camfil

AIR CLEANERS
AIR PURIFIERS

Small problems quickly become BIG

Clean air solutions

TAKE CARE OF YOUR SMALLEST PROBLEMS BEFORE THEY BECOME BIG

Camfil's range of patented air purifiers has the most efficient HEPA filters on the market. They are designed to work as a supplement to your existing ventilation system and give you reduced energy costs, more efficient production and a healthier work environment with less dust and fewer harmful particles.

On the following pages you can find out how our air purifiers can make the air feel easier to breathe. And why you save money when you take care of your smallest problems. Before they become big ones.

THIS IS WHAT YOU GET WHEN YOU INVEST IN A CAMFIL AIR PURIFIER:

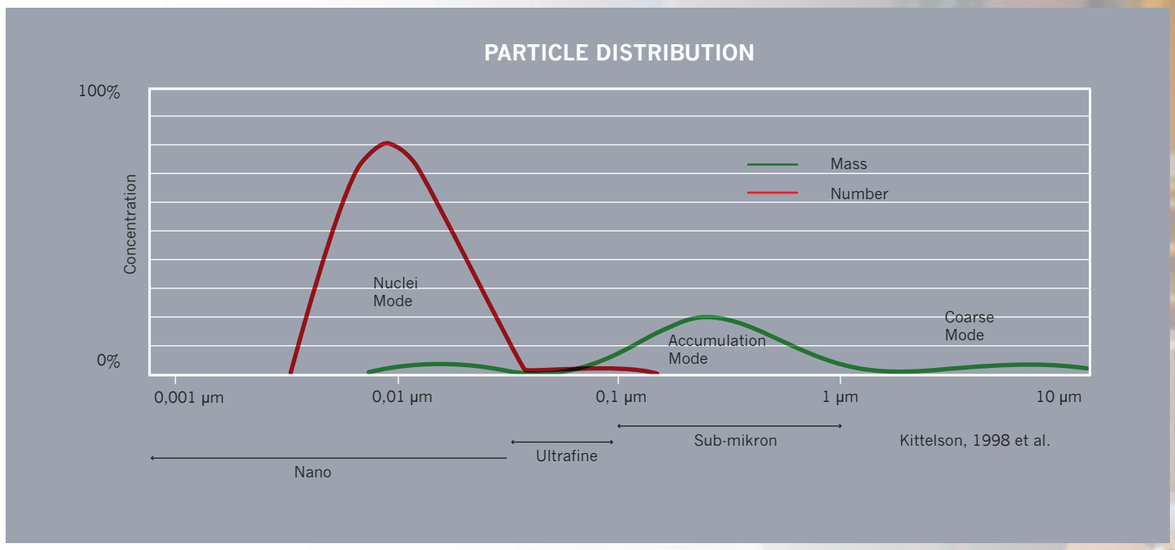
Reduced energy costs.
Efficient air purification means that indoor air can be circulated which means that you do not need to draw in and heat as much cold air from outside. Heating is made more efficient and the energy costs are reduced.

More efficient production.
Air purifiers can be used in cleaning zones. This means that you can deliver extremely pure air to surfaces that are particularly sensitive while at the same time, other areas of the room can maintain a lower requirement level. This saves money and at the same time, the number of operational disturbances caused by dirt and dust is minimised.

Reduced need for cleaning.
If you want to reduce cleaning, clean the air. Our filters purify the air and remove dust. When the air is completely free from particles and dust, your products are protected. Parts of the premises that are difficult to clean are kept clean for longer and the cleaning frequency may be reduced by up to 50 %.

Healthier employees.
Poor air can lead to headaches, asthma and irritation of the respiratory tract. Contaminated air affects both the health of the personnel and their performance. On the other hand, clean air results in reduced absence due to illness, improved work performance and an increased feeling of well-being.

A better environment.
We use Absolute Filters because they purify mechanically instead of electrostatically. Electrostatic and hybrid filters release harmful chemicals into the air such as ozone and free radicals. All our filters are environmentally labelled and are classified and standardised.



If you brought together the mass of nanoparticles floating in the air around us, their area would be thousands of times greater than that of the heavier particles. The red graph shows that 99 % of the particles in the environment are nanoparticles. Those around 2.5µm and larger are few in number but weigh more. The nanoparticles gradually clusters together and form larger particles.

