We bring the purity of mountain air right into your business

■ Design radiators ■ Comfortable indoor ventilation ■ Heating and cooling ceilings ■ **Industrial air cleaning**

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Clean air in your business

It’s no secret that we are what we eat – but you might not realise that we are what we breathe, too.

The quality of the air we breathe is rarely discussed. It should be – given that we breathe about 11,000 litres of the stuff every day! Unfortunately, those 11,000 litres of air are rarely clean – especially in the workplace where there are many pollutants in the area. But what does this mean, and why does it matter?

It’s simple – even a small amount of polluted air can lead to physical and mental illness if it’s inhaled over a period of time. Beyond the health benefits, low quality air – filled with dust and pollutants – has an impact on maintenance, too. From cleaning machines to shutting them down, dust in the air makes life difficult. Clean air solves all of these problems!

Don’t worry, we’re here to help. We’ll be explaining how we:

- ✓ Contribute to improved health of your team
- ✓ Protect you from avoidable staff absenteeism
- ✓ Reduce your cleaning costs
- ✓ Minimise machine downtime
- ✓ Clean up your corporate image

130+
Employees in the team

18,000+
Air cleaning units installed

2,500+
Dust measurements per year

20+
Countries

3,000+
Customers worldwide

1 billion+
Litres of air cleaned by us per hour

Dust in your air is an easily solved problem

Let’s take it back to basics. What is dust, anyway?

Quite simply, dust is the name given to the finest particles suspended in the air. Sometimes they are visible – but often, because the particles are too small for the human eye to see, those particles are invisible. But don’t be fooled: dust is almost always present. Whether you can see it or not, it’s found everywhere – in nature, across all industries – it even exists in outer space!

Whether in the logistics hall, workshop, bakery or metal processing: anyone who crushes, mills, drills or grinds materials will raise a lot of dust. Anyone who packs, stores, transports products or mixes, who empties goods or sweeps scattered material will also raise significant levels of dust. Even a cough or a sneeze raises dust! The size of dust is measured in micrometers (µm) = millionths of a metre. It’s small but mighty. Many people don’t realise that dust is a hazardous substance!

What are the different types of dust?

Inhalable dust:
Particles that can be inhaled through the mouth and nose
Size: <100 µm

Alveolar dust:
Particles that can penetrate the pulmonary alveoli
Size: <5 µm

Ultrafine dust:
Particles that can enter the bloodstream and brain
Size: <1 µm

How dust becomes a problem: 5 common causes

Risk to health
(Ultra-)fine dust particles are particularly dangerous, because they penetrate deep into the lungs and bloodstream. Once there, they increase the risk of life-threatening diseases such as cancer.

High operating costs
Dust inevitably causes higher cleaning costs – but it can also create lasting damage. Dust can lead to the paralysis of important machines and systems that are indispensable to your production and logistics. The consequence? Increased costs, lost sales and unhappy customers.

Poor image
Your reputation matters. Your corporate image can positively improve employee advocacy, customer confidence, brand value and ultimately your bottom line. A clean working environment supports all of the above!

Dissatisfied customers
If your warehouse is dusty, it’s safe to assume your goods in stock will be, too. When customers order directly from that very stock and receive dusty products, it often leads to complaints and poor reviews – and so the damaging cycle continues.

Unpleasant audits
Health and safety regulations are becoming more and more stringent. How do you keep track of limit values (such as for dust pollution)? If your air is dirty, you’re likely to fail upcoming audits.

Clean air can be available everywhere – not just on a holiday!

