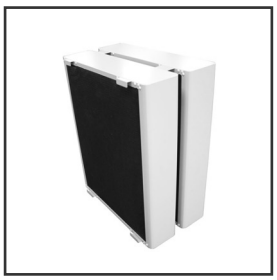
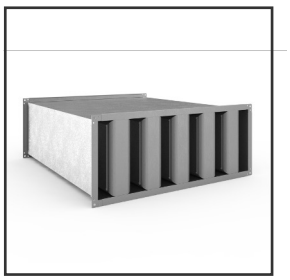
Acoustic and noise control

GERHMAN

APPLICATIONS FOR NOISE CONTROL





- Duct silencers
- Crosstalk silencers
- Acoustic panels
- Acoustic louvers
- Pressurized plenums

- Equipment casings
- Acoustic enclosers

At Gerhman we are driven by a strong desire to continuously generate improvements. 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.

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Duct Silencers

Hertz

Rectangular Duct Silencer

Hertz Duct Silencers is a component of ventilation system used to reduce noise transmitted inside ventilation ductwork. Duct silencers are also referred to as sound attenuators, sound traps or mufflers. They control, reduce, or limit airborne noise in ducts and openings in buildings, enclosures, or equipment rooms.

Gerhman offers the design and engineering assistance to integrate our vast line of duct silencers / sound attenuators into a system solution. As a result, you may choose from a selection of “made-to-order”, engineered duct silencers that will satisfy the requirements of each application.

COMMON APPLICATIONS

- HVAC Duct Systems
- Fan Inlet & Discharge
- Air Handling Units
- Cooling Towers
- Generator / Mechanical Room Vents

Specification

- A fire-protected version with 50 mm mineral wool is also available.
- Can be supplied with an inspection hatch.
- Manufactured from galvanized sheet steel in accordance with Corrosivity Class C3.

Performance

Hertz

THREE PERFORMANCE CHARACTERISTICS

- **Dynamic insertion loss** is the difference in sound levels at a given point before and after the installation of noise reduction equipment while under flow. It is essentially a measure of the amount of noise that the silencer or other equipment is moving.
- **Pressure drop** is the difference in total pressure between two points when measured upstream and downstream of a silencer.
- **Generated noise** is created when air flows through a silencer air passage, a function of air expansion and air turbulence.

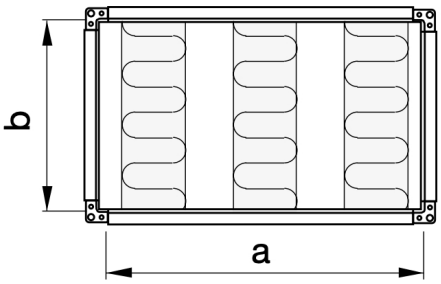
Design

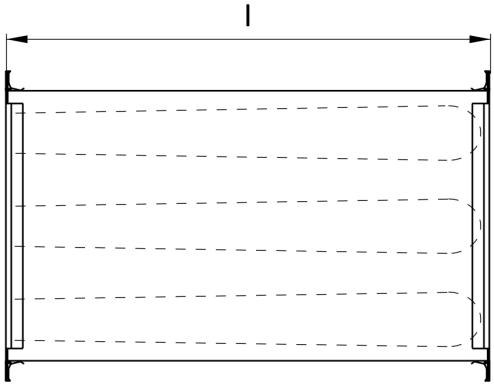
Hertz

- Galvanized sheet casing
- Designed for low air resistance with baffle combinations that attenuate particularly low-frequency noise well.
- The type of insulation material has been developed to provide good noise properties, low weight and to be cleanable.
- Air tightness class C and pressure class 2 according to EN 1507:2006.
- Perfomance tested according to ISO 7235

Dimensions

Hertz DLD

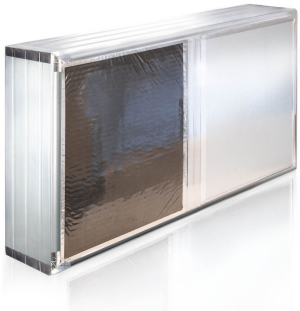




Hertz Standard Range				
Sizes			Working Range	Attenuation
a (mm)	b (mm)	l (mm)	m3/s	dB (A)
400-2200	300-2200	500-2750	0-40	10-50

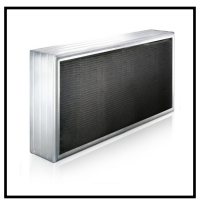
Silencer baffle types

Type A

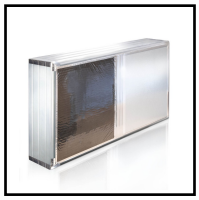


Type K

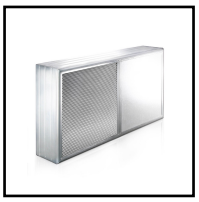
Type L



Type A - Silencer with sound-absorbing baffles — steel frame + mineral wool in lining: This baffle type is generally used for sound insulation at low and medium frequencies



Type K - Silencer with sound-absorbing resonator baffles — steel frame + mineral wool in lining + ½ of baffle length covered with steel sheet: This baffle type is generally used for sound insulation at medium and high frequencies.



