Design H14 air cleaner AirgoClean® One

Clean, healthier room air for shops, offices, practices and your home

- ✔ **Made in Germany – the original from TROTEC**
- ✔ **Used successfully in schools, health departments, ministries and hospitals**
- ✔ **Eligible for funding: complies with all points of the German federal and state funding guidelines**
- ✔ **Scientifically proven effectiveness**

Breathe healthier, work healthier, live healthier

Feel safe and protected

Version 4

99 % of all infections occur indoors.
That's why infection control is a duty, not an option.

Air is our most important commodity.
Clean air is healthy – create your own "climatic health resort"!

TROTEC
AT WORK.

Because 99 % of all infections will continue to take place indoors in the future.
Breathe healthier, live healthier – air is becoming a megatrend for infection and health protection.

Clean, good air and a safe feel-good climate for your customers, guests, employees, patients or students become a duty and not an option.

Turn rooms into climatic health resorts!

A place where you feel safe and where you know that there is no danger from the air.

Because "good air" has never been as valuable as it is today, and that will not change tomorrow!

Invest in air.

Do you feel safe?
Do you want others to feel safe too?
But what about the air that surrounds us?

Take a deep breath in and out... because now it's getting exciting...

What happens if you spend some time indoors with other people? In schools, nurseries, at the gym or hairdresser, in restaurants, pubs or boutiques?

We guarantee:
everything you breathe in there certainly contains some oxygen... **but not only...**

Quite a bit going on in the air.

While there is always talk of dangerous outdoor air pollution, studies show that our indoor air is up to 100 times more polluted than outdoor air.

Infectious viruses, bacteria, spores, mites and allergens plan an aerial assault on our health with every breath. But that's not all, because every time you open doors or windows, it is not only oxygen entering the room but also fine dust and pollen, which are a burden for your body.

More than 95 % of airborne infections and allergic reactions have always occurred indoors. It was just never noticed to the extent that everyone is now becoming aware of in the pandemic. Just take a deep breath, and a selection of air stressors will have already entered your body. Just like that, with every breath you take. You have seen nothing, smelled nothing, felt nothing and tasted nothing.

But they're there.

A pure source of strength. Healthy air.

Pure, unpolluted air is the best and most valuable thing we can offer our bodies. Air is our most important commodity, the basis of our life and necessary for us to stay healthy.

Unfortunately, the air has given us little pleasure, especially during the last months, because the air quality is a cause for alarm in many rooms.

We breathe in aerosols all the time. In addition to viruses and bacteria, pollen, fine dust and allergens also take our breath away. Measles, colds, coughs, flu, allergic reactions and COVID are all carried towards us through the air. Then, the most luxurious air conditioner is useless because it is about cleaning the air effectively to provide for a healthy air balance.

So what to do?

Inhale safety.

Trotec offers a solution: the professional air cleaners of the TAC series and the AirgoClean® One.

Clean air is simply healthier and, if used purposefully, effectively protects against airborne infectious diseases – without any side effects.

Just healthy, clean air, without viruses, fine dust, allergens and bacteria. Even despite regular ventilation to let in fresh oxygen.

We can promise all of this if you stay in rooms where the **air is "healthily filtered" with a Trotec air purifier.**

Feel safe.

As one of the international market leaders in the production of filter devices for air filtration of suspended matter and viruses, Trotec develops mobile high-performance air purifiers for the prevention of SARS-CoV-2 infections.

No matter where you go – Trotec air cleaners operate for your protection and health all over the world.
Whether you are at the doctor's or in a restaurant. Whether in the daycare centre, at school, at the gym, optician or in the office.

We turn the room into a "climatic health resort" and invite you to experience healthy air wellness with every breath.

Come in, breathe in, and enjoy the moment.

"Climatic health resort. TAC inside" – if you get to see a sign or sticker like this, you can be sure to be safe.

You can be sure that there is no danger from the air.
Enjoy your coffee, your pizza or your shopping trip.
The secret behind this logo are people who are responsible for maintaining a good air quality. People who want children, customers, guests, patients and employees to be well taken care of.

