

# MRSD Proposed Products

# PurAir®350C- Ceiling Mounted Commercial Air Purifier

How can we reduce pathogen transfer?

✓ Built in fan

✓ Pre-filter:

First-stage MEGApleat® M8 coarse panel filter is used to effectively remove indoor large particles, dust and hair.

✓ Carbon filter

Second-stage VariCel® RF/C gas filter can effectively remove indoor TVOC, odours, harmful gases, such as formaldehyde.

✓ HEPA filter:

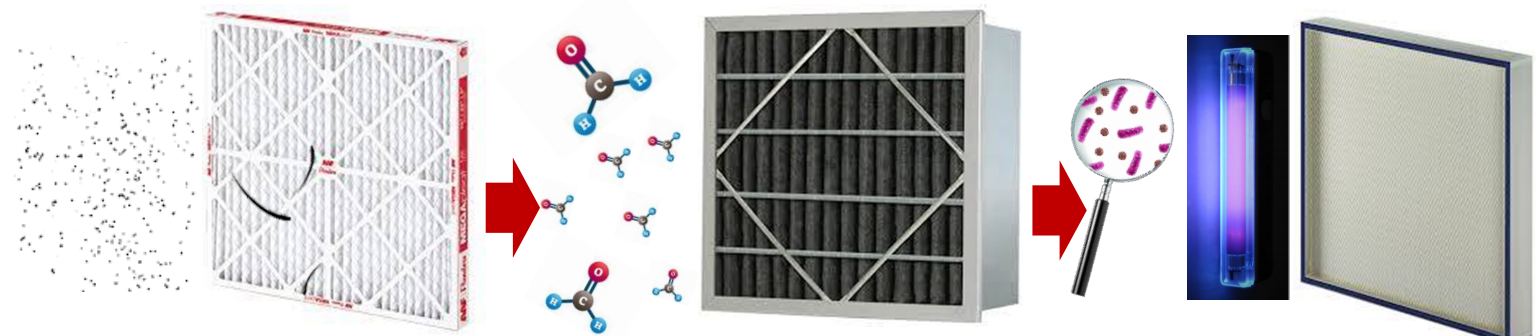
Third-stage AstroCel® II HEPA filter with UV light is able to remove particles of 0.3 microns and smaller particle sizes indoor fine particles which includes most bacteria and virus.

✓ UV Light:

UV light is highly effective at decontamination because it destroys the molecular bonds that hold together the DNA of viruses and bacteria.

✓ Airflow 450 CMH

✓ Area 25 sq.m. (6 ACH)



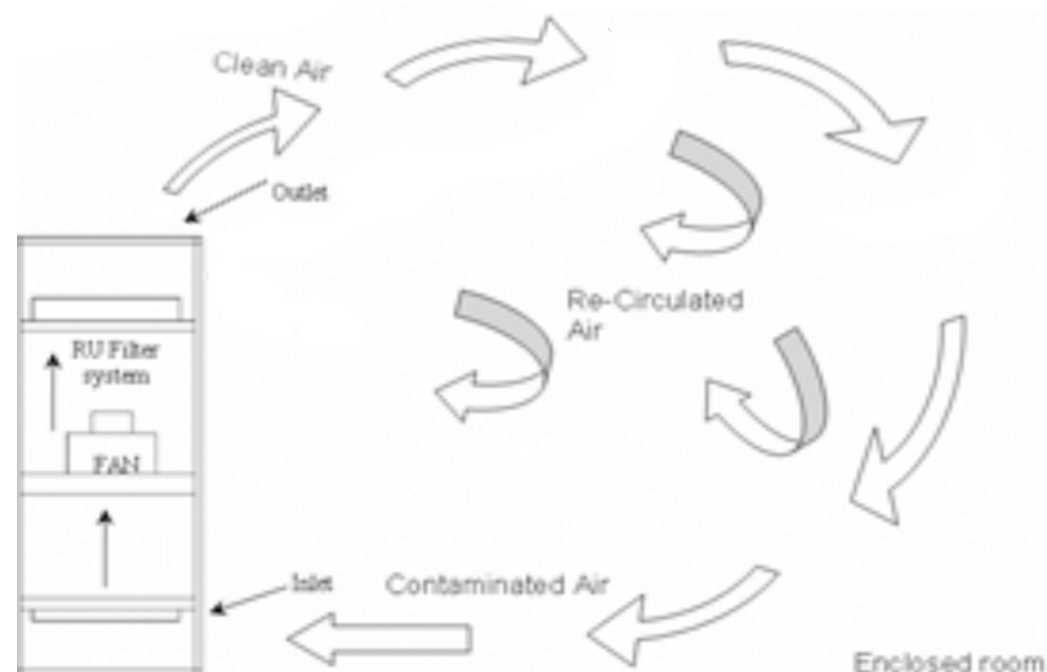
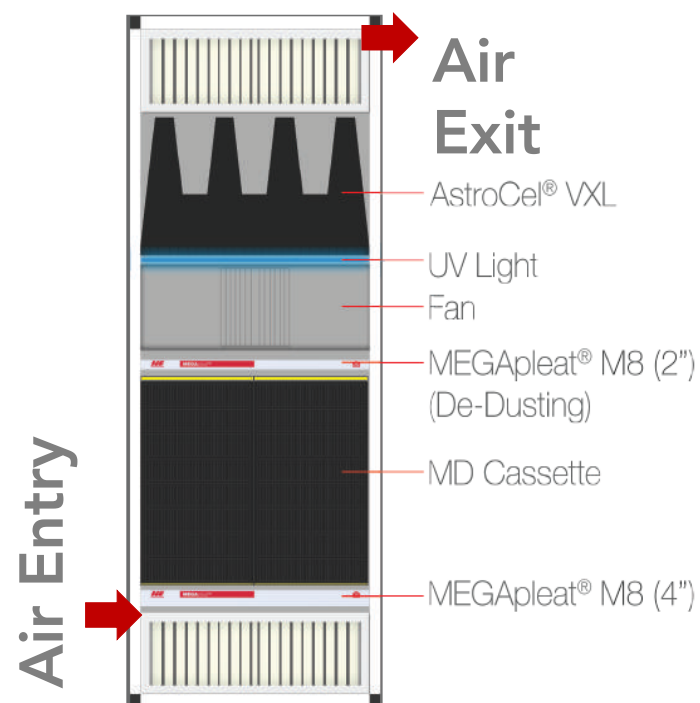
MEGApleat® M8  
Coarse panel filter

