Standard flange 30 mm

Angle section frame
35 × 35 × 3 mm

Aerodynamically optimised splitter frame

Tested to VDI 6022

Sound attenuators

XS

Splitter sound attenuator with high insertion loss, even in the high-frequency range

Splitter sound attenuator, basically a duct section with integral splitters (type XK), for ventilation and air conditioning systems

- Attenuation effect due to absorption
- Energy efficient due to aerodynamically formed frame (bullnose radius 20 mm)
- Sound absorbing material is biosoluble and hence hygienically safe
- Sound absorbing material faced with glass fibre fabric as a protection against erosion due to airflow velocities up to 20 m/s
- The sound absorbing material is non-combustible, to EN 13501, fire rating class A1
- Leakage class C and pressure class 2 according to EN 15727
- For use in areas with potentially explosive atmospheres (according to EC Directive 2014/34/EU (ATEX)), zones 1, 2, and zones 21 and 22 (outside) according to EC Directive 1999/92/EC
- Operating temperature up to 100 °C, with expanded metal (variant L) up to 300 °C for a limited period of time

Optional equipment and accessories

- Expanded metal as an additional mechanical protection for the sound absorbing material
- Stainless steel variant A2 (1.4301), with optional perforated metal facing as an additional protection for the sound absorbing material
- Other stainless steel and aluminium variants as well as PUR coating upon request

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General information

Application

- Splitter sound attenuators used for the reduction of fan noise and air-regenerated noise in ventilation and air conditioning systems
- Attenuation effect due to absorption
- Broadband attenuation even in the high frequency range
- For use in areas with potentially explosive atmospheres (EC Directive 2014/34/EU (ATEX)), zones 1, 2, 21 and 22 (outside) according to Directive 1999/92/EC

Special features

- Increased insertion loss even in the high-frequency range
- Leakage class C and pressure class 2 according to EN 15727
- Energy savings due to aerodynamically formed splitter frame
  - Up to 30 % lower differential pressure
- Hygiene tested and compliant with VDI 6022
- Multi-section construction available for large dimensions

Nominal sizes

- Width B: 200, 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400 mm
  - Intermediate sizes: in increments of 1 mm
    - Splitter thickness 100 mm: 150 – 2399 mm
    - Splitter thickness 200 mm: 250 – 2399 mm
    - Splitter thickness 230 mm: 288 – 2399 mm
    - Splitter thickness 300 mm: 375 – 2399 mm
  - Sizes from 2401 – 4800 mm are available with the width subdivided in increments of 1 mm
    - Even no. of splitters: centre division
    - Odd no. of splitters: off-centre division
- Height H: 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800 mm
  - Intermediate sizes 150 – 1799 mm in increments of 1 mm
  - Sizes from 1801 – 3600 mm are available with the height subdivided in increments of 1 mm
    - Centre division
- Length L: 500, 750, 1000, 1250, 1500 mm
  - Intermediate sizes 501 – 1499 mm in increments of 1 mm
- Sizes from 1501 – 3000 mm are available with the length subdivided in increments of 1 mm
  - Part L1: 1000, 1250, 1500 mm
  - Part L2: at least 501 mm and ≤ L1, in increments of 1 mm
- Width and/or height subdivided if B + H > 4200 mm
- Airway width S
  - Minimum: splitter thickness T × 0.25, but not < 40 mm
  - Maximum: splitter thickness T × 2

Variants

- XS with splitter type XK
  - Splitter thickness 100 mm
  - Splitter thickness 200 mm
  - Splitter thickness 230 mm
  - Splitter thickness 300 mm

Construction

Duct
- No entry: with duct
- OL: without duct (set of XK splitters only)

Splitter surface
- F: Glass fibre fabric
- L: glass fibre fabric faced with expanded metal as an additional mechanical protection for the sound absorbing material
  - Stainless steel construction with perforated metal facing

Materials and surfaces
- No entry: galvanised steel 1.0917
- A2: stainless steel 1.4301
- P1: splitters powder-coated RAL 7001, silver grey

Duct connection
- P: flange 30 mm, galvanised or stainless steel
- W: angle section frame 35 × 35 × 3 mm, galvanised
- T: flange 20 mm, galvanised

Matching frame
- No entry: none
- G: matching frame (only for angle section frame W)

Parts and characteristics

- Duct
  - Leakage class C and pressure class 2 according to EN 15727
  - Various duct connections available
- Matching frame
  - Angle section frame with the same pattern as the requested sound attenuator
  - For installation onto a duct (duct by others)
  - Aerodynamically formed frame
    - Covers the edges of the sound absorbing material
    - Reduces the pressure loss
    - Helps to optimise the airflow, hence reducing the air-regenerated noise
    - Increased rigidity due to special profile

Construction features

- Bent duct with grooves for increased rigidity
- Sound attenuators with angle section frame, width or height subdivided
  - Galvanised construction only
- Aerodynamically formed splitter frame (bullnose radius 20 mm) that helps to reduce turbulence on both the upstream and downstream sides; frame with grooves for increased rigidity
  - Frame edges with bullnose for increased rigidity
- Operating temperature up to 100 °C; variant L up to 300 °C for 8h max.

Materials and surfaces

- Duct, flange in galvanised sheet steel 1.0917 or stainless steel 1.4301
- Angle section frame in galvanised L steel S235JRC2
- Splitter frame and centre mullion made of galvanised sheet steel 1.0917 or stainless steel 1.4301
  - Expanded metal facing made of galvanised steel 1.0917
  - Perforated metal facing made of stainless steel 1.4301
  - Absorption material is mineral wool
    - To EN 13501, fire rating class A1, non-combustible
    - RAL quality mark RAL-GZ 388
    - Biosoluble and hence hygienically safe according to the German TRGS 905 (Technical Rules for Hazardous Substances) and EU directive 97/69/EC
    - Faced with glass fibre fabric as a protection against erosion from airflow velocities of up to 20 m/s
    - Inert to fungal and bacterial growth according to EN 846

Standards and guidelines

- Insertion loss and sound power level of air-regenerated noise tested to ISO 7235
- Meets the hygiene requirements of VDI 6022, VDI 3803 Part 1 and DIN 1946 Part 4
- EC Directive 2014/34/EC (ATEX): Equipment and protective systems intended for use in areas with potentially explosive atmospheres
- EC Directive 1999/92/EC (ATEX): Improvement of the safety and health protection of workers potentially at risk from explosive atmospheres
- Leakage class and pressure class according to EN 15727