CLEANER AIR SAVES MONEY

Camfil's air purifiers cleans the air of even the smallest particles. Our HEPA filters are so efficient that the air must pass through the ventilation system three times to achieve the same level of air purification as from one circulation through our air purifiers.

As well as the air becoming considerably cleaner, the heating is made more efficient and the energy costs are reduced. With an air purifier as a supplement to your existing ventilation system, you can circulate and clean the heated air which is already present in the room instead of drawing in and heating new cold air from outside.

Air purifiers can save even more money in rooms with high ceilings, especially during winter. Since heat rises, the temperature is higher at the ceiling than the floor.

Our air purifiers remixes the air, which equalises the difference in temperature. The result is warmer air by the floor which, in turn, means that the heating system does not need to work as hard.

Various factors which make an air purifier a money-saving investment include the fact that cleaner air extends the product life of lighting, trucks, storage systems and other technical equipment.

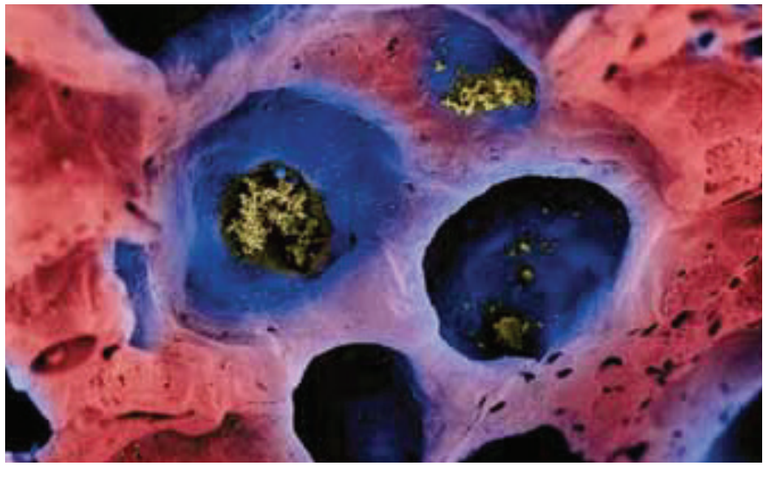
A ceiling-mounted air purifier efficiently purifies the air of nanoparticles as well as of large visible bits of dust. At the same time, the air is remixed, which provides a higher average temperature at floor level.

Our air purifier's high-efficiency HEPA filter purifies the air of even the smallest nanoparticles. The air feels easier to breathe, the personnel are healthier and the need for cleaning is reduced.

A BETTER WORK ENVIRONMENT

Poor air quality affects both the health of the personnel and their performance. Bacteria, dust, viruses and harmful particles in the air may cause itchy eyes, headaches and a blocked nose. Furthermore, it can also give rise to asthma and irritation of the respiratory tract. Camfil's air purifiers cleans the air and effectively combats these problems. This leads to improved work performance, reduced absence due to illness, and air that feel easy to breathe.

At the same time you will notice how shelves, products in stock, furniture and equipment no longer gather dust as easily. Your products are protected and your production is made more efficient. Parts of the premises that are difficult to clean are kept clean for longer and the need for cleaning is reduced – it is not unusual for the cleaning frequency to be halved.



Nanoparticles from diesel emissions have formed a cluster in the alveoli. In the long term this can lead to cardiovascular diseases. This is an increasingly common problem in buildings situated in environments with heavy traffic.

The picture shows a bottling plant that requires a lot of clean air behind its glazed surfaces. Air from outside is drawn into the air purifier and passes through the high-efficiency HEPA filter before it is directed into the bottling plant.

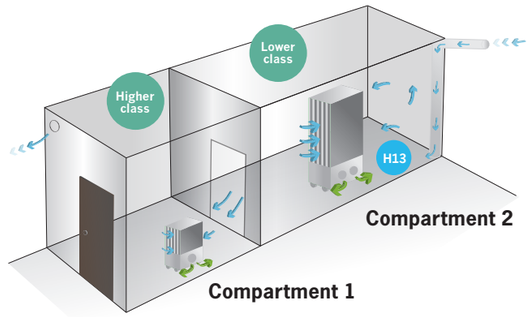
CLEANING ZONES ACHIEVE MORE EFFECTIVE AIR PURIFICATION

In large premises, you often have different air quality requirements depending on the type of operations taking place in different parts of the building. Despite being based on the same ventilation system, an air purifier can control how clean the air is in various zones, even if there are no walls dividing up the premises.

