

qNano

New qNano Gold for 2015, now very fast as well as being the most accurate

The main advances for the qNano Gold are:

- New software and reagents improve usability and time to result
- New algorithms improve dynamic range and accuracy
- Extensive protocol validation, through a series of international academic trials
- Fastest EV preparation and characterisation when combined with the new qEV columns

The qNano Gold measures particles using the Tunable Resistive Pulse Sensing (TRPS) principle. TRPS is the most powerful particle measurement system available for nano and sub-micron particle measurement and analysis.

The qNano Gold instrument suite is therefore an extremely powerful and accurate tool, superseding old laser based ensemble methods. It measures individual particles with the highest accuracy and repeatability available for:

- Size, with the real size distribution
- Particle concentration, in specified size bands
- Particle surface charge also on a particle by particle basis

Calibrated method ensuring:

- repeatability
- verifiability
- objective accuracy
- consistent data across different users and different instruments



The medical world has stringent measurement and QA requirements, which can now be met by researchers and developers with TRPS and qNano Gold.

The level and quality of data now readily available from qNano Gold and TRPS enables diverse fields such as extracellular vesicle research and nanomedicine development to proceed with confidence, knowing that their **essential nano-scale measurements will satisfy journal reviewers and medical regulators.**

The new qNano Gold suite replaces the original qNano instruments by introducing several important advances for users. (Older qNanos can be easily upgraded so existing users will also benefit)

The improvements are achieved by:

- pore coating reagents for biological samples to ensure smooth running
- improved algorithms allowing larger pores to be used, or smaller particles to be measured
- advanced software suite providing detailed guidance and realtime feedback for users
- use of qEV for sample preparation, in particular for extracellular vesicles

Primary Applications

Extracellular Vesicles

Exosomes | Micro particles
Whole blood cells | Platelets

Nanomedicine

Liposomes | Nano/ microbubbles | Polymeric drug delivery
Smart particles | Functional particles for immunodetection

Virus & Vaccine characterisation

Viruses | Vaccines | Bacteria

General nanoparticle characterisation

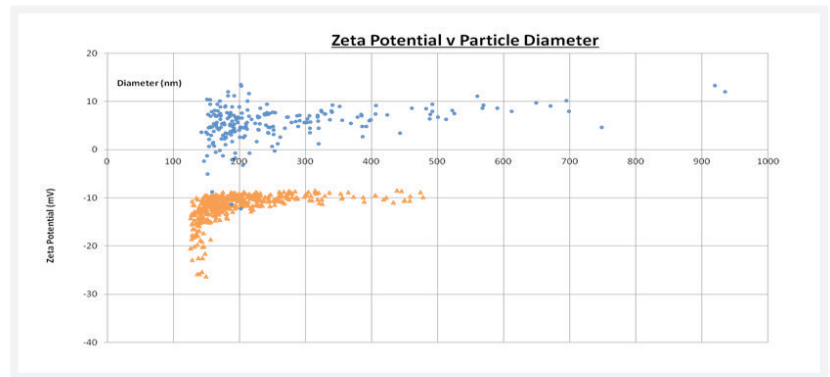
Specification

Particle size range detected	40nm-10µm
Sizing accuracy	1nm
Concentration range	10 ⁵ -10 ¹³ particles per ml
Sample size	40µL
Electrolyte strength (eq. Cl ⁻)	20-1000mM
Diameter	125mm
Height	215mm
Weight	5000g
Data output	USB

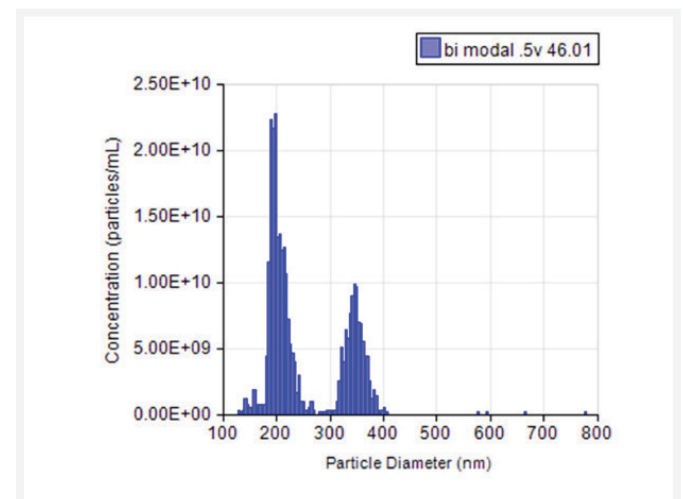
The qNano Solution

- Hardware including base instrument and variable pressure module (VPM)
- Laptop (optional)
- Software suite, including future upgrades
- Training kit
- Training and certification programme
- Scientific support for method development and quality assurance
- Consumables:
 - nanopore membranes
 - calibration particles
 - Izon coating reagent for biological sample analysis
- Complementary qEV sample preparation system for EV purification

Surface charge of vesicles from aptamer binding



Number vs size - bimodal distribution



About IZON Science

Izon provides customers with complete solutions, primarily for accurate nano-particle size, charge and concentration characterisation including precision instrumentation, consumables and reagents. Izon Science has undertaken extensive research and development in partnership with users to ensure that its instruments can deliver accurate, reproducible and reliable data to support your research. Izon's products are regarded as essential equipment in a wide range of organisations including research institutes, universities and scientific companies.



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