



# TAC V+ MOBILE HIGH-PERFORMANCE AIR PURIFIER

The TAC V+ is the proven, effective, mobile solution for the air purification of virus-carrying aerosol particles and bacteria from the room air



GET FRESH AIR



INDUSTRY SOLUTIONS

# TAC V+ MOBILE HIGH-PERFORMANCE AIR PURIFIER



**“If you run this system continuously, no one will manage to generate an aerosol concentration of an infectious level in a room.”**

**Prof. Dr. Christian J. Kähler**  
**University of the German Federal Armed Forces in Munch Institute for Fluid Mechanics and Aerodynamics**

## **Effective virus filter system - scientifically proven effectiveness**

The TAC V+ is the world's first mobile room air cleaner on the market that has been explicitly developed to filter out virus-carrying aerosols in interior spaces!

For this purpose, the air cleaner TAC V+ ensures a quick and highly effective reduction of virus-carrying aerosols from the room air and in this way effectively neutralizes the airborne corona infection risk, directly at the installation site.

Its virucidal effectiveness with regard to the neutralization of airborne viruses in interior spaces has been fully confirmed in several scientific studies for the TAC V+!

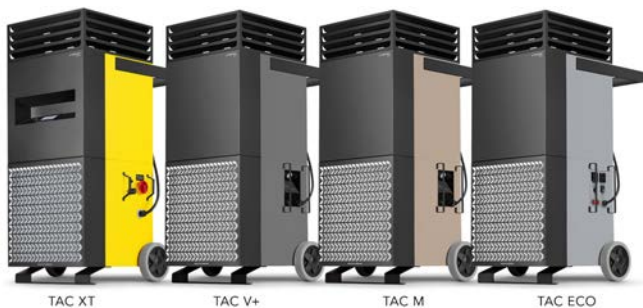
The air cleaner TAC V+, which is specially designed for silent operation combined with a large volumetric flow, quickly dilutes the virus-carrying aerosol accumulations with a high air volume and a high fan performance to a level that is no longer infectious, then filters out 99.995 % of disease-causing viruses from the room air with its HEPA H14 filter that is certified in compliance with EN 1822 and cyclically inactivates them by thermal decontamination of its heat-resistance special filter. In this way the high-performance air purifier TAC V+ effectively reduces the aerosol, viral and bacterial load in the room air.

**Thanks to the exceptional cleaning performance of this high-performance air purifier, the risk of an indirect virus infection by airborne aerosol particles is substantially reduced!**

## EFFECTIVE VIRUS AIR PURIFICATION: MODEL VARIANTS AND SPECIAL SOLUTIONS

### Professional Trotec solutions for virus filtration and air pollution control

**No other method than the HEPA high-performance filter technology provides "as much clean air for quickly diluting the aerosol clouds" with increased safety for the optimum price/clean air ratio!**



To ensure that you're always provided with the precisely-tailored Trotec solution for effective virus filtration of the room air, exactly adapted to your individual safety requirement, in addition to the high-performance air purifier TAC V+ our range of products contains further model variants and special solutions.

To help you integrate the TAC V+ into the respective application environment, in addition to the standard colour yellow, this device is also available painted in the colours basalt grey, white or bronze.

Moreover, a stainless steel version is available for the use in hygiene-sensitive areas – and for virus air filtration in large halls we can offer you the special model TAC V+ Dual for wall or ceiling mounting, which blows out clean air to both sides.

### 100 % TAC V+ on the outside, modified to meet your requirements on the inside: model variants TAC M and TAC ECO

The model variants TAC M and TAC ECO are the perfect blend of the scientifically confirmed effective H14 HEPA virus filtration of the TAC V+ and your individual economic requirements, without having to forego any basic equipment features of the high-performance air purifier TAC V+.