This is possible because our air purifiers can transport air over a long range and deliver the air into particularly sensitive parts of the premises. The air purifier's units optimise the air flow in order to meet the demands of your business.

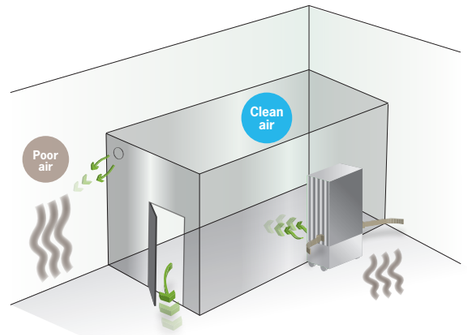
TWO AIR PURIFIERS WORK TOGETHER IN A CLEANING SYSTEM

In compartment 1, the incoming air creates overpressure. This means that the air, after it has passed through the air purifier, is transported to compartment 2. There, the air is sucked through another air purifier, which further raises the air quality. You can also use various effective filters in the air purifiers to control the air quality. In this instance, a class H13 filter is used in compartment 1, where the contaminated incoming air enters. This method is used in premises used for production, in air locks as well as in other environments.



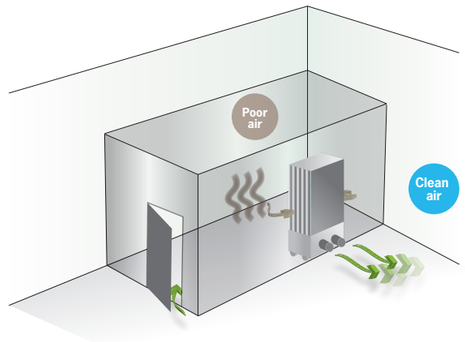
OVERPRESSURE

Exactly as in the example above, overpressure is created when the air is purified and enters the compartment. By doing this, a thoroughly controlled indoor environment is achieved in the space in question. This is useful in processes such as those involving installation, food, electronic installation, and other sensitive production units.



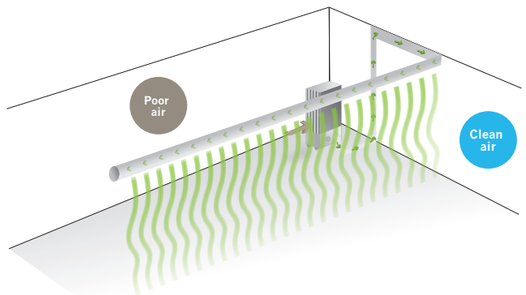
UNDERPRESSURE

In this example, the air is sucked from the compartment and purified before it is discharged into the room. The air purifier also makes it possible to clean the air many times before allowing it to be released, in order to achieve increased control over the air quality. Underpressure is used, for example, on building sites, and in industries and places where a small dirty production area in large premises needs to be isolated.



CLEANING ZONE IN OPEN PREMISES

In this example, the air is purified in the air purifier's HEPA filter. Then it passes through the pipe along the ceiling, where air is discharged from the holes along the wall. The purified air thus creates a sort of curtain that divides the room into two zones; one with higher quality air and one with lower quality air.



THREE EXAMPLES SHOWING HOW A CAMFIL AIR PURIFIER MAKES A DIFFERENCE

STORAGE/PRODUCTION – 8,000 M²

PROBLEM:

- Two large warehouses, 4.000 m² each, height 9 m
- Unhealthy work environment
- Dust problem

SOLUTION:

- CC 6000 installation
- Constant airflow

RESULT:

- Better work environment – particle concentration only 20% of the original levels
- Reduced need for cleaning
- Reduced maintenance costs

SERVER ROOM – 1,000 M²

PROBLEM:

- Server room conversion with a total area of 1.000m²
- Inadequate air quality control
- Inadequate temperature control

SOLUTION:

- 16 x CC 6000 installed during the conversion, two in each server room as well as a number of additional ones in climate chambers

