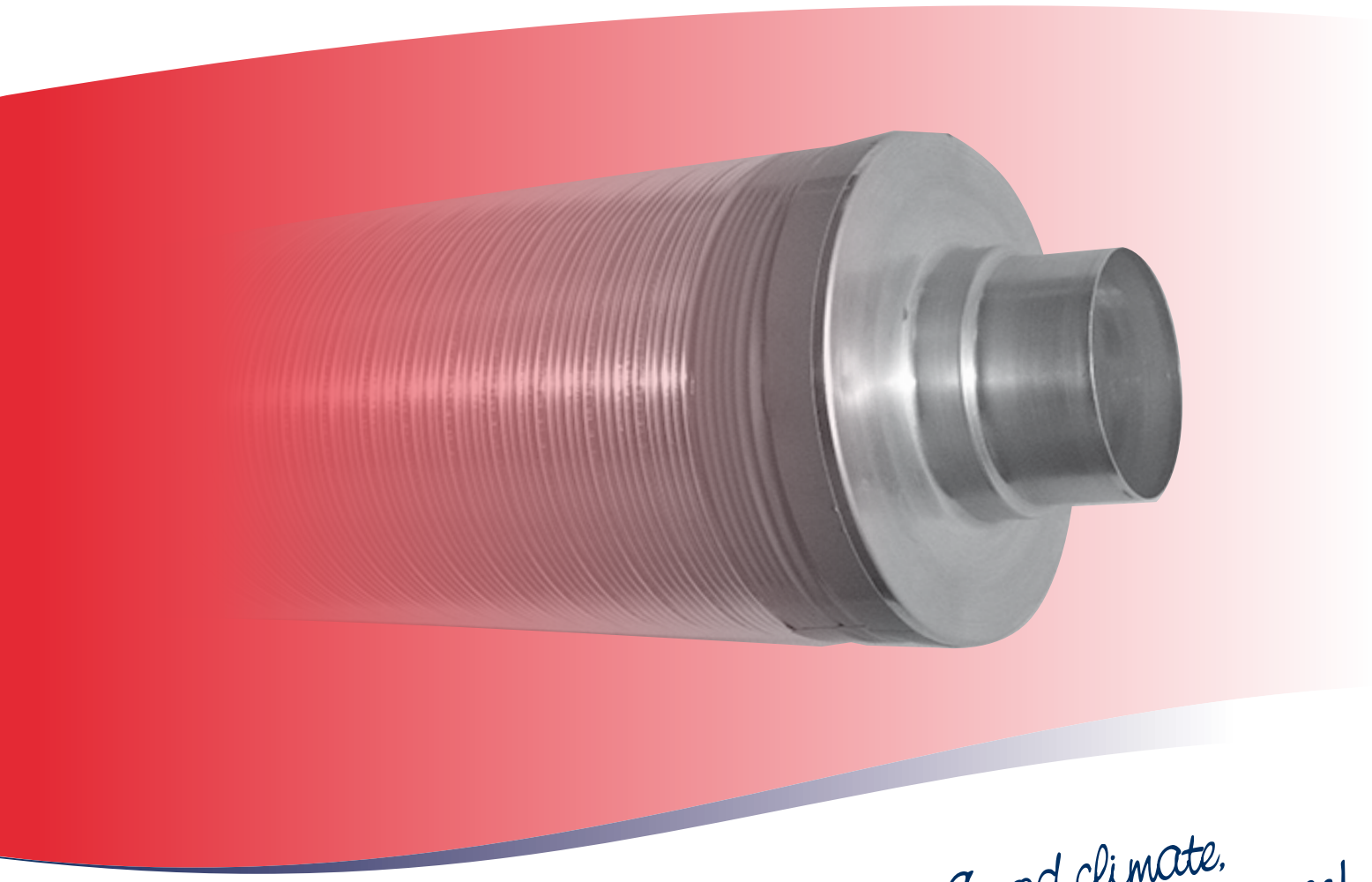
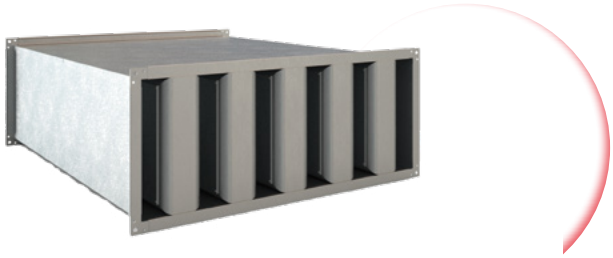


Good climate, better performance!

CHAPTER 7

SOUND ATTENUATING COMPONENTS

Chapter 7 - Sound attenuating components



AGC-A

Sound attenuator

Absorption baffles

Use

The AGC-A sound attenuators consist of reinforced air-duct housing of galvanised steel sheet and type AGC-AC absorption baffles.
The standard version has a DW30 connection profile. DW20 or DW40 connection profiles are also available.

Characteristics

Insertion loss, flow noise and pressure loss measured in accordance with DIN 45646 (ISO 7235)
Non-flammable in accordance with DIN 4102.
Maximum air velocity between the baffles: 20 m/s.
Maximum operating temperature: 100 °C.