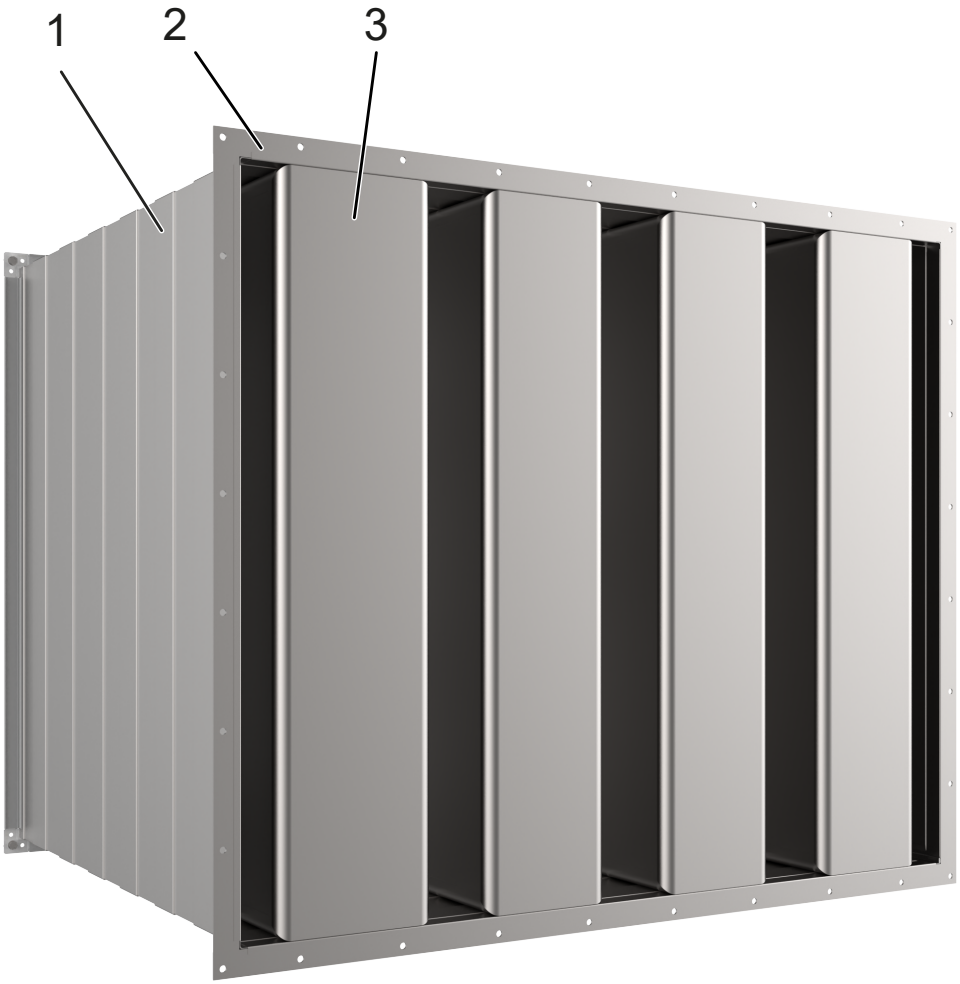
Maintenance

- Low-maintenance as construction and materials are not subject to wear
- Regular cleaning intervals according to VDI6022

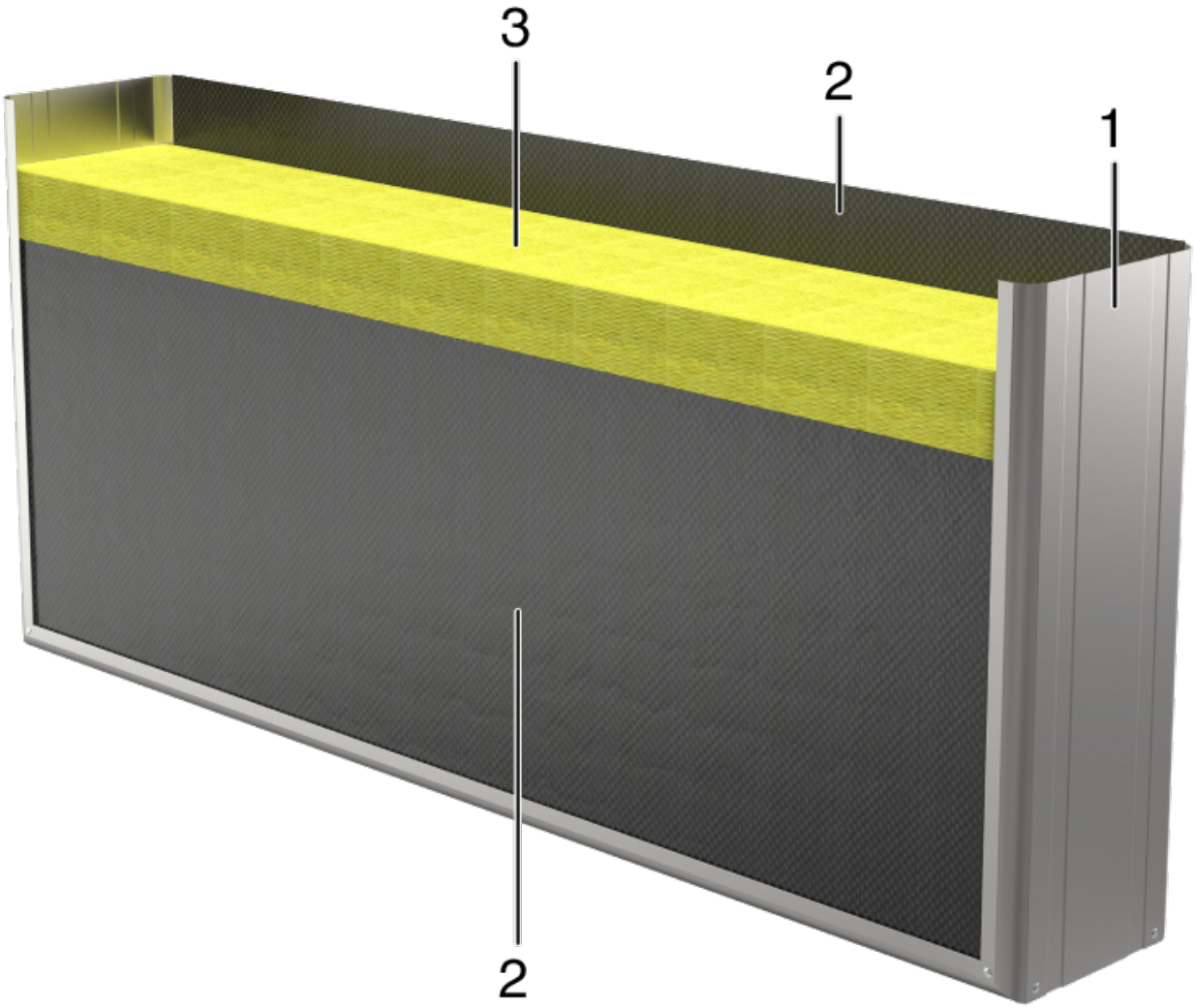
Function

Splitter sound attenuators type XS contain splitters type XK. The attenuation effect of the XK splitters is due to absorption. The splitters have a mineral wool infill as sound absorbing material.

