



# Lindab **IndoorClimateSolutions**

Product overview Acoustics



# We simplify construction

At Lindab we are driven by a strong desire to continuously generate improvements and to simplify construction. We do that by developing products and systems that are easy to use and energy efficient, together with industry-leading knowledge, support, logistics and efficient availability.

We want to simplify everything – from designing, ordering, delivery, goal achievement and installation to the entire way of doing business with us. By simplifying in every stage of the construction process, we also contribute to energy-efficiency.

## **A good thinking company**

Good thinking is a deeply rooted philosophy that guides us in everything we do. We firmly believe that good thinking makes good solutions to the challenges we all face. Taking responsibility for what we do and how we do things is therefore important to us. Because good thinking is not only about making life easier and more comfortable for our customers and end users. It is also a matter of thinking in a global perspective, all the time. Knowing that we at Lindab are helping to make the world a better place.

## Acoustic solutions for a quiet and pleasant indoor climate.

A ventilation system which supplies indoor environments with fresh air is absolutely vital for well-being. However, the same system simultaneously generates sound and noise to various extents. As your well-being is affected by the ambient noise, it constitutes something of a paradox in your everyday life. We have always taken sound and noise very seriously so that we can provide a quiet and pleasant indoor climate. Researching into sound and conducting tests in our own sound laboratory enables us to deliver silence. The range includes everything from straight, curved and circular silencers to rectangular beams and low headroom silencers. A complete programme which creates an optimal balance between size, energy consumption and sound attenuation.



Quality, service and knowledge have always been crucial factors for the customers that have chosen us as a partner. So, behind each solution lies industry leading expertise, extensive research, evaluation and full documentation.

# Product overview

## Circular straight

### Traditional silencer

Traditional silencer with 50, 100 or 150 mm insulation. Insulation material is mineral wool or Acutec® polyester covered by perforated plate. Also with centre splitter or pod to provide better attenuation.

**Use:** All building types.

**Size:** ø63...1600 mm, length 300...3200 mm

**Important features:** Low cost silencer with good tightness. Good attenuation with centre baffle.



## Circular curved

### Traditional silencer

Bend silencer with 50 or 100 mm insulation. Insulation material is mineral wool covered by perforated plate.

**Use:** All building types.

**Size:** ø125...630 mm.

**Important features:** Combination of good attenuation and suitable in places where you don't have space for straight silencer.



## Exhaust air terminal device

### Combination of a traditional silencer and exhaust air terminal device

Silencer with 50 or 100 mm insulation and conical inlet with net. Insulation material is mineral wool covered by perforated plate. Acutec® polyester on request.

**Use:** Malls, sport halls and other big rooms where we need big exhaust air volumes with low noise.

**Size:** ø100...400 mm, length 600...1200 mm.

**Important features:** Combination of high air volumes and low noise.



## Circular straight low height

### Effective silencer to narrow places

Low height silencer with very good attenuation. It is easy to install in narrow places. Insulation material is mineral wool or Acutec® polyester.

**Use:** All building types. Especially residential houses.

**Size:** ø63...630 mm, length 300...1250 mm.

**Important features:** Effective silencing with low pressure drop. Also openable models for maintenance of duct system.



## Circular curved low height

### Effective silencer to narrow places

Low height curved silencer with very good attenuation. Insulation material is Acutec® polyester.

**Use:** All building types. Especially residential houses.

**Size:** ø100...200 mm, length 600 and 1000 mm

**Important features:** Combination of good attenuation and corner for places where you don't have space for straight silencer.



## Flexible silencers

### Easy to install silencer

Flexible perforated inner duct, attenuation material mineral wool or Acutec® polyester which is covered by plastic outer jacket make this silencer very easy to install.

**Use:** All building types.

**Size:** ø100...315 mm, length 550 and 1100 mm.

**Important features:** Small storage and transport volume. The insulation reduces noise passing through the silencer.



## Circular straight silencers for smoke control systems



### Traditional silencer

Traditional silencer with 50, 100 or 150 mm insulation. Insulation material is mineral wool or Acutec® polyester covered by perforated plate. Also with centre baffle to provide better attenuation.

**Use:** All building types.

**Size:** ø63...1600 mm, length 300...3200 mm

**Important features:** Low cost silencer with good tightness. Good attenuation with centre baffle. Can be used in smoke control systems.

## Circular curved silencers for smoke control systems



### Traditional silencer

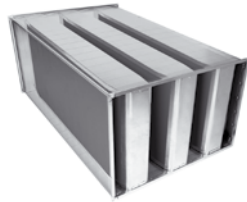
Bend silencer with 50 or 100 mm insulation. Insulation material is mineral wool covered by perforated plate.

