Ultra DI® 50
Liquid Optical Particle Counter

The Ultra DI® 50 Liquid Particle Counter is designed specifically for de-ionized (DI) water systems and will count and size contaminants as small as 20 μm. 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 μm

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

Without measurement there is no control
# Ultra DI® 50

**Liquid Optical Particle Counter**

## Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size range</strong></td>
<td>0.05 – 0.20 μm</td>
</tr>
<tr>
<td><strong>Channels</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Flow rate (ml/min)</strong></td>
<td>1,000 ml/min ± 10%</td>
</tr>
<tr>
<td><strong>Counting efficiency</strong></td>
<td>100% sample volume</td>
</tr>
<tr>
<td><strong>Sample volume</strong></td>
<td>≥ 3.75 ml/min</td>
</tr>
<tr>
<td><strong>Maximum concentration</strong></td>
<td>10,000 counts/ml</td>
</tr>
<tr>
<td><strong>Sample temperature</strong></td>
<td>59 – 122 °F (15 – 50 °C)</td>
</tr>
<tr>
<td><strong>Maximum pressure</strong></td>
<td>100 psi</td>
</tr>
<tr>
<td><strong>Zero count</strong></td>
<td>≤ 50 counts/L</td>
</tr>
<tr>
<td><strong>Exterior surface</strong></td>
<td>Stainless steel</td>
</tr>
<tr>
<td><strong>Wetted surface materials</strong></td>
<td>Teflon®, Kel-F®, fused silica, sapphire, Viton®, 96% Alumina Ceramic, and Simriz®</td>
</tr>
<tr>
<td><strong>Dimensions (d, w, h)</strong></td>
<td>17 x 17 x 10.5 in (43 x 43 x 27 cm)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>45 lb (20.4 kg)</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>100 – 240 VAC</td>
</tr>
<tr>
<td><strong>Communications</strong></td>
<td>Ethernet, 4-20 mA (3 outputs: 2 particle channels, 1 instrument status)</td>
</tr>
<tr>
<td><strong>Status indicator</strong></td>
<td>Laser, power, and activity: one (1) tri-color LED</td>
</tr>
<tr>
<td><strong>Calibration</strong></td>
<td>Materials used are traceable to National Institute of Standards and Technology (NIST) and/or Japanese Industrial Standards (JIS)</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td>Temperature: 72 – 84 °F (22 – 29 °C) ± 1 °C/hour, Humidity, Non-Condensing</td>
</tr>
</tbody>
</table>

1. Greater than 90% accuracy (less than 10% coincidence loss) at the maximum recommended concentration.
2. For temperatures greater than 50°C, use of a chiller is recommended.

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