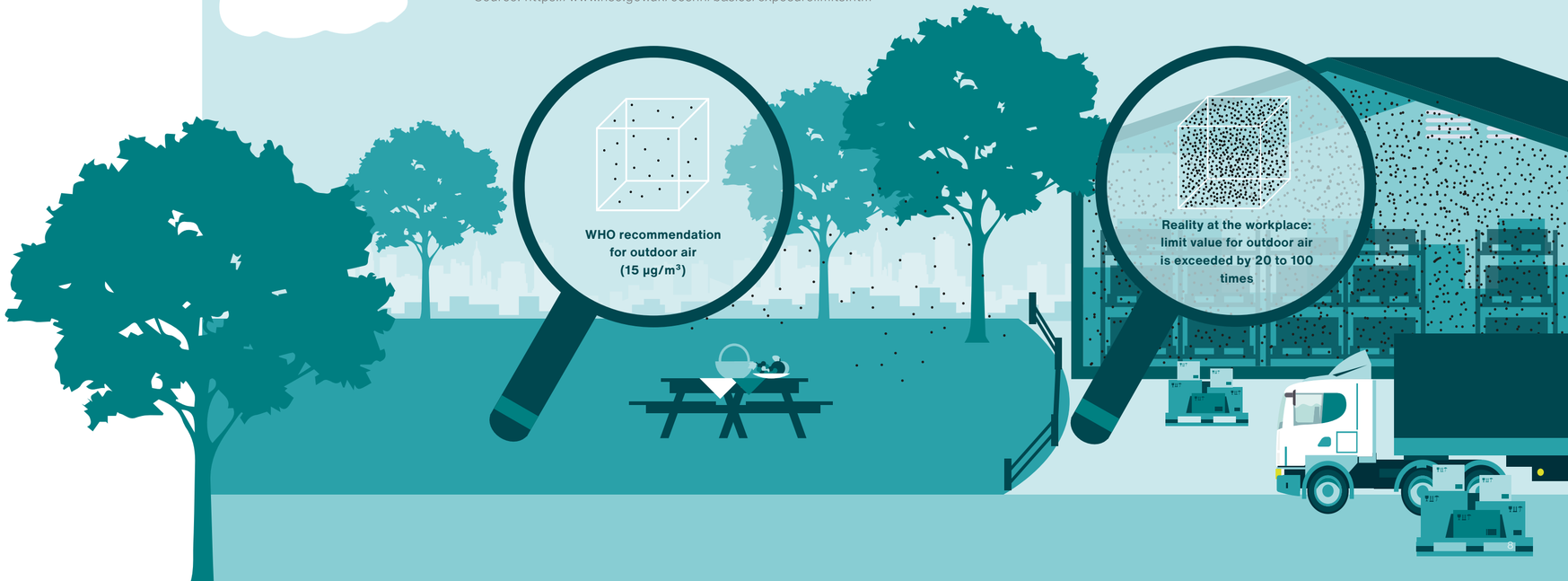
Why is polluted air in the workplace such a big issue? The answer is simple:

Polluted air in the workplace causes big issues because dust and microorganisms can accumulate and spread much faster indoors than outdoors. Currently, the legal limit value for fine dust pollution outdoors is much lower than the limit values from enclosed spaces in the workplace, which can mislead people into not realising the importance of clean air indoors.

Current fine dust limits in the workplace are way too high!

Nitrogen dioxide: 950 µg/m³ (harmful to lungs)
Flour dust: 10,000 µg/m³ (causes Asthma)
Hardwood dust: 5,000 µg/m³ (carcinogenic)
Talc: 1,000 µg/m³ (promotes lung diseases)

Source: https://www.hse.gov.uk/coshh/basics/exposurelimits.htm



Indoor vs outdoor air – the double standards

With regard to fine particulate matter (PM_{10}), the World Health Organisation (WHO) recommends that people should not be exposed to levels above 45 µg/m^3 for more than one day without protection. Looking at the annual average, an exposure of just 15 µg/m^3 is recommended.

Compared to the current maximum values of indoor spaces it raises the question: **why would anybody want to breathe in air like that?**

Indoor air is usually more polluted than outdoor air

'Out of sight, out of mind' is a common mindset when it comes to air pollution. If you can't see it, it's not dangerous, right? Let us bust that myth...

Alongside our own measurements, various studies show that indoor air is usually 2 to 5 times more polluted than outdoor air. In some more extreme – but not uncommon – cases, the indoor air can be up to ten times more polluted!

Why is indoor air so much lower in quality?

