

Indoor Air Quality Solutions

AstroPure™ Products



FEATURE-RICH MOBILE UNITS, DELIVERING A ROOM-LEVEL IAQ SOLUTION

CM3 Building Solutions has been deploying indoor air quality solutions for healthy buildings for more than a decade. Our IAQ experts curate the latest technologies for total building wellness.

We proudly offer the AstroPure product line, a best-in-class mobile, IAQ solution from AAF Flanders.

AstroPure has been thoroughly tested by CM3 engineers and is used at our headquarters in Fort Washington, PA.

PORTABLE AIR PURIFICATION SYSTEM

The AstroPure™ Air Purification System offers a portable, plug-and-play solution to improve indoor air quality in applications such as healthcare facilities, school classrooms, and commercial real estate.

Product Overview

Available in multiple configurations for recirculation and exhaust applications in rooms of varying sizes:

- » AstroPure 500-IE & IR Models (0-500 CFM)
- » AstroPure 1000-IE & IR Models (500-1000 CFM)
- » Equipped with high-efficiency two-stage filtration:
- » MEGAcel® I eFRM HEPA filter
- » VariCel® 2+ HC MERV 11 filter
- » Advanced interface that delivers visualization of air cleanliness, noise level, airflow, and PM levels
- » EC motor for optimum energy conservation
- » Embedded PM & PD sensors
- » IAQ on demand through a recurring schedule or on-demand schedule before and after use of a space. This is an energy-savings and filter-savings feature.
- » An easy-to-use, portable design with robust, lockable casters
- » Third party electrical safety certification from ETL



AstroPure™ 500-IR
Portable Unit

FEATURES & BENEFITS

MEGAcel® I eFRM HEPA Filter

- » Lowest initial resistance – Up to 50% lower than glass media alternative
- » Dual-layer membrane media reduces risk of media damage and degradation
- » Delivers a minimum efficiency of 99.99% @ 0.3um

Variable Speed Fan

- » Adjusts based on specific CFM requirements of each space
- » EC motor for optimized energy consumption

Integrated PM Sensor

- » Allows the user to optimize the air cleanliness level requirements at any time of day while visually seeing the reduction of particulates in the space
- » Uses PM0.5 (particles/cm3), PM1.0, PM2.5, and PM10 (micrograms/m3)

Certified Electrical Safety



- » Meets or exceeds electrical safety standards for the U.S. and Canada as verified by ETL
- » Means that you can trust that this product will operate safely in your workplace

Human-to-Machine Interface (HMI) Screen

- » Offers an intuitive user interface for scheduling and status information
- » Simplifies setup and ongoing operation

Premium Insulation Panels

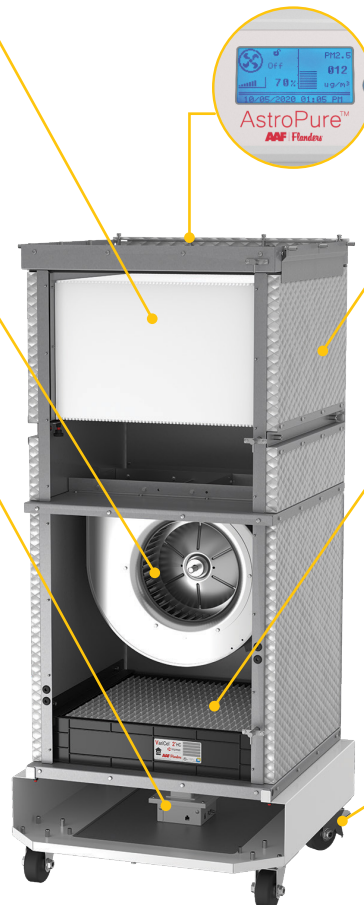
- » Sound absorbing panels reduce the noise level outside the system
- » Quiet operation reduces distraction and disruptions

VariCel® 2+HC Filter

- » Patented Impress® Technology provides mechanical strength and reinforced V-pleats that will not bunch
- » MERV 11 particle efficiency protects the EC motor and MEGAcel I eFRM HEPA filter, extending the life of the unit
- » Lower operating resistance reduces operating costs and saves energy

