High-performance air purifiers of the TAC series

- ✔ The originals by TROTEC
- ✔ Known from the media
- ✔ In use worldwide
- ✔ Approved in hygiene concepts of the industry, administration and healthcare sector
- ✔ Eligible for funding: complies with all points of the German federal and state funding guidelines
- ✔ Used successfully in schools, health departments, ministries and hospitals

Clean, healthier room air for effective protection against infections

- Effectiveness scientifically proven by leading research institutes
- Made in Germany

Breathe healthier, work healthier, live healthier

Feel better protected and safer

Version 9

Infection control is a duty, not an option.
Because air is our most important commodity.

Create your climatic health resort!

TROTEC
AT WORK.

Breathe healthier, work safer, live safer, feel safer

Effective air purification protects staff, customers, patients and children from airborne infectious diseases, allergens and fine dust.

"If you run this system (TAC V+*) continuously, **no one will manage** to generate an aerosol concentration of an infectious level!"

der Bundeswehr Universität München

*Note by TROTEC

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

- **High versatility due to mobility; simply set up where protection is needed**
- **Air volume of up to 2,200 m³/h**
- **H14 high-performance HEPA filter in compliance with DIN EN 1822**
- **Constant air volume flow, also with increasing filter contamination**
- **Fully automatic operation by flexible programming**
- **Sensor-controlled filter change indicator (prefilter and main filter) for longer filter lifetimes**
- **Low noise emission**
- **Extremely robust design for professional use**
- **Made in Germany**

Exclusively with TAC V+ and TAC XT

- **Filter decontamination for more safety**
- **Filter regeneration for more hygiene**
- **Lowest maintenance costs due to thermal filter treatment**

The high-performance air purifiers of the TAC series offer you, your employees, customers, clients, patients and pupils a high level of protection against indirect infections 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. The efficiency of the TAC room air cleaners has been confirmed in several scientific studies by leading institutes.

H14 HEAT RESISTANT HEPA®

TROTEC 100% MADE IN GERMANY

Virus-free clean air
TAC V+ H14
thermal decontamination
SCIENTIFICALLY PROVEN BY THE FRAUNHOFER INSTITUTE

Scientific studies on the effectiveness of TAC devices

German Physical Society
Protective screens with aerosol protective edge and high-performance air purifiers reduce the risk of infection

Fraunhofer Institute
Effectiveness testing of thermal filter decontamination and regeneration of H14 HEPA filters

University of the Federal Armed Forces in Munich
School education during the SARS-CoV-2 pandemic

University of the German Federal Armed Forces in Munich
VIDEO: Scientific protection concept for schools

University of the Federal Armed Forces in Munich
Can mobile room air cleaners reduce the risk of infection that is posed by aerosols?

University of the Federal Armed Forces in Munich
Investigations on the efficiency of room air cleaners in a restaurant

Delft University of Technology, NL
Air purification is more effective than intense airing with open windows or doors

TAC XT 18 and TAC XT 27 combine all the functions of the TAC V+ and offer more:

- **4-in-1 multifunction devices: professional air purification, room heating, pest control, thermal room and surface decontamination in one device**
- **Powerful room heaters with or without H14 HEPA virus filtration**
- **Room or surface target temperature adjustable from 0 °C to max. 75 °C (for room heating, decontamination or disinfestation)**
- **Effective for thermal disinfestation against all types of pest species in all their development stages (egg, larva, pupa, imago)**
- **Flexible and versatile – optimal for trade fairs, events, industry, gastronomy and landlords**

Trotec exclusive: HighPerformance for four different applications
The TAC XT air handlers are multifunctional machines that enable a previously unknown range of applications and thus maximum investment security. 18 kW or 27 kW heating capacity, an adjustable ventilation performance of up to 2,500 m^3 and a room temperature that can be set to 75 °C max. make the TAC XT devices a brilliant solution for many professional tasks: high-performance air purification and virus filtration, fully automatic room heating with or without H14 HEPA air purification, thermal decontamination of rooms and surfaces as well as professional thermal pest control.

Rent or lease: Stay flexible, also in financial terms

Financing with our rental and leasing offers

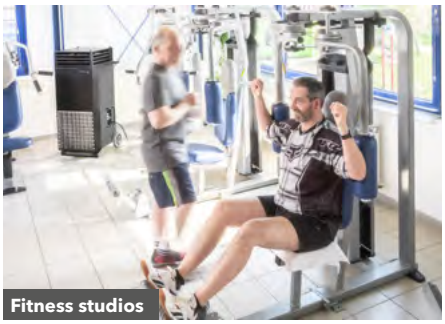
Rent our TAC high-performance air purifiers by the day, over the weekend or for the long term. In addition, we also offer you top financing conditions as part of the TAC business leasing. We would be happy to advise you personally and calculate the best offer for you: Tel. +49 2452-962-730

Ask for our
special conditions
for schools and
daycare centres
Eligible investments according to the funding guidelines of the federal states


Schools


Catering trade


Offices


Fitness studios


Hotels


Industry

Advantages not only in detail – but in the sum of the details

High versatility due to mobility

A decisive advantage of the TAC over stationary, large floor-mounted appliances is its versatility. Thanks to the carriage design, the "plug & play" air cleaner can be used for both mobile and stationary applications. For the installation sites can often change and effective hygiene concepts therefore require a high degree of flexibility. The TAC is a true mobile device, stable when standing and yet always quick and easy to set up exactly where protection is needed. Set up and reposition instead of assemble and convert.

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.

Fully automatic operation by individual programming

Thanks to the fully programmable touch display, the TAC V+, TAC M and TAC XT can be adapted individually to your operating, resting and decontamination times, so that you no longer have to worry about anything.

Large clean air capacity and high pressure

Up to 2,200 m^3/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 HighFlow metal lamellae high-temperature filters "made in Germany", specially developed for TROTEC, with flow-optimized high-tech filter material are used. Each quality filter is tested and certified individually.

Usage-related, sensor-controlled filter change indicator

The integrated filter change indicator enables maximum service life of the prefilters and main filters used with a consistent filter efficiency. This way, premature expensive changes can be avoided as well as too long periods of use resulting in decreasing efficiency (does not apply to TAC BASIC).

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

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-resistant metal housing. Specially designed for the use in environments where many people come together, work, play, learn or celebrate. Optionally also available as tamper-proof versions for schools, daycare centres, etc.

Air is our most important commodity. Therefore, effective infection control is not an option, but a duty – whether customers, employees, patients, guests, children or whoever else is concerned.

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! The reliable and scientifically proven inactivation of viruses and bacteria by heat (15 minutes at about 100 °C) provides an important added value where hygiene and safety are concerned. Thermal filter decontamination is freely programmable and is effected in a fully automatic fashion, e.g. once a week outside business or school hours. Due to the short treatment duration and the low energy input (altogether approx. 1 kWh), the room temperature does not increase. The effectiveness of thermal filter decontamination and regeneration has been scientifically confirmed by the Fraunhofer Institute, among others.

