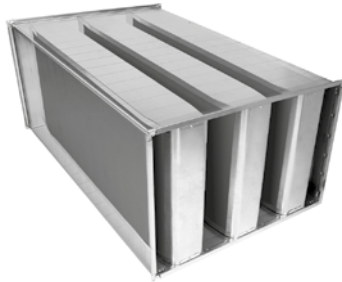


Rectangular straight attenuator SLRS



Description

Rectangular straight attenuator from the Aerodim™ series. SLRS 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 or LS.

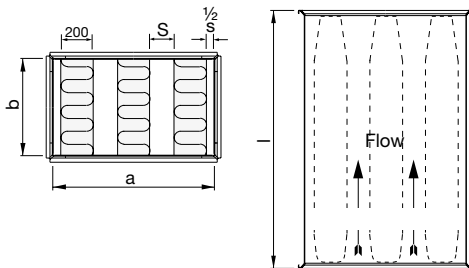
Due to the aerodynamic design, the SLRS has a low pressure loss and a low generation of flow noise. To calculate the attenuator, you can use our IT-online tool LindQST or DIMsilencer, where width, height, length and splitter distance can be optimized for the best performance.

Tested according to ISO 7235 standard.

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

Special materials and sizes, please contact Lindab sales.

Dimensions



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

Order code

Product	SLRS	200	S*	a	b	l	c
SLRS							
Splitter width in mm	200 mm						
Splitter distance (S), in mm	Calculate*						
Width (a) in mm	Min. - Max. 400 - 2400 mm						
Height (b) in mm	Min. - Max. 200 - 2400 mm						
Length (l) I_{nom} i mm	Min. - Max. 500 - 2550 mm						
Connection type	e.g. RJFP or LS						

Example: SLRS - 200 - 100 - 1200 - 900 - 1000 - RJFP

Technical data examples

Splitter distance S = 60

Length I _{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
2000	9	22	45	50	50	50	49	33	15,5
2500	11	27	50	50	50	50	50	38	18,2

Splitter distance S = 80

Length I _{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
2000	7	18	39	50	50	50	40	27	8,2
2500	8	22	48	50	50	50	48	31	9,5

Splitter distance S = 100

Length I _{nom} [mm]	Insertion loss [dB] for centre frequency [Hz]								Pressure value ξ
	63	125	250	500	1k	2k	4k	8k	
750	3	6	13	20	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
2000	6	16	34	50	50	50	33	22	4,8
2500	7	19	42	50	50	50	40	26	5,5

Splitter distance S = 120

Length I _{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
2000	5	14	31	48	50	47	28	18	3,0
2500	6	17	38	50	50	50	33	21	3,5

Splitter distance S = 140

Length I _{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
2000	4	13	28	45	50	39	23	15	2,0
2500	5	16	35	50	50	48	27	18	2,4

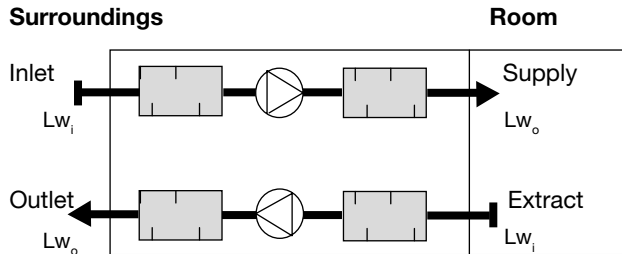
NB. Max. attenuation specified is 50 dB. Other lengths are available. See min. – max. dimensions in order code. Note that you can exceed the max. dimensions by building together several SLRA/SLRS. See the installation instructions - Rectangular silencers/splitters for more details.

The pressure loss Δp in Pa can be calculated from the pressure value ξ: Δp = 0,6 × v² × ξ, where (v) is the velocity on the face area of the attenuator.

