

# SPECIFICATIONS

## Zetasizer Ultra



### PARTICLE SIZE AND MOLECULAR SIZE

<b>Measurement principle:</b>	Dynamic light scattering (Non-Invasive Back-Scatter - NIBS)
	Dynamic light scattering (13°, 173°)
	Multi-Angle Dynamic Light Scattering (MADLS)
<b>Measurement angle:</b>	173°, 13°, 90° <sup>1</sup>
<b>Measurement range:</b>	0.3 nm - 10 µm (diameter) <sup>2</sup>
<b>Minimum sample volume:</b>	3 µL
<b>Concentration range:</b>	<b>Minimum sample concentration<sup>3</sup>:</b>
	NIBS (173°): 0.1 mg/mL
	Forward angle (13°): 5 mg/mL
	Side angle (90°): 1 mg/mL
MADLS: 1 mg/mL	
	<b>Maximum sample concentration<sup>4 5</sup>:</b>
	40% w/v

### ZETA POTENTIAL

<b>Measurement principle:</b>	Mixed-mode measurement, phase analysis light scattering (M3-PALS)
<b>Size range:</b>	3.8 nm - 100 µm (diameter) <sup>2</sup>
<b>Minimum sample volume:</b>	20 µL <sup>6</sup>

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## Zetasizer Ultra

Concentration range:	1 mg/mL <sup>3</sup> - 40% w/v <sup>4 5</sup>
Sample conductivity range:	Maximum: 260 mS/cm Accuracy: ± 10%

### PARTICLE CONCENTRATION

Concentration range:	30nm gold: 1 x 10 <sup>8</sup> - 1 x 10 <sup>12</sup> particles/mL
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### SYSTEM

Detector:	Avalanche photodiode
Temperature control range:	Purge facility using dry air/nitrogen <sup>7</sup>
Dimensions (W, D, H):	322 mm x 565 mm x 245 mm
Weight:	19 kg
Power:	AC 100-240 V, 50-60 Hz, 4.0 A
Power consumption:	Max. 100 W, 45 W typical
Ambient conditions:	+10°C to +35°C (+50°F to +95°F) 35% - 80% RH (non-condensing)
Interface:	USB 2.0 or higher

### NOTES

Notes:	<ol style="list-style-type: none"><li>1. Water as sample dispersant;</li><li>2. Peak mode range (diameter) 0.6 nm - 10 µm; sample &amp; sample preparation dependent;</li><li>3. Measured using 15 kDa protein;</li><li>4. Sample-dependent;</li><li>5. Measured using bile acid;</li><li>6. Using diffusion barrier method;</li><li>7. Temperature accuracy 0.1°C at 25°C, 0.2°C at 0°C, 0.5°C at 90°C, 2.5°C at 120°C</li></ol>
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