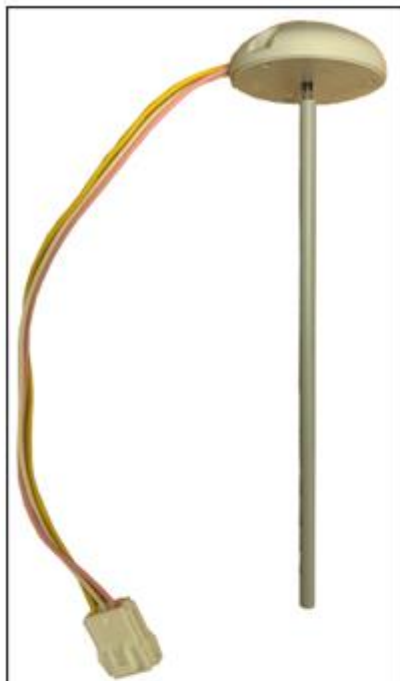
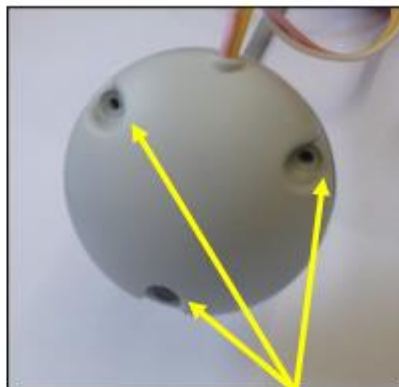


This document contains information on how to fit the BCA Pressure Probe to water/waste tanks as well as other factors that must be considered when installing a BCA Pressure Probe.

BCA Pressure Probe:



BCA Pressure Water Probe

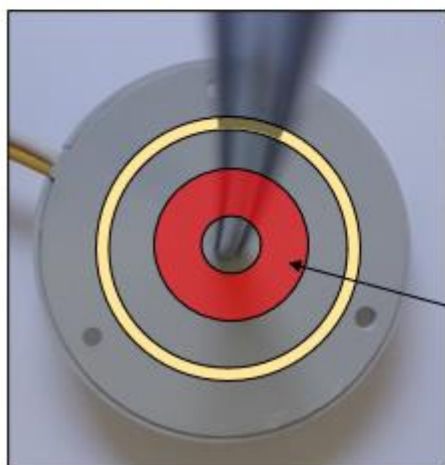


BCA Pressure Water Probe Top note the 3 screw holes for M3 screws

Storage Information:

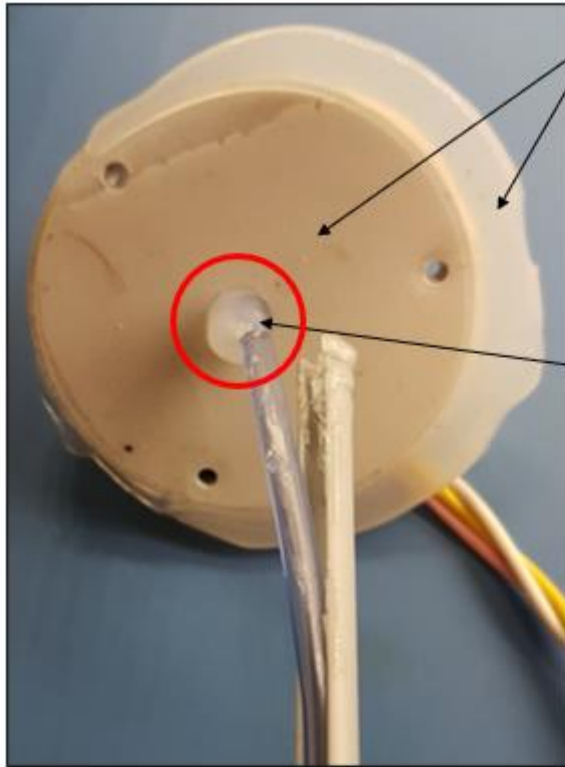
Ensure that the probe is stored inside and in a dry location as the probe is not waterproof and water ingress can cause damage to the probe.

Silicone Sealant Location and Amount:



When fitting the Water Probe please seal the probe to the water tank using Silicone Sealant, this is to prevent any water from overflowing through the new hole in the tank.