RESULT:

- Optimal air quality and temperature.
- The server room was able to remain operational while the conversion is carried out
- Reduced energy consumption
- Acids removed by molecular filters

STORAGE/LOGISTICS – 7,500 M²

PROBLEM:

- Dust and dirt in a 7.500 m² storage area
- Unhealthy work environment
- Problems with packaging machine's sensors

SOLUTION:

- Service and lease agreement for 11 pcs, CC6000
- Constant airflow
- Real-time measurement of particles
- Operation and fan speed control and air flow control via the Internet
- 30 % lower maintenance cost

RESULT:

- No more problems with the packaging machine's sensors
- Fewer disturbances and operational stoppages
- Better work environment – 50 per cent better air quality
- Lower energy costs as a result of a higher average temperature at floor level
- Reduced need to change air via ventilation as a result of efficient filtering

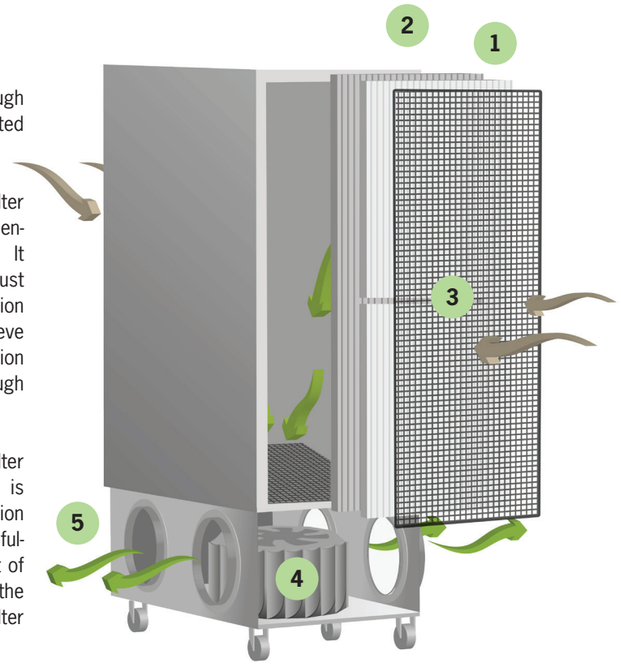
PATENTED TECHNOLOGY PREVENTS SMALL PROBLEMS FROM BECOMING BIG ONES

A Camfil air purifier is characterised by high-efficiency cleaning, energy saving and almost silent operation. In contrast to all other air purifiers on the market, our HEPA filters have a degree of purification that can remove even the smallest particles which are the hardest to reach.

The air purifier is also completely unique because it can suck in air from two directions. It makes it possible to have different cleaning zones which improves the efficiency of the air purification significantly. Inbuilt sensors that automatically regulate the indoor environment are available as optional extras.

The quality of the air is then adapted to suit the number of people in the room.

CC6000 can also be connected via Mod-Bus for remote control and review of the filter change interval.



1. Firstly the air passes through two pre-filters – usually a pleated EcoPleat or bag filter.

2. Behind these is the HEPA filter which has a unique, environmentally friendly Absolute filter. It is so efficient that the air must pass through the ventilation system three times to achieve the same level of air purification as from one circulation through the air purifier.

Thanks to a very large filter surface, the product life is extended and the filtration efficiency increased. By carefully managing the replacement of pre-filters, you can extend the product life of the HEPA filter even more.

3. All Camfil air purifier models have at least two inlets which makes it possible to mix and purify the air from two areas with different temperatures.

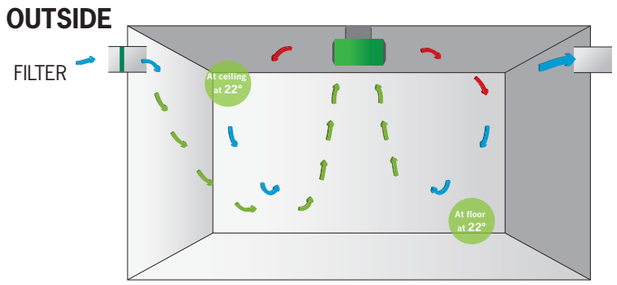
4. The only moving part in an air purifier is the fan. The fan is located under the filters andcreates an even underpressure in the purified air column that comes after the filters.

