

# 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



*Without measurement there is no control*

### 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; other options available
<b>Fluidics</b>	Teflon® plumbing
<b>Filtration</b>	Varies, depending on particle counter sensitivity
<b>Construction</b>	Stainless steel enclosure
<b>Dimensions (l,w,h)</b>	60 x 33 x 60 in (152 x 84 x 152 cm). (Note: Options will impact final product dimensions.)
<b>Weight</b>	750 lb nominal (341 kg). (Note: Options will impact final product weight.)
<b>Communications</b>	RS-232. Data may also be stored to network location via Ethernet connectivity or USB
<b>Environment</b>	Temperature: 50 – 85 °F (10 – 30 °C); Humidity: Non-Condensing; ISO Class 5 or better
<b>Size range</b>	
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
<b>Size channels</b>	
LiQuilaz	15 (user selectable)
UltraChem 100	4
<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>	20 LPM of ultra pure water
<b>Drain</b>	House drain capable of 40 LPM
<b>House air (clean, dry, oil free)</b>	60 – 80 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

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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#### HEADQUARTERS

5475 Airport Blvd  
Boulder, Colorado 80301 USA  
T: +1 303 443 7100, +1 800 238 1801

Instrument Service & Support  
T: +1 800 557 6363

Customer Response Center  
T: +1 877 475 3317  
E: info@pmeasuring.com

www.pmeasuring.com  
info@pmeasuring.com



#### GLOBAL OFFICES

AUSTRIA  
T: +43 512 390 500  
E: pmsaustria@pmeasuring.com

BENELUX  
T: +32 10 23 71 56  
E: pmsbelgium@pmeasuring.com

BRAZIL  
T: +55 11 5188 8227  
E: pmsbrazil@pmeasuring.com

CHINA  
T: +86 21 6113 3600  
E: pmschina@pmeasuring.com

FRANCE  
T: 33(0)1 60 10 32 96  
E: pmsfrance@pmeasuring.com

GERMANY  
T: +49 6151 6671 632  
E: pmsgermany@pmeasuring.com

ITALY  
T: +39 06 9053 0130  
E: pmsrl@pmeasuring.com

JAPAN  
T: +81 3 5298 8175  
E: pmsjapan@pmeasuring.com

KOREA  
T: +82 31 286 5790  
E: pmskorea@pmeasuring.com

MEXICO  
T: +52 55 2271 5106  
E: pmsmexico@pmeasuring.com

NORDIC  
T: +45 707 028 55  
E: pmsnordic@pmeasuring.com

PUERTO RICO  
T: +1 787 718 9096  
E: pmspuertorico@pmeasuring.com

SINGAPORE  
T: +65 6496 0330  
E: pmsingapore@pmeasuring.com

SWITZERLAND  
T: +41 71 987 01 01  
E: pmsswitzerland@pmeasuring.com

TAIWAN  
T: 886-3-5525300 Ext: 301  
E: pmstaiwan@pmeasuring.com