



Overflow box

AUDIXG



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Overflow box AUDIXG

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Overflow box AUDIXG

Description

Modern office buildings are often built without suspended ceilings. This opens up a saving potential regarding the floor heights. This means that the same building height can accommodate more floors.

To provide the possibly cheapest office space creates conflicts with the demand for comfort. Therefore, to reduce the room temperatures, in some cases component cooling systems are used for the ground load cooling.

According to the thermal isolation regulations, an air-conditioning installation is demanded for dense facades, to prevent building damage and mould fungus. The necessary supply and return air ducts are preferably installed between the false ceiling in the corridors. In doing so, the main ducts and the connection ducts for each room are installed within a very small space.

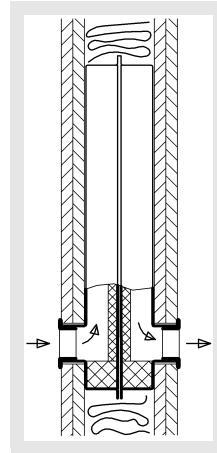
The overflow box has been developed for this application

. The integrated silencer performs the same function as the cross-talk sound attenuators previously inserted separately in the duct system, for which rarely enough space is available. Thus, the AUDIXG effectively prevents the transmission of cross-talk sound.

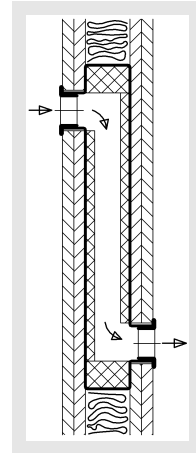
The AUDIXG overflow box reduces the installation costs, as an additional telephony silencer is not required. The dimensions of the AUDIXG overflow box have been adjusted to the requirements in dry building, thus allowing the overflow box to be fitted completely into partition walls and facilitating the cooperation between the dry builders and the air-conditioning installers and saving assembly time. As an accessory, covers for the opening made of galvanised sheet steel are available, which can be fitted during the building phase to avoid contamination of the box.

The overflow box with the integrated silencer is made of galvanised sheet steel and an inner lining of special sound-absorbing plates, which are laid out in a reverse labyrinth. To give the overflow box an elegant finish, a cover frame is included, which can be fitted to the box by means of a clamp mounting device. This will also cover up any gap that may exist between the wall and the diffuser.

AUDIXG-LG



AUDIXG-LV



Advantages:

- Prevents air from entering or escaping from the dry-wall construction filled with mineral wool, thus creating a hygienically safe overflow.
- Mounting brackets facilitate mounting, allowing it to be performed by the RLT or dry builders.
- The rectangular connection spigot facilitates mounting of the gypsum plasterboard by the dry builders.
- Excellent sound-absorbing properties
- Acoustic insulating panels of building material class B1 (slightly flammable to DIN 4102, standard) or building material class A2 (non-flammable to DIN 4102) (at an extra charge).

Overflow box AUDIXG

The hygiene requirements according to VDI 6022 must be observed.

4.1.2 Prior to and during mounting, the openings must be secured against entry of site dust and humidity.

- Cover ÖA

4.3.8 Air diffusers must be easy to clean. No fibres must enter the room air.

- Insulating panel without fibre content, no abrasion

5.4.7 To be checked and cleaned regularly

- Easy access to the openings is obtained by simply taking off the cover grilles. Clean by applying vacuum.

Construction

Housing

- galvanised sheet steel
- External sound absorbing strips to reduce structure-borne noise

Insulation

- On both sides 10 mm of insulating material, formed as reverse
- Acoustic insulating panels of building material class B1 (standard) or building material class A2 (non-flammable to DIN 4102)

cover frame

- Sheet steel painted to RAL 9010 (white)

Cover grille

- Sheet steel painted to RAL 9010 (white)
- optionally FQ=43% / 46% / 70%

Model

- | | |
|------------------|---|
| AUDIXG-LG | - Overflow box with ventilation openings of equal height and 2 cover frames on both sides |
| AUDIXG-LV | - Overflow box with displaced ventilation openings and cover frames on both sides |
| AUDIXG-...-AB... | - with cover frame on one side / cover grille on one side |
| AUDIXG-...-AA... | - with cover grille on both sides |

Accessories

Cover (-OA1)

- galvanised sheet steel

Box neck extension (-KVS)

- for wall thicknesses >100 mm (-LV) or >125 mm (-LG) up to max. 350 mm.