VariCel® RF/C  
Gas filter

AstroCel® II  
HEPA filter

# Recirculation Unit: A stand-alone Air Purification System

- ✓ A stand-alone complete air purification system to recirculate and clean the air in a controlled environment.
- ✓ It combines particulate, gas-phase and high efficiency filters to remove airborne particles, gaseous contaminants, virus, bacteria, fungus and molds to provide total clean air solution. Filtration stages can be customized.
- ✓ Pre-filter to prolong the life span of a higher efficiency filter, gas-phase filter to effectively remove odor problems, final filter to remove fine particles, virus, bacteria, fungus, molds with the efficiency of 99.99% at  $0.3\mu\text{m}$ . UV light optional.
- ✓ Size ranges from 500 – 4,000 cfm with double wall construction with VFD option.

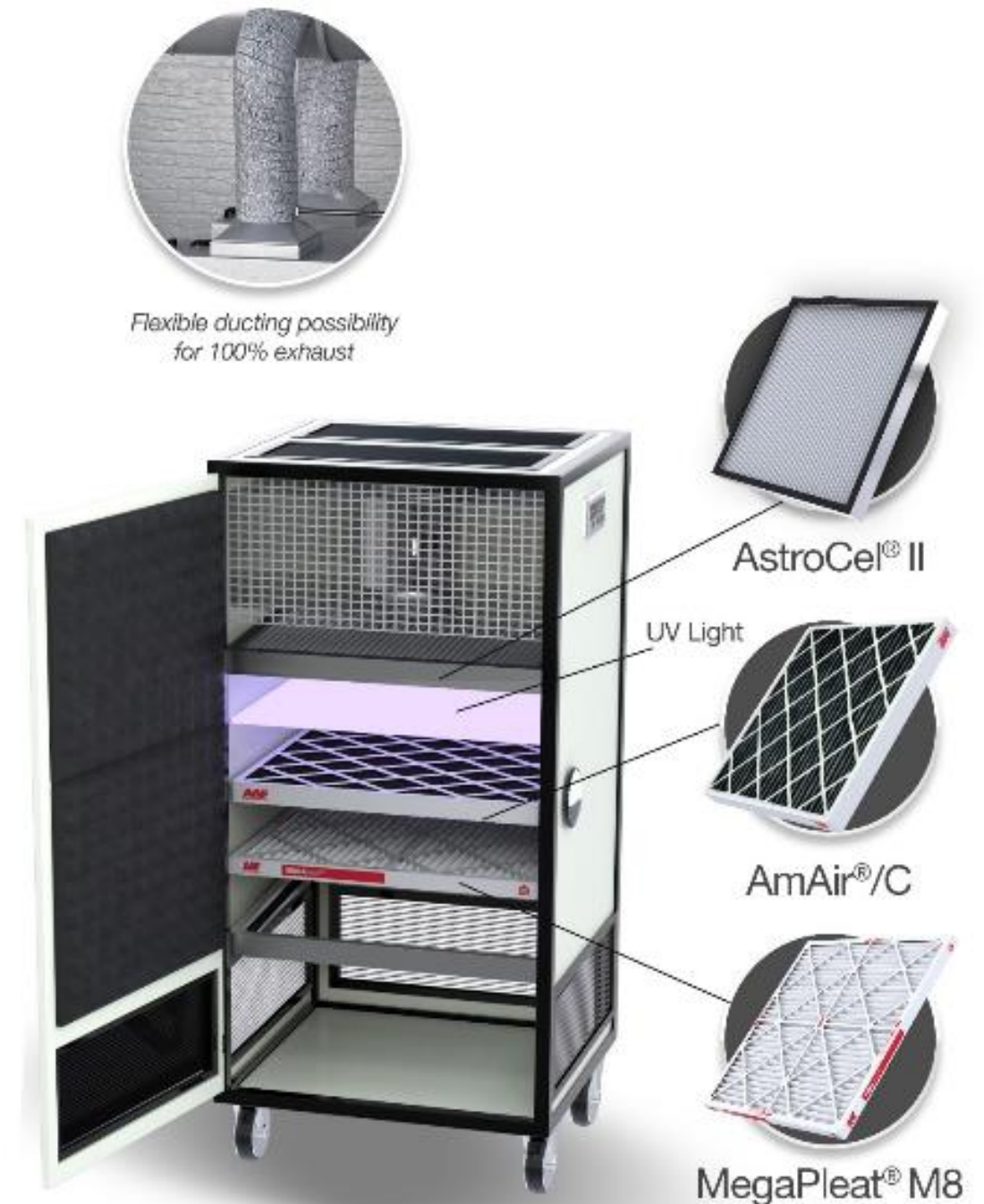




# Advanced HEPA Filtration – AstroPure 500

For healthcare facilities, isolation rooms and infection control areas

- ✓ Type: Portable / stand-alone floor standing unit
- ✓ Overall Dimension: 1298.5 x 800 x 714
- ✓ Air Flow Capacity: 500 CFM
- ✓ Electricity and Power Consumption 230 V / 1- Phase / 60 Hz  
/ IP54 / Class B (0.37KW)
- ✓ Motor: EC Centrifugal Fan
- ✓ Construction: PU Insulated casing with castor
- ✓ Overall Weight: Estimated Shipment weight is 54kg
- ✓ Warranty against Manufacturing Defects: 1 Year
- ✓ UV light: Germicidal lamp 200-280 nm
- ✓ System Efficiency: H14 99.995% at MPPS as per EN1822
- ✓ Sound Level: < 53.7dB