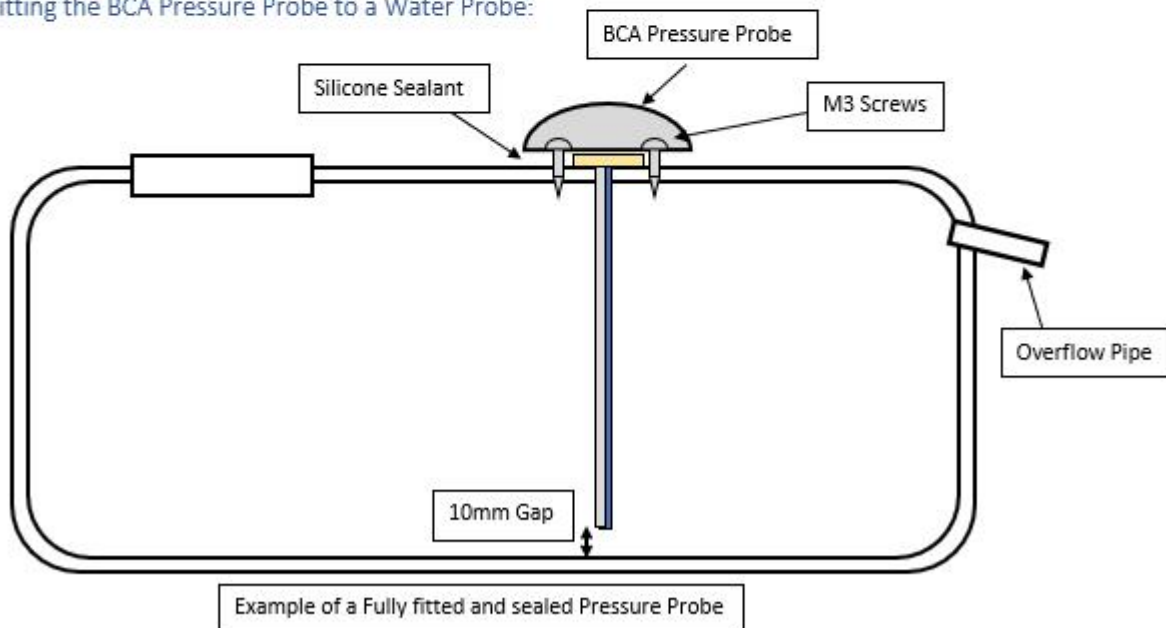
Only a small amount of sealant is required to make a water-tight seal. If too much sealant is used then it may block the tube entry hole or cause other issues. Avoid placing any sealant in the red ring.



Here we can see a water probe that was sealed to a water tank with too much sealant. The sealant has bulged through the 10mm tube entry and covered the pressure pipe and rigid pipe as well as flooding out from under the probe.

When sealant surrounds the pressure pipe it can prevent the water probe from operating correctly, it is very important to ensure that no sealant is present on the water pipe.

Fitting the BCA Pressure Probe to a Water Probe:



The probe uses the air pressure inside the pipe to measure the water level, as the water level increases in the tank so does the air pressure inside the pipe. This increase in pressure corresponds to a rising voltage on the signal wire which is measured by the BCA Control Panel.



The pressure probe can be cut to any length (although we recommend leaving a 10mm gap between the bottom of the tank and the bottom of the probe). For instructions on how to cut the probe down to length please see the "Modifying Probe Length" section near the end of this guide.

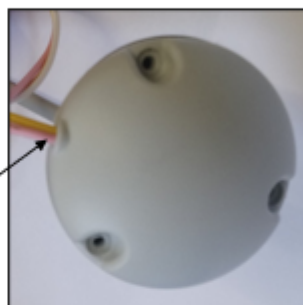
To install the water probe, drill a 10mm hole in the top of the water tank and clean the area around the hole and remove any swarf or remaining plastic, simply insert the pressure pipe into the new 10mm hole and check that the probe length is OK. There should be a 10mm gap between the base of the tank and the end of the pressure probe.

With the probe length confirmed, place a thin bead of Silicone Sealant in a circle on the base of the water probe plastics as shown on the previous page. The Sealant can alternatively be applied to the water tank instead, but care must be taken to ensure that the sealant will line up as required by the diagram on the previous page.

