

## Love Brewing Guide to Using a Hydrometer

### What does it do?

A hydrometer should be found in any wine or beer making situation. It will measure the Specific Gravity (SG) of the liquid you are about to ferment and this will then in turn give you a guide to the Alcohol by Volume (ABV) you will be able to produce.

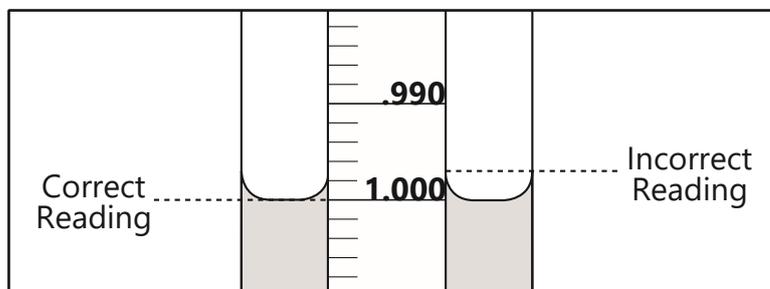
The hydrometer will then be used throughout the fermentation to ensure sugar is being converted into alcohol. We will be able to tell this by the daily drop in the gravity. As more sugar is converted to alcohol then the gravity will fall. For example, the start gravity in a typical wine will be 1.075 to 1.090 (a lot of instructions will leave out the point and just say 1090 for example). This will change daily by about 10 points, but this does depend on temperature and nutrition. After a few days, the gravity will have typically dropped to 1.040 and will finish in the region of 1.000 to 0.990.

### How does it work?

It will measure the amount of sugar in the liquid. The more sugar in the liquid, the higher the reading. The more alcohol there is in the liquid the lower the reading (that is after fermentation as the sugar has now been converted into alcohol). For example, if the hydrometer is placed water at 20°C, it will read 1.000. This is always useful to know as you can test your hydrometer. In essence, the denser the liquid (the more sugars in it) the higher gravity reading.

### How do I use the Hydrometer?

In most cases you can simply drop the hydrometer into the fermentation bucket and then take your readings. However, this is not always practical, if for example you are using a fermenter. In this case you would use your hydrometer with a trial jar. Trial jars come in various sizes so be sure yours is large enough to float your hydrometer (If you have purchased one of our bundles/starter packs which includes a trial jar this will be the correct size). Trial jars are usually made of clear plastic that allow you to fill with the liquid you are about to test. Fill the jar to about 35mm from the top and simply drop the hydrometer into the liquid.



This reading is quite simply the Specific Gravity (SG). Be careful that the hydrometer does not stick to the side of the trial jar, its best to give it a gentle spin to prevent this. Always stand the jar on a flat surface and expect that some liquid might overflow. If the wine is still bubbling, then the reading will only be a guide (as there will be bubbles in the liquid) and if froth (in the case of beer) is present then gently blow this away. Most people only use the hydrometer as a guide but if you want to be really accurate then this should be done with a liquid temperature of 20°C. If the liquid is 5°C higher then add 0.001 and similarly if its 5°C lower then take off 0.001.

### How do I use this to calculate ABV?

The ABV can be worked out simply by taking the start gravity from the finish gravity and dividing this figure by 7.362.

For example, the starting point for our wine is 1.080 and this ferments down to 0.990.

## Wine Guide

Start Gravity should be 1.070 (normal finished ABV will be 10.5%) to 1.090 (normal finished ABV will be 13%).

Finish Gravity should be 0.990 (for dry wines) to 1.005 (for sweet wines).

We always recommend that wine should be fermented down to dryness and should you like a sweeter wine then add sugar or grape juice at the end to reach your preference in sweetness. It is a dangerous business stopping the fermentation early.

Finally, we would say that the hydrometer is probably the most essential piece of equipment to make wine and beer consistently and with success. It's also the best value for money as well.

## Beer Guide

This is very difficult to guide you on as there are so many variations. However a typical beer will start at 1.045 (this is what you will see on the pump label in your local pub) and finish at 1.012 giving a 32 point drop (divided by 7.362) making it 4.5%ABV.

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