Rectangular straight attenuator

SLRS

Technical data



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

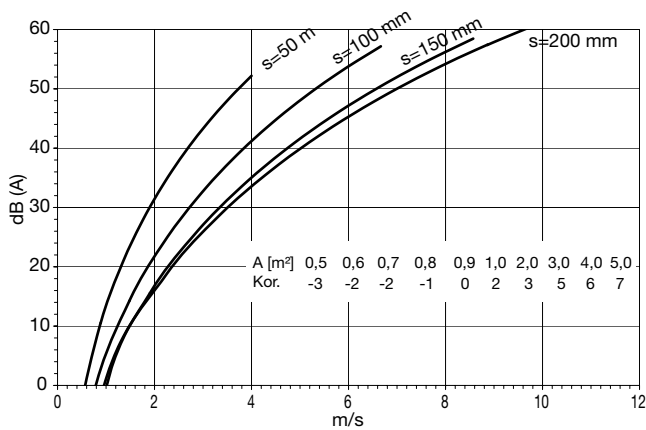
However, the noise generated at the inlet of the attenuator

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.

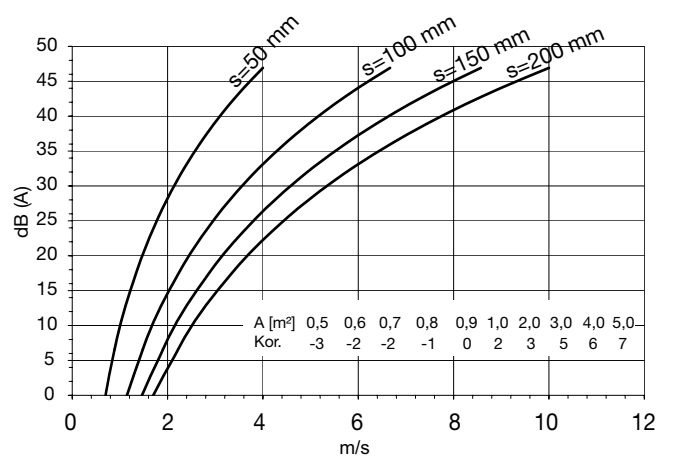
When calculating the attenuator for:

- supply and outlet - use outlet noise Lw_o
- inlet and exhaust - use inlet noise Lw_i

