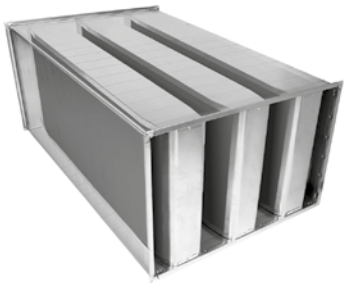
Rectangular straight attenuator Smoke single compartment

SLRSS2



Description

Rectangular straight attenuator from the Aerodim™ series. SLRSS2 is built with the Aerodim™ attenuator splitter SLRA. The SLRA is manufactured with a frame of galvanized sheet and absorption material type Lindtec™. The splitter is available in a width of 200 mm. Attenuator is equipped with flange profile RJFP.

Due to the aerodynamic design, the SLRSS2 has a low pres-sure loss and a low generation of flow noise. To calculate the attenuator, you can use our IT-online tool LindQST or DIMsilencer, where width, height, length and splitter distance can be optimized for the best performance. On LindQST or DIMsilencer, this product is called SLRS.

Tested according to ISO 7235 standard.

SLRSS2 is tested with the whole Lindab smoke evacuation system according to EN 1366-9.

CE-Certified according to EN 12101-7

Special materials and sizes, please contact Lindab sales.

Order code

Product SLRSS2 200 S* a b l c

SLRSS2

Splitter width in mm

200 mm

Splitter distance (S), in mm

Calculate*

Width (a) in mm

Min. - Max. 400 - 1900 mm

Height (b) in mm

Min. - Max. 200 - 1700 mm

Length (l) l_{nom} i mm

Min. - Max. 500 - 1500 mm

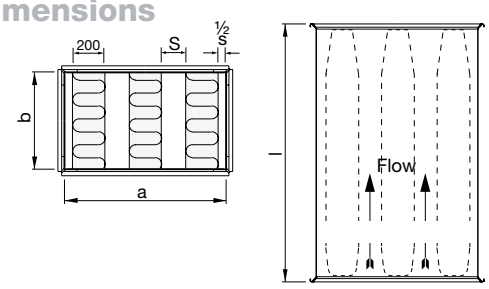
Splitter type

1 = With perforated plate

2 = Without perforated plate

Example: SLRSS2 - 200 - 100 - 1250 - 900 - 1500 - 1

Dimensions



* See how to calculate (S) from a given (a) in the seperate AeroDim-SLRA-SLRSS2 installations instruction page 4.

Technical data examples

Splitter distance S = 60

Length l_{nom} [mm]	Insertion loss [dB] for centre frequency [Hz]								Pressure value ξ
	63	125	250	500	1k	2k	4k	8k	
750	4	9	18	26	35	32	22	16	8,9
1000	5	11	23	34	48	43	28	20	10,2
1250	6	14	29	43	50	50	34	24	11,5
1500	7	16	34	50	50	50	39	27	12,9

Splitter distance S = 80

Length l_{nom} [mm]	Insertion loss [dB] for centre frequency [Hz]								Pressure value ξ
	63	125	250	500	1k	2k	4k	8k	
750	3	7	15	23	30	27	18	14	4,9
1000	4	9	20	30	42	36	23	17	5,6
1250	5	12	25	37	50	44	28	20	6,2
1500	5	14	29	44	50	50	32	22	6,9

Splitter distance S = 100

Length l_{nom} [mm]	Insertion loss [dB] for centre frequency [Hz]								Pressure value ξ
	63	125	250	500	1k	2k	4k	8k	
750	3	6	13	50	26	22	15	11	2,8
1000	3	8	18	27	37	29	19	14	3,2
1250	4	10	22	33	47	37	23	16	3,6
1500	5	12	26	40	50	44	27	18	4,0

Splitter distance S = 120

Length l_{nom} [mm]	Insertion loss [dB] for centre frequency [Hz]								Pressure value ξ
	63	125	250	500	1k	2k	4k	8k	
750	2	6	12	19	23	18	12	9	1,8
1000	3	7	16	25	32	24	16	11	2,0
1250	3	9	20	30	41	30	19	13	2,3
1500	4	11	23	36	50	36	22	15	2,5

Splitter distance S = 140

Length l_{nom} [mm]	Insertion loss [dB] for centre frequency [Hz]								Pressure value ξ
	63	125	250	500	1k	2k	4k	8k	
750	2	5	11	17	20	15	10	8	1,1
1000	3	7	15	23	28	20	13	9	1,3
1250	3	8	18	28	36	25	16	11	1,5
1500	4	10	22	34	44	30	18	12	1,7

NB. Max. attenuation specified is 50 dB.
The pressure loss Δp in Pa can be calculated from the pressure value ξ: $\Delta p = 0{,}6 \times v2 \times \xi$, where (v) is the velocity on the face area of the attenuator.