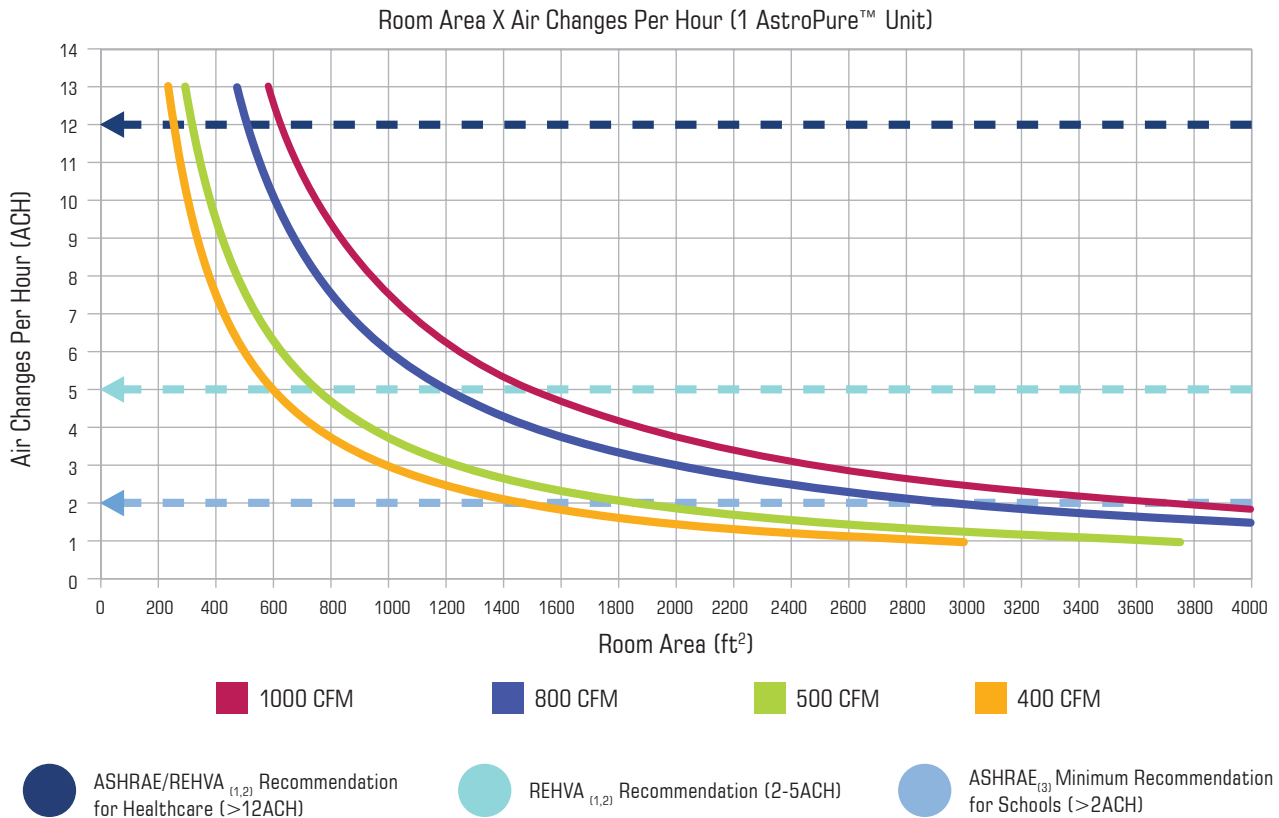
Swivel Casters

- » Heavy-duty construction for longevity
- » Two locking casters hold unit in place, providing stability and safety



PERFORMANCE DATA

Room Size Calculation (8 ft Ceiling Height)

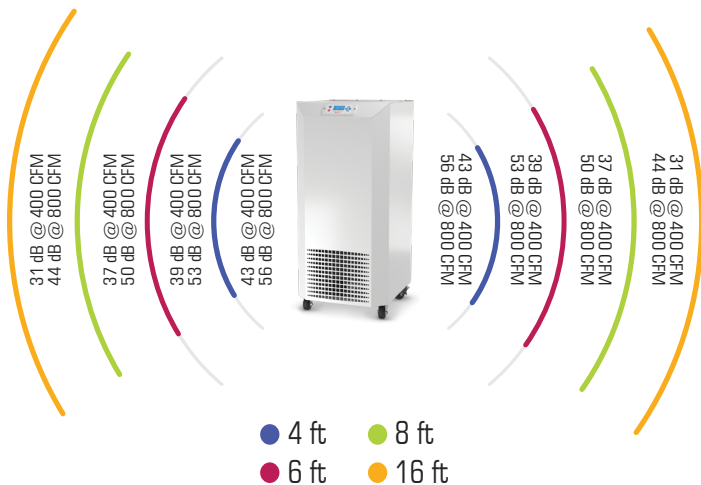


The above graph represents the room's area that one AstroPure™ 500 series unit can cover in relation to the number of room air changes per hour (ACH). The average ceiling height measured in this graph is 8 ft. The yellow curve represents the unit operating at the lowest noise level while the green curve represents the unit operating at the standard noise level for the 500 series. Therefore, a 600 ft² room, using a single AstroPure 500 series unit, can supply approximately 5 ACH operating at the lowest noise level. This graph can help determine the number of units needed to circulate the air faster, providing clean air to the occupied space.