Version

housing and
connection profile: sendzimir galvanised steel sheet

Baffles
frame: sendzimir galvanised steel sheet
lining: mineral wool with glass-fleece cover

Available types

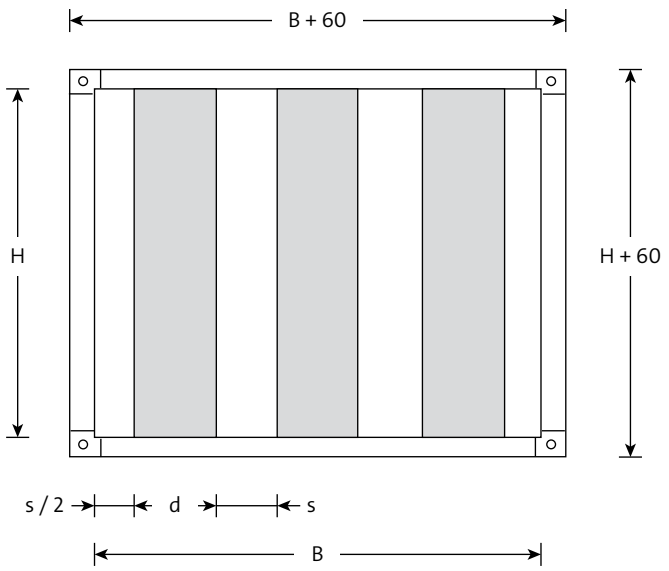
A G C - A -

- **A** accessory
- **G** sound attenuation
- **C** baffle

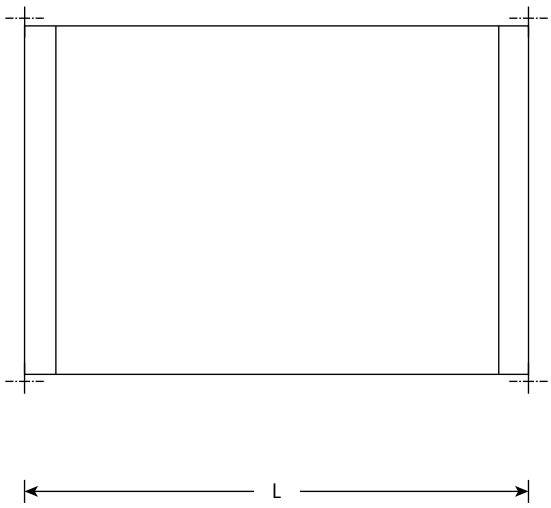
- **-** **Version**
  - **W** baffle thickness 100 mm round corner
  - **X** baffle thickness 200 mm round corner

- **A** absorption baffles
- **-** number of baffles

Dimensions



AGCWA/AGCXA



d = baffle thickness
s = interval

Available dimensions

The height H is available in increments of 50 mm from 150 to 1800 mm. The width W is available in increments of 50 mm from 150 to 1600 mm (AGCWA) or from 250 to 2400 mm (AGCXA) and with a maximum of 8 baffles.
The length L is only available in 500, 750, 1000, 1250 and 1500 mm. Greater heights and lengths can be obtained by putting various elements together.

Note

- The given length, width and height sizes L, W and H are actual duct sizes in mm.
- Spacing: S = baffle, S/2 = half baffle.
- For general fitting instructions for rectangular sound attenuators, click here.

SA-Select

Check SA-select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

When you select sound attenuators online, remember the following:

- In sound attenuators, the air supply velocity must be divided evenly over the duct surface. The pressure losses and sound power levels for flow noise apply under this condition. In sound attenuators after bends, branches, fans, the air should be supplied via the conduction blades as much as possible in order to prevent the anticipated differences in air velocity.
- The maximum permitted velocity between the baffles amounts to 15 m/s. Due to the corresponding relatively high pressure loss and flow noise, the air velocities that can be used in practice are generally lower.
- The flow noise of the sound attenuator should be 10 dB less than the sound power of the attenuator less the insertion loss.

AGC-AC

Absorption baffle

Use

The AGC-AC baffles with glass-fleece cover are absorption/sound attenuating baffles for use in air-treatment systems.
The frame of galvanised steel sheet produces high rigidity.
The surfaces of the mineral-wool absorption material are finished with tear-free, scratch-resistant and humidity-proof glass fleece.

Characteristics

Insertion loss, flow noise and pressure loss measured in accordance with DIN 45646 (ISO 7235).
Non-flammable in accordance with DIN 4102.
Maximum air velocity between the baffles: 20 m/s.
Maximum operating temperature: 100 °C.

Version

frame:	sendzimir galvanised steel sheet
lining:	mineral wool with glass-fleece cover

Available types

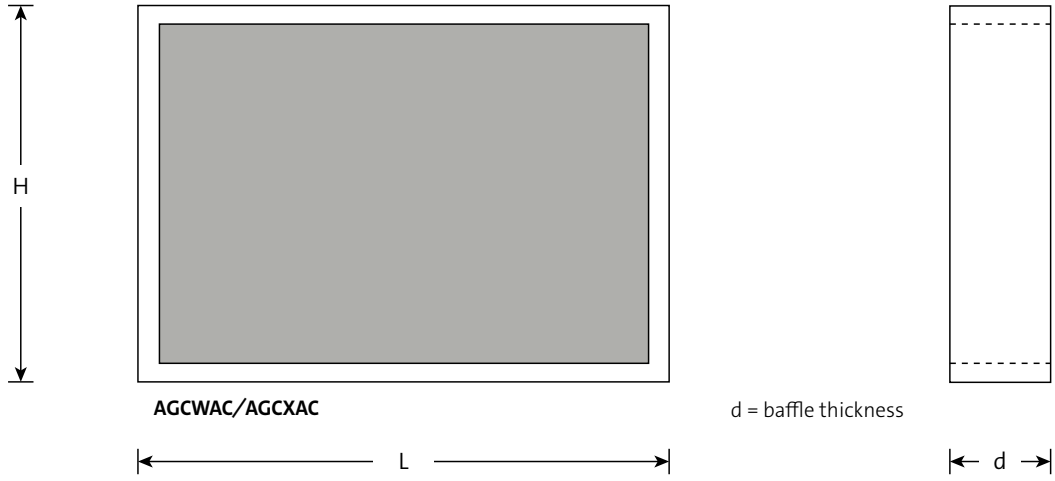
A G C - A C

A accessory
G sound attenuation
C baffle

- **Version**
W baffle thickness 100 mm round corner
X baffle thickness 200 mm round corner

A absorption baffle
C loose baffle

Dimensions



Available dimensions

The nominal height H is available in increments of 50 mm from 150 to 1800 mm.
The length L is only available in 500, 750, 1000, 1250 and 1500 mm. Greater heights and lengths can be obtained by putting various baffles together. Connector covers are available for this purpose.
To achieve the insertion loss with the given spacings, the baffles must be built into suitable housing made of steel sheet or other materials, such as mineral construction materials.

