

SODIUM FLAME PHOTOMETER AND PARTICLE COUNTERS FOR FILTER EFFICIENCY MEASUREMENTS

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It is common practice to test and certify the performance of every HEPA filter according to a prevailing standard. Although there are several national standards, the majority of them either rely on single particle counters or multiple particle optical photometers for efficiency measurements. In recent years, measurements using sodium flame photometry, one of the oldest methods, has been revived. Unlike the optical methods that rely on the measurement of scattered light, in this method, the concentration of a sodium aerosol used for the filter testing is measured by a flame photometer. Originally developed in the UK, it had gone out of fashion in recent years. This technique has been refined in China and included in their national standard. Also, since sodium chloride poses no adverse health effects, this method is perhaps preferable to oils and latex that may pose health risks. This paper will compare the results of Chinese sodium flame test method with that from the more common particle counter method for HEPA filters.