Schematic illustration of MS/XS



1 Duct
2 Duct connection
3 Splitter



1 Splitter frame
2 Glass fibre fabric (facing)
3 Sound absorbing material

Technical data

Splitter thickness	100, 200, 230, 300 mm
Nominal sizes (B × H × L)	Type XS 100: 150 × 150 × 500 mm – 2400 × 1800 × 1500 mm Type XS 200: 250 × 150 × 500 mm – 2400 × 1800 × 1500 mm Type XS 230: 288 × 150 × 500 mm – 2400 × 1800 × 1500 mm Type XS 300: 375 × 150 × 500 mm – 2400 × 1800 × 1500 mm
Width subdivided	2401 – 4800 mm
Height subdivide	1801 – 3600 mm
Length subdivided	1501 – 3000 mm
Intermediate sizes	In increments of 1 mm
Operating temperature	Up to 100 °C, variant L up to 300 °C for 8 h max.

Quick sizing

Quick sizing tables provide a good overview of the insertion loss and of differential pressures for different airway widths and airflow velocities. Intermediate values can be calculated with our Easy Product Finder design program.
The differential pressures apply to sound attenuators with a height of 1 m.

XK100, XS100, insertion loss D_e [dB] and differential pressure Δp_t [Pa]

L	Airway width	Centre frequency f_m [Hz]								v_s [m/s]		
		63	125	250	500	1000	2000	4000	8000	6	10	14
500	50	4	8	6	18	35	40	27	22	10	29	56
500	100	4	4	4	15	27	22	15	10	8	23	45
1000	50	6	10	14	28	44	48	35	29	13	37	72
1000	80	5	7	10	24	38	38	27	20	10	28	55
1000	100	5	5	8	23	36	33	23	15	9	26	51
1500	50	7	13	21	38	> 50	> 50	43	37	16	44	87
1500	80	6	9	16	33	48	48	35	26	12	32	63
1500	100	6	7	13	30	45	45	31	21	10	29	56
2000	50	8	16	29	48	> 50	> 50	> 50	45	19	52	102
2000	80	7	10	21	41	> 50	> 50	43	33	13	36	70
2000	100	7	8	18	38	> 50	> 50	39	27	11	32	62
2500	50	10	18	36	> 50	> 50	> 50	> 50	> 50	22	60	118
2500	80	8	12	27	49	> 50	> 50	> 50	39	14	40	78
2500	100	8	9	22	45	> 50	> 50	48	33	12	34	67
3000	50	11	21	44	> 50	> 50	> 50	> 50	> 50	24	68	133
3000	80	10	14	33	> 50	> 50	> 50	> 50	45	16	44	85
3000	100	9	10	27	> 50	> 50	> 50	> 50	38	13	37	73

XK200, XS200, insertion loss D_e [dB] and differential pressure Δp_t [Pa]

L	Airway width	Centre frequency f_m [Hz]								v_s [m/s]		
		63	125	250	500	1000	2000	4000	8000	6	10	14
500	50	4	9	14	27	42	38	25	19	21	58	114
500	100	2	5	10	19	28	24	16	12	11	31	61
1000	50	5	14	21	43	> 50	> 50	36	25	24	67	131
1000	80	4	10	18	35	46	41	27	19	15	43	84
1000	100	4	9	16	32	41	35	23	16	13	35	69
1500	50	7	19	29	> 50	> 50	> 50	47	31	27	75	147
1500	80	6	14	24	49	> 50	> 50	35	23	17	48	94
1500	100	5	12	22	44	> 50	46	30	19	14	40	78
2000	50	9	24	36	> 50	> 50	> 50	> 50	37	30	83	164
2000	80	7	19	31	> 50	> 50	> 50	44	27	19	53	105
2000	100	6	16	28	> 50	> 50	> 50	37	23	16	44	86
2000	200	3	9	19	40	44	31	16	9	9	25	50
2500	50	11	29	44	> 50	> 50	> 50	> 50	42	33	92	180
2500	80	9	23	37	> 50	> 50	> 50	> 50	32	21	59	115
2500	100	8	20	34	> 50	> 50	> 50	44	27	17	48	94
2500	200	4	11	24	49	> 50	38	19	11	10	28	54
3000	50	13	34	> 50	> 50	> 50	> 50	> 50	48	36	100	197
3000	80	10	27	44	> 50	>50	> 50	> 50	36	23	64	126
3000	100	9	23	40	> 50	> 50	> 50	> 50	30	19	53	103
3000	200	5	13	29	> 50	> 50	45	22	12	11	30	59

XK230, XS230, insertion loss D_e [dB] and differential pressure Δp_t [Pa]

L	Airway width	Centre frequency f_m [Hz]								v_s [m/s]		
		63	125	250	500	1000	2000	4000	8000	6	10	14
500	80	3	6	11	22	30	22	16	15	15	43	84
500	100	3	5	10	19	26	19	14	14	13	35	69
1000	80	4	10	18	32	42	34	23	19	18	49	97
1000	100	4	9	17	29	38	30	20	17	14	40	78
1000	200	3	6	12	20	23	17	11	10	8	23	44
1500	80	5	14	25	41	> 50	47	30	22	20	56	109
1500	100	5	13	23	38	49	41	26	20	16	45	88
1500	200	4	8	18	27	32	23	14	12	9	25	49
2000	80	6	18	32	> 50	> 50	> 50	37	26	22	62	121
2000	100	6	16	30	47	> 50	> 50	32	23	18	50	98
2000	200	4	11	23	35	40	28	17	14	10	28	54
2500	80	7	22	39	> 50	> 50	> 50	43	29	25	68	134
2500	100	7	20	37	> 50	> 50	> 50	38	26	20	55	108
2500	200	5	13	28	42	48	34	20	16	11	30	59
3000	80	8	26	46	> 50	> 50	> 50	50	32	27	74	146
3000	100	8	24	43	> 50	> 50	> 50	44	29	22	60	117
3000	200	6	16	33	50	> 50	40	24	18	12	33	64

XK300, XS300, insertion loss D_e [dB] and differential pressure Δp_t [Pa]