Our EC fans have a low energy consumption and may be controlled via the Internet for optimised, on-demand air purification and notification of when the filters need to be changed.

5. The outlets may be on two sides with 315 mm round standard connections or with silencers on one or both sides. This makes it possible to connect CC 6000 to most sizes of pipe as well as allowing it to stand and recirculate.

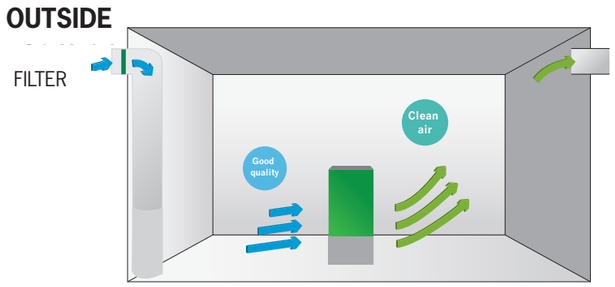
HOW TO POSITION A CAMFIL AIR PURIFIER

By taking the existing ventilation, the temperature conditions of the room as well as problems in the form of dust and particle generation areas into account, we determine how purifier's air purification units should be positioned for optimum efficiency. Below you will see some example diagrams of how positioning may appear in different rooms.



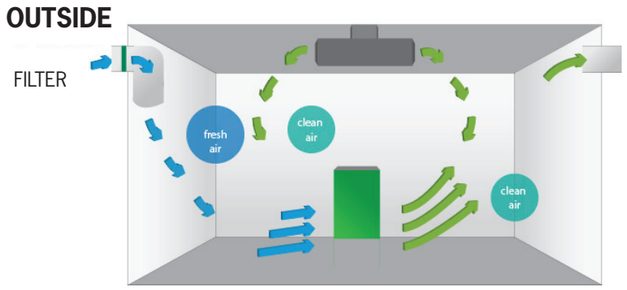
In rooms with high ceilings

The ventilation supplies the room with oxygen rich air. Since the ceiling height is generous, the air purifier is suspended from the ceiling from where it supplies the entire room with a better and cleaner indoor environment. Since heat rises, the temperature is normally higher at the ceiling. The purifier remixes the air and raises the temperature at floor level which means that the heating costs may be reduced.



With displacement ventilation

This type of ventilation involves the inflow of supply air travels along the floor and maintains a lower temperature than the air in the room. Therefore you should aim the purifier's outlet in the same direction as the flow so that it works with the air flows and not against them.



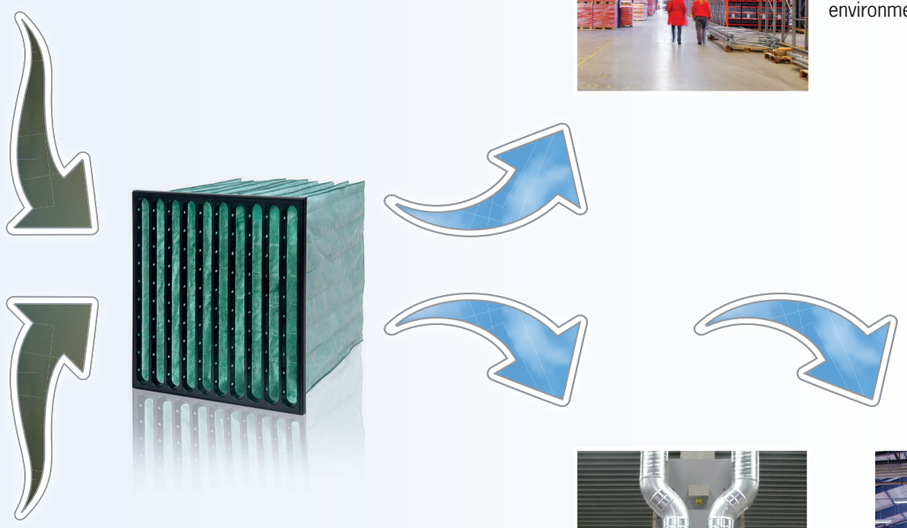
Floor and ceiling air purification

In rooms with high ceilings, the most efficient solution is to combine a ceiling-suspended air purifier with a floor-standing unit. Because the larger particles fall to the ground considerably faster than nanoparticles, you can therefore handle each type of particle at the point where they are most commonly found.