Mounting bracket (pair) (-BW)

- galvanised sheet steel

Fastening for the cover grilles

Clamp mounting

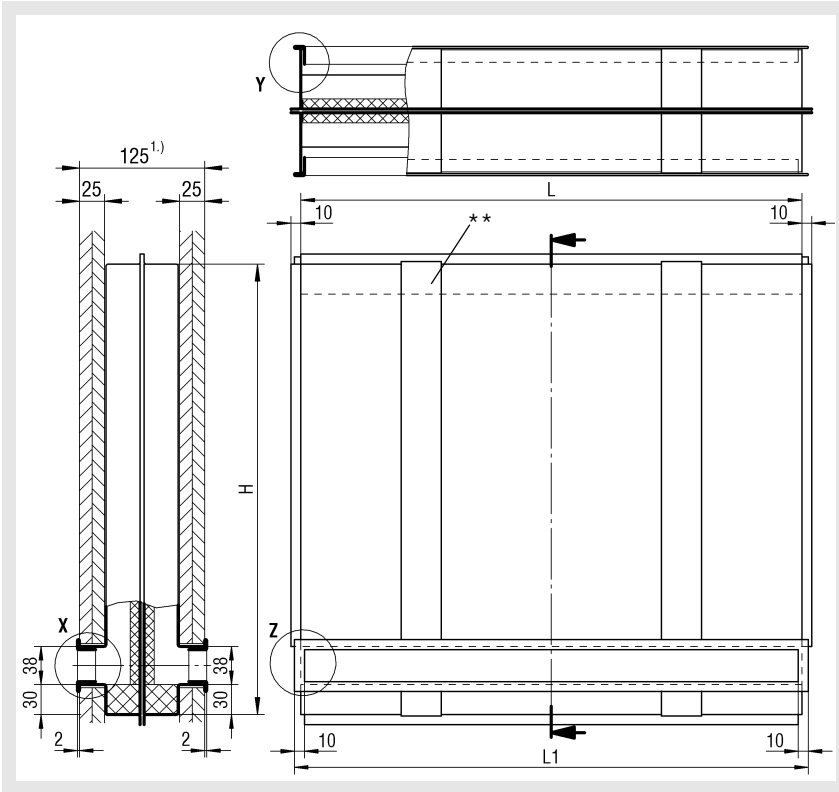
- for concealed mounting or dismounting

Overflow box AUDIXG

Models and dimensions

Dimensions

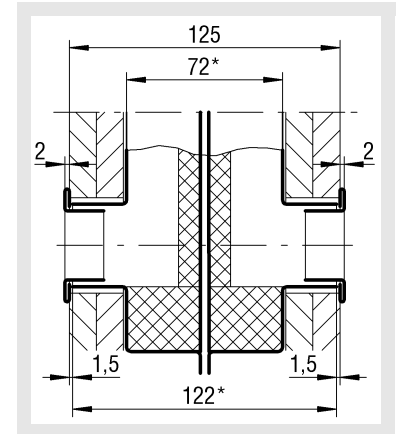
AUDIXG-LG-...-KVS-...



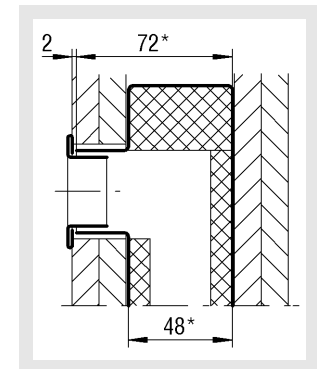
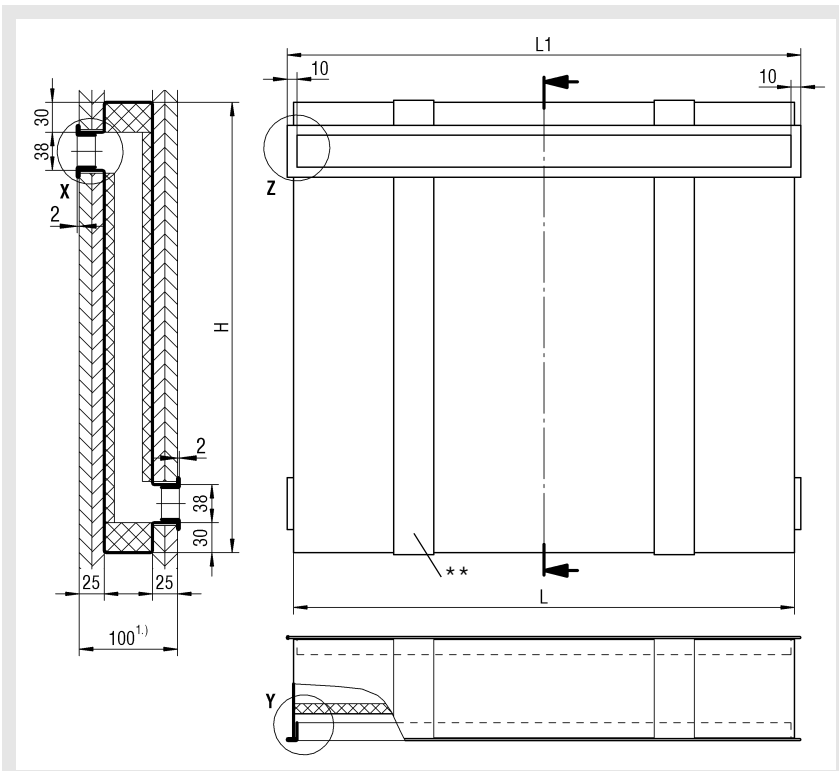
Available sizes

H	L	L1
350	500	513
450	1000	1013

All combined lengths and heights



AUDIXG-LV-...-KVS-...



