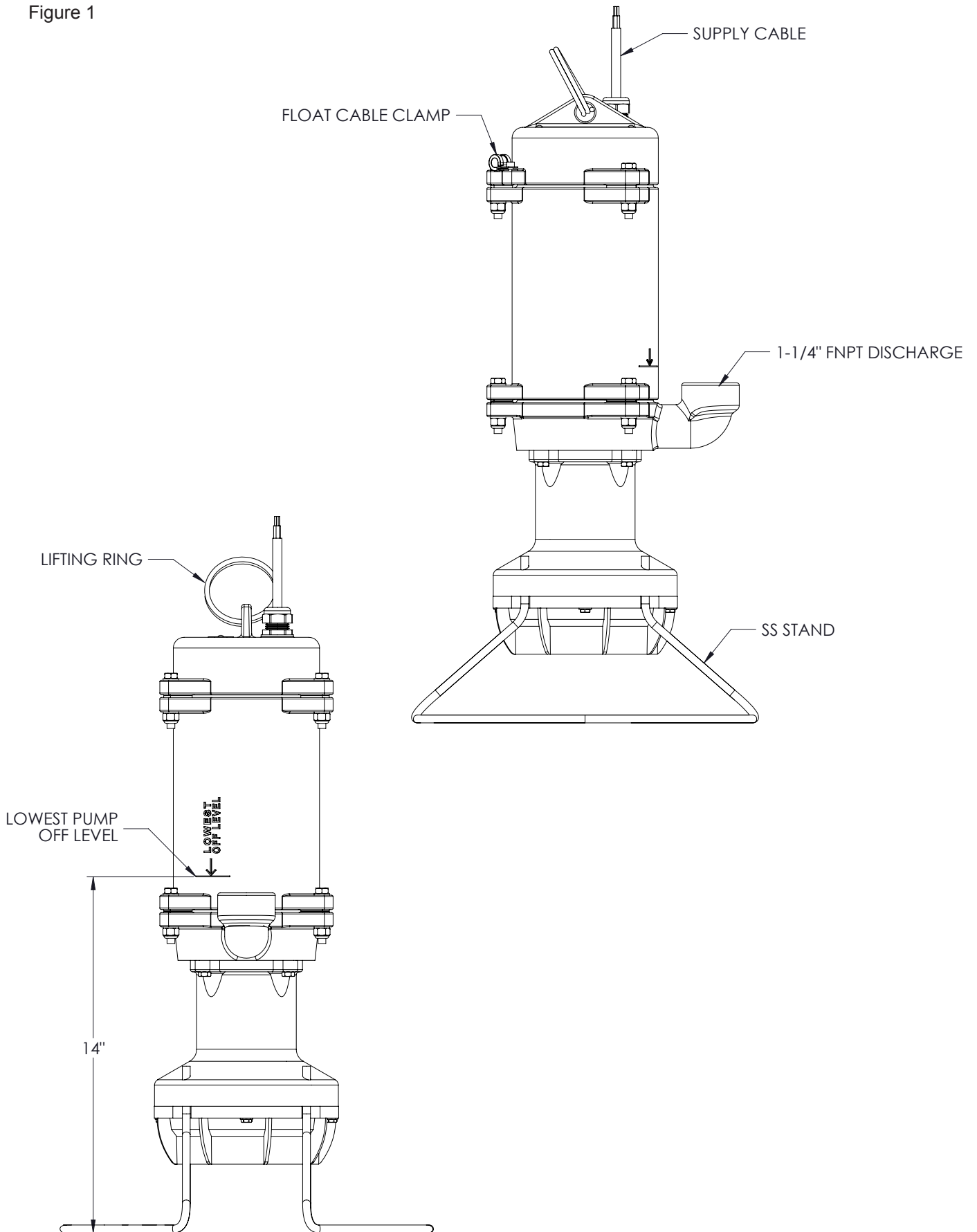


Model ND0100 3/4 hp Pump Installation Instructions

**Level Controls & Discharge
by Others**

Read all instructions before
proceeding with installation.

Figure 1



Read all instructions before starting unit installation.

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.** All piping and electrical systems must be in compliance with applicable local regulatory requirements.

Note: Anyone entering a confined space (such as sewage tank, manhole, septic tank, etc.) must follow the confined spaces rules and regulations. **If possible, make all changes without entering the tank.**

Before beginning pump installation, inspect the station and ensure that all items needed to complete the job are available — check valves, special tools, electrical hardware, level controls, etc.