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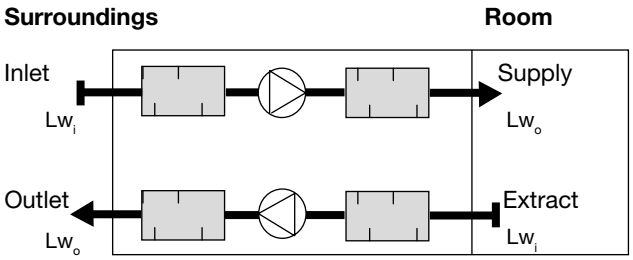
Technical data



The flow noise and pressure loss is dependent on the velocity (v) on the face area(A) of the attenuator.

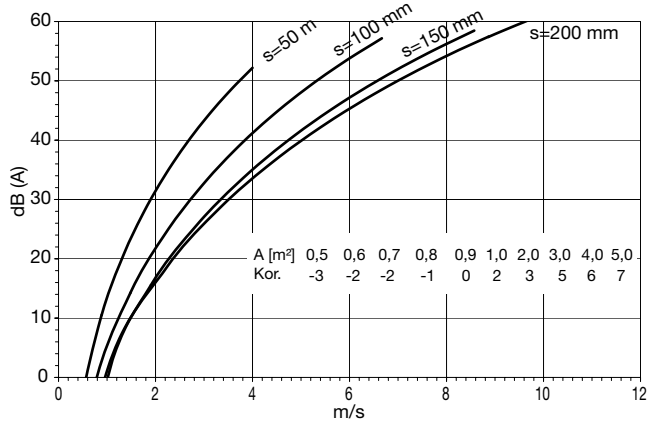
However, the noise generated at the inlet of the attenuator

Lw$_i$ is higher than the noise generated at the outlet of the attenuator Lw$_o$. It is therefore crucial to use the correct value depend on the placement of the attenuator in the duct system, cf. drawing.

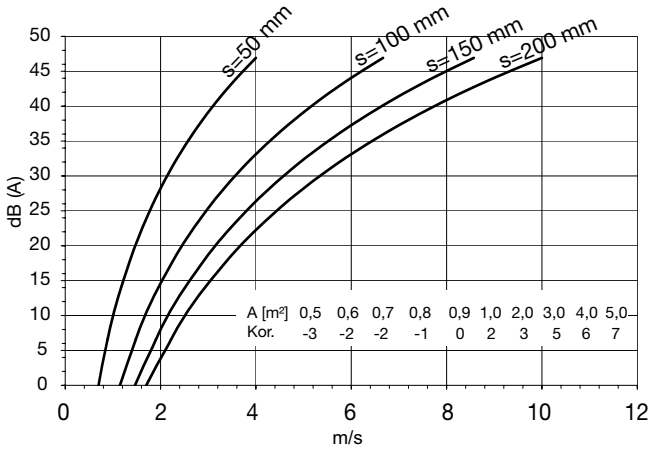
When calculating the attenuator for:

- supply and outlet - use outlet noise Lw$_o$
- inlet and exhaust - use inlet noise Lw$_i$

