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Soundproofing systems

for industrial use

Splitter silencer

industrial design, riveted housing

6.3.1 PRODUCT DESCRIPTION

Splitter silencers of riveted industrial design are used for the ventilation of machine rooms, equipment rooms and sound enclosures. They are suitable for both indoor and outdoor use. If required, they can be designed with additional coatings on the outer and inner surfaces.

DESIGNS

Splitter silencer type KSDI-KI
Splitter silencers KSDI with built-in chamber resonance splitters, splitter frame in riveted design.

Splitter silencer type KSDI-AI
Splitter silencer KSDI with built-in absorption splitters, splitter frame in riveted design.

Splitter silencer type KSDI-RI63
Splitter silencer KSDI with built-in resonance splitter tuned to 63 Hz, splitter frame in riveted design. Further variants are available in combination with absorber or chamber resonance splitters.

Splitter silencer type KSDI-RI25
Splitter silencer KSDI with built-in resonance splitter tuned to 125 Hz, splitter frame in riveted design. Further variants are available in combination with absorber or chamber resonance splitters.

DESIGN PARAMETERS

Airtightness class:	C as per DIN EN 1507
Pressure rating:	HE (-1500/+3000 Pa)
Medium:	air
Temperature:	max. 200 °C
Velocity:	max. 20 m/s
Sheet thickness:	from 1-1.2 mm

MATERIALS

DX51D* + Z275MA-C

1.4301

* galvanised sheet steel

Exhaust air silencer with housing and rain cowl

Splitter silencer

industrial design, welded housing

6.3.2 PRODUCT DESCRIPTION

Splitter silencers in welded industrial design are used in plant construction and process air technology, for example, as suction-side and pressure-side silencers for fans, in building ventilation with large cross-sections, at higher pressures and large air volumes, as required, for example, in the paper industry, in filter systems, as well as for compressors, pumps, and blowers. If required, they can be designed with additional coatings on the outer and inner surfaces.

DESIGNS

Splitter silencer type KSDIX-KI/KIX
Splitter silencers KSDIX with built-in chamber resonance splitters, splitter frame in riveted and welded design.

Splitter silencer type KSDIX-AI/AIX
Splitter silencer KSDIX with built-in absorption splitters, splitter frame available in riveted and welded design.

Splitter silencer type KSDIX-RI63/RIX63
Splitter silencer KSDIX with built-in resonance splitter tuned to 63 Hz, splitter frame in riveted and welded design. Further variants are available in combination with absorber or chamber resonance splitters.

Splitter silencer type KSDIX-RI125/RIX125
Splitter silencer KSDIX with built-in resonance splitter tuned to 125 Hz, splitter frame in riveted and welded design. Further variants are available in combination with absorber or chamber resonance splitters.

DESIGN PARAMETERS

Airtightness class:	C and D as per DIN EN 1507
Pressure rating:	M (-750/+2000 Pa) and H (-2500/+6000 Pa)
Medium:	air
Temperature:	max. 200 °C or according to separate design
Velocity:	max. 20 m/s or according to separate design
Sheet thickness:	from 1.5-3.0 mm or according to separate design

MATERIALS

DX51D* + Z275MA-C	AlMg3
1.4301	S235JRH
1.4404	P265GH
1.4571	16Mo3

* galvanised sheet steel

Splitter silencer KSDIX
with extractable splitters

Splitter silencer

Industrial design, welded housing, temperature resistant

6.3.4 PRODUCT DESCRIPTION

Splitter silencers in industrial design are used in plant construction and in process air technology with high temperature loads, for example, as suction-side and pressure-side silencers for hot gas fans, compressors, pumps and in the exhaust gas systems of power stations. The industrial silencers can be used variably for indoor and outdoor applications.

DESIGNS

Splitter silencer type KSDIY-KIY

Splitter silencer KSDIY with built-in chamber resonance splitters, splitter frame and perforated sheet metal shell in a special welded construction.

Splitter silencer type KSDIY-AIY

Splitter silencer KSDIY with integrated absorption splitters, splitter frame and perforated sheet metal shell in a special welded construction.

Splitter silencer type KSDIY-RIY63/RIY125

Splitter silencer KSDIY with built-in resonance splitters tuned to 63 Hz or 125 Hz, splitters entirely in a special welded construction.

