

## CLS-1000

### Corrosive Liquid Sampler

The CLS-1000 from Particle Measuring Systems is a compression sampler combined with a Liquistat® volumetric particle counter for measuring liquid chemicals up to 90°C. Built-in safety features like leak detection and purge air make it ideal for integration into a wet bench for use with dangerous solvents and acids. Designed for versatility and reliability, the system can be located on a cart for increased mobility when sampling from process to process.

The compression sampler eliminates erratic data problems due to bubbles in effervescent or hot corrosive chemicals. The CLS-1000 is fully compliant with the new SEMI C1 standard for particle measurement of process chemicals.



#### BENEFITS

##### Defect Reduction

- Quick sample cycle allows for faster detection of anomalies
- Large sample volume allows for tighter process control and less data variability
- 0.1µm sensitivity for ultra-pure processing

##### Increase Productivity

- 50 ml/minute flow rate and 100% view volume means quicker process qualification
- Longer wet bench maintenance intervals based on data

##### Cost Effective

- User-selectable measured volume conserves expensive chemicals
- Compression sampling allows instrument to measure most chemicals, including effervescent chemicals, up to 90°C
- Easily portable for use throughout factory

##### Built-In Safety

- Internal leak detection and containment
- Corrosive resistant polypropylene exterior
- Purge air forces dangerous vapors out of enclosure and back safely into the bath
- Visible status indicator

#### FEATURES

- Samples hot corrosive chemicals up to 90°C
- 0.10 micron sensitivity
- Sample flow rate of 50 ml/minute
- 100% sample volume
- Effectively measures effervescent chemicals
- Front panel status, function, pressure and flow rate indicators
- Internal leak detection and containment
- Corrosive resistant polypropylene exterior
- Sample fluid compression up to 60 psi
- Interactive Windows®-based software, Facility Net

#### APPLICATIONS

- Wet process monitoring
- Bath qualification
- Photoresist QA and monitoring
- Chemical QA measurements
- General product monitoring

Without measurement, there is no control.



**PARTICLE  
MEASURING  
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## CLS-1000

<b>Size range:</b>	0.10 - 0.50 $\mu\text{m}$
<b>Size channels:</b>	0.10 - 0.14 user-selectable, 0.15, 0.20, 0.30, $\geq 0.50$
<b>Sample flow rate:</b>	40 - 80 ml/minute
<b>Sample burette volume:</b>	25 ml
<b>Overflow burette volume:</b>	15 or 55 ml, user-selectable
<b>Maximum concentration*:</b>	5000 counts/ml
<b>Sample temperature:</b>	10° - 90°C
<b>Zero count:</b>	$\leq 100$ counts/liter
<b>Exterior surface:</b>	Polypropylene with laser-etched and chemical-resistant epoxy graphics
<b>Wetted surface materials:</b>	Kel-F <sup>®</sup> , PFA, Sapphire, and Chemraz <sup>®</sup>
<b>Dimensions (h, w, d):</b>	18 x 13 x 10 inches (45 x 33 x 24 cm)
<b>Weight:</b>	35 lb. (16 kg)
<b>Power:</b>	85-264 VAC (50 - 60Hz)
<b>Communications:</b>	Ethernet RS-232, for configuration only
<b>Status indicators:</b>	LEDs indicating operating pressures and operational status Front panel graphic flow rate indicator
<b>Calibration:</b>	Calibration materials used are traceable to the USA National Institute for Standards and Technology
<b>Environment:</b>	15 - 35°C ambient
<b>Operating and purge material:</b>	Nitrogen gas 80 -150 psi
<b>Sample compression pressure:</b>	0 - 60 psi @ 90°C
<b>Software:</b>	Facility Net** and SamplerSight**
<b>Sampling:</b>	Controlled via external software, sampling can be started by an external trigger signal

\*Greater than 90% accuracy(less than 10% coincidence loss) at maximum recommendation ambient concentration.

\*\*Available separately from Particle Measuring Systems, Inc.

U. S. Patent No. 5,861,950.

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Kel-F<sup>®</sup> is a registered trademark of Minnesota Mining and Manufacturing Company.

Chemraz<sup>®</sup> is a registered trademark of Greene, Tweed of Delaware.

Windows<sup>®</sup> is a registered trademark of Microsoft Corporation.

### AUTHORIZED REPRESENTATIVE



Registration applies to the Boulder, Colorado facility



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