Note: Level controls are not included with this unit.

WARNINGS

This pump is not designed for use in swimming pools, open bodies of water, hazardous liquids, or where flammable gases exist. This pump is not rated for use in areas that are designated as hazardous locations. Tank or wetwell must be vented per local regulatory requirements.

A main service disconnect must be installed to open all conductors for safe servicing of the product and installation. Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

Disconnect and lock out electrical power before installing or servicing any electrical equipment. This pump is equipped with automatic thermal overload protection which may allow an overheated pump to restart unexpectedly.

Do not lift, carry, hang or maneuver the pump by electrical cable. Damage to the electrical cable can cause shock, burns or death.

Seal all controls from gases present which may damage electrical components.

Select the correct type and NEMA grade junction box for the application and location. The junction box must ensure dry, safe wiring connections.

Must be installed and serviced by qualified personnel only.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

General Information

The model ND0100 is a submersible wastewater grinder pump designed specifically for individual residential applications. The pump is to be used for domestic sewage only and are not to be used for pumping commercial or industrial wastewater. **THIS PUMP IS NOT DESIGNED FOR USE IN HAZARDOUS LOCATIONS.**

Open all cartons and inspect for shipping damage. Report any damage to your supplier or shipping carrier immediately. Do not install pump if power cable has any damage; an Environment One Authorized Service Center should replace the cable.

Lift the pump with an adequately sized chain, cable, or rope attached to the lifting ring on motor casting.

Operating Information	
Voltage	240 volts (216-264 max operating range)
	60 Hz
	1 Phase
Amperage	6.8 (max continuous)
	Locked rotor amperage 21
Amperage @ Feet of Head Pressure (flow, gallons per minute)	
0 ft	5.9 amps (14.5 gpm)
40 ft	6.1 amps (13 gpm)
80 ft	6.3 amps (11.5 gpm)
Pump only weight: 70 lbs	

DO NOT lift or maneuver pump using power cable. Take care not to damage electrical cables while raising and lowering unit.

All plumbing connections must be carried out by a qualified plumber in accordance with local regulatory requirements.

Installing the 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 ring on top of the pump. Lift the pump with an adequately sized chain, cable, or rope attached to the lifting ring on motor casting. DO NOT lift or maneuver pump using power cable. Take care not to damage electrical cables while raising and lowering unit.
3. Attach pump stand (Fig. 2). 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 ends of the stand's legs protrude through the suction housing by 1/4 inch. Repeat for the other stand half. Turn the pump upright and install the four retaining rings.
4. Install appropriate discharge (supplied by installer). A check valve must be installed on the pump to prevent the system from backing up into the station.

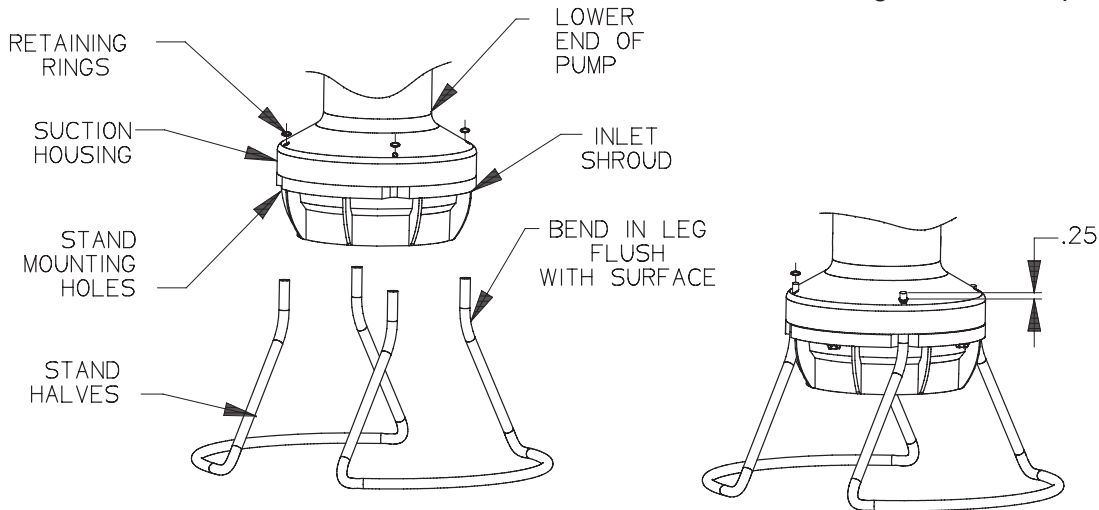
The use of 1-1/4" PVC pressure pipe Schedule 40 and polyethylene pipe SDR 11 or SIDR 7 are recommended. If polyethylene is chosen, use compression-type fittings to provide a smooth inner passage. A redundant check valve assembly (E/One part no. PC0051GXX) must be installed between the pump discharge and the street main on all installations. Never use a ball-type valve as a check valve.

