

Rectangular sound attenuators

PVC-SLC



Description

SLC rectangular duct silencers are designed to attenuate noise in ventilation and air-conditioning systems. They are usually installed between the fan and the supply or exhaust duct, and before the air diffusers. The rectangular sound attenuator consists of a casing and integrated attenuating baffles. The casing is made of plastic, with a frame made of plastic profiles at the ends, and a version with female connections is also available. The baffle is rounded on one side and consists of a plastic frame and a sound-absorbing infill that absorbs acoustic energy. The sound-absorbing infill is a combination of non-flammable mineral wool panels. Its outer surface is covered with a special, abrasion-resistant fabric that protects the mineral wool. The mineral wool panels are covered with a glass fiber veil in black, the coating is suitable for air flow velocities up to 20 m / s.

There are following baffle designs:
 L – sound-absorbing baffles

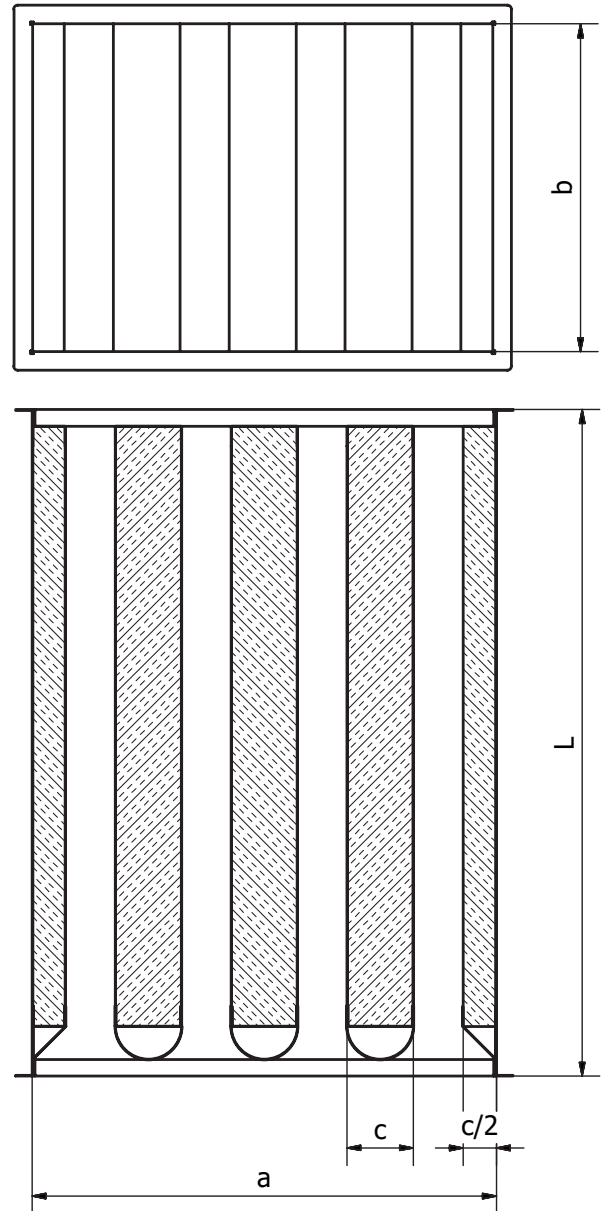
SLC rectangular sound attenuators are installed in ventilation ductwork, attenuating baffles should be installed in the vertical plane.

During transport, storage and assembly of the attenuators on the construction site, be careful not to damage the surface of the baffles.

Available materials - example of designation

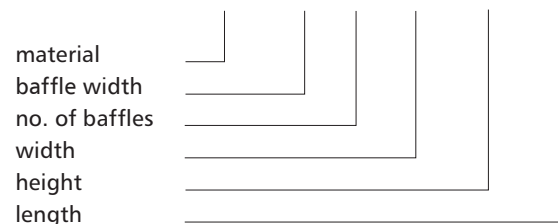
- PVC-SLC-... - Polyvinylchloride (PVC)
- PPs-SLC-... - hardly flammable polypropylene PPs
- PVCW-SLC-... - Polyvinyl chloride - white
- PP-SLC-... - polypropylene PP
- PP-EL-s-SLC-... - hardly flammable conductive polypropylene
PP-EL-s,
- PE-SLC-... - polyethylene PE
- PVDF-SLC-... - PVDF material

Dimensions



Example of designation:

Product code: **PVC-SLC - 200 - 01 - 0340 - 0300 - 0500**



Rectangular sound attenuators

PVC-SLC

Attenuating baffle types

SLC - sound attenuator with sound-absorbing baffles – plastic frame + mineral wool faced with a veil.



