

# POCKET GONIOMETER PG-3

## The PC concept

The pocket goniometers measure the contact angle. This physical phenomenon appears at the interface between a liquid droplet and a substrate surface. The contact angle is commonly used to understand how a liquid and a substrate surface interact with each other. In our daily lives we are often exposed to contact angle phenomena similar to these situations :

- why rain drops “bead up” on a waxed car
- why an egg does not stick in a “non-stick” frying pan
- why a glue might not always repair a broken cup
- how the rain droplets can stay on the outside of the tent roof
- how a wet diaper can remain dry against the skin

The pocket goniometer PG-3 is an automated instrument for measurements of static and dynamic contact angles similar to the model PG-2.

In addition the PG-3 model has an integrated micro-pump, which can deliver accurate droplets in 0.5  $\mu$ l steps.



Model PG 3

## Features

- Measurement of :
  - **Static contact angles**  
wetting of non-sorptive surfaces
  - **Dynamic contact angles**  
wetting and sorption as a function of time
  - **Surface tension**
  - **Surface free energy**
- Small size easily carried in the pocket
- Integrated camera : captures 15 images/sec
- Built-in pump : adjustable in 0.5  $\mu$ l steps
- Manual dispensing unit for special test liquids
- Easy to install - no hardware !
- User-friendly software for Windows 98/ME/2000/XP with dialogue in your own language
- Video output and software for automatic evaluation of surface tension, wetting, spreading and absorption as a function of time

*Cardboard - Paper - Plastics*

## Physical specifications

### Dimensions

16.5 x 5.5 x 4.2 cm (LxWxH)

### Net Weight

400 grams

## Options

- Separate dispensing unit

## Standards

**TAPPI T-458, ASTM D724, ASTM D5946**

## Material

Parts in the pocket goniometer that are in contact with liquids are designed of following materials:

- Liquid container:  
glass with top in Delrin
- Pump tubing:  
metal tube stainless steel (SIS2333)  
pump tubing Tygon (R3607)  
drop tubing (PTFE)
- Manual dispenser:  
cylinder wall (Polypropylen)  
plunger (PTFE)  
nose stainless steel (SIS2346)  
dispensing tip stainless steel (SIS2333)

## Applications

Printing - Agriculture - Paper - Detergents - Corona treatment - Coating - Pharmacy - Board - Inks - Flame treatment - Adhesion - Biomedicine - Wood - Oils - Surface sizing - Cleaning - Papermaking - Metals - Surfactants - Surface tension - Absorption - Cosmetics - Plastic - Water - Surface contamination - Wettability - Dentistry - Textile - Solvents - Surface energy

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