Sound power level, inlet: Lw$_i$



Sound power level, outlet: Lw$_o$



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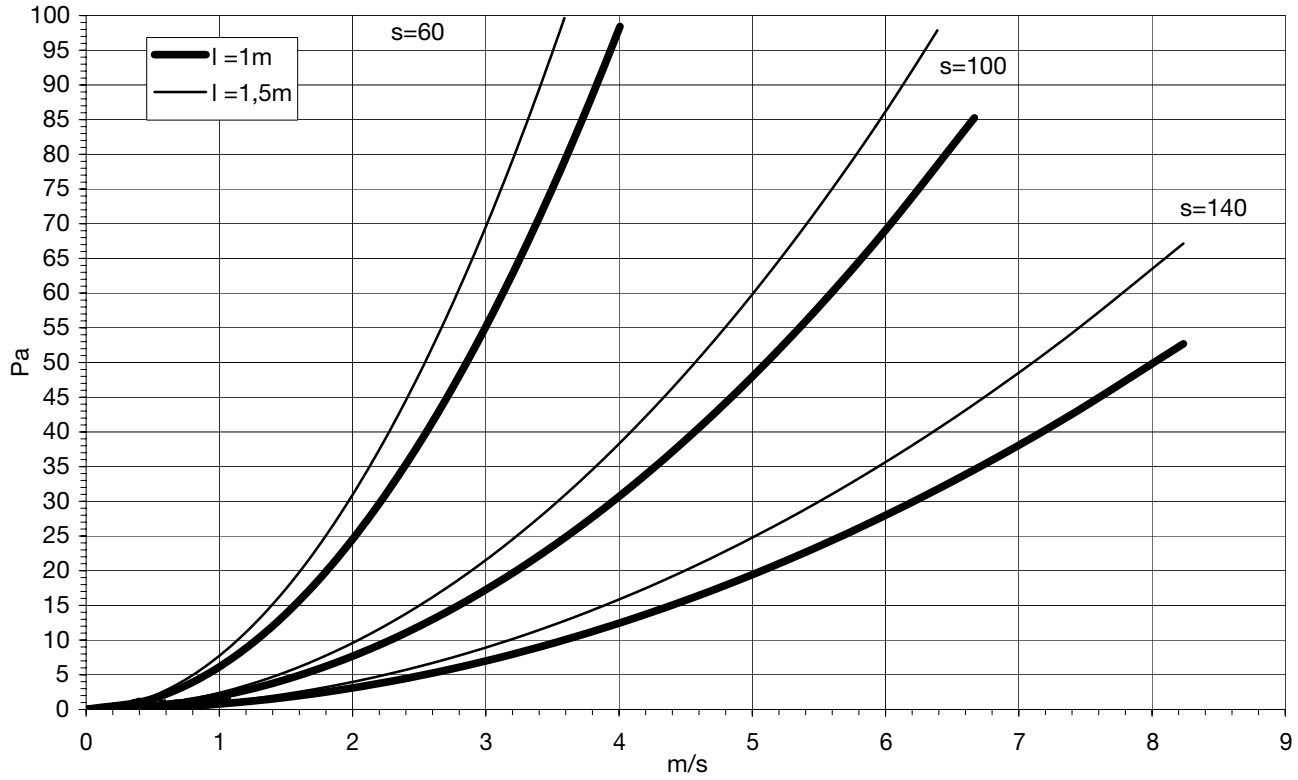
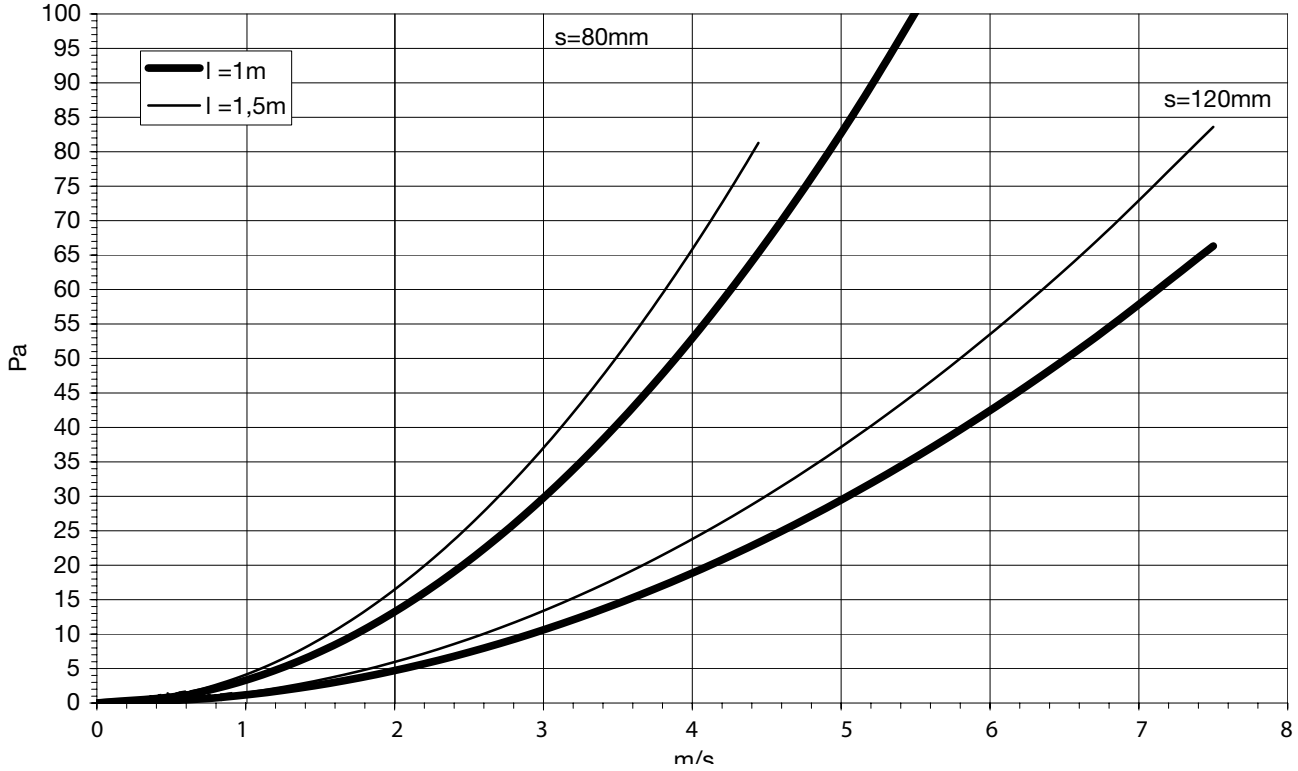
Pressure loss





