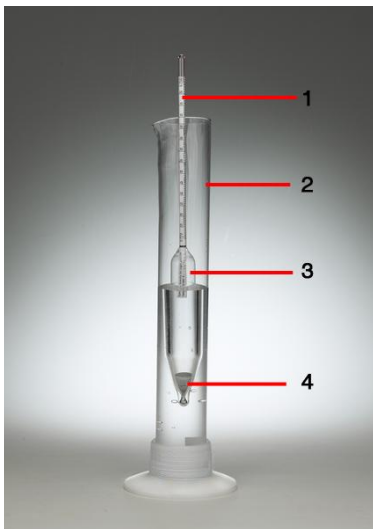


Hydrometer HYD01, HYD02, HYD03

Introduction

A hydrometer is a tool to measure the specific gravity of liquids. Specific gravity is the ratio of the mass of a liquid to the mass of an equal volume of distilled water. Because the density of a liquid changes with temperature, hydrometers are calibrated for different reference and sample temperatures. Classically, the specific gravity was measured using the density of water at 4°C (39.2°F) which is the temperature of maximum density of pure water. Today, most hydrometers used in water quality testing are calibrated with a reference temperature of 15.5°C (60°F). Because specific gravity measures the mass of a liquid over the mass of distilled water, specific gravity is unitless. A different scale of hydrometers is used depending on the characteristics of the liquid the user is measuring. We offer hydrometers with ranges 0.990 to 1.050 (HYD01 Propylene Glycol Hydrometer), 1.000 to 1.220 (HYD02 Ethylene Glycol Hydrometer) and 1.000 to 1.420 (HYD03 Dynalene HC Hydrometer)

Description



- | | |
|-------------------|------------|
| 1. Graduated stem | 3. Float |
| 2. Jar | 4. Ballast |

Operation

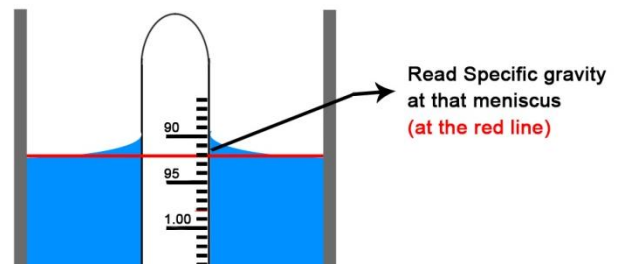
Measuring specific gravity of a liquid using a hydrometer is a simple process, but the user must

be careful not to break the hydrometer or the cylinder as they are made from glass. Please follow the directions below for proper specific gravity measurement of the fluid.

1. Fill the glass cylinder with test sample.
2. Put the hydrometer with the bulb end down. It will bob up and down in the sample. Note that the sample may overflow from the cylinder.
3. Assure that the hydrometer is not in contact with the sides of the cylinder and take the reading.

Reading the Hydrometer

Extreme care should be taken when reading the hydrometer; it is very easy to misinterpret the scale. Once the hydrometer has stopped bouncing up and down and the hydrometer is not touching the walls of the cylinder, a reading can be made. Note that a meniscus form on the neck of the hydrometer. Just as reading the meniscus in a graduated cylinder, the user must take the reading where the plane of water is and not where the water clings up the neck of the hydrometer. See the image to the below. In case of the figure below, the correct reading on the hydrometer is about 0.92.



Once the reading has been made, clean the cylinder and hydrometer. Carefully place them in their protective packaging so that they are not broken.