#### The criteria for an effective virus air cleaner required by science are:

The device must have a sufficiently large volumetric flow. at least six times the room volume per hour

The device must be technically capable of removing 99.995 % of the viruses in the course of one air cycle, as can be ensured by an H14 HEPA filter complying with EN 1822

The device must be quiet so that it does not disturb people inside the room, otherwise there is a risk of the device being switched off by the user

All these criteria are fully met not only by the TAC V+, but also by the TAC M and TAC ECO. This is why the air cleaners TAC M and TAC ECO are our best recommendation if you want to do without the full equipment of the TAC V+, but not without effective H14 HEPA virus filtration from Trotec "made in Germany".

Since the high-performance air purifiers TAC M and TAC ECO do not have a function for thermal decontamination and filter regeneration, they can also be used in areas which, due to electrical protection, only permit automated thermal decontamination to a limited extent. Consequently, the devices come without the added value of thermal room decontamination – maximum hygiene and safety –, which is offered by the TAC V+ through cyclic heat inactivation and thermal filter self-cleaning for longer filter lifetimes.

#### TAC M – TAC V+-like virus-filtered clean air

Being equipped with a programmable touch display incl. USB update function just like the TAC V+, the TAC M offers you convenient configuration options. Furthermore, you also benefit from the integrated FlowMatic control for a constant air volume flow at any power level with the TAC M. On request, the TAC M can be ordered in all colours available for the TAC V+.

#### TAC ECO – virus-filtered clean air, manually adjusted

The TAC ECO is the perfect reduction of the TAC V+ to its essential virus filter qualities with an H14 HEPA filter standard according to EN 1822. Once manually configured, the TAC ECO, too, will automatically make you benefit from virus-filtered clean air in your rooms. The TAC ECO is only available in light grey.

## The high-performance air purifier TAC V+ convinces by its efficiency-tested cleaning principle

In a continuous process, the room air that is contaminated with aerosol particles and infectious viruses is diluted and pushed towards the floor by a kind of "air roll effect". Like all TAC high-performance air purifiers the TAC V+ draws in large volumes of the contaminated air near the floor and already cleans them in the course of one air cycle with its H14 filter efficiency of 99.995 %, certified in compliance with EN 1822, reliably separating airborne germs.

The clean, virus-filtered clean air then flows back to the top of the room through the specially formed air outlet fins with a high fan performance. This air cycle continuously keeps the breathing air cleaner, especially at head height, than without filtration. The filtered, blown-out air in this process is not only free from viruses but also free from pollen and respirable, harmful particulate matter (e.g. caused by traffic load).

### With the TAC V+ you can adjust the required amount of clean air to your demands

The device, which can be configured via a touch display, can be easily programmed by "touch & play" to match

individual demands, making it possible to adapt the air volume according to the individual situation at any time. And thanks to the integrated boost function, targeted short and intensive filtration can be carried out, e.g. during break times or in the case of room changes, for quick separation with a maximum air volume.

From a scientific point of view, effective virus air purification requires at least 6 air circulations per hour and a HEPA filter of class H14. Both the air cleaner and the H14 filter must therefore provide an air flow rate that is at least six times higher than the air volume of the room. In the case of a higher density of persons or a high level of physical activity, a higher circulation rate is recommended in order to ensure safety.

### Large clean air capacity for effective air purification

Whether it is to be used for schools, offices, fitness studios or restaurants, the TAC V+ is ideally equipped for every requirement, since it features reserve capacities which allow for 10 or more air circulations per hour even in larger rooms.