Thermal filter regeneration for more hygiene

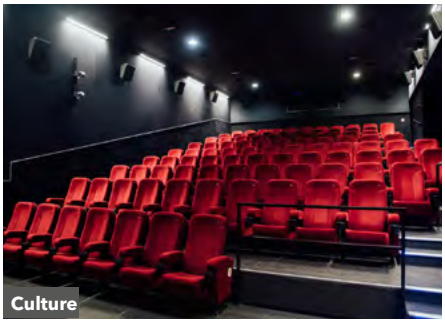
Automatic self-cleaning of the filter to provide for a longer filter lifetime and to prevent bacteria, mould, biofilm and the formation of odours resulting therefrom. The process of filter regeneration takes place at about 100 °C in parallel to the thermal decontamination process and is recommended from a scientific point of view, since most bacteria and microorganisms are only inactivated at a temperature of approx. 100 °C. To provide for longer filter lifetimes and an improved filter hygiene, and to prevent filter odour.

Thermal filter treatment for lowest maintenance costs

The two unique protection features almost pay for themselves: Because thermal decontamination also increases the filter lifetime, a new HEPA 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!


Medical practices

Retail sector


Culture

Additional functions of
TAC XT 18 and TAC XT 27

Room air heating

Heating large rooms quickly and efficiently without producing a draught – with or without H14 HEPA virus filtration. In contrast to heating devices whose air current is horizontally focused, the TAC XT vertical heaters provide pleasant warm air more efficiently with vertical heat distribution. The fan performance, outlet temperature, room temperature and other parameters can be easily configured by using the touchscreen or controlled via an external thermostat. Connection to fabric air distributors or existing ventilation systems is also possible.

Thermal disinfection

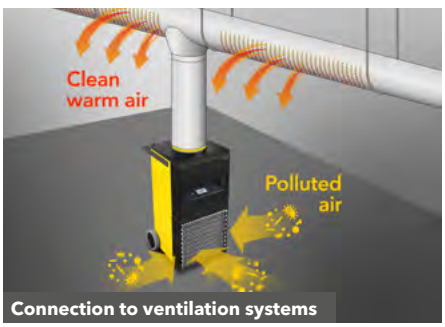
With a surface target temperature adjustable up to 75 °C, the two TAC XT models are effective against SARS coronaviruses, influenza and hepatitis viruses on surfaces, walls, cupboards, beds, tables, chairs etc. – for mobile use, environmentally friendly, without chemicals, odourless and free of allergens. The hot air disinfection entirely avoids "blind areas" as they appear in practice during labour-intensive manual cleaning with disinfection chemicals. The rooms can be used immediately after decontamination.

Pest control

Thermal pest control with efficient programme automation: incrementally increasing heating-up phase, effective disinfestation cycle with room/surface target temperature of up to 75 °C and automatic cooling phase. Highly effective against all types of pest species in their development stages (egg, larva, pupa, imago) – without using insecticides. The rooms can be used immediately after disinfestation.


Organic farms


Medical tents / vaccination centres



Connection to ventilation systems

NOTE: Even our high-performance air purifiers cannot prevent the risk of a possible direct droplet infection that is effected over a short distance by strong coughing, sneezing or loud conversations. In addition to using the air cleaner, **optimum all-round protection** is provided by airing at regular intervals, maintaining a sufficient distance to other people, wearing masks, or installing acrylic glass partitions with an aerosol protective edge as well as regularly washing and disinfecting the hands. All these measures taken together offer the most effective infection protection. Please observe furthermore that the **CO_2 concentration in the room air is not considered an infection risk,** since there is no correlation between the CO_2 concentration and the viral and bacterial load. Even with a low CO_2 concentration there is a risk of infection.

High-performance filtration: H14 means maximum HEPA filter efficiency

The TAC series can "effectively separate" viruses

HEPA is not HEPA – it's the filter class that is relevant! There are various standards for high-efficiency particulate air filters. The most important one is ISO 29463, which is based on the EN 1822 filter standard. Only **H14 HEPA HighFlow** and **ISO45H high-performance filters** like they are used in the TAC V+ and TAC M can even filter the smallest aerosol particles carrying viruses (0.1–0.2 µm) from the room air, and this at a percentage of **99.995 %**. Therefore, H14 filters complying with EN 1822 feature a filter performance that is ten times higher than H13 HEPA filters with 99.95 %, and even a filter performance that is 1,000 times higher than E11-EPA standard air filters with only 95 %, as they are used in most air cleaners!

Why does it have to be an H14 HEPA filter (EN 1822)?
For more information on this, please read an original excerpt from the **Technical Report on the subject of "Use of HEPA filters in interior ventilation systems..." by the Federal Institute for Occupational Safety and Health (BAUA):**

"The HEPA filters should at least comply with class H14 in compliance with DIN EN 1822-1. On the basis of the risk assessment, it may also be possible to use H13 filters if there are special reasons, for example if ***exclusively*** *bacteriological work is performed. In this example, an H13 filter is sufficient, since the separation rates of H13 and H14 filters in the size range bacteria do not differ significantly.* ***Significant differences of HEPA filters can be found in the MPPS range (Most Penetrating Particle Size) of the filters, which is approx. from 0.1–0.3 µm and for example corresponds to the size of most viruses****."*

ATTENTION! Filters of classes E10, E11, E12 are not HEPA filters in accordance with EN 1822, although they are often called HEPA filters in the advertising. The designation "HEPA" only applies to classes H13 and H14 or ISO35H and ISO45H.

When you buy filters, therefore always make sure that they are provided with the filter certificates approved in the EU. Here either the filter standard (ISO) or the filter class (EN) must be definitely indicated. Be careful with other filter standards or the statement that they are comparable to the EN or ISO standard.

Furthermore it must be defined up to which air flow rate this classification reaches. The filter may often indicate a max. air flow rate of 500 m^3/h, however, in the next line you'll find H13 HEPA filter performance (as per EN 1822) up to 280 m^3/h. If you then actuate the fan at its highest stage with 500 m^3/h to achieve the circulation rates required, the filter merely features an efficiency of class E10 with 85 % or, in the best case, E11 with 95 %, a typical sham. 99.995 %, 99.95 %, 95 %? This may not sound like a lot, but exactly these 3 places after the decimal point make the big difference between E10, E11, H13 and H14 filters – up to 3,000 %! Virus-carrying aerosol particles are extremely tiny. And "virus filters" are there to "filter out viruses".

This is why the TAC air cleaners not only filter out 100 % of the large, medium-sized and small aerosol particles, but in particular also 99.995 % of the smallest ones from the room air, which are even not filtered out by FFP2 and FFP3 respiratory masks.

Maximum safety is exclusively provided by an H14 filter complying with EN 1822!
In the table below we have compared the filtration efficiency of the different filter classes for you.

Comparison of the filter classes: From 100,000 particles/aerosol particles of the size most difficult to separate 0,1–0.3 µm (MPPS) the following number is not retained

Filter standard, filter class*	Separation	Number of particles not separated	Lower filter performance than H14**	Explanation
E10 / –	≥ 85 %	15,000 of 100,000 particles	3,000 times** lower than H14	Only EPA classification, however, is often designated as HEPA
E11 / ISO15E	≥ 95 %	5,000 of 100,000 particles	1,000 times** lower than H14	
E12 / ISO25E	≥ 99.5 %	500 of 100,000 particles	100 times** lower than H14	
H13 / ISO35H ***	≥ 99.95 %	50 of 100,000 particles	10 times** lower than H14	Genuine HEPA with individual certificate
H14 / ISO45H ***	≥ 99.995 %	5 of 100,000 particles	Reference	Genuine HEPA with individual certificate

This maximum HEPA filter quality is used in the TAC series from TROTEC

H14 HEAT RESISTANT HEPA

* In compliance with filter standard EN 1822, filter class ISO 29463

** Interpretation EXAMPLE:
An E10 filter features a filter performance that is 3,000 times lower than an H14 filter complying with EN 1822.