HOW PURE IS THE AIR IN YOUR ROOMS?

ROOMS WITHOUT AIR PURIFIER

44,000,000 particles/m³ pass through the filter and remain in the indoor environment.

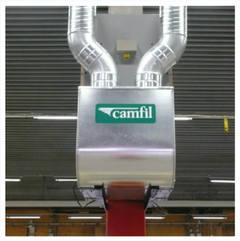


OUTDOOR AIR

Contains approximately 100,000,000 particles/m³.

FILTERS IN GENERAL VENTILATION

Filters in general ventilation. Our market leading class F7 filters have a minimum purification efficiency of 56%.



ROOMS WITH CAMFIL AIR PURIFIER

The air purifier's HEPA filter cleans 99.93 % of the air particles in the indoor environment.

CLEAN AIR

Only 31,000 particles/m³ remain.

CAMFIL IAQ ANALYSIS – MONITORS AND MEASURES YOUR AIR QUALITY IN REAL TIME

IAQ stands for Indoor Air Quality and is a measurement of the quality of indoor air. As an additional option for your air purifier system, you can choose Camfil IAQ Analysis which provides a direct picture of the air quality in your rooms. We monitor the air quality, and all measurements are saved in an IAQ database which contains millions of measurement values and benchmarks for the indoor environment and air quality.

As a customer, you have the option of viewing the analysis in real time at the time of measuring, and all measurements taken can easily be compared with each other.

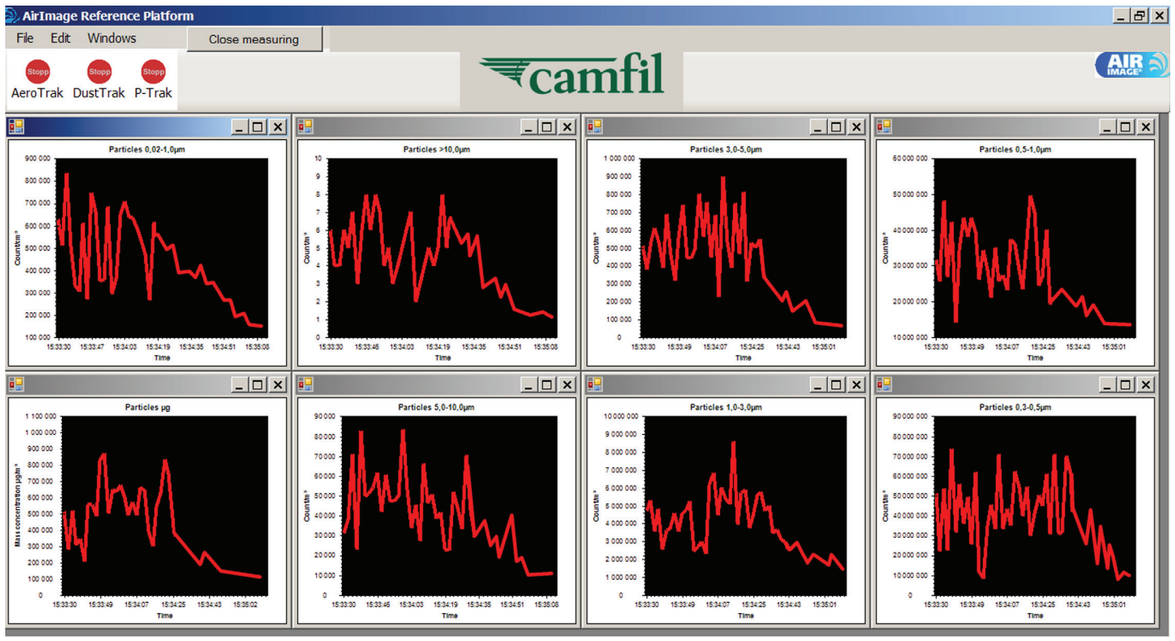
With the aid of a calibrated particle counter, the quantity of particles in the air can be examined.

By subscribing to this service, you will, as a customer, always have a particle counter in place connected to a computer which monitors the indoor environment.