L	Airway width	Centre frequency f_m [Hz]								v_s [m/s]		
		63	125	250	500	1000	2000	4000	8000	6	10	14
500	80	3	7	15	22	29	26	18	12	21	58	113
500	100	3	6	13	20	26	23	16	11	17	46	91
1000	80	5	12	23	34	42	37	24	16	23	65	127
1000	100	4	11	21	31	38	33	22	14	18	51	101
1000	200	3	8	16	22	25	21	13	10	10	27	53
1500	80	6	17	32	45	> 50	47	30	20	26	72	141
1500	100	5	16	29	42	50	42	27	18	20	56	111
1500	200	3	12	22	29	33	27	17	11	11	29	57
2000	80	7	23	40	> 50	> 50	> 50	36	23	28	79	154
2000	100	6	21	37	> 50	> 50	> 50	32	21	22	62	121
2000	200	4	15	28	37	41	33	20	13	11	31	61
2500	80	9	28	49	> 50	> 50	> 50	42	27	31	86	168
2500	100	8	26	45	> 50	> 50	> 50	37	24	24	67	131
2500	200	5	19	34	45	50	39	24	15	12	33	65
3000	80	10	34	> 50	> 50	> 50	> 50	48	30	33	93	182
3000	100	9	31	> 50	> 50	> 50	> 50	43	27	26	72	141
3000	200	6	23	40	> 50	> 50	45	27	17	13	35	69

Specification text

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design program.

Specification text

Splitter sound attenuators used for the reduction of fan noise and air-regenerated noise in ventilation and air conditioning systems. Attenuation effect due to absorption. Energy-saving as well as hygiene tested and certified. Splitter sound attenuator that consist of a duct with connections and integral type XK splitters or a splitter set. Splitters consist of an aerodynamically formed frame (bullnose radius 20 mm) and absorbing material. The splitter frame reduces pressure losses and air-regenerated noise. The profiled frame with bullnose edges increase the rigidity of the splitter. Insertion loss and sound power level of air-regenerated noise measured according to EN ISO 7235. For requirements in areas with potentially explosive atmospheres (ATEX), zones 1, 2, 21 and 22 (outside) according to Directive 1999/92/EC. The duct meets leakage class C and pressure class 2 according to EN 15727.

Special features

- Increased insertion loss even in the high-frequency range
- Leakage class C and pressure class 2 according to EN 15727
- Energy savings due to aerodynamically formed splitter frame
  - Up to 30 % lower differential pressure
- Hygiene tested and compliant with VDI 6022
- Multi-section construction available for large dimensions

Materials and surfaces

- Duct, flange in galvanised sheet steel 1.0917 or stainless steel 1.4301
- Angle section frame in galvanised L steel S235JRC2
- Splitter frame and centre mullion made of galvanised sheet steel 1.0917 or stainless steel 1.4301
  - Expanded metal facing made of galvanised steel 1.0917
  - Perforated metal facing made of stainless steel 1.4301
  - Absorption material is mineral wool
    - To EN 13501, fire rating class A1, non-combustible
    - RAL quality mark RAL-GZ 388
    - Biosoluble and hence hygienically safe according to the German TRGS 905 (Technical Rules for Hazardous Substances) and EU directive 97/69/EC
    - Faced with glass fibre fabric as a protection against erosion from airflow velocities of up to 20 m/s
    - Inert to fungal and bacterial growth according to EN 846

Construction

Duct
- No entry: with duct
- OL: without duct (set of XK splitters only)

Splitter surface
- F: Glass fibre fabric
- L: glass fibre fabric faced with expanded metal as an additional mechanical protection for the sound absorbing material
  - Stainless steel construction with perforated metal facing

Materials and surfaces
- No entry: galvanised steel 1.0917
- A2: stainless steel 1.4301
- P1: splitters powder-coated RAL 7001, silver grey

Duct connection
- P: flange 30 mm, galvanised or stainless steel
- W: angle section frame 35 × 35 × 3 mm, galvanised
- T: flange 20 mm, galvanised

Matching frame
- No entry: none
- G: matching frame (only for angle section frame W)

Technical data

- Splitter thickness: 100, 200, 230, 300 mm
- Dimensions B × H × L: XS 100: 150 × 150 × 500 mm, XS 200: 250 × 150 × 500 mm, XS 230: 288 × 150 × 500 mm, XS 300: 375 × 150 × 500 mm
- Undivided construction up to 2400 × 1800 × 1500 mm
- Width subdivided: 2401 – 4800 mm
- Height subdivided: 1801 – 3600 mm
- Length subdivided: 1501 – 3000 mm
- Intermediate sizes: in increments of 1 mm
- Operating temperature: up to 100 °C, variant L up to 300 °C for 8 h max.

The length (L) of splitter sound attenuators refers to the airflow direction.

Sizing data

- B [mm]
- H [mm]
- L (in airflow direction) [mm]
- q_v (m³/h)
- D_e at 250 Hz [dB]
- Δp_t [Pa]

Order code

XS – OL – F – A2 / 900 × 600 × 1500 / 3 × 200 / P / G
1 2 3 4 5 6 7 8 9 10 11

1 Type
XS Splitter sound attenuator

2 Air duct
No entry required: with air duct
OL Without air duct (only set of splitters Type XK)

3 Splitter surface
F Glass fibre fabric
L Glass fibre fabric and expanded metal

4 Material of air duct and splitters
No entry required: galvanised steel 1.0917
A2 Stainless steel 1.4301
P1 Powder-coated in RAL 7001 (only splitters, not the duct casing)

5 Width B [mm]
150 mm – 4800 mm (with duct casing)
150 mm – 100000 mm (without duct casing)

6 Height H [mm]
150 mm – 3600 mm

7 Length L in airflow direction [mm]
500 mm – 3000 mm (with duct casing)
150 mm – 5000 mm (without duct casing)

8 No. of splitters

9 Splitter thickness T [mm]
100, 200, 230, 300

10 Duct connection
P Standard flange 30 mm, galvanised steel or stainless steel
W Angle section frame 35 × 35 × 3 mm, galvanised steel only S235JRC2 (for sound attenuators with width and/or height subdivided constructions, only angle section frame)
T Standard flange 20 mm, steel galvanised only

