

Zetasizer Cells and Cuvettes: Descriptions and Uses



MOLECULAR WEIGHT

PROTEIN
AGGREGATION

PROTEIN MOBILITY



ZETA POTENTIAL



PARTICLE SIZE

A wide selection of cells is available for use with the Zetasizer range of instruments. This technical note lists all of the cells currently available from Malvern Instruments. Each has qualities and advantages that suit particular applications. The following tables describe the available cells and show which instruments from the Zetasizer range that the cells can be used with.




Table 1 gives a description of the cells.


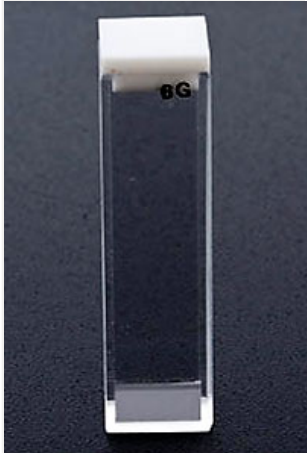

Table 2 shows which of the cells are compatible with size measurements.

Table 3 shows which of the cells are compatible with zeta potential measurements.

Table 4 shows which of the cells are compatible with molecular weight measurements.

Table 1: Size, molecular weight and zeta potential cells available with the Zetasizer range.

Part number	Description	Picture
DTS0012	Disposable polystyrene cuvette, pack of 100 with 100 caps, minimum volume 1mL, suitable for all systems that measure size. Compatible with: Zetasizer 1000/3000, HPPS, Zetasizer Nano series	
ZEN0118	Disposable low volume cuvette for size measurement, pack of 100 with 100 caps, minimum volume 50µL, suitable for all systems that measure size at 90 degree scattering angles only. Can be used with aqueous dispersants. Compatible with: Zetasizer Nano series and Zetasizer µV	
ZEN0040	Disposable, solvent resistant micro cuvette, for size measurement at a 173 degree scattering angle, pack of 100 with 100 caps, minimum volume 40µL, suitable for Zetasizer Nano S and ZS. Not suitable for measurements at a 90 degree scattering angle. (Resistant to Acetone, Benzaldehyde, Butanone, Dioxane, DMF, Ethyl acetate, Isopropanol, various acids and bases)	

Part number	Description	Picture
PCS8501	Square glass cuvette for size and molecular weight measurements. For the Zetasizer 1000/3000/3000HS, HPPS, Nano series and Zetasizer μ V. With circular aperture and stopper. Not suitable for use with the 'dip' cells for electrophoresis measurement	
PCS1115	Square glass cuvette with cap for 'dip cell' electrophoresis measurement and size and molecular weight measurements. Compatible with the Nano series universal dip cell (ZEN1002) and the Zetasizer 2000 and 3000 Series aqueous and non-aqueous 'dip' cells (DTS5001/5002). With square aperture and cap	
ZEN0023	Quartz flow cell for size, intensity and molecular weight measurement. Compatible with MPT-2 autotitrator and Zetasizer Nano S, ZS, S90. (S90 for Size and Intensity only). Complete with connecting tubing.	

Part number	Description	Picture
ZEN0116	Quartz flow cell to enable the use of the Zetasizer Nano as a detector when connected to an SEC system. Connections compatible with standard SEC tubing 1/16inch o.d. Includes, ZEN0023 quartz flow cell, connections for cell, 1.5m PEEK tubing, 1/16inch o.d. 0.1mm i.d.	 A black Zetasizer Nano device with a quartz flow cell attached. The flow cell has two clear tubes at the top. The device's display shows 'QS' and '3.00 mm' with a downward arrow.
ZMV1008	Quartz flow cell to enable the use of the Zetasizer μ V as a detector when connected to an SEC system. 8 μ L volume. Connections compatible with standard SEC tubing 1/16inch o.d. Includes, quartz flow cell, connections for cell, 1.5m PEEK tubing, 1/16inch o.d. 0.1mm i.d.	 A black Zetasizer μV device with a quartz flow cell attached. The flow cell has two clear tubes at the top. The device's display shows 'QS' and '3.00 mm' with a downward arrow.
ZEN2112	Low-volume quartz batch cuvette for size and molecular weight measurements for use with the Zetasizer Nano ZSP, ZS and S. Minimum sample volume is 12 μ L.	 A black Zetasizer Nano device with a quartz batch cuvette attached. The cuvette is a small, clear, rectangular block. The device's display shows 'QS' and '3.00 mm'.