E/One recommends the valve be installed as close to the public right-of-way as possible. Check local codes for applicable requirements.

CAUTION: *Redundant check valves on station laterals and anti-siphon/check valve assemblies on grinder pump cores should not be used as system isolation valves during line tests.*

5. Ensure tank is clean and free of dirt and debris. Tank must be free of ground water infiltration. Carefully lower pump into tank. Place the pump so it sits firmly on bottom of the tank and does not rock or tip. Ensure tank is vented properly.

Figure 2 — Pump Stand



WARNING: Do not lift, carry, hang or maneuver the pump by electrical cable. Damage to the electrical cable can cause shock, burns or death.

6. Hang the power cable and lifting rope to prevent them from laying in wastewater. Keep between 18 inches and 24 inches of power supply cable in tank.

WARNING: Disconnect and lockout electrical power before installing or servicing any electrical equipment. This pump is equipped with automatic thermal overload protection which may allow an overheated pump to restart unexpectedly. Seal all controls from gases present, which may damage electrical components.

Electrical Information

Important: Always verify that the pump nameplate Amps, Voltage, Phase, and HP ratings match your control panel and power supply.

Environment One recommends the installation of an alarm on all wastewater pump installations. Many standard control panels come equipped with alarm circuits. If a control panel is not used, a stand alone high liquid level alarm is available. The alarm alerts the owner to a high liquid level in the system so they can contact the appropriate service personnel to investigate the situation.

All splices and electrical connections must be waterproof. If using splice kits, follow manufacturer's instructions. Cable from pump cannot be field-repaired. If pump cable is damaged, the cable will need to be replaced by an authorized service center.

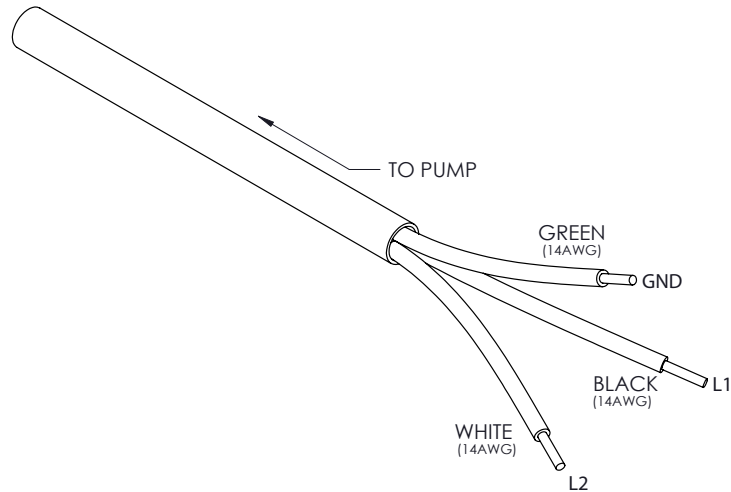
All electrical connections must be carried out by a qualified electrician in accordance with local regulatory requirements.

When connecting through a junction box, the box must be water and gas tight, both through the cover and at wire penetrations. The junction box should be rated NEMA 6P minimum. After the pump cable is attached to junction box, excess cable must be coiled and secured at the top of the station.

7. Connect the pump to the control panel. New cable should be installed between the tank and electrical panel per local regulatory requirements. Maximum distance between the pump and panel is 100 feet. Select an appropriate wire gauge to minimize voltage drop and to ensure the power will not drop below its minimum voltage of 216 VAC.

If existing cable is used, test for ground short (resulting from damaged cable underground). Replace if a short is found. Plug and seal all electrical components (junction box, conduit, etc.) inside the tank and control panel to ensure a watertight connection. Failure to seal all moisture will cause premature pump

Figure 3 — Pump Power Lead, 240V Power Source



failure and void warranty. Waterlogged junction boxes are one of the most common sources of grinder pump problems. The cable supplied with the pump is not rated for burial. If the cable leaves the station, it must be installed in electrical conduit per local regulatory requirements.

