

PLASMA^{MADE}[®]

Absolute Science



Air Cleaner - AAC37170

A PlasmaMade Air Cleaner cleans the air

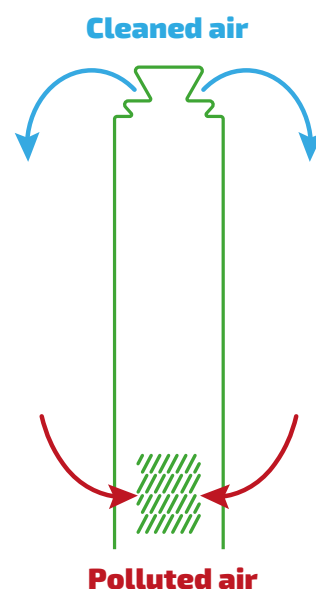
PlasmaMade has made a big impression within the kitchen industry with its innovative technology for purifying (cooking) air. The new PlasmaMade Air Cleaner AAC37170, with patented PlasmaMade technology, is specially designed to reduce aerosol pressure and filter air in gyms, offices, schools and other areas of application.

In the year 2020 it has become clear that good and regular ventilation is necessary to achieve a healthy and comfortable indoor climate. To bring indoor air quality to the desired level quickly and efficiently, PlasmaMade has introduced the Air Cleaner. This unique innovation, which is based on proven technology and sound scientific research, is very effective against aerosols, dust mites, bacteria, fungi, pollen/allergens and particulate matter. The PlasmaMade Air Cleaner is energy efficient, low maintenance, very quiet and easy to move.

the Air Cleaner

The PlasmaMade Air Cleaner creates a vertical, upwards airflow that filters the existing (fine) substances and aerosols that freely float in space. The air is cleaned using two different filters: a PlasmaMade E-Filter and a HEPA filter.

The Air Cleaner causes the air to be sucked in from below and blown out clean above 1.70 meters, creating a recirculating airflow. This airflow suppresses and cleans the polluted air. This process ensures a constant supply of clean and safe air for everyone in the room. The PlasmaMade Air Cleaner is a plug & play addition to your regular air treatment, allowing your current system to continue to function like normal. There are no additional investments needed when using our Air Cleaner.



E-Filter

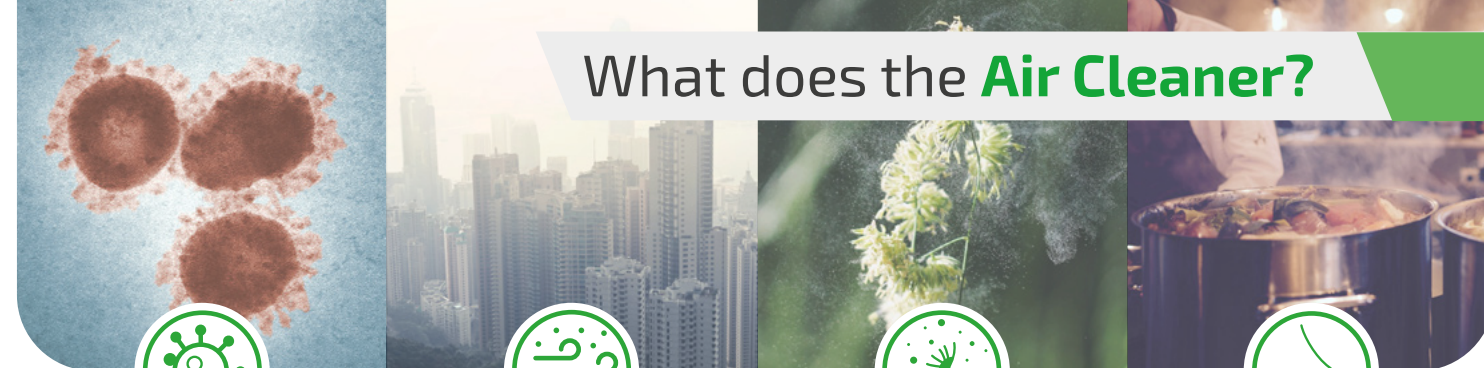
The patented technology in the E-Filter from PlasmaMade breaks down solid particles and removes organic substances and pathogens.



HEPA (H13) filter

HEPA is a widely used filtering technology in aerospace and has also been used in the PlasmaMade Air Cleaner.

