

# Auto Tank Fill

# Installation, Operation and Maintenance Instructions

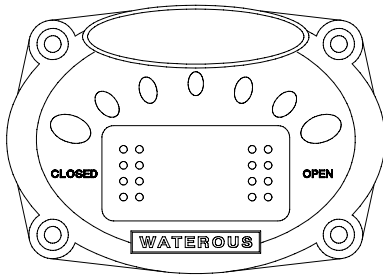
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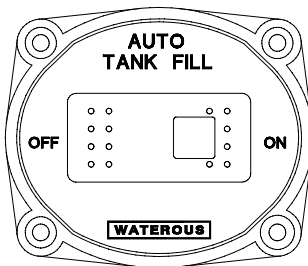
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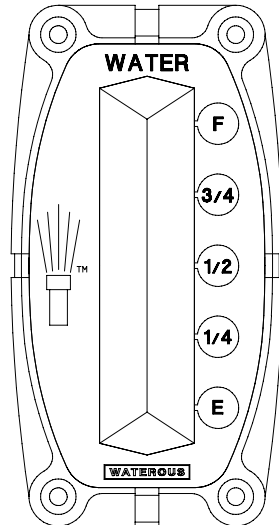
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**Electric Valve  
Position Control**



**Auto Tank Fill  
Selector Switch**



**Tank Level  
Monitor**

IL2642



Read through the instructions carefully before installing or operating your Auto Tank Fill System.

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# Installation

## CAUTION

### Tank Overfill Damage.

The Auto Tank Fill valve is capable of providing a filling rate of greater than 1,000 gpm to the tank. Before installing this system, consult with the tank manufacturer to ensure the specified tank has sufficient venting and overflow capability for the maximum fill rate.

Overfilling the tank without sufficient relief capacity may result in equipment damage.

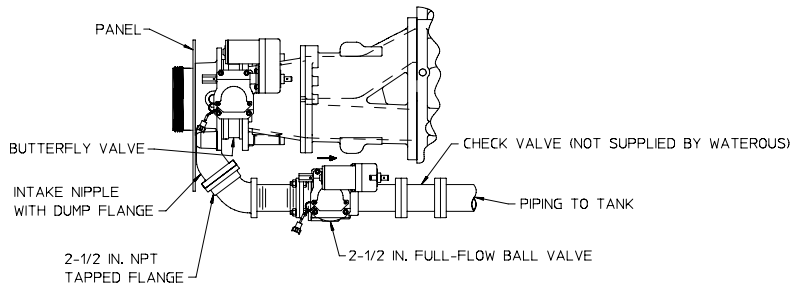
1. Note that the Auto Tank Fill System is designed to work with Waterous valves and will not work with other manufacturer's valves. Install a Waterous rotary electric 2-1/2" FF or 3-1/2" valve on the truck's external fill line.

It can be mounted in piping connected to the Intake Nipple Dump Valve Flange or plumbed into a separate external fill line. See example installations in Figure 1 below).

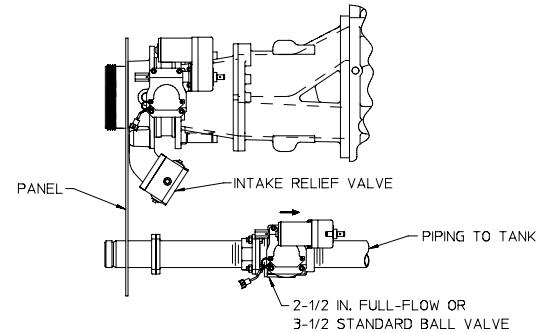
If the valve is mounted in piping connected to the Intake Nipple Dump Valve Flange, it is the OEM's responsibility to make provisions for connecting both the Intake Relief Valve and Auto Tank Fill Valve. Waterous offers a 2-1/2 in., 4-bolt tee or a 2-1/2 in. NPT tapped flange which may be ordered separately for this purpose.