In a reassuringly pure "air space".

Together with many people being responsible for air quality, we will establish "climatic health resorts".

Rooms in which you can stay without having to worry about your health. Our air cleaners of the TAC series and the Airgo-Clean® One are recommended by numerous leading research associations in order to reduce the airborne infection risk from virus-laden aerosol particles to a minimum. They are used worldwide by top companies, in schools, ministries and health facilities.

Treat your body with respiratory health, look out for "climatic health resorts" in your surroundings and enjoy your stay in fresh indoor air.

Healthy air 365 times a year. Breathing power 365 times a year. Enjoy this service yourself and provide it to others, too! Because effective infection and health protection is a duty and not an option.

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

Prof. Dr. Kähler
(University of the German Federal Armed Forces in Munich)

der Bundeswehr Universität München

References: Satisfied customers report on the use of our air cleaners
de.trotec.com/tacv-plus-kunden

*Note by TROTEC

AirgoClean® One: The compact designer H14 air cleaner

Clean, good air for a safe feel-good climate

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

Places where you feel safe that there is no danger from the air. Because "good air" has never been as valuable as it is today.

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 number 1 and first recommendation for professional virus filtration and effective 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 smaller shops and any living or working environment. High-quality materials and manufacturing make the difference.

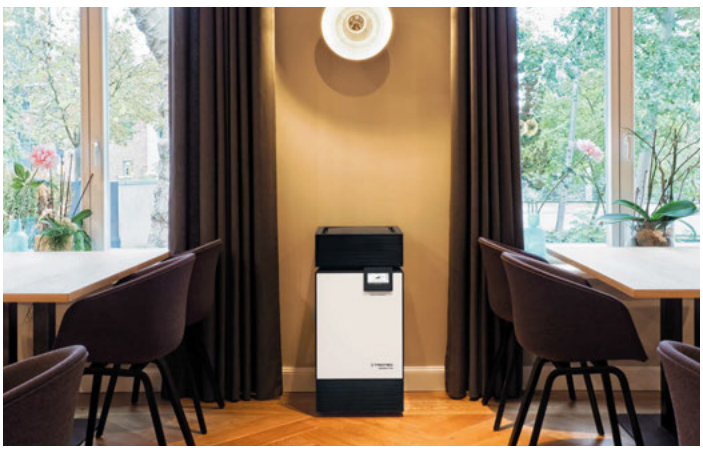
If safety is your top priority
The AirgoClean® One is a high-performance air purifier originally produced by Trotec, developed and manufactured in Germany according to the highest of quality standards, which houses only efficient branded components of the latest generation of technology supplied by leading 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.

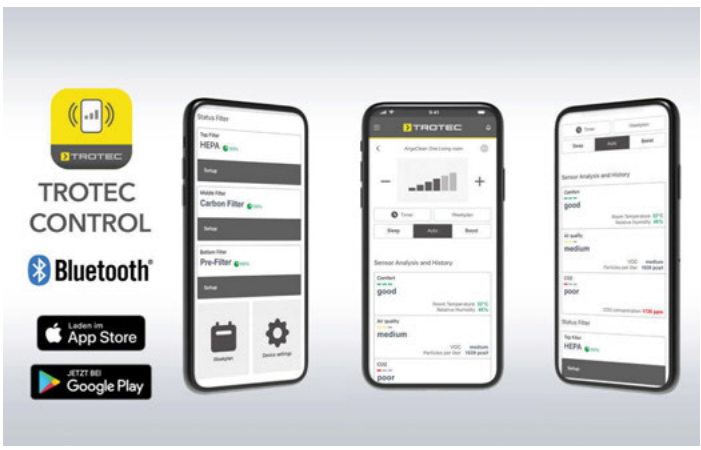
AirgoClean® One – if premium is your standard
The AirgoClean® One is your guarantor for that reassuring "coming home feeling" when entering shops, your own four walls, your office, law firm or medical practice. Enter. Close the door, take a deep breath, feel safe. Air pollutants, infectious viruses, 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.

