

# Elzone II 5390 Applications



## Typical Elzone Applications

**Biological Materials** – Biotech research depends on accurate measurements. Particle sizing of blood cells, platelets, bacteria, plant cells, mammalian cells, yeast, pollen, spores, and many other types of materials is typically done by population (number). Data collected are the number of cells per milliliter and/or the population distribution of cells. For example, these data can indicate to a researcher if a process adequately reduces the bacteria population in drinking water. Population data can also be used to evaluate fermentation processes.

**Abrasives** – For an abrasive material to perform as specified, it is important that it have an appropriate size distribution with no particles above or below the intended size range. To make sure that each batch meets specifications, the sample must be analyzed as a volume (weight) and population (number) distribution. The volume distribution is used to ensure that the range and mean sizes are within specifications, and also that there are no oversized particles in the sample.

**Emulsions** – Elzone results can be used to determine shelf life, proper emulsification, and droplet size of a wide variety of emulsions including pharmaceuticals, foods, and lubricants. Because the Elzone measures the volume of a particle, the data are little affected if the droplets change shape as they pass through the orifice tube.

**Toner and Inks** – It is important that the particles have a narrow size distribution in toners or inks for printing. If there are any large particles, printer nozzles can clog or streaks can be left on prints. Both volume and population data are useful in analyzing toners and inks.

**Filtration** – Population data illustrate how much material is being removed by a filter. Volume data will determine the minimum size particles the filter is capable of removing. Therefore, Elzone results can be used to determine how a filter is performing. This is useful for water treatment, beverage processing (beer, soft drinks, etc.), injectables (pharmaceuticals), pollution control, and many other filtration applications.

## Elzone II Advantages

- Counts and sizes organic and inorganic materials
- Suitable for analyzing samples of mixed optical properties, densities, and shapes
- Higher resolution than with other particle sizing methods
- Low quantities of sample are analyzed accurately and easily
- Compact size conserves laboratory bench space
- Plot overlays to compare analysis results with those of product standards or other analysis results
- Extensive statistical analysis features included
- 21 CFR part 11 software option