Note

- The dimensions are in mm.
- The actual length is L - 5 in mm.
- The actual height is H - 5 in mm.

SA-Select

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When you select sound attenuators online, remember the following:

- In sound attenuators, the air supply velocity must be divided evenly over the duct surface. The pressure losses and sound power levels for flow noise apply under this condition. In sound attenuators after bends, branches, fans, the air should be supplied via the conduction blades as much as possible in order to prevent the anticipated differences in air velocity.
- The maximum permitted velocity between the baffles amounts to 20 m/s. Due to the corresponding relatively high pressure loss and flow noise, the air velocities that can be used in practice are generally lower.
- The flow noise of the sound attenuator should be 10 dB less than the sound power of the attenuator less the insertion loss.

AGC-R

Sound attenuator

Absorption/resonance baffles

Use

The AGC R sound attenuators consist of reinforced air-duct housing of galvanised steel sheet and type AGC-RC absorption/resonance baffles.
The standard version has a DW30 connection profile. DW20 or DW40 connection profiles are also available.

Characteristics

Insertion loss, flow noise and pressure loss measured in accordance with DIN 45646 (ISO 7235).
Non-flammable in accordance with DIN 4102.
Maximum air velocity between the baffles: 20 m/s.
Maximum operating temperature: 100 °C.

Version

housing and
connection profile: sendzimir galvanised steel sheet

Baffles
frame: sendzimir galvanised steel sheet
lining: mineral wool with steel and glass-fleece cover

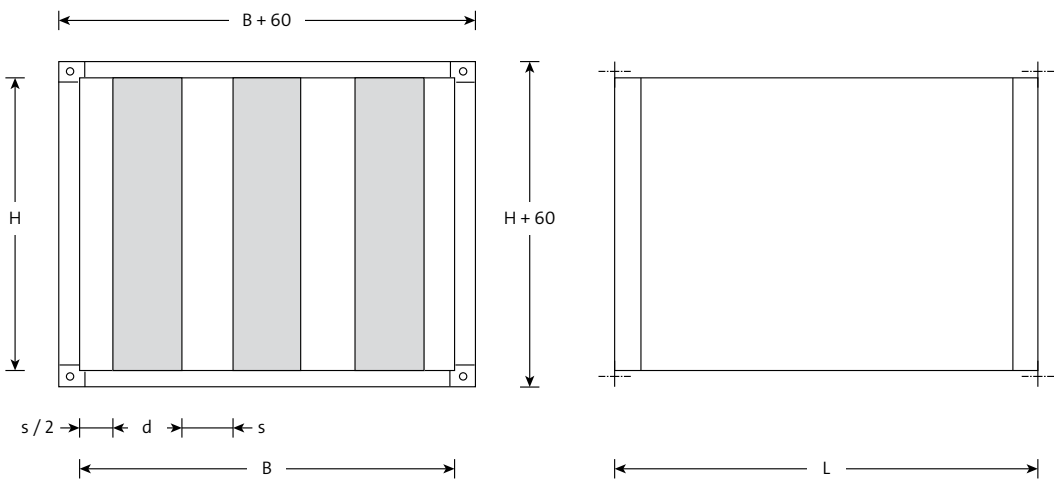
Available types

A G C - R -
- **A** accessory
- **G** sound attenuator
- **C** rectangular

- **-** **Version**
  - **W** baffle thickness 100 mm round corner
  - **X** baffle thickness 200 mm round corner

- **R** absorption/resonance baffles
- **-** number of baffles

Dimensions



AGCWR- / AGCXR-

d = baffle thickness
s = interval

Available dimensions

The height H is available in increments of 50 mm from 150 to 1800 mm. The width W is available in increments of 50 mm from 150 to 1600 mm (AGCWR) or from 250 to 2400 mm (AGCXR) and with a maximum of 8 baffles.
The length L is only available in 500, 750, 1000, 1250 and 1500 mm. Greater heights and lengths can be obtained by putting various elements together.

Note

- The given length, width and height L, W and H are actual duct sizes in mm.
- Spacing: S = baffle, S/2 = half baffle.
- For general fitting instructions for rectangular sound attenuators, click here.

SA-Select

Check SA-select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

When you select sound attenuators online, remember the following:

- In sound attenuators, the air supply velocity must be divided evenly over the duct surface. The pressure losses and sound power levels for flow noise apply under this condition. In sound attenuators after bends, branches, fans, the air should be supplied via the conduction blades as much as possible in order to prevent the anticipated differences in air velocity.
- The maximum permitted velocity between the baffles amounts to 15 m/s. Due to the correspon ing relatively high pressure loss and flow noise, the air velocities that can be used in practice are generally lower.
- The flow noise of the sound attenuator should be 10 dB less than the sound power of the attenuator less the insertion loss.