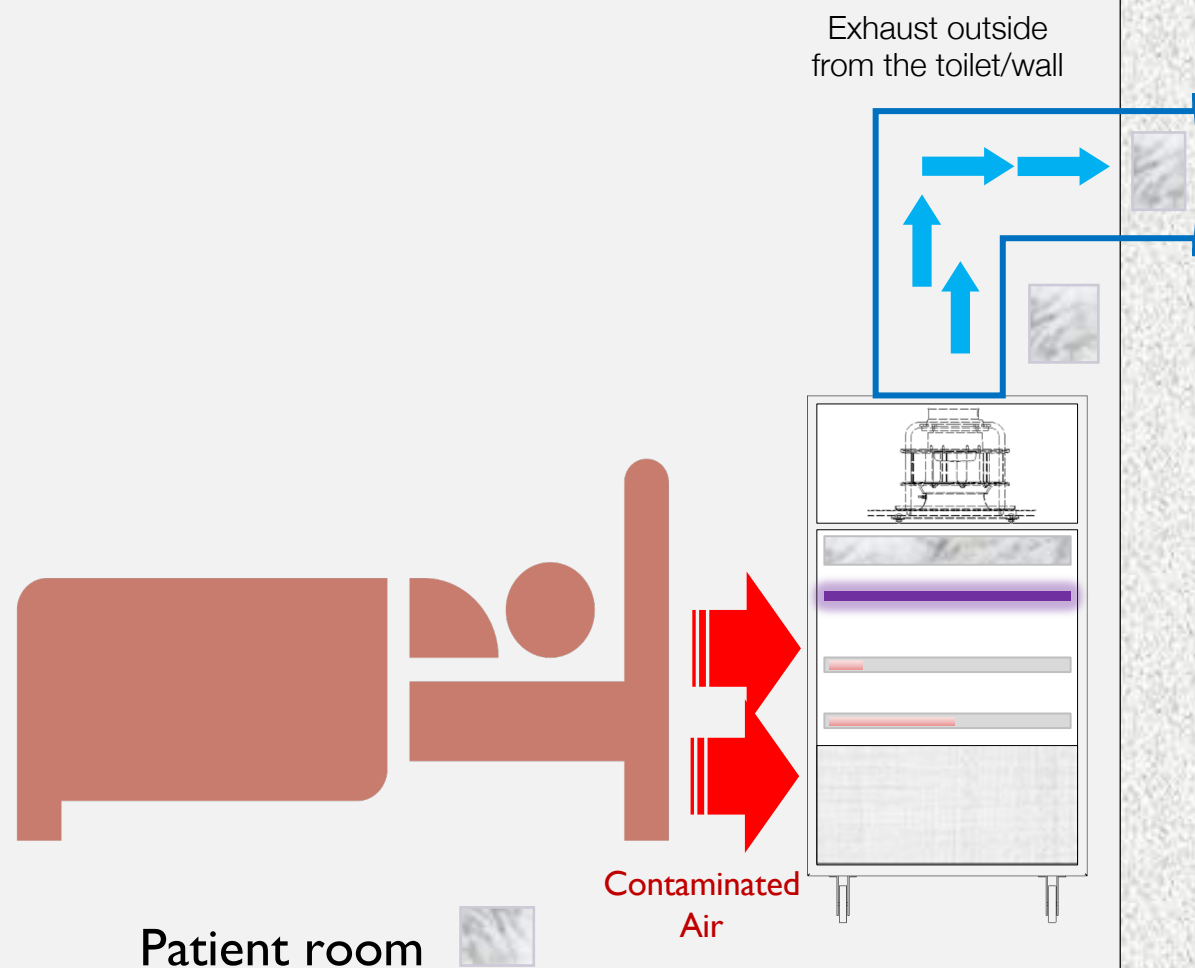




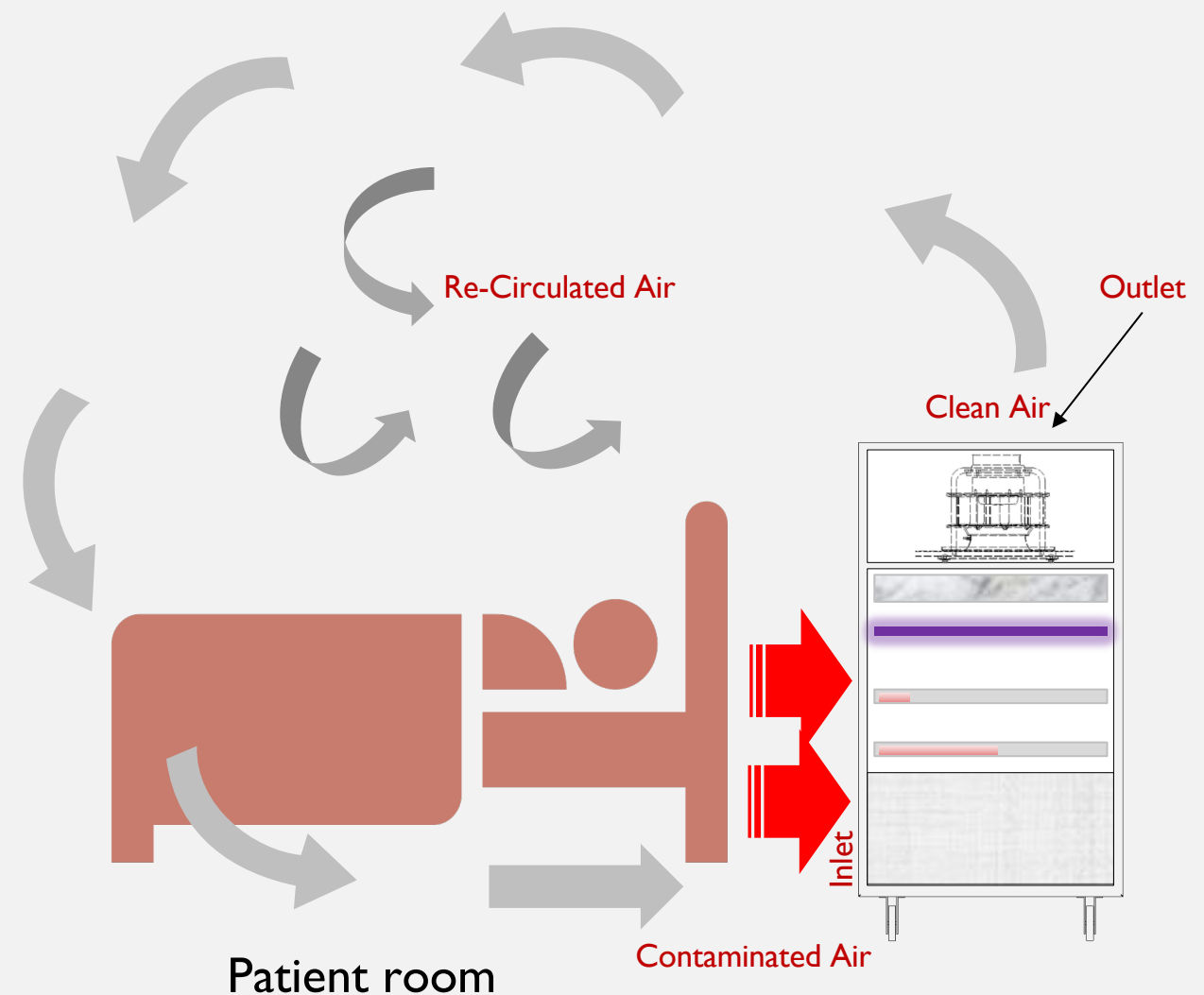
# Advanced HEPA Filtration – AstroPure 500