Sound power level, inlet: Lw_i



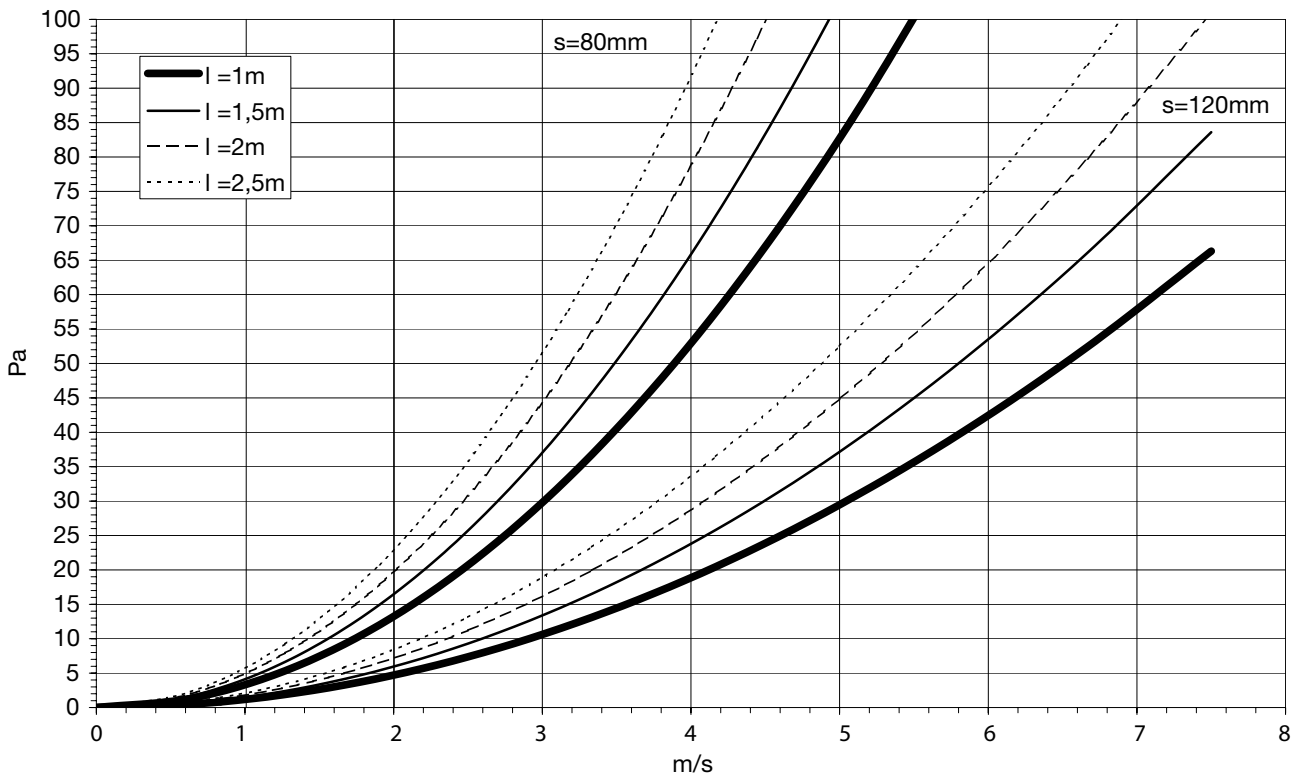
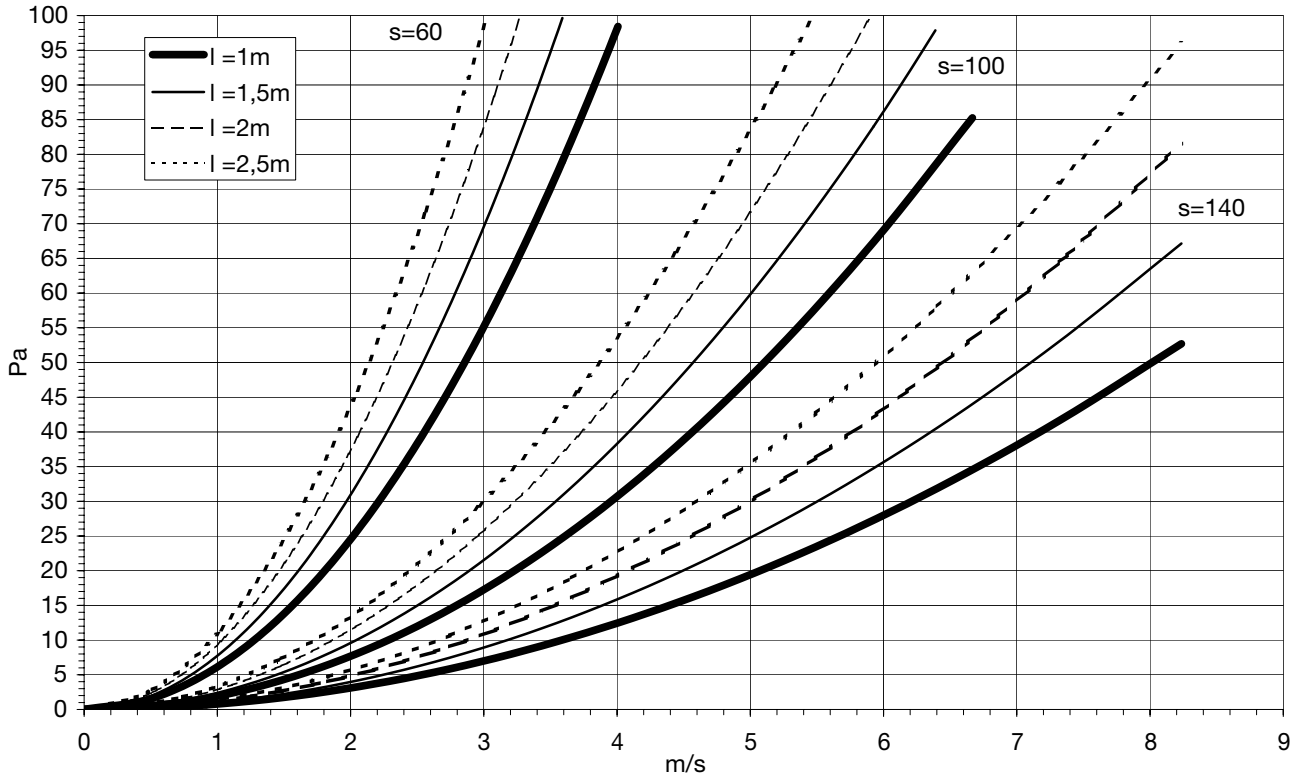
Sound power level, outlet: Lw_o