What does the Air Cleaner?



Pathogens

Viruses, bacteria, fungi, aerosols and other microorganisms are filtered by up to 98%.



Particulate matter

Solid particles up to the size of 0.25 microns, such as combustion particles, smoke and dust, are completely broken down.



Allergens

The Air Cleaner helps with respiratory complaints such as asthma and bronchitis, and against pollen, dust mites and pet allergies.



Odors

With the help of plasma technology, all types of odors and volatile organic compounds (VOCs) are broken down.

What clean air can do for you

The Air Cleaner is able to filter almost all contaminants from your interior spaces. This provides a variety of benefits and profits for the user.

Office

Working from home permanently is not perfect for all employees. The PlasmaMade Air Cleaner enables a safe office, giving your employees the opportunity to work in the office on a daily basis.



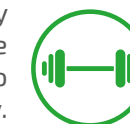
Retail

Retail is an industry in which many different people come into contact with each other during the day. The PlasmaMade Air Cleaner ensures a safe indoor climate for all your customers, allowing you to safely give entrance to large numbers of customers.



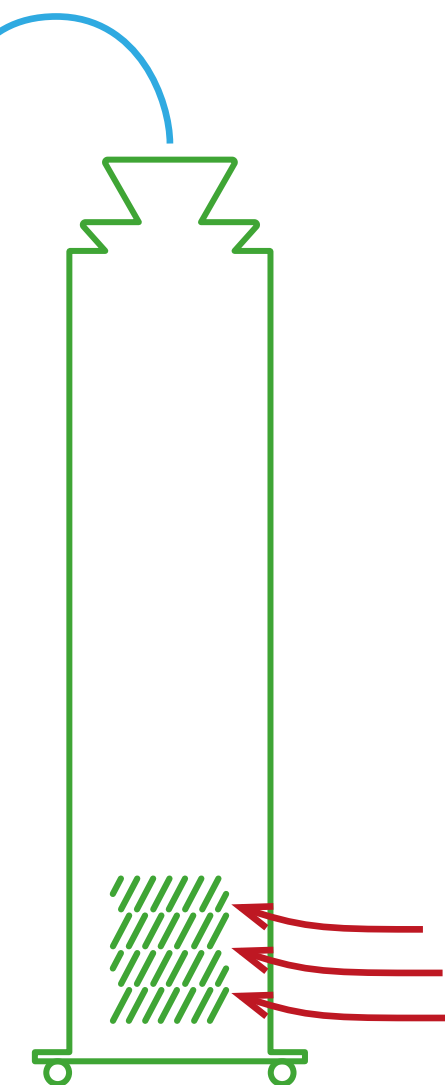
Gym

Due to the intensive effort of gym members, many aerosols are produced. This significantly increases the spread of possible pathogens. The Air Cleaner is able to defuse these aerosols with its plasma technology.



Hospitality

The hospitality sector always provides the perfect environment to receive guests. Our Air Cleaner ensures that the air quality in your catering establishment is brought to a perfect level so that you can focus on taking care of your guests.



Clean and healthy indoor air

The Air Cleaner is suitable for rooms from 20m² up to 150m² and cleans 400m³/h. In rooms larger than 150m², several Air Cleaners can be used per room. The Air Cleaner has two fan settings: the first gives a capacity of 200m³/h; the second a capacity of 400m³/h. The PlasmaMade Air Cleaner has proven itself in offices, waiting areas at practices, classrooms and gyms. This complete air purification is carried out by means of various techniques.

The first pre-filter layer captures hair and large particles, after which the air passes through the H13 HEPA filter. Here the solid contaminants are captured and the sound is muffled. Fine dust, odors, aerosols and other pathogens pass through to the E-Filter. Here, the remaining contaminants are purified by 4 filter techniques.

spaces up to
150m²

Electronic control unit

The electronic brain of the Air Cleaner ensures excellent air purification and very low energy consumption.

Very quiet operation



Ceramic Carbon Foam

The last filter layer, consisting of Ceramic Carbon Foam, cleans the air from the last contaminants and contributes to the very quiet operation of the Air Cleaner.



GUC 1218 E-Filter

The patented E-Filter with PlasmaMade technology is the heart of the Air Cleaner. It is responsible for the unique and thorough cleaning of the air, which it does very efficiently and quietly.



