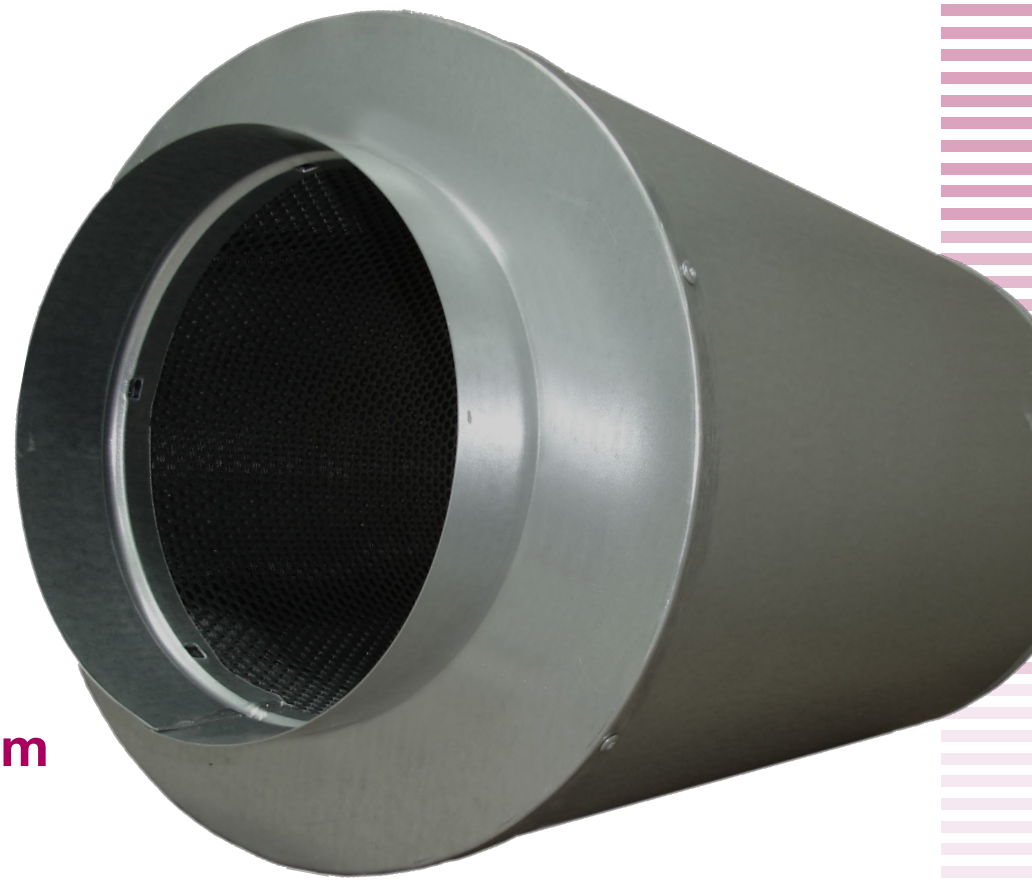
ASK

Circular silencers

Acoustic



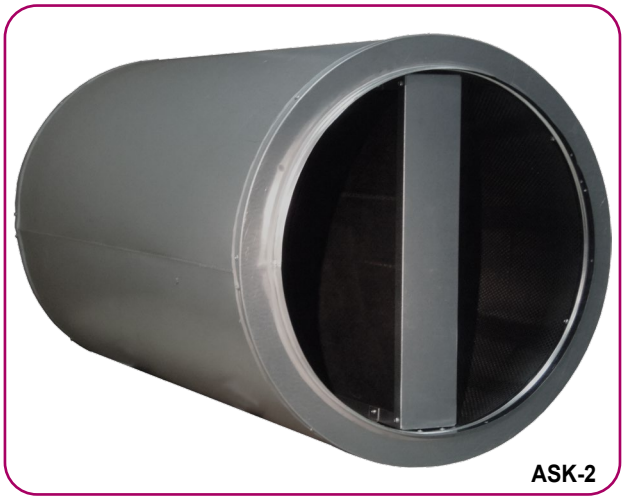
ISO 9001
ISO 14001
BUREAU VERITAS
Certification

www.koolair.com

INDEX

General characteristics

ASK-1



ASK-2

Description

The cirrcular silencers are suitable for controlling medium- and highfrequency HVAC noise, by absorbing a significant amount of incident energy inside the duct.

The ASK-1 model has no middle baffle; the ASK-2 model is fitted with a central baffle.

Applications

Specially designed for installation on the **suction inlet of centrifugal fans**, as well as on the **suction and discharge openings of axial fans**.

In addition, they are incorporated into **variable (RVV) and constant (RCC) air flow control devices** to reduce the acoustic impact generated by this equipment.

Circular silencers have been conceived to **prevent airflow losses**, even when used at **high pressures**.
The circular silencers model ASK-1 and ASK-2 have been internally tested and certified, with the collaboration of an independent external laboratory accredited under the European Directives (Test file reference: 21/25105-750).
They were subjected to the **standardised EN 1363-1:2020 curve**, reaching **400 °C for 120 minutes** (400 °C/2 h) without experiencing dimensional deformations greater than 10%, while **maintaining their integrity**.