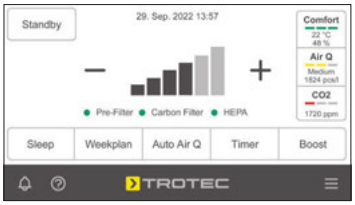
Maximum protection against airborne infections
The H14 filter removes airborne pollutants down to a size of 0.1 micrometres from the room air: bacteria and viruses, volatile organic compounds (VOC), dust mites, house dust, mould spores, activated carbon filter dander, fine dust, pollen (farina), odours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

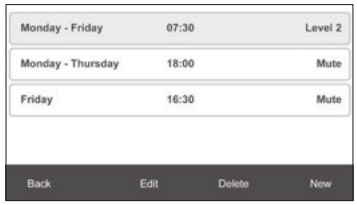
Performance, comfort and design forming a perfect trio
The AirgoClean® One not only impresses with its efficient air filtration, but also offers numerous comfort functions: e.g. room climate indication of humidity and temperature, air quality indication (VOC, CO_2 and ultra-fine particulate matter PM1), night mode, boost mode, automatic mode*, remote control, app control, timer function, consumption-based filter lifetime indication, PIN lock ...

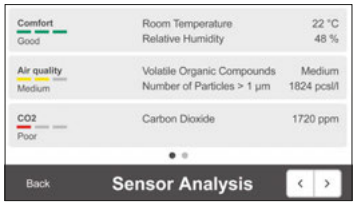
Breathe healthier, work healthier, live healthier
Things are not up in the air. Trotec offers the right air cleaner for every need and budget – both for commercial applications and for private use.

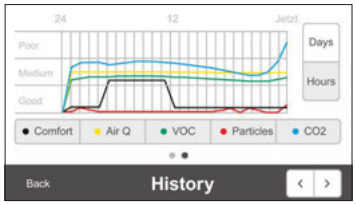












***Sensor-supported automatic operation**
The air purification capacity cannot only be controlled manually in 6 levels. In addition, the AirgoClean® One is equipped with a comfortable automatic mode. Highly sensitive sensors determine the particle load in the room air and the concentration of volatile organic compounds (VOC). The values are shown on the touch display in real time and at the same time regulate the air and filter performance of the device fully automatically to remove suspended particles from the room air in next to no time (if used for virus filtration, see page 18).

Triple air quality sensor system for VOC, PM1 and CO_2
The AirgoClean® One is equipped with an effective triple air quality sensor system. In this way, the air cleaner can simultaneously record and show to you all important room air quality parameters. In addition to the air temperature and humidity level as room climate indicator, the AirgoClean® One also determines the concentration of volatile organic compounds (VOC) in the room air and the degree of pollution by ultra-fine particulates (PM1). Moreover, CO_2 sensor informs you about the current carbon dioxide concentration in the room air. This makes rigid ventilation intervals that are expensive in terms of energy costs obsolete. Instead of ensuring a supply of fresh air at fixed time intervals, the CO_2 sensor enables you to exclusively provide ventilation when the sensor system indicates that the carbon dioxide concentration has reached a critical level. The display of the AirgoClean® One not only shows all air quality parameters numerically, but also as a colour bar indicator from green to yellow to red. This provides you with a quick overview of all air quality parameters even without reading off the numerical values.

Boost mode
Boost mode is used especially for accelerated ventilation of the room, where, for example in acute situations, particularly fast and effective cleaning of the indoor air is required. In this mode, the air is quickly cleaned to an optimum level at the highest fan stage. This is a fast and simple way of cleaning the air in meeting, break and staff rooms to achieve a good quality level.
Allergy sufferers who open the window to ventilate the room are able to have the air filtered from intruding pollen or particulate matter within minutes. When the AirgoClean® One is set to boost mode, airborne pollutants and suspended particles are removed from the room air with maximum air cleaning performance so that the room air is cleaned to an optimum level.

Night mode
With its low noise emission, the night mode offers clean room air even during sleep. The display illumination is dimmed and the air flow rate is set to the lowest blower level.

