

Calibration Check

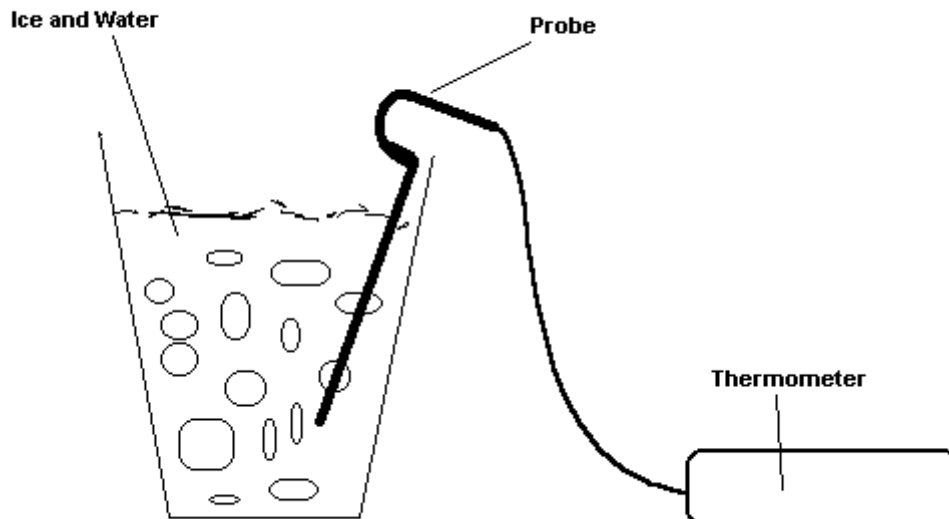
In addition to the annual calibration carried out by Reitech, you are required to check the accuracy of your thermometer regularly.

The following method can be used for this check.

0°C Check

For this you will need

- A wide neck thermos flask or a jug, which can hold at least one litre (the more the better).
 - Ice preferably crushed but cubes will do.
 - Drinkable water
1. $\frac{3}{4}$ fill the jug or flask with ice
 2. Add water up to the top level of the ice
 3. Plug the probe into the thermometer and place the probe into the mixture
 4. Leave for thirty minutes so that the ice can cool the water.
 5. After 15 minutes switch on the thermometer and stir the mixture with the probe for several minutes so that the temperature equalises throughout the mixture.
 6. Observe the reading on the thermometer as you stir – It should read 0.0 +/- 0.5°C i.e. it can read (-0.5°C) or 0.5°C.
 7. An important point to note is that there must always be ice present in the mixture, if it has all melted then add more.



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Reasons for apparent inaccurate readings

To simply compare the readings of two thermometers in their working environment is not adequate.

Why

- Any fridge, freezer or oven has hotter and colder zones; the probes may be in different areas and are actually sensing different temperatures.
- Each probe has different response times, unless adequate time is given for each individual probe to reach its final temperature which can be long in still air, the readings will be different.

How to get the best results from your thermometer

Firstly some definitions

Thermometer – this is the piece with the digital display.

Probe – the plug in attachment either constructed of stainless steel or wire with small sensing bead.

- Never place the thermometer inside the fridge/freezer or oven, only the probes should be in these areas.
- Use an RT10 Air probe to take air temperature, it has no added metal and has the fastest response in still air. Other so-called air probes constructed from stainless steel with vent holes are only suitable for moving air.
- Speed up your temperature checks by having several probes, place them in situ and allow to settle, then go around with your thermometer plug the probe in and get an instant temperature reading.
- When using the Stainless steel probe always insert it at least 5 times its diameter i.e. 15mm.
- If service personnel or your suppliers challenge the accuracy of your thermometer, always produce your certificates of calibration and/or carry out the test as per the attached procedure.

All thermometers manufactured by ReiTech are supplied with certificates of calibration, which should be updated annually. We hold 5 years records on our database and can supply copies if the originals have been lost.

The certificate supplied with each new thermometer is not a statement of conformity or a few readings jotted down, rather they are full certificates documenting all the test equipment used, traceability of test equipment to international standards, calculated uncertainties for each measured point and the results of the tests are the individual results for your thermometer. We do not batch test, each new thermometer is individually adjusted to obtain the best accuracy possible.

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