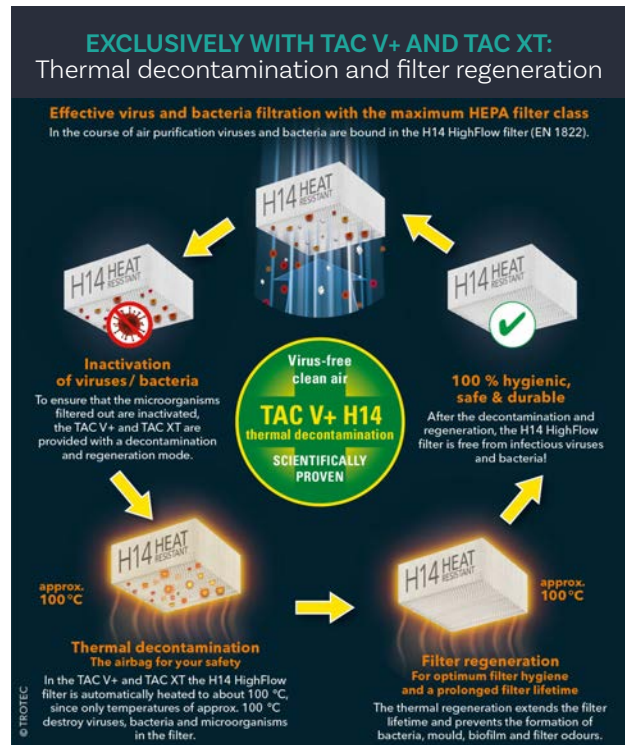
## What makes the TAC V+ so unique and what makes it different from conventional air cleaners?

The TAC V+ was designed specially for the purpose of virus filtration, in particular with a view to the specific requirements in medium and large rooms such as school classrooms, office spaces or gastronomy spaces. This is why the mobile carriage design ensures large air volumes combined with high versatility. Set up, reposition, adjust – all in next to no time, always exactly where the TAC is needed.

**The specially constructed, fully encapsulated H14 high-temperature lamellae HEPA filter is a heat-resistant special design "made in Germany" with an extremely high filter volume performance of class H14 (EN 1822). Aerosols carrying viruses and bacteria are reliably filtered out and heated to about 100 °C for approx. 15 minutes at regular intervals. In this process, the viruses filtered out are denatured, i.e. practically destroyed. This takes place at the desired point in time and fully automatically, e.g. once a week at night, outside office or teaching hours.**

This heating process also counteracts the formation of bacteria, biofilm and filter odours, without any harmful chemical additives or UV-C radiation. 100 °C for 100 % efficiency. Maximum hygiene for protecting the health of your children, guests, customers and employees.

TAC V+ and TAC XT offer what leading scientists recommend: "To ensure that the room air cleaner always remains hygienically safe even in continuous operation, the H14 filter (EN 1822) should be heated to an approximate filter core temperature of 100 °C for about 15 minutes. This takes place in a freely adjustable and fully automatic fashion, e.g. at night, outside office or teaching hours. Heating the filter to about 100 °C destroys the microorganisms in the filter and prevents the formation of bacteria, biofilm and fungi without harmful chemical additives or UV-C radiation", says Prof. Kähler from the University of the German Federal Armed Forces in Munich. With their automatic thermal decontamination the TAC V+ and TAC XT meet this requirement.



### The advantages of the exclusive decontamination and regeneration technology from Trotec:

- Separated microorganisms are thermally destroyed in the filter. With thermal decontamination carried out once a week, this technology only requires a small energy input amounting to approx. €15 per year (52 x 1 kWh at €0.28 each), but it offers you a crucial added value with regard to hygiene over the entire filter lifetime.
- Due to the short treatment duration and the low energy input, the room temperature does not increase.
- The filter regeneration process constitutes a kind of self-cleaning function and ensures a consistently high effectiveness of the special virus filter.
- The thermal regeneration cycle effects the evaporation of the liquid portion of the aerosol particles and actively prevents the development of bacteria biofilm and filter odours.
- The filter's lifetime is extended by its regeneration function, allowing for reduced maintenance intervals and lower operating costs compared to air cleaners without thermal filter regeneration.
- Bacteria and mould can only be reliably killed at temperatures of approx. 100 °C. It's not without reason that drinking water containing germs should be boiled, i.e. heated to approx. 100 °C, for at least three to five minutes before use. Therefore, thermal decontamination and filter regeneration at approx. 100 °C offer you more safety, hygiene and a long filter lifetime.
- Last but not least, this unique protective function basically pays for itself: Because thermal decontamination also increases the filter lifetime, a new filter has to be purchased less frequently. This saving means that you benefit from the added value of thermal decontamination – maximum filter safety and filter hygiene – practically free of charge!