Full control via smartphone and Bluetooth
With the Trotec control app you simply connect to your Airgo-Clean@ One via Blutooth and comfortably control or configure the air cleaner from your desk or sofa. Whether you want to manage your weekly schedule or edit your PIN protection manager, the app allows you to comfortably access many device settings and to change the operating modes anytime. Furthermore you can have all room air quality indicators displayed conveniently in real time on your smartphone and read off the current filter status. In this way, you're provided with precise information about the current filter status and about a necessary filter change.

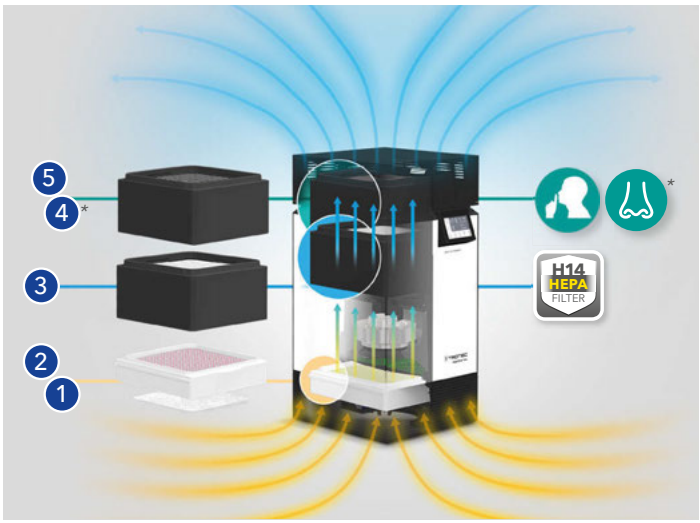
Room climate indication
Additional sensors installed in the AirgoClean® One also record the current room air temperature and quality as well as the relative humidity and show these room climate values on the display.

Timer function with weekly schedule
While conventional timers are usually limited to selecting the time of switch-on and switch-off, the AirgoClean® One comes equipped with a top-class operation planner. The respective switch-on and switch-off times can be specified as desired for the individual weekdays or for all days at once.

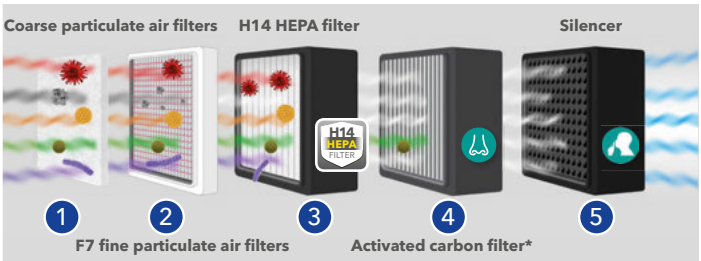
Intelligent filter lifetime monitor
The condition of the filters is monitored and displayed for all three filter compartments. The condition monitoring does not simply work hypothetically, based on time for instance, but it records the actual filter status and provides precise information about a necessary filter change. For more safety and an optimum filter lifetime.

Air quality indication with 14-day history
This unique function indicates the air pollution level of the past 24 hours up to 2 weeks in the form of a graph based on the data logger principle. Broken down by VOC-, CO_2 and particle load as bar charts and the air quality in total as a line chart.

Tamper-proof screen lock with PIN protection
PIN protection is used to prevent unauthorized use of the Airgo-Clean® One.



Clean air engineering "made in Germany" – 100 % professional technology, 100 % Trotec. AirgoClean® One offers a multi-stage HEPA filter system certified according to EN 1822. An activated carbon filter (*) eliminating odours is optionally available.



