

Installation

USAGE:

The 2 HP grinder pumps are for pumping domestic sewage. One pump can handle the sewage from a maximum of 2 homes.

These pumps are not to be used for pumping commercial or industrial sewage from factories, schools, motels, apartments, etc..

This pump is intended to grind and pump all normal sewage for home use. It will handle reasonable quantities of disposable diapers, sanitary napkins, paper towels, rubber material, wood, cigarette butts, string, plastic and other material not normally found in sewage.

CAUTION!

Pump is not to be disassembled in the field except at certified service stations or at the factory. Warranty is void if pump is taken apart for any reason other than to replace grinder impeller and grinder ring, which is covered in these instructions.

PACKAGING

Each pump is packaged with 30 feet of power cord in a carton that is marked with the Model Number. Longer cords are available – consult factory.

INSPECTING PUMP

Before making any piping or electrical connections, check pump for any shipping damage. Turn grinder impeller to be sure it is free. **DO NOT TURN IMPELLER WITH FINGERS AS EDGES ARE SHARP.** Use allen wrench in the impeller screw to turn the impeller.

CAUTION!

No persons should be in the basin when pump is lowered into position! **DO NOT** lift pump in a manner where failure could result in loss of life.

After pump is installed in basin, **NEVER WORK ON MOTOR OR GRINDER UNIT WITHOUT DISCONNECTING MOTOR LEAD WIRES FROM CONTROL PANEL. DO NOT RELY UPON OPENING THE CIRCUIT BREAKER ONLY!**

ELECTRICAL:

MOTOR OVERLOAD PROTECTION

Single phase motors are provided with an on-winding thermal overload switch. If motor overloads or overheats for any reason, the switch opens, stopping motor. As soon as the motor cools to normal temperature, the switch automatically closes and restarts motor.

MOISTURE DETECTION

All 2 HP, dual seal grinder pumps with external start kit or 3-phase, contain an electrode for detecting water within the unit. The electrode is housed within the secondary seal chamber, isolated from the motor chamber. If the electrode detects water within the oil-filled housing, it will close the circuit to the red alarm light in the control panel, indicating the pump must be serviced before the upper seal fails.

MOTOR POWER CORDS

Pump models with seal leak detector, single phase use a 10AWG-5C cord, three phase use a 14AWG-7C cord. Models without seal leak use a 10AWG-3C cord. The three power conductors are **BLACK, WHITE** and **RED**. The **ORANGE** conductor connects to the seal leak probe and **GREEN** conductor connects to the ground screw inside the cord cap.

For single phase,

BLACK is “Common”

WHITE is “Run”

RED is “Start”.

IMPORTANT!

Ground wires must be connected in the control box to grounding bar, which is connected to a good suitable ground. **MOTOR IS NOT SAFE UNLESS PROPERLY GROUNDED.**

IMPELLER ROTATION: When looking at the bottom of the pump and through the inlet of the volute, rotation of the impeller is **COUNTER-CLOCKWISE.**

TROUBLESHOOTING

The troubles listed below are potential problems involving the pump. Other troubles can occur from faulty control box operation. Consult control box instructions for troubleshooting list involving the control box.

PROBLEM

Pump will not run.

PROBABLE CAUSE

Tripped breaker, blown fuse, poor electrical connection, interruption of power, improper power supply.
Float switch defective or restricted.
On single phase pumps, electronic start switch or capacitors blown.
Overload in motor tripped.
Solid material lodged in pump inlet.

Pump runs, but does not pump liquid from basin.

Pump impeller may be air locked. Start and stop pump several times to purge air. Check to ensure vent hole in volute is open and clean.
Lower "OFF" float may be set too low, allowing air into pump.
Pump inlet or valves in discharge pipe may be clogged.
Discharge valve may be closed.

Pump hums, but does not run.

Incorrect voltage.
Pump inlet plugged.
Cutter jammed or loose on shaft, worn or damaged.

Pump delivers low volume of water.

Low voltage.
On three phase pumps, motor running backwards.
Discharge restricted.
Check valve stuck closed or installed backwards.
Pump motor damaged / worn.
Pump may be air locked.
Cutter loose or jammed on shaft, worn or damaged.

Pump is noisy.

Grinder impeller may be rubbing against grinder ring due to misalignment, bent shaft or object stuck in impeller.
Grinder assembly may be partially clogged.
Pump cavitation due to low discharge pressure.

Pump cycles frequently.

Check valve stuck closed or installed backwards.
Ground water entering basin.
Fixtures are leaking.

Pump will not turn off.

Float switch defective or movement restricted.
H-O-A switch in panel is in "HAND" position.
Pump may be air locked.
Excessive inflow / pump not sized for the application.

Grease and solids accumulated in basin and will not pump out.

Pump "ON" switch may be set too high.
Debris may have accumulated around lower float weight causing pump to turn off too soon. Clean debris away from weight and cord.

Red light illuminated at control box.

Moisture detection in double seal pumps indicating service is required.
Lower seal has failed. Secondary seal still functioning.

Circuit breaker trips.

Electrical short to ground.
Check troubleshooting in control panel before pulling pump.
Check all electrical cords for damage.
Pull pump and take resistance readings of motor to determine if problem is in the pump or control box.