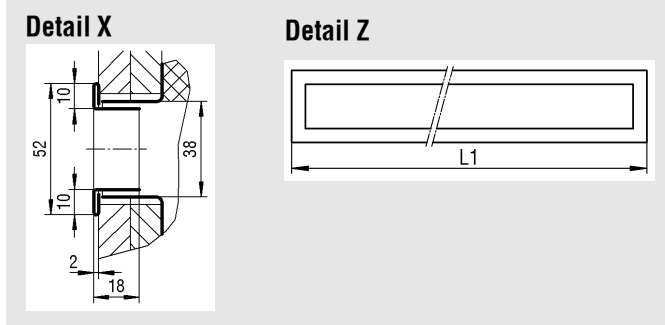
- * Dimension for overflow box
- ** Structure-borne noise insulation

1.) For wall thicknesses >125 mm (-LG) or > 100 mm (-LV), a box neck extension of up to max. 350 mm is required.

Overflow box AUDIXG

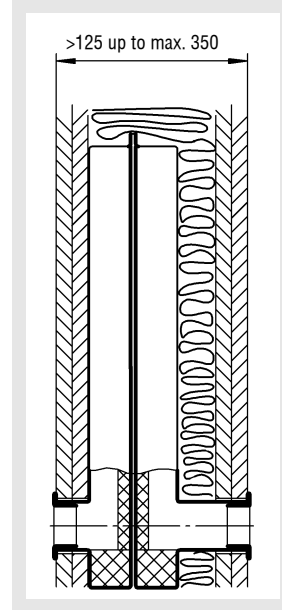
Models

with cover frame

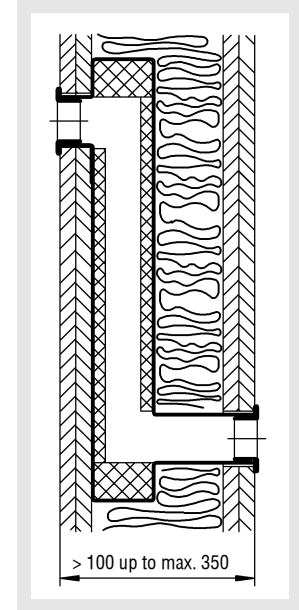


Box neck extension (-xxx)

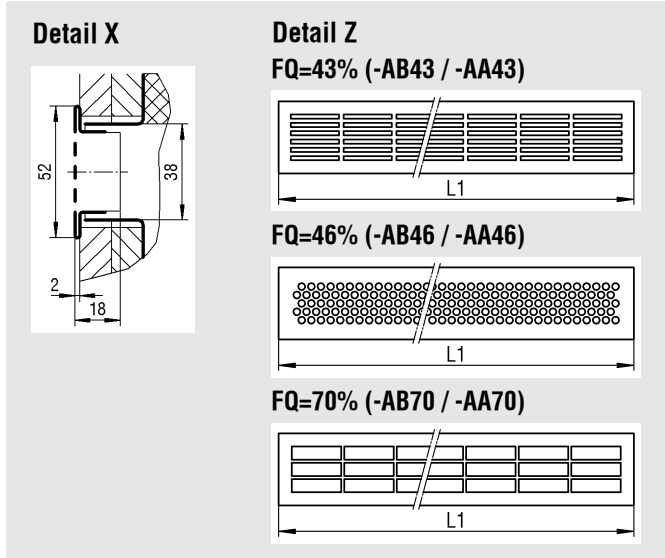
AUDIXG-LG-...-xxx-...



AUDIXG-LV-...-xxx-...