AirgoClean® One: Technical data

Prefilter	**F7 (EN 779:2002)**, ePM10 85 % (ISO 16890)
HEPA filter	**TROTEC HEPA H14 filter, EN 1822** **99.995 % filter efficiency** Each filter is tested and certified individually.
Max. air volume	**HEPA filter: H13** ≤ 650 m³/h **H14** ≤ 600 m³/h
Filter change indication	Usage-related, sensor-controlled **filter change indicator** for the prefilter and HEPA filter. The filter lifetimes can thus be extended. For more safety.
HEPA filter change interval	approx. **1 year** (depending on the application)[1]
Mains connection / Ø power consumption	**220–240 V 50 Hz / 0.17 kW**
Exemplary Ø total energy consumption	**approx. 0.65 kWh per day / approx. 10 kWh per month**[2] (at approx. 350 m³/h air volume)
Weight	**16.9 kg** (incl. filter)
Control panel	**Touch display with PIN-protected lock function**
Sound pressure level[3]	**11 dB to 57 dB**
Dimensions (L x W x H)	**435 x 400 x 835 mm**
Connection plug	**CEE 7/7, H07RN-F**
Equipment and functions	6 fan stages, turbo mode, night mode, VOC sensor, PM2.5 sensor, graphical air quality indication with 14-day history, room climate indication, manual and automatic operation, remote control, app control, timer function with weekly schedule, carrying handles, transport wheels
Optional accessories	**Activated carbon filter, HEPA H13 filter**

[1] In very dusty environments, shorter filter change intervals are also possible
[2] for a 5-day week with 8 h operating time per day and approx. 350 m³/h air volume
[3] at a sound pressure level according to ISO 11203 in dB(A)

Application-specific room size suitability of the AirgoClean® One

SARS-CoV-2 virus filtration and general infection control (influenza, common cold, measles etc.)		H13	H14
6 air changes for rooms sized up to	Maximum	45 m² / 112 m³	40 m² / 100 m³
	Recommendation by Trotec*	28 m² / 70 m³	23 m² / 58 m³
10 air changes for rooms sized up to	Maximum	27 m² / 67 m³	24 m² / 60 m³
	Recommendation by Trotec*	17 m² / 43 m³	14 m² / 35 m³
Suspended matter/fine particle filtration		H13	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).

Automatic mode and virus filtration:

Do not use the automatic mode if the device is used for virus filtration. The integrated sensors only respond to air pollution caused by fine particulates, pollen or VOC. The device cannot determine the virus load. It is possible that the automatic mode indicates a "good" air quality even though the virus load in the room is very high.

For this reason we recommend using the fan stage requested by the respective specifications with regard to the circulation rate (air volume) when the device is used for virus filtration in order to reduce the risk of indirect infections.

Available accessories / supplies:

Prefilter mat synthetic fleece

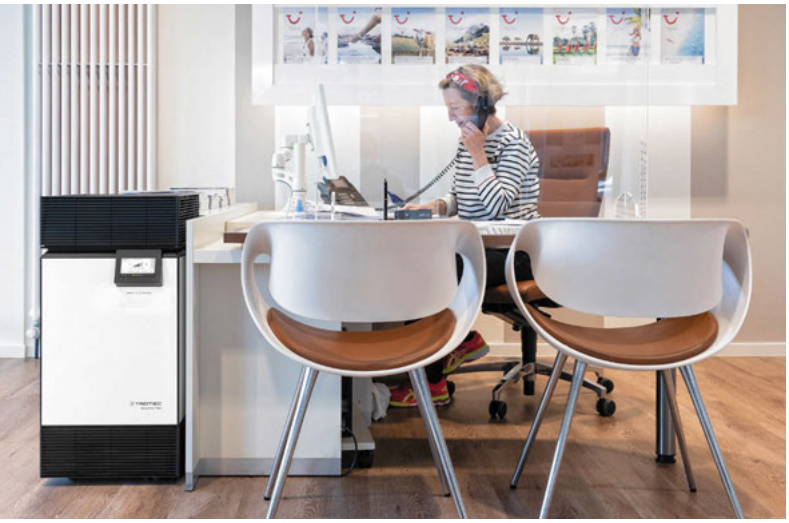
prefilter F7 ISO ePM10 85 %

Activated carbon filter

Silencer

HEPA filter H13 particle separation efficiency ≥ 99.95 % DIN 1822

HEPA filter H14 particle separation efficiency ≥ 99.995 % DIN 1822



Allergy-friendly and quality-tested with ECARF certificate

The AirgoClean® One is ECARF-certified. This quality seal of the European Centre for Allergy Research (ECARF) certifies that the air cleaner AirgoClean® One is able to achieve an excellent improvement of the room air quality – Trotec's highest recommendation for allergy sufferers.