AGC-RC

Sound attenuator

Absorption/resonance baffle

Use

The AGC-RC baffles are combined absorption/resonance sound attenuating baffles in a two-chamber version for use in air-treatment systems. The frame of galvanised steel sheet produces high rigidity. The surfaces of the mineral-wool absorption material are finished with tear-free, scratch-resistant and humidity-proof glass fleece.

Characteristics

Insertion loss, flow noise and pressure loss measured in accordance with DIN 45646 (ISO 7235)
Non-flammable in accordance with DIN 4102.
Maximum air velocity between the baffles: 20 m/s.
Maximum operating temperature: 100 °C.

Version

frame:	sendzimir galvanised steel sheet
lining:	mineral wool with steel and glass-fleece cover

Available types

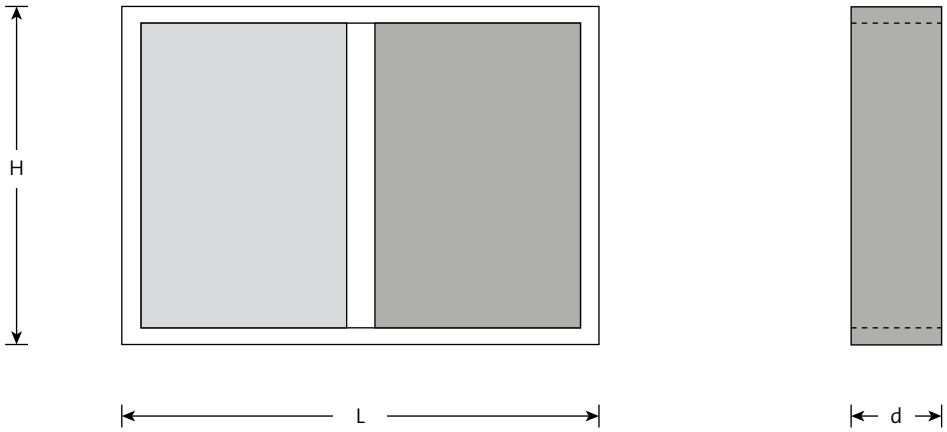
A G C - R C

A accessory
G sound attenuation
C baffle

- Version
W baffle thickness 100 mm round corner
X baffle thickness 200 mm round corner

R absorption/resonance baffle
C loose baffle

Dimensions



AGCWRC / AGCXRC

Available dimensions

The nominal height H is available in increments of 50 mm from 150 to 1800 mm.
The length L is only available in 500, 750, 1000, 1250 and 1500 mm.
Greater heights and lengths can be obtained by putting various baffles together. Connector covers are available for this purpose.
To achieve the insertion loss with the given spacings, the baffles must be built into suitable housing made of steel sheet or other materials, such a mineral construction materials.

Note

- The dimensions are in mm.
- The actual length is L - 5 in mm.
- The actual height is H - 5 in mm.

SA-Select

Check SA-select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

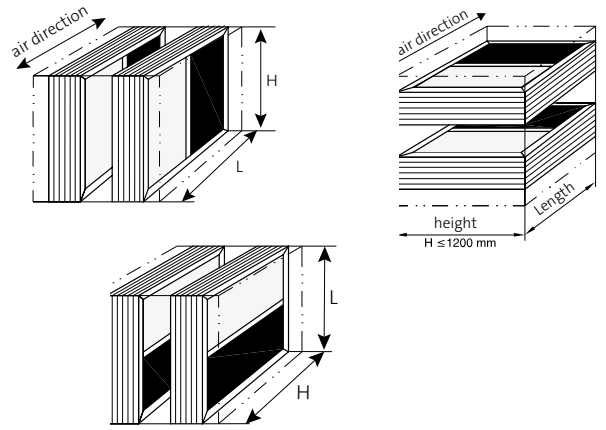
When you select sound attenuators online, remember the following:

- In sound attenuators, the air supply velocity must be divided evenly over the duct surface. The pressure losses and sound power levels for flow noise apply under this condition. In sound attenuators after bends, branches, fans, the air should be supplied via the conduction blades as much as possible in order to prevent the anticipated differences in air velocity.
- The maximum permitted velocity between the baffles amounts to 20 m/s. Due to the corresponding relatively high pressure loss and flow noise, the air velocities that can be used in practice are generally lower.
- The flow noise of the sound attenuator should be 10 dB less than the sound power of the attenuator less the insertion loss.

General fitting instructions

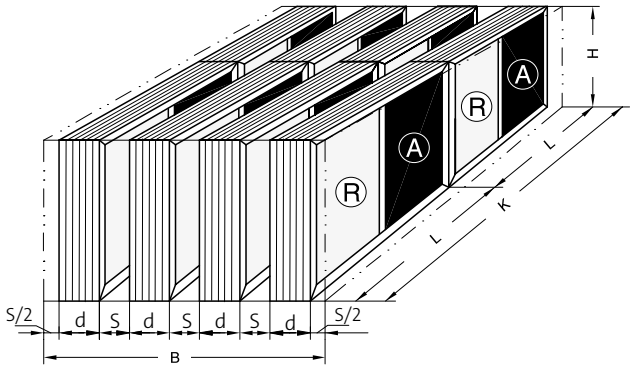
Built-in position:
The standard position for the baffles is upright.
Lying baffles to a maximum baffle height of 1200 mm are only permitted when penetrating humidity is excluded in principle.

Built-in location:
The baffles should be placed parallel to each other to ensure the absorption sound attenuating surfaces (A) and the resonance sound attenuating surfaces (R) are always opposite each other.



