

Expandable Polystyrene

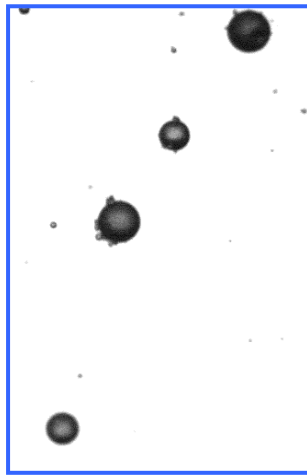
Particle size measurement for reliable product density

Expanded Polystyrene is a lightweight, rigid, plastic foam insulation or packing material. For the final product properties (e.g. density) it is important to have a profound knowledge of the particle size distribution. The CAMSIZER can deliver reliable information on particle size and shape.



What is EPS?

The basic material for Expanded Polystyrene are solid beads of Expandable Polystyrene (EPS). These beads are expandable by virtue of small amounts of pentane gas dissolved into them during production. The gas expands under the action of heat, applied as steam, to form perfectly closed cells of Polystyrene. These cells occupy approximately 40 times the volume of the original EPS polystyrene bead. These beads are then moulded into appropriate forms suited to their application.

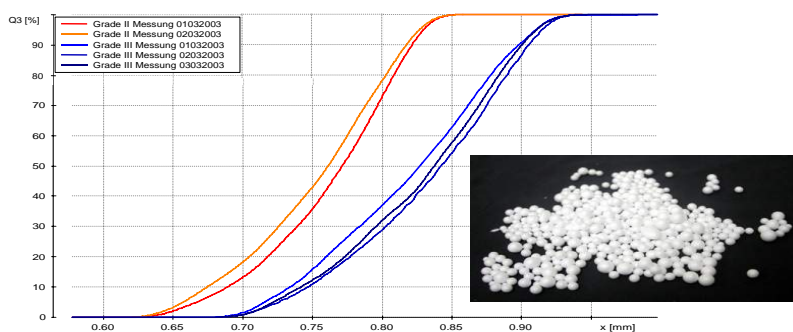


Quality Assurance

A basic requirement for most applications is that the Polystyrene beads have a defined particle size distribution in order to obtain a product-specific density or to ensure that the end product has the required shape.

The CAMSIZER can be used for both tasks – the measurement of the EPS Expandable Polystyrene beads, as well as the measurement of the already expanded and closed cells of Polystyrene. With measurement times of only 2 – 5 minutes the CAMSIZER delivers faster results than any other particle size measurement device (e.g. sieve shakers or microscopes).

Another benefit of the CAMSIZER is the easy operation that is extremely user friendly.

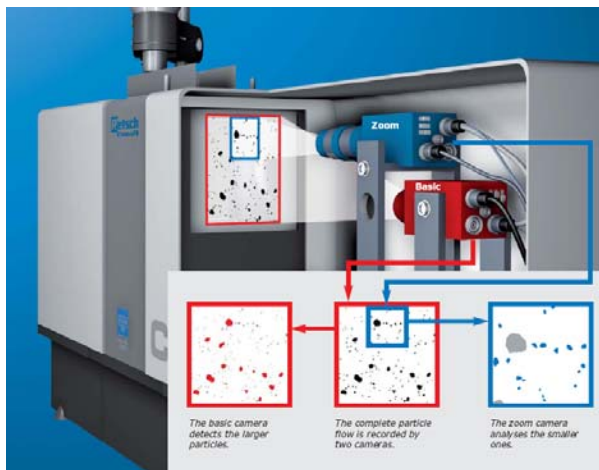


The graph displays five measurements of EPS samples. Not that even slightest differences between the individual samples are detected by the CAMSIZER.

Benefits at a glance

- Reproducible and reliable measurement
- Fast measuring time: only 2 – 5 minutes
- Results can be extracted into a clearly arranged report for other departments
- Higher resolution than other measurement devices (see Fig. on the right)
- Easy to calibrate, maintenance-free

Measuring Principle



The patented measuring setup of the CAMSIZER – two digital cameras as an adaptive measuring unit – improves and optimises particle analysis by digital image processing. Therefore, it is possible to measure a wide range of particles from 30 µm to 30 mm with extreme accuracy, **without having to switch measuring ranges or make adjustments**. The sample is fed in from the feed channel so that all particles fall through the measurement field. During the measurement procedure the two digital cameras (CCD) perform different tasks. The basic camera (CCD-B) records large

particles, the zoom camera (CCD-Z) records the small ones. The contact-free optical measurement is carried out in real time and simultaneously obtains all the required information about particle size and particle shape. A modularly configurable online version of the instrument has been developed to allow automated measurements to be conducted continuously.

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