Phoenix300 Contact Angle & Surface Tension Analyzer

Contact angle is a well-known technique for investigating and controlling adhesion, surface treatments and cleaning, and polymer film modification.
The wetting of solid substrates is a basic feature of many natural and industrial processes and contact angle is a simple, rapid, and sensitive method of characterizing the wettability of a solid surface. A computer controlled contact angle analyzer makes it easy to measure static and dynamic contact angle, along with surface tension and surface energy.

The position of the sample stage can be precisely adjusted along the x-, y-, or z-axis.
An optical system using variable intensity illumination controls the degree of backlighting.
The optics can be tilted by up to 3degree allowing you to choose the angle of view required for rough or uneven surfaces.
The instrument uses a stepping motor controlled syringe system for precise and repeatable liquid drop formation and application. This insures that a reproducible drop volume is applied to the surface.
Operator safety is maximized by the avoidance of any exposed electrical wiring.

Applications :

1. Detection of organic contamination on a PCB or electronic components.
2. Hydrophobicity and hydrophilicity of solid surfaces
3. Biological application such as the detection and characterization of proteins
4. Conversion of Contact Angle Data to Surface Energies
5. Analysis of plasma treatments to increase the wettability on polymers surfaces

advantages

1. Automatic and rapid sample analysis and high-speed dynamic image capture.
2. Improved precision and reproducibility by the elimination of operator error.
3. Measurement of surface tension and static/dynamic contact angle.
4. Calculation of surface energy and work of adhesion by the following

Methods: Girifaleo-Good-Fowkes-Young, Owens-Wendt Geometric Mean, Wu Harmonic Mean, and Lewis Acid/Base.

Specifications

Name	Phoenix 300
Unit size(L*H*W) in mm	660*560*270
Weight	28 kg
Max. Sample size(L*H*W)in mm	200×50×∞
Zoom	6.4 fold
Focus	Internal, ±6 mm
Resolution	768 × 576 NTSC, 16M color
Max measuring speed	30 images/s
Dispensing type	Automatic (Using a controllable step moter)
Light source	Adjustable rear lamp
Operating system	Windows 95/ 98/ Me/ NT/ 2000
Evaluation methods	Static/Dynamic contact angles
	Pendant drop analysis
	Surface Energy
	Continuation capture images
Contact angle	0 ~ 180 °, ±0.1° accuracy
Surface and interfacial tension	10-1~103 mN/m Resolution ±0.05 mN/m
Temperature measurement	External
Accessories	Guide book, Styring and tip set, level, tweezers
	Extra Fuse and lamp, Tool box, Dust cover, etc.,
Options	Completed setup computer.
	Thermal chamber (RT to 350°)
	Thermal pad (RT to 350°)
	Sample stage for 8"/12" wafers