

### ***S3.5.1 Counters and Sizers for Air Filtration Testing***

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One of the defining characteristics of filter media is the filter efficiency. The probability of a particle passing through a filter media is primarily a function of particle size. Air filter testing results depend on the particle size distribution being used and the types of particle counters and sizers being used in measurement. This paper will review counting and sizing techniques that are used for various test methods and standards.

For every filter, a penetration curve of particle size versus percent penetration can be used to determine the Most Penetrating Particle Size (MPPS) of the filter—the particle size at which the filter is the least efficient. By challenging the filter with a test aerosol at a number of particle sizes the shape of this curve can be determined and the MPPS, the minimum efficiency of filter can be determined. Other methods evaluate efficiency at larger particle sizes as a way of comparing lower efficiency filters.