Allergy-friendly
Quality Tested
ECARF
www.ecarf-siegel.org

Here you can find more information about the ECARF seal of quality

AirgoClean® One: the air cleaner for professional continuous operation

- Powerful and quiet air purification – removes 99.995 % of all airborne viruses, bacteria, fine dust particles and pollen
- Elegant design with an effective aerodynamic shape – air intake close to the floor, room-filling clean air flow
- Automatic output control through sensor-supported air quality monitoring
- Triple air quality sensor system – integrated sensor system records volatile organic compounds (VOC), ultra-fine particulates (PM1) and carbon dioxide (CO2) in the room air
- Highly efficient HEPA H14 filter system with prefilter and odour filter
- Proven to reduce the aerosol concentration of the room air – scientifically tested
- History indication of the room air quality for the last 24 hours to 14 days
- Multi-stage HEPA filter system certified in accordance with EN 1822
- Powerful, air circulating, steplessly self-regulating EC radial fan for constant circulation rates
- Enables 6-fold air circulation rates/h in rooms sized up to 40 m²
- ECARF - certified for allergy sufferers
- Air quality indicator – numerical and as traffic light colour bar
- Quiet operation, effective results
- Omnidirectional clean air distribution with 360° working radius
- Optional elimination of unpleasant odours
- Tamper-proof screen lock with PIN protection
- Practical remote control included in the scope of delivery
- Also adjustable with the smartphone using the Trotec control app
- Professional quality "made in Germany" – originally produced by Trotec

TROTEC 100% MADE IN GERMANY

Comfort air cleaners of the AirgoClean® series

Whether for your home or for professional use – Trotec offers you air cleaners for every need, in every performance level and for everybudget

Discover the entire range of AirgoClean® air cleaners at **uk.trotec.com/airgoclean**

High-performance air purifiers of the TAC series

The solution for medium-sized and larger rooms where many people come together, work, play, study, shop or celebrate: robust, powerful and unbeatably efficient.

TAC BASIC

TAC ECO

TAC M

TAC V+

TAC XT 18
TAC XT 27

AirgoClean® series: comparison of models

AirgoClean®	10 E ①	11 E ②	15 E ③	100 E ④	110 E ⑤	140 E ⑥	145 E ⑦
HEPA filter efficiency	95 %	99.97 %	95 %	95 %	99.97 %	99.97 %	99.97 %
Filter class H14-certified EN 1822	—	—	—	—	—	—	—
Infection protection / virus filtration	—	+	—	—	+	+	+
Suitable for commercial continuous use	—	—	—	—	—	—	—
Room size max.	16 m² 40 m³	15 m² 38 m³	21 m² 53 m³	21 m² 53 m³	25 m² 63 m³	40 m² 100 m³	40 m² 100 m³
6 air changes Trotec recommendation[1] for room sizes up to	—	—	—	—	—	16 m² 40 m³	16 m² 40 m³
10 air changes Trotec recommendation[1] for room sizes up to	—	—	—	—	—	10 m² 24 m³	10 m² 24 m³
Air volume	135 m³/h	120 m³/h	180 m³/h	180 m³/h	205 m³/h	330 m³/h	330 m³/h
Sound pressure level	41 dB(A) to 54 dB(A)	25 dB(A) to 43 dB(A)	34 dB(A) to 45 dB(A)	38 dB(A) to 49 dB(A)	31 dB(A) to 56 dB(A)	34.5 dB(A) to 50 dB(A)	34.5 dB(A) to 50 dB(A)
Carbon filter	—	■	optional	■	■	■	■
Particle sensor PM2.5 / PM1	—	PM2.5	—	PM2.5	PM2.5	PM2.5	PM2.5
Air quality sensor VOC / CO_2	—	—	—	—	—	—	—
Air quality indication	—	■	—	■	■	■	■
Temperature / humidity indication	—	—	—	—	—	■	■
Filter cleaning indication	—	timedependent	—	timedependent	timedependent	timedependent	timedependent
Ionization / UV-LED	■ / —	■ / —	■ / —	■ / —	■ / —	■ / ■	■ / ■
Timer	—	■	—	■	■	■	■
Remote control / app control	—	—	—	■ / —	—	■ / —	■ / —
Automatic operation [3]	—	■	—	■	■	■	■