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Calculation example

Pressure loss and flow noise depend on the velocity on the face area of the attenuator A.

This is illustrated in the following example:
SLRSS2 900 × 600 mm, Length 1,5 metre, 3 splitters, distance 100 mm.

Flow = 7776 m^3/h = 2,16 m^3/s.
Area A = 0,9 m × 0,6 m = 0,54 m^2

$$\text{Face velocity} = \frac{2{,}16\ m^3/s}{0{,}54\ m^2} = 4\ m/s$$

Pressure loss:

Pressure loss = 39 Pa.

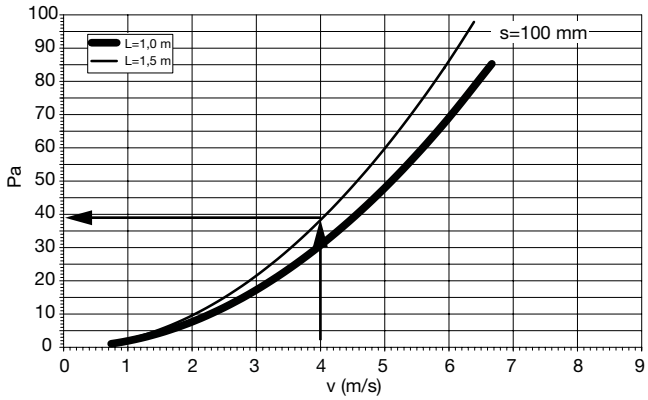
Flow noise from inlet:

Lw_i = 44 dB(A) -3 = 41 dB(A)
(-3 from area correction)

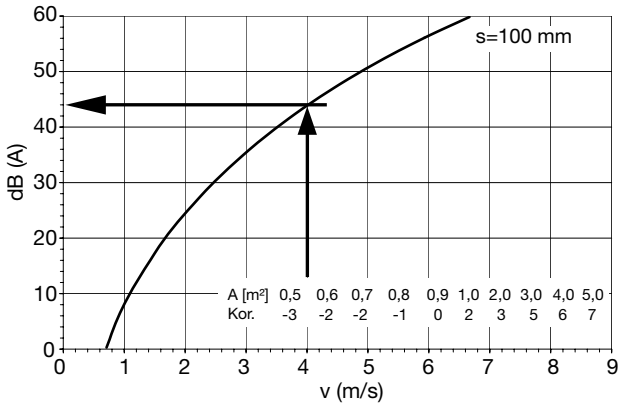
Flow noise from outlet:

From graph:
Lw_o = 36 dB(A) -3 = 33 dB(A)
(-3 from area correction)

Pressure loss



Sound power level, inlet: Lw_i



Sound power level, outlet: Lw_o