Centrifugal Fan

The Air Cleaner is equipped with an EBM Papst centrifugal fan that can move 400m³ of air through the filters per hour, and does this very quietly and efficiently. This fan is certified, economical and extremely reliable.



H13 HEPA filter

The high quality HEPA filter from PlasmaMade filters (fine substances and allergens).

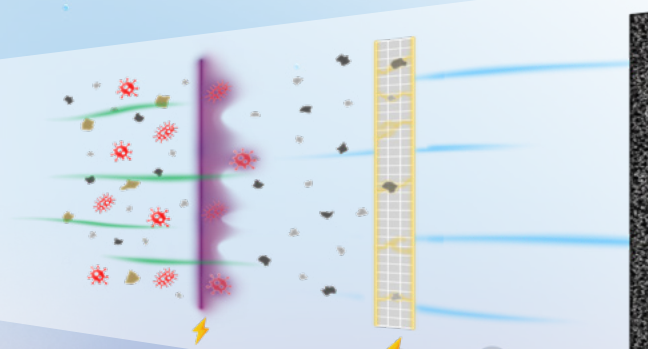
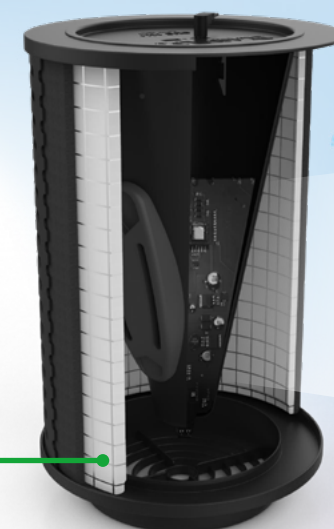


Pre-filter

The pre-filter captures large contaminants and thus extends the life of the HEPA and E-Filter. This filter layer is easy to remove clean.

The PlasmaMade filter technology

The patented PlasmaMade filter has several filter techniques that work together. Inside the filter odors and VOCs (Volatile Organic Compounds) are removed with the use of plasma. Subsequently, viruses, bacteria, allergens and particulate matter are removed in the outer grid (consisting of two cooperating filter techniques) by means of electrostatic charge and stored in the glass fiber between layer where they are eventually broken down. This makes the PlasmaMade filter self-cleaning. Any residual substances still present are collected and cleaned by the ceramic carbon foam filter, resulting in completely clean air.



**CADR of
399m³/h**

CADR rating

The CADR (Clean Air Delivery Rate) is a standardized test developed by the American AHAM (Association of American Home Appliance Manufacturers). Under specific, equal conditions, it is tested how quickly and effectively an air purifier purifies the air in a room. The amount of air displacement in conjunction with the cleaning degree of the processed air is tested. When purchasing an air purifier, the CADR is a very important criteria and a simple means of assessing performance. The PlasmaMade air purifier has a CADR of 399 m³/h.

Technical information

Air Cleaner - AAC 37170

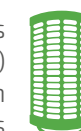
Voltage: 220-240 V | 50/60 Hz
Power consumption: 105 W
Setting 1: 200 m³/h
Setting 2: 400 m³/h
Dimensions: L:34 x B:34 x H:170 cm
Weight: 43,3 kg
Warranty: 2 year

GUC 1218 E-Filter

Lifespan: 5 years
Maintenance: None (Self cleaning)
Filters: Particulate matter up to 0,25 micron
VOS, allergens and odors

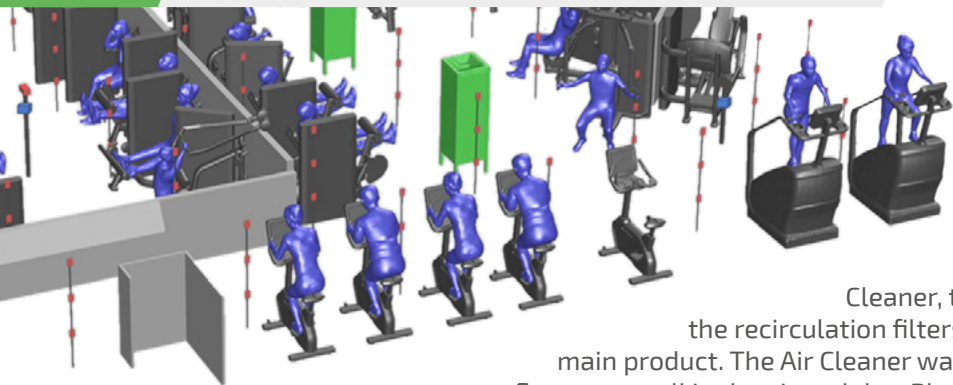
H13 HEPA Filter

Lifespan: 1 year
Maintenance: Replace when necessary
Filters: Particulate matter and allergens



Air Cleaner to the test

Scan QR-code
for research paper
download link.