2. When the Auto Tank Fill valve is connected to pump intake piping, the OEM should install a check valve (with flow direction toward tank) after the valve; this will help prevent loss of prime in the even the valve is accidentally opened while drafting.

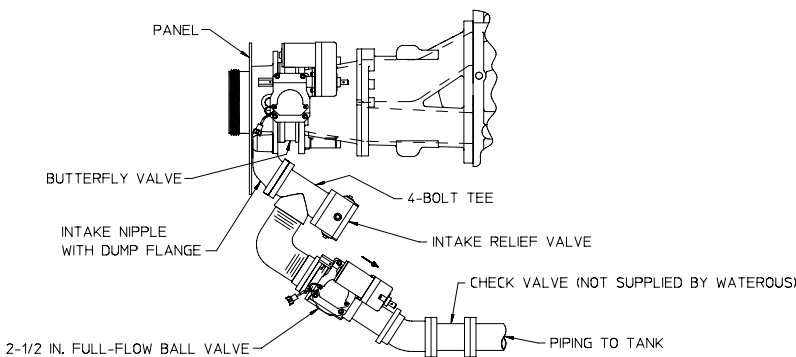
**Figure 1. Typical Ball Valve Installations**



**2-1/2 IN. FULL-FLOW BALL VALVE MOUNTED ON INTAKE NIPPLE DUMP FLANGE, INTAKE RELIEF VALVE NOT USED**



**2-1/2 FULL-FLOW OR 3-1/2 STANDARD BALL VALVE MOUNTED IN A SEPARATE EXTERNAL FILL LINE**



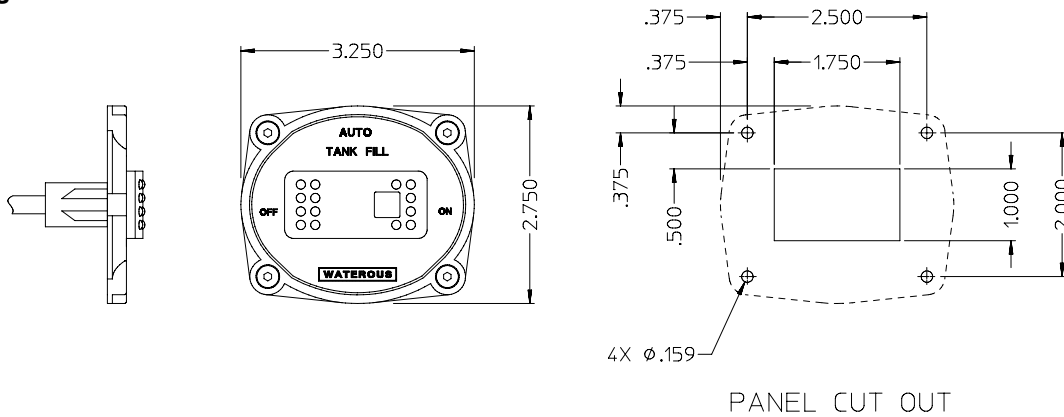
**2-1/2 IN. FULL-FLOW BALL VALVE MOUNTED ON INTAKE NIPPLE DUMP FLANGE WITH INTAKE RELIEF VALVE**

