



This guide is meant to serve as a quick reference for calibrating the Aquaprobe.

It is for your convenience and is not intended to replace the information found in the Operations Manual provided.

RapidCal is an easy way to calibrate an AQUAPROBE in the field using just one calibration solution. RapidCal calibrates EC at 2570 $\mu$ S/cm, the pH7.00 point and the Zero NTU Turbidity point simultaneously. Ideally, this procedure should be carried out at the beginning of each day the Probe is to be used. To use RapidCal:

- 1 Remove the Sleeve Cap from the Probe if fitted. Remove the lid from the RapidCal bottle and drop the Probe in all the way.
- 2 When the Probe is inserted, Ensure the level of the solution is right up to the threaded part of the bottle. If the level is low, the EC electrodes will not be covered and EC will not be calibrated properly (see photo).
- 3 Gently bang the Probe against the pad in the bottom of the bottle several times in order to remove any air bubbles that may be clinging to the electrodes.
- 4 Switch the AQUAMETER on and wait until the temperature, EC, pH and Turbidity measurements are completely stable. This is very important. Temperature must be between 10°C and 30°C (50°F - 86°F). The longer you can leave the probe to achieve thermal equilibrium before proceeding, the better.
- 6 Press the MENU key then select Calibration then RapidCal.
- 7 Wait while the AQUAMETER carries out its automatic calibration procedure.
- 8 When calibration is complete, press OK then ESC repeatedly to return to normal mode.



The DO 100% point should now be calibrated in damp air.

- 1 Wash the Probe in fresh water, then shake off ensuring there are no droplets adhering to the DO membrane.
- 2 Take an empty calibration bottle, rinse with fresh water, then empty it leaving the inside wet but with no standing water.
- 3 Insert the Probe and wait until the temperature measurement is completely stable. This is very important. Temperature must be between 10°C and 30°C (50°F - 86°F).
- 4 On the Aquameter, press MENU then select Calibration then DO 100%. Wait while the

AQUAMETER carries out the calibration procedure. When calibration is complete, press OK then ESC repeatedly to get back to normal mode.

Due to the fact that debris, air bubbles and temperature variation can adversely affect EC calibration, it is essential to verify that EC calibration has been properly achieved after using RapidCal. To do this, remove the probe from the RapidCal solution, shake it off then re-insert it and check that the EC reading is between 2545 $\mu$ S and 2595 $\mu$ S. If the reading is outside these limits, recalibrate, this time leaving more time for stabilisation. For full details, refer to section 14.8 of the full manual: Verifying EC Calibration.

If the AQUAMETER detects any problems with either the AQUAPROBE or the calibration solution, an error will be indicated accompanied by an error code number. Refer to the full manual for further information and help with troubleshooting.

To perform a full calibration follow steps 1 through 4 above only submerge the probes in the desired calibration solution. Press the menu key and then select 'full calibration'. Scroll through the options to the parameter you wish to fully calibrate using the arrow keys and the enter key. This should take you to the automatic calibration procedure as with the rapid cal.

### **pH/ORP Electrode Calibration and Maintenance**

pH/ORP should be calibrated fully at least once a week to ensure optimum accuracy. Full pH calibration involves calibrating first at pH 7.00 then at pH 4.01. ORP calibration involves a single point calibration. Please refer to the full manual included on the accompanying CD for further details.

It is very important that pH/ORP electrodes are kept moist when not in use. This is achieved by always fitting the rubber storage cap, which incorporates a sponge soaked in a special storage solution. The sponge within the storage cap should be moistened with a few drops of pH Electrode Storage Solution each time it is removed and replaced. If a pH/ORP electrode is inadvertently allowed to dry out, it must be soaked in storage solution for at least one hour prior to use.

### **Combined DO/EC Electrode Calibration and Maintenance**

The EC (conductivity) sensor of this combined electrode is fully calibrated during RapidCal. No further EC calibration is required. The DO (Dissolved Oxygen) sensor should be calibrated in Zero Oxygen solution once a month, and each time a new membrane is fitted (every 1-2 months). It should also be calibrated at 100% saturation (in damp air) each time RapidCal is performed, as detailed above. For details of DO Zero point calibration and membrane replacement, and advanced EC calibration options, please refer to the full manual.

### **Turbidity and Temperature Electrodes Calibration and Maintenance**

The Turbidity electrode should be calibrated at Zero NTU before each use using RapidCal or de-ionised water as described overleaf. Calibration at the 1000 NTU point should be carried out every month and each time the upper Probe sleeve is removed and replaced to ensure optimum accuracy. For details, please refer to the full manual. The Temperature electrode requires no calibration.

After use, remove the Sleeve Cap and lower half of the Sleeve then wash the electrodes and Sleeve parts under a cold running tap. Shake the water from inside the Sleeve, and dry the outside using a soft cloth. Never clean the Probe with solvents or concentrated acid/alkaline based cleaning products such as Decon 90. These products can seriously damage the metal and plastic components.

If the AQUAPROBE you are using includes a pH/ORP electrode, remember to replace the storage cap after use. Failure to do so will damage the electrode.