CLS-700 T

Corrosive Liquid Particle Counter

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

The CLS-700 T 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 shutoff during a bath change, to prevent the injection of chemical foam or air into the particle counter.

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

BENEFITS

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

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

Cost Reduction

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

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 120 °C or less; max. 45 psi at 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	10 – 150 °C at 45 psi or less (max. 120 °C at 60 psi); Sulfuric acid 100 °C max.		
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: 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		
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		
Sample temperature	10 – 150 °C (max. 150 °C at 45 psi, 120 °C at 60 psi); Sulfuric acid 100 °C max.		
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)		
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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