

SELF-NOISE OF SILENCERS

Self-noise of silencers Glideflow is comparing with silencers in standard construction significantly lower, which is secured thanks to special aerodynamic shape of the silencer. Self-noise of silencers is measured according to ČSN ISO 7235 in accredited acoustic laboratory. Mentioned data are valid for 1m² surface.

Self-noise of silencer Lw									
Front velocity m/s	32	63	125	250	500	1000	2000	4000	8000
3	34	31	28	22	20	16	12	<10	<10
5	46	43	38	32	29	26	22	19	16
7	54	50	46	39	36	32	29	27	24
9	60	55	52	44	42	38	34	32	29
11	66	60	56	49	47	42	38	36	33
13	69	64	61	54	51	47	43	40	37
15	73	68	65	57	54	50	46	43	41
17	77	71	68	60	57	53	50	47	44
19	81	74	70	63	59	55	51	49	46

CORRECTION for (A)									
32	63	125	250	500	1000	2000	4000	8000	
-39	-26	-16	-9	-3	0	1	1	-1	

CORRECTION for pipe surface dB										
AxB (m ²)	0,2	0,4	0,6	0,8	1,0	2,0	3,0	4,0	6,0	8,0
dB	-7	-4	-3	-1	0	3	5	6	7	9

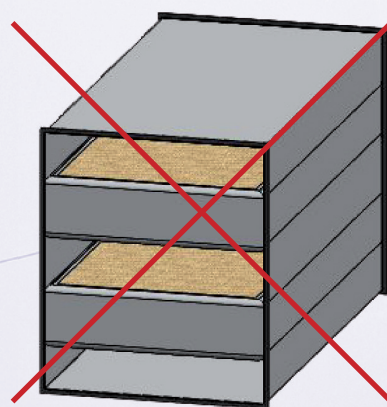
EXAMPLE OF CALCULATION

Example: A/C unit 9.000 m³/h, pipe – velocity 5m/s, proposed silencers GDE 200
Request for silencer proposal, so the noise behind the silencer will be 65dB.

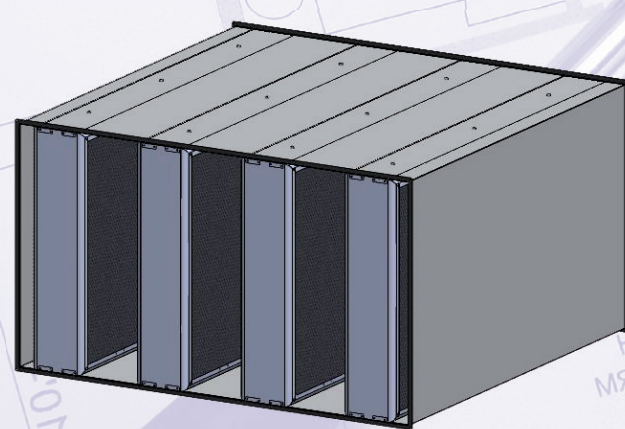
f _m v HZ	32	63	125	250	500	1000	2000	4000	8000
A/C unit – noise source Lw (A)	61	68	75	77	74	69	65	64	60
Silencer attenuation	2	7	17	38	43	46	37	23	19
Self-noise of silencer	46	43	38	32	29	26	22	19	16
Result behind the silencer	59	61	58	40	33	30	29	41	41