Development

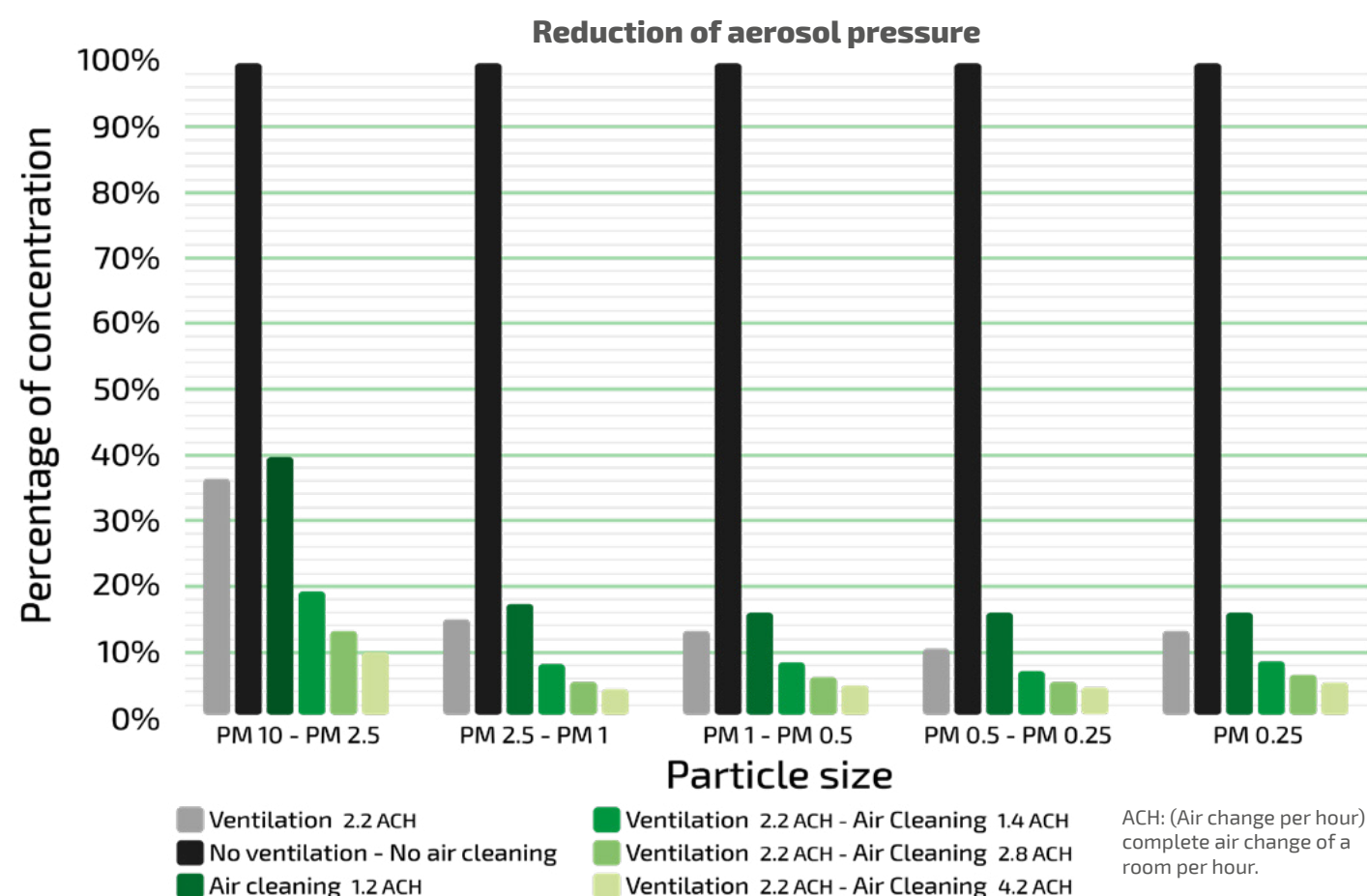
Researching, testing and innovating are the core values of PlasmaMade. Our Air Cleaner, the AAC 37170, is a follow-up development of the recirculation filters for extractor hoods, which is PlasmaMades main product. The Air Cleaner was developed with the knowledge that viruses can float very well in the air and that PlasmaMade filters are excellent at filtering and removing fine dust. Due to the vertical approach (sucking in dirty air at the bottom and blowing it out cleanly at about 1.70 metres), an air flow with clean air starts in a room (from 20 m²). The clean air pushes the dirty air downwards, at a height where people are not inconvenienced by it, and is in turn sucked into the Air Cleaner. This is a continuous process in which the pollution caused by people is removed from the air. In combination with the supply of fresh outside air, the aerosol pressure remains at a safe, acceptable level.

