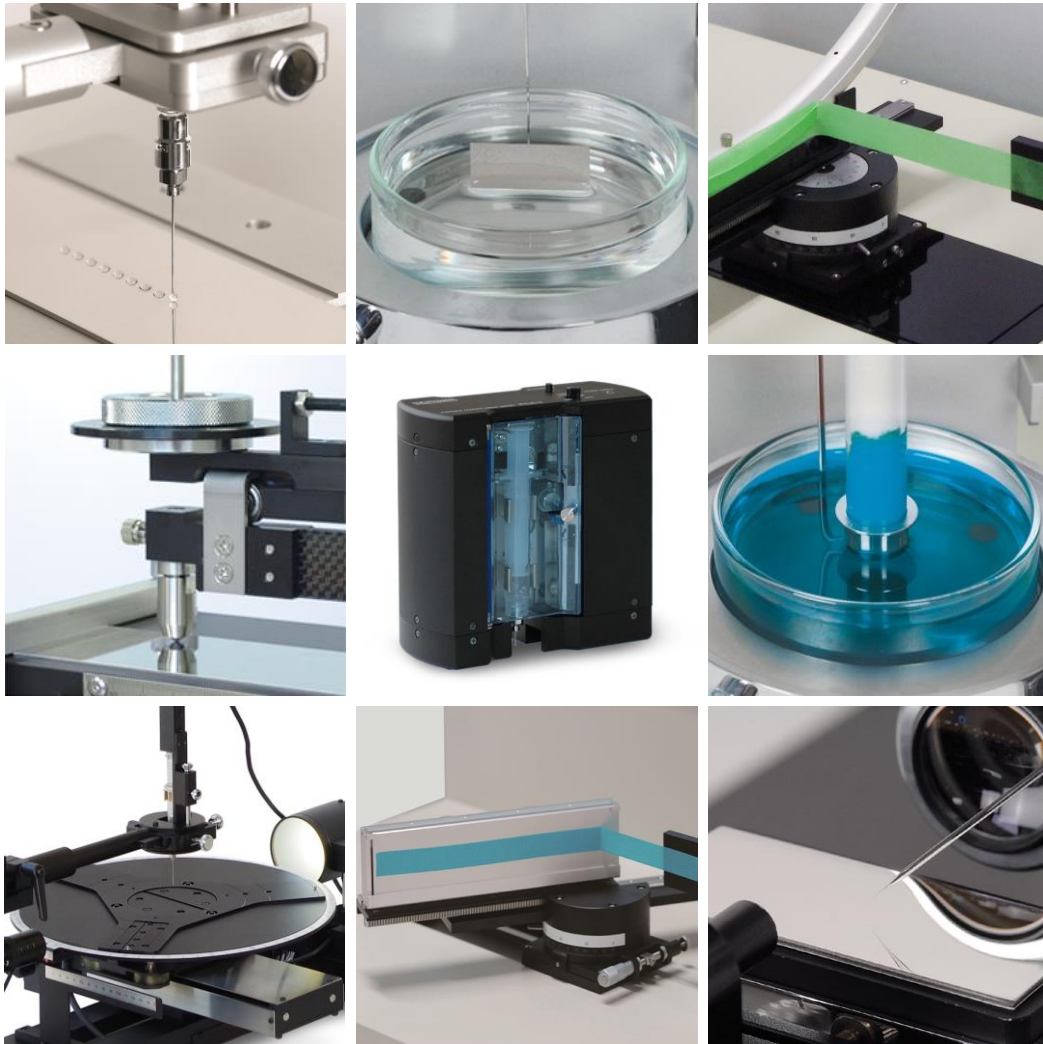


Product Line-up



Contact Angle meter

Characterization of the wettability of solids by liquids

The contact angle is an easy measurement method to determine the wettability of a solid substrate by a liquid. The liquid will form a drop shape when depositing a drop onto a solid substrate. The point where the solid, liquid, and vapor meet is called the three-face point and determines the contact angle. The contact angle is also an indicator of wettability, which depends on the combination of solid substrate, liquid, and the surrounding environment.

Wettability / Surface Free Energy / Adhesion / Permeability / Powder Dispersion / Cleanliness

DropMaster DMo series

Contact angle meter

Versatile models with an extensive list of optional equipment and accessories offer high-accuracy measurements for a wide variety of applications in R&D and QC



DMo-902



DMo-702



DMo-602



DMo-502

- DMo-902** Fully automated mapping sequence (droplet generation → droplet deposition → droplet analysis → stage movement) over the entire 150x150mm stage area is possible by pre-setting coordinates
- DMo-702** Fully automated measurement sequence (droplet generation → droplet deposition → droplet analysis → stage movement) in X-direction is possible by pre-setting commands
- DMo-602** Automated measurement sequence (droplet generation → droplet deposition → droplet analysis) is possible by pre-setting commands
- DMo-502** Automatic dispenser unit generates droplets with high accuracy and assures precise measurements of advancing and receding angles

DropMaster DMs-401 / DMe-211

Contact angle meter

Economic models for the use in quality control and simple measurements of wetting behavior



DMs-401



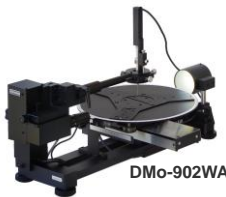
DMe-211Plus

- DMs-401** A compact yet high-performance surface measuring instrument for measuring static and dynamic contact angles, the surface free energy of solids, and surface and interfacial tension of liquids.
- DMe-211Plus** An economical yet fully-featured contact angle meter with a computer-controlled image analysis system that enables automatic droplet deposition with subsequent automated droplet analysis, as well as the measurement of surface and interfacial tension of liquids.

