



Measuring ring for surface tension

17547.00

Operating Instructions



1 PURPOSE AND FEATURES

Used together with a dynamometer, the measuring ring allows the surface tension of various liquids to be determined with good accuracy.

2 HANDLING

Fasten the carefully cleaned measuring ring (see below), either directly or with a thread, to a spring balance or to the lever arm of a torsion dynamometer (see „List of Equipment“). The use of a looped thread is favourable for the horizontal alignment of the measuring ring. Half-fill a thoroughly cleaned Petri dish with the liquid which is to be examined and place it on a height-adjustable surface (lifting apparatus). Raise up the surface so that the measuring ring is immersed about 3 mm deep in the liquid. Now carry out the measurement by slowly lowering the surface, taking care not to shake the liquid. When a torsion dynamometer is used, ensure that the zero position remains unchanged by adjusting the lever arm adjustment knob.

The surface tension is given by $\sigma = F/2U$, where F is the force at which the liquid breaks away from the sharp-edged bottom rim of the measuring ring, and U is the average measuring ring circumference = 0.061 m.

The accuracy of the measurement is distinctly reduced when the measuring ring is dirty. It is normally sufficient to immerse the measuring ring in hot washing-up liquid and subsequently thoroughly rinse it with deionized water. Replace the cleaned measuring ring in the storage container after use.

3 LIST OF EQUIPMENT

Torsion dynamometer, 0.01 N	02416.00
or	
Spring balance, 0.1 N	03061.01
Petri dish, $d = 100$ mm	64705.00
Silk thread, 200 m	02412.00
Lab-lifting apparatus, 160 x 130 mm	02074.00



4 NOTE ON THE GUARANTEE

We guarantee the instrument supplied by us for a period of 6 months. This guarantee does not cover natural wear nor damage resulting from improper handling.

The manufacturer can only be held responsible for the function and safety characteristics of the instrument, when maintenance, repairs and changes to the instrument are only carried out by the manufacturer or by personnel who have been explicitly authorized by him to do so.