

Product Information

Total immersion Vs partial immersion

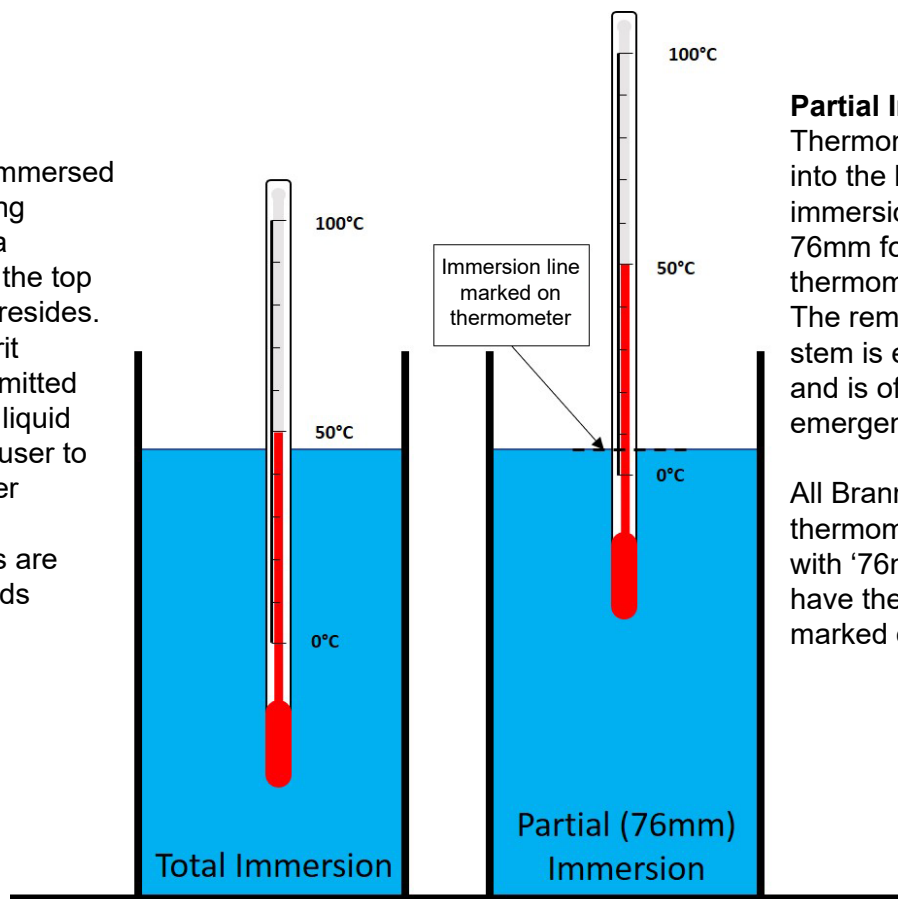
Immersion refers to the length that the thermometer is submerged into a liquid. All Brannan Liquid-in-Glass thermometers are categorised into 2 immersion types; Partial (76mm) Immersion and Total Immersion.

Most errors in temperature measurement when using a liquid-in-glass thermometer result from using the thermometer at the incorrect immersion.

Total Immersion

Thermometers are immersed into the medium being measured to within a centimetre of where the top of the liquid column resides. A short length of spirit (approx. 1cm) is permitted to extend above the liquid surface to allow the user to read the thermometer

These thermometers are marked with the words 'Total Immersion'.




Partial Immersion


Thermometers are immersed into the liquid to a specific immersion length. This is 76mm for all Brannan thermometers.

The remaining section of the stem is exposed to the air and is often called the emergent stem column.

All Brannan partial immersion thermometers are marked with '76mm immersion' and have the immersion line marked on the thermometer.

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Should I purchase a total or partial immersion thermometer?

- This is one of the most common questions asked by our customers and the answer can only be determined by the customer themselves based on the thermometers use.
- Total immersion thermometers eliminate uncertainties with air temperature variations, however they are often more difficult to read due to the spirit lying very close to the measuring liquid, and cannot be used with very shallow liquids.
- Partial immersion thermometers are useful when a total immersion thermometer cannot be used such as a shallow bath or a cup of water. They are generally easier to read as most of the thermometer is outside of the liquid being measured.

What happens if I use my thermometer at the incorrect immersion?

- Brannan thermometers are manufactured and individually calibrated to be accurate at their intended immersion depth.
- If you use the thermometer at the incorrect immersion this will give an erroneous reading. This can result in errors as little as 1°C or as much as >10°C depending on the thermometers range and length.
- Always use your thermometer at the given immersion printed on the tube.