AirgoClean®	150 E ⑧	170 E ⑨	171 E ⑩	200 E ⑪	250 E ⑫	350 E ⑬	ONE ⑭
HEPA filter efficiency	99.97 %	99.7 %	99.97 %	99.97 %	99.97 %	99.97 %	99.995 %
Filter class H14-certified EN 1822	—	—	—	—	—	—	■
Infection protection / virus filtration	+	—	+	+	+	+	+++
Suitable for commercial continuous use	—	—	—	+	+	+	+++
Room size max.	42 m² 105 m³	42 m² 105 m³	42 m² 105 m³	66 m² 165 m³	88 m² 220 m³	120 m² 300 m³	78 m² 195 m³
6 air changes Trotec recommendation[1] for room sizes up to	18 m² 45 m³	17 m² 42 m³	17 m² 42 m³	18 m² 45 m³	30 m² 75 m³	43 m² 108 m³	23 m² 58 m³
10 air changes Trotec recommendation[1] for room sizes up to	11 m² 27 m³	11 m² 27 m³	11 m² 27 m³	11 m² 28 m³	20 m² 50 m³	26 m² 65 m³	14 m² 35 m³
Air volume	355 m³/h	350 m³/h	350 m³/h	550 m³/h	740 m³/h	1000 m³/h	600 m³/h
Sound pressure level	29 dB(A) to 52 dB(A)	20 dB(A) to 50 dB(A)	22 dB(A) to 49 dB(A)	31 dB(A) to 54 dB(A)	42 dB(A) to 56 dB(A)	32 dB(A) to 60dB(A)	32 dB(A) to 57 dB(A)
Carbon filter	■	■	■	■	■	■	optional
Particle sensor PM2.5 / PM1	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	PM1
Air quality sensor VOC / CO_2	—	—	—	VOC[2]	VOC[2]	—	VOC[2] / CO_2 [2]
Air quality indication	■	■	■	■	■	■	■
Temperature / humidity indication	—	—	—	—	—	■	■
Filter cleaning indication	timedependent	timedependent	timedependent	timedependent	timedependent	timedependent	consumption-based
Ionization / UV-LED	■ / —	— / —	— / —	■ / —	■ / —	■ / —	— / —
Timer	■	—	—	■	—	■	■
Remote control / app control	—	—	—	—	—	■ / —	■ / app
Automatic operation [3]	■	■	■	■	■	■	■

[1] 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 37 dB(A) to 48 dB(A), depending on the model.

[2] VOC-/CO_2 measurement and display

[3] Automatic operation for virus filtration see page 6

Why air purification is so important for health protection – and will remain so even in post-COVID-19 times

While the dangers of increasing outdoor air pollution are heard in the media every day, studies show that our indoor air is up to 100 times more polluted than outdoor air. 99 % of infections occur indoors!

After the coronavirus pandemic, nothing will be the way it used to be. SARS-CoV-2 has demonstrated how vulnerable we are and how important healthy, uncontaminated indoor air is. The virus will not disappear once the pandemic is over. Leading virologists assume that the coronavirus with its mutations will accompany us for the next ten years – along with other infectious diseases (measles, influenza etc.), whose pathogens spread through the air just like the SARS-CoV-2 virus.

Infection control

Virus transmission through the air has long been underestimated

"If we want to get a grip on the pandemic, we need to raise the awareness that the danger lurks INSIDE," warns the German Society for Aerosol Research in the current coronavirus pandemic. The scientists call for more consistent measures to be implemented in the future and for more air cleaners to be used to prevent the airborne transmission of viruses.