For this reason, they are suitable for smoke extraction **installations** and areas with fire risk, such as:

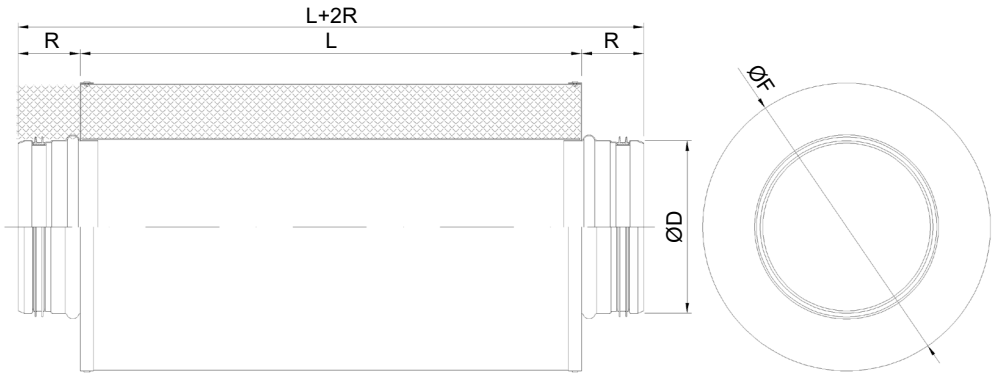
- Smoke and air extraction in car parks
- Tunnels
- Industrial kitchens
- Common smoke and air extraction systems in commercial premises, among others.

Finishes

The outer casing and the inner perforated sheet are made of galvanised steel.
The acoustic material of the circular silencers consists of a rigid panel of non-combustible rock wool, protected against air erosion by a black mineral veil and composed of materials that are harmless to health.
The central baffle is manufactured from the same material.

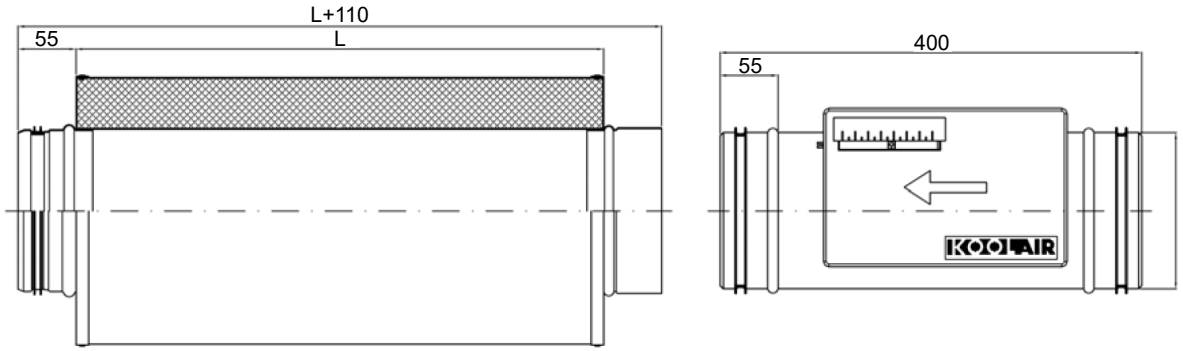
Dimensions ASK-1

ASK-1

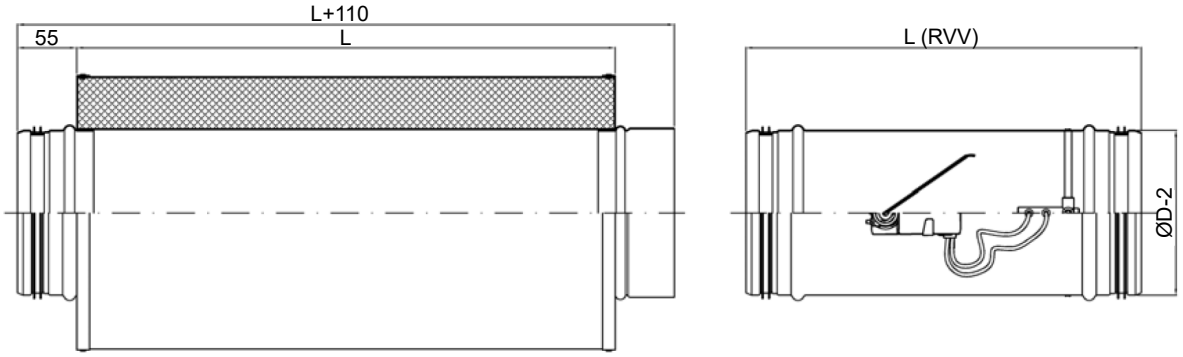


ASK-1 Ø	L							R	ØD	ØF	
										ASK-1-50	ASK-1-100
[mm]											
80	500	600	750	900	1000			70	78	180	280
100									98	200	300
125									123	225	325
150									148	250	350
160									158	260	360
180									178	280	380
200									198	300	400
225									223	325	425
250						1500	2000		248	350	450
300									298	400	500
315									313	414	515
355									353	455	555
400								95	398	500	600
450									448	550	650
500									498	600	700
560									558	660	760
630									628	730	830
710								115	708	810	910
800									798	900	1000
900									898	1000	1100
1000									998	1100	1200

