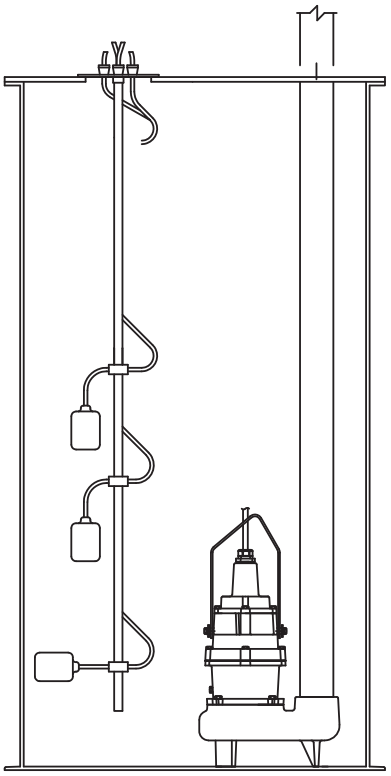
WEIL SUBMERSIBLE WASTEWATER PUMP
INSTALLATION OPERATION MAINTENANCE

1400
~~2400~~

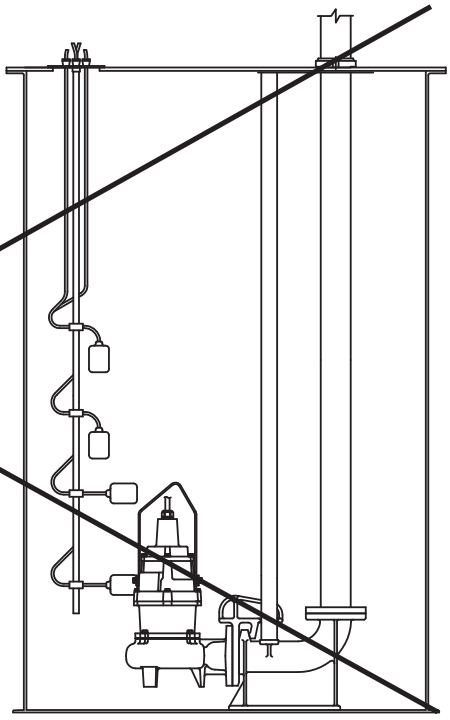
OWNERS INFORMATION

Manufacturer's Number	Date Code
SO#TBD- equipment not ordered yet	TBD

2- Weil model # 1411 submersible sump pump, 2" npt discharge, 1/2 HP, 115v, 15' power cord.
1- Weil model #8131 duplex alternating control panel, with high water alarm circuit.
4- #8233 tethered float switch with 20' cord, mounting bracket and pole.
1- 36" dia. x 72" deep fiberglass basin.
1- 40" OD steel lid with appropriate openings.



Manufacturer's Number	Date Code



FOR SUBMITTAL PURPOSES ONLY.
EQUIPMENT NOT YET ORDERED.

IOM JACKET (SINGLE SEAL)-A

WEIL SUBMERSIBLE WASTEWATER PUMP
INSTALLATION OPERATION MAINTENANCE

INTRODUCTION

This manual contains instruction for installation, operation and maintenance of your pump equipment. Read and study this manual before using the equipment. The pump is a well designed and sturdily constructed machine. When properly installed and given reasonable care and maintenance, it will give many years of service.

SAFETY PRECAUTIONS

Always disconnect the electrical power supply to the motor before working on the unit. **Failure to do so can cause severe electrical shock or death.** If the basement floor is wet or flooded, do not walk on floor until the electrical power has been disconnected. Exercise caution when working in the exposed areas of rotating parts.

RECEIVING

Immediately upon arrival, the equipment should be checked for any shortages and/or damage. Any shortages or damage should be noted on the bill of lading and freight bill, and promptly reported to the Transportation Company. Claims for shortages or damage must be made in writing to Weil Pump Company Inc., Cedarburg, Wisconsin within 14 days of receipt of equipment.

STORAGE

Pumping equipment should be installed and put into operation as soon as possible. If it is necessary to store the equipment for extended periods, precautions should be taken to prevent corrosion or oxidation. It is recommended that the equipment be stored indoors. The storage area should be dry and have a relatively constant temperature. Exposed machined surfaces should be coated with a rust preventative. The entire unit should be sealed in heavy plastic bag. A desiccant should be placed in the bag before it is sealed. Before sealing the bag, arrange the power cable, and moisture/temperature sensor cable, (if so equipped) in gently curved loops to prevent cables from taking a permanent set.

