

Leader in Surface Preparation Equipment



SHOT BLASTING | SCARIFYING | SCRAPING | GRINDING | DUST COLLECTION



**Dust Collection
Filtration
Technology for
Industrial
Applications**



Blastrac Dust Collectors for Every Application

Multi-Stage Filtration

A multi-stage, graduated filtration system is built into all of our vacuums. This system uses a series of progressively finer filters to capture increasingly smaller particles as they travel through the vacuum. The filters include a paper bag, a main filter, a microfilter, and a HEPA or ULPA filter.

Main filters are oversized to provide maximum filter surface area. The extra-large surface helps maintain a steady, even airflow, pro-longing filter life and ensuring optimum vacuum performance.

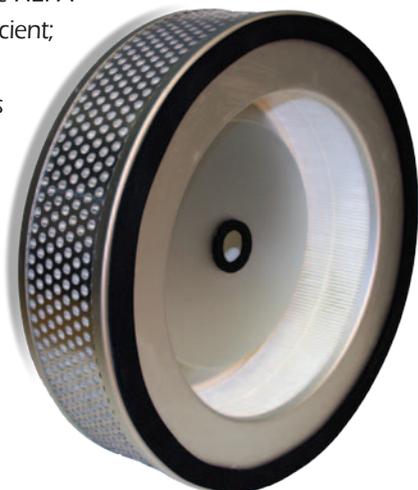
Vacuum main filter is an oversized, napped cotton filter, which retains 99.8% of particles down to 3 microns. Napped cotton provides additional filtering area by furnishing depth to the filter.

Specialty main filters include Gore-Tex and AES Polycomposite. Ideal for fine powder filtration, Gore-Tex membrane filters are non-stick and retain 99.995% of particles down to 0.33 microns using a smooth PTFE membrane. They can be used with Gore-Tex microfilters. AES Polycomposite filters achieve high separation efficiency when removing particles from the airflow, while maintaining a high airflow rate and low pressure. As a result, they enable longer running times by preventing filter loading. AES Polycomposite filters retain 99.9986% of particles down to 0.5 microns and are ideal for abrasive particles such as cement, steel and ceramic dust. They can be used with AES Polycomposite microfilters.

The standard Blastrac main filter is polyester and retains 99.1% efficiency at 1.5 microns. The star-shaped pleats add surface area, lowering the ATC ratio and increasing filtration efficiency.

HEPA/ULPA Filters. HEPA filters, the final stage of filtration, retain particles down to and including 0.3 microns.

In Blastrac vacuums, the HEPA filtration is 99.999% efficient; in vacuums, it's 99.97% efficient. All HEPA filters are DOP-tested.

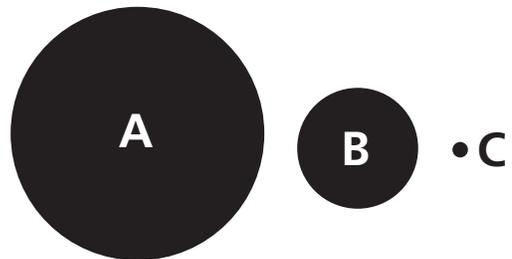


Why Controlling Airborne Particles is Critical to You

Small particles in the air, on the floor, and on your machinery can be dangerous for a number of reasons. Most importantly, they can contaminate your product and endanger your workers' health. Blastrac vacuums can filter down to 0.12 microns in size. One micron is equal to one-millionth of a meter, or 1/26,000 of an inch. On average, the human eye cannot see particles that are smaller than 40 microns. Particles that are 10 microns or less are considered respirable and can settle deep into the lungs – often causing adverse health effects. Respirable particles make up more than 99% of the 7 million particles in every breath you take.

To give you a better idea of just how small a micron is, consider this: the diameter of a human hair is 80 to 100 microns.

If (A) is the diameter of a human hair (100 microns), then (B) is the size of the smallest particle visible to the human eye (40 microns), and (C) is the size of a 0.5 micron particle.



For more information call Customer Service

1-800-256-3440

Why Filtration is Important

Efficient filtration is critical to the cleaning success of your industrial vacuum cleaner. After all, you want the dust and debris you collect to remain safely confined within your vacuum...not be exhausted back into the air.

Blastrac offers you a complete line of filters designed for safe, efficient collection of nuisance and hazardous materials. They're ideal for the control of food ingredients, pharmaceutical powders, lead, asbestos, powder paint, metalworking fluids, silica, pesticides, and more. For cleanroom environments, we offer HEPA- and ULPA-filtered vacuum cleaners that meet standards up to ISO 4 (Class 10).

Vacuum Filtration Methods:

Mechanical, and Multi-stage.

Mechanical Filtration

In mechanical filtration, particles are captured and retained by means of a physical barrier. Our vacuums accomplish this by a series of cloth, polyethylene, and/or paper filters that cleanse the vacuum's working air of particulate and exhaust clean air back into the surrounding environment. Following are descriptions of the four key factors that affect mechanical filtration.

Particle Size: The smaller the particle, the more difficult it is to filter because small particles can easily penetrate filter media that is too porous. Our filtration systems are designed to capture microscopic particles, including invisible particles that can adversely affect your product or enter your lungs and cause medical problems.