ASK-1 + RCC

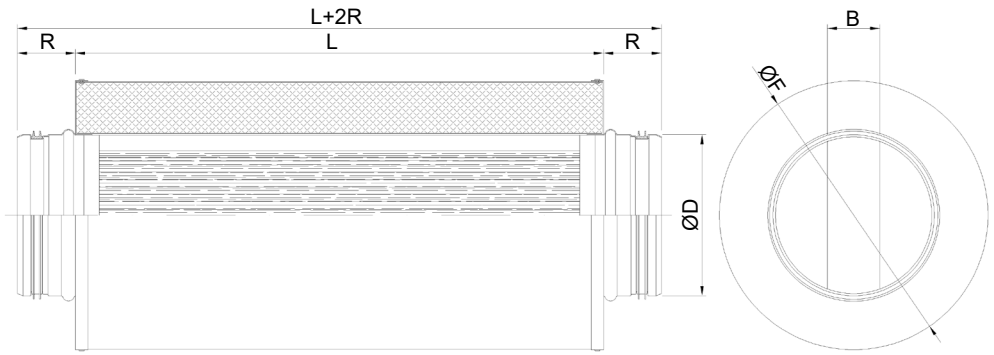


ASK-1 + RVV



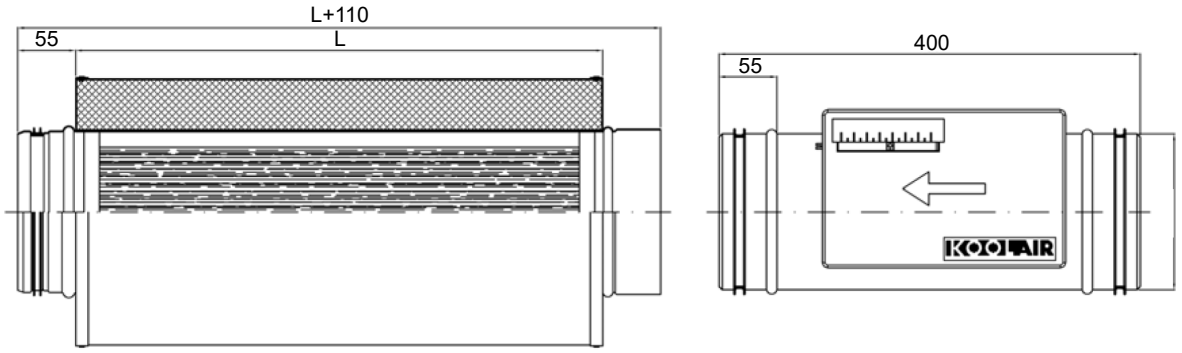
Dimensions ASK-2

ASK-2

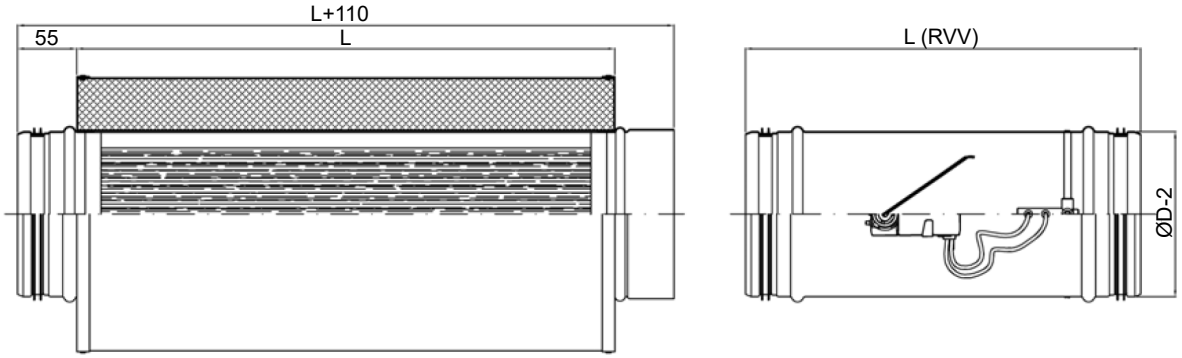


ASK-1 Ø	L							R	B	ØD	ØF	
											ASK-2-50	ASK-2-100
[mm]												
300	500	600	750	900	1000	1500	2000	70	60	298	400	500
315										313	415	515
355										353	455	555
400								95	100	398	500	600
450										448	550	650
500										498	600	700
560									150	558	660	760
630										628	730	830
710								115		708	810	910
800										798	900	1000
900										898	1000	1100