8. Power source to the control panel must be 240 VAC. The pump should have a 15-amp breaker in the control panel. The capacitor and start relay are located inside the pump.
9. Level control supplied by others. Set the pump “off” level at least 14 inches from the bottom of the tank. The lowest pump “off” level is indicated on the body of the pump (Fig. 1).

Test Procedure

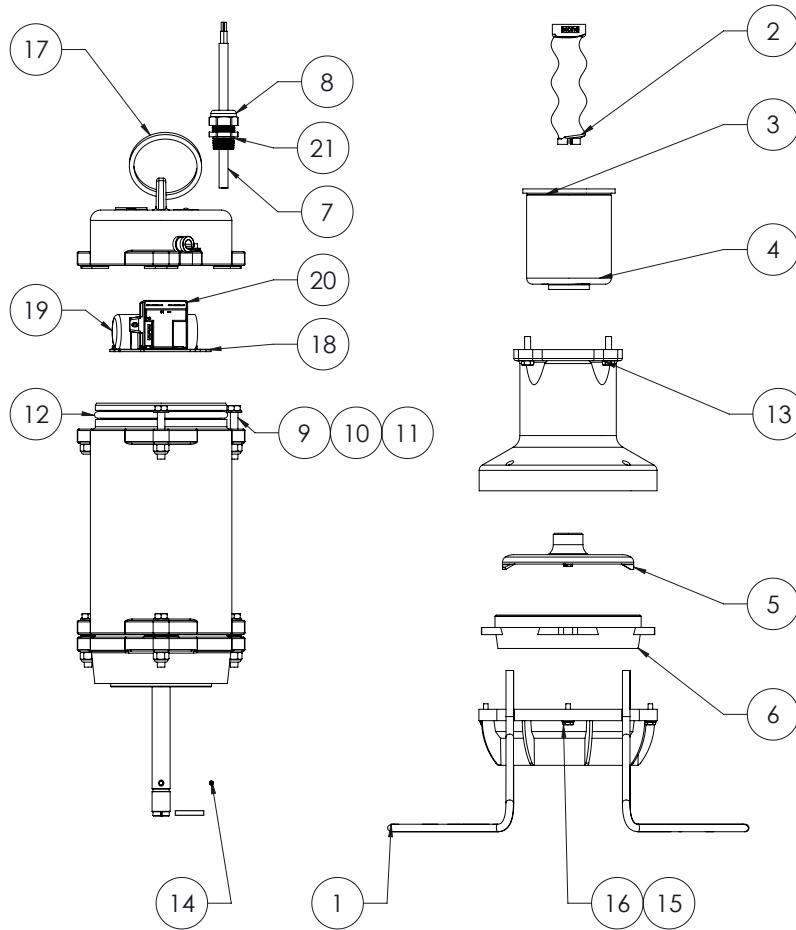
1. Ensure that all discharge shutoff valves are fully open (curb stops, slider valve, etc.).
2. Turn off power at main power supply and control panel. Use an ohmmeter set at the 2 meg scale. Check the continuity between the following leads from the pump (tests must be performed with the pump and main breakers inside the panel turned OFF) (Fig. 3):
 - Green/yellow to blue
 - Green/yellow to brown

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

3. Change scale to 200 ohm. Resistance between brown and blue pump leads should be between 4.5 and 6 ohms with the wires disconnected from the panel.
4. Turn on power at main power supply only. Check voltage from the main power supply. The voltage must be 240 VAC, within 10 percent (maximum operating range 216-264 VAC). Note the voltage.
5. Run the pump and take a current (amperage) reading off the brown lead to the pump. The reading should be between 5 and 6.8 amps for 240 VAC service. Higher amperage readings equal a higher discharge pressure. If the amperage is greater than 6.8, check the discharge line for a blockage. Note the amperage.
6. The level controls are supplied by others. The “Off” level should not be below 14 inches off the bottom of the tank (Fig. 1).

Call E/One Field Service 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.