For healthcare facilities, isolation rooms and infection control areas

## Option 1 – Exhaust Air Outside

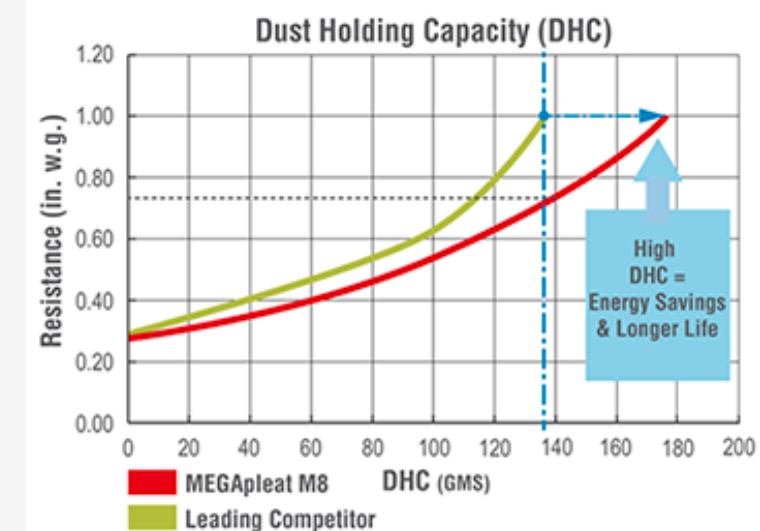


## Option 2 – Re-Circulate Air



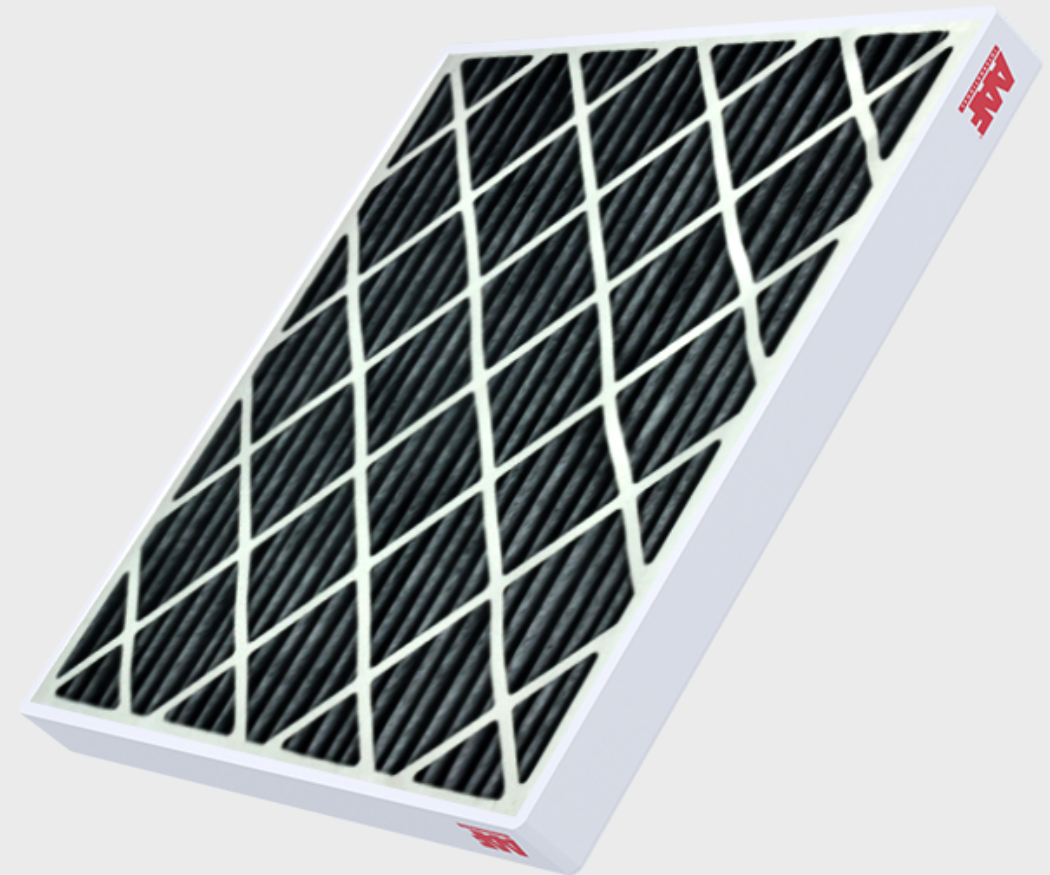
# MegaPleat M8 Pre-Filter

- Low operating resistance saves energy
- Highest dust holding capacity (DHC) = Longest life
- Highest breach strength = Strongest construction
- Guaranteed consistent performance – independent, third party testing
- Patent-pending filter design