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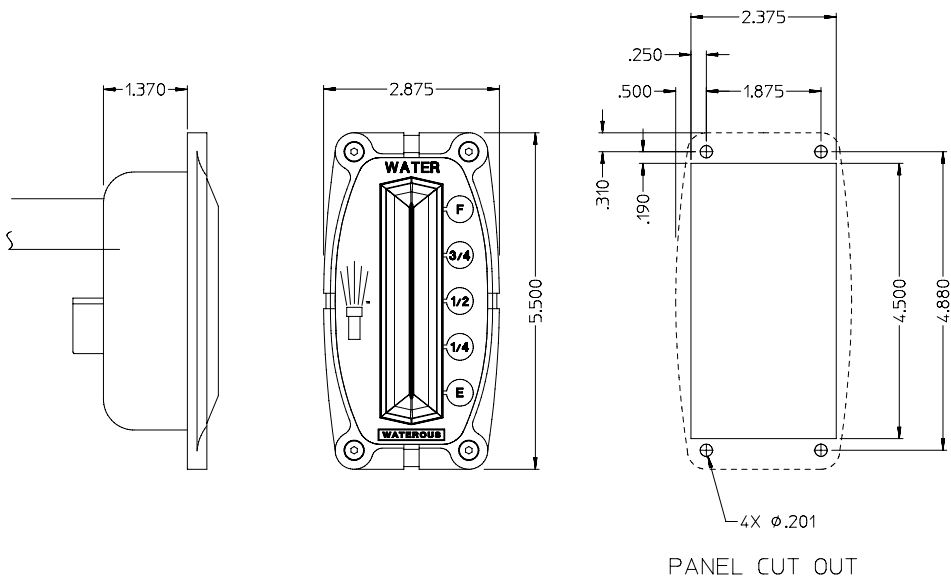
3. All panel and cable components of the Auto Tank Fill system are packaged together. The Auto Tank Fill selector switch panel, electric valve position control panel and water tank level monitor panel must be

grouped together on the operator's panel. Recommended panel cut-outs are defined below.