**Use:** All building types.

**Size:** ø125...630 mm.

**Important features:** Combination of good attenuation and corner for places where you don't have space for straight silencer. Can be used in smoke control systems.

## Rectangular straight



### Effective silencer

Silencer with the attenuation splitters. Attenuation material is mineral wool or Acutec® polyester. Several models available according to requirements, with low pressure loss and good attenuation.

**Use:** Shopping centres, schools, hospitals, industry etc...

**Size:** According to requirements

**Important features:** Sized to air volumes, required attenuation and space. Versions also available with access to baffles.

## Rectangular curved



### Effective silencer

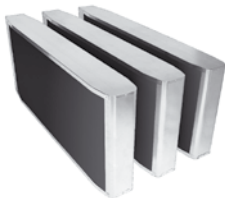
Silencer with the attenuation splitters and corner. Attenuation material is mineral wool or Acutec® polyester. Several models according to requirements.

**Use:** Shopping centres, schools, hospitals, industry etc...

**Size:** According to requirements

**Important features:** Sized to air volumes, required attenuation and space. Versions also available with access to baffles.

## Rectangular splitter



### Effective acoustics

Individual silencer splitters are used to provide good attenuation in places where it is not possible to use prefabricated rectangular silencers. Attenuation material is mineral wool or Acutec® polyester. We advice you to use our IT tool DIMsilencer for calculation of your silencer.

**Use:** Malls, schools, hospitals, industry etc...

**Size:** According to requirements

**Important features:** Sized to air volumes, required attenuation and space.

## Rectangular straight low height



### Effective acoustics

for small ducts Rectangular silencer with low installation height. Attenuation material is mineral wool or Acutec® polyester.

**Use:** All building types.

**Size:** Width 200...1000 mm, height 150...400 mm, length 650...1250 mm.

**Important features:** Sized to air volumes, required attenuation and space.

# Product overview

## Customised solutions

Lindab has a wide product range of other silencers for different purposes. We produce attenuating duct, silencers with fire classification, industrial solutions and solutions for marine & off-shore.

**Size:** Sized to air volumes, required attenuation and space. Also available as openable.

**Materials:** Can be galvanized steel, stainless steel, steel S235, aluminium...

**Material thickness:** 0.5...5 mm.



# Sound laboratory

Our sound laboratory provides Lindab with even better knowledge about acoustics and how to design and dimension the climate systems of the future for increased sound and climate comfort. It has a 21 metre measuring duct and a reverberation room weighing 147 tonnes, suspended on 32 pneumatic vibration dampers. Lindab acoustic products include silencers for all purposes from residential ventilation to big industrial and marine products. As a leading silencer manufacturer Lindab can guarantee a wide product range of tested acoustic solutions.

DIMSilencer calculation tool and its link to MagiCAD gives great help to designers and constructors to create comfortable silent indoor acoustics. All Lindab acoustic products are designed and produced so that they are easy to install and maintain.



*Lindab's sound laboratory is located in Farum, Denmark.*

# The choice of acoustic products

Product type	Circular connection								Rectangular connection			
	Circular curved	Circular curved - low height	Circular straight	Circular straight with central pod / baffle	Circular straight with central baffle	Circular straight - low height	Exhaust air terminal device	Flexible silencers	Rectangular curved	Rectangular straight	Rectangular straight - low height	Silencer duct
<b>Product name</b>	BSLCU BSLU	KVDP-90	PVA, PVD SLCU, SLGU, SLU SLXU	PVAP, PVDP, SLGPU	SLBGU, SLBU, SLCBU	KVAP, KVDP, LRBCB LRCA, LRCB, LRCEC	EXAD, SLKNU	FSA AKU-COMP SLFA, SLFK, SLFU	BDLD, SLRB	DACKA, MINKA, DLD, DLDY, SLRS TUNE-S	LRLB, LRLS	SDI, SDO
<b>Residential ventilation</b>												
AHU silencer	•	•••	••			•••		• 1)				
Duct (secondary) silencer	••	••	••	•	•	•••		• 1)				
<b>Non-residential ventilation</b>												
Axial fans			•	•••			•					
AHU silencer									•••	•••		
Duct (secondary) silencer												
• Rectangular ducts									•••	•••	•••	
• Round ducts			•••	•••	•••	•••	••					••
• Exhaust								••• 2)				
• Cross talk	•••	••	•••			•••		• 1)		•	••	••
• VAV-systems												
- VRA										•••	•••	
- VRU			•••			•••						•

••• very good      •• good      • suitable

1) Make sure that the noise emitted through silencer does not affect the surroundings.

2) Big air-volumes.



## Good Thinking

**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**