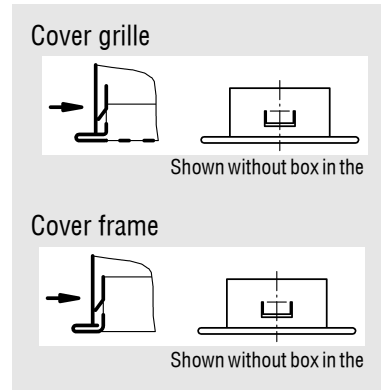
with cover grille



Fastening methods

Clamp mounting

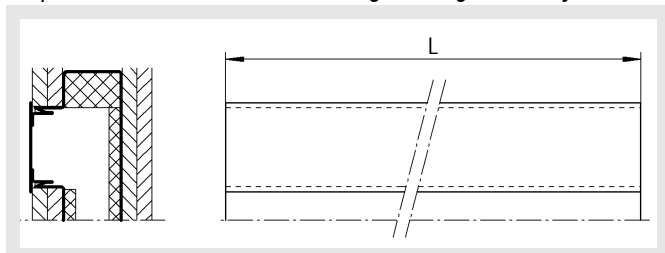
Detail Y



Dimensions of accessories

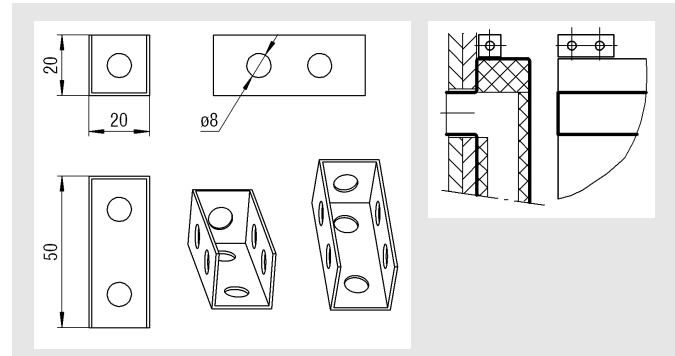
Cover (-OA1)

To prevent contamination or damage during assembly.



L
500
1000

Mounting bracket (pair) (-BW)



During mounting, ensure sound decoupling

Assembly instructions:

see brochure AUDIX® Assembly instructions

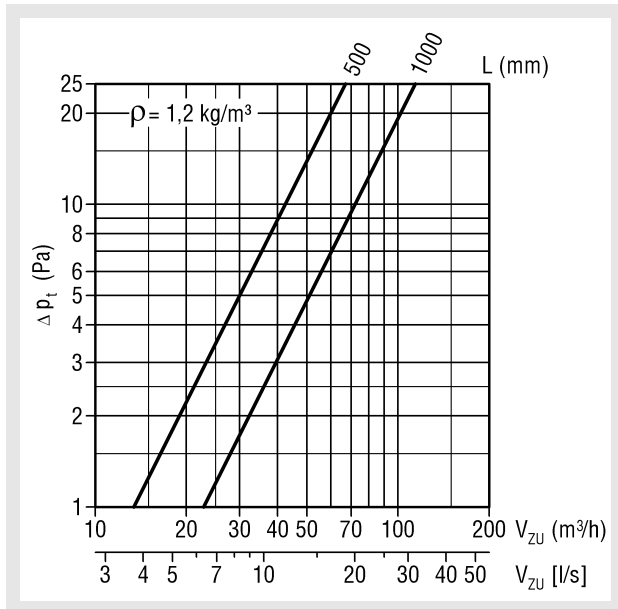
Overflow box AUDIXG

Technical data

Pressure loss

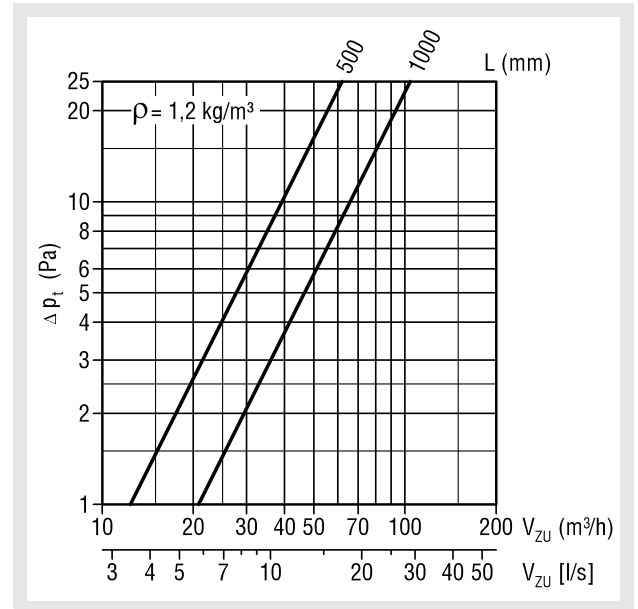
AUDIXG-LG-...-AB43/-AB46-...

Cover grille on one side FQ=43% / FQ=46% and cover frame on one side



AUDIXG-LG-...-AA43 /-AA46-/ AA70-...