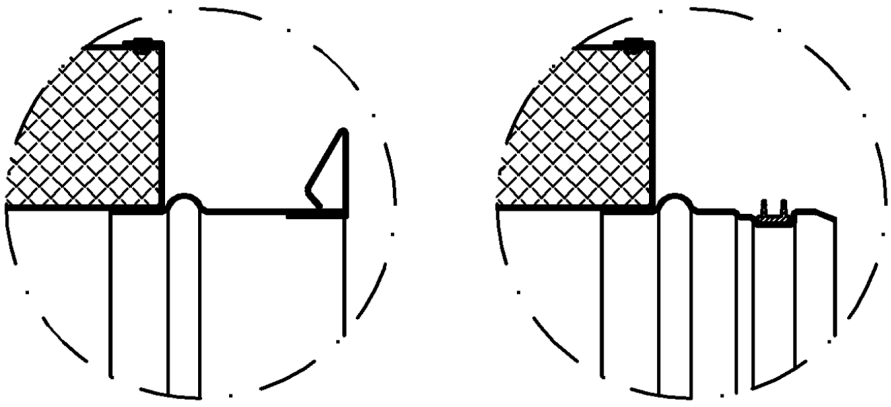
ASK-2 + RCC



ASK-2 + RVV



Connection types



MIT METU-FLANSCH

MIT DICHTUNG

Selection tables and weights ASK-1

ASK-1-50	L=1000 [mm]			
Ø	Q_{min} [m³/h]	Q_{max} [m³/h]	ΔP_{min} [Pa]	ΔP_{max} [Pa]
80	69	206	7	67
100	109	326	6	54
125	171	513	5	43
150	249	748	4	37
160	282	847	4	34
180	358	1075	3	31
200	443	1330	3	28
250	696	2087	2	22
300	1010	3031	2	19
315	1108	3324	2	18
355	1409	4228	2	17
400	1792	5375	2	15
450	2270	6810	2	14
500	2805	8415	1	12
560	3521	10564	1	11
630	4460	13381	1	10
710	5669	17007	1	9
800	7202	21606	1	8
900	9120	27361	1	7
1000	11265	33794	1	6

ASK-1-50	[kg]		
Ø	L=500	L=1000	L=1500
80	2,6	4,4	
100	2,9	4,8	
125	3,2	5,4	
150	3,6	6,0	
160	3,7	6,3	
180	4,0	6,7	
200	4,3	7,2	
250	5,0	8,4	
300	5,8	9,6	
315	6,0	10,0	14,1
355	6,6	10,9	15,4
400	7,5	12,3	17,3
450	8,3	13,6	19,0
500	9,1	14,8	20,7
560	10,0	16,3	22,8
630	12,5	20,9	29,4
710	13,8	23,1	32,6
800	15,3	25,6	36,1
900	17,0	28,4	40,1
1000	18,7	31,2	44,0

Q_{min} [m³/h]: For velocity in duct 4 m/s
Q_{max} [m³/h]: For velocity in duct 12 m/s
ΔP [Pa]: Total pressure loss in Pa

ASK-1-100	L=1000 [mm]			
Ø	Q_{min} [m³/h]	Q_{max} [m³/h]	ΔP_{min} [Pa]	ΔP_{max} [Pa]
80	69	206	7	67
100	109	326	6	54
125	171	513	5	43
150	249	748	4	37
160	282	847	4	34
180	358	1075	3	31
200	443	1330	3	28
250	696	2087	2	22
300	1010	3031	2	19
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630	4460	13381	1	10
710	5669	17007	1	9
800	7202	21606	1	8
900	9120	27361	1	7
1000	11265	33794	1	6

ASK-1-50	[kg]		
Ø	L=500	L=1000	L=1500
80	4,0	6,7	
100	4,4	7,4	
125	5,0	8,4	
150	5,5	9,3	
160	5,8	9,6	
180	6,2	10,4	
200	6,6	11,1	
250	7,8	13,0	
300	8,9	14,8	
315	9,2	15,3	21,6
355	10,1	16,8	23,7
400	11,6	19,0	26,6
450	12,8	20,9	29,2
500	13,9	22,8	31,8
560	15,4	25,1	35,0
630	19,2	32,1	45,3
710	21,2	35,5	50,2
800	23,6	39,4	55,6
900	26,2	43,7	61,6
1000	28,7	48,0	67,7

Q_{min} [m³/h]: For velocity in duct 4 m/s
Q_{max} [m³/h]: For velocity in duct 12 m/s
ΔP [Pa]: Total pressure loss in Pa

Selection tables and weights ASK-2

ASK-2-50	L=1000 [mm]			
Ø	Q_{min} [m³/h]	Q_{max} [m³/h]	ΔP_{min} [Pa]	ΔP_{max} [Pa]
300	729	2186	4	35
315	838	2514	4	34
355	1104	3313	3	30
400	1218	3655	3	29
450	1624	4873	3	25
500	2088	6264	2	22
560	2316	6947	2	21
630	3103	9310	2	18
710	4140	12420	2	17
800	5478	16433	2	15
900	7180	21540	1	13

ASK-2-50	[kg]		
Ø	L=500	L=1000	L=1500
300	9,4	15,8	0,0
315	9,8	16,4	23,1
355	10,7	17,9	25,3
400	12,4	20,2	28,3
450	13,6	22,3	31,1
500	14,8	24,3	33,9
560	16,4	26,7	37,3
630	20,4	34,2	48,3
710	22,6	37,9	53,5
800	25,1	42,0	59,3
900	27,9	46,6	65,7