TOT noise behind the silencer - 64 dB(A) => Silencer fulfils requested result

SILENCERS PLACEMENT INTO STRUCTURAL OPENINGS OR AIR HANDLING EQUIPMENT

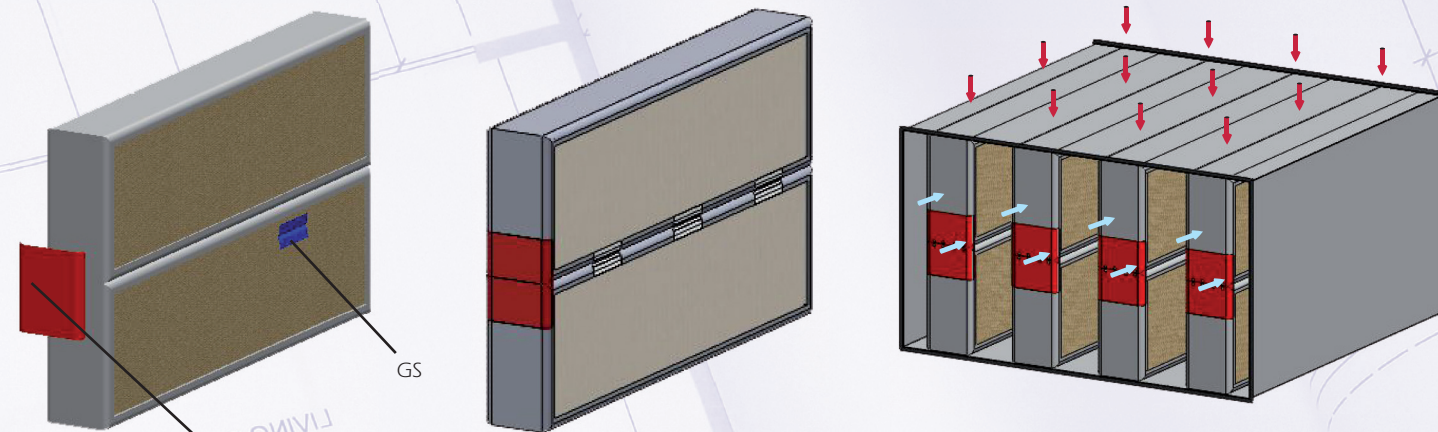


horizontal panel silencers GDE can not be placed horizontally



vertical right placement of panel silencers

SILENCERS ASSEMBLY INTO DUCTWORK – CONNECTION AND ANCHORAGE OF SILENCER



At the silencers higher than 1000mm it is necessary to fit the silencers of sectional heights with front and side connection clips. Front connection clip – GCS 100, 200. Side connection clip – GS universal for dimensions 100 and 200mm.

Silencers assembly into ductwork is made via self-cutting screws or rivets. While silencer assembly it is necessary to pay attention to precise spacing and to keep the distance among the silencers.

KEY FOR SILENCERS INTEGRATED INTO DUCTWORK

silencers placed into ductwork from producer

Silencer type

GD - coulisse with resonators
GDE - absorption coulisse
GDH - coulisse with resonators hygienic version
GDHE - absorption coulisse hygienic version
GDX - other version (temperature resistance, stainless steel version etc.)

PGDE - 900 / 500 -1000 / T200 - N3

900 Duct width MM	500 Duct height MM	1000 Duct length MM	T200 Width of used silencer	N3 No. of silencers placed in duct
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KEY FOR SILENCERS:

GD - 200 / 500 / 1000

Silencer type

GD - coulisse with resonators
GDE - absorption coulisse
GDH - coulisse with resonators hygienic version
GDHE - absorption coulisse hygienic version
GDX - other version (temperature resistance, stainless steel version etc.)

width 100 200	height 100-1000	length 500-2500
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SELECTION PROGRAMM



To make easy proposal and selection of the right combination of silencers in accordance with noise source and complete noise situation in ductwork, we have developed a special program for this purpose - AKUAIR

Representative:

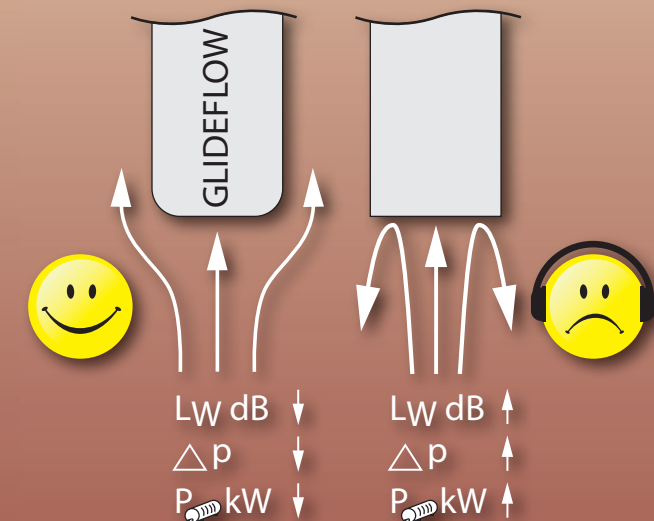


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Panel silencers Glideflow - GDE

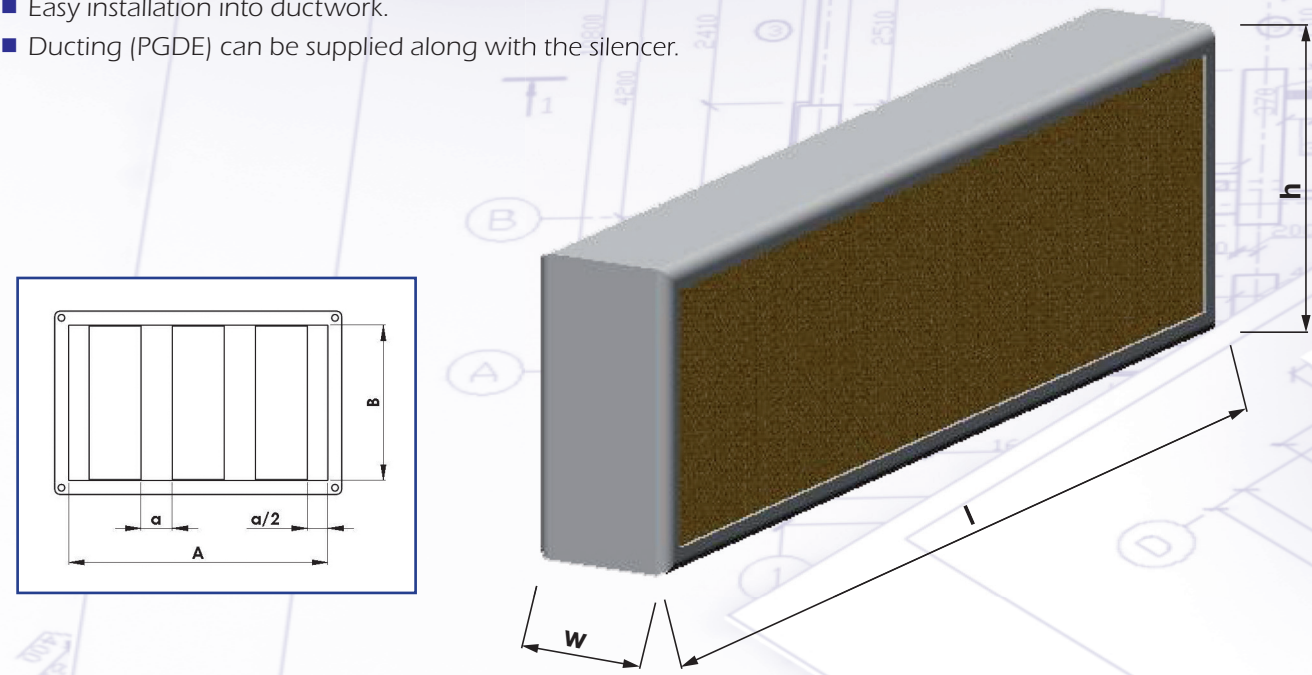


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PANEL SILENCERS GLIDEFLOW

Silencers Glideflow are designed on an absorption or resonance basis. Silencer is designed in such a way, so the self-noise and pressure loss are essentially reduced. Achieving lower pressure loss results in a reduction of necessary external pressure of system and consequently input of fan motor. Silencers are made of metal sheet in standard, aerodynamic silencer version is both-sided.