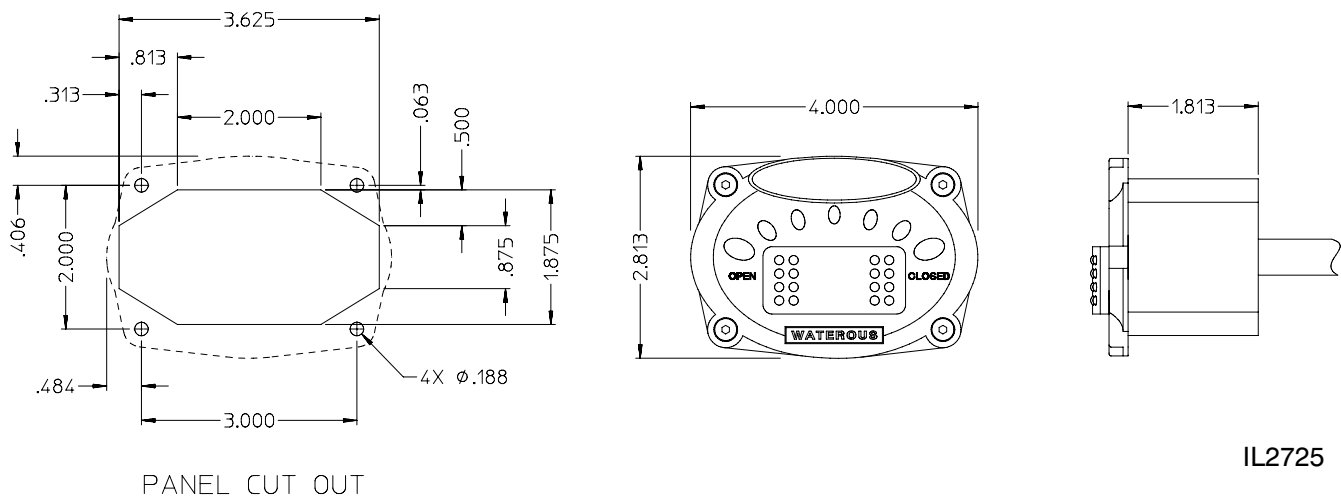
**Figure 2. Selector Switch Panel**



**Figure 3. Tank Level Monitor Panel**



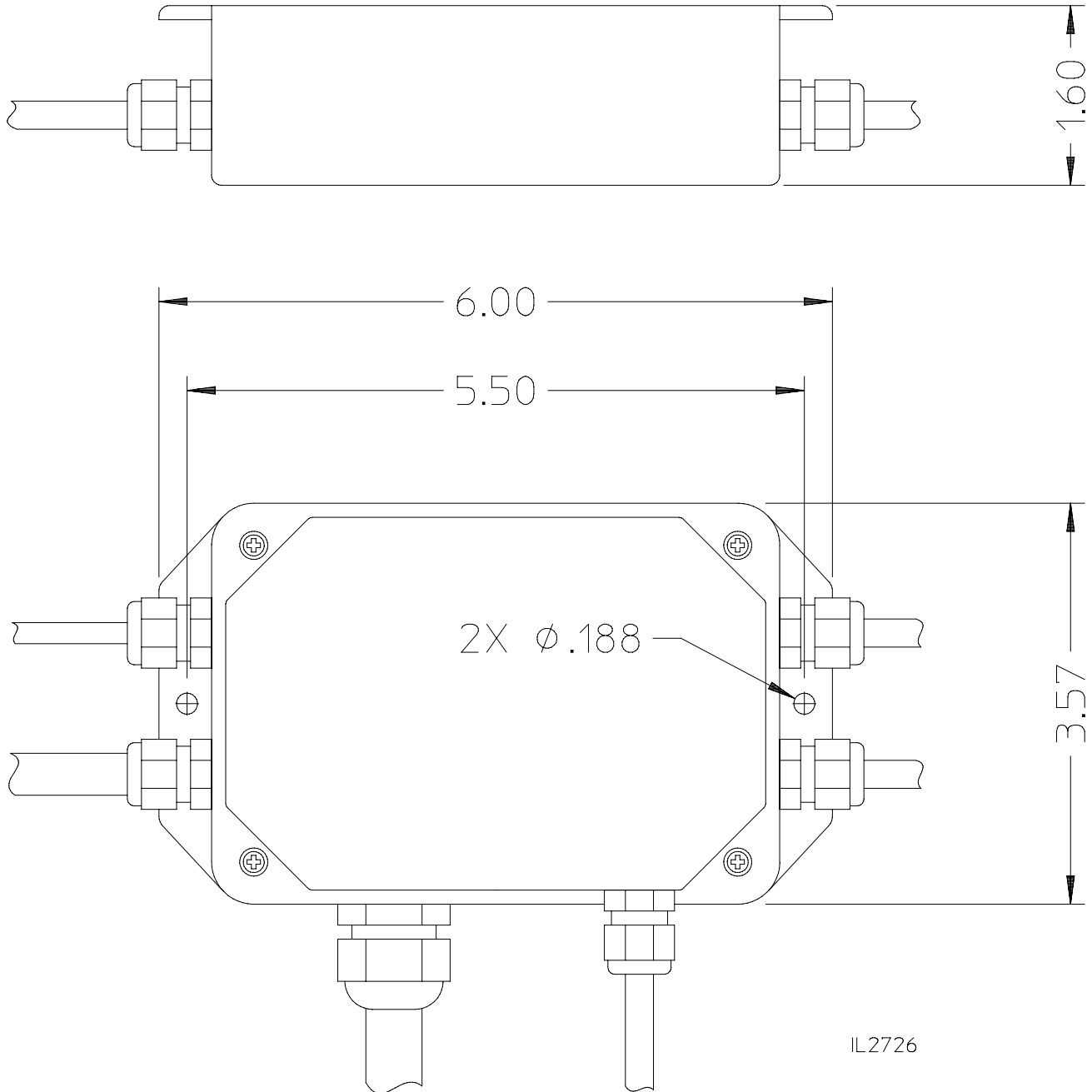
**Figure 4. Electric Valve Position Control Panel**