Q_{min} [m³/h]: For velocity in duct 4 m/s
Q_{max} [m³/h]: For velocity in duct 12 m/s
ΔP [Pa]: Total pressure loss in Pa

ASK-2-100	L=1000 [mm]			
	Q_{min} [m³/h]	Q_{max} [m³/h]	ΔP_{min} [Pa]	ΔP_{max} [Pa]
300	729	2186	4	35
315	838	2514	4	34
355	1104	3313	3	30
400	1218	3655	3	29
450	1624	4873	3	25
500	2088	6264	2	22
560	2316	6947	2	21
630	3103	9310	2	18
710	4140	12420	2	17
800	5478	16433	2	15
900	7180	21540	1	13

ASK-2-100	[kg]		
Ø	L=500	L=1000	L=1500
300	14,5	24,3	32,1
315	15,1	25,2	35,5
355	16,5	27,6	38,9
400	19,0	31,2	43,5
450	20,9	34,3	47,9
500	22,8	37,4	52,2
560	25,2	41,1	57,4
630	31,4	52,6	74,3
710	34,8	58,3	82,3
800	38,7	64,6	91,2
900	42,9	71,7	101,1

Q_{min} [m³/h]: For velocity in duct 4 m/s
Q_{max} [m³/h]: For velocity in duct 12 m/s
ΔP [Pa]: Total pressure loss in Pa

Attenuation ASK-1

The acoustic attenuation values were obtained by laboratory tests conducted in accordance with UNE-EN ISO 7235 and UNE-EN ISO 11691.

ASK-1-50	L=500 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
80	5	9	12	14	28	44	35	24
100	4	7	10	13	27	43	34	23
125	4	7	10	13	27	42	22	11
150	4	7	10	12	26	38	20	11
160	4	7	9	12	25	35	18	10
180	4	7	9	11	24	30	16	10
200	3	5	6	11	24	24	15	9
250	3	5	6	9	22	19	13	9
300	3	5	6	8	17	16	11	8
315	2	4	5	8	15	15	9	8
355	2	4	5	8	14	14	9	8
400	2	4	5	7	13	13	8	7
450	2	4	5	7	11	12	7	7
500	2	3	4	7	8	7	6	5
560	2	3	4	7	8	7	6	5
630	1	3	4	6	8	7	5	5
710	1	2	4	6	7	6	5	5
800	1	2	3	6	7	6	5	5
900	1	2	3	6	6	5	5	4
1000	1	1	3	5	6	5	4	4

ASK-1-50	L=1000 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
80	6	13	19	27	47	50	50	36
100	5	11	17	26	46	50	50	35
125	5	10	15	24	44	50	39	21
150	5	9	14	23	42	50	32	19
160	5	9	13	21	41	48	28	17
180	5	9	13	20	40	43	26	17
200	4	7	11	18	39	33	22	14
250	4	6	10	16	36	26	18	14
300	3	6	9	15	32	22	15	12
315	3	6	8	15	30	21	13	12
355	3	5	7	14	27	20	12	11
400	3	5	6	14	27	19	11	11
450	3	5	5	14	18	19	11	11
500	2	5	5	12	17	13	10	8
560	2	5	5	12	17	12	10	7
630	1	4	5	11	16	11	8	5
710	1	4	4	10	15	10	8	5
800	1	4	4	10	14	8	7	5
900	1	3	3	9	13	7	6	5
1000	1	2	3	9	11	6	6	5

ASK-1-50	L=1500 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
250	3	5	6	9	22	19	13	9
300	3	5	6	8	17	16	11	8
315	2	4	5	8	15	15	9	8
355	2	4	5	8	14	14	9	8
400	2	4	5	7	13	13	8	7
450	2	4	5	7	11	12	7	7
500	2	3	4	7	8	7	6	5
560	2	3	4	7	8	7	6	5
630	1	3	4	6	8	7	5	5
710	1	2	4	6	7	6	5	5
800	1	2	3	6	7	6	5	5
900	1	2	3	6	6	5	5	4
1000	1	1	3	5	6	5	4	4

ASK-1-50	L=2000 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
250	10	15	24	38	50	41	31	21
300	9	14	20	32	50	36	27	19
315	8	13	18	29	50	34	25	17
355	7	11	16	29	49	31	22	17
400	7	11	14	28	47	25	20	16
450	6	10	14	28	34	24	20	15
500	6	9	13	25	30	19	16	12
560	5	8	12	24	29	17	15	10
630	4	8	11	21	25	16	13	9
710	4	7	9	21	23	13	10	8
800	3	6	8	20	22	11	9	7
900	3	5	7	19	21	9	8	7
1000	3	4	7	18	20	8	7	6

f_m: Mean frequency per octave band, in Hz.

Attenuation ASK-1

The acoustic attenuation values were obtained by laboratory tests conducted in accordance with UNE-EN ISO 7235 and UNE-EN ISO 11691.

