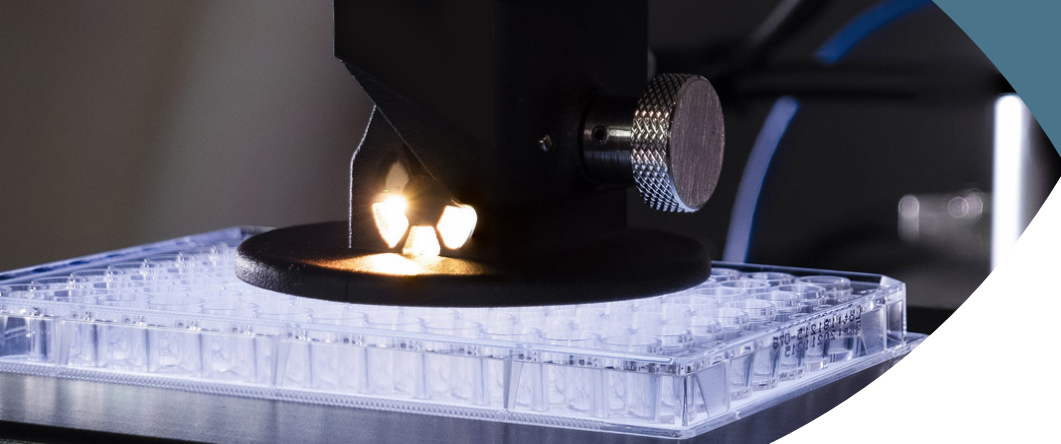




## BRIGHTON SCIENCE SOLUTIONS

# Automated Surface Analyst 7001

## Fast. Easy. Accurate. Non-Destructive. Connected.

Brighton Science's full suite of Surface Analyst products equip manufacturers to reduce scrap, recalls and rework caused by adhesion failure and inadequate surface preparation processes.

For the first time, manufacturers have access to an automated surface quality inspection that will fix long standing adhesion or cleanliness problems that cause scrap, recalls, rework or production delays. The Surface Analyst 7001 provides real-time feedback to continuously monitor and validate surface critical operations to ensure adhesion processes aren't drifting out of spec. This gives you fully integrated, total surface quality control throughout your entire adhesion process.

- Fully automated surface quality control
- Flexible integration into production process
- Automated in-line inspection
- Versatile applications



### IMPLEMENTATION

*Flexible integration into  
production process*

*Linear motion*

*Fixed to line*

*Off-line quality check station*

### APPLICATIONS

*Bonding*

*Coating*

*Sealing*

*Painting*

*Printing*

*Cleaning*

### MATERIALS

*Composite*

*Polymer*

*Metal*

*Glass*

*Certain Textiles*

*Ceramics*

### INDUSTRIES

*Film & Flexible Packaging*

*Aerospace*

*Automotive*

*Medical Devices*

*Consumer Goods*

*Electronics*

## Surface Analyst 7001 Advantages



### Fast

The Surface Analyst 7001 is the fastest automated contact angle inspection system that is able to measure over 1,800 inspections per hour



### Easy

Designed specifically for manufacturing, the 7001 allows for surface quality inspections on any material, in any direction and on parts with complex geometries. Comprehensive documentation provides the information necessary for a quick and easy installation with any automated system or configuration.



### Accurate

Archer, the software that powers Surface Analyst devices, streamlines surface inspection processes and allows manufacturers to gain data-driven feedback loops that provide critical surface data within your manufacturing processes.

Archer software provides precise inspections on variable material surfaces and in unpredictable manufacturing environments, providing perfect surface quality results in imperfect situations.



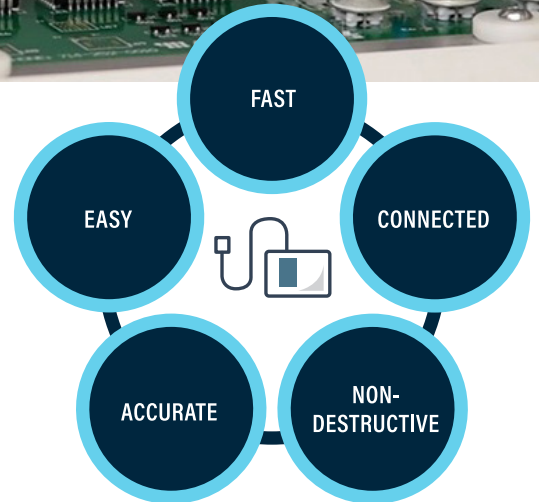
### Non-destructive

Eliminate scrap resulting from destructive testing. The 7001 takes non-contact inspections using tiny droplets of highly purified HPLC-grade water, eliminating the potential for material contamination, and makes inspections completely harmless to users



### Connected

The Surface Analyst 7001 keeps your line connected by providing continuous feedback and automatic data handling into Manufacturing Execution Systems. The statistical adhesion process control keeps you informed about what changes are occurring on material surfaces over time due to treatment or cleaning degradation or other unseen factors that can impact adhesion performance.



