you experience any problems. Please have ready the unit serial number, voltage, amperage read during startup, type of application, and a description of the problem.







Scan code for service info at  
**eone.com/technician**



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# User Instructions

## for the Environment One Grinder Pump

### General Information

Your home is served by a low pressure sewer system; the key element is an Environment One grinder pump. The tank collects all solid materials and wastewater from the house. The solid materials are then ground to a small size suitable for pumping as a slurry with the wastewater. The grinder pump generates sufficient pressure to pump this slurry from your home to the wastewater treatment receiving line and/or disposal plant.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference; and 2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### Periods of Disuse

If your home or building is left unoccupied for longer than a couple of weeks, perform the following procedure:

#### Purge the System:

Run clean water into the unit until the pump activates. Immediately turn off the water and allow the grinder pump to run until it shuts off automatically.

#### Duplex Units:

Special attention must be taken to ensure that both pumps turn on when clean water is added to the tank.

**Caution: Do not disconnect power to the unit**

### Power Failure

Your grinder pump cannot dispose of wastewater without electrical power. If electrical power service is interrupted, keep water usage to a minimum.

### Pump Failure Alarm

Your Environment One grinder pump has been manufactured to produce an alarm signal (120 volt) in the event of a high water level in the basin. The installer must see that the alarm signal provided is connected to an audible and/or visual alarm in such a manner as to provide adequate warning to the user that service is required. During the interim prior to the arrival of an authorized service technician, water usage must be limited to the reserve capacity of the tank.

### Care and Use of Your Grinder Pump

The Environment One grinder pump is capable of accepting and pumping a wide range of materials, and an extensive grind test is required in order to obtain NSF approval. However, regulatory agencies advise that the following items **should not** be introduced into any sewer, either directly or through a kitchen waste disposal unit:

- Glass
- Seafood shells
- Diapers, socks, rags or cloth
- Syringes
- Cotton swabs
- Personal/cleaning wipes & sponges
- Disposable toothbrushes
- Latex/vinyl items
- Metal
- Plastic objects (toys, utensils, etc.)
- Kitty litter
- Dental floss
- Aquarium gravel
- Sanitary napkins or tampons
- Cigarette butts

**Caution: Kitchen garbage disposals do not keep grease/oil out of the plumbing system**

In addition, you must **never** introduce into any sewer:

- Explosives
- Strong chemicals
- Lubricating oil and/or grease
- Flammable material
- Gasoline

Items introduced into the sewer system from your home can potentially impact the water environment. Proper disposal of household wastes such as window cleaners, unused/expired pharmaceuticals, paint thinners, fats, fruit labels, etc. is important. For more information, visit [wef.org](http://wef.org).

**For service, please call your local distributor:**

# LIMITED WARRANTY



**FOR ALL D-SERIES,  
W-SERIES & UPGRADE**

Environment One Corporation offers a limited warranty that guarantees its product to be free from defects in material and factory workmanship for a period of two years from the date of installation, or 27 months from the date of shipment, whichever occurs first, provided the product is properly installed, serviced and operated under normal conditions and according to manufacturer's instructions. Repair or parts replacement required as a result of such defect will be made free of charge during this period upon return of the defective parts or equipment to the manufacturer or its nearest authorized service center.



**For More Information  
Scan QR Code or Visit:**

[eone.com/sewer-systems/knowledge/warranty](http://eone.com/sewer-systems/knowledge/warranty)

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**Model Number**

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**Serial Number**

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**Installation Date**

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**Notes**



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