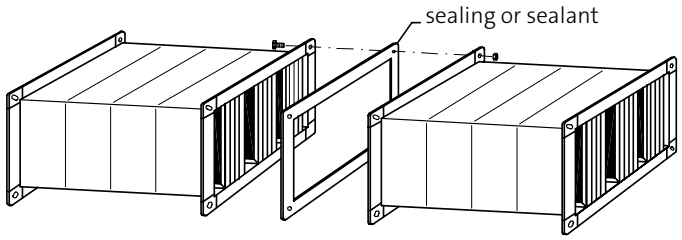
Heights over 600 mm require extra support in the middle!

Maximum dimensions sound attenuators:
Sound attenuators to a length of 1500 mm can be supplied as one piece.
Greater lengths, up to 3000 mm, are supplied in sections that must be assembled on site.
From a height of 1000 mm and a length of 750 mm, the sides of the attenuators have removable reinforcement profiles of approx. 32 mm in height. The duct length K must equal at least the sum of the individual baffles.
Only baffles of the same length L may be fitted alongside and above each other.
Baffle height H and baffle length L may not be interchanged.



Ⓡ resonance sound-absorbing plane
Ⓐ absorption sound-absorbing surface

The air flow must flow in the direction of the baffle length L through the spacing S. Between the two outer baffles and the duct, the spacing is s/2. The width of the spacing must be kept constant over the length L and the height H.

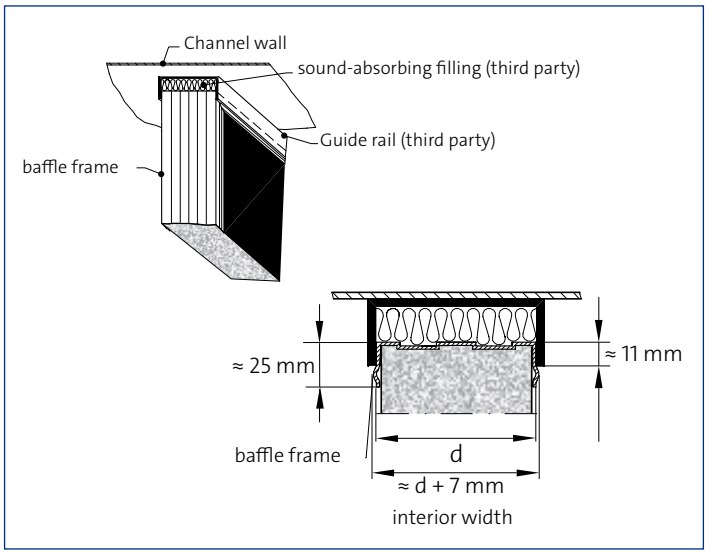


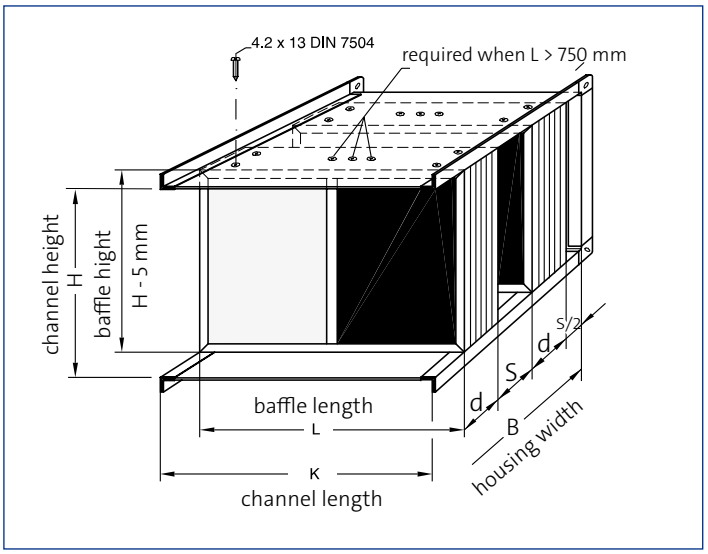
Notes

- If the spacing is increased, the attenuation reduces.
- When the spacing reduces, the pressure loss and the flow noise increase. To compensate the duct-wall thickness, the actual baffle height is 5 mm smaller than the nominal height H.
- When several baffles are fitted on top of each other, the baffle height must be ordered taking this correction into account.
- The nominal height H of the baffles is the order size.

Fitting loose baffles in existing air ducts

Baffles can be fitted in a duct with an internal height that equals the nominal baffle height.
When several baffles are fitted on top of each other, the additional baffles must be ordered at a 5 mm greater height H to prevent too great an increase in the free space between the ducts. Remaining free space between the baffle frames and the duct are sealed with an sound attenuating filling.
Loose baffles can be fitted with drilling screws in steel-sheet ducts. Fit the baffles tight and vibration-free. If necessary, seal the screws.

