

HSLIS e-series

Liquid Optical Particle Counter

The HSLIS e-series provides continuous real-time monitoring of contamination levels in DI water and process chemicals. The combination of high sensitivity and low cost makes it ideal when large numbers of sensors are required. The HSLIS e-series has sizing sensitivity down to 0.05 microns in DI water and 0.065 microns in process chemicals. Integration of the HSLIS e-series into Particle Measuring Systems' Facility Net software provides an economical way to monitor multiple flow systems. Facility Net can also be used to provide dedicated local display and control capabilities.



BENEFITS

Cost Effective

- Respond immediately to particle events with continuous real-time monitoring
- Improve yield with the detection of particles with the highest sensitivity particle counters
- Simplify site-to-site comparisons with industry standard particle counter
- Lower overall costs with the control and monitoring of multiple particle counters with existing Ethernet networks
- Low initial capital investment and lower maintenance cost with proven reliability of the HSLIS design

HSLIS e-series with Facility Net

- Utilize existing network with Ethernet communication to Facility Net
- Tabular and SPC charts for detailed statistical information
- Alphanumeric paging and e-mailing functions to alert operator
- Sensor status displays four level alarm for monitoring out-of-spec condition
- Time plots for real-time or retrieved data simplifies data interpretation

FEATURES

- Sensitivity to 0.05 microns for DI water and 0.065 microns for process chemicals
- Ethernet connection to Facility Net
- High flow rates: 100-300 ml/min
- Sealed enclosure and UL 1604 compliance available
- Five 4-20 mA outputs

APPLICATIONS

- Quantifying particle concentrations in UPW systems
- Monitoring chemical delivery systems
- Filter efficiency measurements
- Detecting bacterial growth in UPW systems
- Episodic event tracking and alarming
- Continuous system monitoring

Without measurement, there is no control.



**PARTICLE
MEASURING
SYSTEMS**
www.pmeasuring.com

Specifications

HSLIS	M50e	M65e	M100e
Size range:	0.05 - 0.2 microns	0.06 - 0.2 microns	0.1 - 1.0 microns
Channels:	4	4	4
Channel sizes:	0.05, 0.1, 0.15, 0.2 microns	0.065, 0.1, 0.15, 0.2 microns	0.1, 0.2, 0.5, 1.0 microns
Optimum flow rate:	100 ± 10% ml/min	100 ± 10% ml/min	300 ± 10% ml/min
Sample volume:	0.25 ml/min	0.6 ml/min	3.0 ml/min
Counting efficiency:	100% of the sample volume (.117 microns)	100% of the sample volume (.117 microns)	100% of the sample volume (.168 microns)
Maximum concentration*:	10,000 cts/ml	10,000 cts/ml	10,000 cts/ml
Sample temperature:	90°C	150°C	150°C
Zero count level:	≤1000 counts/liter	≤2000 counts/liter	≤1000 counts/liter
Wetted surface materials:	Teflon® Kel-F® Delrin Fused Silica	Teflon Kel-F Fused Sapphire Chemraz®	Teflon Kel-F Fused Sapphire Chemraz®
Dimensions (l, w, h):	19 x 9 x 7 inches; (48 x 23 x 18 cm)		
Weight:	28 lbs.; 13 kg		
Power:	100 - 240 V, 50 - 60 Hz, 1 amp maximum		
Calibration:	Calibration materials used are traceable to the USA NIST, ISO 4402, ASTM F-658		
Environment:	Temperature: 10 - 35°C, Humidity: noncondensing		
Communications:	Ethernet 4-20 mA (five outputs: four particle channels, one instrument status) RS-232 (set up and diagnostics, no data)		

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

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Chemraz® is a registered trademark of Greene, Tweed of Delaware Inc.

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

AUTHORIZED REPRESENTATIVE

CE



Registration applies to the Boulder, Colorado facility



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