Pollution in the air in the workplace is to be expected – after all, whether your welding, transporting, producing or processing raw materials, dust will occur. Dust existing isn't the problem – not dealing with it effectively is, particularly in our post pandemic world where dust is the ideal ride for pathogens like the coronavirus.

The question on everyone's lips – how do you make sure air is clean?

The art – and magic – of clean air is to eliminate harmful particles before they have chance to settle on machinery, products or equipment – or in our lungs!

Our industrial air purification systems are the answer

Our market leading industrial air purification systems filter fine and course dust, oils, vapours, microorganisms and other dangerous particles from your air, as soon as our devices are switched on.

The result is high quality, clean air which delivers a suite of benefits:

- ✓ Lower cleaning costs and more money in your pocket
- ✓ Healthier employees that are less likely to call in sick
- ✓ More reliable machines that require less downtime
- ✓ Better product quality, resulting in fewer complaints
- ✓ A stronger and more positive corporate image

A brief summary:
Why you'll love clean air

1 A healthier, more motivated team (+50 %)

Clean air is an investment in the health of your employees. It also demonstrates how much you value them, because it shows that you put their wellbeing first. Our customers regularly tell us how clean air has resulted in a huge increase in productivity and motivation.

2 Lower cleaning costs (-70 %)

Let's be honest: professional cleaning of industrial premises is time-consuming and expensive. Our air cleaning solutions prevent dust from becoming a problem in the first place. And because you have less cleaning to do, you have much more profit.

3 Less maintenance, less downtime (-30 %)

If machinery is regularly exposed to dust, then it will probably need more frequent maintenance or even break down. You'll know more than anyone what effect this can have on the efficiency of your business. The good news is that minimising the amount of dust in the air reduces downtime by up to 30 %.

4 Satisfied customers

What's more important than any order? You've guessed: a follow-up order. This signals you've a satisfied customer on your hands. Clean air plays its part through more efficient day-to-day operations and clean products that will please your customers.

5 A shining corporate image

Imagine a customer is visiting you and there's dust everywhere. What will they conclude from this? Sloppy management and poor product quality, perhaps? You can avoid this happening by keeping the dust out of the air – and keeping the quality factor in your image.

6 An easy way to boost efficiency

Time wasted because of dust is something you can do without – whether it's time spent cleaning equipment and products, or time taken up on getting that dirty equipment fixed. Our industrial air cleaning systems prevent dust from settling on your equipment and products in the first place.

7 Face inspections with confidence

Good preparation for an audit is half the job. And a clean environment makes things even easier. Clean air means your business will be dust-free and ready for an audit at any time, whether announced in advance or not.

8 A valuable competitive edge

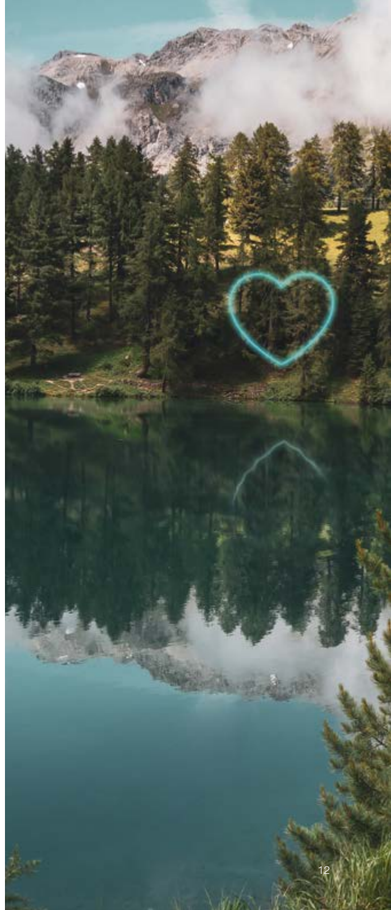
Let's face it, staying competitive is difficult. Clean air, however, makes it so much easier – improving the quality of your products, enhancing your corporate image and boosting your productivity.

9 A smooth delivery process

A customer places an order. Great – so how to make sure your delivery is despatched on time and meets the customer's expectations? Professional air cleaning transforms business planning and eliminates the need for time-consuming cleaning of dusty goods and packages.

