

Specification of Video Based Optical Contact Angle & Tensiometer Measuring System

The instrument should be Automatic and Software Controlled Video Based system for determination of Contact Angle, and provision for Surface Free Energy, Wettability, Surface Tension and Interfacial Tension by pendent drop and Lamella Counter Method both. Also provision for tilting method and Peltier temperature possibility. **Double Direct Dosing Possibility in the same system.**

The instrument should be capable and equipped with the following specification and features :

Max Sample dimension : 220x ∞ x 70mm

Sample Table Dimension: 100 x 100 mm

Sample Stage Movement: In both X – Y Direction

Measuring range of the Contact Angle : 0° - 180°,

Measuring precision of the video system : 0.1°

Accuracy : ± 0.1°

Optics : 6-fold zoom lens (0.7 ... 4.5 magnification) with integrated fine focus (± 6 mm)

Halogen lighting with adjustable intensity without hysteresis

(Provision for optional Software controlled intensity should be available with the system)

Video system : USB Wide-VGA Camera

Max. Resolution : 752 x 480 pixel

Camera Speed : **159 images/second** with Full Scan – Not Progressive Scan

Field of view : 1.05 x 0.66... 6.72 x 4.25 mm

Image distortion : < 0.05%

Backlight Illumination : Lighting with continuously adjustable intensity without hysteresis

Dispensing type : Automatic Direct Dosing system should be offered without any tubing with adjustable in vertical and horizontal position. Direct dosing system should be controlled both manually and through software.

Operational Software CD should be provided with the system.

Warranty : Minimum one year

Installation : Free of cost at IIT, Madras

Training : Free of cost at IIT, Madras



Dr. SARIT KUMAR DAS

Professor

Department of Mechanical Engineering

Indian Institute of Technology Madras

Chennai - 600 036, India