This graph also indicates ACH mentioned in recommendations from ASHRAE and REHVA according to their latest publications related to COVID-19 prevention.

(1) ASHRAE Position Document on Infectious Aerosols, April 14, 2020
 (2) REHVA COVID-19 guidance document, August 3, 2020
 (3) ASHRAE EPIDEMIC TASK FORCE SCHOOLS & UNIVERSITIES | Updated 7-17-2020

Noise Level Comparison - Distance from AstroPure (Noise Source)



The diagram represents the noise level perceived by the user in relation to their distance from the equipment. At 4 ft from the occupant, the noise curve is represented in red, the relative decibel level (dB) ranges from 43 dB to 56 dB depending on the airflow level. At 16 ft from the occupant, the noise curve is represented in yellow, the dB level ranges from 31 dB to 44 dB depending on the airflow level. This diagram can help define the minimum distance (ft) that the equipment should be installed from the occupant at a specific airflow rate (CFM) to achieve their expected noise level target.

The position of the AstroPure unit within a given space is of the utmost importance in optimizing the effectiveness of ventilation. Extensive CFD analysis can be provided to ensure best in class performance.

TECHNICAL SPECIFICATIONS

		Product Model			
		AstroPure 500-IR Internal portable unit - recirculation mode Non-ducted	AstroPure 500-IE Internal portable unit - exhaust air mode Ducted (12" collar)	AstroPure 1000-IR Internal portable unit - recirculation mode Non-ducted	AstroPure 1000-IE Internal portable unit - exhaust air mode Ducted (12" collar)
Voltage	Hz	120V-60Hz	120V-60Hz	120V-60Hz	120V-60Hz
Power	W	250W	250 W	750W	750W
Max Airflow Rate	CFM	500	500	1000	1000
Operational Airflow Rate	CFM	400	400	800	800
Noise Level - Operational Point	Dd(A)	<44	<44	<56	<56
Dimensions	HxWxD	51 3/8"x 22 7/8"x 24"	51 3/8"x 22 7/8"x 24"	51 3/8"x 22 7/8"x 24"	51 3/8"x 22 7/8"x 24"
Weight	Lbs	220	2250	230	230
Pre Filter	MERV 11	16x16x4*	16x16x4*	16x16x4*	16x16x4*
HEPA Filter	99.99%	18x18x12"	18x18x12"	18x18x12"	18x18x12"
Motor Type	EC	Variable Speed - EC	Variable Speed - EC	Variable Speed - EC	Variable Speed - EC
Motor Power	HP	0.33	0.33	1	1
Max Current Draw	A	7	7	15	15
Blower Type	Impeller	Forward Curved Impeller	Forward Curved Impeller	Forward Curved Impeller	Forward Curved Impeller
Sensor Embedded		YES	YES	YES	YES
Control Interface		Programmable HMI	Programmable HMI	Programmable HMI	Programmable HMI
ETL Electrical Safety Certification		YES	YES	YES	YES

VISIONAIR™ IEQ

New Contamination Simulation Software

Our **VisionAir IEQ** application software is designed to simulate the PM level reduction impact with and without an AstroPure air purifier. This software can be applied to almost any application but is primarily focused on commercial buildings, schools, and medical clinics to mitigate risks associated with viral load. In addition to optimizing air change rates and the clean air delivery rate (CADR) the user can also see the impact of increasing filter efficiency of the supply air to further reduce contamination and improve indoor air quality.

The screenshot displays the VisionAir IEQ software interface. On the left, a sidebar titled "Room's Design Options" lists various parameters for room design. The main area is divided into two scenarios, "Contamination Load | Case 1" and "Contamination Load | Case 2". Each scenario shows a schematic of the room with air flow paths, including "Outdoor Air", "Supply Air", and "Exhaust Air". To the right of each scenario is a bar chart titled "Resultant Contamination Comparison" showing PM levels for Case 1 and Case 2. The charts compare PM 10, PM 2.5, and PM 1.0 levels. Labels on the right side of the interface point to "Multiple Filter Options", "Internal Contamination Sources", and "Resultant Contamination Comparison". At the bottom, there are logos for "Available on the App Store" and "ANDROID APP ON Google Play".