Contact Angle Meter
DM-CE1

DM-CE1

Compact but high performance contact angle meter. The DM-CE1 allows measuring contact angle automatically with the highly precise algorithm. The fast 60 fps image capturing performs characterizing absorbing as well as wetting in the time function.

Specifications

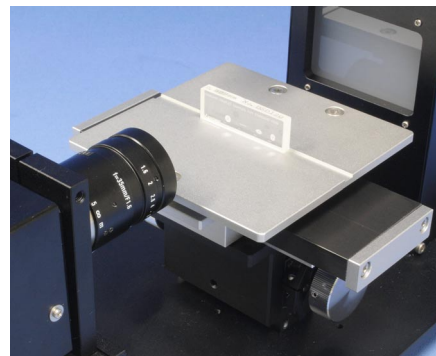|	
Measurement method	Sessile drop, Extension/contraction (static)
Analysis system	θ/2 method, Tangent method, Circle fitting, Ellipse fitting
Measuring range	0 - 180°
Resolution	0.1°
Accuracy	0.5° (Repeatability described in standard deviation)
Field of view	About 4.61 x 6.11mm
Sample stage size	100 x 100mm
Applicable sample	100 x 100 x 12^{H}mm max. weight 200g max.
Stage movement	X-axis: 95mm by manual slide, Z-axis: 16mm by rotation knob
Droplet dispensing	Manual dispenser with rotation knob
Droplet deposition	By stage up/down movement
Measuring Temp.	Ambient temp.
Electric Power	AC100V~240V, 50/60Hz, 0.3A
Dimensions, weight	Main body: 194^W x 380^D x 235^{H}mm, 3 kg (main body)

Standard Components

DM-CE1 main body*[1]	1	Laptop PC (Windows XP English)	1
Dispenser	1	Glass syringe set with 22G SUS needle	5
Teflon coated needle, 18G, 22G	2 ea	Standard droplet sample (standard view)	1
Level	1	Operation manual (English)	1

- *[1] Main body assembles CCD camera, LED lamp, stage, and dispenser holder.

How can the accuracy of instrument be inspected?

DM-CE1 includes a calibration tool, Standard Droplet Sample, as standard accessory.

It prints calibration circle and reference three droplets, with which operator can carry out periodical calibration and inspection.
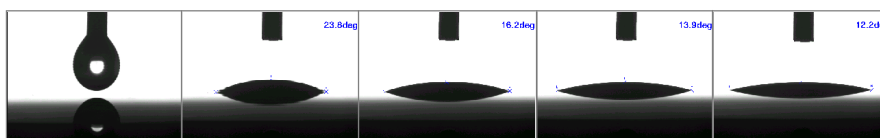
What a simple connection!

The cable connection requires only power and IEEE1394 video cable.

Connect the power to AC100 to 240V tap, and IEEE 1394 cable with the laptop PC, you can start operating the instrument.

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Software FAMAS allows the following high performances

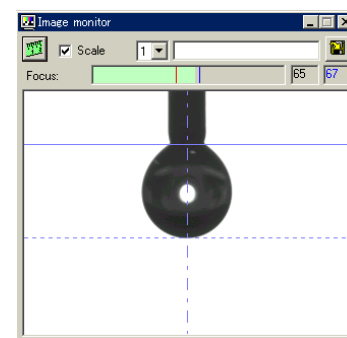## Standard Functions

Fast Image Capture, 60FPS

Continuous measurement fastest at 60 images per second is possible.

Automatic Recognition of Drop Deposition

Transferring droplet from needle to solid surface is recognized automatically. You can measure with high reproducibility of time scale for every droplet.

Live Image & Focusing Aid

Live image monitor is displayed, in which focusing aids help your focusing with graph and numerical value.

Threshold Level Adjustment

Threshold level to determine image binary can be adjusted before and after measurement. Both relative and absolute adjustments are possible to apply the optimized image analysis.

Graphing

Contact angle data versus time can be drawn on a graph. Besides the contact angle, variable data as shown below are also selected for graph data.
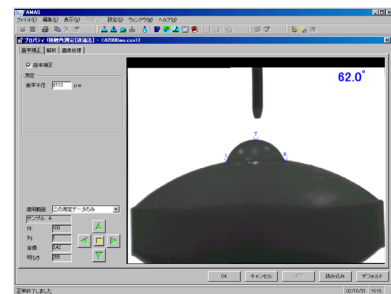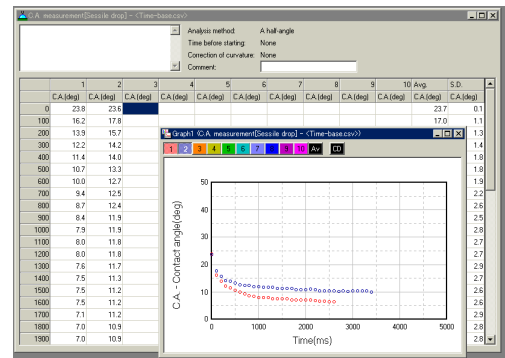
Variable Data Presentation

Besides contact angle, drop volume, absorbing amount, ratio of droplet remained volume, droplet height and width are obtained.

Movie Converter

The measured images over time function can be converted to MPEG-1 movie.
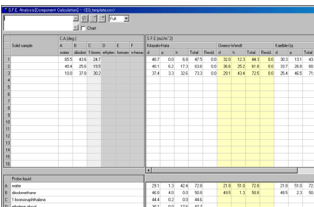
Correction of Curvature

Data correction on a convex surface such as lens and tube (in cross section) is possible by giving the radius of curvature.
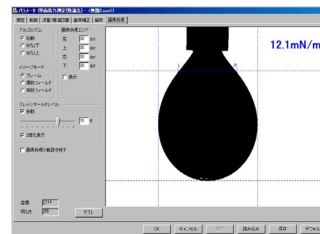

Optional Add-in Software & Accessory

Variegated functions as below software are available as the FAMAS add-in software.

Surface free energy

Analyzes solid surface free energy and its components. Geometric mean, Harmonic mean, acid-base, Interaction analysis (work of adhesion, interfacial free energy), Young-Dupré, Zisman
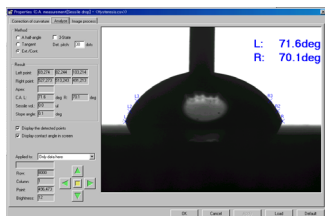
Pendant drop

Measures surface/interfacial tension of liquid samples by pendant drop method.

Dynamic contact angle
[Extension & Contraction method]

Measures advancing/receding angles by increase and decrease of captive drop volume.
Single dispenser AD-300S required.
(Restriction of extension speed due to field of view is available.)

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*The specifications and designs are subject to change without notice.   0809