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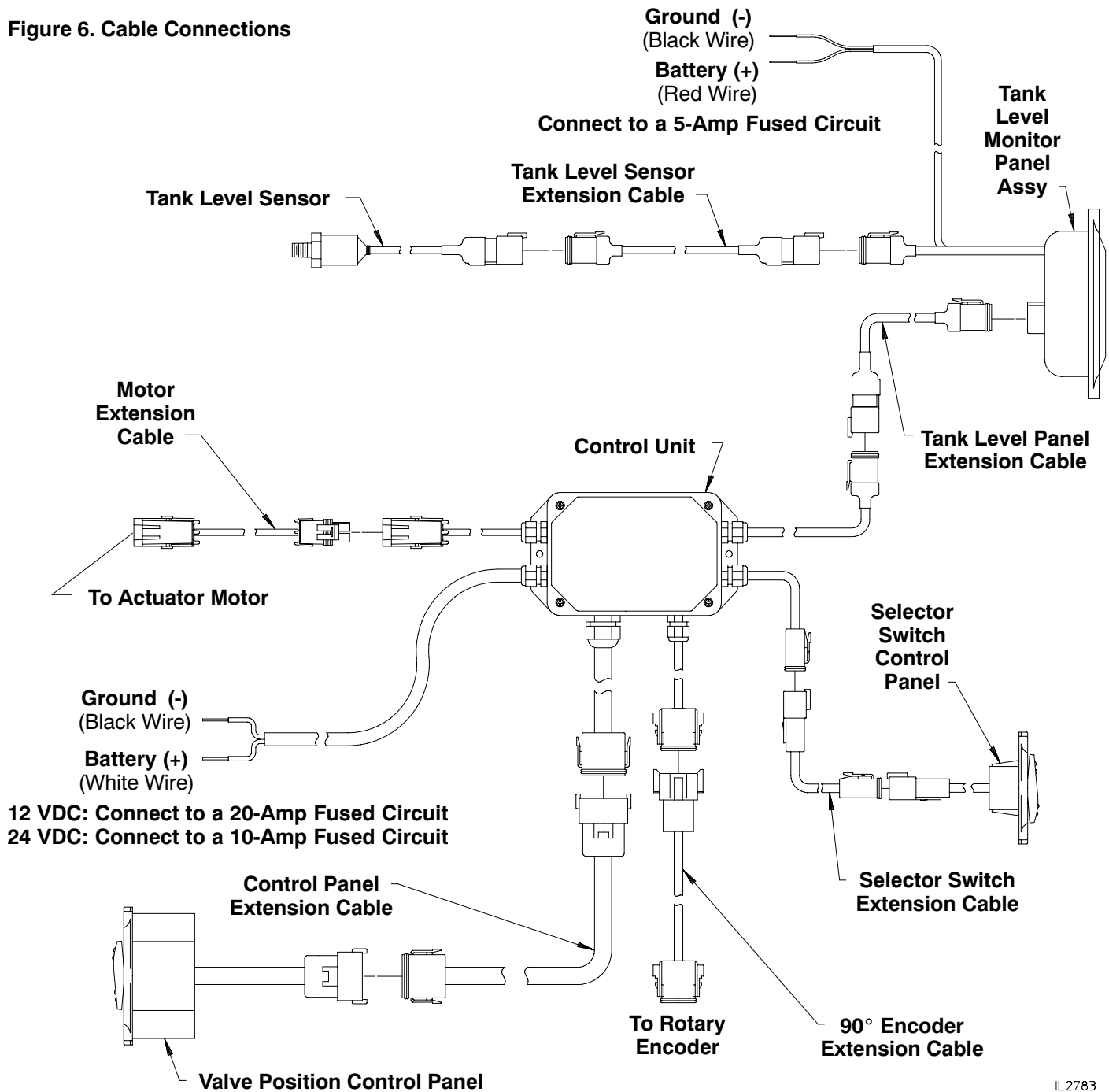
4. Cable lengths from panel-mounted displays (tank level monitor, valve position control and selector switch) to the control unit are 5 feet in length. Choose a mounting location for the control unit accordingly.

**Figure 5. Control Unit Mounting**



5. Connect cables and components to control unit as shown in Figure 6.

**Figure 6. Cable Connections**



6. See separate Tank Level Monitor instructions for recommended mounting of the tank level sensor.
7. Connect the battery “+” wire of both the control unit and tank level monitor to a switched power supply (switch OFF), with external circuit protection defined in Figure 6. Be sure the identification tag on the power wires of the control unit states the correct voltage (12 VDC or 24 VDC) for the intended application.

