

CLS-700T

Corrosive Liquid Particle Counter



The CLS-700T corrosive liquid sampler is a compression sampler combined with a LiQuilaz[®] particle counter for effective measurement of particles in fluids contained in unpressurized vessels. The CLS-700T is ideally suited for testing effervescent chemicals. The system eliminates bubbles by pressurizing the sample and forcing the bubbles into solution.

The CLS-700T corrosive liquid sampler can be integrated into a wet bench for continuous particle monitoring or located on a cart for increased mobility. When integrated into the wet bench, the sampling system can be started or stopped by the tool, including automatic shut-off during a bath change, to prevent the injection of chemical foam or air into the particle counter.

The CLS-700T corrosive liquid sampler is fully compliant with SEMI C1 for particle measurement of process chemicals.

BENEFITS

Cost Reduction

- 100% view volume means quicker process qualification
- Real-time characterization and analysis for immediate response to anomalies means less waste

Versatility

- 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 coordinates sampling with process events
- Measurements can be made directly out of the bath

Easy to Use

- 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

APPLICATIONS

- Particle level measurement in effervescent liquids
- Wet process monitoring
- Chemical process control
- Bath monitoring



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specifications

Burette volume	65 ml nominal		
Assessed volume	48 ml nominal		
Maximum compression pressure	60 psi at 248 °F (120 °C) or less; max. 45 psi at 302 °F (150 °C)		
Exterior surface	Polypropylene (Meets flame retardant specification FM4910.)		
Wetted surface materials	Kalrez® 4079, Teflon®, Kel-F® (See LiQuilaz particle counter information for other wetted surfaces)		
Sample temperature	50 – 302 °F (10 – 150 °C) at 45 psi or less; max. 248 °F (120 °C) at 60 psi; Sulfuric acid max. 212 °F (100 °C)		
Zero count	<1 count/ml		
Dimensions (l, w, h)	16 x 10 x 16 in (41 x 26 x 39 cm)		
Weight	34 lb (15.5 kg)		
Communications	RS-232 or RS-485		
Environment	Temperature: 50 – 95 °F (10 – 35 °C); Humidity: non-condensing		
Software	SamplerSight, Facility Net		
Sampling	Optionally controlled via external trigger		
Factory requirements	Power: See sensor requirements. Gas pressure: 70 – 150 psi. Liquid connections: Flaretek® 1/4 in.		
	LiQuilaz S02	LiQuilaz S03	LiQuilaz S05
Size range	0.2 – 2.0 µm	0.3 – 3.0 µm	0.5 – 20.0 µm
Channels	15	15	15
Flow rate (ml/min)	50 ml/min ± 10%	80 ml/min ± 10%	80 ml/min ± 10%
Sample volume	Volumetric 50 ml/min (100%)	Volumetric 80 ml/min (100%)	Volumetric 80 ml/min (100%)
Maximum concentration*	10,000 particles/ml	10,000 particles/ml	10,000 particles/ml
Sample temperature	50 – 302 °F (10 – 150 °C); max. 302 °F (150 °C) at 45 psi; max. 248 °F (120 °C) at 60 psi; Sulfuric acid max. 212 °F (100 °C)		
Maximum pressure	100 psi		
Wetted surface materials	Sapphire, Teflon®, Kel-F®, Kalrez®4079		
Laser source	Laser diode		
Dimensions (l, w, h)	13 x 4 x 5 in (32 x 11 x 11 cm); located inside the CLS-700 T		
Weight	6 lb (2.7 kg)	6 lb (2.7 kg)	6 lb (2.7 kg)
Power	85 – 132 V or 220 – 240 V 50 – 60 Hz	85 – 250 V 50 – 60 Hz	85 – 250 V 50 – 60 Hz
Communications	RS-485		
Calibration	Materials used are traceable to USA National Institute of Standards and Technology (NIST) and/or Japanese Institute of Standards (JIS).		

*Greater than 90% accuracy (less than 10% coincidence loss) at maximum recommended concentration.
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U. S. Patent no. 4,728,190. Particle Measuring Systems, Inc. reserves the right to change specifications without notice.



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