11 Matching frame
No entry required: none
G Matching frame (only with angle section frame)

Order example: XS-L/900×1500×1000/3×230/P

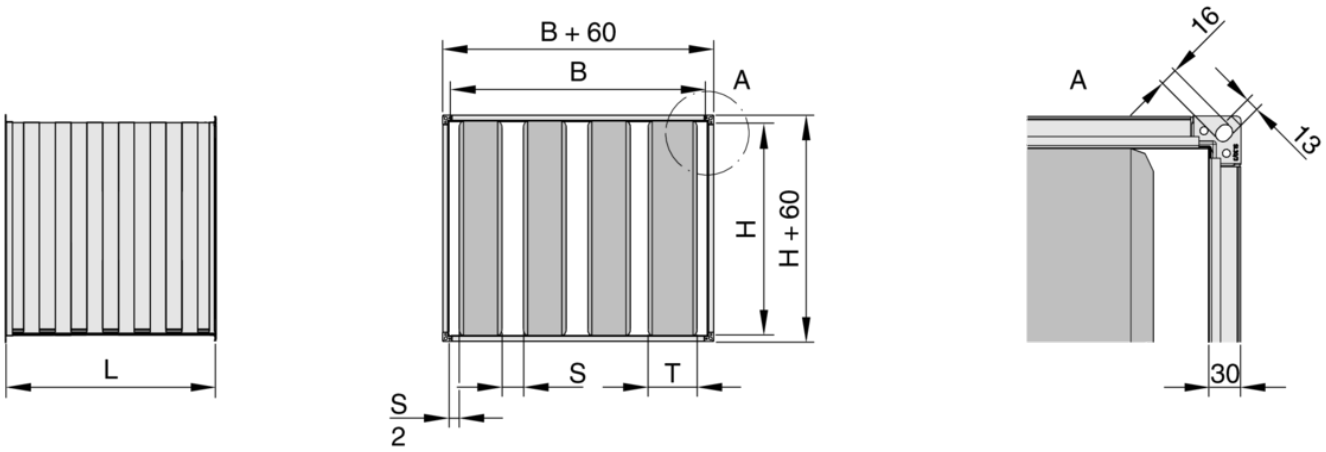
Air duct	With air duct
Splitter surface	Glass fibre fabric and expanded metal
Material	galvanised steel 1.0917
Width	900 mm
Height	1500 mm
Length	1000 mm
No. of splitters	3
Splitter thickness	230 mm
Duct connection	Standard flange 30 mm

Order example: XS-OL-L-A2/800×1500×1500/3×200

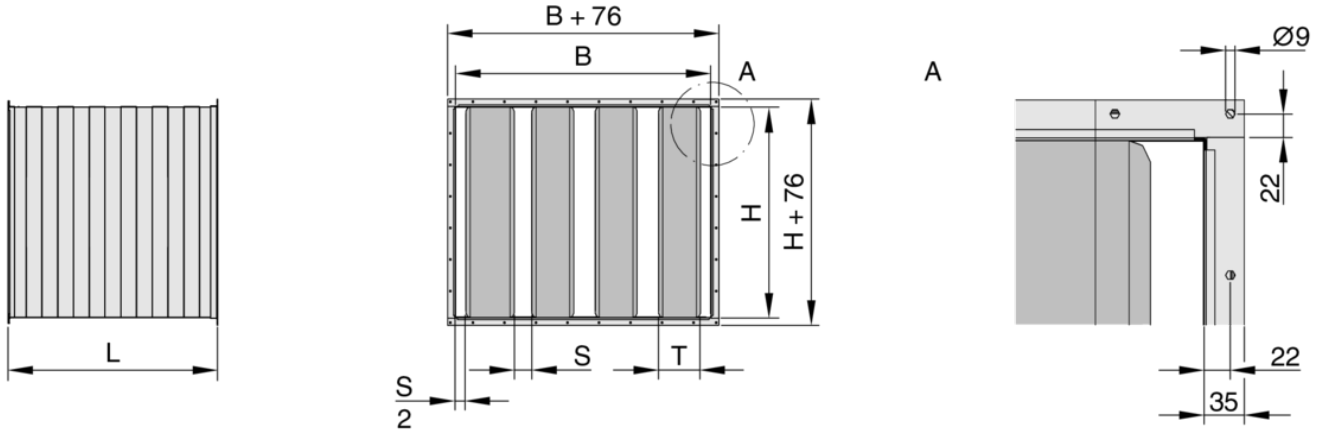
Air duct	Without air duct (only set of splitters Type XK)
Splitter surface	Glass fibre fabric and perforated sheet metal
Material	Stainless steel 1.4301
Width	800 mm
Height	1500 mm
Length	1500 mm
No. of splitters	3
Splitter thickness	200 mm

Dimensions

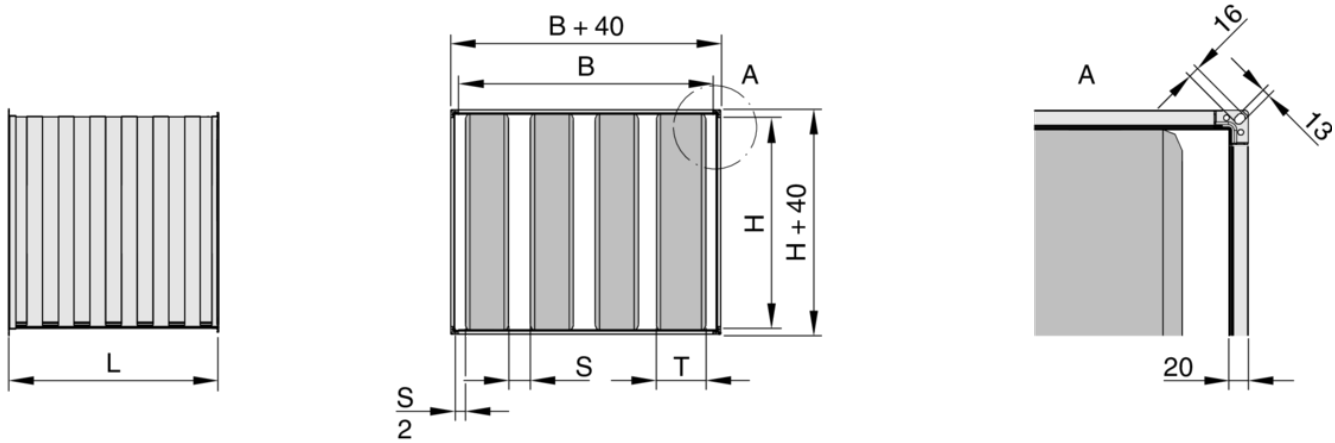
Flange 30 mm (P), undivided construction