ASK-1-100	L=500 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
80	6	12	16	18	38	47	41	24
100	5	10	14	17	36	46	40	23
125	5	10	14	17	35	45	27	11
150	5	10	13	16	33	40	24	11
160	5	10	13	16	32	38	23	11
180	5	9	13	16	30	32	21	11
200	4	7	9	16	30	26	19	10
250	4	7	9	14	27	21	17	10
300	3	6	8	13	22	18	13	9
315	3	6	8	13	20	17	12	9
355	3	6	8	13	19	16	12	8
400	3	6	8	13	17	14	10	7
450	3	6	8	12	15	13	9	7
500	3	4	6	12	11	8	7	5
560	3	4	6	11	10	8	6	5
630	2	4	6	11	10	7	6	5
710	2	4	6	11	9	7	5	5
800	2	4	5	11	9	6	5	5
900	2	3	5	10	8	6	5	4
1000	2	3	5	10	8	6	5	4

ASK-1-100	L=1000 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
80	7	19	27	34	50	50	50	37
100	6	17	25	33	50	50	50	36
125	6	16	23	31	50	50	43	21
150	6	15	21	30	49	50	35	20
160	6	14	20	29	48	50	32	17
180	6	14	20	28	46	45	29	17
200	5	11	18	27	45	35	25	15
250	5	10	17	26	41	28	20	15
300	4	9	15	25	36	24	15	13
315	4	9	14	25	35	23	14	13
355	4	8	13	24	31	21	13	12
400	4	8	12	23	30	21	12	12
450	4	7	11	23	20	20	11	11
500	3	7	10	23	19	14	10	9
560	3	6	9	22	18	12	10	8
630	2	5	9	22	17	12	9	8
710	2	5	9	21	17	12	8	7
800	2	5	8	20	16	10	8	7
900	2	5	8	20	16	8	7	6
1000	2	4	7	19	15	7	6	5

ASK-1-100	L=1500 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
250	10	16	28	40	50	39	26	18
300	8	14	23	35	50	34	22	16
315	7	14	21	34	48	33	21	15
355	6	13	20	32	39	28	19	14
400	6	12	17	32	39	24	17	13
450	5	11	17	30	23	21	15	13
500	5	10	16	29	23	18	13	10
560	4	9	14	29	22	16	12	10
630	3	8	14	27	22	14	11	9
710	3	7	13	26	20	12	10	8
800	2	6	11	25	19	10	9	7
900	2	5	10	23	18	8	7	6
1000	2	4	9	22	17	7	6	5

ASK-1-100	L=2000 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
250	12	20	36	50	50	46	35	22
300	10	18	30	46	50	40	30	19
315	9	18	28	43	50	38	28	18
355	8	16	26	42	50	35	25	17
400	8	15	23	41	48	29	23	16
450	7	14	23	40	35	27	22	16
500	7	12	21	36	31	21	17	12
560	6	11	19	35	30	19	16	11
630	5	10	18	31	26	18	14	9
710	5	9	16	31	24	14	11	9
800	4	8	14	30	23	12	10	8
900	4	7	13	28	22	10	8	7
1000	4	6	12	27	20	9	7	6

f_m: Mean frequency per octave band, in Hz.

Attenuation ASK-2

The acoustic attenuation values were obtained by laboratory tests conducted in accordance with UNE-EN ISO 7235 and UNE-EN ISO 11691.

ASK-2-50	L=500 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
300	3	7	10	14	21	19	16	12
315	3	7	9	13	20	18	15	11
355	2	6	8	12	19	17	14	10
400	2	5	7	11	18	16	13	9
450	2	5	6	10	17	15	12	8
500	2	4	5	9	16	14	11	7
560	2	3	4	8	15	13	10	6
630	1	3	4	8	14	12	9	5
710	1	3	3	7	13	11	9	5
800	1	2	3	6	12	11	8	4
900	1	2	2	6	12	10	7	4

ASK-2-50	L=1000 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
300	5	9	16	31	44	33	20	15
315	5	8	15	30	42	29	19	14
355	4	7	14	29	39	26	18	13
400	4	6	13	23	37	25	17	12
450	4	6	12	22	35	24	16	11
500	4	5	11	21	34	23	15	10
560	3	5	10	21	33	22	14	9
630	3	5	9	20	32	21	13	8
710	3	4	8	18	30	20	12	7
800	2	4	8	17	28	19	11	6
900	2	4	7	16	27	18	11	6

ASK-2-50	L=1500 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
300	7	11	19	37	50	37	22	17
315	7	10	17	35	50	36	21	16
355	5	9	16	34	47	33	20	15
400	5	9	15	28	45	32	19	14
450	4	9	14	27	43	31	18	13
500	4	6	13	26	42	30	17	12
560	3	6	12	26	41	29	16	11
630	3	6	11	25	40	28	15	10
710	3	5	10	24	39	27	14	9
800	3	5	9	23	38	26	13	8
900	3	5	8	22	37	25	12	7

ASK-2-50	L=2000 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
300	9	13	24	42	50	47	26	19
315	9	13	23	41	50	46	25	18
355	8	12	22	40	50	43	24	17
400	8	12	21	34	50	42	23	16
450	6	12	20	33	50	41	22	15
500	6	9	19	32	50	40	21	14
560	5	9	18	32	49	39	20	13
630	4	9	17	31	48	38	19	12
710	4	8	16	30	47	37	18	11
800	4	8	15	29	46	36	17	10
900	4	8	14	28	45	35	16	9

f_m: Mean frequency per octave band, in Hz.

