

Triple Scale Beer & Wine Hydrometer • *Please Note: Always handle your hydrometer with care and DO NOT BOIL*

Why Use a Hydrometer – A Hydrometer is an instrument used to measure the progress of fermentation and determine alcohol percentage.

Hydrometer Theory – A Hydrometer measures the density of a liquid in relation to water. In beer or wine making we are measuring how much sugar is in solution. The more sugar that is in solution, the higher the hydrometer will float. As sugar is turned into alcohol during the fermentation, the hydrometer will slowly sink lower in the solution. When fermentation is finished, the hydrometer will stop sinking.

Three Scales – What are they used for? – Each of our Fermentap hydrometers comes with three scales. The Specific Gravity scale is most often used in brewing. The Brix scale is most often used in winemaking. The Potential alcohol scale is a rough estimate of potential alcohol that can be used in beer or wine making.

How to Use My Hydrometer – Place a sample of the liquid to be tested into a hydrometer testing jar, and lower the hydrometer into the sample. Spin the hydrometer to eliminate any air bubbles that might cling to the side of the hydrometer. Once the Hydrometer stops moving, take your first reading from the Specific Gravity (beer) or Brix (wine) scale. In beer making, the first reading is often called the “Original Gravity Reading”, which implies it was taken prior to the onset of fermentation. See our included diagram for an example of how to read your hydrometer. From years of experience, we suggest you write down your reading on a recipe or log sheet.

Determining when Fermentation is Over – When fermentation stops, usually indicated by a lack of bubbles in your airlock or blow off, take a final hydrometer reading and record on your recipe or log sheet. If you are unsure if fermentation is over, you can use your Hydrometer to test. Take two readings 1–2 days apart. If the reading drops between the two you still have an active fermentation.

How to Determine Alcohol Percentage for Beer – The most accurate way to determine alcohol percentage by volume in beer is to make an *Original Gravity* reading and *Final Gravity* reading. Then plug those numbers into the following formula:

(Original Gravity Reading) - (Final Gravity Reading) x (131) = % Alcohol Content by volume.

Example formula: 1.073 was the Original Gravity reading and 1.012 is the Final Gravity reading.: $1.073 - 1.012 = .06 \times 131 = 7.99\%$ Alc. By Vol

How to Determine Alcohol Percentage for Wine – For Wine, your final reading is often below zero. In wine, nearly all the sugar is converted to alcohol – because alcohol is lighter than water, your reading at the end of a wine fermentation is often negative. When the reading is negative, you have to add this back to your first reading. Here is an example for these situations:

Example Using Potential Alcohol Scale for Wine:

Original Reading: 12.5 Potential alcohol
 Final Reading: -.7 Potential alcohol

 (12.5+.7)=13.2 % alcohol by volume

Temperature Correction Chart

The Fermentap hydrometer has been calibrated to give an accurate reading at 68 °F. This means that if the temperature of the liquid being tested is something other than 68 °F, the Temperature Correction Chart below must be used to obtain an accurate reading.

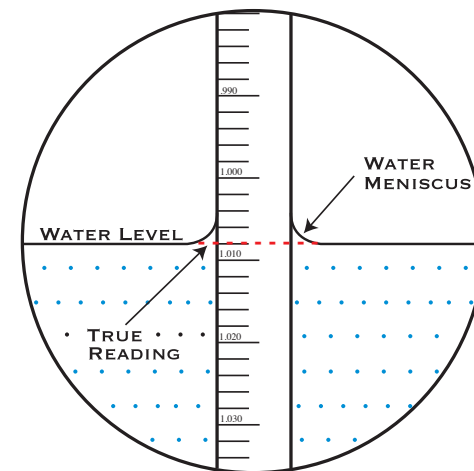
Temperature in degrees F.	Specific Gravity Correction
54.2	-.002
61.5	-.001
68	No correction
73.7	+.001
79.2	+.002
84.3	+.003

Correction Example:

If the temperature of the “Wort” or “Must” is 84 °F. and the Specific Gravity is 1.040, the true reading would be:

The Specific Gravity = 1.040
 The Correction Figure = $\frac{+.003}{1.043}$

How to Read A Hydrometer



Tips:

- Perform your readings in a hydrometer sample jar, available from any homebrew shop, rather than in the ferment itself.
- The easiest way to draw a sample out of a fermenter is to use a sample taker. Sample takers look like variations of a turkey baster.
- Once the reading has been taken, it is best to discard tested liquid rather than risk contamination by adding it back into your beer or wine.