How to read a hydrometer (Specific Gravity)

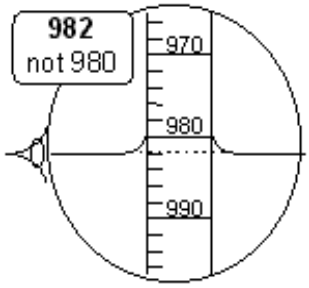
Before using the hydrometer

Make sure both the hydrometer and hydrometer jar are clean.
If the liquid to be tested is not at room temperature, allow it to reach room temperature before testing.
Pour the liquid carefully into the hydrometer jar to avoid the formation of air bubbles. Do this by pouring it slowly down the side of the jar.
Stir the liquid gently, avoiding the formation of air bubbles.

Taking a Reading

Carefully insert the hydrometer into the liquid, holding it at the top of the stem, and release it when it is approximately at its position of equilibrium.
Note the reading approximately, and then by pressing on the top of the stem push the hydrometer into the liquid a few millimetres and no more beyond its equilibrium position. Do not grip the stem, but allow it to rest lightly between finger and thumb. Excess liquid on the stem above the surface can affect the reading.
Release the hydrometer; it should rise steadily and after a few oscillations settle down to its position of equilibrium.
If during these oscillations the meniscus is crinkled or dragged out of shape by the motion of the hydrometer, this indicates that either the hydrometer or the surface of the liquid is not clean. Carefully clean the hydrometer stem. If the meniscus remains unchanged as the hydrometer rises and falls, then the hydrometer and liquid surface are clean, and a reading can be taken.
The correct scale reading is that corresponding to the plane of intersection of the horizontal liquid surface and the stem. This is not the point where the surface of the liquid actually touches the hydrometer stem. Take the reading by viewing the scale through the liquid, and adjusting your line of sight until it is in the plane of the horizontal liquid surface. Do not take a reading if the hydrometer is touching the side of the hydrometer jar.

Example



Taking the Temperature

Using a suitable thermometer, take the temperature of the liquid immediately after taking the hydrometer reading.
If there is any chance of a change in the temperature of the liquid it is safer to take the temperature both before and after the hydrometer reading. A difference of more than 1°C means that the temperature is not stable, and the liquid should be left to reach room temperature. Note: Hydrometers are normally calibrated at 20 degrees Celsius.
If the temperature of the liquid is not the same as that on the hydrometer scale, the hydrometer reading should have a correction due to temperature applied.

Handling the Hydrometer

The hydrometer should never be held by the stem, except when it is being held vertically. When holding the stem, always hold it by the top, as finger-marks lower down can affect the accuracy of the instrument.
Always handle with care.

Approximate Specific Gravity Table

Beer Kit 1.7kg	Enhancer 1kg	Start SG	Finish SG
Beer	Dextrose	1038	1006
Beer	Body Brew	1039	1009
Beer	Brew Booster	1040	1010
Beer	Super Brew	1041	1011
Beer	Amber Brew	1041	1011
Beer	Stout Brew	1041	1011
Beer	Dry Malt	1042	1012
Beer	Liquid Malt	1040	1010

48hr Yeast	8kg Sugar (Spirit wash)	1135	0985 or Below
24hr Yeast	6kg Sugar (Spirit wash)	1090	0988 or Below

Note: The above are approximates only and are intended to be used as a guide. Ensure fermentation has finished before bottling, adding only the correct amount of sugar to each bottle, otherwise over gassed bottles could explode.

Alcohol Percentages (Using Specific Gravity)

To calculate the alcohol percentage of your beer, take hydrometer readings before & after fermentation. Subtract the after reading from the before, then divide the difference by 7.36. e.g. 1040 to 1005 = 35 divide by 7.36 = 4.75 alc/vol. If bottling add 0.5% to allow for the sugar in the bottles making our example now 5.25%

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