Now that the sealant is in place, push the probe down onto the top of the water tank and fix the probe in position using 3 x M3 screws, screw the water probe in position with the 3 screw holes present on the probe's plastic housing. There will be some resistance from the rubber gasket during this but once the gasket is perforated it will screw in place as intended.

When fitting the probe ensure that the cable-entry point in the plastics is clear as the sensor uses the air gaps in this entry point to measure the water pipe pressure versus the atmospheric air pressure. Blocking this hole completely will prevent the probe from operating correctly.

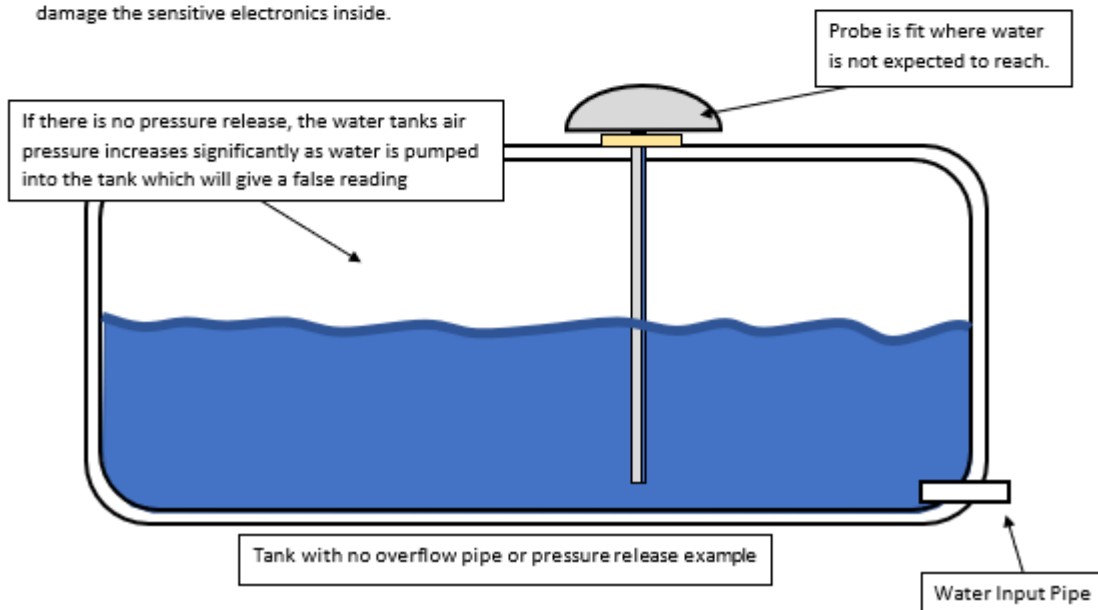
Ensure the wire entry point is clear of obstructions



Water Tank Information:

