

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

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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