This baffle type is generally used in low and medium frequency applications.

Technical data

Sound attenuation data acc. to sound attenuators made of galvanised steel sheet

Baffles' sound performance measurements for PVC-SLC-100-3-390-490-500 attenuator (2 central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0100-03-0390-0490-0500	390	500	100	2.1	10.0	40

Mean sound power level: 53.3 dB

Mean A-weighted sound power level: 37.7 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

Arithmetic mean zeta: 0.49

Ambient pressure: 980 hPa

Air temperature in the duct: 21.2°C

Air density: 1.16 kg/m³

No.	Dynamic pressure [Pa]	Volumetric flow rate [m ³ /s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	0.4	0.4	10.0	1.3	27.2	25.9	0.45
2	0.5	0.5	12.0	1.7	44.1	42.4	0.51
3	0.8	0.6	15.0	2.9	68.2	65.3	0.50
4	1.5	0.8	20.0	5.5	117.8	112.3	0.48
5	2.3	1.0	25.0	8.3	186.0	177.7	0.49

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-100-4-590-490-1500 attenuator (3 central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0100-04-0590-0490-1500	590	1500	100	2.1	10.0	60

Mean sound power level: 51.73 dB

Mean A-weighted sound power level: 41.3 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m ³ /s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	1.8	0.9	10.0	2.9	47.2	44.3	0.78
2	2.7	1.1	12.0	4.1	68.2	64.1	0.78
3	4.2	1.3	15.0	6.4	106.2	99.8	0.78
4	7.4	1.8	20.0	11.6	181.0	169.4	0.74
5	11.6	2.2	25.0	18.8	304.0	285.2	0.80

Arithmetic mean zeta: 0.49

Ambient pressure: 965 hPa

Air temperature in the duct: 21,6°C

Air density: 1,14 kg/m³

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-0100-03-0470-0490-0500 attenuator (2central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0100-03-0470-0490-0500	470	500	100	3.8	10.0	90

Mean sound power level: 56.2 dB

Mean A-weighted sound power level: 47.3 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m³/s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	1.8	0.9	10.0	3.8	36.9	33.1	0.59
2	2.6	1.1	12.0	5.5	53.8	48.3	0.59
3	4.1	1.4	15.0	8.6	84.5	75.9	0.60
4	7.3	1.8	20.0	14.1	144.0	129.9	0.57
5	11.5	2.3	25.0	25.6	235.0	209.4	0.59

Arithmetic mean zeta: 0.59

Ambient pressure: 955 hPa

Air temperature in the duct: 21,6°C

Air density: 1,13 kg/m³

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-0100-05-0830-0490-0500 attenuator (4 central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0100-05-0830-0490-0500	830	500	100	3.9	10.0	80

Mean sound power level: 52.2 dB

Mean A-weighted sound power level: 44.8 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m ³ /s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	5.9	1.6	10.0	5.9	32.2	26.3	0.45
2	8.6	1.9	12.0	8.7	47.3	38.6	0.46
3	13.4	2.4	15.0	14.1	78.8	64.7	0.50
4	23.8	3.2	20.0	25.8	128.0	102.2	0.44
5	37.1	4.0	25.0	40.6	204.0	163.4	0.45

Arithmetic mean zeta: 0.46

Ambient pressure: 980 hPa

Air temperature in the duct: 21,6°C

Air density: 1,16 kg/m³

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-0100-04-0590-0490-0500 attenuator (3 central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0100-04-0590-0490-0500	590	500	100	3.0	10.0	60

Mean sound power level: 52.2 dB

Mean A-weighted sound power level: 43.8 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m³/s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	1.8	0.9	10.0	2.8	32.5	29.7	0.52
2	2.7	1.1	12.0	4.2	47.2	43.0	0.53
3	4.1	1.4	15.0	6.5	71.3	64.8	0.51
4	7.4	1.8	20.0	11.8	124.0	112.2	0.49
5	11.5	2.3	25.0	18.5	205.0	186.5	0.53

Arithmetic mean zeta: 0.51

Ambient pressure: 960 hPa

Air temperature in the duct: 21,4°C

Air density: 1,14 kg/m³

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-0100-03-0510-0490-0500 attenuator (2 central + 2 lateral baffle)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0100-03-0510-0490-0500	510	500	100	3.9	10.0	100