Part number	Description	Picture
ZEN1002	<p>Universal Dip Cell for the zeta potential measurement of low mobility samples such as those in organic solvents.</p> <p>Used in conjunction with DTS0012 and PCS1115.</p> <p>Compatible with the Zetasizer Nano ZSP, ZS, Z and ZS90.</p>	<p>A black, L-shaped dip cell with a clear quartz window at the bottom. The top black part has a label that reads 'DIP CELL' and a small circular logo with a green and blue design.</p>
ZMV1002	<p>Low-volume quartz batch cuvette for size and molecular weight measurements for use with the Zetasizer μV.</p> <p>Minimum sample volume 2μL</p>	<p>A black, rectangular quartz cuvette with a circular opening at the top. It has a label that reads 'QS' in white text.</p>
ZMV1012	<p>Low-volume quartz batch cuvette for size and molecular weight measurements for use with the Zetasizer μV.</p> <p>Minimum sample volume 12μL.</p>	<p>A black, rectangular quartz cuvette with a circular opening at the top. It has a label that reads 'QS' and '1.50mm' in white text.</p>




Part number	Description	Picture
ZEN1020	Surface zeta potential cell for the measurement of the zeta potential of planar surfaces using the Zetasizer Nano ZSP, ZS, Z and ZS90. Used in conjunction with DTS0012 and PCS1115. Samples should be 4-7 mm x 4 mm x ≤ 1.5 mm thick.	
ZEN1010	High concentration cell for the measurement of size in the Zetasizer Nano ZSP and ZS, and the measurement of zeta potential in the Zetasizer Nano ZSP, ZS and Z. The quartz cell has a path length of 1.5mm and this cell is compatible with the MPT-2 autotitrator.	
DTS1070	Completely disposable cuvettes for the measurement of zeta potential with the Zetasizer Nano ZSP, ZS, Z and ZS90. It is also possible to measure size in these cuvettes with the Zetasizer Nano ZSP, ZS and S. These cuvettes are compatible with the diffusion barrier technique of sample introduction and the MPT-2 autotitrator. Pack of 10 with 25 stoppers. Requires version 7.02 or later of the Zetasizer software.	

Table 2: Cells capable of size measurements with the different Zetasizers.

Cuvettes for size measurement	Zetasizer 1000/3000	HPPS	Zetasizer Nano S90/ZS90	Zetasizer Nano S/ ZS/ZSP	Zetasizer μV
DTS0012	#	#	#	#	#
ZEN0118	#	#	#	#	#
ZEN0040	#	#	#	#	#
PCS8501	#	#	#	#	#
PCS1115	#	#	#	#	#
ZEN0023	#	#	#	#	#
ZEN0116	#	#	#	#	#
ZMV1008	#	#	#	#	#
ZEN2112	#	#	#	#	#
ZMV1002	#	#	#	#	#
ZMV1012	#	#	#	#	#

Table 3: Cells capable of zeta potential measurements with the different Zetasizers.

Cuvettes for zeta potential measurement	Zetasizer Nano Z	Zetasizer Nano ZS90	Zetasizer Nano ZSP/ZS
DTS1070	#	#	#
ZEN1020	#	#	#
ZEN1010	#	#	#
ZEN1002	#	#	#

Table 4: Cells capable of molecular weight measurements with the different Zetasizers.

Cuvettes for molecular weight measurement	Zetasizer Nano ZS90	Zetasizer Nano ZSP/ZS	Zetasizer μ V
PCS8501	#	#	#
PCS1115	#	#	#
ZEN2112	#	#	#
ZMV1002	#	#	#
ZMV1012	#	#	#
ZMV1008	#	#	#
ZEN0116	#	#	#

**Malvern Instruments
Limited**

Groveswood Road, Malvern,
Worcestershire, UK. WR14
1XZ

Malvern Instruments is part of Spectris plc, the Precision Instrumentation and Controls Company.

Spectris and the Spectris logo are Trade Marks of Spectris plc.

All information supplied within is correct at time of publication.

Malvern Instruments pursues a policy of continual improvement due to technical development. We therefore reserve the right to deviate from information, descriptions, and specifications in this publication without notice. Malvern Instruments shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material.

Malvern Instruments owns the following registered trademarks: Bohlin, FIPA, Insitex, ISYS, Kinexus, Malvern, Malvern 'Hills' logo, Mastersizer, MicroCal, Morphologi, Rosand, 'SEC-MALS', Viscosizer, Viscotek, Viscogel and Zetasizer.