



R1 Command Module



R5 Command Module



T434B Tank Unit



T434R Tank Unit



Pressure Sensor 1

Implementing a Trickle Feed or Top-Up system using the Aquameta T434R

The Aquameta T434R Tank Unit is an ideal control system for implementing Top-Up or Trickle Feed:

- Aquameta is very quick and easy to install.
- Safe. Low voltage operation 12V DC.
- Cost effective. The Air Gap method of top up is used which eliminates expensive control and backflow prevention valves.
- No maintenance. There are no mechanical parts that can break down.
- Dial up settings for determining low and high water trigger levels. This makes it very simple to set your low and high water levels and eliminates the overheads installing mechanical floats and switches.
- Easy to calibrate. You do not need specialized equipment to set up the system.

A Top-Up or Trickle Feed system is a process whereby a water tank is topped up from the reticulated water supply (piped drinking water) when the water in the tank runs low. The idea is that the tank is not topped up to its maximum level, instead the tank is partially topped up so that most of the tanks capacity is reserved to receive rainwater.

Top-Up systems are implemented in one of two ways:

Option A: Top-Up the tank from above utilizing the Air Gap method

Option B: Top-Up the tank by connecting the water tank directly to the reticulated water supply via a control valve.

Option B is expensive and problematic because special control valves and backflow prevention devices must be connected. Direct connection of rainwater tanks is prohibited in many areas of Australia.

Implementation

All plumbing work must be done by an accredited plumber in accordance with the relevant Australian and local Authority standards. In particular, attention must be paid to any standards that the local authority may have in relation to rainwater tanks. If you have a metal tank, then you should not connect or use any dissimilar metal in or on your tank. This may invalidate your tank warranty because dissimilar metals generate electric current and can corrode your tank.

1. Install the plumbing.
2. Install the Aquameta T434R Tank Unit.
3. Connect the Solenoid Valve to the relay in the Tank Unit.
4. Connect the Tank Unit to a 12V DC source that can deliver 1A
5. Set the low and high trigger point on the Tank Unit
6. Check that it works

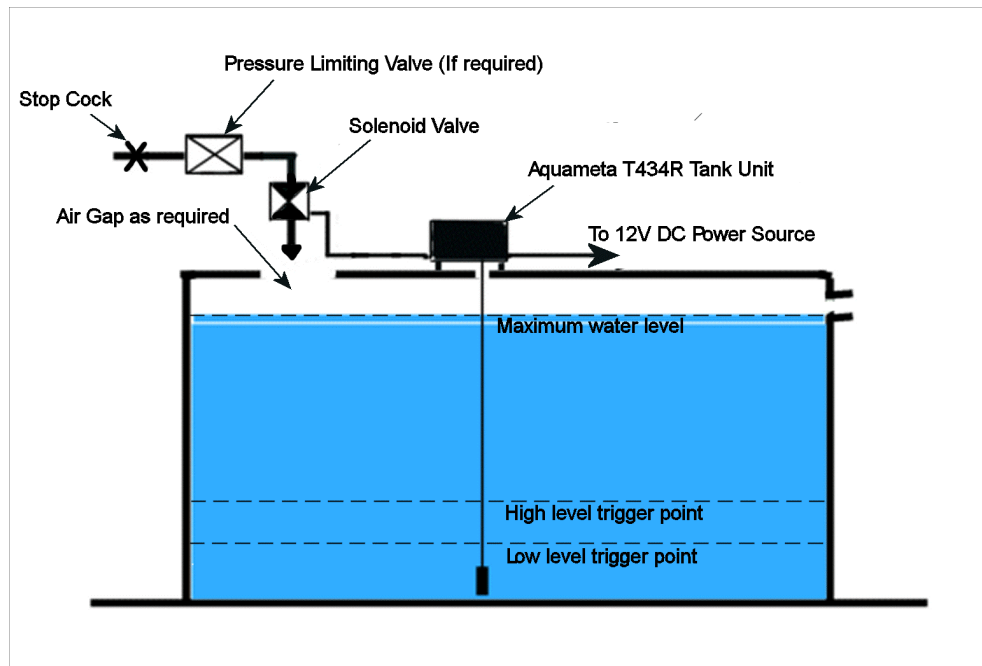


Figure 1

Install a pipe from the reticulated water supply to the top of the tank as per **Figure 1**.

Install a stop cock.

