

Phoenix 150, 300 Contact Angle Analyzer



The Phoenix series is designed to offer the flexibility required for R&D, Quality Control and engineering process development.

The optical system was especially designed to reduce light scattering. The camera is mounted on a highly precise stage which can be adjusted in all directions. Together with the zoom and focus functions of the lens system, this allows sharp and clear images of the static or/and moving drops. The liquid can be supplied manually, semi automatic or fully automatic by a syringe system. A high precision stepping motor controls the speed, the volume and the time. The solid sample stage can be adjusted in all X, Y and Z directions for the easy and fast measurement of different drops on the solid surface.

Features

- Proving the quality of the data without opening the analysis
- Real time display of analysis results
- Precise drop volume control
- Automatic and fast contact angle analysis
- Automatic analysis can be proved without operator interaction
- Dynamic high speed image capture
- Improved precision and reproducibility by the elimination of operator errors
- Camera connection to Desktop PC or Notebook via 1394 or USB port
- Automatic calculation of surface energy and work of adhesion by user selectable methods
- A variety of contact angle analysis methods, optimized for low, high or very high contact angles
- Automatic calculation of surface energy
- Automatic or manual contact angle analysis

Features

- Proving the quality of data without opening the analysis program
- User defined baseline (D-base function)
- Real time contact angle display
- Static and dynamic contact angles (depends on model)
- Captive method for advancing and receding contact angles (Phoenix 300 only)
- Image collection as a function of time
- User defined data collection rates
- Automatic calculation of surface tension
- Calculation of drop volume
- Smart capture for hydrophylic solids (Phoenix 300 only)
- Data comparison function
- Calculation of surface energy by different mathematical models
- Liquid data base



Typical Applications

- Semiconductor applications
- Detection of organic contamination on PCB and electronic components
- Evaluation of the cleanliness, surface treatment and coating processes
- Hydrophobicity and hydrophilicity of solid surfaces
- Biological applications as the detection and characterization of proteins
- Adsorption/wettability of powders for pharmaceutical applications
- Quality determination of plasma treatments
- Printability on polymers



User friendly Preview and D- base function

Options

1. Thermal chamber
2. Thermal pad
3. Entire tilting stage
4. Captive bubble method
5. Syringe heater



Specifications

Model	Phoenix 150	Phoenix 300
Max. Sample size	200 (D) x 70 (H) x ∞	
Sample stage	X, Y, Axis	
Dimensions (L x W x H) mm	620 x 260 x 500 mm	
Resolution	640 x 480 pixel	
Lens	High resolution zoom (12x) & focusing	
Max. measuring speed	70 (USB)/84 (1394) frames/sec.	
Drop control	Manual Drop Control	PC controlled automatic syringe system
Contact angle range	0 ~ 180°	
Accuracy	± 0.1°, standard calibration	
Connecting type	1394 firewire or USB	
Operating system	Windows XP®, Windows 7®, Windows 8®	
Power	110/220 volt, 50/60 Hz	



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