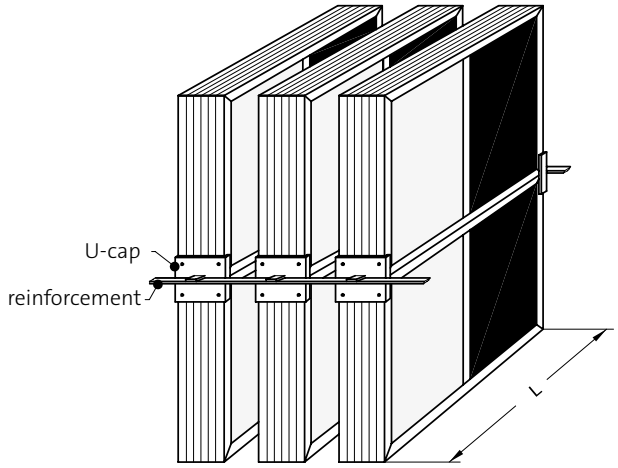




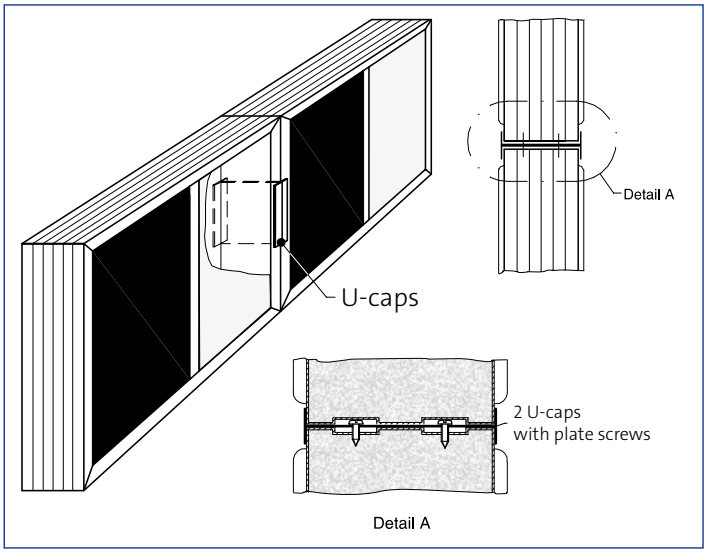
7

Fitting loose baffles in existing air ducts (continued)

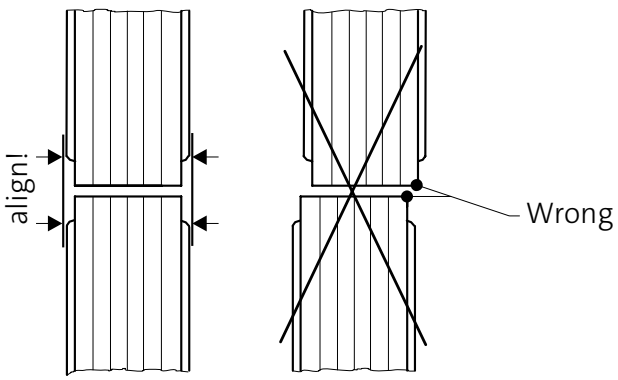
Combine on top of each other:
Loose baffles can be fitted on top of each other up to a total height of approx. 5390 mm.
They are connected with U profile connectors.
To keep the spacing S constant at greater heights, the U profile connectors are connected together with a strip.



Combine behind each other:
Loose baffles can be fitted behind each other up to a total length of 3000 mm.



Alignment:
Always align the baffles carefully!
Avoid zigzag positioning of the baffles.

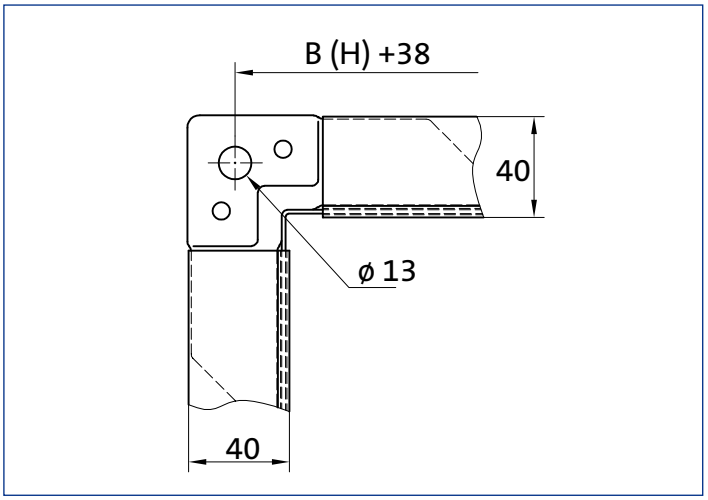


7

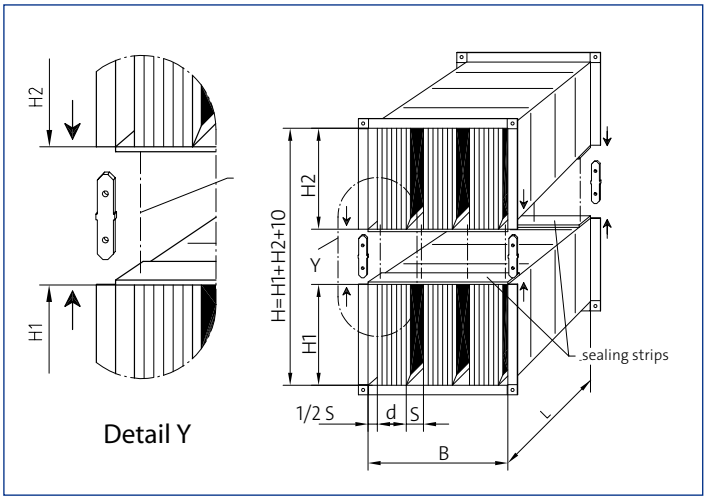
Composite sound attenuators

Frame:
Outer frame profile DW40, fender profiles from steel sheet.
Required bolts and nuts(M8 x 20) supplied by third parties.