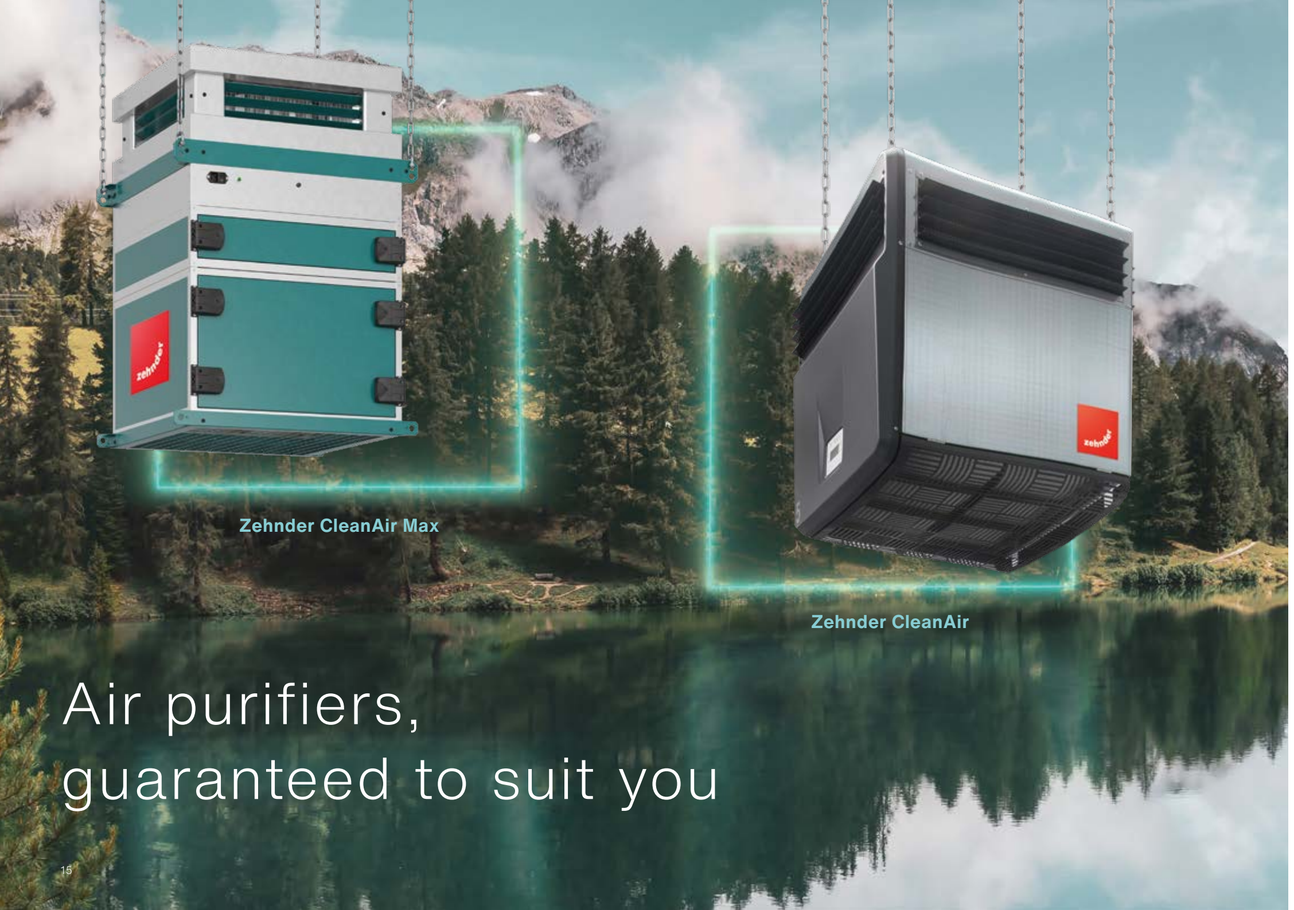
10 A working environment to be proud of

Clean air is an effective way to improve recruitment and retention. In a clean working environment, employees report greater wellbeing and benefit from better long-term health. This boosts your team's motivation and gives you a reputation for being a great employer.



