

## HEPA FILTRATION

HEPA Filters were developed by the Atomic Energy Commission during World War II to filter radioactive dust from plant exhaust. HEPA Filters (HIGH EFFICIENCY PARTICULATE ARRESTANCE) are the primary filtration systems used in hazardous waste handling applications (HEPA Vacuums), electronic clean room assembly, isolation wards, surgical theaters, bioengineering, pharmaceutical processing, and any application where maximum reduction or removal of sub-micron particulate is required.

HEPA Filtration is 99.97% efficient by particle count down to 0.3 micron, which is 1/75,000 of an inch or 1/300 the diameter of the human hair. While the HEPA filter media may be only 1/16" thick, this is an enormous distance compared to the 0.5 to 1.0 micron diameter of the fibers being filtered. The passages through which air must flow are not straight, but are very tortuous, with many twists and turns. As particulate impact on the fibers and adhere to them, the passages become smaller and the HEPA filter increases in efficiency.

HEPA filtration is 40% more efficient than the highest efficiency rated ASHRAE filter.

HEPA Filters are utilized as a final filter on the VecLoader HepaVac®. Placement of Hepa filtration on the vacuum exhaust insures that vacuumed asbestos, lead dust, nuclear or other hazardous sub-micron particulates are contained within the HepaVac, essentially filtering out hazardous particles prior to exhausting vacuumed air into atmosphere. The filters on the HepaVac are DOP tested prior to machine shipment to insure filter integrity and continually monitored during vacuum activities.

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