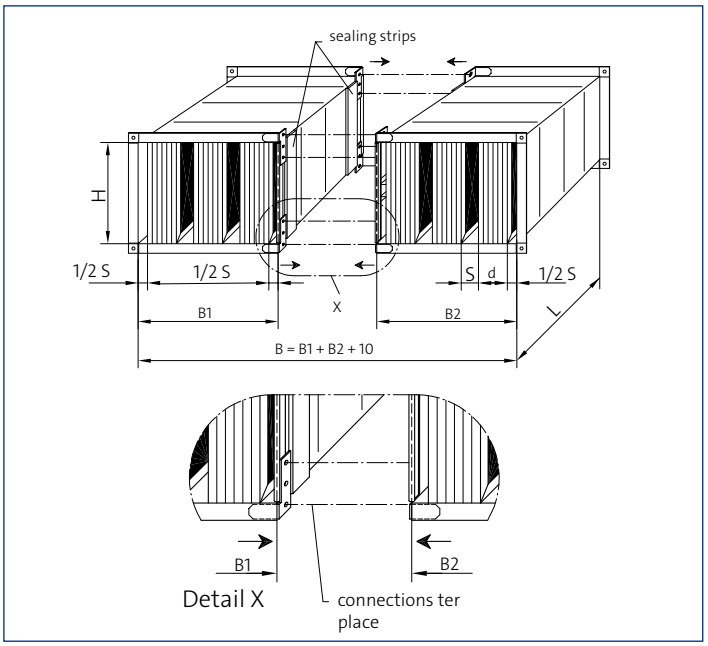
NB:
Both types of housing require the same length L.
In both types of housing, the baffle thickness d and the spacing S must be the same.
The frame parts that are connected, do not have a DW profile.



Combine on top of each other:
Both types of housing require the same width B.
The total height H is always 10 mm greater than the sum of both separate heights H1 + H2.
Use connection plates to connect the flange parts together.



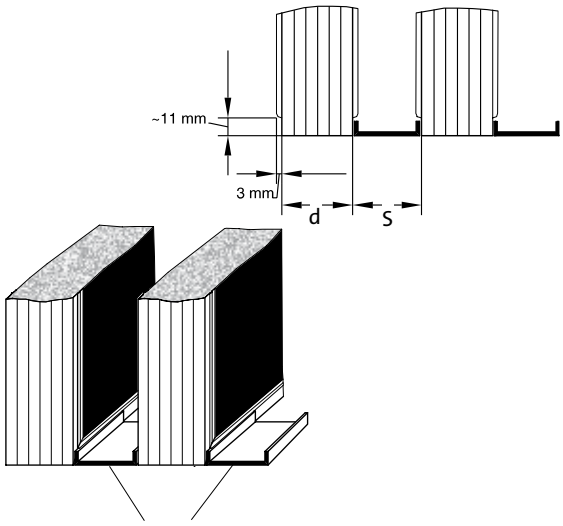
Combine next to each other:
Both types of housing require the same height H.
The total width W is always 10 mm greater than the sum of both separate widths W1 + W2.



7

Composite sound attenuators (continued)

Concrete or brickwork:
Build into ducts of concrete or brickwork with guide rails.



AGRY/AGRZ

Sound attenuator

Round

Rigid outer jacket

Use

The AGRYV and AGRZV round sound attenuators with a rigid outer jacket are suitable for absorbing air noise in duct systems and are often used when high sound attenuation is required. The available insulation thickness of 50 and 100 mm, in combination with different lengths and the option to fit the version with the insulation thickness of 100 mm with a core for additional attenuation, ensures that the optimum attenuator can be selected for every situation.
A jacket over the attenuation material prevents mineral-wool particles from ending up in the air flow.

Characteristics

Sound attenuation: in accordance with SA-Select
Max. air velocity: 15 m/s

Version

outer jacket:	sendzimir galvanised steel sheet
internal sleeve:	perforated sendzimir galvanised steel sheet
absorption material:	mineral wool 50 or 100 mm
post-treatment:	none
connection:	sleeve joint fitted with rubber

Available types

A G R - V -

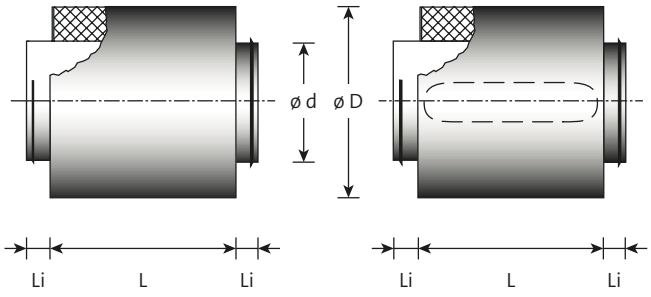
A accessory
G sound attenuation
R round

- **Version**
Y insulation thickness 50 mm
Z insulation thickness 100 mm

V rigid outer jacket

- **Core**
O none
K core (with d ≥ 315 mm and insulation thickness 100 mm only)

Dimensions



AGRYVO / AGRZVO AGRZVK

Note

- All sizes in mm.
- The given length is the length of the attenuating part.
- Standard lengths 600, 900 and 1200 mm.
- Li = sleeve length in round duct.

Available dimensions

AGRYVO (insulation thickness 50 mm)

model	d_{ext}	D	Li L = 600	weight in kg	Li L = 900	weight in kg	Li L = 1200	weight in kg
80	78	200	40	3.0				
100	98	200	40	3.6	40	5.7		
125	123	224	40	4.5	40	6.3		
160	158	260	40	5.1	40	7.8		
200	198	300	40	6.2	40	10.0	40	12.0
250	248	355	40	7.8	40	11.5	40	14.5
315	313	400	40	9.1	40	13.1	40	17.2
400	398	500			40	18.3		
500	498	630			40	24.7		
630	628	710			40	32.2		

AGRZVO (insulation thickness 100 mm)

model	d_{ext}	D	Li L = 600	weight in kg	Li L = 900	weight in kg	Li L = 1200	weight in kg
100	98	298			40	9.8	40	12.7
125	123	315	40	7.9	40	11.6	40	13.3
160	158	355	40	8.5	40	12.8	40	16.0
200	198	400	40	10.2	40	14.8	40	19.5
250	248	450	40	11.7	40	16.8	40	21.4
315	313	500	40	13.8	40	21.1	40	25.8
400	398	630			40	29.8	65	35.3
500	498	710			40	34.5	65	44.2
630	628	800			40	38.7	65	47.7

