

# Concentration analysis

A rapid, cutting-edge solution for measuring particle concentrations for both biological and synthetic particle samples.

- Rapid
- Accurate
- Repeatable
- Cost-effective

## Introduction

Izon offers a rapid, accurate, repeatable and low-cost system for obtaining the absolute concentration of particles in a solution.

Izon's Scanning Ion Occlusion Sensing (SIOS) platform can determine the concentration of a wide range of particle types (both charged and non-charged), including mono and polydispersed populations. Measurement takes minutes and is non-destructive to the sample, as opposed to time-consuming and laborious methods like plaque assays, bacteria plating, visual colony counting and high-vacuum microscopy.

This enables users to rapidly quantify the amount of particles, and simultaneously obtain particle size and charge information, which saves time, money and labour.

It provides rapid and accurate determination of:

- Bacteria counting
- Virus counting
- Amount of drug
- Drug delivery dosage
- Amount of viral aggregates
- Amount of bacteria and cellular fragments

## Determining Concentration (particles/mL)

Rapid, accurate and repeatable concentration determination can be made for both charged and non-charged particles (see Figure 1).

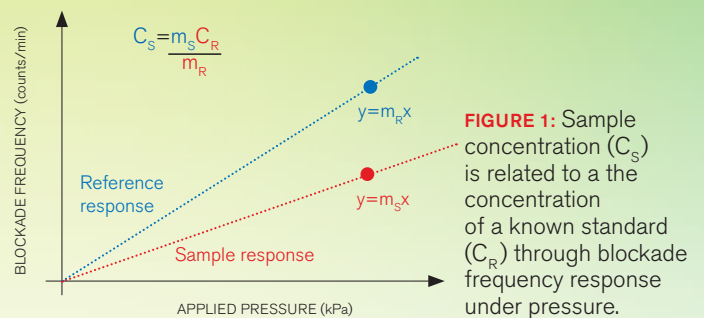
The method takes minutes and involves recording the particle rate for the sample at a fixed pressure, followed by the calibration standard. Izon's qNano accurately counts on a particle-by-particle basis, which determines the number of particles in the sample and the calibration standard precisely determines the particle flow, enabling quick and precise concentration determination.

Suitable for...

**Particle type:** All particle types, both charged and uncharged

**Particle size:** 50nm–10µm+

**Concentration range:** ~10<sup>5</sup>–10<sup>12</sup> particles/mL



The relationship between an applied pressure and the measured frequency of particle signals is linear for a given particle set (See Figure 1). The exact linear response (gradient) varies depending upon the concentration of the particles being measured. For a given applied pressure (x) the particle frequency response for two different samples are related by the relevant gradient values (m) of the response lines. As the particle flux is proportional to concentration this allows the concentrations of the two samples to be directly determined through their measured particle frequency and gradient response over pressure.

Measurement of a standard at a single applied pressure setting provides a reference against which any other sample can be compared to obtain an accurate absolute concentration value.

For further enquiries please contact us at [sales@izon.com](mailto:sales@izon.com)

Izon is continually developing and advancing its technology.

For the latest information about new developments and upgrades please visit us at [www.izon.com](http://www.izon.com)