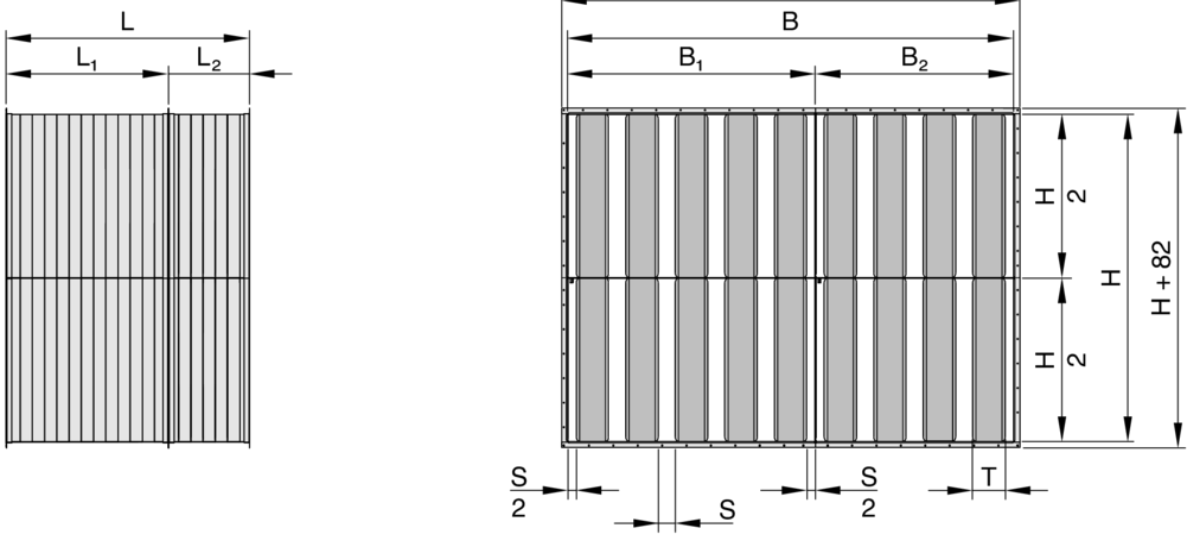
Angle section frame 35 × 35 × 3 mm (W), undivided construction



Flange 20 mm (T), undivided construction



Angle section frame 35 × 35 × 3 mm (W), for constructions with the width or height subdivided



Nominal sizes

- Width B: 200, 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400 mm
  - Intermediate sizes: in increments of 1 mm
    - Splitter thickness 100 mm: 150 – 2399 mm
    - Splitter thickness 200 mm: 250 – 2399 mm
    - Splitter thickness 230 mm: 288 – 2399 mm
    - Splitter thickness 300 mm: 375 – 2399 mm
  - Sizes from 2401 – 4800 mm are available with the width subdivided in increments of 1 mm
    - Even no. of splitters: centre division
    - Odd no. of splitters: off-centre division

- Height H: 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800 mm
  - Intermediate sizes 150 – 1799 mm in increments of 1 mm
  - Sizes from 1801 – 3600 mm are available with the height subdivided in increments of 1 mm
    - Centre division
- Length L: 500, 750, 1000, 1250, 1500 mm
  - Intermediate sizes 501 – 1499 mm in increments of 1 mm
- Sizes from 1501 – 3000 mm are available with the length subdivided in increments of 1 mm
  - Part L1: 1000, 1250, 1500 mm
  - Part L2: at least 501 mm and ≤ L1, in increments of 1 mm
- Width and/or height subdivided if B + H > 4200 mm
- Airway width S
  - Minimum: splitter thickness T × 0.25, but not < 40 mm
  - Maximum: splitter thickness T × 2

Weights

The weight of a splitter sound attenuator is determined by the number and costruction of the splitters and ducts.
Weight [kg] = (weight of splitter x no. of splitters) + duct

Duct with flange (-P), L= 500

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	7	8	10	12	14	16	18	21	25
600	9	11	13	14	16	18	20	23	27
900	13	15	17	19	21	23	25	29	33
1200	15	18	19	21	23	25	27	31	35
1500	18	20	22	24	26	28	29	33	37
1800	21	22	24	26	28	30	32	35	39

Duct with flange (-P), L= 750

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	9	12	15	17	20	22	25	30	36
600	13	15	18	20	23	25	28	32	38
900	17	20	23	25	28	31	33	39	44
1200	21	23	26	28	31	33	36	41	46
1500	25	28	31	33	36	39	41	47	52
1800	28	31	34	36	39	41	44	49	54

Duct with flange (-P), L= 1000

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	12	16	19	22	25	29	32	39	46
600	16	19	23	26	29	32	35	42	48
900	21	25	28	31	35	38	41	48	55
1200	27	30	34	37	40	44	47	54	61
1500	31	34	37	41	44	47	50	56	63
1800	36	40	43	46	49	53	56	63	69

Duct with flange (-P), L= 1250

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	14	17	21	25	29	33	37	45	53
600	20	23	27	31	35	39	43	51	59
900	26	30	34	38	42	45	49	57	65
1200	32	36	40	44	48	52	56	64	72
1500	38	42	46	50	54	58	62	70	78
1800	44	48	52	56	60	64	68	77	84

Duct with flange (-P), L= 1500

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	16	21	26	30	35	40	44	54	63
600	23	28	32	37	42	46	51	60	70
900	30	35	39	44	49	53	58	67	76
1200	37	41	46	51	55	60	64	73	83
1500	44	48	53	57	62	66	71	80	89
1800	52	57	61	66	71	76	81	90	100

Duct with angle section frame (-W), L= 500

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	10	13	16	19	22	25	28	33	39
600	14	17	20	23	26	28	31	37	43
900	20	23	26	29	32	35	38	45	50
1200	24	27	30	33	36	39	42	48	54
1500	28	31	34	37	40	43	46	52	58
1800	32	35	38	41	44	47	50	55	61

Duct with angle section frame (-W), L= 750

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	13	17	20	24	28	31	35	43	50
600	18	21	25	29	32	36	39	46	54
900	24	28	32	35	39	43	46	54	61
1200	29	32	36	40	43	47	51	58	65
1500	35	39	43	46	50	54	58	65	73
1800	40	44	47	51	55	58	62	69	76

Duct with angle section frame (-W), L= 1000

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	16	20	25	29	33	38	43	52	60
600	21	26	30	34	39	43	47	55	64
900	28	33	37	41	46	50	55	63	72
1200	35	40	44	49	53	58	62	71	80
1500	41	45	49	54	58	62	67	75	84
1800	48	52	57	61	65	70	74	83	91

Duct with angle section frame (-W), L= 1250

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	17	22	27	32	37	42	47	57	67
600	25	30	35	40	45	50	55	65	75
900	33	38	43	48	53	58	63	73	83
1200	40	45	50	55	60	66	71	81	91
1500	48	53	58	63	68	73	78	89	99
1800	56	61	66	71	76	81	86	97	107

Duct with angle section frame (-W), L= 1500

H	B								
	400	600	800	1000	1200	1400	1600	2000	2400
300	20	26	31	37	43	49	54	66	77
600	28	34	40	46	51	57	63	74	85
900	37	42	48	54	60	65	71	82	93
1200	45	51	57	62	68	73	79	90	102
1500	54	59	65	71	76	82	87	98	110
1800	63	69	75	81	87	93	99	110	122

