ABATEMENT TECHNOLOGIES
Technologically Advanced Air Purification Products

FREQUENTLY ASKED QUESTIONS ON THE BENEFITS OF THE INTELLIVAC® VARIABLE FREQUENCY DRIVE (VFD) USED IN THE H2500IV VACUUM FROM ABATEMENT TECHNOLOGIES

Q: What is a Variable Frequency Drive?
A: A VFD, also known as a frequency inverter, is used to provide variable speed control for three-phase motors, as well as improved efficiency and performance.

Q: What does this mean for a duct-cleaning vacuum?
A: If a basic VFD is used, the main benefit is a "soft start" feature, which allows the motor to come up to speed much more slowly. This feature can significantly reduce the amperage spike encountered when AC motors start up, minimizing problems with nuisance tripping of circuit breakers or fuses in the home. This problem can be especially prevalent with vacuums that also pull too much amperage for the available circuit.

Q: Some other vacuums are equipped with a VFD. What makes the IntelliVac different?
A: The H2500IV IntelliVac is equipped with a sophisticated, custom-designed VFD that does a lot more than merely soften the motor startup. This closed-loop controller continuously monitors a number of specific operating conditions and parameters, such as input voltage and filter loading. It then adjusts the motor and blower speed accordingly, to provide optimum performance under those conditions without over-amping the circuit. With the IntelliVac, peak operating speed of the high-efficiency, 3-phase motor and custom-designed, anodized-aluminum AT Gold blower can be increased from about 3,500rpm to about 4,800rpm.

Q: How do these features benefit the duct cleaner?
A: First of all, this feature increases maximum airflow capacity with clean filters by 15% to 20% or more. It also increases peak static capacity to over 7.5" water column, which is more than double some other vacuums. As a result, airflow losses related to factors such as filter loading or low voltage circuits can be cut by up to 75% or more. In addition, this added power throughout the filter-loading cycle reduces labor costs by allowing the duct cleaner to finish sooner. It also decreases replacement filter expenses, by substantially increasing the useful life of the filters. The bottom line is a better bottom line and satisfied customers.

Q: Is the IntelliVac the only product designed for motor speed adjustments?
A: It is the only "smart" product designed to make these adjustments automatically, with no input from the operator. Needless to say, this feature is far more functional and user-friendly than a system designed for manual airflow adjustments, which typically involve increasing motor speed on a trial-and-error basis until the unit kicks a breaker or fuse.

Q: Is this product proven?
A: Absolutely. While the IntelliVac system has undergone significant upgrades and improvements over the years, thousands of units are in use, some for more than a decade.