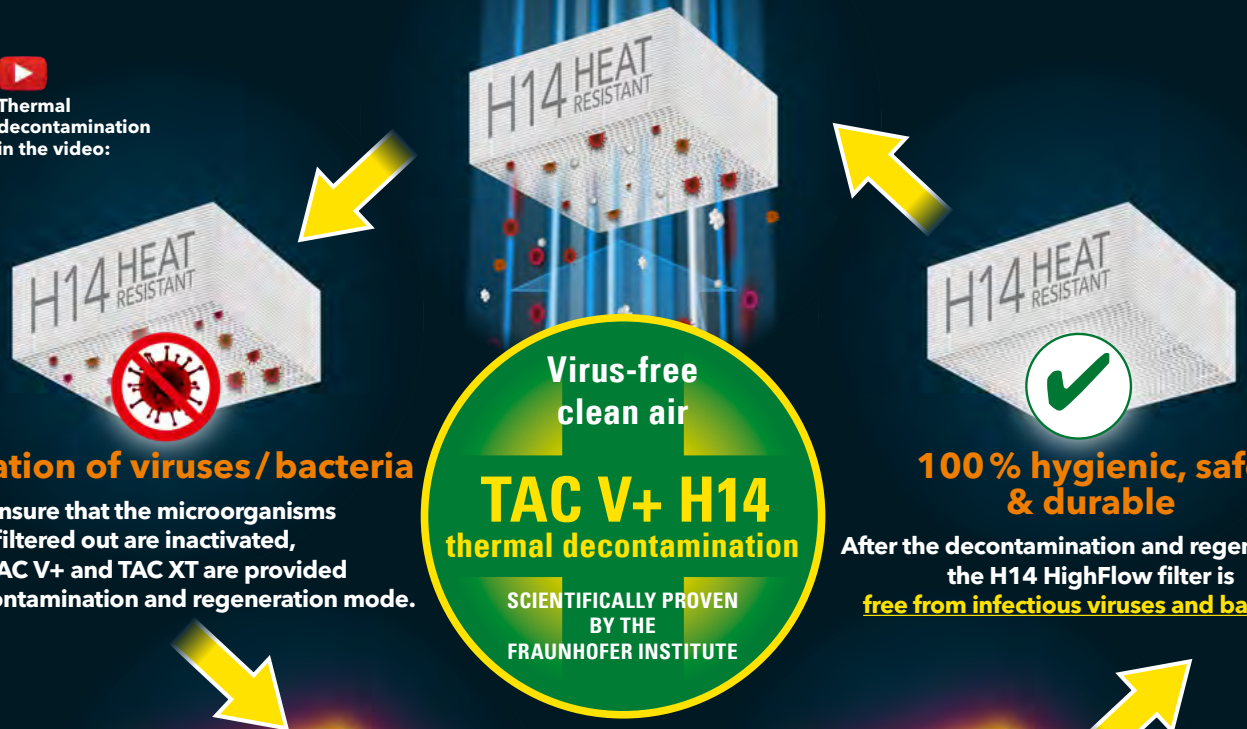
*** PLEASE NOTE: Each HEPA filter certified in accordance with EN or ISO standard must show the test standard (filter class), filter efficiency and max. air flow rate with the corresponding filter efficiency specified. In addition, an individual certificate must be enclosed with each filter, verifying the individual test of the corresponding filter with stamp and personal signature. All answers to questions regarding the issues of air filters, filter quality and differences in performance can be found at **uk.trotec.com/filter-know-how**

Exclusively with TAC V+ and TAC XT:
Thermal decontamination and filter regeneration

Effective virus and bacteria filtration with the maximum HEPA filter class

In the course of air purification viruses and bacteria are bound in the H14 HighFlow filter (EN 1822).

Thermal decontamination in the video:

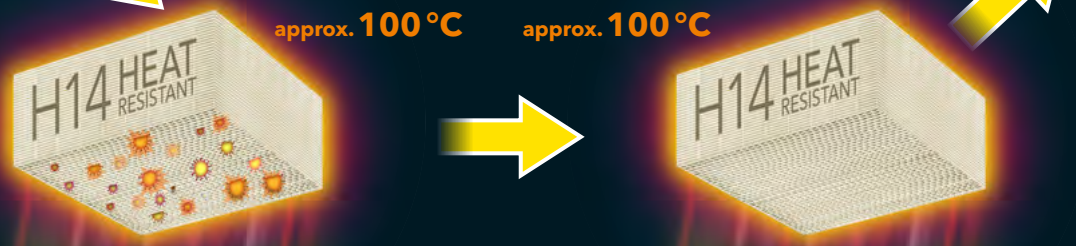


Inactivation of viruses / bacteria

To ensure that the microorganisms filtered out are inactivated, the TAC V+ and TAC XT are provided with a decontamination and regeneration mode.

100 % hygienic, safe & durable

After the decontamination and regeneration, the H14 HighFlow filter is free from infectious viruses and bacteria!



Thermal decontamination

The airbag for your safety

In the TAC V+ and TAC XT the H14 HighFlow filter is automatically heated to about 100 °C, since only temperatures of approx. 100 °C destroy viruses, bacteria and microorganisms in the filter.

Filter regeneration

For perfect filter hygiene and optimum filter lifetimes

Thermal regeneration extends the filter lifetime and prevents bacteria, mould, biofilm and filter odours.

The 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 this exclusive decontamination and regeneration technology from TROTEC:

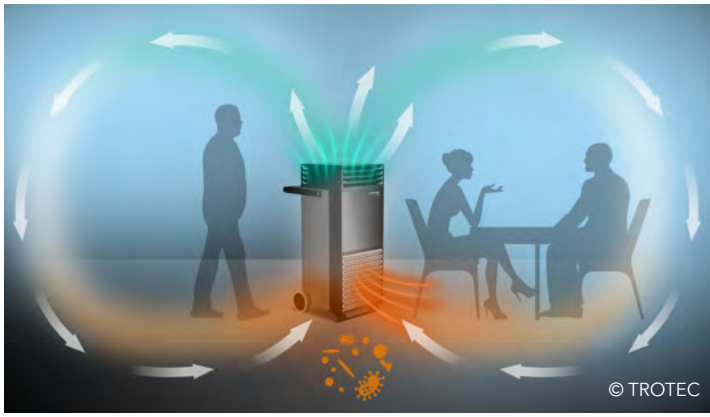
Separated microorganisms are thermally destroyed in the filter. The exclusive added value with regard to safety and hygiene.

- Thermal filter decontamination is freely programmable and is effected in a fully automatic fashion, e.g. at night, depending on the application period, regularly once a week outside business or school hours. 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 about 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 3–5 minutes before use. Therefore, thermal decontamination and filter regeneration at approx. 100 °C offer you more safety, hygiene and a long filter lifetime.