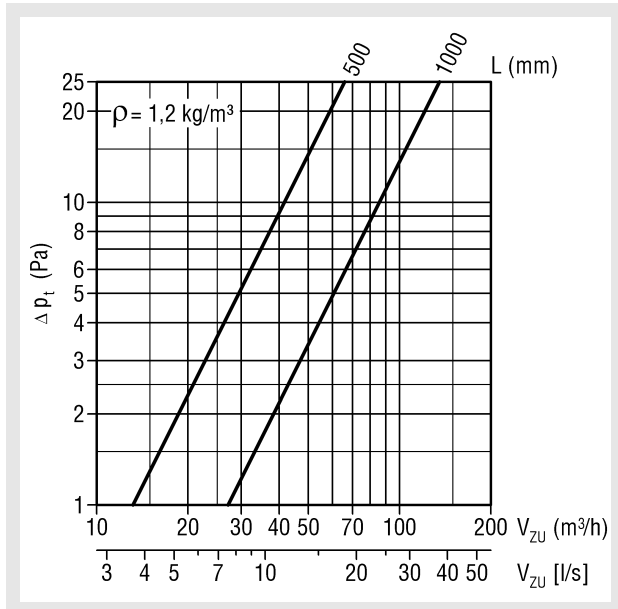
Cover grille on both sides FQ=43% / FQ=46% / FQ=70%



AUDIXG-LG-...-AA70-...

Cover frame on both sides

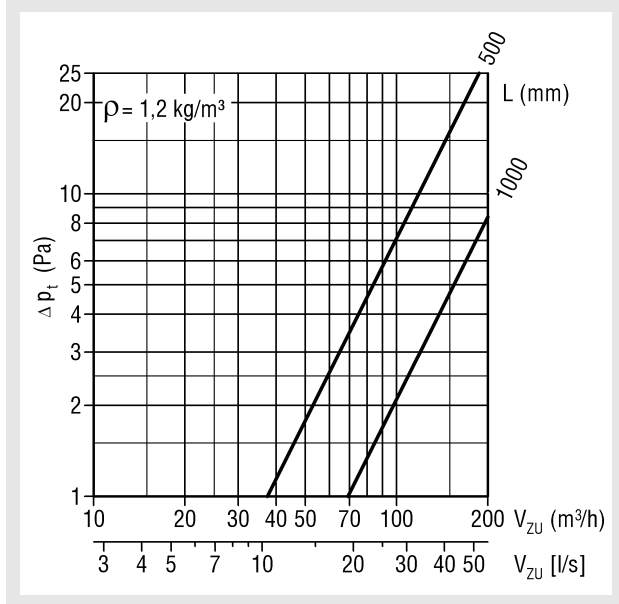
Cover grille on one side FQ=70% and cover frame on one side



Overflow box AUDIXG

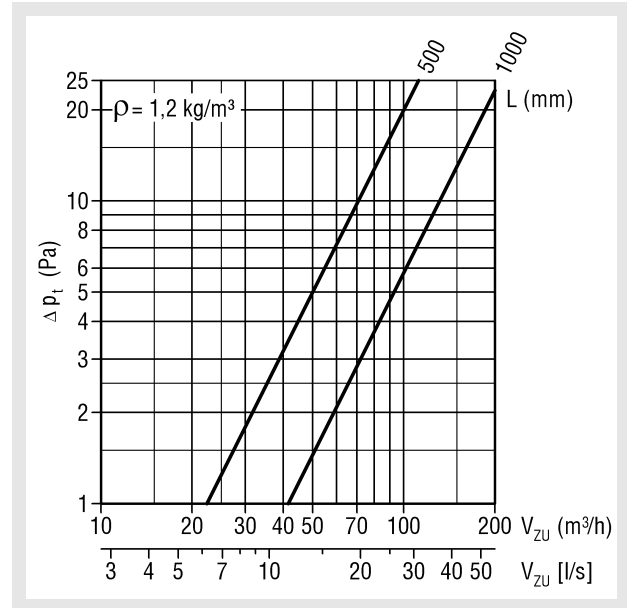
AUDIXG-LV-...-AA70/AB70-...

Cover frame on both sides, cover grille on both sides FQ=70%
Cover grille on one side FQ=70% and cover frame on one side



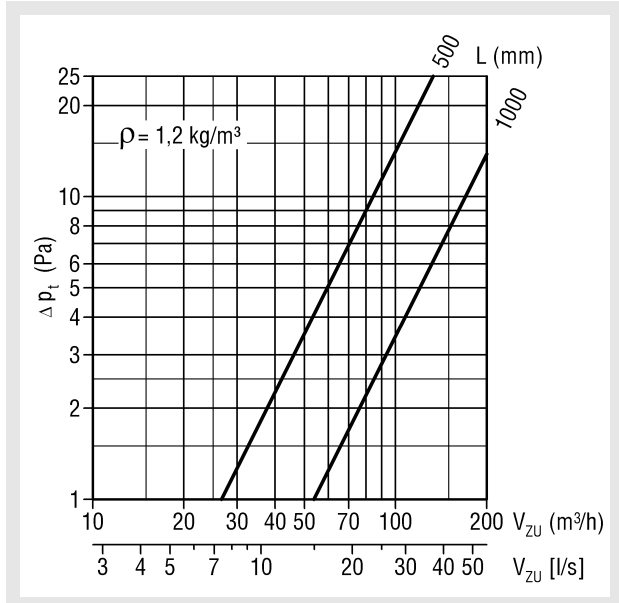
AUDIXG-LV-...-AA43-...