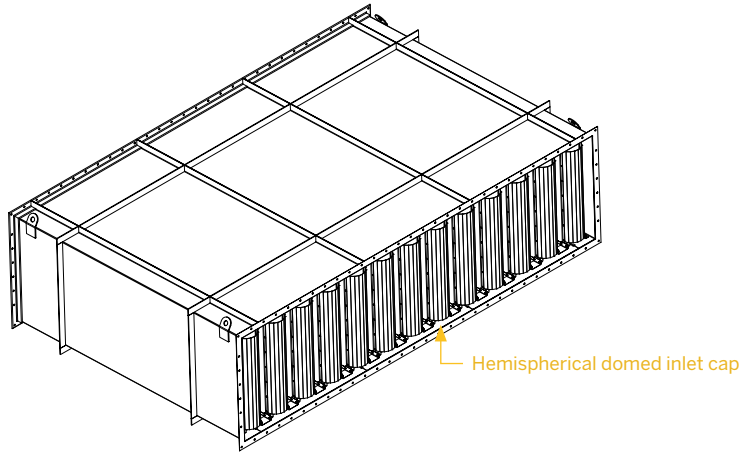
DESIGN PARAMETERS

Airtightness class:	C and D as per DIN EN 1507
Pressure rating:	M (-750/+2000 Pa) and H (-2500/+6000 Pa)
Medium:	exhaust gas or industrial exhaust air according to separate design
Temperature:	max. 450 °C or according to separate design
Velocity:	max. 20 m/s or according to separate design
Sheet thickness:	from 2.0 mm-6.0 mm or according to separate design

MATERIALS

DX51D* + Z275MA-C	AlMg3
1.4301	S235JRH
1.4404	P265GH
1.4571	16Mo3

* galvanised sheet steel



Splitter silencers

Industrial design, riveted frame

6.3.5 PRODUCT DESCRIPTION

Splitter silencers for industrial use in riveted frame design are used in plant construction and process air technology, as well as in ventilation technology, for example, as retrofitting in existing fresh air and exhaust air ducts, as splitter sets for building ventilation in concrete structures or brick shafts.

DESIGNS

6.3.5.1 Industrial splitters type KI
Chamber resonance splitters, riveted splitter frame.
For further design variants, see page 393.

6.3.5.2 Industrial splitters type AI
Absorption splitters, riveted splitter frame.
For further design variants, see page 393.

6.3.5.3 Industrial splitters type RI63/RI125
Resonance splitters tuned to 63 Hz or 125 Hz, riveted splitter frame.

6.3.5.4 Industrial combination splitters type KI/RI
Chamber resonance/resonator splitters, riveted splitter frame. For further design variants, see page 393.

6.3.5.5 Industrial combination splitters type AI/RI
Absorption/resonator splitters, riveted splitter frame.
For further design variants, see page 393.

DESIGN PARAMETERS

Medium:	air, exhaust gas or industrial exhaust air according to separate design
Temperature:	max. 200 °C depending on design
Velocity:	max. 20-30 m/s depending on design
Sheet thickness:	from 1.0 mm-3.0 mm depending on design

MATERIALS

DX51D* + Z275MA-C	AlMg3
1.4301	S235JRH
1.4404	P265GH
1.4571	16Mo3

* galvanised sheet steel

1

2

1 | Industrial splitter type AI200TL1
2 | Industrial splitter type RI200/63

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Splitter silencers

Industrial design, welded frame

6.3.6 PRODUCT DESCRIPTION

Splitter silencers for industrial use in welded frame design are used in plant construction and process air technology, as well as in ventilation technology, for example, as retrofitting in existing fresh air and exhaust air ducts, as splitter sets for building ventilation in concrete structures or brick shafts.

DESIGNS

6.3.6.1 Industrial splitters type KIX
Chamber resonance splitters, welded splitter frame.
For further design variants, see page 393.

6.3.6.2 Industrial splitters type AIX
Absorption splitters, welded splitter frame.
For further design variants, see page 393.

6.3.6.3 Industrial splitters type RIX63/RIX125
Resonance splitters tuned to 63 Hz or 125 Hz, welded splitter frame.

6.3.6.4 Industrial combination splitters type KIX/RIX
Chamber resonance/resonator splitters, welded splitter frame. For further design variants, see page 393.

