

ABSTRACT

Surface tension is attraction between molecules on the surface of a liquid. Surface tension is an indicator for several processes in industry and biological processes and also a learning material for students of physics, chemistry or others who study fluid mechanics. There are several methods for measuring surface tension, but they do not have practicality in their use, such as requiring other assistive devices (eg microscopes or other image processing devices Surface tension measurement device on the market also have relatively high prices. That problem is the background of research on surface tension tools that can be made at a price lower than the market price.

The method used is the du duy ring method, the force required to lift the ring out of the liquid surface measured by a load cell. The biggest force when drawing a ring out of a liquid surface is surface tension. Load cell sensor used has an accuracy of 94.44% and an error of $\pm 5.56\%$ against standard weight measuring devices. Surface tension measuring devices in this study have an accuracy of 90.79% with an error of $\pm 9.21\%$. The minimum surface tension measured is 22.50 mN/m. The maximum measured surface tension is 72.64 mN/m.

Keywords: Fluid mechanics, Surface tension, Load cell