Cover grille on both sides FQ=43%



AUDIXG-LV-...-AB43 /AB46 /AA46-...

Cover grille on one side FQ=43% / FQ=46% and cover frame on one side, cover grille on both sides FQ=46%



Overflow box AUDIXG

Weighted sound reduction index, R_w

according to DIN 4109 (Soundproofing in building engineering, requirements and certificates)

	AUDIXG-LV... L=500 H=350	AUDIXG-LV... L=500 H=450	AUDIXG-LV... L=1000 H=350	AUDIXG-LV... L=1000 H=450
R_w (dB)*	10	12	11	11
A (m ²)	0,019	0,019	0,038	0,038
R_w (dB)**	20	23	21	22
A (m ²)	0,175	0,225	0,35	0,45

* = ** = weighted sound absorption coefficient, relative to wall opening

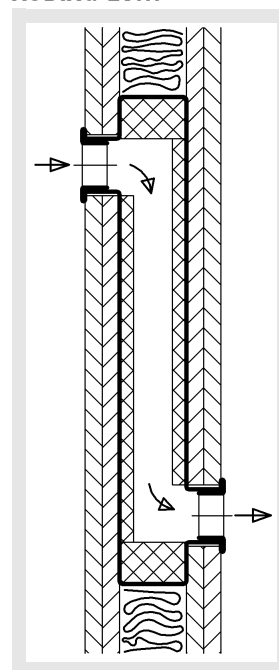
** = weighted sound absorption coefficient, relative to height/width of the overcurrent element

Normalised sound level difference, $D_{n,e}$ for type AUDIXG-LV...

according to DIN EN ISO 10140-2 (Measurement of sound insulation of components on a test bench, air sound insulation)

	AUDIXG-LV... L=500 H=350	AUDIXG-LV... L=500 H=450	AUDIXG-LV... L=1000 H=350	AUDIXG-LV... L=1000 H=450
Frequency f (Hz)	Third-octave band $D_{n,e}$ (dB)	Third-octave band $D_{n,e}$ (dB)	Third-octave band $D_{n,e}$ (dB)	Third-octave band $D_{n,e}$ (dB)
50	35	36	31	34
63	26	29	26	35
80	28	32	32	40
100	34	37	36	34
125	33	36	29	34
160	32	35	34	36
200	32	33	32	28
250	26	28	26	23
315	31	31	26	26
400	29	31	26	27
500	28	30	28	28
630	33	33	29	30
800	36	38	36	36
1000	42	44	42	43
1250	51	54	50	51
1600	61	62	53	57
2000	62	63	53	55
2500	59	59	51	55
3150	61	63	54	59
4000	66	67	57	61
5000	66	69	58	62

AUDIXG-LV...



Standardised sound level difference $D_{n,e}$ (single-digit value)

according to DIN EN ISO 717-1 (Weighting of sound insulation in buildings and of components - air sound insulation)

	AUDIXG-LV... L=500 H=350	AUDIXG-LV... L=500 H=450	AUDIXG-LV... L=1000 H=350	AUDIXG-LV... L=1000 H=450
$D_{n,e,w}$ (dB)	37	39	35	35

Overflow box AUDIXG

Weighted sound reduction index, R_w

according to DIN 4109 (Soundproofing in building engineering, requirements and certificates)

	AUDIXG-LG... L=500 H=350	AUDIXG-LG... L=500 H=450	AUDIXG-LG... L=1000 H=350	AUDIXG-LG... L=1000 H=450
R_w (dB)*	18	20	19	20
A (m ²)	0,019	0,019	0,038	0,038
R_w (dB)**	28	31	29	31
A (m ²)	0,175	0,225	0,35	0,45

* = ** = weighted sound absorption coefficient, relative to wall opening

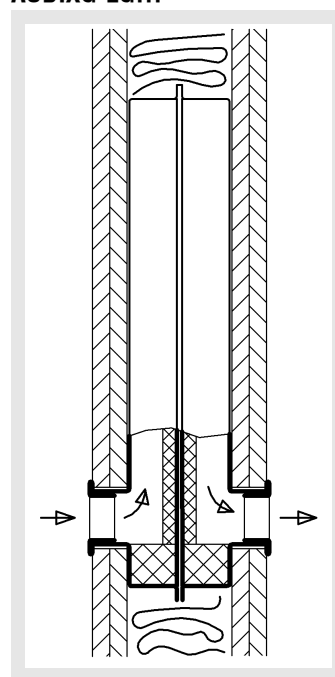
** = weighted sound absorption coefficient, relative to height/width of the overcurrent element

Normalised sound level difference, $D_{n,e}$ for type AUDIXG-LG...

according to DIN EN ISO 10140-2 (Measurement of sound insulation of components on a test bench, air sound insulation)