AGRZVK (insulation thickness 100 mm with core)

model	d_{ext}	D	Li L = 600	weight in kg	Li L = 900	weight in kg	Li L = 1200	weight in kg
315	313	500	40	20.5	40	20.5	40	31.3
400	398	630	65	33.9	65	33.9	65	42.7
500	498	710	65	39.6	65	39.6	65	53.7
630	628	800	65	47.2	65	47.2	65	57.5

SA-Select

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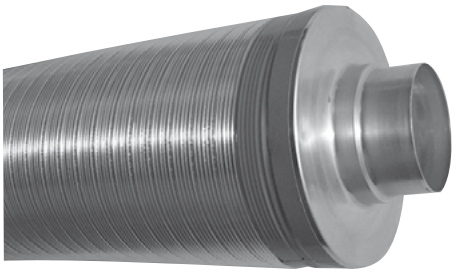
When you select sound attenuators online, remember the following:

- In sound attenuators, the air supply velocity must be divided evenly over the duct surface. The pressure losses and sound power levels for flow noise apply under this condition. In sound attenuators after bends, branches, fans, the air should be supplied via the conduction blades as much as possible in order to prevent the anticipated differences in air velocity.
- The maximum permitted velocity between the baffles amounts to 15 m/s. Due to the corresponding relatively high pressure loss and flow noise, the air velocities that can be used in practice are generally lower.
- The flow noise of the sound attenuator should be 10 dB less than the sound power of the attenuator less the insertion loss.



AGRX/AGRY

Sound attenuator

Round, flexible

Use

The AGRXB and AGRYB round, flexible sound attenuators are suitable for absorbing air noise in duct systems and can be used in combination with manual valves or as an sound attenuator after VAV units.
As it consists of a 2-layer aluminium flexible duct, the attenuator can be used in a bent shape.
The minimum bending radius is approx. 2x the external diameter.
Between the perforated inner sleeve and the sound-absorbing glass wool, there is a jacket that prevents mineral wool particles from ending up in the air flow.

Characteristics

Sound attenuation: in accordance with SA-Select
Max. air velocity: 15 m/s

Version

outer duct:	2-layer aluminium
inner duct:	perforated aluminium
absorption material:	glass wool 25 or 50 mm
post-treatment:	none

Available types

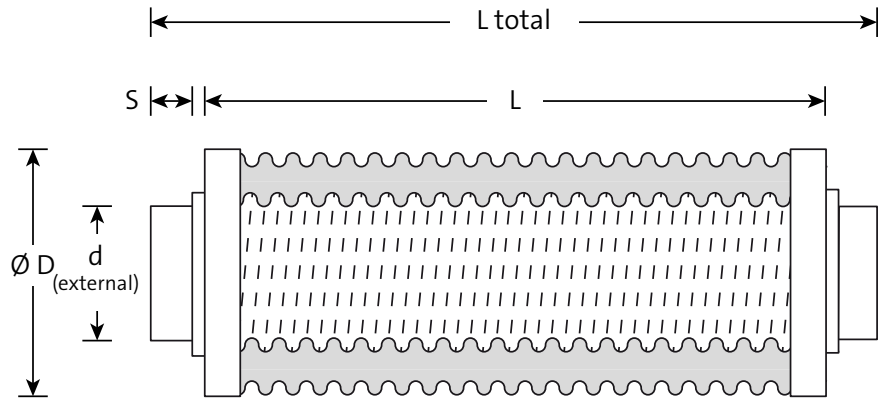
A G R - B O

A accessory
G sound attenuator
R round

- Version
X insulation thickness 25 mm
Y insulation thickness 50 mm

B flexible
O not applicable

Dimensions



AGRXBO/AGRYBO

Available dimensions

model	d_{ext}	S	D		weight in kg		L total
			AGRXB	AGRYB	AGRXB	AGRYB	
80	78	40	130	180	0.8	1.3	L + 120
100	98	40	150	200	1.0	1.5	L + 120
125	123	40	180	224	1.2	1.7	L + 120
140	138	40	200	250	1.3	1.8	L + 120
150	148	40	200	250	1.4	1.9	L + 120
160	158	40	200	250	1.5	2.0	L + 120
180	178	40	224	280	1.7	2.2	L + 120
200	198	40	250	300	1.9	2.5	L + 120
225	223	40	280	315	2.1	2.8	L + 120
250	248	60	300	355	2.3	3.1	L + 160
280	278	60	355	400	2.6	3.2	L + 160
300	298	60	355	400	3.0	3.4	L + 160
315	313	60	355	400	3.3	3.6	L + 160
355	353	60	400	450	4.6	4.8	L + 160
400	398	60	450	500	5.3	6.0	L + 160

Larger lengths are available on request.

Note

- All sizes in mm.
- The given length is the length of the attenuating part.
- Standard lengths 500 - 1000 mm.
- Type AGRYB is also available in 2000 and 3000 mm.
- S = sleeve length in round duct.

SA-Select

Check SA-select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

When you select sound attenuators online, remember the following:

- In sound attenuators, the air supply velocity must be divided evenly over the duct surface. The pressure losses and sound power levels for flow noise apply under this condition. In sound attenuators after bends, branches, fans, the air should be supplied via the conduction blades as much as possible in order to prevent the anticipated differences in air velocity.
- The maximum permitted velocity between the baffles amounts to 15 m/s. Due to the corresponding relatively high pressure loss and flow noise, the air velocities that can be used in practice are generally lower.
- The flow noise of the sound attenuator should be 10 dB less than the sound power of the attenuator less the insertion loss.