Type L - Silencer with perforated sound-absorbing resonator baffles — steel frame + mineral wool in lining + baffle covered over its entire length with perforated steel sheet at an open surface area ratio of 36%:

Materials:

- Galvanized steel sheet, Z275 quality
- Aluminium sheet with a thickness range of 0.8–1.0 mm
- Stainless steel grade 1.4301
- Stainless steel grade 1.4404
- Additional stainless steel grades can be considered; please request a quotation to confirm production feasibility.

Baffle configuration:

- 1-baffle silencer: Two half-length baffles positioned along the duct walls
- 2-baffle silencer: One full-length baffle combined with two half-length side baffles
- 3-baffle silencer: Two full-length baffles plus two half-length baffles at the duct sides
- 5-baffle silencer: Four full-length baffles together with two half-length side baffles

Baffle construction:

- Insulation material: mineral wool (rock wool or glass wool). Alternative insulating materials, such as expanded PVC or customer-supplied materials, may also be used.
- Baffle thickness options range from 40 mm up to 300 mm, available with N3 type lining or G9 washable lining.
- Mineral wool density varies between 40 and 100 kg/m³.
- The leading face of the baffle is designed with a curved profile to minimize airflow disturbance and reduce pressure drop.

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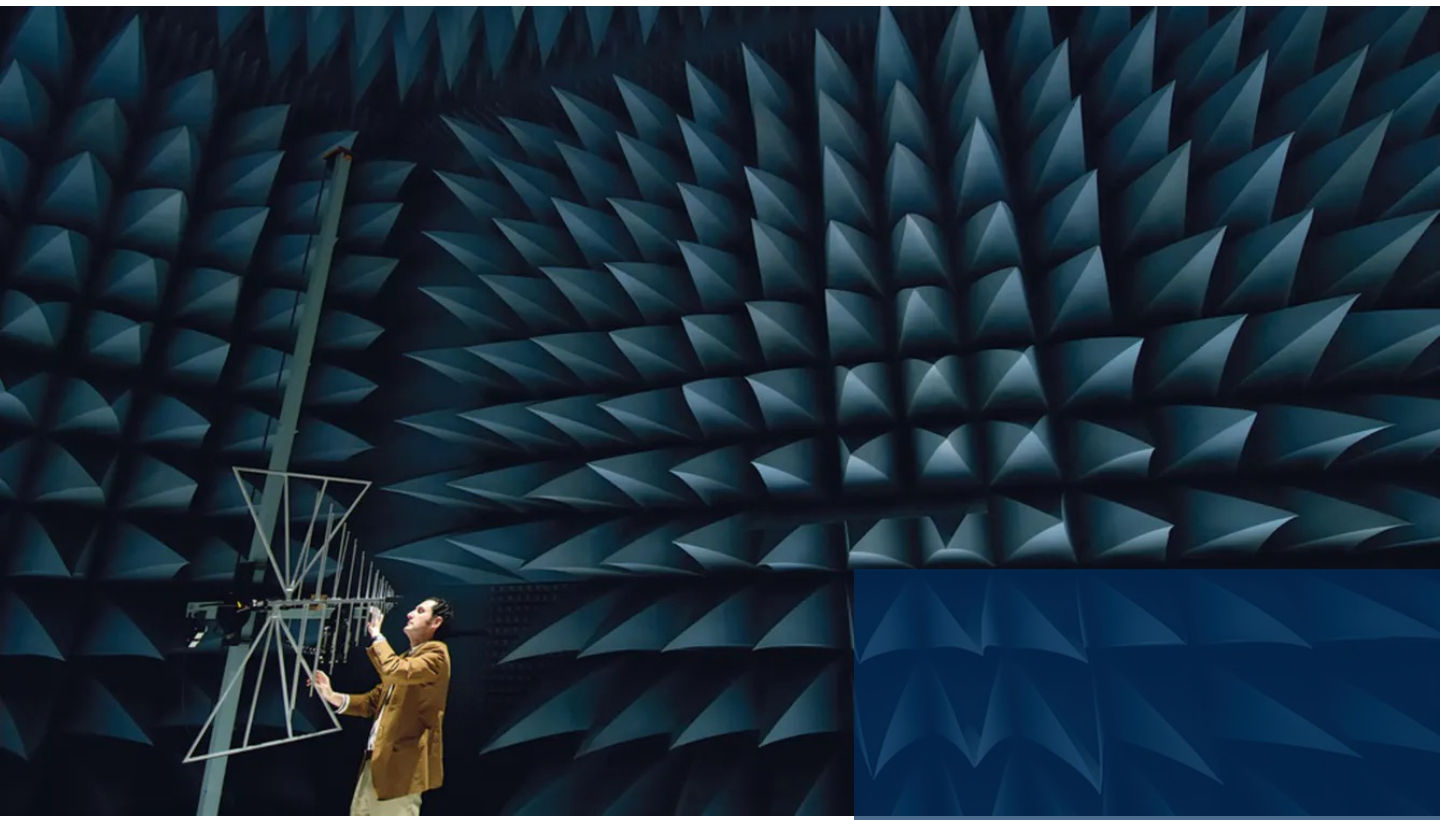

Application for noise control

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