Scientific research

After extensive and thorough testing in PlasmaMade's own laboratory, the Air Cleaner was successfully used at an initiative of Sportinnovator in June 2020, during a large-scale series of tests with real test subjects in the Student Sports Center of Eindhoven University of Technology. The aim of these tests was to demonstrate that a combination of existing ventilation and air cleaning could make it possible to exercise safely indoors. Each technique individually resulted in an improvement of at least 65% compared to the existing situation, but in combination, ventilation and air purification proved to be able to remove 98% of all fine dust and aerosols in the gym.

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TU/e EINDHOVEN
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TECHNOLOGY



JOHAN CRUIJFF ARENA

Can the Air Cleaner make stadium visits possible again?

PlasmaMade has assisted with an experiments supervised by Health-Holland (part of the Ministry of Public Health in the Netherlands), in cooperation with Eindhoven University of Technology, Leiden University Medical Center, Utrecht University and Johann Kepler University Linz, a large scale experiment was conducted in the Johan Cruijff Arena. The experiment consisted of a number of test events, with and without an audience. In 2020, large-scale tests were carried out in the Johan Cruijff Arena, where a large number of aerosol generators were used to simulate the audience in a stadium. The influence of wind, weather and the size of the stadium were also considered. In 2021, during the Netherlands – Latvia international match with 5,000 spectators, in various 'bubbles', research was conducted into real conditions before, during and after (football) matches.

Based on these studies, models are drawn up to map out risks for future competitions and events. PlasmaMade was able to demonstrate its knowledge and expertise with regard to measurement and testing, also on a large scale. Due to the size of these studies, the collected data is still being worked on and the results are not yet conclusive.



Can the Air Cleaner make safe travel possible for athletes?

At the request of the World Tour cycling team Team Jumbo Visma, Eindhoven University of Technology led by Prof. Dr. ir. Bert Blocken performed several tests in a touring car of the cycling team. During the tests, the influence of the touring car's ventilation system on the spread of aerosols was measured, but also the combination of ventilation and air purification. All this took place at PlasmaMade's head office in Staphorst.

Team Jumbo Visma was soon convinced of the effectiveness of the PlasmaMade Air Cleaners during the test. After this test, they immediately decided to use the air purifiers during the Giro d'Italia and the Tour de France. As a result, Team Jumbo Visma has the cleanest air in the buses, in the rooms and in the common areas of the cyclists, in order to create the best conditions for the optimal sports performance of their cyclists. PlasmaMade is now also Official Technical Supplier of the Team Jumbo Visma cycling team.



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Air Cleaner in brief

There is increasing awareness worldwide about the relationship between air quality and health. The Air Cleaner from PlasmaMade takes your indoor climate to a higher level with thorough cleaning of fine particles, odors, VOCs (Volatile Organic Compounds) and pathogens. This clean air gives hospitality and retail customers a more pleasant and safer experience, lowers aerosol pressure in gyms, increases productivity and decreases sickness absence of employees. The Air Cleaner is a very quiet, energy-efficient and future-proof solution for spaces between 20m² and 150m², which is easy to move in your building.

Unlike other air purifiers, the Air Cleaner is able to filter and break down a wide range of air contaminants from the air. Patented plasma and ESD technology is used for thorough cleaning of the indoor air.

If you are curious about what an Air Cleaner can do for you, please contact us!

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