XK 100 – Glass fibre fabric (-F)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	3	3	4	5	6	7	8	9	9
750	3	4	5	6	7	9	10	11	12
1000	4	5	7	8	10	11	13	14	15
1250	5	6	8	10	12	14	15	19	20
1500	6	7	10	12	14	16	20	22	23
1750	7	9	11	14	16	X	X	X	X
2000	8	10	13	15	17	X	X	X	X
2250	9	11	14	16	19	X	X	X	X
2500	9	12	15	18	21	X	X	X	X

X = subdivided construction

XK 100 – Glass fibre fabric and expanded metal (-L)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	4	5	7	8	9	11	12	14	15
750	5	7	9	11	13	15	17	19	21
1000	7	9	11	14	18	20	22	25	27
1250	8	11	14	18	21	24	27	32	35
1500	9	13	17	21	24	28	34	38	41
1750	7	9	11	14	16	X	X	X	X
2000	8	10	13	15	17	X	X	X	X
2250	9	11	14	16	19	X	X	X	X
2500	9	12	15	18	21	X	X	X	X

X = subdivided construction

XK 100 – Glass fibre fabric and perforated sheet metal (-L-A2)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	4	5	7	10	12	14	16	18	20
750	5	7	10	13	16	19	23	26	29
1000	7	10	13	17	21	26	30	34	38
1250	8	12	16	21	27	32	37	41	48
1500	9	14	19	26	32	37	43	52	57
1750	16	23	30	37	43	X	X	X	X
2000	18	26	34	41	49	X	X	X	X
2250	21	29	38	46	55	X	X	X	X
2500	23	32	41	51	60	X	X	X	X

X = subdivided construction

XK 200 – Glass fibre fabric (-F)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	4	6	7	9	10	12	13	15	16
750	6	8	10	12	13	16	18	20	22
1000	7	10	12	14	18	20	23	25	27
1250	9	12	14	18	21	24	27	32	35
1500	10	13	18	21	24	28	34	37	40
1750	12	16	20	24	28	X	X	X	X
2000	14	18	23	27	31	X	X	X	X
2250	15	20	25	30	35	X	X	X	X
2500	17	22	27	33	38	X	X	X	X

X = subdivided construction

XK 200 – Glass fibre fabric and expanded metal (-L)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	6	8	10	12	14	16	18	20	22
750	8	10	13	16	19	22	25	28	31
1000	10	13	17	20	25	29	32	36	39
1250	12	16	20	26	30	35	39	45	50
1500	14	19	25	30	35	41	48	53	58
1750	16	23	29	35	41	X	X	X	X
2000	18	25	32	39	46	X	X	X	X
2250	21	28	36	43	51	X	X	X	X
2500	23	31	39	47	56	X	X	X	X

X = subdivided construction

XK 200 – Glass fibre fabric and perforated sheet metal (-L-A2)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	7	10	13	15	18	21	24	27	30
750	10	14	18	21	25	30	34	38	41
1000	13	18	22	28	34	39	44	49	54
1250	15	21	28	35	41	47	53	62	68
1500	18	25	33	41	48	56	66	73	80
1750	22	30	39	47	56	X	X	X	X
2000	24	34	44	53	63	X	X	X	X
2250	27	38	49	59	70	X	X	X	X
2500	30	42	54	66	77	X	X	X	X

X = subdivided construction

XK 230 – Glass fibre fabric (-F)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	5	7	8	10	12	14	15	17	19
750	7	9	11	13	15	18	20	22	25
1000	8	11	14	16	20	23	26	28	31
1250	10	13	16	21	24	28	31	36	39
1500	12	15	20	24	28	32	38	42	46
1750	14	18	23	28	32	X	X	X	X
2000	16	21	26	31	36	X	X	X	X
2250	17	23	28	34	39	X	X	X	X
2500	19	25	31	37	43	X	X	X	X

X = subdivided construction

XK 230 – Glass fibre fabric and expanded metal (-L)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	6	8	11	13	15	18	20	22	24
750	8	11	14	18	21	24	27	30	33
1000	11	14	18	22	27	31	35	39	43
1250	13	18	22	28	33	38	43	49	54
1500	15	21	27	33	38	44	52	58	63
1750	18	25	31	38	44	X	X	X	X
2000	20	28	35	43	50	X	X	X	X
2250	23	31	39	47	55	X	X	X	X
2500	25	34	43	52	61	X	X	X	X

X = subdivided construction

XK 230 – Glass fibre fabric and perforated sheet metal (-L-A2)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	8	11	14	16	19	23	26	29	32
750	11	15	19	23	27	32	36	40	44
1000	14	19	24	29	36	41	47	52	57
1250	16	23	29	37	44	51	57	66	72
1500	19	27	36	44	51	60	70	78	85
1750	23	32	41	51	60	X	X	X	X
2000	26	36	47	57	67	X	X	X	X
2250	29	41	52	64	75	X	X	X	X
2500	32	45	57	70	83	X	X	X	X

X = subdivided construction

XK 300 – Glass fibre fabric (-F)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	6	8	10	13	15	17	19	21	23
750	8	11	14	17	19	23	26	28	31
1000	10	14	17	21	26	29	33	36	40
1250	13	17	21	26	30	35	39	45	50
1500	15	19	25	30	35	41	48	53	58
1750	18	23	29	35	41	X	X	X	X
2000	20	26	33	39	46	X	X	X	X
2250	22	29	36	43	50	X	X	X	X
2500	24	32	40	47	55	X	X	X	X

X = subdivided construction

XK 300 – Glass fibre fabric and expanded metal (-L)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	7	10	13	15	18	21	24	27	29
750	10	14	17	21	25	29	33	36	40
1000	13	17	22	27	33	37	42	47	51
1250	15	21	27	33	39	45	51	59	64
1500	18	25	32	39	46	53	62	69	75
1750	22	30	37	45	53	X	X	X	X
2000	24	33	42	51	60	X	X	X	X
2250	27	37	47	57	66	X	X	X	X
2500	30	41	51	62	73	X	X	X	X

X = subdivided construction

XK 300 – Glass fibre fabric and perforated sheet metal (-L-A2)

H	L								
	500	750	1000	1250	1500	1750	2000	2250	2500
500	9	12	16	19	23	26	30	33	37
750	12	17	22	27	31	37	41	46	51
1000	16	22	28	34	41	48	54	60	66
1250	19	27	34	42	50	58	65	75	82
1500	23	31	41	50	59	68	80	89	97
1750	27	37	48	58	68	X	X	X	X
2000	30	42	54	65	77	X	X	X	X
2250	34	47	60	73	86	X	X	X	X
2500	37	52	66	80	95	X	X	X	X