During storage, the plastic bag should be opened at least once a month, and the rotating assembly of the pump turned several times by hand. This helps prevent point of contact corrosion and maintains rotational integrity. Add desiccant before the bag is resealed. For additional information regarding rust prevention, refer to the American Society for Metals Handbook, under **"Rust Prevention Compounds."**

INSTALLATION

Clean wet well thoroughly before installing pump. Sand, mud, cinders, etc. are abrasives which will damage the mechanical seals.

The pump is ready for installation as shipped. Except as noted above, no lubrication or adjustment is required before initial operation.

Raise and lower the unit by means of a chain or steel cable fastened to the lifting handle provided. **Do not raise, lower, or support the unit by means of the electrical power cable or the moisture sensor cable.** When moving the pump, avoid putting strain on the electrical cables. Set the pump in its final location before connecting the cable(s). Provide adequate headroom above the wet well for future maintenance of the equipment. Install the associated level controls so that the pump is properly immersed. for **intermittent service**, the minimum liquid level must be at least 1" above the pump case.

POWER CABLE

The electrical characteristics shown on the pump nameplate describes the power supply required to operate the pump motor. The user is responsible for providing appropriate branch circuit, motor starter, and overload protection in accordance with local code requirements.

Electrical connections made in the pit, even though above the highest water level, must be sealed to prevent moisture penetration into power or sensor cables through junction boxes or other. Wiring diagrams for the pump motor are provided. It is important to make connections according to the diagram provided. Incorrect electrical connections will void the warranty.

PIPING

(Refer to Figure 1)

1. Piping should be as short as possible using a minimum number of fittings to avoid excessive friction loss.
2. Pipes should line up "naturally" with the pump discharge and should never be forced together.
3. Discharge piping must be supported by appropriate supports.
4. In a duplex installation, each pump must have its own check valve.

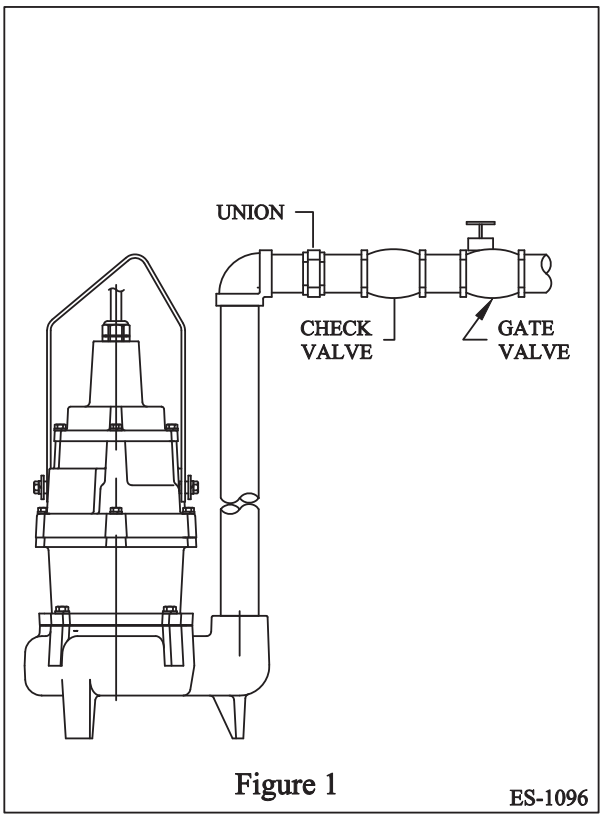


Figure 1

ES-1096

MOISTURE SENSOR OPTION

(Refer to Figure 2)

The pump is equipped with a moisture sensor when this option is ordered. Connect the moisture sensor to the Weil Alarm-Test Panel as shown in Figure 2. Power supplied to the Alarm-Test Panel must be 115 volts, regardless of the voltage supplied to the pump motor.