Rectangular straight attenuator

SLRS

Pressure loss



Rectangular straight attenuator

SLRS

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:
 SLRS 900 × 600 mm, Length 1,5 metre, 3 splitters,
 distance 100 mm.

Flow = 7776 m³/h = 2,16 m³/s.
 Area A = 0,9 m × 0,6 m = 0,54 m²

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

Pressure loss:

Pressure loss = 39 Pa.

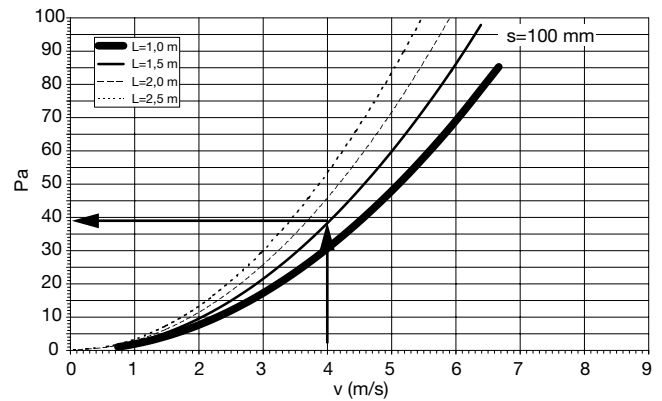
Flow noise from inlet:

$L_{w_i} = 44 \text{ dB(A)} - 3 = 41 \text{ dB(A)}$
 (-3 from area correction)

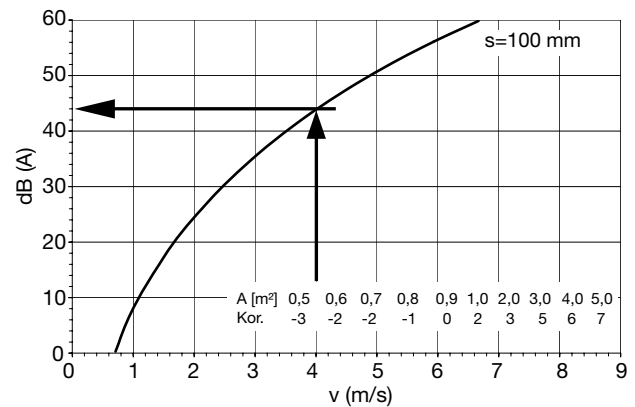
Flow noise from outlet:

From graph:
 $L_{w_o} = 36 \text{ dB(A)} - 3 = 33 \text{ dB(A)}$
 (-3 from area correction)

Pressure loss



Sound power level, inlet: L_{w_i}



Sound power level, outlet: L_{w_o}