## WITH THE TAC, IT'S NOT JUST THE INDIVIDUAL DETAILS THAT SET STANDARDS – IT'S ALSO THE SUM OF ALL DETAILS

HIGH MOBILITY

EXTREME VERSATILITY

LARGE CLEAN AIR CAPACITY

HIGH-PERFORMANCE FILTRATION

FILTER DECONTAMINATION & REGENERATION

VALUE-FOR-MONEY RATIO

## At a glance: Convincing benefits of the TAC high-performance air purifiers

### High versatility due to mobility

Easy set-up and moving instead of cumbersome set-up and conversion – decisive advantages over stationary, large and heavy floor-mounted appliances: versatility. Thanks to the carriage design, the "Plug & Play" device can be used for both mobile and stationary applications – simply set it up flexibly exactly where protection is needed. For the installation sites and application purpose can change again and again, and effective hygiene concepts therefore require a high degree of flexibility. The TAC is a true mobile device, and therefore always quick and easy to set up exactly where protection is needed.

### High versatility due to individually adjustable air volumes

Another decisive advantage of the TAC are the air volumes that can be individually adjusted to the room volume and desired circulation rate. Regardless of the room size or application requirements, the correct and permanently constant volume flow is always available at the touch of a button for additional safety.

### Significantly increased health protection also against fine dust

The TAC high-performance air purifier from Trotec offer you, your employees, customers, clients, patients and pupils a high level of protection against indirect infection by aerosol particles. In addition to viruses and bacteria, also respirable and harmful particulate matter (e.g. caused by road traffic) as well as pollen are reliably filtered from the room air.

### More safety – scientifically tested and recommended

The effectiveness of the room air purifier TAC V+ has been confirmed in several independent scientific studies carried out by leading national and international institutes.

### Large clean air capacity – high pressure

Up to 2,200 m<sup>3</sup>/h of clean air filtered free from viruses and bacteria by a high fan performance for optimum air circulation, air flow and frequent air circulation. Proper air flow and routing are an absolute must when you want to ensure a high degree of safety. In particular the high maximum air flow rate (boost mode) is ideally suited for quick separation (short and intense filtration) in break periods or in the case of room changes.

### Effective high-performance filtration with the maximum HEPA filter class, certified in compliance with EN 1822

In the TAC V+, TAC M and TAC XT, fully encapsulated H14 metal fin high-temperature filters "made in Germany" with flow-optimized high-tech filter material are used, which are specially developed for Trotec. Each quality filter is tested and certified individually.

### Optional: H14 Ultra-HighFlow filter

For 66 % more H14 air volume – with an energy consumption that is reduced by up to 30 % and a noise emission that is lower by up to 8 %.

### FlowMatic control: Constant circulation rates in all power levels by a constant volumetric flow to provide for increased safety

The sensor-supported FlowMatic control in the TAC V+, TAC M and TAC XT works like the cruise control in the car: Even when coarse and fine dust increasingly pollute the filter you don't have to be concerned about a decreasing air flow rate or about values falling below the required air changes.

The system performance is adapted continuously and dynamically, ensuring that the air volume target value once set is kept constant at any power level! For increased safety, longer filter lifetimes and a substantially higher system efficiency.

### Exclusively with TAC V+ and TAC XT: Thermal filter decontamination for more safety

Just like the airbag in the car – you hardly ever need it, but it's important that it's there! Reliable inactivation of the viruses and bacteria by heat (15 minutes at about 100 °C) provides an important added value where hygiene and safety are concerned. This is recommended by leading scientists to ensure safe continuous operation.

Thermal filter decontamination is freely programmable and is effected in a fully automatic fashion, e.g. outside business hours or school hours.

Thermal decontamination carried out on a weekly basis requires only 1.0 kWh of additional energy per week and will not increase the room temperature due to the limited energy input and the short treatment time.

### Exclusively with TAC V+ and TAC XT: Thermal filter regeneration for more hygiene

Automatic self-cleaning of the filter to provide for a longer filter lifetime and to prevent bacteria, mould, biofilm and the formation of odours resulting therefrom.