6.3.6.5 Industrial combination splitters type AI/RI
Absorption/resonance splitters, welded splitter frame.
For further design variants, see page 393.

DESIGN PARAMETERS

Medium:	air, exhaust gas or industrial exhaust air according to separate design
Temperature:	max. 200 °C depending on design
Velocity:	max. 20-30 m/s depending on design
Sheet thickness:	from 1.0 mm-3.0 mm depending on design

MATERIALS

DX51D* + Z275MA-C	AlMg3
1.4301	S235JRH
1.4404	P265GH
1.4571	16Mo3

* galvanised sheet steel

1

2

1 | Industrial splitter type AI200TL1
2 | Industrial splitter type RI200/63

Splitter silencers

Industrial design, welded frame, temperature-resistant

6.3.7 PRODUCT DESCRIPTION

Splitter silencers in welded industrial design, especially for applications subject to high temperatures in plant construction and process air technology, for example, hot gas fans, ventilators, compressors, pumps and in the exhaust gas system in power plants. The industrial silencers are suitable for both indoor and outdoor use.

DESIGNS

6.3.7.1 Industrial splitters type KIY
Chamber resonance splitters, welded splitter frame, welded perforated sheet metal shell, special construction. For further design variants, see page 393.

6.3.7.2 Industrial splitters type AIY
Absorption splitters, welded splitter frame, welded perforated sheet metal shell, special construction. For further design variants, see page 393.

6.3.7.3 Industrial splitters type RI63/RI125
Resonance splitters tuned to 63 Hz or 125 Hz, welded splitter frame, special construction.

6.3.7.4 Industrial combination splitters type KIY/RIY
Chamber resonance/resonator splitters, welded splitter frame, welded perforated sheet metal shell, special construction. For further design variants, see page 393.

6.3.7.5 Industrial combination splitters type AIY/RIY
Absorption resonance splitters, welded splitter frame, welded perforated sheet metal shell, special construction. For further design variants, see page 393.

DESIGN PARAMETERS

Medium:	air, exhaust gas or industrial exhaust air according to separate design
Temperature:	max. 450 °C or according to separate design
Velocity:	max. 20-30 m/s depending on design
Sheet thickness:	from 1.0 mm-3.0 mm depending on design

MATERIALS

DX51D* + Z275MA-C	AlMg3
1.4301	S235JRH
1.4404	P265GH
1.4571	16Mo3

* galvanised sheet steel

1

2

1 | Industrial splitter type AI200TL1
2 | Industrial splitter type RI200/63

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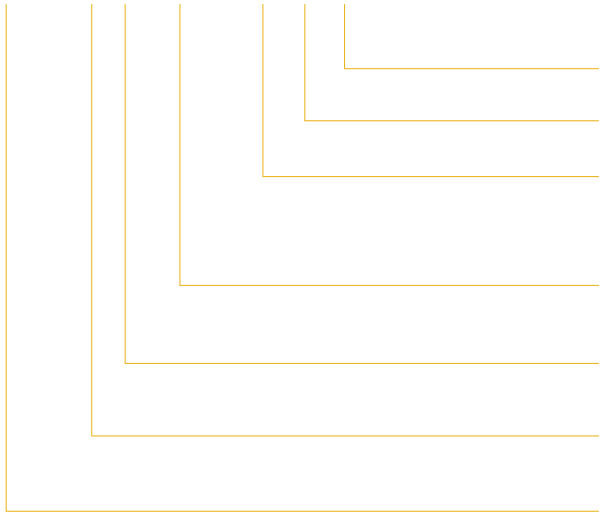
Splitter silencers

Industrial design

TYPE CODES

KSDIX - A IX 200 T L1 Z1 S1



Pointed inlet cap

Additional single-layer stainless steel mesh cover

Perforated sheet metal shell riveted on glass fibre covering

Splitter thickness 200 mm

Industrial design, welded splitter frame

Absorption splitter

Splitter silencer welded in industrial design

DESIGN VARIANTS

KSDI	splitter silencer for industrial application riveted silencer housing
KSDIX	splitter silencer for industrial application welded silencer housing
KSDIY	splitter silencer for applications subject to high temperatures welded silencer housing
K	chamber resonance splitter
A	absorption splitter
R	resonance splitter
I	industrial design, riveted splitter frame
IX	industrial design, welded splitter frame
IY	industrial design, special construction