Air Speed: Also called velocity, air speed is the pace at which particles move through the hose and into the vacuum. The faster the particles travel, the deeper they penetrate the filter media. At high speeds, particles may build enough force to push through the pores of the filter material. Our vacuums combine cyclonic filtration with an oversized main



filter to slow air down as it enters the machine, ensuring particles are captured on or between the fibers of the filter media.

Filter Media: Filtration efficiency is directly affected by the air-to-cloth (ATC) ratio, or relationship between the surface area of the filter media and the volume of air trying to pass through it. The lower the ATC, the more efficient the filtration system.

Filters with larger surface areas are more efficient because they have a larger area in which to trap particles. On the other hand, small filters clog quickly and a large airflow through such a filter will cause the debris to penetrate the filters. Therefore, the optimum condition is slow airflow through a large filter.



Designed with this in mind, our vacuums are equipped with oversized main filters to lower the ATC ratio.

Running Time: Over time, debris will build up on the surface of a filter and embed itself into the filter material. The filter is most efficient just before it clogs because its pores become smaller, turning it into a finer filter. However, vacuum performance does not increase because there is little or no airflow to lift and move debris.

The Science of Filtration

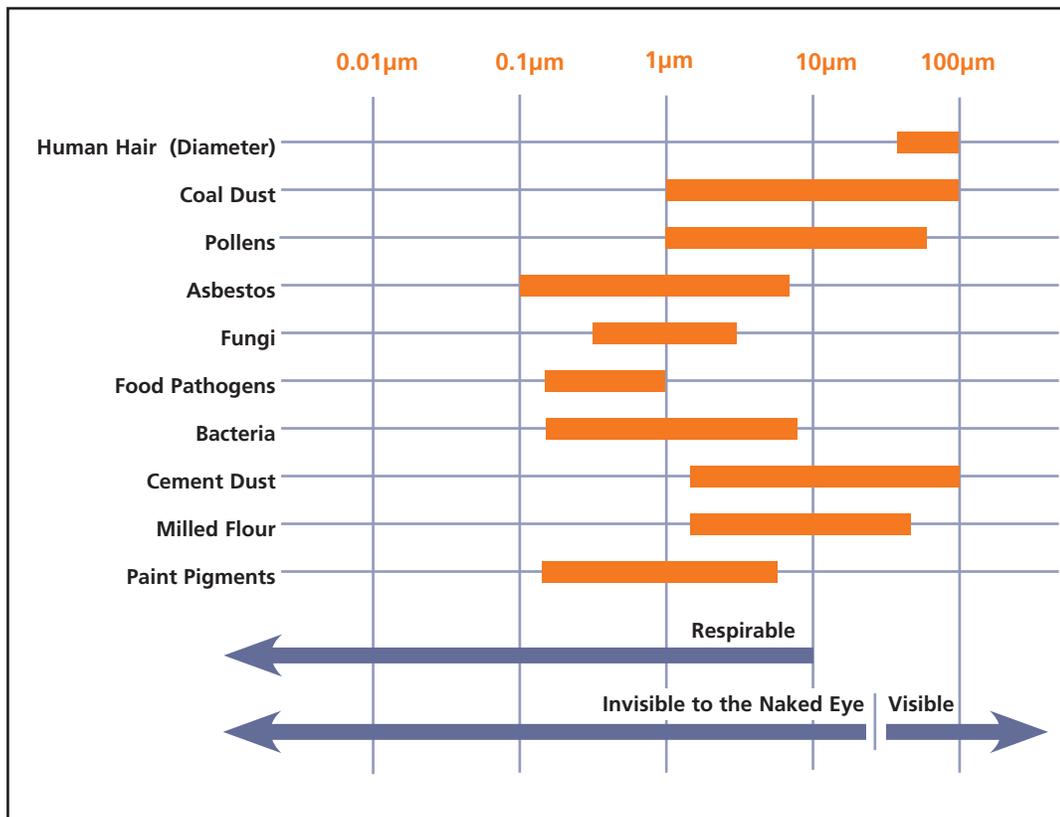
High-Performance Filters for Every Application

To ensure that your dust collector meets the dust-control requirements for your specific cleaning application, Blastrac offers a complete line of filters. Each filter is designed to optimize the performance of your Blastrac vacuum cleaner.

Blastrac filters meet or exceed all standards for filtration efficiency. These filtration systems, including our HEPA (High Efficiency Particulate Air) and ULPA (Ultra Low Penetration Air) filters, can increase retention efficiencies to ensure that up to 99.999% of particles, down to and including 0.12 microns in size, are retained in the vacuum.

Blastrac Dust Collectors reduce airborne dust and particulate to provide a cleaner work environment, make surface preparation atmospheres more pleasant, and improve safety. A range of vacuums is available for hand tools, as well as Blastrac walk-behind and front-lead surface preparation equipment. These vacuums are system matched for best performance and increased job productivity.

Blastrac dust collectors are specifically designed for the rigors of commercial/contractor use, with powerful motors for increased air flow, heavy duty filters, and components that are protected from dust and debris for longer life. Particulate and dust created during surface preparation and repair jobs can be hazardous, and Blastrac dust collectors efficiently collect and contain these contaminants. Easily removable and transportable dust bins are added features. A cleaner work environment is safer and provides for increased productivity from operators as well as other workers in the same area.



Particle Sizes

The size of dust particles is measured in millionths of meters, called micrometers or microns (notated μm).

This chart shows the relative sizes of common particles in order to help you determine the Blastrac filter most appropriate for your specific application.



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