Apart from COVID-19, other airborne infections include in particular measles and influenza. According to estimates by the Robert Koch Institute (RKI), the exceptionally strong flu wave in 2017/2018 claimed the lives of around 25,100 people in Germany. The main reason for this record value is a "strong wave of influenza" with a correspondingly high number of respiratory diseases and infections, according to the health report of the Association of Company Health Insurers (BKK).

Flu case numbers approx. 350 times higher before COVID-19 than during the pandemic

These figures can be noticeably reduced by using mobile air cleaners, as current studies impressively prove. In winter 2020, a total of only 533 cases of flu were registered, compared to 185,000 cases in the previous year. Similarly, the number of measles cases decreased by 85 % in the same year, reports the RKI in the Epidemiological Bulletin of 15 April 2021.

According to the scientists, the reason for this exorbitant decline in cases of infection is increased self-protection indoors, for example by keeping a distance, wearing masks and using partitions and air cleaners

Therefore, the AirgoClean® One not only protects against an indirect infection with the SARS-CoV-2 virus, but is also equally effective against all other airborne pathogens and thus offers additional safety when staying indoors. Whether in the office, meeting room, waiting room, restaurant, hotel or at home, the AirgoClean® One with its certified H14 filter offers the greatest possible protection against an infection for your customers, guests, patients and employees.

Scientific studies:

Leopoldina – German National Academy of Sciences
Scientific paper "Saubere Luft – Stickstoffoxide und Feinstaub in der Atemluft" (Clean air – nitrogen oxides and particulate matter in the breathing air) (April 2019)

University of Oxford
Scientific paper "Regional and global contributions of air pollution to risk of death from COVID-19" (October 2020)

European Environment Agency
Scientific paper "Air Quality Report 2020" (November 2020)

Fine dust

An invisible danger for the lung, heart and vessels – indoors and outdoors

Despite all efforts to reduce the fine dust pollution outdoors, the tiny particles we breathe in with every breath are one of the world's biggest environmental risks. Harmful levels of particulate matter in the outdoor air also cause indoor levels to rise. Through increased ventilation in times of COVID-19, for example to exchange stale air, the tiny particles enter living spaces even more. Not only those who live in city centres or along busy roads breathe in significantly more of these very fine particles, which are significantly smaller than 1 micrometre and are emitted by road traffic, the industry and household heating systems, when they ventilate frequently. The German National Academy of Sciences Leopoldina therefore demands additional efforts to further reduce the air pollution with particulate matter. They say that the sources of particulate matter are more diverse and the resulting damage to health more serious than previously assumed.

Fine dust favours the development of serious diseases

Fine dust particles are respirable particles with a diameter of less than 2.5 µm. The smaller these fine particles are, the deeper they can penetrate the body and organ systems. Particulate matter can cause inflammation in the bronchi and lungs and slow down children's lung growth. According to the Leopoldina, other consequences of particulate matter include heart attacks, strokes and accelerated arteriosclerosis. Inflammatory processes have also been observed in the brain and have been linked to a faster development of dementia in older people as well as delayed intelligence development in children. In addition to inflammatory reactions, fine dust can also cause damage to the cardiovascular system in other ways. The European Environment Agency EEA puts the number of premature deaths in Europe alone at more than 400,000 in 2018.

Particulate matter is responsible for 15 percent of global COVID-19 deaths

Researchers have long suspected that the pollution with particulate matter has an influence on the course of disease in COVID-19 patients, since particulate matter weakens the immune system and attacks the lung tissue. This is now confirmed by new research results from the renowned University of Oxford, published in the medical journal "Cardiovascular Research". The results show that there is a correlation between high pollution with particulate matter and an increased risk of dying from COVID-19. The scientists have calculated that on average 15 percent of global corona deaths are due to victims having inhaled polluted air over a long period of time. The research results suggest that particulate matter pollution is an important factor increasing the mortality risk from COVID-19.

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 BQ21, 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.

BQ21

PC200
PC220

Product website
The official website of the AirgoClean® One

uk.trotec.com/airgoclean-one

Product website
The official website of the TAC V+

uk.trotec.com/tacv-plus

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

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 our high-performance air purifiers at attractive conditions.

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

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

Our air purification experts will be happy to be of service:
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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.

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