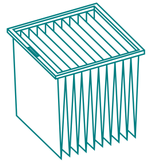
Our purifiers will transform your workplace

Beyond simply filtering particles from the air, our air purification system gives you ultimate peace of mind in your working environment. For ultimate tracking management and agility, our systems can be smart, too.



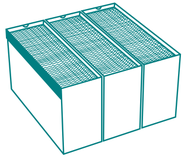
Air purifiers, guaranteed to suit you

No matter what air particles are in your workplace, our air purifiers mean we can match you with the filter system that will work best for you.



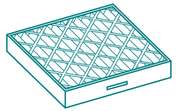
Pocket filter

Designed to combat significant dust levels, our Pocket filter works in rooms with high dust levels on its own – or can be paired with other filters for ultimate particle collection.



Flimmer filter

Our Flimmer filter has a unique dust holding capacity with the aid of electrostatic polypropylene fibres. We can also pair our Flimmer filters with other filters, which we have patented as FlimmerM®.



Compact or HEPA filter

Our compact filters are available in a variety of filter classes, adaptable for coarse dust such as pollen or as HEPA filters for absorbing ultra-fine particles like viruses.

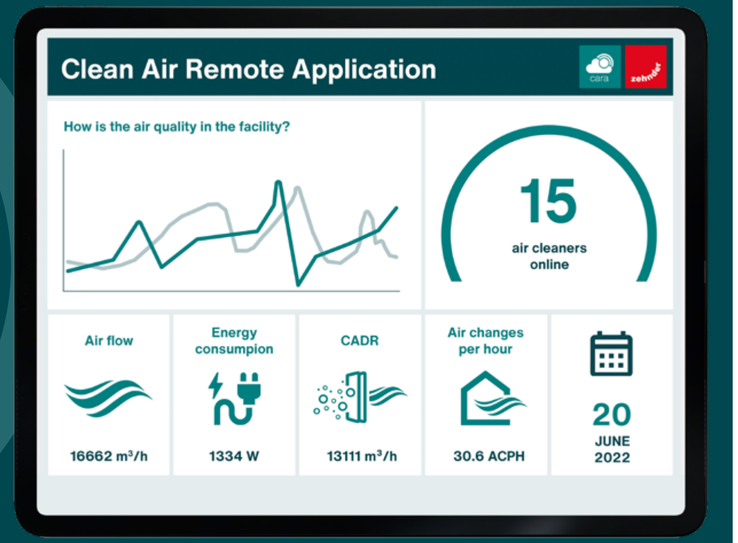
With all our air purifiers, you can expect:

- ✓ **High Clean Air Delivery Rate**
  (high volumes of air are cleaned in the shortest possible time)
- ✓ **Air outlets on all four sides**
  (for maximum effective airflow)
- ✓ **Above average long- life filters**
  (minimising our impact on the environment)
- ✓ **Custom filter systems to match your needs**
  (from two to multi-stage systems to endless modular adaptation)
- ✓ **Flexible installation in ceilings, walls or floors**
  (to ensure we're cleaning the air where it's needed most)
- ✓ **Simple Plug & Play**
  (enabling instant activation from installation)
- ✓ **Market leading technology**
  (which cleans your air in an energy efficient manner)
- ✓ **Smart Upgrades available**
  (because smart air is the air of the future)

Introducing CARA: making your air purification smart

Clean air just got smarter with CARA: our powerful Clean Air Remote Application. With a suite of smart features, CARA ensures clean air is just a touch away!

cara



✓ All in one dashboard

Wondering how your air purifiers are performing or how much air they purify? Keen to monitor how much electricity the purifier is consuming? Answers are right at your fingertips with your CARA dashboard. And, if you need the information in a helpful report, you can quickly pull historical data as a performance summary.

✓ Real-time monitoring

Using sensors and real-time data, we optimise your air purifiers so that they always meet your require-ments. From limit values and energy costs savings, track changes and optimisations in real-time to monitor how changes affect your air quality and your bottom line!