Mean sound power level: 55.0 dB

Mean A-weighted sound power level: 45.1 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m ³ /s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	2.3	1.0	10.0	4.2	31.2	27.0	0.47
2	3.3	1.2	12.0	6.3	43.4	37.1	0.45
3	5.1	1.5	15.0	9.1	69.5	60.4	0.47
4	9.1	2.0	20.0	16.3	117.0	100.7	0.44
5	14.2	2.5	25.0	27.5	201.0	173.5	0.49

Arithmetic mean zeta: 0.47

Ambient pressure: 960 hPa

Air temperature in the duct: 21,1 °C

Air density: 1,14 kg/m³

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-0100-06-1100-0490-0500 attenuator (5 central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0100-06-1100-0490-0500	1100	500	100	4.4	10.0	100

Mean sound power level: 52.0 dB

Mean A-weighted sound power level: 44.9 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m³/s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	14.4	2.5	10.0	13.2	37.5	24.3	0.42
2	20.7	3.0	12.0	18.0	51.8	33.8	0.41
3	32.3	3.8	15.0	28.1	76.0	47.9	0.37
4	57.5	5.0	20.1	49.1	133.0	83.9	0.36
5	89.8	6.3	25.1	76.9	217.0	140.1	0.39

Arithmetic mean zeta: 0.39

Ambient pressure: 967 hPa

Air temperature in the duct: 21,6°C

Air density: 1,14 kg/m³

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-0200-04-1100-0490-0500 attenuator (3 central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0200-04-1100-0490-0500	1100	500	200	2.5	10.0	95

Mean sound power level: 52.2 dB

Mean A-weighted sound power level: 41.8 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m ³ /s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	4.7	1.4	10.0	3.9	41.1	37.2	0.65
2	6.7	1.7	12.0	5.6	58.4	52.8	0.64
3	10.6	2.1	15.0	9.7	91.6	81.9	0.63
4	18.7	2.9	20.0	16.8	168.0	151.2	0.66
5	29.3	3.6	25.0	25.5	261.0	235.5	0.65

Arithmetic mean zeta: 0.64

Ambient pressure: 975 hPa

Air temperature in the duct: 21,6°C

Air density: 1,15 kg/m³

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-0200-04-1140-0490-1500 attenuator (3 central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0200-04-1140-0490-1500	1140	1500	200	3.0	10.0	110

Mean sound power level: 51.0 dB

Mean A-weighted sound power level: 39.8 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m³/s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	6.2	1.6	10.0	5.2	57.7	52.5	0.92
2	8.9	2.0	12.0	7.7	81.9	74.2	0.91
3	14.0	2.5	15.0	12.4	126.0	113.6	0.88
4	24.9	3.3	20.0	22.1	231.0	208.9	0.91
5	38.9	4.1	25.0	34.1	358.0	323.9	0.91

Arithmetic mean zeta: 0.91

Ambient pressure: 967 hPa

Air temperature in the duct: 21,6°C

Air density: 1,14 kg/m³

Rectangular sound attenuators

PVC-SLC

Baffles' sound performance measurements for PVC-SLC-0200-02-0470-0490-0500 attenuator (1 central + 2 lateral baffles)

Product code	Height [mm]	Baffle length [mm]	Baffle width [mm]	Flow rate in the duct [m/s]	Flow rate in the baffle gap [m/s]	Gap width [mm]
PVC-SLC-0200-02-0470-0490-0500	470	500	200	1.3	10.0	30

Mean sound power level: 50.3 dB

Mean A-weighted sound power level: 36.8 dB (A)

Mean octave frequency [Hz]	Measured value [dB]	Calculated value [dB]
63	2.7	2.9
125	4.0	4.1
250	12.4	10.9
500	24.2	22.3
1000	34.5	34.9
2000	30.1	29.1
4000	19.3	20.2
8000	18.3	18.4

No.	Dynamic pressure [Pa]	Volumetric flow rate [m³/s]	Flow rate in the baffle gap [m/s]	Pressure drop substitute duct [Pa]	Pressure drop test sample [Pa]	Resulting pressure loss [Pa]	zeta** [-]
1	0.2	0.3	10.0	0.4	23.3	22.9	0.41
2	0.3	0.4	12.0	0.6	36.1	35.6	0.44
3	0.5	0.5	15.0	0.8	56.8	56.0	0.44
4	0.8	0.6	20.0	1.6	101.0	99.4	0.44
5	1.3	0.8	25.0	2.5	158.0	155.5	0.44

Arithmetic mean zeta: 0.43

Ambient pressure: 955 hPa

Air temperature in the duct: 21.1 °C

Air density: 1.13 kg/m³