



**Taha Kimia Tajhiz Co.**



**Core Lab**

# **EZTensiometer Datasheet**

**Fluid Characteristics**



## EZTensiometer



Surface tensions of liquid-air interfaces have been successfully measured for years using force-pull methods such as the du Nouy ring and Wilhelmy plate methods. Temco and Surface Tensiometry Inc. now offer a new force-pull method to measure surface tension. (Patent Pending) The Model EZT-101 and 201 are displayed in the pictures below.

The EZTensiometer was introduced by Surface Tensiometry Inc. Several papers have been published, and several papers have been presented, explaining the measurement technique. A listing of papers is provided for easy reference.

The measurement method is referred to as the Inverse Rod-Pull (IRP) tensiometer. Rather than using a fragile du Nouy ring or Wilhelmy plate for the measurements, a stainless steel rod is used for the measurement. The stainless steel rod offers the benefits of a rigid design that is not easily damaged. The rod can be cleaned with standard chemicals and hand dried prior to each test, without fear of damaging the measurement device.

Other techniques measure the force from above the liquid, but this instrument measures the force from below the liquid. A top loading, analytical laboratory balance can be utilized with this instrument. The test liquid is placed into a specially designed glass flask with a small opening to minimize the rate of evaporation of the test sample. Once the sample and flask have been placed on to the balance, the balance is tared and the display reads zero. The stainless steel measurement rod can now be lowered to the surface of the liquid.

To lower the rod, mechanical or motorized versions of the instrument are available. Once the rod contacts the liquid, the measured force or weight on



the balance will change. Then the direction is reversed and the rod is pulled up from the liquid interface. The force (mass) is measured by the high accuracy balance.

To calculate the surface tension, the maximum force or mass measurement is recorded and the value is inserted into the provided software to calculate the surface tension. Although height measurement is possible, only the value of maximum force is required for surface tension determination.