

Reading a Meniscus

The volume of a liquid contained in a cylindrical glass apparatus such as a graduated cylinder, buret, pipet and volumetric flask is determined by reading the position of the “meniscus” relative to the calibration lines on the glass. The meniscus is the concave shape of the top of the liquid that defines the air-liquid interface, and is the result of the capillary action of the liquid in contact with the glass. To read the level of the liquid, position the eye on a horizontal line to the bottom of the meniscus as shown below. This horizontal line can be assured by using parallax involving the calibration rings. Simply line up the front of the closest ring to your reading with the back of the same ring as seen through the glass. A clear or transparent liquid is read more easily by positioning a black mark (made on a white card) just behind the meniscus as shown. The black background eliminates light from entering the back and refracting through (thus obscuring) the meniscus and better defines the level of the liquid. An index finger works almost as good as the black background and is faster.