Large clean air capacity: A high performance for effective air purification

Extra safety: the TAC series has "the power to quickly dilute the room air"

Time is the most important factor for reducing the indirect risk of infection. And we're talking about the shortest time possible for quickly and effectively diluting the infectious aerosol accumulations that are for example generated by a super-spreader at their source. This requires large volumes of clean air and a high fan performance to establish an optimized flow geometry. After all, the amount of virus-free air supplied is decisive for the occurrence of infection. This is what the TAC air cleaners offer: with a large clean air volume, an optimum flow geometry and a fan performance that is more than high enough, a circulation flow is established in the room, ensuring that the virus concentration in the room air is first diluted and is then effectively filtered with cleaned air. Only sufficiently high circulation rates or virus-free air volumes reduce the risk of infection, this is scientifically proven. Where the effective treatment of the risks of infection by aerosol particles is concerned, high circulation rates **(at least 6 times the room volume or even more, if possible)** and therefore large volumes of cleaned air are indispensable – despite promises to the contrary made by other providers advertising "single to threefold air change rates" per hour as sufficient.



This is how the air purification process works

The room air that is contaminated with viruses is diluted with virus-free air and pushed towards the floor by means of a kind of "air roll effect". The TAC air cleaner draws in large volumes of the contaminated air near the floor. The clean, virus-filtered clean air is returned to the room towards the ceiling. 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).

Clean, healthier air: more protection against indirect infection

The better the optimum airflow, the larger the room volume and the higher the air circulation and therefore the circulation rate, the lower is the concentration of aerosols in the room air, which also reduces the risk of infection. The circulation rate and the virus-free clean air volume at the same time determine the safety level within the room. Since even with an increased circulation rate, room air can never achieve a completely virus-free state if the room contains infected persons – you can merely establish a mixture of filtered air and virus-carrying aerosols permanently generated by breathing.

Therefore the following applies: The higher the circulation rate and the more filtered air per person is generated, the more the virus concentration in the room air is diluted. This results in a decreasing risk of indirect infections.

Infection control: Calculations for air changes / circulation rates* for TAC V+ and TAC M

Max. air volume flow for the respective filter class:

With a HighFlow H14 HEPA filter integrated as standard — **H14** up to 1,200 m³/h — **H13** up to 1,800 m³/h

With an optional Ultra-HighFlow H14 HEPA filter — **H14** up to 2,000 m³/h — **H13** up to 2,200 m³/h

Filter efficiency class certified in compliance with DIN EN 1822

Fields of application	Circulation rate* / Number of air changes (min.)	Maximum room size in m³	
		Filter class H14	Filter class H13
Conference rooms, office spaces, business premises, schools, daycare centres, restaurants, salons, workshops, fitness studios, choir rooms ...	**Circulation rate* of at least 6 times per hour.** With a high density of persons or high activity, a minimum circulation rate of **8 times*** is recommended.	standard **200 m³** **	standard **300 m³** ***
		Ultra-HighFlow **333 m³** **	Ultra-HighFlow **360 m³** ***
Therapy rooms, gymnastics rooms, bars, discotheques, marquees, call centres ...	**Circulation rate* of at least 8 times per hour.** With a high density of persons or high activity, a minimum circulation rate of **8 to 10 times*** is recommended.	standard **150 m³** **	standard **255 m³** ***
		Ultra-HighFlow **250 m³** **	Ultra-HighFlow **275 m³** ***
Hospital wards, medical practices, waiting rooms ...	**Circulation rate* of at least 12 times per hour.** With a high density of persons or high activity, a minimum circulation rate of **12 to 15 times*** is recommended.	standard **100 m³** **	standard **150 m³** **
		Ultra-HighFlow **166 m³** **	Ultra-HighFlow **183 m³** **

* Air change is an established term in the field of ventilation technology, which, however, is misleading, since the technical and colloquial meanings do not comply with each other. The air change in the unit (1/h) specifies the multiple of the room volume that is supplied to the room per hour in the form of filtered or fresh air. In the field of displacement ventilation (e.g. air pump), this rate exactly corresponds to the multiple of the room volume, this, however, does not apply to mixing ventilation (room air cleaner, open windows, interior ventilation system), since air that has already been partly filtered/exchanged is filtered/exchanged again. With regard to the viral load in the room this means that room air cleaners, free ventilation and interior ventilation systems are not able to establish completely virus-free room air if persons infected continuously breathe out viruses into the room. The virus concentration is lower when the number of air changes is high, though. Therefore the risk of infection decreases with an increasing number of air changes. With the same virus-free air volume, it is not relevant whether the viruses are separated by room air cleaners (air circulation, circulation rate) or whether they are led out of the room through windows or by means of interior ventilation systems (air change, air change rate). But room air cleaners have the clear advantage that they are more beneficial as regards the energy consumption, and that they provide for a constant air change, irrespective of the wind/temperature conditions or of the window size. These data do not apply to rooms the volume of which is exceptionally large in relation to the number of persons, e.g. churches, exhibition halls, etc.

** If used actively and with a high density of persons these values may deviate. The above-mentioned data is based on scientific recommendations established on the basis of the current infection situation. Your specific room situation may possibly require higher or lower air change rates in the context of your individual hygiene concept. We're happy to be of service.

*** Generally, we recommend using the air cleaners TAC V+ and TAC M with the serial filter in H14 filter stages with a maximum 1,200 m³/hour, especially in rooms with a high density of persons, to ensure reliable separation of viruses and bacteria. Only with an explicit approval in specific hygiene concepts or for quick separation (short and intense filtration) during break times, operation can take place in H13 filter stages up to maximally 1,800 m³/hour. Compared to the serial filter, the optionally available Ultra-HighFlow filter helps to implement a plus of 66 % of H14 air volume with an electricity consumption that is 30 % lower.

Uncompromisingly flexible and immediately usable everywhere

The high-performance air purifiers of the TAC series are equipped with wheels and a push handle. This means they can be moved and used wherever they are needed. The framework conditions can change constantly and effective hygiene concepts require a high degree of flexibility in daily implementation. If, for example, classrooms, offices, studios or other rooms need to be moved, then the TAC air cleaners can be quickly repositioned or completely relocated to other rooms. By only one person and without additional installation effort. If desired, the discharge height can also be flexibly adjusted using attachments.

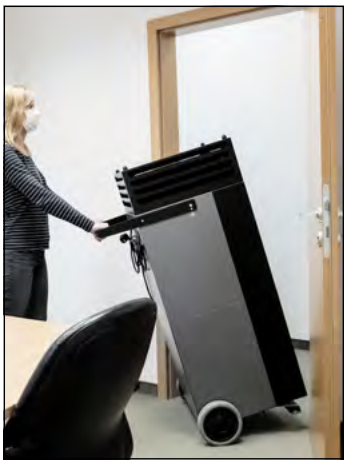
Another example: For school parties, in theatre groups, club and company celebrations or other events, a higher clean air volume is temporarily required to ensure air exchange due to the larger rooms and large number of people. No problem with the mobile TAC air cleaners in carriage design, as they can be flexibly positioned in any number and at any place.