200	splitter thickness in mm
T	textile (glass fibre covering)
F	glass needle, felt cover
F1	stainless steel needle, felt cover
L1	perforated sheet metal shell, riveted on
L2	perforated sheet metal shell, welded on
Z1	additional single-layer stainless steel mesh cover
Z2	additional double-layer stainless steel mesh cover
S	hemispherical domed inlet cap
S1	pointed inlet cap

Inquiry form

DESIRED/POSSIBLE DIMENSIONS

Width .....mm
Height .....mm
Length .....mm

ARRANGEMENT

- ☐ Internal arrangement
- ☐ External arrangement
- ☐ Horizontal
- ☐ Vertical
- ☐ According to sketch
- ☐ Suction side
- ☐ Pressures side

DESIRED/POSSIBLE MATERIALS

- ☐ DX51D+Z275MA-C
- ☐ 1.4301
- ☐ 1.4404
- ☐ 1.4571
- ☐ AlMg3
- ☐ S235JRH
- ☐ P265GH
- ☐ 16Mo3

DESIRED/POSSIBLE CONNECTION TYPE

Suction side

- ☐ Flat flange as per DIN .....
- ☐ Angle flange as per DIN.....
- ☐ Special flange .....

Pressure side

- ☐ Flat flange as per DIN .....
- ☐ Angle flange as per DIN .....
- ☐ Special flange .....

SURFACE TREATMENT

- ☐ Sandblasting Sa 2 ½ .....
- ☐ Primer coat .....
- ☐ Thickness of coat .....µm
- ☐ Shot peening .....
- ☐ Intermediate coat .....
- ☐ Thickness of coat ..... µm

Internal

- ☐ Stain .....
- ☐ Top coat .....
- ☐ Thickness of coating ..... µm

External

- ☐ Paint .....
- ☐ Thickness of coat ..... µm

DESIGN PARAMETERS

Flow rate ..... Operating m^3/h
Flow rate ..... Standard m^3/h

- ☐ Positive pressure
- ☐ Suction-side
- ☐ Negative pressure
- ☐ Pressure-side

Medium .....
Max. operating temperature ..... °C
Flow rate ..... Pa/bar

OUTPUT LEVEL DATA

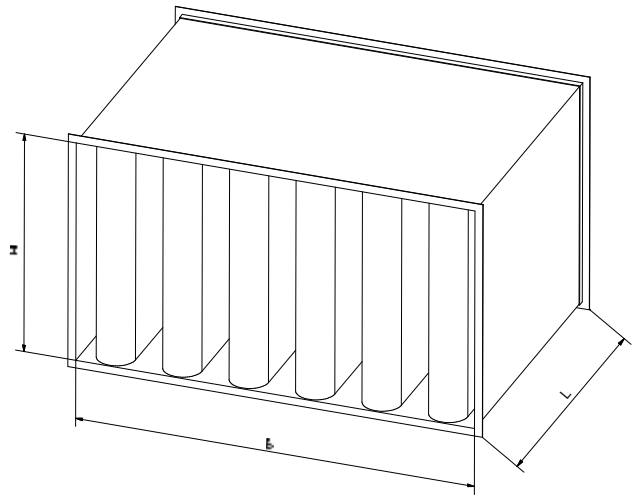
- ☐ As sound pressure level Lw in .....
- ☐ dB ☐ dB(A)

- ☐ As sound pressure level Lp in ..... m distance in
- ☐ dB ☐ dB(A)

63	125	250	500	1K	2K	4K	8K	Hz
								Level

- ☐ As sound pressure level Lw in .....
- ☐ dB ☐ dB(A)

- ☐ As sound pressure level Lp in ..... m distance in
- ☐ dB ☐ dB(A)



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Tube silencer

Industrial design, casing riveted/welded

6.4.1 PRODUCT DESCRIPTION

Tube silencers are used for the ventilation of machinery and equipment rooms, in sound enclosures and in process air technology. They can be used indoors and outdoors. If required, they can be designed with additional coatings on the outer and inner surfaces.