- Heavy-duty, galvanized expanded metal support grid – no rust
- Moisture-resistant adhesive



# AmAir/C Carbon Filter

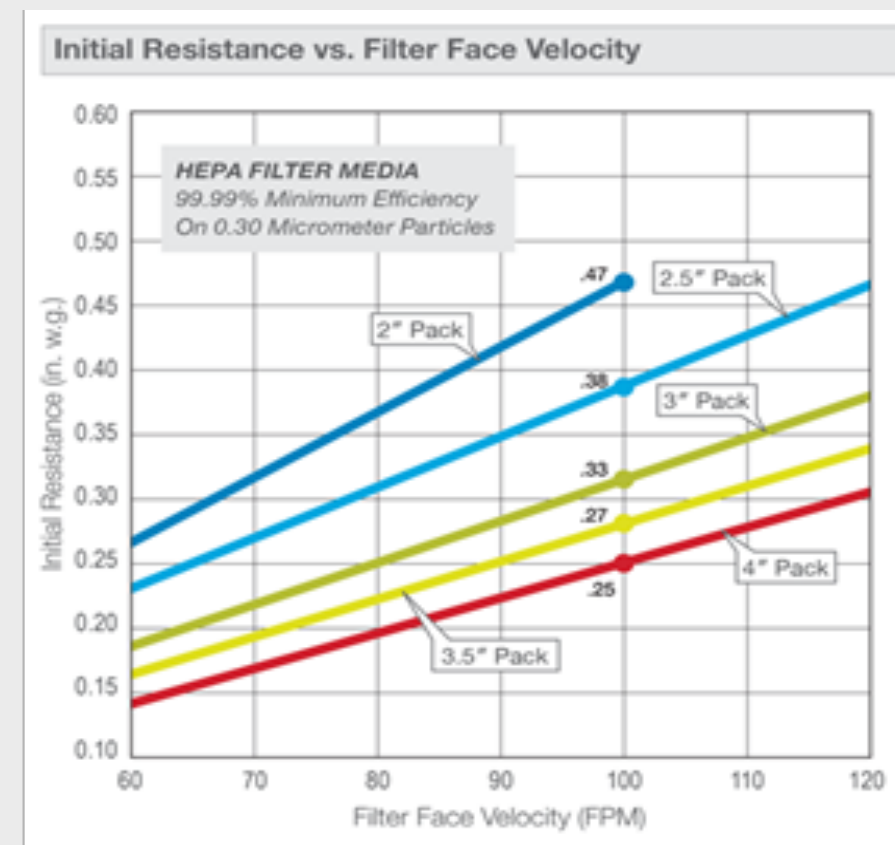
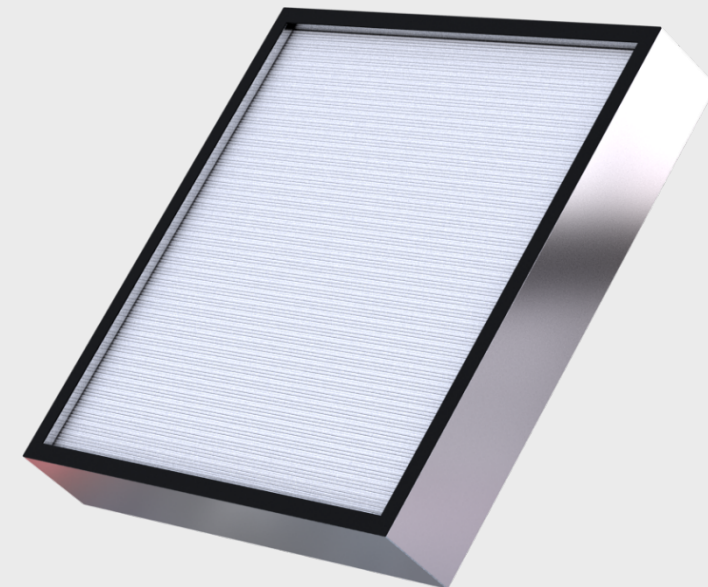
- The easiest and most economical solution to many gaseous contaminant problems, including odors
- High chemical media density yields superior odor control
- MERV 7 particulate efficiency
- Directly interchangeable with standard air filters
- Available in pleats, panels, and pads
- 1", 2", and 4" pleated filters
- Disposable
- UL 900 classified