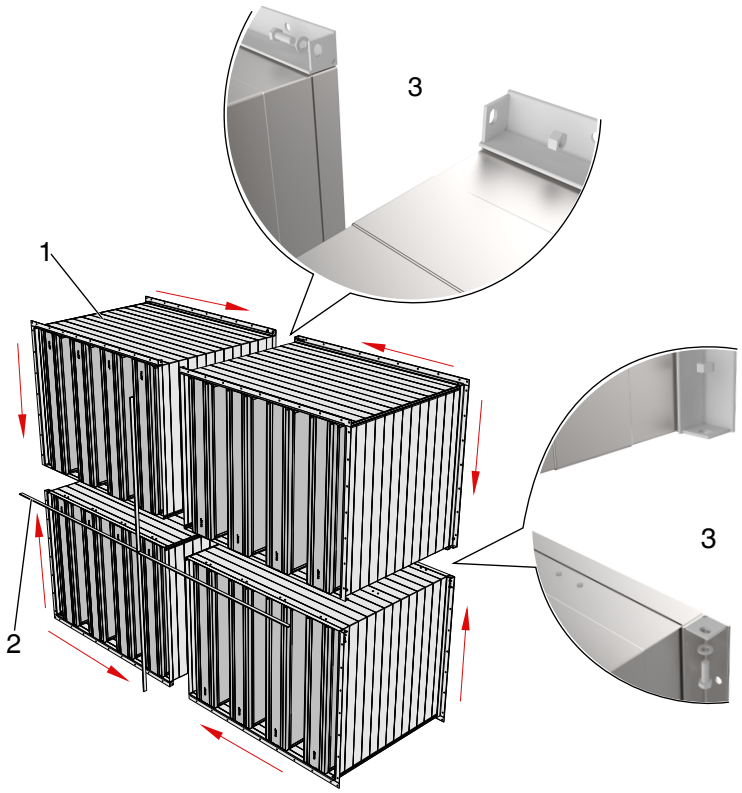
X = subdivided construction

Installation details

Installation and commissioning

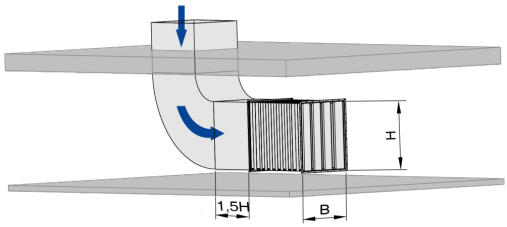
- Follow the installation manual and comply with the general codes of good practice in order to achieve the given performance data
- Up to height H = 1200 mm, length L = 1500 mm and 40 kg max.: any installation orientation, but we recommend upright installation of splitters
- From height H = 1201 mm: upright installation only
- The length (L) of sound attenuator splitters and splitter sound attenuators refers to the airflow direction; be sure to note how width, height and length are defined, particularly in case of a vertical airflow
- A turbulent airflow may cause damage to the splitters
  - A straight upstream section is required upstream of the sound attenuator
  - The recommended minimum upstream section depends on the change of direction, change of cross-section and splitter arrangement
- Installation in ducts outside closed rooms requires sufficient protection against the effects of weather

Schematic illustration of subdivided sound attenuators



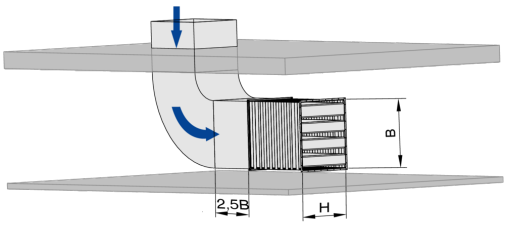
1 Sound attenuator, with width and height subdivided
2 Seal
3 Screw fix connection

Upstream conditions after bends, junctions or a narrowing or widening of the duct, vertical upstream section, splitters upright



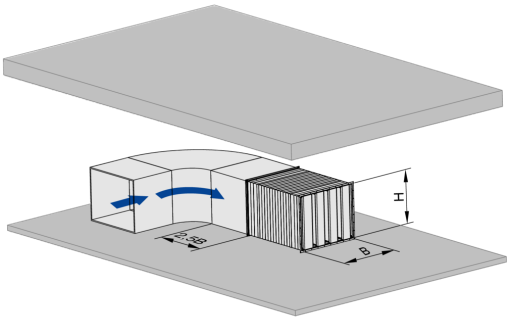
B Width of the sound attenuator
H Height of the sound attenuator and the splitters

Upstream conditions after bends, junctions or a narrowing or widening of the duct, vertical upstream section, splitters lying flat



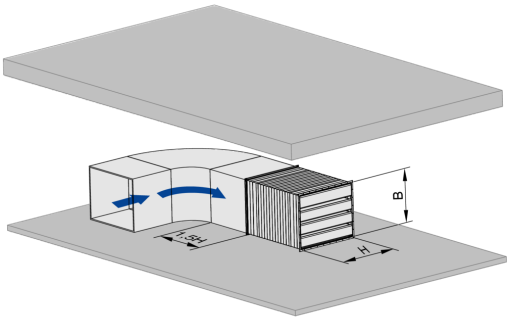
B Width of the sound attenuator
H Height of the sound attenuator and the splitters
Installation with the splitters lying flat only for splitters up to height 1200 mm

Upstream conditions after bends, junctions or a narrowing or widening of the duct, horizontal upstream section, splitters upright



B Width of the sound attenuator
H Height of the sound attenuator and the splitters

Upstream conditions after bends, junctions or a narrowing or widening of the duct, horizontal upstream section, splitters lying flat



B Width of the sound attenuator
H Height of the sound attenuator and the splitters
Installation with the splitters lying flat only for splitters up to height 1200 mm

Nomenclature

L [mm]
Length of sound attenuator including spigot (always in airflow direction)

L_1 [mm]
Length of part 1 of a splitter sound attenuator with the length subdivided

L_2 [mm]
Length of part 2 of a splitter sound attenuator with the length subdivided

B [mm]
Sound attenuator width and duct width

B_1 [mm]
Width of part 1 of a splitter sound attenuator with the width subdivided

B_2 [mm]
Width of part 2 of a splitter sound attenuator with the width subdivided

H [mm]
Sound attenuator height and duct height (upright splitters)

T [mm]
Splitter thickness

S [mm]
Airway width

m [kg]
Weight

f_m [Hz]
Octave band centre frequency

D_e [dB]
Insertion loss

q_v [m³/h]; [l/s]
Volume flow rate

Δp_t [Pa]
Total differential pressure

v_s [m/s]
Airflow velocity

Lengths
All lengths are given in millimetres [mm] unless stated otherwise.

Measured values
All sound power levels are based on 1 pW. All values were measured in a TROX lab and to EN ISO 7235. Intermediate values may be achieved by interpolation. Lab measurements exceeding 50 dB are given as 50 dB, based on practical conditions.