When an abnormal particle distribution is identified, or in cases of other suspected problems, we perform an analysis with a scanning electron microscope (SEM) with associated X-ray analysis system (EDAX). As required, the quantity, weight and structure of the particles are analysed as well as the chemical composition of the air and element content.

We have more than 10 year's experience of this. We also work together with many of the world's leading laboratories for further analyses. Our IAQ reports are based according to the following standards for air classification: SS EN, SS EN ISO and IEST.

Indoor Air Quality Analysis. Measurement of different particle sizes in real-time.

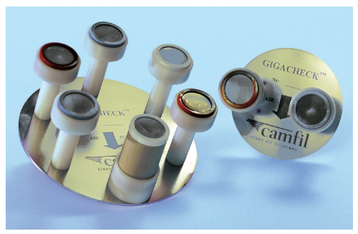


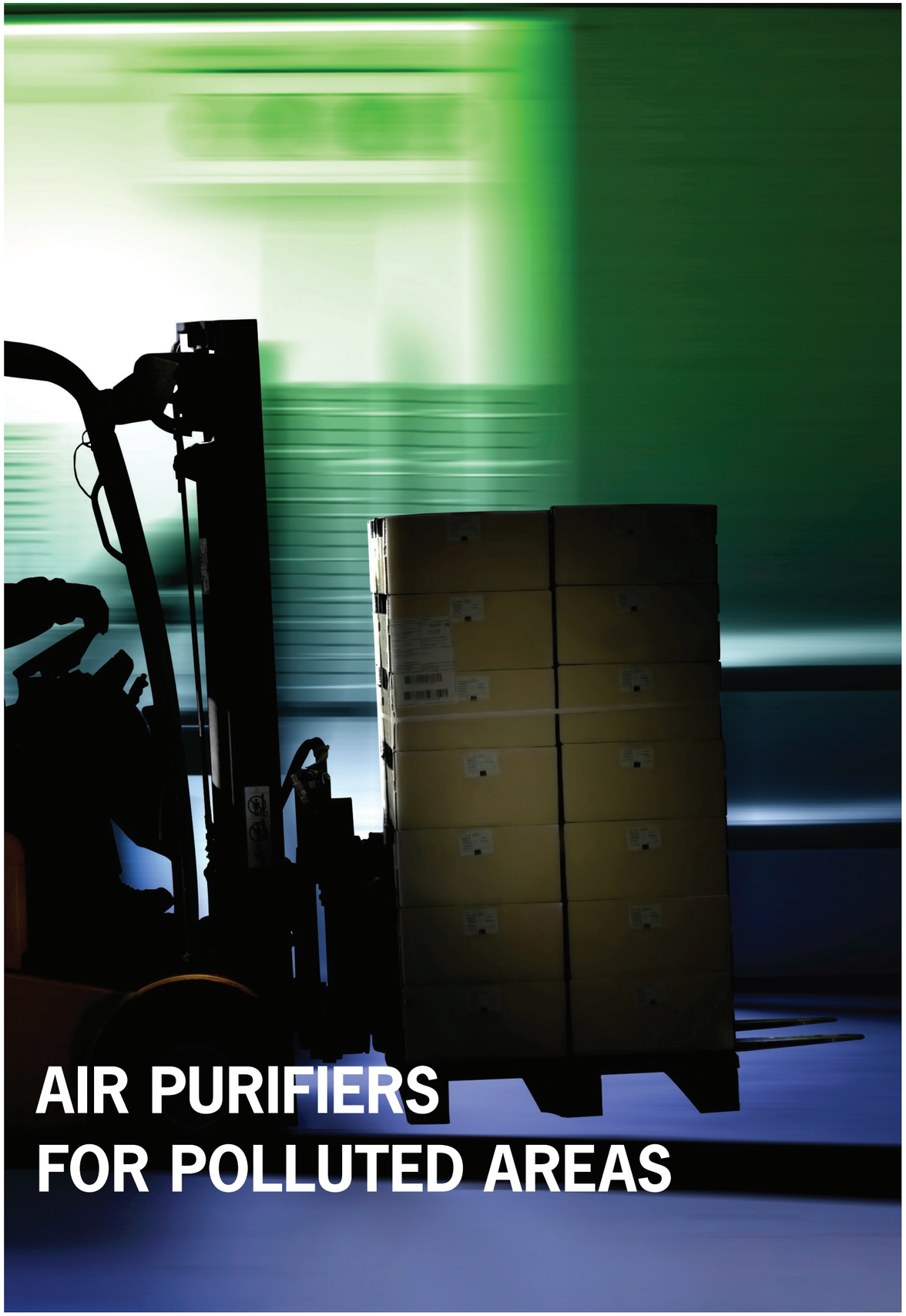
IAQ SCREENING
Analyses the air quality at the simple push of a button. The box is placed directly where the measurement values are to be collected and after eight hours, it shows how the air looks chemically, and what type of particles it contains.

