

Follow the Leader

Ten Reasons Why You Should Select Abatement HEPA-AIRE® Portable Power Vacuums for Source Removal Duct Cleaning

The differences in duct cleaning equipment from one product to another can be substantial. Unfortunately, companies entering the duct-cleaning business sometimes find this out too late—after they have purchased inferior equipment that doesn't hold up or just doesn't perform.

Following are 10 reasons why Abatement Technologies has remained the duct cleaning industry leader for almost 15 years while others have come and gone. You'll understand why our HEPA-AIRE vacuums are widely regarded as the finest in the industry and an excellent capital investment for your duct cleaning business.

1. Patented Innovative Technology

HEPA-AIRE portable power vacuums were the first electric-powered, portable systems designed from the ground up specifically for source removal duct cleaning. Prior to the invention of these first models in 1990, air duct cleaning was done primarily using gasoline or diesel-powered truck-mounted vacuums, antiquated technology that dates back more than 50 years. The HEPA-AIRE equipment provided an effective alternative, and reduced the initial investment in equipment and ongoing maintenance and operating costs by up to 500%. Today, the HEPA-CARE method is the industry standard.

Since 1990, more than 200 product improvements have reinforced Abatement's leadership position, and reputation for exceptionally productive, cost-effective and user-friendly duct-cleaning vacuums. In recognition of our technology breakthroughs, the United States Patent and Trademark Office has awarded five separate patents covering HEPA-AIRE vacuum features and the HEPA-AIRE source removal duct cleaning method.

2. Job Tested and Proven

Why take a chance? More than 4,000 duct cleaning, HVAC and IAQ remediation companies throughout North America and in more than 35 countries worldwide use Abatement Technologies products. Many of these satisfied customers have come back time and again to purchase additional equipment for their growing, profitable business. Cumulative operating time for these vacuums is estimated at about 20 million hours.

HEPA-AIRE vacuums have cleaned the duct systems in more than 2 million homes, and in thousands of commercial buildings, hospitals, schools and government buildings, including the White House and the EPA building in Washington, DC. Total contractor revenues generated with our equipment are estimated at over \$2.5 billion.

3. Superior Airflow Throughout The Filter Loading Cycle

True source removal duct cleaning requires a vacuum capable of placing large segments of an air duct system under negative pressure and generating sufficient airflow to pull contaminants out. The higher the airflow, the more efficiently the vacuum can perform these functions.

Apples to apples airflow comparisons from one vacuum brand to another are difficult. Some manufacturers base performance ratings on “free air” output with all the filters removed from the unit—typically 50% to 100% higher than the airflow of the unit with filters in place. Since the vacuum would never be operated without filters, free air output is absolutely meaningless. Even comparing performance based solely on peak airflow rating with filters in place can be somewhat misleading, since the vacuum filters are rarely 100% clean, and some vacuums are much better able than others to maintain airflow as filters get dirty.

HEPA-AIRE Portable Power Vacuums (PPV) are designed to provide maximum airflow on a 115-volt power supply, and to minimize airflow losses as filters get dirty and static resistance increases. Independently verified airflow ratings are based on actual testing conducted with accurate instrumentation, and **with all filters in place**. All models are equipped with specially designed AT Gold™ anodized aluminum blowers. These high-speed blowers have the ability to pull air through up to 70% more static resistance than squirrel-cage type blowers, and are much stronger and more durable than plastic blowers that can shatter. Powerful, high-efficiency motors and a patented internal airflow design complete the power package.

One other word of caution: If you are considering a two-motor/two-blower vacuum unit, beware of any model that simply stuffs the second motor and blower into the same size cabinet as its single blower counterpart. The problem: cabinet size and filter area must also be increased to reduce static resistance and increase airflow significantly. Otherwise, the blowers will be starved for air, the filters may be dangerously overtaxed and the additional airflow generated will be marginal. Abatement’s H4500 model is a true dual-motor, dual-blower unit with a larger cabinet and a higher capacity filtration system engineered for this purpose.