The process of filter regeneration takes place at about 100 °C in parallel to the thermal decontamination process and is recommended from a scientific point of view, since most bacteria and microorganisms are only inactivated at a temperature of approx. 100 °C. It's not without reason that drinking water containing germs should be boiled, i.e. heated to approx. 100 °C, for at least three to five minutes before use.

**Thermal filter regeneration: To provide for longer filter lifetimes and an improved filter hygiene, and to prevent filter odour.**

### Fully automatic operation by flexible programming

Thanks to the fully programmable and updateable touch display, the TAC V+, TAC M and TAC XT can be adapted individually to your operating hours and rest periods, so that you no longer have to worry about anything

### Low noise emission

The most silent high-performance air purifier in relation to the air flow rate / device size.

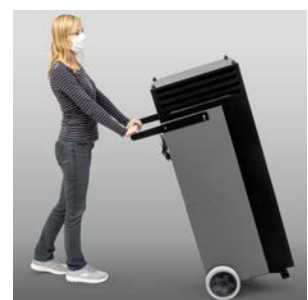
### Robust design for professional use

Extremely robust, stable and scratch-proof metal housing specially designed for operational environments where many people are staying, working, playing, learning or celebrating. Optionally also available as tamper-proof versions for schools, daycare centres, etc.

### TAC V+ and TAC XT: low running costs

The running costs of the TAC V+ and TAC XT are very low. Firstly, the average power consumption for the basic operation of the device (fan, electronics, etc.) is only 160 Wh. Some competition models may have a nominally lower consumption, but given their high clean air capacity, the TAC V+ and TAC XT are extremely cost-effective in terms of cost per cubic metre of virus-filtered clean air.

Secondly, the on-demand thermal decontamination with simultaneous filter regeneration not only offers the decisive plus in terms of safety and filter hygiene – but also enormous savings potential! Activated once a week, filter decontamination generates additional energy costs of just under €15 a year (approx. 1 kWh/week). At the same time, filter hygiene is improved and filter lifetime increased. A new filter has to be purchased less frequently, and this saving means that you benefit from the added value of thermal decontamination – maximum filter safety and filter hygiene – practically free of charge!



## What's the point of air purification? All you need to do is ventilate properly, right?

Airing seems to be the order of the day in Corona times. This recommendation is continuously propagated by various parties and presented as the most effective measure to reduce the risk of airborne infection indoors. In fact, ventilation can reduce the concentration of virus-laden aerosols in the room air. However, only if all conditions are met, which is often not the case.

### **Air cleaners offer more effective protection against the coronavirus than open windows**

In view of the cold winter and outside temperatures in the minus range, the question arises how practical and effective window ventilation, which is recommended by the Federal Environment Agency (UBA) and the Conference of Ministers of Education and Cultural Affairs, is as an infection control measure. Contrary to the opinion of the UBA and the Ministers of Education that regular shock ventilation is sufficient and that there is currently no better technical solution to remove potentially infectious aerosols from classrooms, for example, many scientists and internationally renowned aerosol experts recommend the use of high-performance air purifiers with HEPA filter technology complying with EN 1822 - as a more effective alternative to window ventilation.

## Clean air is essential to life.

Even in times "without corona", the TAC V+ will still be a precious investment as a universal guarantor of clean air

### **Virus filtration plus keeping the air free from particulate matter - completely pollution-free breathing air.**

Particulate matter pollution presents a permanent hazard to our respiratory organs. In addition, fine dust is also suspected of being able to transport the coronavirus and aggravate the health consequences of a viral infection. Therefore it's all the more reassuring to the users of the virus air cleaner TAC V+ that it can be both at the same time: a demonstrably effective virus filter and basically a high-performance air cleaner. Today this provides you with a tried and tested air cleaner which neutralizes virus-carrying aerosol particles and bacteria in the room air - and at the same time you can benefit from maximum protection against harmful particulate matter pollution in your rooms - even for your life "without corona"







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