DropMaster WA series

Wafer cleanliness and treatment analyzer

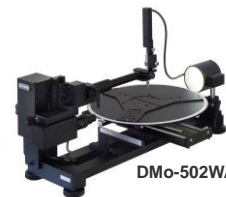
Specifications are similar to the DropMaster DMo series but equipped with a special 360° rotary stage for disk-like samples like wafers with a diameter of up to 12 inches (305mm)



DMo-902WA



DMo-702WA



DMo-502WA

- DMo-902WA** Fully automated mapping sequence (droplet generation → droplet deposition → droplet analysis → stage movement) over the entire 150x150mm stage area is possible by pre-setting coordinates
- DMo-702WA** Fully automated measurement sequence (droplet generation → droplet deposition → droplet analysis → stage movement) in the X-direction is possible by pre-setting commands
- DMo-502WA** Automatic dispenser unit generates droplets with high accuracy and assures precise measurements of advancing and receding angles

MCA-4

Microscopic contact angle meter

Wetting behavior of pico-liter size sessile droplets

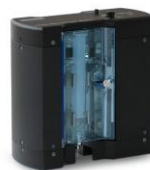


The pneumatic micro dispenser system and unique glass capillary produce pico-liter droplets. The top-view camera enables pin-point deposition and the measurement of contact angles on a surface area of 100µm x 100µm.

PCA-11

Portable contact angle meter

"One-click" fully automated on-site measurements of contact angles



Weighing only 650g, combined with the single-click fully automated operation and its measuring accuracy, the PCA-11 is ideal for on-site contact angle measurements and determining the surface free energy of solids.

Surface Tensiometer

Measurement of surface and interfacial tension of liquids

Liquid surface tension is the characteristic of liquids to minimize their surface to the smallest possible area, resulting in a perfectly spherical shape. Measuring surface tension allows for characterizing properties such as wettability, permeability, foamability, solubility, emulsifiability, and dispersibility. These interface science phenomena are at the heart of numerous processes in Research & Development and the production of products we use in our daily lives.

Emulsification / Dispersion / Permeation / Adhesion / Wetting / Foaming

DyneMaster series

Wilhelmy plate & Du Noüy ring tensiometer

"One-click" fully automatic multi-purpose surface tensiometers for reliable surface and interfacial tension measurements using the Wilhelmy plate or Du Noüy ring method. High-quality components, a durable design, and a video user manual in the software guarantee user-friendly operation.



DY-700



DY-500



DY-300

DY-700 A fully-automatic and easy-to-use surface tensiometer. The high-precision weigh cell with high rate data acquisition ensures reliable measurements of dynamic contact angle and powder contact angle, surface and interfacial tension, lamella length, liquid, and solid density, sedimentation behavior, and evaporation rate measurements.

DY-500 A fully automatic and easy-to-use surface tensiometer. Reliable measurements of dynamic contact angle and powder contact angle, surface and interfacial tension, lamella length, liquid, and solid density, sedimentation behavior, and evaporation rate measurements.

DY-300 A compact, fully automatic, and easy-to-use surface tensiometer. Ideal for use in quality control. Reliable measurements of surface and interfacial tension, lamella length, sedimentation behavior, and liquid density.

BP-D5

Bubble pressure tensiometer

Surfactants lower surface or interfacial tensions over time when the molecules adsorb to the newly created surface or interface. The dynamic surface tension can be measured during the period from a freshly created surface until an equilibrium value of the surface tension. At the equilibrium state of the liquid, the measured surface tension is static. Detergents and solutions for coating purposes are used in processes where new surfaces or interfaces are constantly being created. Thus, the determination of the Dynamic Surface Tension is of high importance.



BP-D5

BP-D5 The BP-D5 is a fully automatic bubble pressure tensiometer for measurement of the dynamic surface tension of aqueous surfactant solutions in a time function or at a fixed surface age. For monitoring the bubble formation, the software displays the pressure voltage waveform in real-time, and bubble formation is made visible by a synchronized built-in stroboscope. In addition, the integrated jacket-type stage and thermometer allow temperature-dependent measurements.

