

Surfex®

Parts Cleanliness Testing Station



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 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

- Identifies part cleanliness variances
- Reduces operating costs
- Increases throughput
- Improves repeatability
- Part-specific test recipes improve accuracy
- Co-location with cleaning lines speeds OQ data collection

FEATURES

- Alarm levels for pass/fail criteria
- Security passwords maintain system integrity
- Compact and self-contained system
- HEPA/ULPA filtered air option
- Single or multi-frequency ultrasonic extraction
- Broad range of particle counter sensitivity options
- Computer- and recipe- controlled
- Comprehensive report options
- Test recipe setup, storage, and recall
- Installation, training, and on-site service available

APPLICATIONS

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



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Without measurement there is no control

Surfex Base Unit

Ultrasonic generator	40 kHz ultrasonic generator, 500 W Optional: Multi-frequency generator, customer-defined single frequency
Ultrasonic tank	10" electropolished 316 stainless steel tank, w/ single-sided overflow; other options available
Fluidics	Teflon® plumbing
Filtration	Varies, depending on particle counter sensitivity
Construction	Stainless steel enclosure
Dimensions (l,w,h)	60 x 33 x 60 in (152 x 84 x 152 cm). (Note: Options will impact final product dimensions.)
Weight	750 lb nominal (341 kg). (Note: Options will impact final product weight.)
Communications	RS-232. Data may also be stored to network location via Ethernet connectivity or USB
Environment	Temperature: 50 – 85 °F (10 – 30 °C); Humidity: Non-Condensing; ISO Class 5 or better
Size range	
LiQuilaz	E15: 1.5 – 125.0 µm; E20: 2.0 – 125.0 µm; S02: 0.2 – 2.0 µm; S03: 0.3 – 3.0 µm; S05: 0.5 – 20.0 µm
UltraChem 100	0.1 – 0.5 µm
Size channels	
LiQuilaz	15 (user selectable)
UltraChem 100	4
Calibration	Materials used are traceable to National Institute of Standards and Technology (NIST) and/or Japanese Industrial Standards (JIS)

System Requirements

Power	85 – 264 V, 50 – 60 Hz
Water	20 LPM of ultra pure water
Drain	House drain capable of 40 LPM
House air (clean, dry, oil free)	60 – 80 psi
Control and display system	Rackmount PC and flat panel display
Software	Surfex software from Particle Measuring Systems, Inc

Optional Features

- Custom ultrasonic tanks sizes
- Stainless steel construction
- Robotic arm for programmable sample depths
- Recirculated filtration and de-gas loop
- HEPA air filtration
- Status indicator (3-color light bar)
- Casters
- Protective tank cover
- Retractable AC power cord
- Quick disconnects for water and air

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

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