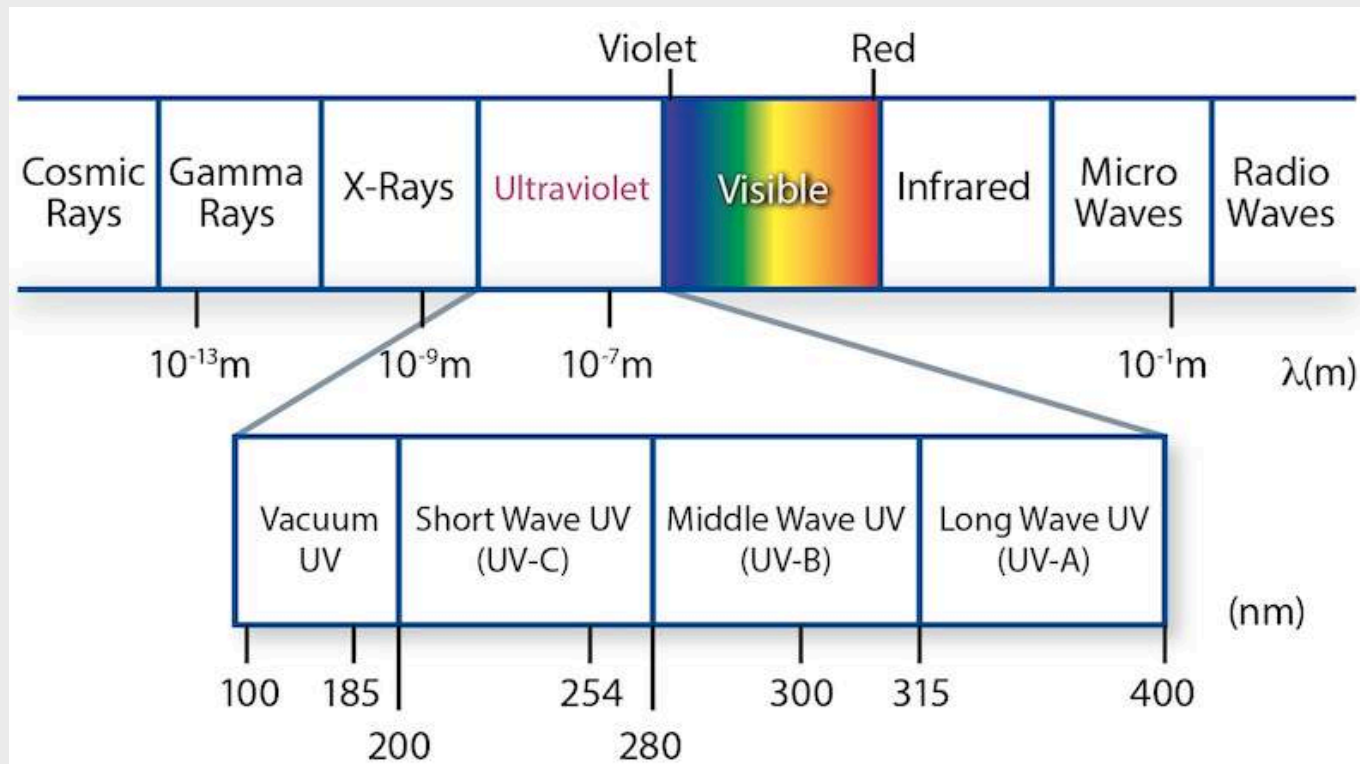
# Astrocel II HEPA Filter

- H14 at 99.9995@MPPS
- Individually tested for certified performance
- Reduces operation costs with lowest possible pressure drop from microglass media
- Available in a range of efficiencies
- Lightweight and compact
- Auto-scan tested
- Manufactured, tested & packed in cleanroom (Class 100,000)



# UV Light

- Broad-spectrum germicidal UV light which has wavelengths between 200 and 400 nanometers (nm) is highly effective at killing bacteria and viruses by destroying the molecular bonds that hold their DNA together.
- UVC light also emits very short ultraviolet UV vacuum with wavelengths which creates ozone. It comes with a protective glass to block harmful UV wave lengths.



# AAF Bag-In Bag-Out Housings / Safe Change Housings

- ✓ The Bag In / Bag Out (BIBO) side access filter system is a safe, simple, reliable method for removing contaminated particulate filters and/or gas absorbers in exhaust stream of hazardous environment. (Radioactive/ Pathogenic/Toxic)
- ✓ The return air should be equipped with the HEPA filter.
- ✓ It is strongly recommended to use BIBO unit in isolation room exhaust air.



