

DropMaster



Dynamic Contact Angle Meter

Contact Angle, Liquid Surface Tension, Solid Surface Free Energy

■ Product Lineup

DMo-901

Fully automated contact angle measuring system capable 150X150mm full scale 2D measurement

- The stage can be controlled in X and Y directions and turned by computer.
- Discharging a droplet ~ deposition ~ analysis ~ stage movement, are repeated automatically and Max. 150X150mm full scale can be measured automatically by pre-set coordinates.
- Enables to perform contact angle measurement continuously for long time without supplying liquid by using the optional big capacity dispenser.



DMo-701

Fully automated contact angle measuring system

- Measuring process of contact angle; discharging a droplet ~ deposition ~ analysis ~ stage movement, is repeated automatically by pre-set commands in the screen.
- The optional multi dispenser with surface free energy system enables to perform probe liquid selection and solid surface free energy analysis automatically with single click of command.



DMo-601

Discharging and depositing a droplet are performed automatically.

- Discharging a droplet, deposition, analysis, such a sequential movements that makes up a contact angle measurement are performed automatically by pre-set commands in the screen.
- The recognition of deposition can be done automatically to execute accurate time measurement after depositing droplet.



DMo-501

Static to dynamic contact angle can be performed with automatic analysis.

- Automatic dispenser performs discharging regular volume of droplet by pre-set in the screen.
- Even manual operation, the recognition of deposition can be done automatically to execute accurate time measurement after depositing droplet.

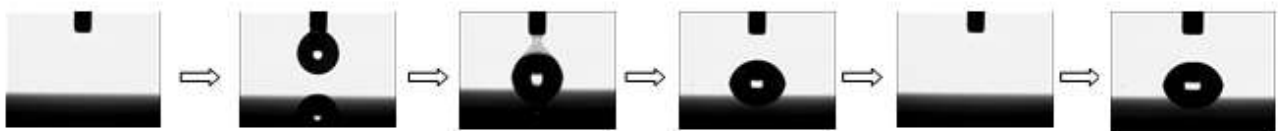


■ Specifications

	901	701	601	501
Measuring system	Image analysis through CCD camera			
Measuring method	Sessile drop Extension/Contraction			
Analysis method	$\theta/2$ method, tangent method curve fitting (ellipse, circle)			
Measuring range	0 - 180°			
Display resolution	0.01			
*Accuracy	0.2°			
Lens system	3 steps zoom (width 6.6mm, 11.8mm, 17.0mm)			
Max image capturing speed	333fps (1000fps by option)			
Max sample size	150X150mm, Thickness:16mm Weight: 400g	150mm x 150mm, Thickness 35mm, weight 400g		
Stage travel	automatic-motor drive		Manual lead screw	
	X: 150mm Y: 75mm Turnable:360°	X: 150mm Y: 75mm (manual)	X: 150mm Y: 75mm	
Z-axis operation	Camera: 20mm Automatic	Camera: 35mm Automatic		Camera: 35mm Manual
Dimensions and weight of main body and control box	Main body: 297 ^W x544 ^D x305 ^H mm Control box of 901,701 and 601: 290 ^W x240 ^D x86 ^H mm Dispenser control box of 501: 260 ^W x200 ^D x70 ^H mm			
	Body/Control box: about 10kg/4kg	Body/Control box: about 9kg/4kg		Body/Control box: about 8kg/2kg
Power supply AC100-240V, 50/60 Hz	60W 123VA			25W 103VA

*Accuracy is repeatability described in standard deviation on manufacturer's standard.

■ Measuring Process



Model	(1) positioning 1 st measure point	(2) discharging droplet	(3) deposition control / recognition	(4) analysis of contact angle	(5) positioning next measure point	(6) 150X150mm full scale 3D measurement
901	●	●	● / ●	●	●	●
701	▲ by command button	●	● / ●	●	●	▲
601	▲ by manual adjust	●	● / ●	●	▲	▲
501	▲ by manual adjust	●	▲ / ●	●	▲	▲

● Automatic ▲ Manual

■ Optional Accessories



JACKET TYPE STAGE

Temp. range: about +10 ~ 70°C
A hot/cold water circulator is needed for temp. control.
A surface thermometer is needed to measure temperature of liquid sample surface.

HEATER TYPE DISPENSER PACKAGE

Temp. range: ambient ~ 380°C
Mainly use for hot melt polymers
Temp. controller 402 (PID control system) is included.



HEATER TYPE STAGE PACKAGE

Temp. range: ambient ~ 180°C
Temp. controller 202 (PID control system) is included.

HOT/COLD WATER CIRCULATOR 4VT



SURFACE THERMOMETER ST-5



FAMAS ADD-IN SOFTWARE AND ACCESSORIES



[Extension/Contraction method]

measures advancing/receding angles of a captive droplet on the needle tip, by increasing or decreasing the droplet volume.



[Surface free energy analysis]

analyzes surface free energy of solid sample. 2 or 3 components system by geometric mean, 2 components system by harmonic mean, acid-base analysis, interactions of 2 phases (work of adhesion, interfacial free energy), Young-Dupré analysis, Zisman plot are included.



[Sliding method]

Coupling with tilt base attachment, a tilt angle (sliding angle), advancing/receding angles when a droplet starts sliding are measured. Adhesive energy is analyzed.

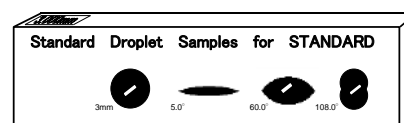


[Pendant drop method]

measures surface or interfacial tension of liquid material by pendant drop method

■ Standard Droplet Sample

- Standard tool made of glass printed with 3 droplet images for inspection, and a circle image for calibration
- Usable for routine maintenance by user
- Design registered, all models include as standard accessory



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

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<http://www.face-kyowa.com>

Kyowa Interface Science Co., Ltd.

5-4-41 Nobitome, Niiza-City, Saitama 352-0011, Japan

Tel.+81-48-483-2629 Fax.+81-48-483-2702