Attenuation ASK-2

The acoustic attenuation values were obtained by laboratory tests conducted in accordance with UNE-EN ISO 7235 and UNE-EN ISO 11691.

ASK-2-100	L=500 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
300	4	9	14	20	22	20	15	12
315	4	9	13	19	21	19	15	12
355	2	8	11	17	21	18	14	11
400	2	6	9	15	20	16	13	9
450	2	6	8	14	19	15	12	8
500	2	5	7	13	19	14	11	7
560	2	4	6	12	18	13	10	6
630	1	4	5	11	18	12	9	6
710	1	3	4	10	17	11	9	5
800	1	3	4	9	17	10	8	4
900	1	3	3	8	17	9	8	4

ASK-2-100	L=1000 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
300	6	12	22	42	44	31	21	16
315	6	12	21	41	43	30	20	15
355	5	10	19	39	41	27	19	14
400	5	8	17	31	41	25	18	13
450	4	8	16	29	39	24	16	12
500	4	7	14	28	38	23	15	11
560	3	6	13	27	38	22	14	10
630	3	6	12	26	37	21	13	8
710	2	5	11	23	36	20	12	7
800	2	4	10	21	35	19	11	6
900	2	4	9	19	34	18	10	6

ASK-2-100	L=1500 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
300	7	15	25	49	50	38	23	19
315	7	15	24	48	50	37	22	18
355	5	13	22	46	48	34	21	17
400	5	13	21	38	46	33	20	15
450	4	13	19	36	45	31	19	14
500	4	10	18	34	44	30	18	13
560	3	9	16	33	43	29	16	12
630	3	8	15	32	42	28	15	11
710	3	7	14	30	42	27	14	10
800	3	7	12	29	41	26	13	9
900	3	7	11	28	40	25	12	8

ASK-2-100	L=2000 [mm]							
	f_m [Hz]							
Ø	63	125	250	500	1000	2000	4000	8000
300	9	20	32	50	50	48	28	22
315	9	19	31	50	50	47	27	21
355	8	18	29	50	50	44	25	19
400	8	17	28	45	50	43	24	18
450	6	17	26	43	50	42	23	17
500	6	13	25	41	50	41	22	16
560	5	13	23	40	50	39	21	15
630	4	13	22	39	50	38	20	13
710	4	11	21	37	50	37	18	12
800	4	11	19	36	49	36	17	11
900	4	11	18	34	48	35	16	10

f_m: Mean frequency per octave band, in Hz.

Regenerated noise ASK-1-50

The following tables list the regenerated noise produced by air flow friction on the absorbent surfaces that line the silencer walls.
The values were obtained by laboratory tests conducted in accordance with UNE-EN ISO 7235.

L=80	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	19	69	<15	<15	<15	<15	<15	<15	<15	<15	<15
6	29	103	16	<15	<15	<15	<15	<15	<15	<15	<15
8	38	138	23	20	<15	<15	<15	<15	<15	<15	15
10	48	172	29	26	21	19	16	<15	<15	<15	21
12	57	206	33	30	25	23	20	17	<15	<15	25

L=100	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	30	109	<15	<15	<15	<15	<15	<15	<15	<15	<15
6	45	163	20	17	<15	<15	<15	<15	<15	<15	<15
8	60	217	27	24	19	17	<15	<15	<15	<15	20
10	75	272	33	30	25	23	20	17	<15	<15	25
12	91	326	37	34	29	27	24	21	16	<15	30

L=125	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	48	171	<15	<15	<15	<15	<15	<15	<15	<15	<15
6	71	257	24	21	16	<15	<15	<15	<15	<15	17
8	95	342	31	28	23	21	18	15	<15	<15	24
10	119	428	37	34	29	27	24	21	16	<15	29
12	143	513	41	38	33	31	28	25	20	18	34

L=150	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	69	249	17	<15	<15	<15	<15	<15	<15	<15	<15
6	104	374	27	24	19	17	<15	<15	<15	<15	20
8	138	498	35	32	27	25	22	19	<15	<15	27
10	173	623	40	37	32	30	27	24	19	17	33
12	208	748	45	42	37	35	32	29	24	22	37

L=160	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	78	282	19	16	<15	<15	<15	<15	<15	<15	<15
6	118	424	29	26	21	19	16	<15	<15	<15	21
8	157	565	36	33	28	26	23	20	15	<15	28
10	196	706	41	38	33	31	28	25	20	18	34
12	235	847	46	43	38	36	33	30	25	23	38

V: Air velocity through cross-section, in m/s
Q: Air flow, in m³/h and in L/s
$L_{w\ oct}$: Sound power level per octave band, in dB/Hz
L_w: Sound power level, in dB(A)

Regenerated noise ASK-1-50

The following tables list the regenerated noise produced by air flow friction on the absorbent surfaces that line the silencer walls.
The values were obtained by laboratory tests conducted in accordance with UNE-EN ISO 7235.