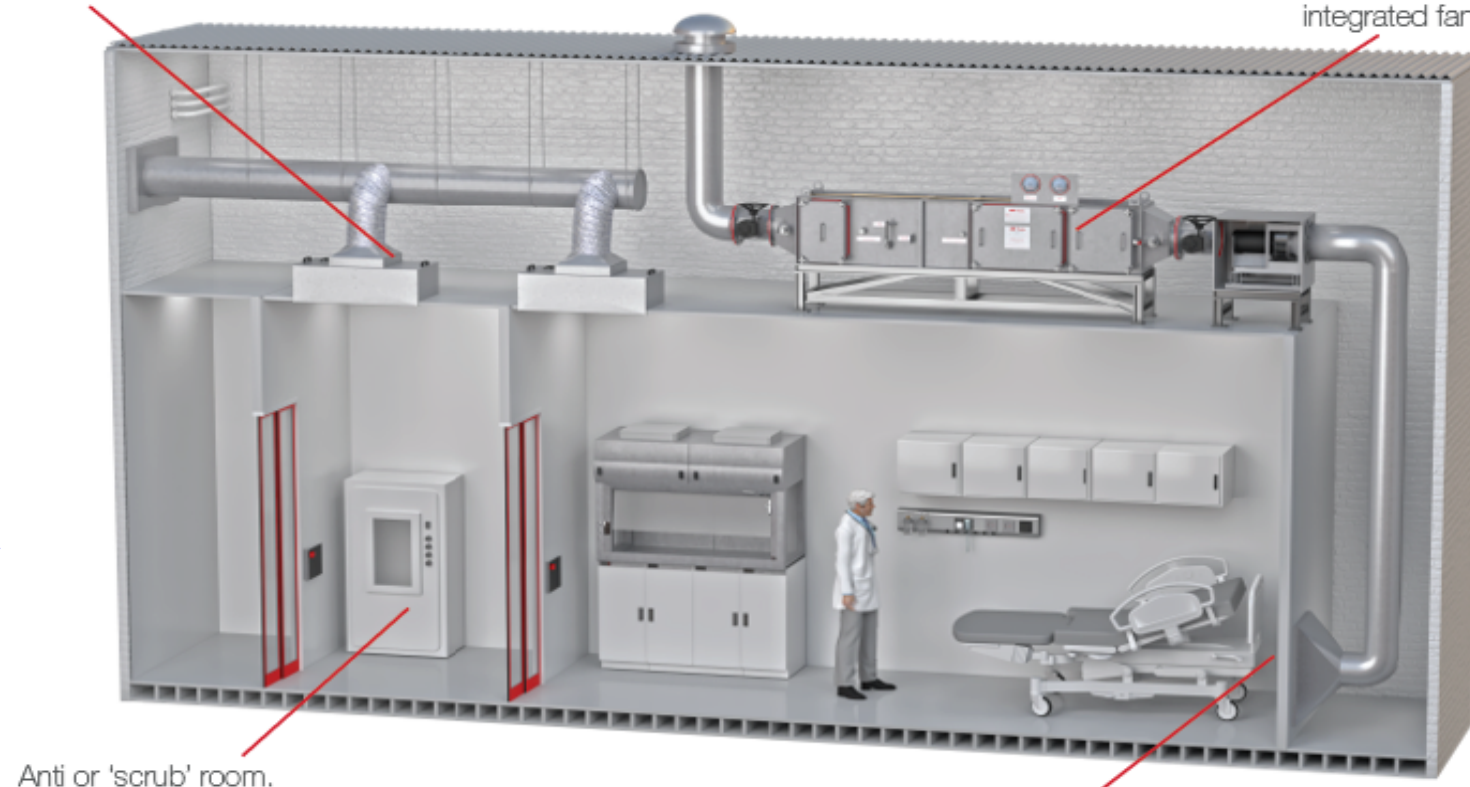
## Application of BIBO Units in Hospitals

- ✓ Isolation Rooms/Suites
- ✓ Infectious Disease Control
- ✓ Laboratory Exhaust
- ✓ Pharmacy
- ✓ Covid-19 test labs
- ✓ Video Link: <https://www.youtube.com/watch?v=4A-NIWQVW8w>

AstroHood 11-111  
Terminal Housing.

Isolation Room

AstroSafe Duct mounted BIBO  
(Skid Mounted Solution with  
integrated fan)



Anti or 'scrub' room.

HEPA (AstroSafe BIBO or Non BIBO filtered  
exhaust air local to the patient)



# Application Segments

# Occupant safety- **Embassies/Banks/Govt Building**

Concerned over the rising pollution level in the capitals, many foreign missions here have taken several measures, including installation of Industrial air purifiers at embassy premises.

- Many embassies continue to work with the government and civil society partners on expanding air quality monitoring & developing research and mitigation initiatives.
- Embassies are very concerned by air pollution levels, which affect the health of their staff & their families as well as their ability to recruit personnel to serve in the country.
- They are taking steps to ensure the cleanest possible air at the offices and residences as well as official vehicles.



# Occupant safety- **International schools/Universities**

Every child and school employee should have the right to an environmentally safe and healthy school that is clean and in good repair

- Reduce building deterioration and improve energy efficiency.
- Reduce absenteeism for students and staff due to chronic illness.
- Reduces outside air ventilation requirements
- Reduces liabilities
- Promotes healthy environments for people with allergies and asthma
- Most importantly, helps to protect students – one of our most important investments in the future





# Occupant safety- **Key government buildings**

HVAC system testing, maintenance schedules and record keeping are all vital components of a government building's air filtration initiatives.

- Government entities usually set the standard for the public & private sector with regards to environmental
- Mold, pathogens, bacteria, and virus removal with AAF's portable units.
- Improve Indoor Air Quality.
- Reduce risk of spreading illness & contribute to higher cognitive function.
- Create more effective work environment.
- Reduce energy costs in building maintenance.



## Occupant safety- **Gyms**

Air in gyms can be filled with indoor air pollutants and pose a threat to visitors and employees. Provide safe workout space to all fitness enthusiasts.

- Studies show, the more people in the gym area, the more air pollution levels increase.
- Sources of poor IAQ: occupants, dangerous chemicals from cleaning agents and building materials.
- Significant improvement in indoor air quality and fewer dust particles in the room air.
- Improved comfort levels for the athletes, guests and employees.
- Less cleaning of premises needed.
- Gases emitted from equipment: VOCs, Formaldehyde, Odor





# Occupant safety- Cafes and Restaurant

AAF units minimize fire risk, eliminate odor nuisance and complaints, and increase customer loyalty by providing fresh, clean air.

- Kitchen exhaust air cleaning systems for the in-duct capture of smoke, grease and odor generated by restaurant and cafeteria cooking equipment.
- Decrease the possibility of airborne food contamination and fire hazards from airborne oil vapors.
- Providing safe ambient air for customer comfort.
- Lower energy costs by keeping air handling units unclogged.