✓ Intelligent air purification

Leave your air purification in CARA's capable hands! By learning your environment inside and out, CARA can automatically predict and adapt to changes – our own form of money saving magic!

By the way:

Breathe easy with an ultra-smooth setup: all that's needed to install your air purifier is a 230 volt connection and some space. Ceiling, wall or floor – our expert installation team will identify the ideal location.

360° service, 100 % satisfaction

Clean air is so much more than a product to us: it's a lifestyle change, built on the foundations of trust, reliability and a partnership approach. Our team offer ongoing maintenance of your air purifier – because our service doesn't stop at installation. Our team will check in regularly to cover:

- ✓ Installation
- ✓ Filter changes
- ✓ Regular maintenance
- ✓ Air quality measurements

The good news? Clean air is non-negotiable – but our contracts are

Thanks to our flexible subscription model, you can breathe clean air on your own terms – increase, amend or stop your plan whenever you like.

Our promise to you

Every year, we measure the air quality of over 2,500 customers worldwide – and have been doing for decades! With our vast experience in clean air, you're in safe hands knowing that we'll always find the best solution that's right for you.

1

Customisable clean air

We know you need a service that truly fits your needs – that's why you won't find any off-the-shelf solutions here. We'll find a system that really works for you.

2

Seamless installation

Let us know when suits you, then leave the installation to us. We know how important it is to avoid disruption to your operational process, which is why our team are happy to install our air purifiers outside of your operating hours.

3

Don't just feel the difference – see it, too!

Transparency is key for us. That's why as a minimum, we'll measure your air quality before and after installation, so you can measure the difference that our air purifiers are making to your workplace.

4

We do the hard work so you don't have to

Once our systems are installed, sit back and enjoy your clean air! From filter changes to regular maintenance, our team handles it all.

5

Guarantee? Guaranteed!

Alongside filter changes and maintenance, a comprehensive warranty comes as standard with our subscription model.

6

You change, we adapt

Our air purifiers can be as flexible as you need them to be. Whether you scale up, relocate or restructure, our systems are designed to fit your evolving needs and we can adapt at any time.

Whatever the sector, our air purifiers make an impact

It’s no secret that the whole world needs air – and clean air is available for the whole world. Our air purification systems are making a difference across many industries: take a look!

Bakeries

Our air purifiers are busy reducing the insidious flour dust commonly found in bakeries, which saves employees from classic bakery asthma.

Textile industry

Textile fibres can be so small that we cannot see them with the naked eye, which is where we come in.

Packaging industry

Dust is inevitable when processing paper and cardboard, which is why clean air is essential to protect employee health and minimise the risk of explosions.

Warehouses

Our mission is simple: lower cleaning costs and remove unsightly dust from products – all while helping a healthier team!

Powder coating

Our air purifiers easily capture ultra-fine particles, meaning safety regulations compliance worries are a thing of the past.

Public institutions

Where people go, toxic air particles unfortunately follow. Clean air is a necessity to protect people against viruses and dust.

Food production

Clean air and food safety go hand in hand, making our air purifiers a must have for every HACCP concept.

Plastics and rubber industry

In heat-intensive processes, we make sure that air is a friend, not foe.

Medical and pharmaceutical industries

The medical industries can’t afford to gamble on dust near their products – our air purifiers minimise the risk.

Industrial manufacturing

Where welding, grinding, drilling and milling happen, dust follows! Our air purifiers mean your staff can breathe a sigh of relief.

Automotive

Oil mist, paint vapours and metal dusts are no match for our mighty air cleaners!

Building materials

We demolish the risk of respirable silica dust, the highly carcinogenic dust that’s found in all building materials.

mymuesli

Really clean air. Really good muesli.

Location
Passau (DE)

Sector
Organic food

Dust reduction
5 kg in three months

About mymuesli

mymuesli is shaking up the world of organic mueslis. Since 2007, the company has been producing high-quality muesli mixes, muesli bars and tea in the heart of Passau. And all in organic quality!