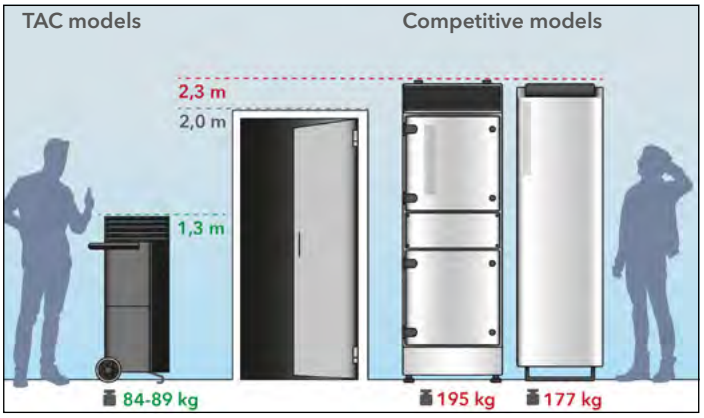
Dimensions and weight are important criteria

Set up and reposition instead of assemble and convert. Large, conventional floor-mounted appliances usually have a considerable disadvantage compared to TAC devices: once they have been set up at their place of use, they remain there and can only be relocated with great difficulty – in other words, stationary floor-mounted appliances. The delivery alone, requiring a lifting platform, becomes an organisational challenge. Quite apart from the fact that such heavyweights can only find their way through doors with common structural dimensions with great effort and the help of several people, and that these devices often do not fit into the lift due to their dimensions.

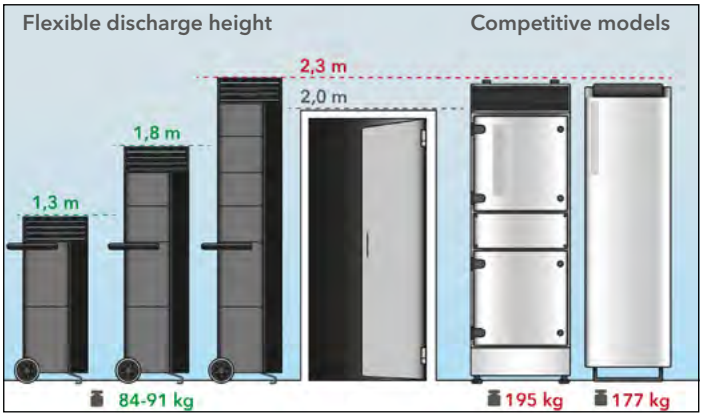
Trotec's high-performance air purifiers are cleverly designed and can always be used exactly where they are needed ("plug & play").

The extremely stable, robust and scratch-resistant metal housing was specially designed for the use in environments where many people come together, work, play, learn or celebrate. In a flexible, mobile and modular fashion, the exact number of TAC air cleaners as requested by the hygiene concept can be provided. Variably adapted to the staff density, safety level, room size and room geometry. The high mobility of the TAC is a decisive advantage over stationary, large floor-mounted appliances. Also ideal for trade fair organizers, event service providers, gastronomy or landlords.





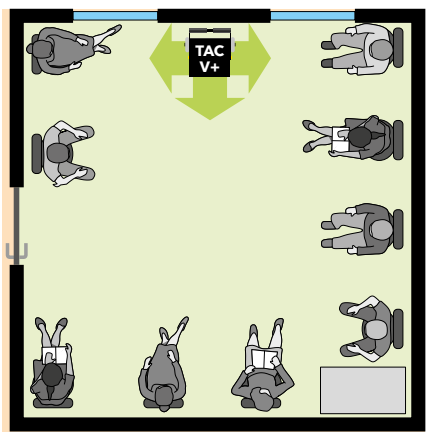
The high-performance air purifiers of the TAC series are significantly smaller and more mobile than competitive devices – with a comparable performance.



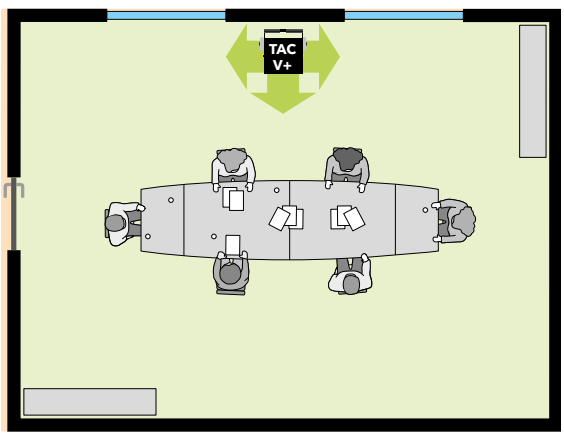
The FlowExtender Silence+ elements can be mounted underneath the blowing-out tower to raise the discharge position and/or to additionally reduce the sound level by several dB.

Only sufficiently high circulation rates, adequate volumes of clean air per person and proper positioning of the devices with respect to the air flow and routing provide for a sufficient level of protection against a risk of indirect infection.

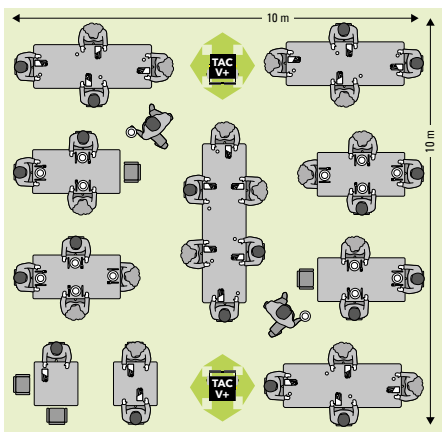
Installation in the waiting room of a medical practice