## Occupant safety- **Beauty salons**

Salons must provide a conducive environment for their customers with appropriate spa ventilation and enhanced indoor air quality.

- Potent odors that linger for more than 10 minutes.
- Fine layers of dust emanating from products collect on the furnishings and floors.
- A freestanding air purifier like the AAF AstroPure 500 & RU units specially designed for the salon is ideal for eliminating almost all vapor and dust particles which the source capture system probably missed and providing fresh air.
- The powerful three-stage filtration can eliminate particles from the air which are smaller than a human hair.



## Occupant safety- Lab

Create a safer environment by reducing airborne chemicals and gas contamination in laboratories with AAF BIBO units.

- Deep Adsorber Housing- Housings are available for 12", 16" and 18" deep adsorber filter cells. These cells typically use Carbon/Charcoal as the adsorbent. When additional residence time is required, these units can be furnished in series, or operated at lower face velocities.
- Pressure Testing- Each housing is designed to withstand +/- 20" WG and factory tested to +10" WG in accordance with ASME AG-1, ANSI/ASME N 509 and N 510, to ensure overall housing integrity
- Upstream Filter Seal- Each HEPA filter and adsorber seals against the air entering face of the frame to prevent interior contamination build-up



<https://youtu.be/4A-NIWQVW8w>

# Occupant safety- Hospital stretcher

Perfect protection-combination of PurAir 350C & Isolation stretcher, containing possible outbreak from transferring patients.

- The isolation stretcher contains the virus within the box, which has side pocket-holes allowing the medical staff to attend the patient without exposing themselves to the virus.
- The trapped contaminated air is drawn by PurAir 350C, ensuring clean air is released to the outside environment.
- Protect medical staffs from possible virus carriers during transferring patients.



<https://youtu.be/4A-NIWQVW8w>



## Occupant safety- Ambulance

AAF PurAir 350C are specifically designed to filter the air in the cabin and in the sanitary compartment of ambulances, removing 99.995% particulates corresponding to SARS/COVID-19 virus & effectively reducing the risk of infection.

- A quick ceiling-mounted structure design is suitable for pipelines and surface mounted environments. With upstream and downstream pressure drop detection port, it meets the professional site testing requirements
- The compact design of machine integrated with three-stage of high-performance filters can efficiently remove bacteria and viruses.
- Humanized automatic stop function when the opening cover to protect operator safety.
- Easy-to-replace air duct adapters at both ends for on-site installation.





## Occupant safety- **Mobile ICU vans**

Any discussion of ventilation for medical environments must include HEPA filtration. AAF PurAir 350C is the best infection control unit for mobile ICUs.

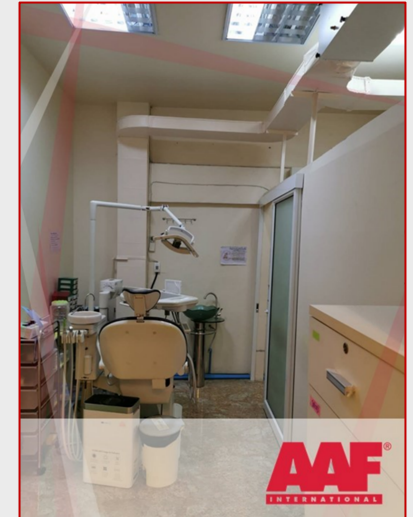
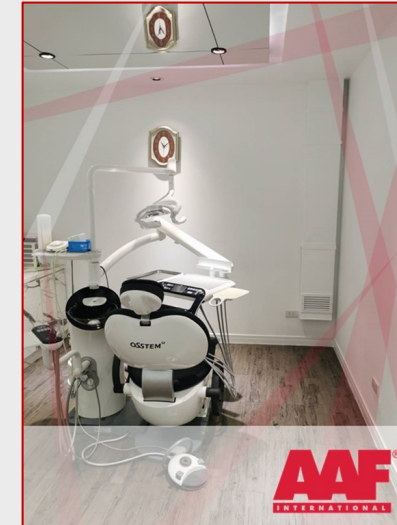
- The compact design of machine integrated with three-stage of high-performance filters can efficiently remove harmful gases, bacteria and viruses.
- The first-stage coarse panel filter is used to effectively remove indoor large particles.
- The second-stage gas-phase filter can effectively remove indoor TVOC, odors, harmful gases, such as formaldehyde.
- Third-stage HEPA filter can remove indoor fine particles such as PM2.5, PM1 and bacteria and virus.



# Occupant safety- Dental clinics

Dental clinics, labelled to be among high risk category for Covid-19 is due to the possible aerosol carriers of the virus to prevent cross infection & spread.

- Overall well-being and health of staff and dentists due to daily exposure
- Patient health
- Positive patient impression of the dental practice
- The UV-C wavelength of 253.7 (254nm) nanometers has been proven to be effective at neutralizing (inactivating) microorganisms.
- Using an Industrial infection control unit can definitely be considered as a safety measure as part of best dental practice.



## Occupant safety- **Cosmetic surgery clinic**

AAF recommends AstroPure 500 & RU units to provide aesthetic medicine physicians and their staff with a practical guide to safety considerations to support clinic preparedness for patients seeking nonsurgical aesthetic treatments and procedures.

- Lasers with increased plume, including laser tattoo removal and laser hair removal, are the procedures with the most concern with regards to viral particle or infection transmission.
- Infection risk is higher with these procedures because of plume and with depth of penetration of the laser, can release viral particles.
- Treatment room setup—preparing and securing treatment rooms for patient entry to contain office contamination and reduce overall potential COVID-19 exposure



<https://youtu.be/7ztMqaqIXqc>

Pure Air is  
your Right.<sup>TM</sup>