# Hardware Features

## FLEXIBLE INTEGRATION

The Surface Analyst 7001 allows manufacturers to choose the right implementation for their production processes: in-line with a robotic system, linear actuator, fixed to the line, or incorporated into a stand-alone quality check station.

## LIVE VIDEOSCOPE

The Surface Analyst 7001 provides a real-time view of the surface before the drop is deposited, allowing for precise inspection placement. Users can easily connect the 7001 to an internal MES or laptop to monitor inspections on an alternative screen.

## DATA TRANSFER

Transfer ports allow for the easy transfer of inspection data and images critical for predictive analytics.

## FLEXIBLE TETHER

The 7001 offers a flexible tether up to 6 meters for even more flexibility for testing hard-to-reach and challenging surfaces.

## NON-CONTACT INSPECTION HEAD

The Surface Analyst 7001 features a floating inspection head that never makes contact with the material surface, completely eliminating the potential for contamination to transfer to the surface being inspected.

## HIGH-VOLUME FLUID CARTRIDGE

Manufactured by Brighton Science, the 7001 features cartridges for high-volume inspection of material surfaces. These cartridges use non-destructive, certified HPLC water to ensure zero contamination during inspection. Fluid cartridges contain fluid for 10,000 surface inspections.

## ENHANCED BALLISTIC DEPOSITION

Ballistic Deposition is Brighton Science's patented approach to depositing a drop of fluid to **measure real-world surfaces** that vary in roughness, chemical variation and complex geometries (vertical, upside down, small, narrow).

Enhanced Ballistic Deposition features a new built-in microcontroller that automatically executes precise adjustments to further increase the accuracy of drop deposition to inspect a wider array of rough surfaces or materials with complex finishes.

## TEMPERATURE CONTROL SYSTEM

Allows the device to maintain a steady temperature for consistent viscosity of the fluid for accurate contact angle measurements.

## LUCENT

Lucent is a unique lighting configuration that controls illumination of the inspected surface. Lucent's advanced design can easily manage challenging surfaces with varying finishes by removing reflectivity and increasing contrast.

By controlling lighting environment, the Surface Analyst captures high-quality images for the most precise measurement of contact angle on a large variety of complex material surfaces.

## GEM DROP

GEM Drop is a jeweled valve dispense system that meticulously builds the perfect fluid drop on material surfaces for a reliable and accurate contact angle measurement.

GEM Drop takes sensitive surface chemistry measurements out of the laboratory and puts them directly on the production line and allows for precise inspections in crevices and tiny drops on very complex materials.



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# Powered by Archer Software

## DYNAMIC DETECTION

This innovative approach to powerful image analysis provides the most precise top-down measurement of contact angle. Dynamic Detection's superior drop shape detection enables the device to measure a contact angle that more accurately represents the droplet's interaction with the surface, therefore, exceeding the accuracy of any other goniometer contact angle measurements. Dynamic Detection's combination of image analysis toolsets are so intelligent, it **provides perfect contact angle results in imperfect situations.**

## SMARTDROP

This smart software feature streamlines the inspection process by intelligently accepting inspections that meet measurement standards. This feature removes all human decision making from the process for a truly non-subjective inspection.

## USER MANAGEMENT

Management can add individual user profiles and if necessary, limit capabilities to eliminate changes to device settings. Each inspection record automatically logs the username conducting the inspection for easy tracking and auditing purposes. It also logs time of inspection, part inspected and results.

## SURFACE PROFILES

Using the Surface Profiles feature, Admins can create unique profiles with customized inspection parameters to increase accuracy when measuring dissimilar materials. Surface Profiles ensure precise measurements on materials with varying finishes, textures, conditions, or surface preparations.

## DATA COLLECTION & TREND ANALYSIS

All inspection data is automatically logged and displayed in a convenient chart for easy trend analysis, directly on the device. The data can be easily retrieved from the device so it can be conveniently shared within the organization for further analysis.

## 2-LEVEL PERFORMANCE MONITORING

Actively monitor and analyzes system functionality down to each micro droplet being deposited. This feature monitors any changes in functionality between Performance Checks and will signal if an additional check is required, guaranteeing accurate readings 100% of the time.

### 1. Performance Check

A Performance Check is an automated test sequence and tool realignment process that is used to verify and maintain proper measurement results to ensure the Surface Analyst is operating at maximum performance.

### 2. Performance Alert

This automated intelligence provides thorough feedback by alerting the user to conduct a Performance Check. This ensures the device is working at peak performance 100% of the time.

## PASS/FAIL MODE

Using this feature, admins can input customizable pass/fail tolerance ranges that read out to the operator simply as, Pass or Fail. This feedback provides the result in a simple way that eliminates the need for the operator to understand inspection tolerances or what the number means. The Universal Inspection head provides audible feedback based on the inspection result and the built-in status lights will turn red when an inspection fails and green when an inspection indicates a pass.

## NEAR-FAILURE NOTIFICATIONS

This feature is designed to warn users when their process is near, or reaching the defined pass/fail limit, but is still passing. This predictive analytics feature helps users understand if their process is slowly drifting toward the failure limit. When a test is near-failure, the on-screen Pass/Fail message will turn yellow as well as the built-in status lights located on the Universal Inspection Head.

