

E-VALVE

Instruction Manual

Congratulations on your purchase of the Valterra E-Valve. Please read through the installation instructions completely before installing the E-Valves.

Before You Start:

It is strongly recommended to empty and rinse all gray, black and galley tanks before beginning installation of your new E-Valves. We also recommend wearing gloves and protective eye wear when removing existing valves. Important Note: When removing existing valves do not position yourself directly under the existing valve as water or fluid may remain in the plumbing system. Use of a catch pan or bucket under the existing valve upon removal will keep a dry work area.

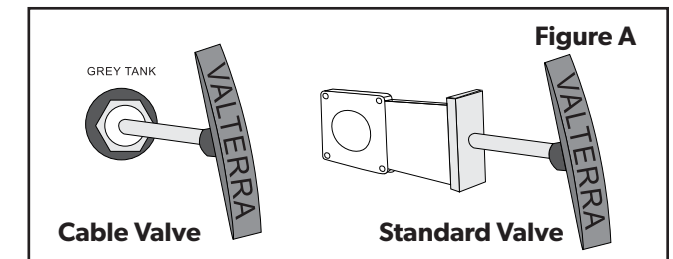
Vehicle Preparation:

Once tanks have been emptied and rinsed it is time to locate your existing valves. Valves can be positioned in various locations: If the valves are easily located continue to identify a switch location. The existing valves on the RV will be cable valves or standard handle valves. If your valves are located under your coach with a protective underbelly, you will be required to either cut or drop/remove the underbelly to gain access to the valves. (If cutting the protective underbelly is required, we recommend cutting three sides to gain access to the valves. Upon completion of the installation simply use black duct tape to re-seal the underbelly). We recommend locating the existing valve handles and drain pipe on the exterior or compartment of the coach to determine which valves you have and where they are located. See **Figure A**

Switch Mounting:

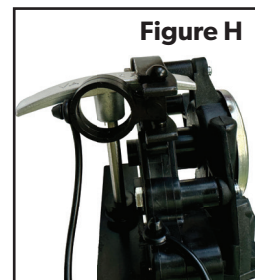
Important Note: Make sure to identify your different tank type gray/black/galley. 3" valves are used for both black and gray tanks while 1-1/2" valves are used only on galley and gray tanks. Make sure the black tank uses the black switch plate while the gray is used on gray and galley tanks only.

Tools Required
Drill
1-3/4" Hole Saw - 1/16" Drill Bit
Wire Strippers
Phillips & Regular Screw Driver
11mm Wrench (2) - 3" E-Valve
8mm Wrench and 3/8" Wrench - 1-1/2" E-Valve
Clear Lithium Grease
Torque Wrench (in/lbs)
Clamps
HD Zip Ties



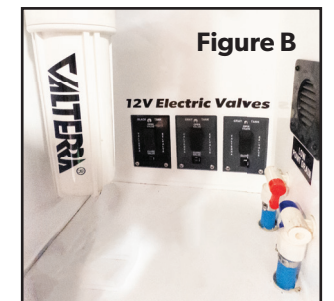
Manual Override:

If ever it becomes necessary to use the E-Valve manual override, remove the ring pin from the valve lift arm. Removal of the ring pin should be removed carefully and using light hand pressure to remove. Do NOT use tools to remove ring pin. Rotate the valve handle 90 degrees and open or close the valve. When power is restored rotate the valve handle 90 degrees and locate within the actuator bracket and re install the ring pin in slots on the actuator bracket See **Figure H**. DO NOT place the valve handle in the finger ring pin.



Step 1:

Identify where you wish to locate the switch panels. It is recommended that the switch plates are mounted within an existing compartment. If a series of handles are located within a single compartment, you likely have cable valves and replacing those handles and valves with the new switch plate/plates is preferable. See **Figure B** for example. Make sure the switch location has enough space behind the wall or mounting surface to accommodate the switch and wiring. The switches should not be mounted in a position that is exposed to weather. If multiple valves are to be installed, make sure adequate room for all switch plates is available.



Step 2:

Upon selection of the proper switch plate, 3" Black or 1-1/2" Gray, proceed to **Figure C** (on page 3) for switch installation template and important notes. Drill the switch plate holes indicated for either a single or multi-switch system. Note: Minimum spacing between switches of 4" center line to center line as to ensure switch plates do not overlap.

Step 3:

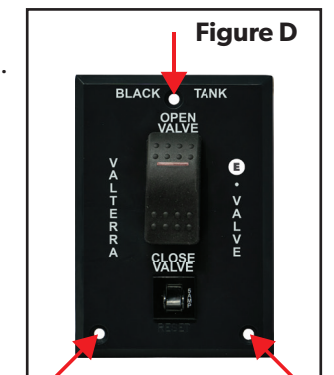
Feed the switch plate wires through the drilled holes.

Step 4:

Using the switch plate as a template, drill (3) 1/16" holes to mount the switch/switches to the wall see **Figure D**. Secure the switch to the wall using the screws provided.

