

# Ultra DI<sup>®</sup> 50

Liquid Optical Particle Counter



The Ultra DI<sup>®</sup> 50 Liquid Particle Counter is designed specifically for de-ionized (DI) water systems and will count and size contaminants as small as 20  $\mu\text{m}$ . Larger sample volumes and ultra-low zero counts detect smaller excursions with more relevant statistical data, while shorter sample intervals speed up your analysis time.

Respond immediately to contamination with real-time measurement of particles, and Save time with fast clean-up and the ability to move quickly from one sample point to another. Its low zero count, large sample volume and high counting efficiency provide unsurpassed performance.

## BENEFITS

### Rapid Analysis

- Quickly obtain meaningful statistical data with Ultra DI 50's large sample volume
- Save operator time with fast clean-up and the ability to move quickly from one sample point to another
- Speed up analysis time by using shorter sample intervals

### Process Development

- Larger sample volumes and ultra-low zero counts detect smaller excursions with more relevant statistical data
- Respond immediately to contamination with real-time particle measurement
- Facility Net software provides more sophisticated process control with:
  - email notification
  - sensor status
  - tabular and SPC charts
  - time plots
  - historical event log records
- Set tighter process control limits with low sample-to-sample variation
- Detect process variations more quickly with improved sensitivity: 0.05  $\mu\text{m}$

### Easy to Use

- Utilize existing network with Ethernet communication
- Connect directly to PLC and SCADA systems with 4-20 mA
- Compatible with ozonated water
- Stainless steel housing and dual HEPA filtration for use in clean environments

## APPLICATIONS

- Quantifying particle concentration in ultra pure water (UPW) systems
- Filter efficiency measurements
- Trending analysis at lower particle concentrations
- Detecting bacterial growth in UPW systems
- Episodic event tracking and alarming
- Continuous system monitoring
- Manufacturing process control



**PARTICLE  
MEASURING  
SYSTEMS<sup>®</sup>**  
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*Without measurement there is no control*



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Specifications

Size range	0.05 – 0.20 µm
Channels	4
Channel sizes	0.05, 0.10, 0.15, 0.20 µm
Flow rate (ml/min)	1,000 ml/min ± 10%
Counting efficiency	100% sample volume
Sample volume	≥ 3.75 ml/min
Maximum concentration <sup>1</sup>	10,000 counts/ml
Sample temperature <sup>2</sup>	59 – 122 °F (15 – 50 °C)
Maximum pressure	100 psi
Zero count	≤ 50 counts/L
Exterior surface	Stainless steel
Wetted surface materials	Teflon <sup>®</sup> , Kel-F <sup>®</sup> , fused silica, sapphire, Viton <sup>®</sup> , 96% Alumina Ceramic, and Simriz <sup>®</sup>
Dimensions (d, w, h)	17 x 17 x 10.5 in (43 x 43 x 27 cm)
Weight	45 lb (20.4 kg)
Power	100 – 240 VAC
Communications	Ethernet, 4-20 mA (3 outputs: 2 particle channels, 1 instrument status) RS-232 (set up and diagnostics only, no data)
Status indicator	Laser, power, and activity: one (1) tri-color LED
Calibration	Materials used are traceable to National Institute of Standards and Technology (NIST) and/or Japanese Industrial Standards (JIS)
Environment	Temperature: 72 – 84 °F (22 – 29 °C) ± 1 °C /hour Humidity, Non-Condensing

<sup>1</sup>Greater than 90% accuracy (less than 10% coincidence loss) at the maximum recommended concentration.

<sup>2</sup>For temperatures greater than 50°C, use of a chiller is recommended.

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Teflon<sup>®</sup> is a registered trademark of The Chemours Company, FC, LLC.

Viton<sup>®</sup> is a registered trademark of DuPont.

Kel-F<sup>®</sup> is a registered trademark of 3M.

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