CAMFIL IAQ ANALYSIS
A database that contains measurements taken all over the world gives us access to the average values for different indoor environments. With the database as a benchmark, we can display a summary which gives a direct picture of the air quality at our customers' premises.

MEASURING DOSE
The air is sucked via a vacuum pump into a stub that collects particles larger than 0.1µm. Using an X-ray system (EDS), even the chemical composition of the particles can be viewed

GIGACHECK
A method which selectively measures gaseous airborne molecular contamination.





AIR PURIFIERS FOR POLLUTED AREAS

AIR CLEANERS PRODUCT RANGE INDUSTRIAL

CC 300 Concealed

An air purifyer suited for beeing built into a cabinet, above a suspended ceiling. The unit has inlet and outlet with standard Spiro connection with ø 250 mm, which makes a duct connection simple to do.

Size: 1,060 x 310 x 360 mm
Air volume: max 300 m³/h
Air purification area: max 70 m²
Pre-filter + HEPA filter + molecular filter

CC 6000

Very suitable for dusty environments and larger premises such as the food industry, workshops and warehouses. CC 6000 is mobile, efficient and easy to install as a floor-standing, wall or ceiling-mounted unit. It can also be used in combination with Camfil's filter cabinet.

Size: 798 x 1,968 x 820 mm
Air volume: max 6,000 m³/h
Air purification area: max 1,000 m²
Pre-filter + HEPA filter

CC 2000

Used as a mobile unit or floor-standing, wall-mounted or ceiling-mounted. Suitable for both larger premises and for industry. As it can handle construction dust, mould and asbestos, it is suitable for demolition, installation or other aspects of construction. Carbon filters are available as an optional extra for the reduction of smoke, gas and emissions.

Size: 750 x 1,070 x 260 mm
Air volume: max 1,600 m³/h
Air purification area: max 300 m²
Pre-filter + HEPA filter

CC 800

Suitable for all forms of air purification of indoor environments, such as offices, homes, class-rooms, as well as other public environments. CC 800 purifies normal office air as well as more extreme environments.

Size: 610 x 560 x 260 mm
Air volume: 800 m³/h
Air purification area: 100 m²

AIR PURIFIERS PRODUCT RANGE CITY

★ ★ ★ ★ ★
Allergy-friendly
Quality Tested
ECARF
www.ecarf-label.org

CITY S (Small)

For smaller rooms. The CITY S provides the most powerful combination of compact and targeted control of gases, odors and chemicals in combination with particulate filtration.

Designed and engineered for Hospitals, offices and schools, where clean air matters.

Size: 340 x 465 x 345 mm
Air volume: 250 m³/h
Air purification area: 45 m²

CITY M (Medium)

The CITY M provides the most powerful combination of compact and targeted control of gases, odors and chemicals in combination with particulate filtration.

Designed and engineered for Hospitals, offices and schools, where clean air matters.

Size: 340 x 720 x 345 mm
Air volume: 100–300 m³/h
Air purification area: 75 m²

CAMFIL is the world's largest and leading manufacturer of filters and clean air solutions.

Camfil is the global industry leader in clean air solutions with more than 50 years of experience. Our solutions protect people, processes and the environment to benefit human health, increase performance, and reduce and manage energy consumption. Twenty-five manufacturing plants, six R&D sites and 65 local sales offices worldwide provide service and support to our customers. The Camfil Group is headquartered in Sweden but more than 95% of sales are international. The Group has approximately 3,800 employees and sales more than SEK 6.0 billion.

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