The challenge

During tea filling and hand-mixing, mymuesli employees were exposed to large amounts of **tea, cereal and berry dust.** Despite intensive cleaning, they were unable to contain these particles effectively.

That's where Zehnder Clean Air Solutions came in.

The goal was to reduce dust levels in the long term, and thus ensure a clean production environment while also protecting employees too. To achieve this, Zehnder Clean Air Solutions positioned five high-performance air cleaners to optimally complement mymuesli's existing extraction systems.

The result

- ✓ Increasingly satisfied and motivated employees who report clearer air to breathe
- ✓ Significantly less risk of cross-contamination when mixing different products
- ✓ Less cleaning effort and therefore lower costs

"Zehnder has not only helped us to ensure product quality but has also helped to increase employee satisfaction. The air purifiers have made a big difference in a short time."

Pamir Mirzababa, Project Manager Engineering, mymuesli

Bischof Lagerhaus AG

Smooth logistics processes? Only with clean air.

Location
Sennwald (CH)

Sector
Logistics

Dust reducion
up to 90 %

About Bischof Lagerhaus AG

Bischof Lagerhaus AG is a specialist for (deep) cooling products. On a total area of 54,000 m² the company manages around 10,000 deep cooling palette slots for various products, from frozen goods to fresh and dry goods.

Die Herausforderung

Logistics never stands still. Wherever goods are moved and packed, dust is created – a “by-product” that should not be underestimated.

This dust not only settles on **machines and surfaces** (and thus shortens the service life of the equipment), but also **gets into the respiratory tract of your employees**.

So how do you protect employees, reduce machine maintenance and keep cleaning costs low at the same time? Zehnder Clean Air Solutions had the answer.

In order to improve the air quality at Bischof Lagerhaus AG, Zehnder took a close look at their halls. The goal was to find the optimum positions for the air purifiers to ideally complement the existing systems. And Zehnder Clean Air Solutions achieved this and more, to the complete satisfaction of the logistics expert customer. To date, more than a dozen air purifiers are in use.

The result

- ✓ Happier, healthier employees who can feel the difference in air quality
- ✓ Forklifts, conveyor belts and cooling systems are now virtually maintenance-free
- ✓ Significantly less special cleaning is required in the deep-freeze area

“Our collaboration with Zehnder is excellent. The extensive measurements always show us where we are at exactly. In addition, Zehnder reacts flexibly and quickly to changes in our facilities and adjusts the solution accordingly.“

Otto Bischof, founder and managing director of Bischof Lagerhaus AG

Frequently asked questions: what you need to know

About us

Where are you currently working?
We're proud to be part of the Zehnder Group, who are a specialist in indoor climates. As Zehnder Clean Air Solutions, we currently offer our air purification service to over 20 countries. More than 3,000 customers worldwide already enjoy Zehnder clean air!

How many employees does Zehnder have?
Our Zehnder family is global – we're really proud to have more than 3,400 Zehnder Group colleagues around the world.

Which industries do you work with?
Where dust goes, we follow! We don't discriminate by industry – we can offer clean air to any company that needs our help. From logistics and manufacturing to food production and public institutions, we can always bring that 'clean air' feeling!

About our air purifiers

Why do we need air purifiers?
Particles exist in the air of your workplace, created by movement, transport and production. Most of these particles cause unnecessary cleaning and maintenance costs. The most toxic of these particles can seriously endanger the health of your employees, causing absenteeism and a negative corporate image. Our air purifiers clean your air – meaning you don't have to worry about any of the above!

Do your air purifiers replace ventilation?
No. Ventilation transports your stale indoor air out of the building and replaces it with fresh air. Air purifiers work differently – they capture the harmful particles that are present in the air. Air purifiers are especially recommended in buildings without windows.

What is the difference between an air purifier and an air washer?
Air purifiers and washers are similar in that they are both capable of removing dust and other particles from the air. But while air washers rely on water as a filter, air purifiers contain many filters of different strengths, which makes them much more efficient at purifying the air. Air washers also humidify your air, which air purifiers do not.