DESIGNS

Rigid tube silencers without core, RSDI, RSDIX, RSDIY
Tube silencer in riveted/welded housing design with flange connectors as per DIN 24154/series 2.
For further design variants, see page 396.

Rigid tube silencer with core, type RSKI, RSKIX, RSKIY
Tube silencer in riveted/welded housing design with flange connectors as per DIN 24154/series 2.
For further design variants, see page 396.

Rigid tube silencer with splitters, RSmKIX, RSmKIY
Tube silencer in welded housing design with flange connectors as per DIN 24154/series 2.
For further design variants, see page 396.

Rigid tube silencer with core and ring splitters, type RSmRKIX, RSmRKIY
Tube silencers in welded housing design with flange connectors as per DIN 24154/series 2.
For further design variants, see page 396.

Silencers that can be exposed to extreme temperatures and pressures on request.

DESIGN PARAMETERS

Airtightness class:	C and D as per DIN EN 1507
Pressure rating:	depending on requirements
Medium:	air or industrial exhaust air according to separate design
Temperature:	max. 200-450 °C or according to separate design
Velocity:	max. 20-35 m/s or according to separate design
Sheet thickness:	from 2.0 mm-6.0 mm or according to separate design

MATERIALS

DX51D* + Z275MA-C	AlMg3
1.4301	S235JRH
1.4404	P265GH
1.4571	16Mo3

* galvanised sheet steel

Tube silencer, type RSDIX

Tube silencer

TYPE CODES

RSKIY - F Z1

Additional single-layer stainless steel mesh cover

Glass needle, felt cover

Rigid tube silencer, with core as pressure vessel

DESIGN VARIANTS

RSDI	rigid tube silencer, without core, folded/riveted design
RSKI	rigid tube silencer, with core, folded/riveted design
RSDIX	rigid tube silencer, without core, welded design
RSKIX	rigid tube silencer, with core, welded design
RSDIY	rigid tube silencer, without core for high-temperature applications
RSKIY	rigid tube silencer, with core for high-temperature applications
RSmKIX	rigid tube silencer, with splitter, welded design
RSmKIY	rigid tube silencer, with splitter, for high-temperature applications
RSmRKIX	rigid tube silencer, with ring splitter, welded design
RSmRKIY	rigid tube silencer, with ring splitter for high-temperature applications

Inquiry form

DESIRED/POSSIBLE DIMENSIONS

- ☐ Nominal width of connection ..... mm without core
- ☐ External diameter ..... mm with core
- ☐ Damping length ..... mm with splitter
- ☐ With core and ring splitter

ARRANGEMENT

- ☐ Internal arrangement
- ☐ External arrangement
- ☐ Horizontal
- ☐ Vertical
- ☐ According to sketch
- ☐ Suction side
- ☐ Pressures side

DESIRED/POSSIBLE MATERIALS

- ☐ DX51D+Z275MA-C
- ☐ 1.4301
- ☐ 1.4404
- ☐ 1.4571
- ☐ AlMg3
- ☐ S235JRH
- ☐ P265GH
- ☐ 16Mo3

DESIRED/POSSIBLE CONNECTION TYPE

Suction side

- ☐ Flat flange as per DIN .....
- ☐ Angle flange as per DIN.....
- ☐ Special flange .....

Pressure side

- ☐ Flat flange as per DIN .....
- ☐ Angle flange as per DIN .....
- ☐ Special flange .....

SURFACE TREATMENT

- ☐ Sandblasting Sa 2 ½ .....
- ☐ Primer coat .....
- ☐ Thickness of coat ..... µm
- ☐ Shot peening .....
- ☐ Intermediate coat .....
- ☐ Thickness of coat ..... µm

Internal

- ☐ Stain .....
- ☐ Top coat .....
- ☐ Thickness of coating ..... µm

External

- ☐ Paint .....
- ☐ Thickness of coat ..... µm

DESIGN PARAMETERS:

