



# PG-3 PocketGoniometer

The PG-3 PocketGoniometer provides a fast and accurate way of evaluating the behaviour of liquids on solid surfaces. Its unique high-level technology makes it possible to measure dynamic contact angles, static contact angles, surface tension and surface free energy with the same instrument.

The PG-3 is a semi-automated instrument with an integrated automatic micropump that delivers a droplet of test liquid of consistent size for reliable, repeatable results. The droplet size is selectable in 0.5  $\mu\text{l}$  increments and an integrated video camera captures up to 15 images per second to show precisely what happens from the moment of droplet contact.

Connecting directly to the USB port of a laptop or PC, the PG-3 software is compatible with Microsoft® Windows® 98/2000/XP, enabling the selection of test parameters and the storage of test data, which can subsequently be exported to other Windows® programs such as Microsoft® Access and Microsoft® Excel. A movie of the dynamic test image can be replayed and exported and the results from two different tests can be compared.

The PG-3 is compact, portable and available as a stand-alone instrument or as part of a Technical Field Kit, making it ideal for use in the laboratory and off-site.

## Features

- Automatic calibration procedure
- Automatic droplet application for consistent results
- Integrated video camera for real-time dynamic contact angle measurements
- Selectable test parameters and storage of test data
- Movie of dynamic test image can be replayed and exported

## Performance data

- Integrated micropump delivers in 0.5  $\mu\text{l}$  increments ensuring a consistent droplet size for consistent, repeatable results
- Ready export of test data to Windows® programs such as Microsoft® Access and Microsoft® Excel
- Easy viewing of results as data and/or graphs
- Recall of previous test results and comparison of results from two different tests



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## Physical specifications

### Dimensions

55 × 155 × 35 mm (W × L × H)

### Net weight

350 g

### Power

Via USB cable link to laptop or PC

## Standards

ASTM D5725-95, TAPPI T558om-97

## Options

Service and maintenance contract

Full range of consumables stocked in the UK

### PG-3 Technical Field Kit

- PG-3 system
- Standard test liquid container
- Two manual dispensing units
- PC laptop
- Field carry case for the transport of the laptop and the PG-3

### Minimum PC laptop specification

Pentium® IV processor, 128 Mb memory, 20 Gb hard drive, DVD drive, 56 K modem, Microsoft® Windows® XP Pro, Microsoft® Office

## Disposable Liquid Dispensing Unit

When tacky or different types of liquids are used, it is necessary to clean and replace parts or the liquid system each time to avoid contamination. The Disposable Liquid Dispensing Unit is an excellent alternative to this and offers options not available with the standard instrument.

The disposable part of the system consists of a 1 ml syringe, a dispensing tip and a length of PTFE tubing. The syringe produces > 200 liquid droplets of 4 µl and when emptied, or not required any more, the entire system can be disposed of. For each test liquid, a new syringe, dispensing tip and length of tubing is used and inserted into the dispensing unit.

The Disposable Liquid Dispensing Unit can be programmed to carry out the complex analysis of the wetting hysteresis by measuring the advancing/receding angles when the PG-3 is in dynamic mode. After placing a droplet on the surface, the pump flow can be reversed automatically at a user-defined volume to make the droplet recede. The droplet is released on completion of the test.