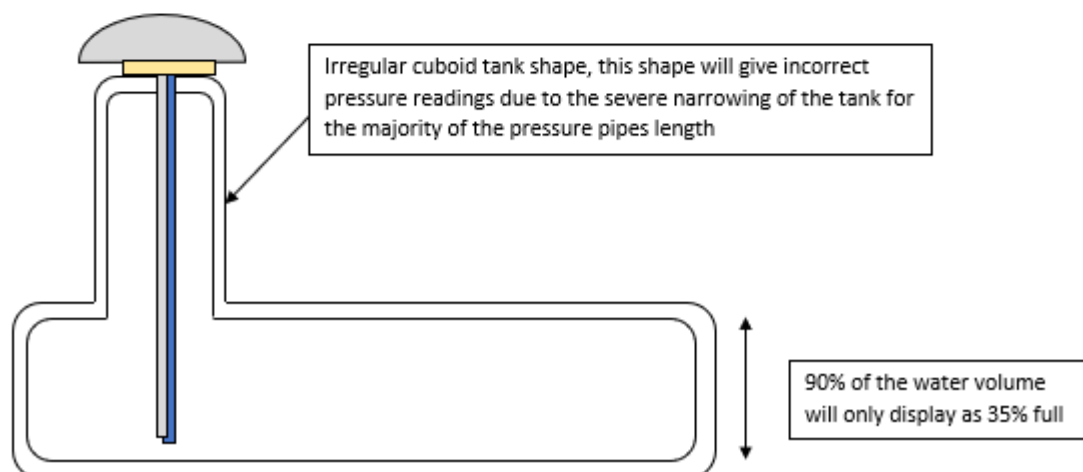
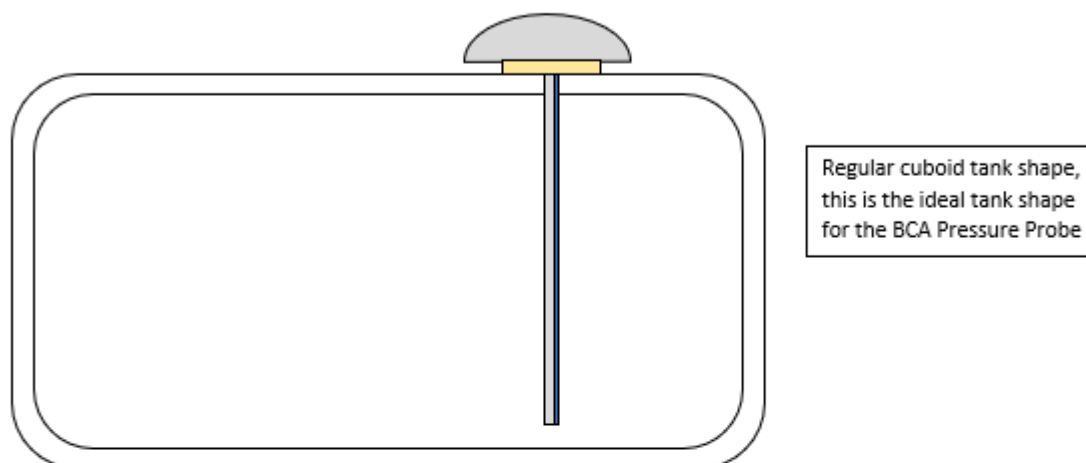
When using a pressure probe there should be an overflow pipe or pressure release hole in the tank, this is because if the tank is filled or emptied without adequate pressure release then the probe will be unable to give accurate readings until the air pressure in the tank has equalised with the atmospheric pressure.

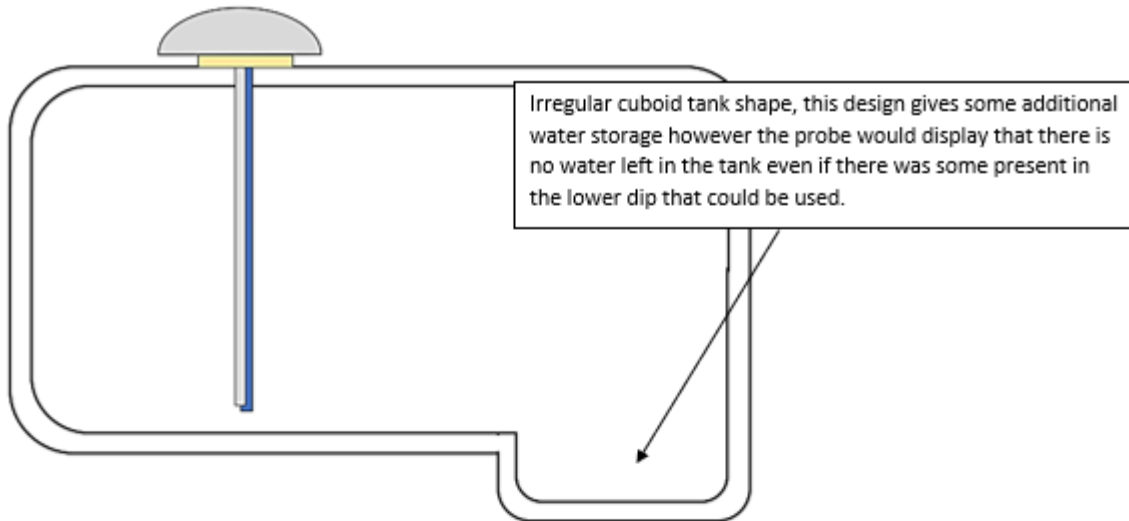
When fitting the pressure probe to a tank, care must be taken to fit the probe in a position where it is not expected to come into contact with water. This is because the pressure probe is not waterproof and water ingress may damage the sensitive electronics inside.