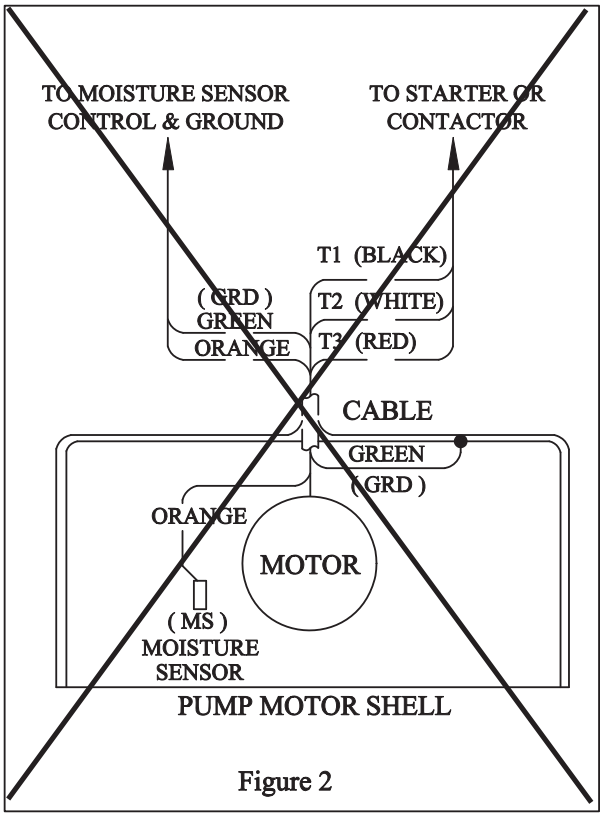


Figure 2

START-UP PROCEDURE

Before placing pump into general operation, check the following items to insure that no damage will occur to pump motor.

1. Turn shaft manually to ensure it is turning freely.
2. Check voltage, phase, and frequency of the motor, making sure that the same is supplied to unit.
3. Make sure there is proper motor circuit protection.
4. Review piping installation, per "Piping" instructions.
5. Recheck basin to make sure it is free of debris.
6. With pump laying down on its side, apply momentary power to confirm proper impeller rotation.
7. Verify proper operation in a "wet" test startup: check GPM, Pressure, amps, volts, audible noise and vibration.
8. Check measured parameters to design conditions.

SAFETY PRECAUTIONS

1. Disconnect and lockout the electrical supply to the motor before working on the unit, or if maintenance is to be performed on the pump in a flooded area.
2. Exercise caution when working in the exposed areas of the rotating parts.
3. In case of severe vibration or unusual noise, shut off pump at once and determine the case.
4. If frequent tripping of the overload protection occurs, troubleshoot the pump to correct the problem.

TROUBLESHOOTING PUMP

Problem	Probable Cause
Insufficient or No Water Flow	1. Blown fuses or open circuit breakers 2. Poor switch contact 3. Discharge head too high 4. Clogged or damaged impeller 5. Binding shaft 6. Check or gate valve closed 7. Water level below casing
Insufficient pressure	1. Low voltage 2. Clogged or damaged impeller 3. Motor incorrectly wired 4. Pump maybe air-bound
Noisy or Vibrating Pump	1. Misaligned or bent shaft 2. Worn bearings 3. Lack of lubrication 4. Water level below casing 5. Impeller rubbing or damaged 6. Clogged impeller

NOTE

Submersible motors have an air relief slot on the lower mounting flange area. This slot is to prevent air lock. Under normal operation water will spray out of the air relief slot. The normal water level should be above the slot at shut off.

PERIODIC INSPECTION

Periodic inspection of the pump should be performed at six month intervals. The pump should be cleaned of accumulated abrasive particles and debris. The wet well should also be cleaned of accumulated abrasive particles.

Check the motor housing and the seal chamber for moisture in the following manner:

1. Place the pump in a horizontal position in a V-block with the seal chamber plugs facing downward.
2. Remove the plugs and drain the contents of the seal chamber in a transparent container and allow the drained liquid to settle.
3. If no water settles to the bottom of the container, the chamber can be refilled with clean oil and the plugs replaced.
4. If water settles in the container, the source of the liquid must be determined and worn and/or damaged seals, O-rings, etc., must be replaced.
5. Turn the pump over, remove the motor shell plug, drain the motor housing into a transparent container.
6. If no liquid is present, replace the plug.
7. If oil or oil and water are present, the upper seal must be inspected.
8. If only water is present the leakage source is most likely in the motor housing and the condition of the O-rings should be inspected.

REPLACEMENT PUMPS

Single phase units have starting modules built into the motor. When replacing existing pumps, check for any existing external modules, control panel mounted or separately mounted. These must be removed or bypassed for proper operation of the pumping unit.

IMPORTANT NOTICE

For warranty consideration contact your local Weil representative before disassembly or repair.

NOTE

See seperate instructions for pump assembly and disassembly.