Step 5:

If additional E-Valves are being installed, follow the above steps for additional switch installations. Note: The 1-3/4" holes cannot be closer than 4" center to center. Helpful tip: If multiple switches are being installed, it is recommended that the wiring and switch be marked with colored tape as to the tank it is intended for. i.e. Black 1, Gray 1 and Galley. This will avoid any confusion as to which switch goes to which valve.

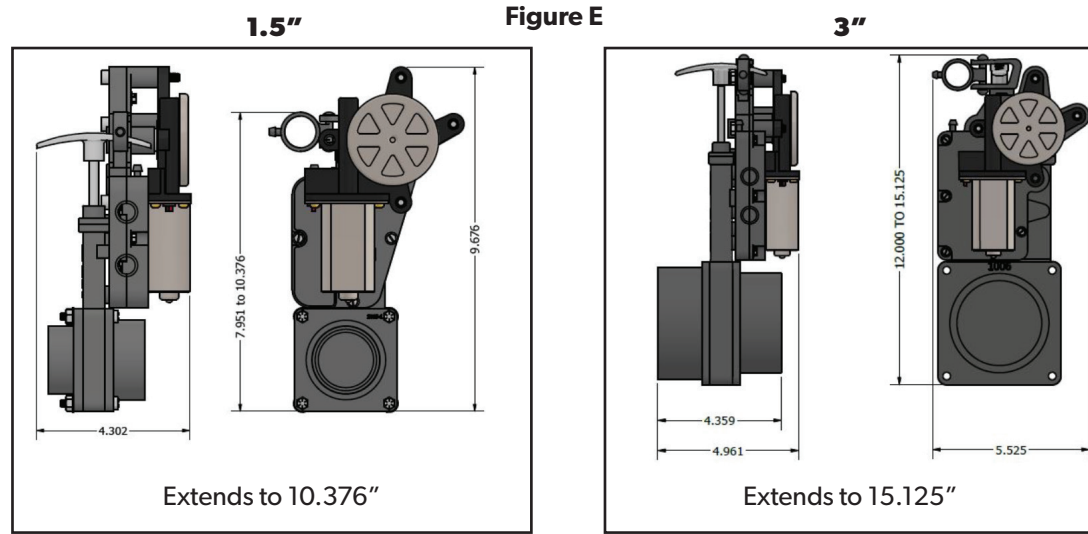


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Valve Installation:

Helpful Tip: Extra lighting under the coach is recommended.

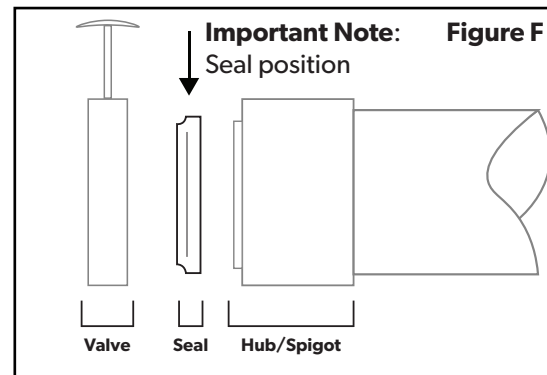
Step 1: Waste water can flow either direction through the E-Valves. The E-Valve must be mounted so there is sufficient clearance for the mechanism to fully extend to the open position during operation. See **Figure E** for extended heights while open on the 3" and 1-1/2" E-Valves.



Step 2: Remove the existing nuts, bolts, valve, and seals. Use of the catch pan or bucket in this step is recommended. If the valve you are replacing is a cable valve either cut the cable or unhook the cable wire at this time.

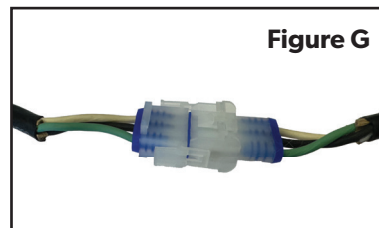
Step 3: Prep the E-Valve and new seals. Use clear lithium grease (not included) to coat the new seals, this will assist in leak prevention and holding the seals in place during installation. Either position the seals over the existing flange fittings that the valve is attached to or nest the seal in the E-Valve itself. TWO seals per valve See **Figure F**.

Step 4: Once the E-Valve is prepped, carefully slide the valve between the existing flange fittings ensuring that the seals remain in position. Use of small clamps on opposite corners will ensure that the E- Valve stays in place while bolts are inserted. Hand tighten the four nuts onto the bolts provided. See **Figure C** for the bolt tightening sequence and torque specifications. The tightening sequence and seal placement are critical to maintaining a leak proof seal. Final torque spec is 32 in/lbs.



Important Note: Make sure once the valve installation is complete that the plumbing assembly is secure, the use of HD zip ties (not included) can be used to support the valve assembly plumbing if excessive movement is detected.

Step 5: Connect the male and female wire harness connectors from the switch to the E-Valve. Secure wiring with HD zip ties (not included) If additional wire is required use 18-gauge automotive wire and weather resistant connectors (not included). See **Figure G**



Step 6: Connect the white wire to the positive side of a 12VDC constant power source.