If the water tank has a non-standard shape (not mostly rectangular) then it can interfere with the probe's water level measurement. The ideal tank shape is a regular cuboid as shown in the example images used in the sections above, the further the tank shape deviates from being a regular cuboid the more likely the water level measurements will be incorrect.

Some examples of water tanks that will give incorrect or unexpected water level readings and an explanation as to why can be found below.



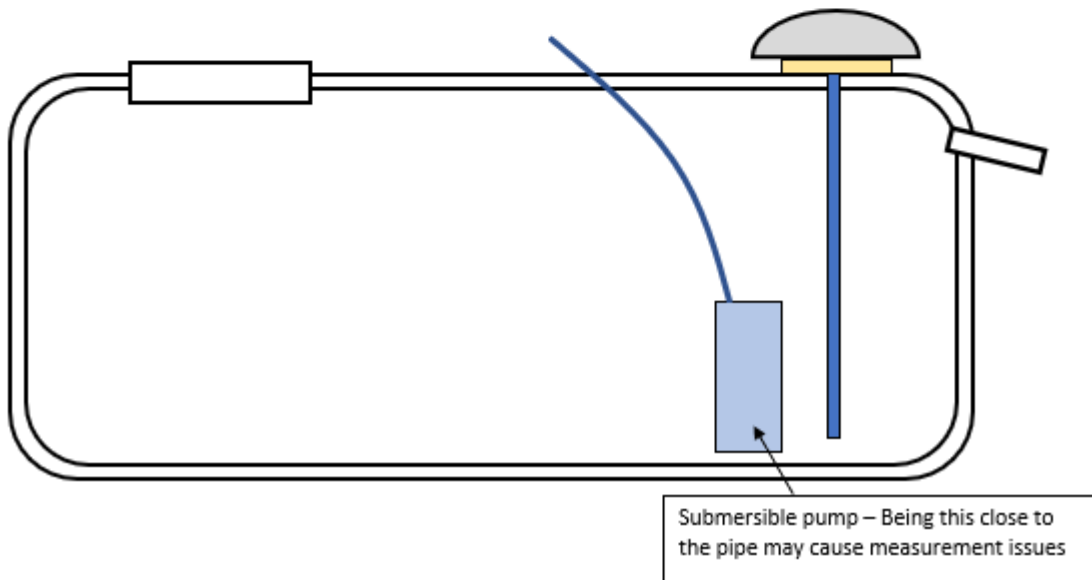


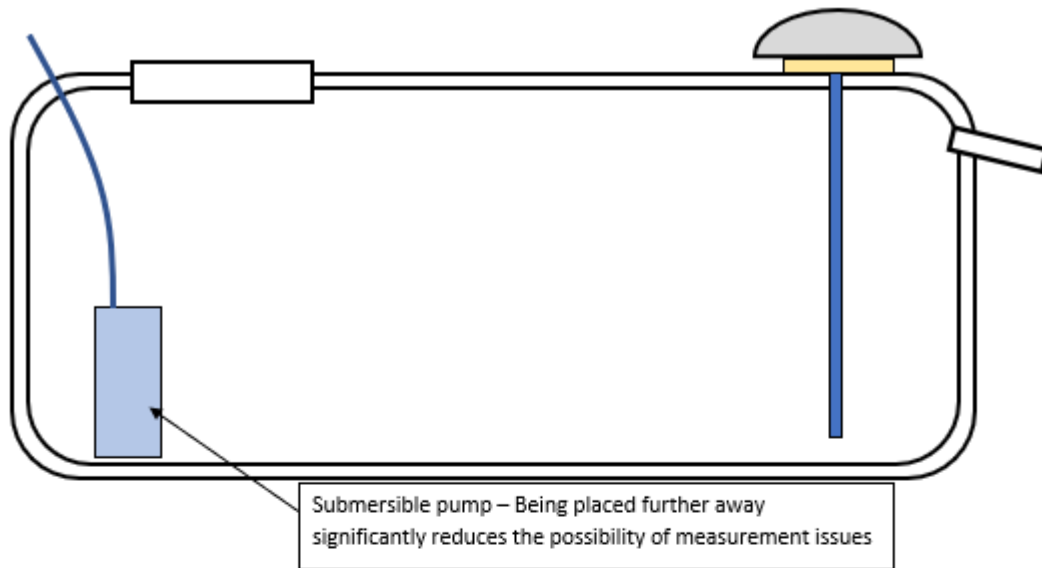
Water Probes & Internal Pump Fitting Info:

When fitting the water or waste probes, care should be taken to ensure the end of the probe's pressure pipe is not located near any submersible pumps, water inputs or outputs.