- Standard silencers are suitable for non-abrasive air mass up to max. of 200 deg °C.
- Where required, silencers can be suitable for hygienic processes with use of alternative materials (stainless steel).
- The wide range of dimensions available ensures that it can be used within most duct profiles, with the possibility of joining silencers on top of each other (up to max. height 4000mm).
- The silencers can be fitted upright.
- Silencer width 100 and 200mm, length 500 – 2500mm, height according to customer's request.
- Easy installation into ductwork.
- Ducting (PGDE) can be supplied along with the silencer.



TECHNICAL DATA - DIMENSIONS

Silencer weight w 100 MM

Height	Silencer length				
	500	1000	1500	2000	2500
250	300	1000	8,7	300	1000
500	300	1500	12,0	300	1500
750	300	2000	15,3	300	2000
1000	300	1000	10,0	300	1000
1250	300	1500	13,9	300	1500
1500	300	2000	17,9	300	2000

Silencer weight w 200 MM

Height	Silencer length				
	500	1000	1500	2000	2500
250	3	5	7	9	11
500	4	8	11	14	17
750	5	7	10	12	14
1000	8	13	17	22	27
1250	10	16	20	26	32
1500	12	18	23	30	37

Weight – kg, valid for GDE * - production dimensions are in reality about 5mm smaller and about 50mm shorter due to easy installation into the ductworks.

Coulisse weight 100MM incl. duct - "PGDE 100"

* calculation incl. connecting parts and reinforcements

Height	Length				
	500	1000	1500	2000	2500
250	2	3	4	5	6
500	3	4	5	7	9
750	4	6	8	10	12
1000	4	6	10	12	15

Coulisse weight 100MM incl. duct - "PGDE 200"

Height	Length				
	500	1000	1500	2000	2500
250	3	5	7	9	11
500	4	8	11	14	17
750	5	7	10	12	14
1000	8	13	17	22	27

D – COULISSE ATTENUATION GDE 100 mm

100	SILENCER LENGTH GDE 100 - 500 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
50	2	4	8	10	12	20	24	20	16
75	1	3	5	7	11	17	18	14	11
100	0	3	3	5	9	14	14	10	8
125	0	3	3	4	8	12	12	9	7
150	0	2	2	3	6	10	10	7	6

100	SILENCER LENGTH GDE 100 - 1000 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
50	2	5	10	18	21	30	33	27	22
75	2	4	9	11	17	25	25	20	15
100	1	3	7	9	14	22	20	14	11
125	0	3	6	8	12	19	17	12	10
150	0	2	5	6	10	15	14	10	8

100	SILENCER LENGTH GDE 100 - 1500 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
50	3	6	13	26	30	40	42	34	29
75	2	5	11	19	24	34	33	25	20
100	2	4	9	14	20	30	27	18	13
125	1	3	8	12	17	26	23	16	11
150	0	3	6	10	14	21	19	13	9

100	SILENCER LENGTH GDE 100 - 2000 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
50	3	7	16	34	39	49	49	42	36
75	3	6	13	25	32	43	41	30	25
100	1	5	11	19	25	37	33	21	16
125	1	4	10	17	22	32	29	18	14
150	0	3	8	13	17	26	23	15	11

100	SILENCER LENGTH GDE 100 - 2500 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
50	4	8	19	43	48	51	49	49	43
75	3	7	16	32	38	50	47	36	29
100	3	6	13	23	31	45	39	25	19
125	1	5	11	20	27	39	34	22	17
150	0	4	9	16	22	31	27	17	13

