



**Thwing-Albert  
Instrument Company**

*More Than a Century of Testing Solutions*

**IDM<sup>®</sup>**  
instruments

## **PGX+** *Contact Angle Tester*

The PGX+ is a compact, video-based instrument that measures the wetting and absorption of virtually any size or shape surface without the need to prepare sample strips. Eliminating the need to cut your material makes it ideal for any product that is difficult to cut such as rigid components, drywall board, glass or the inside of a container. It also performs nondestructive testing so can be used on expensive materials without damage.

Testing with the PGX+ is effortless. Simply place the unit on top of the sample and press the pump button. The instrument automatically pumps out a droplet, captures the liquid/substrate interaction and graphs the results.

Determine the static contact angle at “equilibrium” or use a sequence of images to measure the dynamic wetting, rate of sorption and spreading as a function of time. The PGX+ software measures surface tension of the test liquid, calculates the surface energy of a solid and includes a report generator. The PGX+ is connected directly to the USB port of a laptop or a desktop computer.

### **Checks Surface Properties**

for Contamination, Adhesion and Printability of metals, polymers, glass, paper, board and more...

### **Tests Liquid Properties**

Measures Static Contact Angle on non-sorptive surfaces

### **Measures Dynamic Contact Angle**

as wetting, absorption and spreading over time

### **Measures Surface Tension**

determined from the shape of a pendant droplet

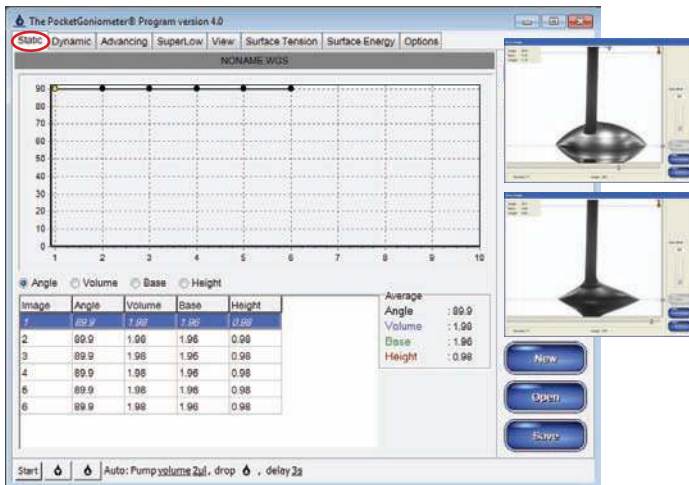
### **Determines Surface Energy**

using one or more probing liquids

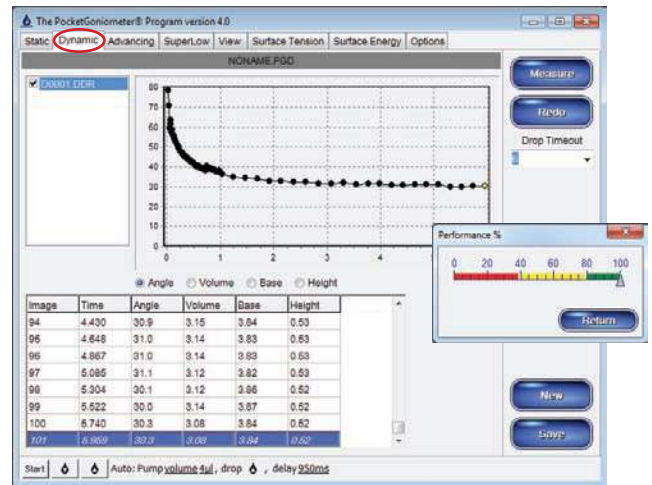


### **Features**

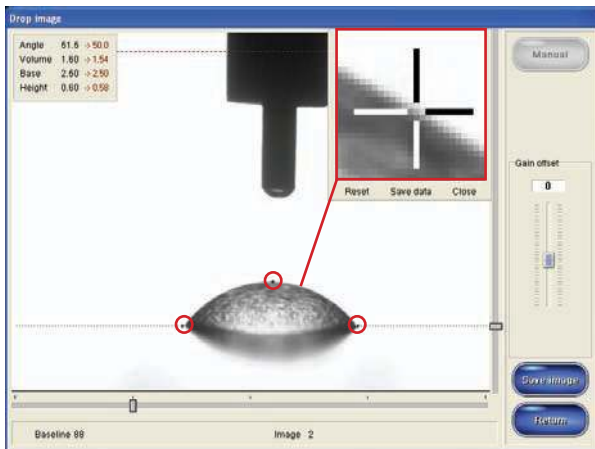
- Small Size  
90(L) x 55(W) x 90(H) mm
- Integrated camera  
captures 80 images/sec  
(640x480 pixels)
- Built-in pump delivers precise droplets in 0.2 µl steps
- Automatic Droplet Application:  
Static and Dynamic Mode
- Runs on most computers via USB
- Easy to install - No Hardware
- User-friendly Software for  
Windows XP, Vista, and  
Windows 7 (32/64 bit)
- Multiple Language Support
- Complies with test methods:  
TAPPI T458  
ASTM D724, ASTM D5946



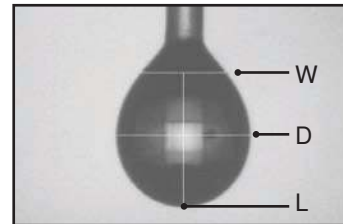
Static results on a solid substrate.



Dynamic results from a droplet on an absorbent substrate.



Manual measurement using three points along contour.



Shape of Pendant Drop used for Surface Tension measurement.

## Technical Specifications

### Sample Size

Unlimited

### Sample Thickness

Unlimited

### Drop Volume

0.2  $\mu$ l to 7.5  $\mu$ l (0.2  $\mu$ l increments)

### Drop Accuracy

$\pm$  0.2  $\mu$ l

### Contact Angle Range

0.5 to 180  $\pm$ 0.1°

### Operating System

Windows XP, Vista, and Windows 7 (32/64 bit)

### Image Resolution

640 x 480 pixels

### Pixel Size

10 x 10 microns

### Camera Capture Rate

80 images/second (640 x 480 pixels)

### Software - AutoRepeat Mode

Capture rate: 1 to 200 images/minute

Capture time: 0.1 to 500 minutes

### Physical Dimensions (LxWxH)

90 x 55 x 90 mm

(3.54 x 2.16 x 3.54 in)

Specifications subject to change without notice.

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