	AUDIXG-LG... L=500 H=350	AUDIXG-LG... L=500 H=450	AUDIXG-LG... L=1000 H=350	AUDIXG-LG... L=1000 H=450
Frequency f (Hz)	Third-octave band $D_{n,e}$ (dB)	Third-octave band $D_{n,e}$ (dB)	Third-octave band $D_{n,e}$ (dB)	Third-octave band $D_{n,e}$ (dB)
50	34	34	32	28
63	33	35	28	29
80	37	38	31	34
100	32	34	33	32
125	33	35	30	29
160	34	36	28	29
200	42	42	25	32
250	42	42	32	40
315	42	43	40	40
400	34	36	41	33
500	36	39	41	37
630	42	43	41	41
800	46	47	41	42
1000	44	46	40	48
1250	48	51	45	50
1600	52	53	50	52
2000	53	56	52	50
2500	58	59	52	53
3150	62	63	58	61
4000	64	64	66	67
5000	67	66	66	67

AUDIXG-LG...



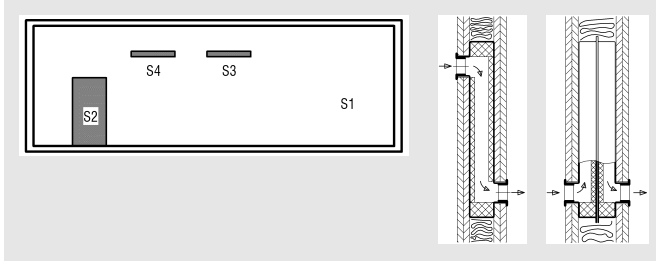
Standardised sound level difference $D_{n,e}$ (single-digit value)

according to DIN EN ISO 717-1 (Weighting of sound insulation in buildings and of components - air sound insulation)

	AUDIXG-LG... L=500 H=350	AUDIXG-LG... L=500 H=450	AUDIXG-LG... L=1000 H=350	AUDIXG-LG... L=1000 H=450
$D_{n,e,w}$ (dB)	45	47	43	44

Overflow box AUDIXG

If overflow elements are used in dry-building walls, a reduction in sound insulation takes place. The additional reduction in sound insulation due to secondary sound channels must be checked separately.



The resulting sound reduction index with built-in AUDIXG-... can be calculated using, for example, the sound reduction index R_w as specified by DIN 4109.

$$R'_{w,R, res} = -10 \lg \left(\frac{1}{S_{ges}} \cdot \sum_{i=1}^n S_i \cdot 10^{\frac{-R_{w,R,i}}{10}} \right) \text{ dB}$$

$$S_{ges} = \sum_{i=1}^n S_i = \text{area of the entire component}$$

S_i = area of the i th element of the component

$R_{w,R,i}$ = weighted sound reduction index (calculated value) of the i th element of the component

When several identical AUDIXG are present in a wall, the sound reduction index is reduced by $10 \lg x n$.

Example 1: Wand with door

Assume: Wall $S_1=20\text{m}^2$ $R'_{w,R,1}=50\text{dB}$
 Door $S_2=2.0\text{m}^2$ $R'_{w,R,2}=35\text{dB}$

Find: $R'_{w,R, res}$

Calculation

$$\begin{aligned} R'_{w,R, res} &= -10 \lg \left[\frac{1}{22} (20 \cdot 10^{-5} + 2 \cdot 10^{-3.5}) \right] \\ &= -10 \lg \left[\frac{1}{22} (0,0002 + 0,00063) \right] \\ &= -10 \lg 0,000038 \end{aligned}$$

$$R'_{w,R, res} \approx 44\text{dB}$$



Example 2: Wall with door and AUDIXG

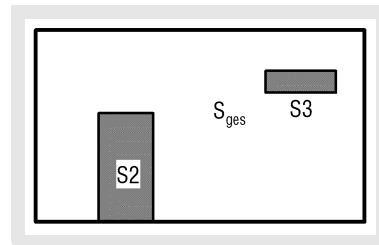
Assume: Wall $S_1=20\text{m}^2$ $R'_{w,R,1}=50\text{dB}$
 Door $S_2=2.0\text{m}^2$ $R'_{w,R,2}=35\text{dB}$
 AUDIXG-LV $L=500$ $H=450$
 $S_3=0.019\text{m}^2$ $R'_{w,R,3}=12\text{dB}$

Find: $R'_{w,R, res}$

Calculation

$$\begin{aligned} R'_{w,R, res} &= -10 \lg \left[\frac{1}{22} (20 \cdot 10^{-5} + 2 \cdot 10^{-3.5} + 0,019 \cdot 10^{-1.2}) \right] \\ &= -10 \lg \left[\frac{1}{22} (0,0002 + 0,00063 + 0,00119) \right] \\ &= -10 \lg 0,0000918 \end{aligned}$$

$$R'_{w,R, res} \approx 41\text{dB}$$



Legend

V (m^3/h) [l/s]	= Volumetric flow
Δp_t (Pa)	= Pressure loss
f_m (Hz)	= Octave centre frequency
ρ (kg/m^3)	= Density
$D_{n,e}$ (dB)	= Element-normalised sound level difference
$D_{n,e,w}$ (dB)	= Weighted normalised sound level difference
R_w (dB)	= Weighted sound reduction index
A (m^2)	= Reference area