Install a pressure limiting valve if required. This is generally required if the mains water pressure exceeds 500Kpa. Check with your local authority.

Connect the 12V DC solenoid valve (**Figure 3**) to the pipe. This valve has a $\frac{3}{4}$ inch BSP inlet and outlet. **The solenoid valve has an arrow on it to indicate the flow direction.**

Attach a pipe and/or any other flow restrictor to the outlet of the solenoid.

Ensure that an unobstructed vertical distance air gap exists between the end of the plumbing and the maximum top water level in accordance with AS 3500 or as required by your local authority (generally 100mm). (Note that some councils require the air gap to be positioned in a way that the water flow from the Top-Up system is visible from outside the tank.)

Install the Aquameta T434R Tank Unit on top of the tank as per installation instructions found in "Aquameta T434R Hardware Installation and User Guide".

Connect the solenoid valve to the relay in the Aquameta as per **Figure 2**.
(Note: It does not matter which terminal of the Solenoid Valve is connected to positive or negative.)

Connect the one end of the Solenoid Valve to the 12V DC + terminal (Orange Terminal Block in the Tank Unit).

Connect the other end of the Solenoid Valve to the normally Open (NO) terminal on the relay base.

Connect the associated Common (COM) terminal to the 12V DC – terminal (Orange terminal block).

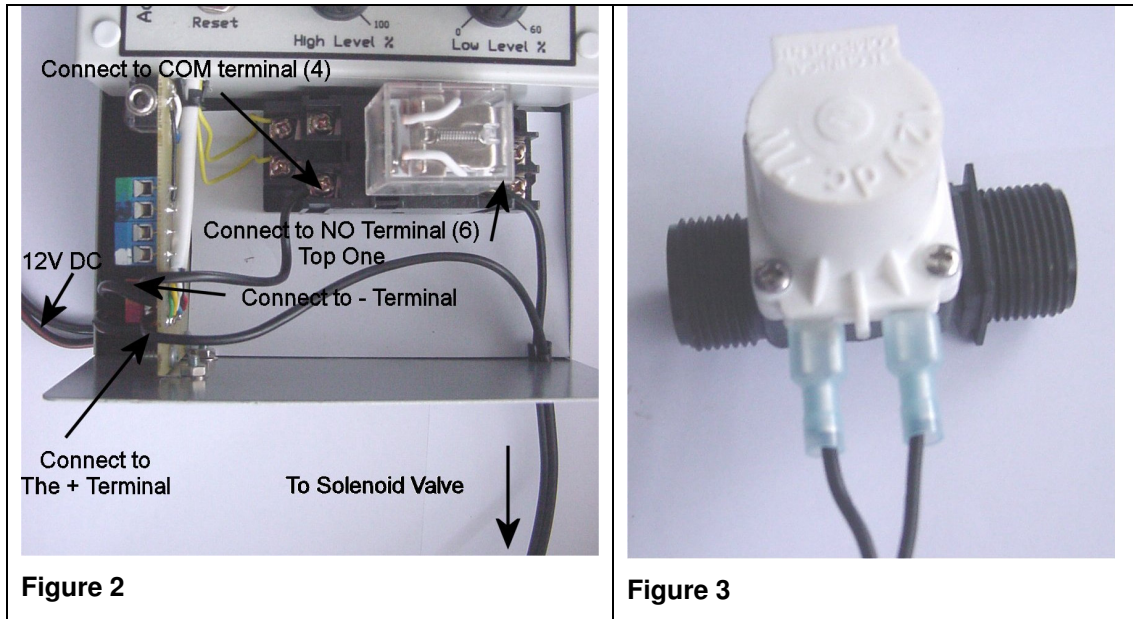


Figure 2



Figure 3

Connect a 12V DC source to the Tank Unit that is capable of delivering 1A.

Complete the Tank Unit Calibration.

Dial up the low and the high level % limits on the Tank Unit face plate.

The low level setting is where the topping up process will commence. The High level setting is where the topping up process will stop.

Power up the system

Check that it all works by raising the depth sensor from the bottom of the tank until the solenoid valve comes on and water starts to flow. Check that the distance from the sensor to the surface is more or less in accordance with your low level setting. Adjust the low level setting until desired trigger level is obtained.

Raise the depth gauge until the water starts to flow. Now slowly lower the depth gauge until the water stops. Check that this distance is in accordance with your high level setting.

The Top Up system is now ready for use.

www.anadexlabs.com.au