Flow rate ..... Operating m^3/h
Flow rate ..... Standard m^3/h

- ☐ Positive pressure
- ☐ Suction-side
- ☐ Negative pressure
- ☐ Pressure-side

Medium .....
Max. operating temperature ..... °C
Flow rate ..... Pa/bar

OUTPUT LEVEL DATA

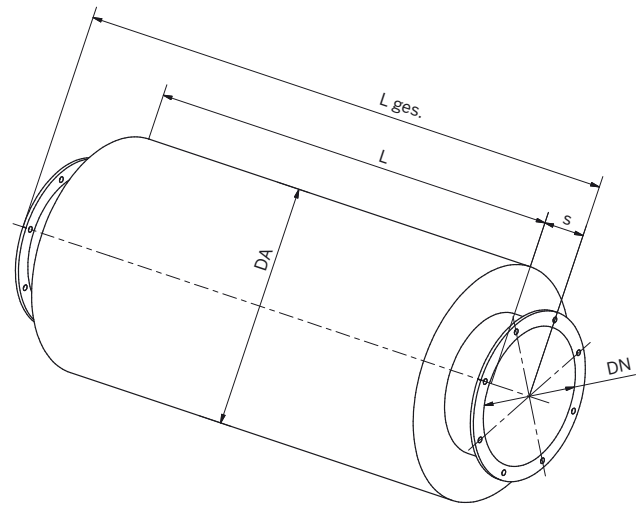
- ☐ As sound pressure level Lw in .....
- ☐ dB ☐ dB(A)

- ☐ As sound pressure level Lp in ..... m distance in
- ☐ dB ☐ dB(A)

63	125	250	500	1K	2K	4K	8K	Hz
								Level

- ☐ As sound pressure level Lw in .....
- ☐ dB ☐ dB(A)

- ☐ As sound pressure level Lp in ..... m distance in
- ☐ dB ☐ dB(A)



Sound enclosures in galvanised design

PRODUCT DESCRIPTION

Sound enclosures reduce the propagation of sound in industrial assemblies, such as from noisy motors, blowers, recooling structures, and turbines. The source of the noise is encapsulated and its sound emission is reduced. Sound enclosures are individually planned and manufactured, taking into account the local conditions.

DIMENSIONING

The dimensioning of sound enclosures is determined by numerous factors, such as the following:

The required amount of insulation that must be inserted depending on the spectrum of the noise source

The cooling air requirement, possibly air filtering, air conditioning, control equipment

Accessibility and ease of assembly and disassembly

Structure-borne sound insulation measures, anti-drumming

Butt joint seal

Windows, doors, inspection openings, pipe penetrations etc.

DESIGN PARAMETERS

Pressure:	without pressure
Medium:	air
Temperature:	max. 200 °C
Sheet thickness:	from 1.0 mm-3.0 mm

DESIGNS

6.5.1 Sound enclosure
50 mm wall thickness

6.5.2 Sound enclosure
60 mm wall thickness

6.5.3 Sound enclosure
80 mm wall thickness

6.5.4 Sound enclosure
100 mm wall thickness

MATERIALS

DX51D* + Z275MA-C

1.4301, 1.4404, 1.4571 and AlMg3

* galvanised sheet steel

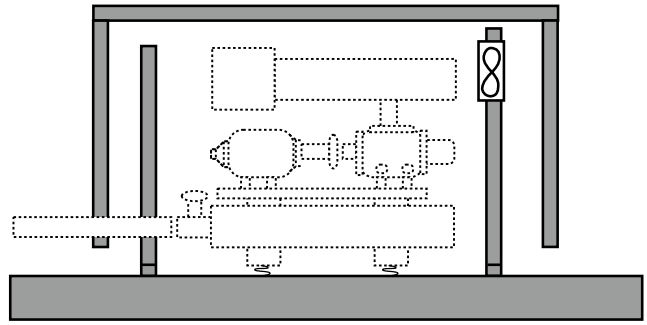
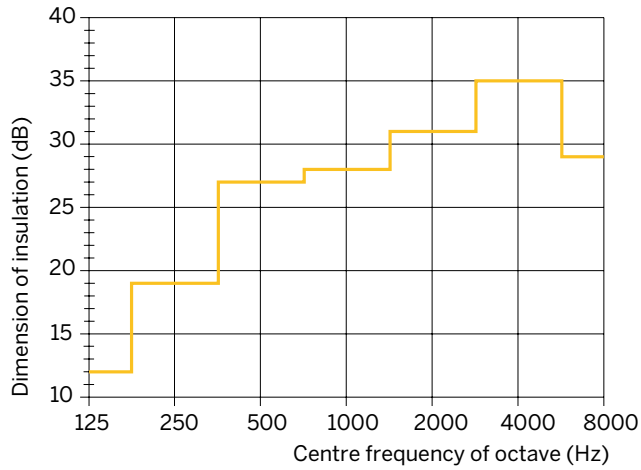