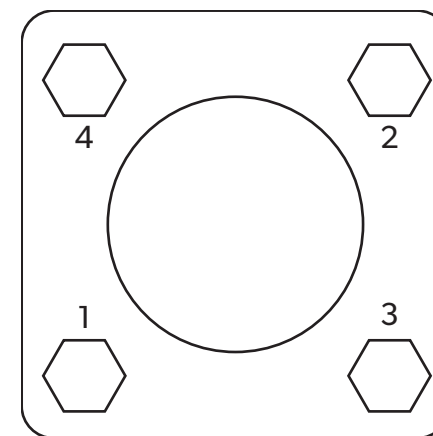
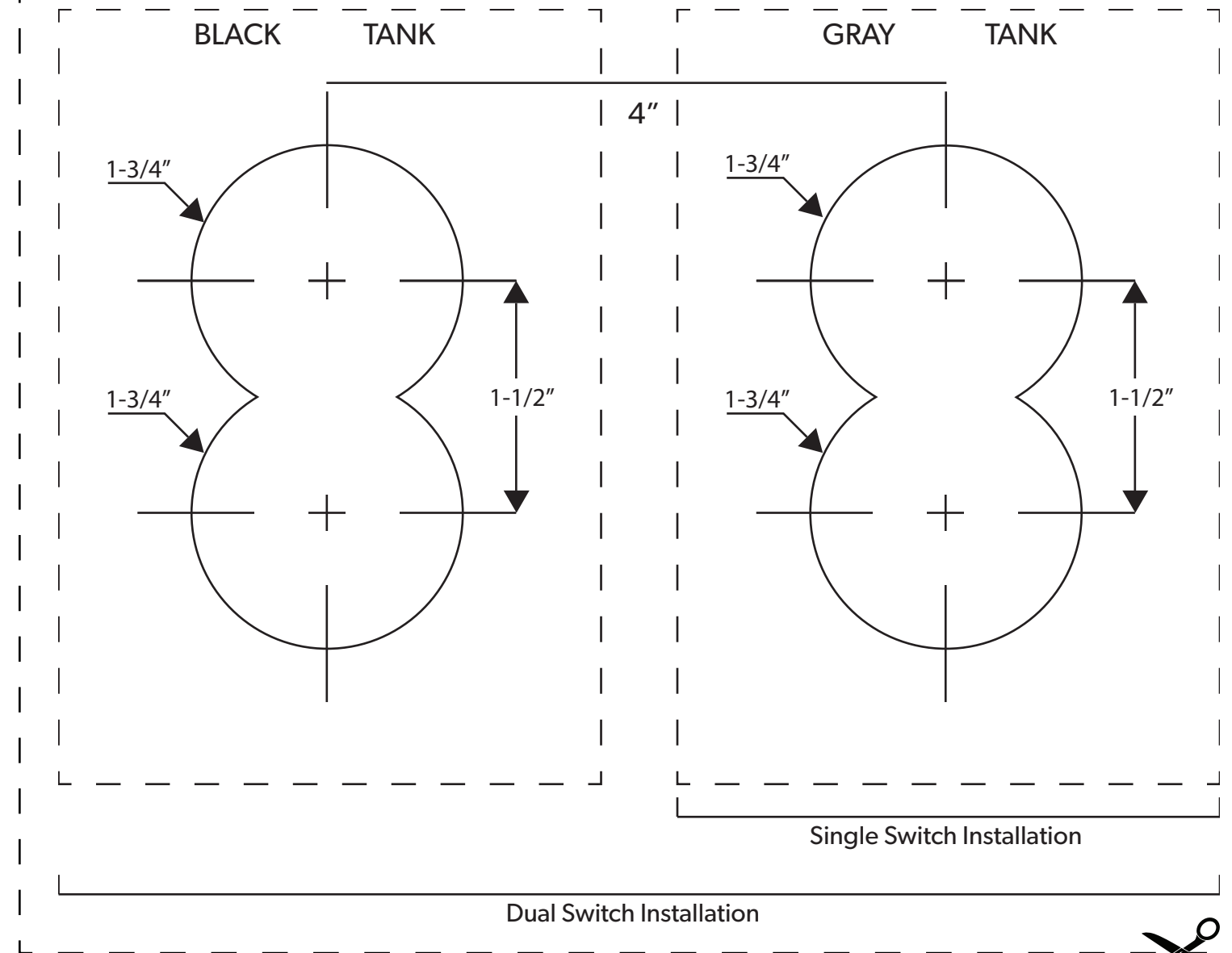
Step 7: Connect the black wire to the negative side of a 12VDC constant power source.

Step 8: Secure power wiring with HD zip ties (not included)

Your all new E-Valve system is now installed and ready to test. It is recommended to open one E-Valve at a time and make sure the valve is opening and closing as well as ensuring that the correct switch and valve are connected. Before sealing the underbelly it is recommended that water be put in the tanks to test for any leaks. If a leak is located, reverse the tightening sequence and give each bolt an additional 1/4 turn.

Switch Template

Figure C



E-Valve Tightening Sequence
32 in/lbs - Torque Spec.

Note: When installing the E-Valve to the existing RV connections, use a clamp to hold in place while nuts and bolts are installed finger-tight.

Important: Use of clear lithium grease to lubricate and hold the "O" Ring seals in place is recommended.