8. Connect the battery “-” wire of both the control unit and tank level monitor to chassis ground.

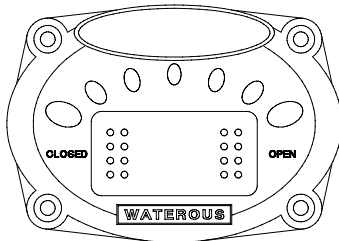
**Note:** Before applying power to the tank level monitor for the first time, read the Level Monitor Calibration Installation Instructions to be familiar with the procedure before actually performing the calibration.

9. Calibrate the tank level monitor according to separate Level Monitor Calibration Instructions.

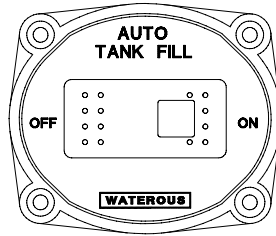
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# Operation

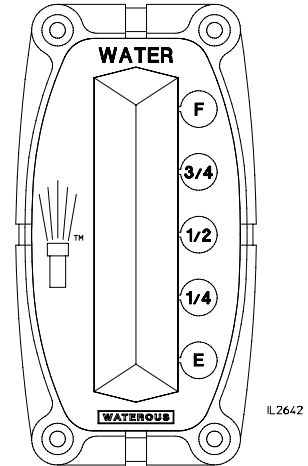
Figure 7. Auto Tank Fill Control Panel, Switch and Display



**Electric Valve Position Control**



**Auto Tank Fill Selector Switch**



**Tank Level Monitor**

## **WARNING**

**Insufficient Inlet Water Supply. May result in pump cavitation and loss of discharge pressure causing equipment damage and possible personal injury.**

The Auto Tank Fill system is intended to maintain the on-board tank's water level. This system can do so only if there is a sufficient water supply feeding the water tank. If the pump is operated at a capacity exceeding the inlet water supply to the water tank, it is the responsibility of the pump operator to make the needed adjustments so the correct water supply of the pump is maintained. Failure to do so can cause pump cavitation and loss of discharge pressure, which could result in equipment damage or personal injury.

## **WARNING**

**Loss of pump prime. May result in pump cavitation and loss of discharge pressure, causing possible equipment damage and personal injury.**

**DO NOT** open the Auto Tank Fill valve during drafting situations when plumbed into the pump intake piping. An open valve on the external fill line can allow air into the inlet piping, which may result in loss of prime.

With a **positive pressure** water supply connected to appropriate external fill line and switched power ON to both Auto Tank Fill control unit and Tank Level Monitor:

## **Auto Tank Fill Mode**

1. Place the Auto Tank Fill selector switch in the ON position. The green LED on the switch will illuminate.
2. The external fill valve will now automatically open/close to maintain tank water level between 50% and 80% capacity.

**Note: It is normal for the valve to produce a ratcheting sound upon reaching the fully open or fully closed position.**

3. To override the Auto Tank Fill when the selector switch is ON, simply push the rocker switch on the valve position control panel in the direction you wish to move the valve. The green LED on the selector switch will turn off, indicating that the system is no longer in Auto Fill mode. After 3 seconds of non-interaction from the pump operator, the system will return to the Auto Fill mode and the green LED will again illuminate.

## **Manual Tank Fill Mode**

1. Place the Auto Tank Fill selector switch in the OFF position.
2. The external fill valve is now controlled manually by using the valve position control panel, so it is the pump operator's responsibility to watch the tank water level on the tank level monitor and maintain as desired.

**Note: It is normal for the valve to produce a ratcheting sound upon reaching the fully open or fully closed position.**

# Maintenance

No scheduled maintenance is required. Contact a Waterous service specialist at 651-450-5200 for replacement parts and cables.