

SPECIFICATIONS

Zetasizer Family Range



Zetasizer Ultra

Zetasizer Pro

PARTICLE SIZE AND MOLECULAR SIZE

Measurement principle:	Dynamic light scattering (Non-Invasive Back-Scatter - NIBS) Dynamic light scattering (13°, 173°) Multi-Angle Dynamic Light Scattering (MADLS)	Dynamic light scattering (Non-Invasive Back-Scatter - NIBS) Dynamic light scattering (13°, 173°)
Measurement angle:	173°, 13°, 90° ¹	173°, 13° ¹
Measurement range:	0.3 nm - 10 µm (diameter) ²	Diameter: 0.3 nm - 10 µm ²
Minimum sample volume:	3 µL	12 µL
Concentration range:	<p>Minimum sample concentration³:</p> <p>NIBS (173°): 0.1 mg/mL</p> <p>Forward angle (13°): 5 mg/mL</p> <p>Side angle (90°): 1 mg/mL</p> <p>MADLS: 1 mg/mL</p> <p>Maximum sample concentration^{4 5}: 40% w/v</p>	<p>Minimum sample concentration³:</p> <p>NIBS (173°): 0.1 mg/mL</p> <p>Forward angle (13°): 10 mg/mL</p> <p>Side angle (90°): N/A</p> <p>MADLS: N/A</p> <p>Maximum sample concentration^{4 5}: 40% w/v</p>

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ZETA POTENTIAL

Measurement principle:	Mixed-mode measurement, phase analysis light scattering (M3-PALS)	Mixed-mode measurement, phase analysis light scattering (M3-PALS)
Size range:	3.8 nm – 100 µm (diameter) ²	3.8 nm – 100 µm (diameter) ²
Minimum sample volume:	20 µL ⁶	20 µL ⁶
Concentration range:	1 mg/mL ³ - 40% w/v ^{4 5}	10 mg/mL ³ - 40% w/v ^{4 5}
Sample conductivity range:	Maximum: 260 mS/cm Accuracy: ± 10%	Maximum: 260 mS/cm Accuracy: ± 10%

PARTICLE CONCENTRATION

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

Detector:	Avalanche photodiode	Avalanche photodiode
Temperature control range:	Purge facility using dry air/nitrogen ⁷	0°C - 120°C ⁷
Dimensions (W, D, H):	322 mm x 565 mm x 245 mm	322 mm x 565 mm x 245 mm
Weight:	19 kg	19 kg
Power:	AC 100-240 V, 50-60 Hz, 4.0 A	AC 100-240 V, 50-60 Hz, 4.0 A
Power consumption:	Max. 100 W, 45 W typical	Max. 100 W, 45 W typical
Ambient conditions:	+10°C to +35°C (+50°F to +95°F) 35% - 80% RH (non-condensing)	+10°C to +35°C (+50°F to +95°F) 35% - 80% RH (non-condensing)
Interface:	USB 2.0 or higher	USB 2.0 or higher
Notes:	<ol style="list-style-type: none"> 1. Water as sample dispersant; 2. Peak mode range (diameter) 0.6 nm - 10 µm; sample & sample preparation dependent; 3. Measured using 15 kDa protein; 4. Sample-dependent; 5. Measured using bile acid; 6. Using diffusion barrier method; 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 	<ol style="list-style-type: none"> 1. Water as sample dispersant; 2. Peak mode range (diameter) 0.6 nm - 10 µm; sample & sample preparation dependent; 3. Measured using 15 kDa protein; 4. Sample-dependent; 5. Measured using bile acid; 6. Using diffusion barrier method; 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