PRESSURE LOSSES 100 mm

100	SILENCER LENGTH 500					100	SILENCER LENGTH 1000					100	SILENCER LENGTH 1500				
	SPACES among silencers						SPACES among silencers						SPACES among silencers				
	50	75	100	125	150		50	75	100	125	150		50	75	100	125	150
3	3	2	2	1	1	3	4	3	2	2	1	3	5	3	2	2	2
5	9	6	4	3	3	5	12	7	5	4	4	5	15	9	7	5	5
7	19	11	8	7	6	7	24	14	11	9	7	7	29	18	13	10	9
9	31	19	14	11	9	9	39	24	17	14	12	9	48	29	21	17	15
11	46	28	20	16	14	11	59	36	26	21	18	11	72	43	32	26	22
13	64	39	28	23	20	13	82	50	37	30	25	13	100	61	45	36	31
15	85	51	38	31	26	15	109	66	49	39	34	15	134	81	59	48	41
17	109	66	49	39	34	17	140	85	62	51	43	17	172	104	76	62	53
19	136	83	61	49	42	19	175	106	78	63	54	19	214	130	95	77	66

100	SILENCER LENGTH 2000					100	SILENCER LENGTH 2500				
	SPACES among silencers						SPACES among silencers				
SPEED IN CONNECTING PROFILE in M/S	50	75	100	125	150	SPEED IN CONNECTING PROFILE in M/S	50	75	100	125	150
3	6	4	3	2	2	3	7	4	3	3	2
5	18	11	8	6	5	5	20	12	9	7	6
7	34	21	15	12	11	7	40	24	18	14	12
9	57	34	25	20	18	9	66	40	29	24	20
11	85	51	38	31	26	11	98	59	44	35	30
13	119	72	53	43	37	13	137	83	61	49	42
15	158	96	70	57	49	15	182	110	81	66	56
17	203	123	90	73	63	17	234	142	104	84	72
19	253	153	113	91	78	19	292	177	130	105	90

D – COULISSE ATTENUATION GDE 200 mm

200	SILENCER LENGTH GDE 200 - 500 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
75	1	4	5	15	17	21	14	12	11
100	1	2	3	12	13	16	0	18	8
150	0	1	2	9	10	11	7	6	6
200	0	1	2	7	7	8	5	4	4
250	0	1	2	6	6	6	4	3	3

200	SILENCER LENGTH GDE 200 - 1000 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
75	2	5	12	26	31	34	27	18	15
100	1	4	9	22	24	27	18	12	11
150	1	3	7	16	17	18	12	9	8
200	1	2	6	12	13	13	8	7	6
250	1	2	5	10	10	10	6	6	5

200	SILENCER LENGTH GDE 200 - 1500 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
75	2	7	17	38	43	46	37	23	19
100	2	5	13	31	34	37	24	15	13
150	1	4	10	23	24	23	16	11	10
200	1	3	9	20	20	20	13	9	8
250	1	2	7	16	16	16	11	7	7

200	SILENCER LENGTH GDE 200 - 2000 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
75	3	9	22	47	50	50	44	28	22
100	2	6	18	41	44	47	29	17	16
150	2	5	14	30	31	29	20	13	11
200	1	4	12	26	27	25	17	11	10
250	1	3	9	21	21	20	14	9	8

200	SILENCER LENGTH GDE 200 - 2500 mm / f _m in HZ								
space width	32	63	125	250	500	1000	2000	4000	8000
75	4	11	30	50	50	50	48	33	26
100	3	8	23	49	50	50	36	21	18
150	2	6	18	36	38	35	22	15	13
200	2	5	15	31	33	30	19	13	11
250	1	4	12	25	26	24	15	10	9

PRESSURE LOSSES 200 mm

200	SILENCER LENGTH 500					200	SILENCER LENGTH 1000					200	SILENCER LENGTH 1500				
	SPACES among silencers						SPACES among silencers						SPACES among silencers				
	75	100	150	200	250		75	100	150	200	250		75	100	150	200	250
3	6	4	2	2	1	3	7	5	3	2	2	3	9	6	4	3	2
5	16																