DropMaster series

Pendant drop tensiometer

In addition to contact angle measurements, the DropMaster series allows the measurement of surface and interfacial tension in a two-phase liquid/liquid or liquid/gas system. With the help of optional accessories, the pendant drop method determines the surface, and interfacial tension of highly viscous liquids or even molten metals and polymers, by analyzing the image of a suspended droplet's shape. [Please refer to the DropMaster DMO series and the DMS-401 / DME-211Plus\]](#)

Friction Analyzer

Measurement of static and dynamic coefficients of friction

A Friction Analyzer or Friction Tester measures the resistance, or friction force, of two objects which slide against each other. The magnitude of the friction and the abrasion depends on factors such as material composition, contact geometry, load (normal force), sliding speed, temperature, humidity, surface roughness, etc. The value of the coefficient of friction (COF) is defined by the relationship between the required force to slide an object and the perpendicular load to the object's surface. As the COF is a dimensionless scalar, it has no unit, and the direction of the force does not change its magnitude.

Friction / Wear / Lubrication

Triboster TSf series

Friction abrasion analyzer

The Triboster TSf series allows for computer-controlled analysis of the static and kinetic coefficients of friction (COF). Both models feature our self-developed crank-shaped biaxial balance technology for precise and reliable measurements and an automatic contact part lift-off function. Different loads, speeds, contact part geometries, measuring methods, and a wide range of options allow customers to set up the instruments to meet their needs.



TSf-503/303

TSf-503 This is our most versatile and adaptable model to evaluate the static and kinetic coefficient of friction of all kinds of samples with different shapes. This universal model has a linear reciprocating sample stage, a built-in temperature sensor, and a set of 6 weights. In addition, seven measuring routines ensure

TSf-303 The TSf-303 is identical in design to the TSf-503 but only features the standard repetition measuring routine and a set of two different weights. In addition, a temperature sensor is available as an option.

Peel Analyzer

Measurement of peel and tensile strength

Pressure-sensitive adhesive tapes (PSA) are not merely known as articles of daily use but play a significant role in various forefront industries. For example, as constitutive and integral parts in the production process of smartphones, flat panel displays, semiconductors, and solar batteries. Peel adhesion, shear resistance, and tack tests characterize the performance of PSA. Among them, peel adhesion tests are conducted widely for an objective appraisal with quantitative evaluation following ISO 8510-1 and 2, the 90° and 180° peel tests, respectively. However, the 180° peel test tends to be slightly affected by the thickness and elasticity of the PSA tape. On the other hand, the 90° peel test may experience elongation and sagging of the tape due to the somewhat complicated structure of the jigs.

Peel Adhesion / Peel Release / Thin-film Coatings / Tensile Strength

VPA series

Versatile peel analyzer

With their unique Flat Plate Cross Stage method (Patent No. 4717156), the computer-controlled Versatile Peel Analyzers can efficiently perform peel tests at any angle from 0 to 180° under a specific peel rate with only simple settings. The most remarkable part of the VPA is its flat specimen stage, which sits on a rotary table. With the help of this rotary table, the peel angle can be quickly and swiftly adjusted from 0 to 180° without using jigs or tools. The employed synchronized actuator mechanism enables a constant peel rate and angle, respectively, during stage travel. No complex adjustments or calculations are required.



VPA-H200F



VPA-H100F

VPA-H200F The standard model is a high-speed peel tester that applies to larger sample sizes due to its specimen stage and long travel distance.

VPA-H100F The compact model can accommodate the same unit cell units and features and provides the same functions as the standard model but is limited in terms of maximum peel rate, stage travel distance, and suitable sample size.

Automatic Spread Oil Meter

Measurement of oil film thickness

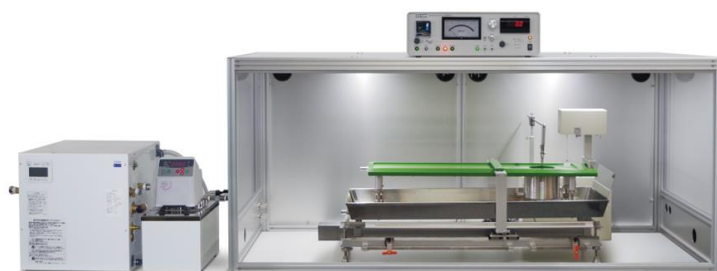
Most oils are spread uniformly on the water surface as a monomolecular film or monolayer if the area is large enough to distribute freely. Therefore, by controlling the packing density of oil molecules, which spread as a monolayer on the water surface, per unit area, determining the oil volume from the relationship between the spread area and the diameter of the oil molecules becomes possible.

Surface Pressure Area Isotherm

SOM-R

Automatic Spread oil meter

In the production of rolled steel, tin, or aluminum sheets, oils such as DOS, CSO, or ATBC are used as a coating medium to prevent sheets from rusting. Therefore, monitoring the amount of oil coated on the sheets is essential to produce high-quality metal sheets. Using test metal sheets from the production line, our Automatic Spread Oil Meter SOM-R determines the oil amount by transferring the oil coated on the rolled metal test sheets onto a water surface and detecting the change of the surface film pressure. This method is called the "hydrophil balance method".



SOM-R

Separate brochures for each model with more detailed information are available.

For detailed information, please get in touch with our sales partner or us directly at +81-48-483-2629 or overseas-sales@face-kyowa.co.jp.

Specifications and designs are subject to change without notice.

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

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