Installation in a conference room



Installation in a restaurant or canteen



TAC V+, TAC M, TAC ECO: Technical data by comparison

Properties	TAC V+	TAC M[1]	TAC ECO[1]	TAC BASIC[1]
Prefilter	**F7 (EN 779:2002)**, ePM10 85 % (ISO 16890)		**G4 Z-line (EN 779:2002)**	
HEPA filter	**TROTEC HEPA H14 HighFlow Heat Resistant filter, EN 1822** Fully encapsulated **H14 HighFlow metal lamellae high-temperature filter "made in Germany"** (optionally also as Ultra-HighFlow filter). Each filter is tested and certified individually.		**TROTEC HEPA-H14, EN 1822** (standard minipleat) Each filter is tested and certified individually.	
Air volume with H14 filter **Max. air volume** in filter class (approx.)	H14 HEAT RESISTANT HEPA HIGHFLOW FILTER Standard: **HighFlow H14 HEPA filter:** **H14** ≤ 1,200 m³/h **H13** ≤ 1,800 m³/h		**Standard:** **H14 HEPA filter:** **H14** ≤ 1,000 m³/h **H13** ≤ 1,600 m³/h	
Max. air volume in filter class (approx.)	H14 HEAT RESISTANT HEPA ULTRA HIGHFLOW FILTER **Optional:** **Ultra-HighFlow H14 HEPA filter:** **H14** ≤ 2,000 m³/h **H13** ≤ 2,200 m³/h for 66 % more H14 air volume, 30 % less energy consumption and up to 8 % lower noise level		**Optional:** **H14 HEPA filter** **ECO-High Flow:** **H14** ≤ 1,800 m³/h **H13** ≤ 2,200 m³/h	
FlowMatic control	**Constant clean air volume flow, constant circulation rates** across all air volume stages, also with increasing filter contamination. Air volume adjustable in m³/h.		—	
Filter change indication	Usage-related, sensor-controlled **filter change indicator** for the prefilter (F7 / G4) and HEPA filter. The filter lifetimes can thus be extended.			—
HEPA filter change interval	approx. **2–3 years** (depending on the application[2] and with regular thermal decontamination)	approx. **1–2 years** (depending on the application[2])	approx. **1 year** (depending on the application[2])	max. **1 year**[3]
Safety and filter hygiene: **Thermal decontamination and reconditioning of the filter at approx. 100°C.** 15 min. heating-up phase / 15 min. decon-phase (altogether 30 min.)	**Time freely programmable,** the thermal decontamination process takes place **fully automatically**, usually once a week at night or outside business or teaching hours. Thermal decontamination and filter regeneration **can be switched off** temporarily or even constantly as required. Due to the short treatment duration (15 min.) and the low energy input (altogether approx. 1.0 kWh per cycle), the room temperature does not increase by thermal decontamination.	**No thermal decontamination and reconditioning of the filter**	**No thermal decontamination and reconditioning of the filter**	
Mains connection / **Ø power consumption**	**220–240 V 50 / 60 Hz** **0.16 kW**[4] **2.5 kW** (short-term peak load, e.g. once a week during thermal decontamination)	**220–240 V 50 / 60 Hz** **0.16 kW**[4]	**220–240 V 50 / 60 Hz** **0.16 kW**[4]	
Exemplary **Ø total energy consumption** (with 900 m³/h air volume)	**Without thermal decontamination** **approx. 1.6 kWh per day / approx. 35 kWh per month**[4] **With thermal decontamination** **approx. 1.8 kWh per day / approx. 39 kWh per month**[4] with thermal decontamination once a week	**approx. 1.6 kWh per day / approx. 35 kWh per month**[4]	**approx. 1.6 kWh per day / approx. 35 kWh per month**[4]	
Weight	**89 kg** (incl. filter)	**84 kg** (incl. filter)	**84 kg** (incl. filter)	**85 kg** (incl. filter)
Control panel	**Programmable, USB updateable touch display with PIN-protected lock function**		**Manual control panel** (6-step switch)	
Sound pressure level with sound protection hood (approx.)[5]	HighFlow filter: **33 dB to 64 dB** Ultra-HighFlow filter: **33 dB to 62 dB**		H14 HEPA filter: **33 - 63 dB** ECO-HighFlow filter: **33 - 61 dB**	
Dimensions (L x W x H)	With wheels and handle: **690 x 610 x 1,300 mm to 2,300 mm**[6]			**510 x 610 x 1,300 to 2,300 mm**[6]
Connection plug	**CEE 7/7, H07RN-F**			
Optional accessories	**Sound protection hood, FlowExtender Silence+, flow stop cover, manipulation protection**			
Special designs	**4 swivel castors (75 mm or 100 mm), feet, presence detection**		Presence detection	

[1] However, for safety and hygiene reasons and for a significant extension of the HEPA filter lifetime, we generally recommend the TAC V+ with thermal decontamination and filter regeneration.

[2] In very dusty environments, shorter filter change intervals are also possible.

[3] Due to the missing sensor-supported filter change indicator, we recommend changing the filter every 6 months for reasons of safety.

[4] for a 5-day week with 10 h operating time per day and 900 m³ air volume

[5] at a sound pressure level according to ISO 11201, 1 m distance, in db(A)

[6] depending on the FlowExtender Silence+ attachment

TAC V+ and TAC M

Digital, updateable touch display

All functions conveniently adjustable via touch display

The high-performance air purifiers TAC V+ and TAC M offer an intuitive, convenient touch display that can be updated via USB. The following functions can be set in the clearly arranged menus:

- Air volume flow in m³/h
- Operating mode
- Display lock with PIN protection
- Outlet temperature
- Timer operation
- Weekly timer
- Operating hours counter
- Filter/service status
- Language selection DE/EN/FR
- Updateable via USB

Exclusively with TAC V+:

- **Thermal decontamination**
- **Filter regeneration** (both can be adjusted individually or fully automatically)

Colour variants

Stainless steel for hygienic areas — **TAC V+ only**

Basalt grey, bronze, White, Yellow — **TAC V+ and TAC M**

TAC ECO / TAC BASIC

Manual control panel TAC ECO

Control panel TAC ECO:
- On/off switch
- 6 air volume stages
- Indicator lights for prefilter and HEPA filter

Control panel TAC BASIC:
- On/off switch
- 6 air volume stages

Colour

Light grey — **TAC ECO**

Light grey — **TAC BASIC**

Optional accessories and equipment details

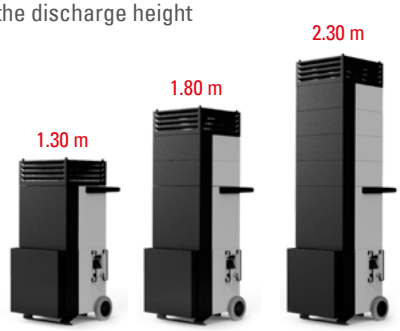
Dimensions (incl. wheels and handle)
TAC V+, TAC M, TAC ECO:

Optional sound protection hood

Dimensions (without wheels and handle)
TAC BASIC:

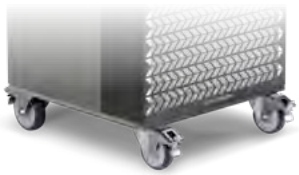
Optional sound protection hood

FlowExtender Silence+:
- Additional silencer approx. 3 dB
- Spacer frame, 50 cm, for variably increasing the discharge height

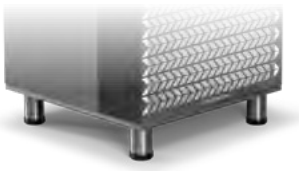


Optional flow-stop cover
e.g. for wall installation

Special model 4 swivel castors (standard for TAC BASIC)