If water is pumped into the water tank next to the probe's pressure pipe then this can cause the water probe to measure a higher than actual water level measurement, this is due to the temporary increased water pressure caused by the water being pumped into the tank.

If water is pumped out of the water tank near the probe's pressure pipe, like when being used by the taps or shower, then this can cause the water probe to measure a lower than actual water level measurement, this is due to the temporary decreased water pressure caused by the water being pumped out of the tank.

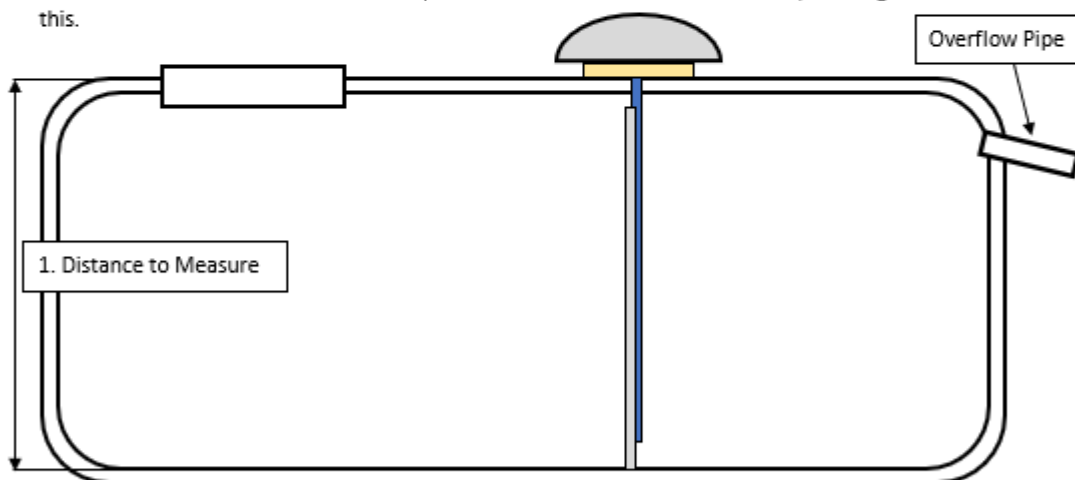




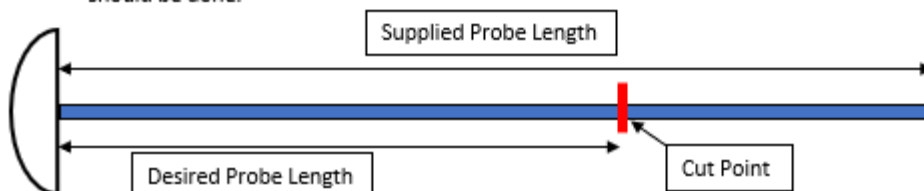
Modifying Probe Length:

If the probe has been supplied at a generic length and needs to be modified to fit into the required tank then please follow the steps highlighted below:

1. Measure the desired tank depth, this can be done by measuring the distance between the bottom of the tank inside the water volume and the top of the tank on the outside of the tank, the diagram below shows this.



2. Once this tank depth is measured, reduce the measurement by 10mm, this 10mm is to account for the 10mm gap that must be present between the floor of the tank and the end of the water probe. For example, if the measured distance is 200mm, the probe length should be 190mm
3. Using a wire cutter, cut down the air pipe to the required probe length, the diagram below shows how this should be done.



4. Once the pipe has been cut down, ensure that the beige plastic retaining cover is not squeezing the end of the pipe as shown in the image below, if the beige supporting pipe is squeezing the blue air pipe then it can prevent reliable or accurate pressure measurements by the probe