How are the air purifiers installed?
Our clean air is completely customisable – thanks to our flexible installation, we can make sure our air purifiers are in the best location for your specific environment. Ceilings, wall, shelves, pillars – or even on the floor! Our expert team will find the right home for your system.

Do all air purifiers have a warranty?
All of our purifiers are guaranteed for the duration of your service contract. We always make sure they perform at their best!

How much energy do your air purifiers consume?
Typically, our air purifiers consume only about 25 % of the power consumption of a conventional extraction system, but it does depend on the airflow setting selected. CARA, our clean air remote application, offers additional energy saving benefits through the smart elements of our app.

What is the difference between the CleanAir and CleanAir Max air purifiers?
Clean air comes as standard in all of our purifiers. Our proven CleanAir has space for a maximum of two filters. The CleanAir Max offers a different clean air experience thanks to its modularly expandable build, which makes it even easier for us to react to changes in the environment.

How loud are the CleanAir and CleanAir Max?
The noise level of the air purifiers depends on the airflow setting. At optimal airflow setting, the noise level ranges from 44 dB(A) to 65 dB(A), depending on the air purifier model.

Which air purifiers filter coronaviruses?
Coronaviruses are filtered by the filter installed in an air purifier, rather than the system itself. HEPA filters catch coronaviruses – with HEPA 13 and 14 classes offering maximum protection.

How loud are your air purifiers with virus protection?
This depends on the airflow setting – for example, an airflow of of 1,000 m^3/h creates a volume of 50 dB – which we liken to the volume of gentle birdsong!

How long do the filters of the virus air purifiers last?
In an office (or otherwise low dust environment) the filters will last about 12 months.

How effectively do virus air purifiers protect health?
Our expert team place the virus air purifiers in high traffic areas, where we can remove up to 99.995 % of airborne viruses and other microorganisms. We'll give you more than our word – every filter comes with an individual test certificate for maximum peace of mind.

About our IoT platform, CARA

With CARA, do we have all the functions available right from the start?
CARA's technology is fully customisable. Our team can help you identify the functions that will work best for you.

What does CARA cost us?
Because CARA is tailor-made to your needs, we don't offer a fixed price. This ranges based on the package and number of air purifiers which use CARA. Once we understand your requirements, our personal specialist will share a non-binding offer that matches your needs.

Do we need separate follow-up measurements with CARA?
CARA is a powerful tool that enables easy monitoring of your air purifiers from anywhere and total control at your fingertips, which means that you always have your air quality in view – and no further follow-up measurements are required by us!

Does Zehnder Clean Air Solutions also have access to our CARA data?
The benefit of CARA's 360 monitoring means that we have full visibility too! This means that we can intervene to any environmental changes as soon as – and quite often before – they happen, guaranteeing that you always enjoy the best air quality.

About our service

How do you measure air quality?
Dust measurements are carried out by our technical business support team, who take measurements at least once before the installation of our air purification systems, and once afterwards.
This means that you have full visibility on the improvements to your air quality. Installing CARA means you always have 24/7 visibility on your air quality!

How do you determine how to install the equipment?
Before we install our air purification devices, we carry out holistic dust measurements to determine the dust concentration in your company. On this basis, we then determine a solution that suits you perfectly. We usually install our units directly at the source of the dust to ensure that the particles do not affect employees, machines or goods.

Will the installation disrupt my business?
We make sure clean air is a convenience! Our smooth and speedy installation ensures minimum disruption to your workflow, and our team can offer installations in off-peak hours, evenings and even at weekends.

How often do the filters have to be changed?
With a Zehnder air purifier, we'll take care of maintenance. Your only task is to enjoy the clean air! Filter changes depend on how high the particle load is in your environment, but are usually 3, 6 or 9 months. In lower particle environments such as an office, a change every 12 months is usually sufficient.

Is there an option to buy?
Your air purifiers are linked to our flexible subscription model, which means that you enjoy clean air for as long as you subscribe. Our market leading systems require holistic and consistent care over time, which is why we don't offer a purchase option.

#startwithcleanair

info@zehnder-cleanairsolutions.com · www.zehnder-cleanairsolutions.com

zehnder