Special model with feet



Manipulation protection

TAC XT 18, TAC XT 27: Technical data by comparison

Properties	TAC XT 18	TAC XT 27
Heating capacity	**18 kW**	**27 kW**
Connection plug	**2 x CEE 16 A** (9 kW)	**CEE 32 A** (18 kW), **CEE 16 A** (9 kW)
Mains connection	**2 x 380–480 V 50 / 60 Hz**	**2 x 380–480 V 50 / 60 Hz**
Weight	**without HEPA filter: 92 kg** **with HEPA filter: 102 kg**	**without HEPA filter: 96 kg** **with HEPA filter: 106 kg**
Prefilter	**F7 (EN 779:2002)**, ePM10 85 % (ISO 16890), **G4 Z-line (EN 779:2002)**	
HEPA filter	**TROTEC HEPA H14 HighFlow Heat Resistant filter, EN 1822** Fully encapsulated **H14 HighFlow metal lamellae high-temperature filter "made in Germany"** (optionally also as Ultra-HighFlow filter). Each filter is tested and certified individually.	
Air volume with H14 filter **Max. air volume** in filter class (approx.)	H14 HEAT RESISTANT HEPA HIGHFLOW FILTER — Standard: **HighFlow H14 HEPA filter:** **H14** ≤ 1,200 m³/h **H13** ≤ 1,800 m³/h	
Max. air volume in filter class (approx.)	H14 HEAT RESISTANT HEPA ULTRA HIGHFLOW FILTER — **Optional:** **Ultra-HighFlow H14 HEPA filter:** **H14** ≤ 2,000 m³/h **H13** ≤ 2,200 m³/h for 66 % more H14 air volume, 30 % less energy consumption and up to 8 % lower noise level	
FlowMatic control	**Constant clean air volume flow, constant circulation rates** across all air volume stages, also with increasing filter contamination. Adjustable air volume stages.	
Filter change indication	Usage-related, sensor-controlled **filter change indicator** for the prefilter (F7 / G4) and HEPA filter. The filter lifetimes can thus be extended.	
HEPA filter change interval	approx. **2–3 years** (depending on the application* and with regular thermal decontamination)	
Safety and filter hygiene: **Thermal decontamination and reconditioning of the filter at approx. 100°C.** 15 min. heating-up phase / 15 min. decon-phase (altogether 30 min.)	**Time freely programmable**, the thermal decontamination process takes place **fully automatically**, usually once a week at night or outside business or teaching hours. Thermal decontamination and filter regeneration **can be switched off** temporarily or even constantly as required. Due to the short treatment duration (15 min.) and the low energy input (altogether approx. 1.0 kWh per cycle), the room temperature does not increase by thermal decontamination.	
Control panel	**Programmable, USB updateable touch display with PIN-protected lock function**	
Sound pressure level with sound protection hood (approx.)**	HighFlow filter: **42 dB to 72 dB** Ultra-HighFlow filter: **41 dB to 70 dB**	
Dimensions (L x W x H)	With wheels and handle: **690 mm x 610 mm x 1,300 mm to 2,300 mm**[3]	
Optional accessories	**Sound protection hood, FlowExtender Silence+, flow stop cover, DualHeat blowing-out tower, attachment hood for hose connection, hygrostat HG 125, adapter CEE 32A/CEE 16A with fuse**	
Special designs	**4 swivel castors (75 mm or 100 mm), feet, stainless steel version for hygienic areas, presence detection**	

[1] In very dusty environments, shorter filter change intervals are also possible.

[2] at a sound pressure level according to ISO 11201, 1 m distance, in db(A)

[3] depending on the FlowExtender Silence + attachment

TAC XT multi air handler

Digital, updateable touch display

All functions conveniently adjustable via touch display

The TAC XT multi air handler offer an intuitive, convenient touch display that can be updated via USB. The following functions can be set in the clearly arranged menus:

- Temperature
- Temperature holding time
- Air volume flow in m³/h
- Operating mode
- Display lock with PIN protection
- Outlet temperature
- Timer operation
- Weekly timer
- Operating hours counter
- Filter/service status
- Language selection DE / EN / FR
- Updateable via USB
- **Thermal decontamination**
- **Filter regeneration**
  (both can be adjusted individually or fully automatically)

Maximum versatility

Standard blowing-out tower for an even distribution of warm air

DualHeat blowing-out tower for an even distribution of warm air

DualHeat blowing-out tower turned for hose connection

DualHeat blowing-out tower with hose connection

The DualHeat blowing-out tower serves for a dual heating application: Firstly, for thermal treatment, directly positioned in the respective room, providing an equal 360° heat distribution. Secondly, for a connection to existing ventilation systems or textile air distribution systems. For this purpose, the DualHeat blowing-out tower (5) has already been equipped with a hose connection apparatus located at the bottom of the device. If required, the blowing-out tower can simply be turned and inserted into the TAC XT. This way, the connector side provides a hose connection with ∅ 300 mm.

The option to turn the DualHeat blowing-out tower offers maximum flexibility to all users who do not require HEPA air filtration. When used with a HEPA filter, the attachment hood for hose connection must be used.

Optional accessories and equipment details

Dimensions
(incl. wheels and handle)

Optional sound protection hood

FlowExtender Silence+:

- Additional silencer approx. 3 dB
- Spacer frame, 50 cm, for variably increasing the discharge height

Optional flow-stop cover
e.g. for wall installation

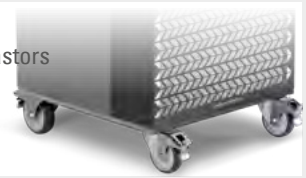
DualHeat blowing-out tower (simply turn for hose connection)

Colour variants

Yellow

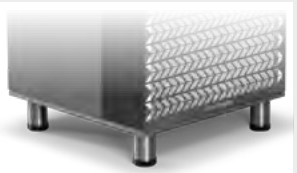
Stainless steel for hygienic areas

Special model with 4 swivel castors



Attachment hood for hose connection for use with HEPA filter

Special model with feet



Hygrostat HG 125

AirgoClean® One: The compact designer H14 air cleaner

Creating your climatic health resort: for smaller offices, medical practices, law firm or exclusive private rooms

The name says it all: AirgoClean® is Trotec's brand name for professional air purification in an upscale ambience. And here the AirgoClean® One is our clear number 1 and first recommendation for virus filtration and permanent air pollution control in conference rooms, waiting rooms, medical and veterinary practices, offices, law firms or in your home.

Design for high demands

Thanks to its classically stylish design, the air cleaner blends in elegantly with any living or working environment. High-quality materials and manufacturing make the difference to plastic models "made in China".

If safety is your top priority

The AirgoClean® One is a high-performance air purifier originally produced by Trotec, developed and manufactured in Germany according to the highest of quality standards, which houses only efficient branded components of the latest generation of technology supplied by leading component manufacturers. Each quality filter integrated is produced in Germany, tested and certified individually. As with the TAC V+, the effectiveness of the AirgoClean® One with its H14 DIN 1822 filter system has been scientifically proven by the University of the Federal Armed Forces in Munich.

AirgoClean® One – if premium is your standard

The AirgoClean® One is your guarantor for that reassuring "coming home feeling" when entering your own four walls, your office, law firm or medical practice. Enter. Close the door, take a deep breath, feel safe. Air pollutants, infectious viruses, germs or fine dust stay outside – all that remains inside is clean, filtered breathing air. Protect yourself and your environment with H14-filtered clean air that is 99.995 % free from dangerous air pollutants.

Maximum protection against airborne infections

The H14 filter removes airborne pollutants down to a size of 0.1 micrometres from the room air: bacteria and viruses, volatile organic compounds (VOC), dust mites, house dust, mould spores, activated carbon filter dander, fine dust, pollen (farina), animal odours (with optional activated carbon filter).

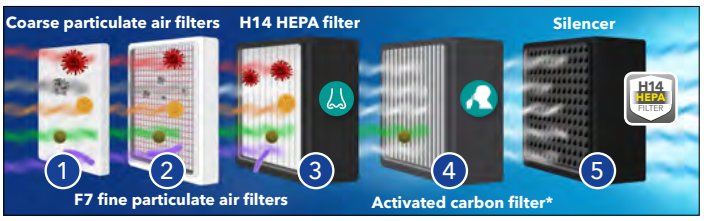
Performance, comfort and design forming a perfect trio

The AirgoClean® One not only impresses with its efficient air filtration, but also offers numerous comfort functions: e.g. room climate indication of humidity and temperature, air quality indication (VOC and fine dust PM2.5), night mode, turbo mode, automatic mode, remote control, timer function, consumption-based filter lifetime indication, PIN lock ...

