

Ideal for non-destructive contact angle measurements

# Portable Contact Angle Meter PCA-11

**A compact and lightweight device for fully automated on-site measurements of contact angle, surface tension and surface free energy of solids**

Testing on-site for quality control and evaluation of surface wettability, which is characterized by the contact angle, is often required during manufacturing processes or in the field.

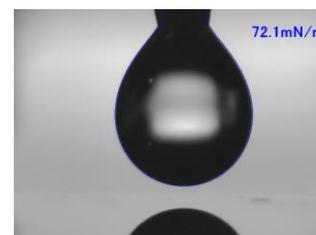
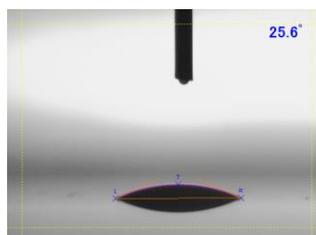
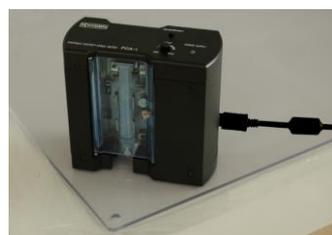
The PCA-11 can be used on any material such as glass, metal, film, paper & pulp, polymer, wood, etc. that have to be measured on-site or that due to their size or shape cannot be analyzed with usual stationary contact angle measuring instruments.

Weighing only 650g, combined with the single-click fully automated operation and its precise measurements, the PCA-11 is the ideal solution for non-destructive surface evaluations.



## FEATURES

- Single-click fully automated operation
- Precise measurement of contact angles, even on slopes of up to 90 degrees
- Analysis of surface free energy
- Measurement of surface tension using the pendant drop method
- Time-dependent measurements by image capture of 30 fps
- 500 droplets with a volume of 1  $\mu$ l can be generated with one prepared syringe
- Simple replacement of syringe and liquid sample via easy accessible front door
- Visible needle tip allows precise capture of the target point



## APPLICATIONS

- Evaluation of cleanliness of large panels and wafers
- Evaluation of surface modification techniques, such as corona, flame and plasma treatments
- Evaluation of hydrophobic and hydrophilic surfaces from automobiles parts, windshields, building walls, etc.

## SPECIFICATIONS

Measuring methods	Contact angle: Sessile drop	Surface tension: Pendant drop
Analysis methods	Contact angle: Surface tension: Surface free energy of solids:	$\theta/2$ , tangent, curve fitting (ellipse, circle) Young-Laplace, ds/de Owens-Wendt, Kaelble-Uy, Kitazaki-Hata, Wu, acid-base, Zisman
Measuring range	Contact angle: 0 to 180 °	Surface tension: 0 to 1000 mN/m
Resolution	Contact angle: 0.01 °	Surface tension: 0.01 mN/m
Accuracy <sup>1)</sup>	Contact angle: 0.5 °	Surface tension: 0.5 mN/m
Droplet dispensing	Automatic	
Dispensing resolution	0.1 $\mu$ l	
Droplet deposition	Automatic	
Power supply	USB bus power (a windows laptop, which can be ordered optionally, is required to operate the instrument)	
Dimensions, weight	110mm(W) x 50mm(D) x 110mm(H), 650 g	
Operating environment	Temperature: +10 to +35 °C, relative humidity: 30 to 80 % (non-condensing)	

<sup>1)</sup> Accuracy is the repeatability in terms of standard deviation based on manufacturer's calibration standard.

For detailed information, please contact our sales partner or us directly at +81-48-483-2629 or at [overseas-sales@face-kyowa.co.jp](mailto:overseas-sales@face-kyowa.co.jp).

Specifications and designs are subject to change without notice.

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