4. Exceptional Portability

A duct-cleaning vacuum must be portable and maneuverable enough to access air handlers located in attics, basements, crawl spaces and other difficult to reach areas without damaging floors, walls or furnishings. This is most easily done with upright vacuum designs that allow the operator to tilt the vacuum back on its built-in dolly and roll it on large rubber wheels.

Horizontal “train-type” units (vacuums with several modules that join together like train cars) with hard, industrial-type casters increase the risk of damage problems. Because they are so cumbersome, the individual modules must generally be disassembled, hand carried by one or two workers and reassembled each time the vacuum is moved. This can require more workers on the job, increases job completion time and labor costs.

HEPA-AIRE vacuums are modular, upright units designed for safe and easy one-person transport to and around the job site with the unit fully assembled. As a result, our customers often use one-person crews for residential and small commercial jobs. These compact and lightweight units fit into and through spaces 25% to 75% smaller than other systems, and are easy to maneuver on their built-in dollies with large, soft rubber tires.

Maneuverability is further enhanced by near-perfect, weight-balanced stair climbers with non-marking belts and front swivel casters for turning on a dime in tight spaces.

5. Effective Filtration = Lower Operating Costs

Over the life of a duct-cleaning vacuum, replacement filter costs often exceed the original cost of the vacuum. As filters reach capacity, they must be replaced to maintain the airflow of the vacuum and its ability to pull contaminants out of the duct system. The faster this occurs, the higher the costs for replacement filters and the more downtime needed for filter changes.

These costs can be thousands of dollars higher if prefilters have insufficient dirt-holding capacity to handle the amount of dirt and debris that must be removed from many HVAC systems, or if prefilters are not efficient enough to prevent premature loading of the more expensive HEPA filter. One-inch deep electrostatic filters are a perfect example of limited capacity and efficiency. Like other lower-efficiency filters, they are rated on particle arrestance, not efficiency. A 90%-arrestance filter may seem efficient, but that equates to only a 10% to 20% ASHRAE efficiency rating. In addition, while mechanical type media filters become more efficient as they load, electrostatic filter efficiency drops off rapidly and substantially. They can be cleaned and reused, but having to do this every hour or two can become a real hassle.

Abatement Technologies HEPA-AIRE vacuums are equipped with a patented three-stage filtration system designed to maximize dirt-holding capacity and filtration efficiency, and substantially reduce replacement filter costs. The filter stages:

- **Stage 1:** A reusable and easily cleanable first-stage bag filter that holds almost 2 cubic-feet of dirt and captures most particles 100 microns and larger, and extends the life of the second and third stage filters. Typical life 2-3 years.
- **Stage 2:** A high-capacity 15"-deep pleated-bag filter that captures up to 99% of the remaining visible particles (10 to 100 microns), and further increases HEPA filter life. Typical life 40 to 60 hours of use.
- **Stage 3:** A **true** HEPA filter captures microscopic particles, mold spores and bacteria. Each HEPA is tested and certified as per IEST-RP-CC001.3 standards. Metal filter frames protect against mold growth and damage problems that can occur with cheaper particleboard HEPA frames when exposed to moisture.

6. Superior Quality Materials, Components and Workmanship

Vacuum units that break down easily and often cost you money instead of making it. Over the past 14 years, HEPA-AIRE vacuums have proven to be exceptionally reliable, and require minimal maintenance. Only the finest components and cabinet materials are used—ano-dized aircraft aluminum for the H2500IV and H4500, and powder coated steel for the H2500C and H2200. HEPA-AIRE units are made using aircraft-type construction methods with solid, leak-proof rivets to ensure strong, secure seams—no cheap, weak and leaky pop rivets or sheet metal screws. Critical seams are also sealed with closed-cell neoprene gaskets, not silicone caulk, for reliable, long-term protection against leakage and contamination.

Each HEPA-AIRE unit is subjected to a comprehensive testing and quality control procedure prior to shipment. And, we “put our money where our mouth is”, by extending to our customers a comprehensive, five-year limited warranty (three years for the H2200), the longest and best in the industry.