Breathe healthier, work healthier, live healthier

Trotec offers the right air cleaner for every need and budget – both for commercial applications and for private use.

AirgoClean® One offers a multi-stage HEPA filter system certified according to EN 1822. An activated carbon filter (*) eliminating odours is optionally available.



Application-specific room size suitability of the AirgoClean® One		
SARS-CoV-2 virus filtration and general infection control (influenza, common cold, measels etc.)		H14
6 air changes for rooms sized up to	Maximum	40 m² / 100 m³
	Recommendation by Trotec*	23 m² / 58 m³
10 air changes for rooms sized up to	Maximum	24 m² / 60 m³
	Recommendation by Trotec*	14 m² / 35 m³
Suspended matter/fine particle filtration		H14
Fine dust, pollen, animal hair for rooms sized up to	Maximum	78 m² / 195 m³
	Recommendation by Trotec*	50 m² / 125 m³

* Usually, the maximum value is advertised as the "recommended room size". In order to achieve a good combination of air pollution control and background noise, the room sizes we recommend are based on a sound level of approx. 46 dB(A).

Air quality: Making good and poor room air values visible

Information with regard to CO_2 traffic lights, climate gauges, particulate matter, pollen and particle counters

TROTEC solutions not only allow you to generate clean air that is free from viruses, bacteria, particulate matter and pollen but also make the quality of the room air visible!

CO_2 traffic light, climate, particle and fine dust gauge for completely fresh room air: Our BQ air quality measuring devices indicate all important values at a glance.

The air quality monitor BQ30 should be an integral part of every classroom, waiting room, conference room, open-plan office and restaurant, since this environmental monitoring station shows you 5 key values for a good room air quality at a glance: in addition to the CO_2 load and the climate data for temperature and relative humidity, the pollution with particulate matter is also displayed in particle size PM2.5 or PM10. The CO_2 load is an important indicator for ventilation measures, and the particle sizes for particulate matter determined not only include respirable and often harmful particulate matter (e.g. by traffic load), but also pollen – e.g. important to allergy sufferers!

CO_2 value as an indicator of air quality

In rooms with a large number of people, CO_2 traffic lights can serve as a rough guide help to indicate good or poor air quality, since carbon dioxide (CO_2) is a reliable indicator of a poor air change. A CO_2 concentration of up to 1,000 ppm under normal conditions shows a hygienically sufficient air change. Already at a CO_2 value of 1,500 ppm, the ability to concentrate decreases noticeably, and headaches as well as fatigue or even drowsiness may be the result. With values above 1,000 ppm the room should be ventilated so that the values reach the range between 400–500 ppm again. CO_2 traffic lights can therefore reliably indicate whether, when, and in particular, for how long the room has to be ventilated.

IMPORTANT:
CO_2 values tell you nothing about the risk of infection!
The installation of CO_2 sensors does not mean that a CO_2 concentration lower than 1,000 ppm offers protection against an infection with SARS-CoV-2. The CO_2 concentration is not a measurand of the infection risk, since there is no correlation between the CO_2 concentration and a viral or bacterial load. Even with a low CO_2 concentration a risk of infection may be posed, for instance if infected persons enter a freshly aerated room.

In turn, however, CO_2 concentrations that are considerably or constantly higher than 1,000 ppm in schools, offices, restaurants and private households indicate an insufficient ventilation management with a potentially increased risk of infection. This does not only apply to window ventilation, but also to the operation of ventilation systems. Apart from the CO_2 values and the pollution with particulate matter, which is often harmful, from a hygienic point of view and independently of SARS-CoV-2, also the right relative humidity level between 40 and 60 % is important, on the one hand to prevent the mucous membranes from drying out when the air is too dry below 30 % RH, and on the other hand, to prevent mould growth with a high relative room humidity above 60 %. All this information can be found at a glance at the BQ30 room air monitor. Apart from the BQ30 you'll also find further professional air quality measuring devices such as the BQ20, PC200 or PC220 in the TROTEC range, which, In addition to room air control, can for example also be used to test filter systems.

CO_2 concentration and ventilation requirement

Ventilation requirement	CO_2 in ppm	Evaluation
	6,000	CO_2 concentration poses a health threat; load should only be there for a short time; further impairments occur
	5,000	Max. workplace concentration; limited time for persons to stay, max. 8 hours a day
	2,000	Indicator of an enhanced risk of infection due to an increased density of aerosol particles!
	1,500	Max. guideline for interior spaces; headaches, fatigue and drowsiness may occur
	1,000	Comfort level, still acceptable as regards air hygiene (as specified by Max von Pettenkofer)
	500–800	CO_2 concentration at harmless level for interior spaces
	350–450	Fresh, natural ambient air

BQ30

Note on positioning:
Position the device as far away as possible from windows and doors. It is best to set it up where the air is at its poorest quality.

BQ20

PC200
PC220

Product video
All information on the TAC V+ in this video

uk.trotec.com/tacv-plus-video

Product website
The official website of the TAC V+

uk.trotec.com/tacv-plus

OFFICES SCHOOLS
WAITING ROOMS
DAYCARE CENTRES
MEDICAL PRACTICES
HOTELS DISCOS SHOPS
CATERING TRADE
FITNESS STUDIOS
CONFERENCE ROOMS

Applications
sorted by areas of business

uk.trotec.com/tacv-plus-branches

Air cleaner FAQ
All answers to virus air filtration

uk.trotec.com/filter-know-how

TÖNNIES · METRO · RWTH AACHEN UNIVERSITY · Deutsches Rotes Kreuz · NATO OTAN · HESSEN · MAX-PLANCK-GESELLSCHAFT · FERRERO · Fraunhofer ISC

References
Satisfied customers report on the use of our air cleaners

de.trotec.com/tacv-plus-kunden

Online shop
Just order the TROTEC air cleaners online

de.trotec.com/virenfilterung-shop

The largest selection
of air cleaners for offices, practices and living spaces

uk.trotec.com/airgoclean

Useful additions to TAC air cleaners
Acrylic glass shields with an all-round aerosol protective edge

uk.trotec.com/protection

Airing or air purification?
Is ventilation really enough? All information on one thematic page:

uk.trotec.com/airchange

Solutions against fine dust
Fine dust is harmful to health. We inform you:

uk.trotec.com/fine-dust

Business leasing or rent
Lease or rent out TAC high-performance air purifiers at attractive conditions.

We would be happy to advise you personally and calculate the best offer for you.

You are interested in the TROTEC high-performance air purifiers?

Our air purification experts will be happy to be of service:
Phone: +49 2452 962-730 · info@trotec.de

Or visit us at our TROTEC STORE at Heinsberg, Germany. Here you can experience our air cleaners "live" in action and learn first-hand how the risk of a coronavirus infection can be reduced.

TROTEC
AT WORK.

TROTEC STORE · Industriestraße 56 · 52525 Heinsberg · www.trotec.de/store

TRT-BROSCHÜRE-TAC-HS-009-EN