Diagram (example)



Design example: Sound enclosure for fans, simple wall construction (1 mm sheet steel, 50 mm mineral wool)

1 | Sound enclosure

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Custom products
Project examples

ON REQUEST

Noise control coverings for indoor and outdoor installation

Sound-proofed walls (stationary and mobile)

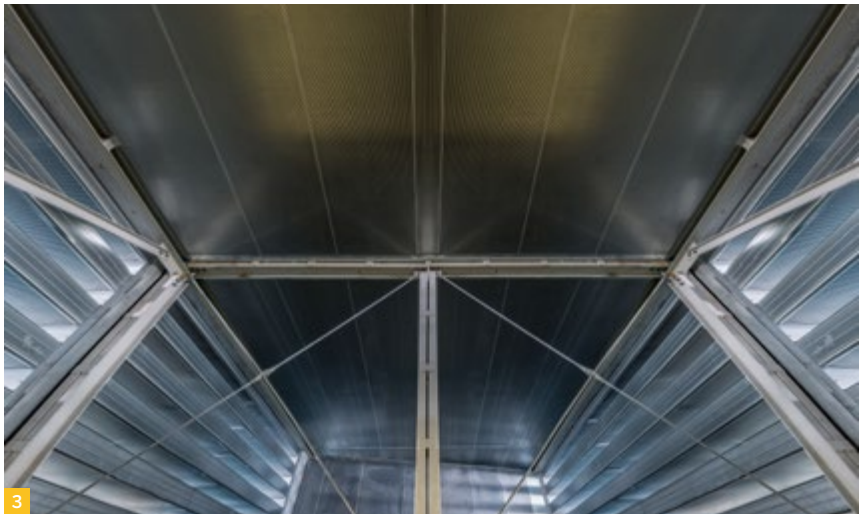
Absorbent wall claddings, industrial silencers (round/rectangular)

Air filter technology (filter layers/housings)

Supply/exhaust air ducting for industrial applications (e.g. block-type thermal power stations, emergency power systems, compressors, etc.)


1


2


3

1 + 2 | Sound-insulated exhaust air chamber indoor skydiving facility (exterior view)

3 | Sound-insulated exhaust air chamber indoor skydiving facility (interior view)

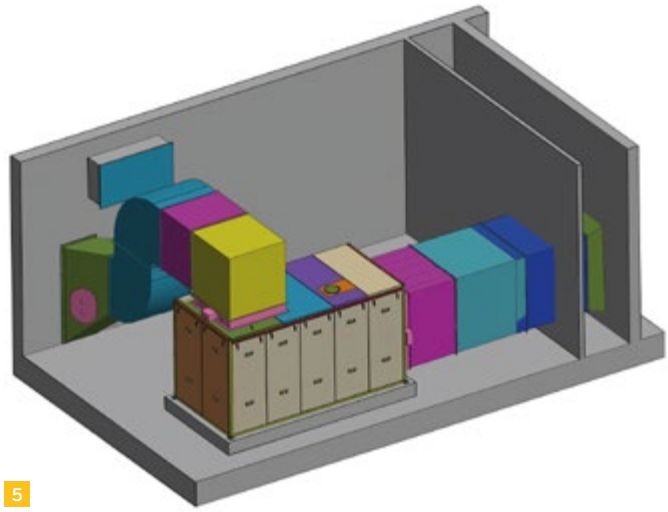
Custom products
Project examples


1


2


3


4


5

1 | Industrial noise encapsulation with noise control covering on thermal power station

2 | Sound enclosure of a steam pressure reduction station (interior view)

3 + 4 | Noise control covering for steam pressure reduction station in a thermal power station

5 | Construction drawing of a sound insulation hood with supply and exhaust air ducting