Overflow box AUDIXG

Order code

01	02	03	04	05	06
Type	Position (air diffuser)	Building material class	Air diffuser	Paint (cover frame/cover)	Height
Example					
AUDIXG	-LG	-A2	-BB00	-9010	-0350

07	08	09	10	11
Length	Material	Box neck extension	Mounting bracket	Cover
-0500	-SV	-KVS	-BW	-OA0

All fields must be filled when ordering

Sample

AUDIXG-LG-A2-BB00-9010-0350-0500-SV-KVS-BW-OA0

Overflow box, type AUDIXG | with ventilation openings on the same level | building material class A2 non-flammable to DIN4102 | cover frame on both sides | painted to RAL 9010 (white) | height 350 mm | length 500 mm | galvanised sheet steel | without box neck extension | with mounting bracket (pair, loose) | without cover

ORDER DETAILS

01 - Type

AUDIXG = overflow box, type AUDIXG

02 - Position (air diffuser)

LG = with ventilation openings on the same level (standard)

LV = with offset ventilation openings

03 - Building material class

A2 = building material class A2, non-flammable to DIN4102

B1 = building material class B1, flame-retardant to DIN 4102

04 - Air diffuser

BB00 = cover frame on both sides (standard)

AA43 = cover grille on both sides FQ=43%

AA46 = cover grille on both sides FQ=46%

AA70 = cover grille on both sides FQ=70%

AB43 = cover frame on one side / cover grille on one side FQ=43%

AB46 = cover frame on one side / cover grille on one side FQ=46%

AB70 = cover frame on one side / cover grille on one side FQ=70%

05 - Paint (cover frame/cover)

9010 = RAL 9010 (white, standard)

xxxx = RAL colour of your choice (freely selectable)

06 - Height

350 = height 350 mm

450 = height 450 mm (standard)

xxx = height can be freely selected (250 mm – 450 mm)

07 - Length

0500 = length 500 mm (standard)

1000 = length 1000 mm

xxxx = length of plenum box freely selectable in mm (length 500 up to max. 1000 mm, always with 4 digits)

08 - Material

SV = Galvanised sheet steel (standard)

09 - Box neck extension

KVS = without box neck extension (standard)

xxx = box neck extension in mm (wall thickness >100 mm (-LV) or >125 mm (-LG) up to max. 350 mm)

10 - Mounting bracket (pair)

B0 = without mounting bracket (standard)

BW = with mounting bracket (pair, loose)

11 - Cover

OA0 = without cover (standard)

OA1 = with cover

Overflow box AUDIXG

Specification texts

Overflow box with ventilation openings of equal height, with integrated sound absorber to be built into lightweight walls as overflow unit for effectively preventing cross-talk transmission through the wall.

The AUDIXG have two housing shells with separation of structure-borne noise. Broad-band, volumetric insulation material free of mineral fibres and special insulating panels that prevent a buzzing sound allow their use in partition walls.

Box consisting of galvanised sheet steel as airtight overflow box. Integrated silencer comprising abrasion-resistant absorption material of building material class B1 (slightly flammable according to DIN 4102) attached on both sides, including a fitting system to assemble it into the columns of lightweight walls. Includes 2 cover frames with clamp mounting. Length 500 mm or 1000 mm.

Product: SCHAKO **type AUDIXG-LG-...-BBOO-...**

- Overflow box with offset ventilation openings and 2 cover frames on both sides

Product: SCHAKO **type AUDIXG-LV-...**

- Integrated silencer comprising an abrasion-resistant absorption material of building material class A2 (non-flammable to DIN 4102) attached on both sides.

Product: SCHAKO **type AUDIXG-...-A2-...**

- with cover frame on one side / cover grille on one side

Cover grille with: - FQ = 43% **AUDIXG-...-AB43-...**

- FQ = 46% **AUDIXG-...-AB46-...**

- FQ = 70% **AUDIXG-...-AB70-...**

- with cover grille on both sides

Cover grille with: - FQ = 43% **AUDIXG-...-AA43-...**

- FQ = 46% **AUDIXG-...-AA46-...**

- FQ = 70% **AUDIXG-...-AA70-...**

Accessories

- Cover (-OA1) to prevent contamination or damage during assembly, made of galvanised sheet steel with spring fastening.
- Box neck extension (-KVS) for wall thicknesses >100 mm (-LV) or >125 mm (-LG) up to max. 350 mm
- Mounting bracket (pair) made of galvanised sheet steel (-BW)