

# CLS-700 T

## Corrosive Liquid Sampler

The CLS-700 T from Particle Measuring Systems is a compression sampler combined with a LiQuilaz® s-series volumetric particle counter for measuring most liquid chemicals up to 150°C. Versatile and reliable, the system can be integrated into a wet bench for continuous particle monitoring or located on a cart for increased mobility.

The CLS 700 T includes triggering which allows the sampler to be started or stopped by a process tool. The sampler can be automatically shut off during a bath change preventing the injection of damaging chemical foam and air into the particle counter.

The compression sampler eliminates erratic data problems due to bubbles found in effervescent and hot corrosive chemicals. The CLS-700 T is fully compliant with the new SEMI C1 standard for particle measurement of process chemicals.



### BENEFITS

#### Cost Reduction

- 50 or 80 ml/minute flow rate and 100% view volume means quicker process qualification
- Real-time characterization and analysis for immediate response to anomalies means less scrap

#### Versatile

- Supports a wide range of applications and fluids
- Programmable particle size thresholds
- Designed for easy mobility
- Compression sampling allows instrument to measure most chemicals, including effervescent ones
- External trigger for coordinating sampling with process events

#### User-Friendly

- Facility Net process control software simplifies online sampling by providing alphanumeric paging, sensor status, tabular and SPC charts and time plots
- SamplerSight batch sampling software facilitates all aspects of data management including sophisticated data storage, retrieval, and report generation
- Designed for quick cleanup when switching from one liquid to another

### FEATURES

- Samples hot corrosive chemicals up to 150°C
- Sizing sensitivities starting at 0.2 µm with integrated LiQuilaz sensor
- 15 user-adjustable sizing channels
- Compatible with effervescent chemicals
- Front panel status, function, pressure, and flow rate indicators
- Internal leak detection and containment
- Bubble suppression to 60 psi
- Triggering provides an automatic "start or stop" based on input from a process tool
- Polypropylene housing meets the FM4910 flame retardant standard

### APPLICATIONS

- Measure particle levels in effervescent liquids
- Chemical quality assurance
- Wet process monitoring
- Chemical process control
- Bath monitoring

Without measurement, there is no control.



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<b>Burette volume:</b>	65 ml nominal
<b>Assessed volume:</b>	48 ml nominal
<b>Maximum compression pressure:</b>	60 psi @ 120°C or less; maximum 45 psi @ 150°C
<b>Exterior surface:</b>	Polypropylene (meets flame retardant specification FM4910)
<b>Wetted surface materials:</b>	Teflon®, Kel-F® (see LiQuilaz for other wetted surfaces)
<b>Sample temperature:</b>	10 - 150°C @ 45 psi or less (maximum 120°C @ 60 psi); Sulfuric acid 100°C maximum
<b>Dimensions (l, w, h):</b>	16 x 10 x 16 inches (41 x 26 x 39 cm)
<b>Weight:</b>	34 lb. (15.5 kg)
<b>Communications:</b>	RS-232 and RS-485
<b>Environment:</b>	Temperature: 10 - 35°C; Humidity: noncondensing
<b>Software:</b>	Facility Net, SamplerSight
<b>Sampling:</b>	Controlled via external trigger
<b>Factory requirements:</b>	Power: see sensor requirements. Gas pressure: 70 - 150 psi. Liquid connections: Flaretek® 1/4 inch.

	LiQuilaz SO2	LiQuilaz SO3	LiQuilaz SO5
<b>Size range:</b>	0.2 - 2.0 µm	0.3 - 3.0 µm	0.5 - 20 µm
<b>Channels:</b>	15	15	15
<b>Flow rate:</b>	50 ml/min	80 ml/min	80 ml/min
<b>Sample volume:</b>	Volumetric 50 ml/min (100%)	Volumetric 80 ml/min (100%)	Volumetric 80 ml/min (100%)
<b>Maximum concentration*:</b>	10,000 particles/ml	10,000 particles/ml	10,000 particles/ml
<b>Sample temperature:</b>	10 - 150°C (maximum 45 psi @ 150°C, 60 psi @ 120°C); sulfuric acid 100°C maximum		
<b>Maximum pressure:</b>	100 psi	100 psi	100 psi
<b>Zero count:</b>	<25 counts/liter	<15 counts/liter	<15 counts/liter
<b>Wetted surface materials:</b>	Sapphire, Teflon, Kel-F, Chemraz®		
<b>Laser source:</b>	Laser diode		
<b>Dimensions (l, w, h):</b>	13 x 4 x 5 inches (32 x 11 x 11 cm); mounts inside the CLS-700 T		
<b>Weight:</b>	6 lb. (3 kg)		
<b>Power:</b>	100, 115, 220, 230, 240 V	85 - 250V, 50 - 60 Hz	85 - 250V, 50 - 60 Hz
<b>Communications:</b>	RS-485		
<b>Calibration:</b>	Calibration materials used are traceable to USA National Institute of Standards and Testing (NIST)		

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

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Kel-F® is a registered trademark of the Minnesota Mining & Manufacturing Company.

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Particle Measuring Systems, Inc. reserves the right to change specifications without notice.

### AUTHORIZED REPRESENTATIVE



Registration applies to the Boulder, Colorado facility

ISO 9001:2000  
FM 40574



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