

# Surfex<sup>®</sup>

## Parts Cleanliness Testing Station

Without measurement there is no control.



Surfex from Particle Measuring Systems is a completely integrated testing station designed to measure particle levels on almost any type of complex shaped part. The Surfex combines ultrasonic extraction, particle measurement, high-purity fluidics, and automated software control to reduce testing time and therefore reduce the cost of parts testing. A wide range of options customizes the Surfex for your application.

High throughput provides the ability to increase the number of tests performed, and therefore increases the confidence that out-of-spec parts are identified before they adversely affect final product quality.

The system is specially designed to count particles on small complex devices, irregular-shaped parts, consumables, and components typical of the pharmaceutical, medical device, disk drive, and automotive industries.

Particle counting is performed with a LiQuilaz spectrometer and archived with custom software.

### BENEFITS

- direct costs
- Cleanup, sampling, and data processing is controlled with user-configured recipes
- Eliminates test variability
- Can be located in or near production line
- Quickly identify out-of-control conditions

### FEATURES

- Alarm levels for pass/fail criteria can be created to ensure quality control
- Security passwords maintain system integrity
- Compact and self-contained portable cart structure
- HEPA/ULPA filtered air
- Single or multi-frequency ultrasonic extraction
- Particle counter sensitivities of 0.2, 0.3, 0.5 and 2.0  $\mu\text{m}$
- Surfex control software and PC, including comprehensive reporting function
- ESD dissipative work surface cover
- Sample-specific setup configuration and storage
- Installation, training, and on-site service

### APPLICATIONS

- Data storage – hard disk drive components
- Semiconductor – SMIF and reticle pods, cassettes, FOUPs, and CMP rings
- Automotive – fuel injectors
- Medical device – implants
- Pharmaceutical – stents, vials, needles
- Consumables – gloves
- Printing – ink jet cartridges

### Surfex Base Unit

<b>Ultrasonic generator</b>	40 kHz ultrasonic generator, 500 W Optional: Multi-frequency generator, customer-defined single frequency
<b>Ultrasonic tank</b>	10" electropolished 316 stainless steel tank, w/ single-sided overflow
<b>Fluidics</b>	Teflon® plumbing
<b>Filtration</b>	Varies, depending on particle counter sensitivity
<b>Cart construction</b>	Polypropylene enclosure
<b>Dimensions (l, w, h)</b>	60 x 33 x 60 in (152 x 84 x 152 cm)
<b>Weight</b>	500 lb nominal (227 kg)
<b>Communications</b>	Ethernet
<b>Environment</b>	Temperature: 50 – 85 °F (10 – 30 °C); Humidity: Non-Condensing; ISO Class 5 or better

### LiQuilaz Particle Sensor

<b>Size range</b>	<b>E20:</b> 2 – 125 µm; <b>S02:</b> 0.2 – 2.0 µm; <b>S03:</b> 0.3 – 3.0 µm; <b>S05:</b> 0.5 – 20.0 µm
<b>Size channels</b>	15 (user-settable)
<b>Environment</b>	Temperature: 50 – 85 °F (10 – 30 °C); Humidity: Non-Condensing; ISO Class 5 or better
<b>Calibration</b>	Materials used are traceable to National Institute of Standards and Technology (NIST) and/or Japanese Industrial Standards (JIS)

### System Requirements

<b>Power</b>	85 – 264 V, 50 – 60 Hz
<b>Water</b>	4 LPM of ultra pure water
<b>Drain</b>	House drain
<b>House air (clean, dry, oil free)</b>	80 – 150 psi
<b>Control and display system</b>	Rackmount PC and flat panel display
<b>Software</b>	Surfex software from Particle Measuring Systems, Inc

### Optional Features

HEPA filtration  
 Protective tank cover  
 Retractable AC power cord  
 Quick disconnects for water and air  
 Status indicator (2-color light bar)  
 Casters  
 Robotic arm for programmable sample depths

Contact Particle Measuring Systems for available options and/or configurations for this custom instrument

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