Lindab Acoustics

Where sound is a science and silence is an off-the-shelf item
A comfortable indoor climate should be a human right! It is better for us, we work better and perform better when the air around us is clean and fresh. The right temperature, an acceptable CO₂ level and the correct humidity are essential. But what about the indoor climate’s fourth dimension: Sound?

**Sound is the indoor climate’s fourth dimension**

We are surrounded by noise and constant disturbance in our everyday life. Silence is becoming a luxury. Therefore, good acoustics and a low noise level are critical to the indoor climate, in the same way that temperature, CO₂ and humidity are. A ventilation system is necessary to ensure a good indoor climate, but it is also a paradox, because such a system is noisy. Fresh air, but more noise. It doesn’t have to be like that.

**We are researching sound and deliver silence**

If your ventilation system is designed correctly and has the proper dampening you can avoid nuisance noise. Over decades of research and development in our own sound laboratory, Lindab has gained extensive knowledge and experience in acoustics and its important role in open-plan offices, industrial buildings and other places where many people must work and live together. We are researching sound to deliver solutions that provide peace and quiet. It completes your ventilation system and makes Lindab your complete supplier.

Decades of research and development in, among other places, our own sound laboratory, has made Lindab experts in acoustics and noise reduction of ventilation systems.
Silence can be a prerequisite for optimum performance. A good indoor climate is a prerequisite for good working conditions. This is especially true in large rooms where many people work together.

However, a good indoor climate is more than fresh air at the right temperature, humidity and CO₂ levels. Indoor climate’s fourth dimension is sound, and at Lindab, we are experts in minimizing the noise from your ventilation system.

Lindab’s experts research noise reduction and pass on their knowledge and experience when customers have to design and size new ventilation systems for new construction and renovation.
A ventilation system is important to ensure a good indoor climate with fresh air. However, such a system has many noise sources. Noise from fans, dampers and other components must be dampened if the total indoor climate experience is to be comfortable. Therefore there is a need for silencers to ensure that the acoustics also contribute to the good indoor climate.

**Less noise and less energy consumption**

It’s more than about reducing the noise. With the range of products that are the result of Lindab’s research and development, you can also reduce your costs and your energy consumption. Pressure loss is an important parameter for the total operating costs of your ventilation system. Therefore, our solutions are generally designed to reduce the pressure loss as much as possible. This applies to ducts, fittings, fixtures and silencers.

**Silencers for new construction and renovation**

If, for example, you are renovating an existing system with Lindab Aerodim™ and keeping the dimensions, you can halve the noise or reduce the pressure loss by up to 40%. At the same time, energy consumption will be considerably lower. It’s good for the SFP value.
and the climate – both in the office and in the accounting department. Lindab has developed silencers in many different dimensions for both new construction and the renovation of houses, offices and production facilities. A common feature of the solutions is that they reduce both noise and costs.

**An investment with more return**

A good ventilation system provides a good climate and it is a wise investment both in terms of health and economy. Healthier and happier employees mean higher production efficiency and effectiveness. With the right products, the solution gives the energy savings that also make it a good energy investment.

*Noise reduction of the ventilation system is a crucial parameter for a complete, healthy indoor climate. Lindab develops and delivers silencers in different dimensions and for all systems.*

**Effective Aerodim™ reduces both dimensions and energy consumption**

The CFD simulation image on the left shows the pressure loss profile for Aerodim™ with a significantly lower pressure loss than the conventional silencer.

Conventional sound baffle

The CFD simulation image on the left shows the pressure loss profile of the conventional sound baffle available on the market today.

*See video clips of CFD simulations at www.lindab.com/aerodim*
Lindab is a leading supplier of a good indoor climate. We have turned it into a science to ensure fresh air in your building.

A wide range is not enough
It’s no good having the market’s widest range if every single product is not developed through knowledge and tested scientifically. Back in 1999, Lindab built an advanced sound laboratory that is unique in Europe. Engineers here in our development department are constantly working on optimizing existing solutions and developing new ones that can reduce both the noise level and energy consumption even more.

A science in itself
The laboratory in Farum, Denmark, is built as a closed duct system. A speaker room and a reverberation room are connected by a measuring duct, where we place test objects. The lower floor is an air duct fitted with silencers and a unique design. The noise from the surroundings and, for example, the fans is totally eliminated. This allows us to measure the reduction and noise from the actual product and the test results are scientifically sound.

Measurement method: All silencers are tested in accordance with ISO 7235: “Measuring ducted silencers and air-terminal units – Insertion loss, flow noise and total pressure loss.”
The development manager is a professor of ventilation

If you are to have the full benefit of the best possible facilities – such as Lindab’s sound laboratory - it requires the best possible employees. Lindab’s Development Manager, Göran Hultmark, is an excellent example. For three decades his research work in the energy sector has led to 16 patents and 20 scientific reports, and now he has crowned his preliminary work with the title of Adjunct Professor of ventilation at SBI / Aalborg University, Copenhagen.

In recent years, Göran Hultmark’s work in energy systems, energy savings and indoor climates has led to the development of new system solutions for the ventilation of buildings.
At Lindab we are constantly working to improve the efficiency of our ventilation solutions and to make it simple for you to implement them in your construction project. Our research and development in acoustics involves both developing silencers and the materials contained in them.

Silencers with Lindtec® or Acutec® are simple and effective
Through our research we have developed, among other things, the absorption materials Lindtec® and Acutec®.

Lindtec® is a mineral wool and Acutec® is a hygienic polyester in a recyclable friendly material that with its excellent damping properties makes our silencers totally unique. Acutec® is bacteria resistant and does not bind moisture and condensation, even at high pressure in ducts and silencers.

Silencers with both Lindtec® and with Acutec® have a surface that is easy to clean and maintain.

MagiCAD® makes design easier
Lindab simplifies construction and therefore we of course offer software that helps you with the design. With Lindab’s CADventPlugin for MagiCAD® you have a well-equipped toolbox for sketching, dimensioning, calculating, counting, ordering and presentation of complete HVAC systems. The CADventPlugin makes it possible to use in MagiCAD to
With Lindab’s special software you can both design and size your complete ventilation solution and make professional sound calculations for each room.

**Professional sound calculation with DIMsilencer**

DIMsilencer is a user-friendly programme that provides a quick and professional sound calculation, as well as an easy product selection. The room module in DIMsilencer makes it possible to make sound calculations adapted to the conditions in each room, and you can make a complete system calculation from complete system to individual room. Data in DIMsilencer is based on measured values and the programme can be fully integrated with MagiCad.
Own production, wide range and many options
Standard solutions

We are also experts in difficult solutions

At Lindab you will find a complete range of thoroughly tested components for any ventilation solution. Our experienced experts, professional sound laboratory and years of experience guarantee quality. You can see the whole range at lindab.com. If you have special requirements and needs that go beyond the standard range, we can also fulfill them. Thanks to our international status, we can quickly and efficiently produce customized solutions across most of Europe.
At Lindab, good thinking is a philosophy that guides us in everything we do. We have made it our mission to create a healthy indoor climate – and to simplify the construction of sustainable buildings. We do that by designing innovative products and solutions that are easy to use, as well as offering efficient availability and logistics. We are also working on ways to reduce our impact on our environment and climate. We do that by developing methods to produce our solutions using a minimum of energy and natural resources, and by reducing negative effects on the environment.

We use steel in our products. It’s one of few materials that can be recycled an infinite number of times without losing any of its properties. That means less carbon emissions in nature and less energy wasted.

We simplify construction