Figure 4 — Parts Breakdown



ITEM	QTY	UNIT	PART NUMBER	DESCRIPTION
1	2	EA	NB0006P02	PUMP STAND,5/16"ROD,R7.5,SS
2	1	EA	PC0054P02	ROTOR, MACH, VIB POLISHED
3	1	EA	PC1096P01	STATOR, PUMP, M3, 80PSI
4	1	EA	PB0011P01	PUMP LINER
5	1	EA	NC0008P02	CUTTER WHEEL, ONE PIECE
6	1	EA	ND0008P01	SHREDDER RING,MACH,EXTREME
7	AR	FT	NA0480P01	CABLE, SOOW 14/3
8	1	EA	NA0444P02	STRAIN RELIEF FITTING, 1/2" NPT
9	6	EA	0073-7032	SCREW,HEX HD,SS,5/16-18X2.0
10	12	EA	0707-7002	WASHER,PLAIN,SS, 5/16"N
11	6	EA	0719-3218SS	NUT,STOP,(ELASTIC),SS, 5/16-18
12	2	EA	0310-429B	O-RING, 4.975 X 5.525, BUNA N
13	4	EA	PA1399P02	SCREW,HEX,1/4-20 X 1.0LG
14	1	EA	0721-E058	GROOVE PIN,5/32",1"LG
15	4	EA	0706-5002	WASHER,PLAIN,SS,#10
16	4	EA	PA1398P01	SCREW,LOK,HEX,10-24X.75L
17	1	EA	NA0450P01	LIFT RING
18	1	EA	NC0297P01	CONTROL BRACKET, 3/4HP PUMP
19	1	EA	NA0449P01	CAPACITOR
20	1	EA	NB0301P01	MOTOR START RELAY, 3/4 HP
21	1	EA	0310-018B	O-RING, .739 X .879, BUNA N



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NA0495P01 Rev B
11/16

User Instructions for the Environment One 3/4 hp Grinder Pump

General Information

Your home is served by a low pressure sewer system or uses a grinder pump to pump wastewater to a gravity discharge line. The tank collects all solid materials and wastewater from the house or lower level. 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 appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Care and Use of your Grinder Pump

The Environment One grinder pump is capable of accepting and pumping a wide range of materials. 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, tampons, wipes	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 <http://www.wef.org>.

Periods of Disuse

If your home or building is left unoccupied for longer than two 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

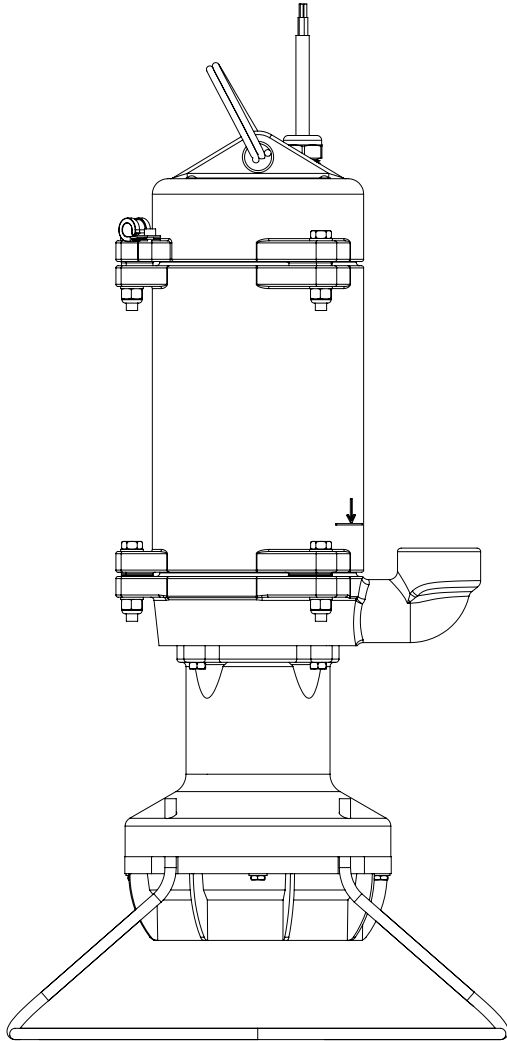
Environment One strongly recommends the use of a high level alarm. The installer must see that the alarm signal is provided and connected to an audible and/or visual alarm in such a manner as to provide adequate warning to the user that service is required. During the interim prior to the arrival of an authorized service technician, water usage must be limited to the reserve capacity of the tank.

For service, please call:



Limited Warranty

3/4 hp Manual Pump



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 one year from the date of installation, or 15 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. 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.

Model Number: _____

Serial Number: _____

Installation Date: _____



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