L=180	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	100	358	21	18	<15	<15	<15	<15	<15	<15	<15
6	149	538	31	28	23	21	18	15	<15	<15	23
8	199	717	38	35	30	28	25	22	17	15	30
10	249	896	43	40	35	33	30	27	22	20	36
12	299	1075	48	45	40	38	35	32	27	25	40

L=200	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	123	443	23	20	<15	<15	<15	<15	<15	<15	15
6	185	665	33	30	25	23	20	17	<15	<15	25
8	246	887	40	37	32	30	27	24	19	17	32
10	308	1108	45	42	37	35	32	29	24	22	38
12	369	1330	50	47	42	40	37	34	29	27	42

L=250	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	193	696	27	24	19	17	<15	<15	<15	<15	19
6	290	1043	37	34	29	27	24	21	16	<15	29
8	386	1391	44	41	36	34	31	28	23	21	36
10	483	1739	49	46	41	39	36	33	28	26	42
12	580	2087	54	51	46	44	41	38	33	31	46

L=300	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	281	1010	30	27	22	20	17	<15	<15	<15	23
6	421	1515	40	37	32	30	27	24	19	17	33
8	561	2021	47	44	39	37	34	31	26	24	40
10	702	2526	53	50	45	43	40	37	32	30	45
12	842	3031	57	54	49	47	44	41	36	34	50

L=315	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	308	1108	31	28	23	21	18	<15	<15	<15	24
6	462	1662	41	38	33	31	28	25	20	18	34
8	616	2216	48	45	40	38	35	32	27	25	41
10	769	2770	54	51	46	44	41	38	33	31	46
12	923	3324	58	55	50	48	45	42	37	35	51

V: Air velocity through cross-section, in m/s
Q: Air flow, in m³/h and in L/s
$L_{w\ oct}$: Sound power level per octave band, in dB/Hz
L_w: Sound power level, in dB(A)

Regenerated noise ASK-1-50

The following tables list the regenerated noise produced by air flow friction on the absorbent surfaces that line the silencer walls.
The values were obtained by laboratory tests conducted in accordance with UNE-EN ISO 7235.

L=355	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	391	1409	33	30	25	23	20	17	<15	<15	26
6	587	2114	43	40	35	33	30	27	22	20	36
8	783	2819	50	47	42	40	37	34	29	27	43
10	979	3523	56	53	48	46	43	40	35	33	48
12	1174	4228	60	57	52	50	47	44	39	37	53

L=400	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	498	1792	35	32	27	25	22	19	<15	<15	28
6	746	2687	45	42	37	35	32	29	24	22	38
8	995	3583	52	49	44	42	39	36	31	29	45
10	1244	4479	58	55	50	48	45	42	37	35	50
12	1493	5375	62	59	54	52	49	46	41	39	55

L=450	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	631	2270	37	34	29	27	24	21	16	<15	30
6	946	3405	47	44	39	37	34	31	26	24	40
8	1261	4540	54	51	46	44	41	38	33	31	47
10	1576	5675	60	57	52	50	47	44	39	37	53
12	1892	6810	64	61	56	54	51	48	43	41	57

L=500	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	779	2805	39	36	31	29	26	23	18	16	32
6	1169	4207	49	46	41	39	36	33	28	26	42
8	1558	5610	56	53	48	46	43	40	35	33	49
10	1948	7012	62	59	54	52	49	46	41	39	54
12	2337	8415	66	63	58	56	53	50	45	43	59

L=560	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	978	3521	41	38	33	31	28	25	20	18	34
6	1467	5282	51	48	43	41	38	35	30	28	44
8	1956	7043	58	55	50	48	45	42	37	35	51
10	2445	8804	64	61	56	54	51	48	43	41	57
12	2935	10564	68	65	60	58	55	52	47	45	61

V: Air velocity through cross-section, in m/s
Q: Air flow, in m³/h and in L/s
$L_{w\ oct}$: Sound power level per octave band, in dB/Hz
L_w: Sound power level, in dB(A)

Regenerated noise ASK-1-50

The following tables list the regenerated noise produced by air flow friction on the absorbent surfaces that line the silencer walls.
The values were obtained by laboratory tests conducted in accordance with UNE-EN ISO 7235.

L=630	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	1239	4460	44	41	36	34	31	28	23	21	36
6	1858	6691	54	51	46	44	41	38	33	31	46
8	2478	8921	61	58	53	51	48	45	40	38	53
10	3097	11151	66	63	58	56	53	50	45	43	59
12	3717	13381	71	68	63	61	58	55	50	48	63

L=710	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	1575	5669	46	43	38	36	33	30	25	23	38
6	2362	8504	56	53	48	46	43	40	35	33	48
8	3150	11338	63	60	55	53	50	47	42	40	55
10	3937	14173	68	65	60	58	55	52	47	45	61
12	4724	17007	73	70	65	63	60	57	52	50	65

L=800	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	2001	7202	48	45	40	38	35	32	27	25	40
6	3001	10803	58	55	50	48	45	42	37	35	50
8	4001	14404	65	62	57	55	52	49	44	42	58
10	5001	18005	70	67	62	60	57	54	49	47	63
12	6002	21606	75	72	67	65	62	59	54	52	68

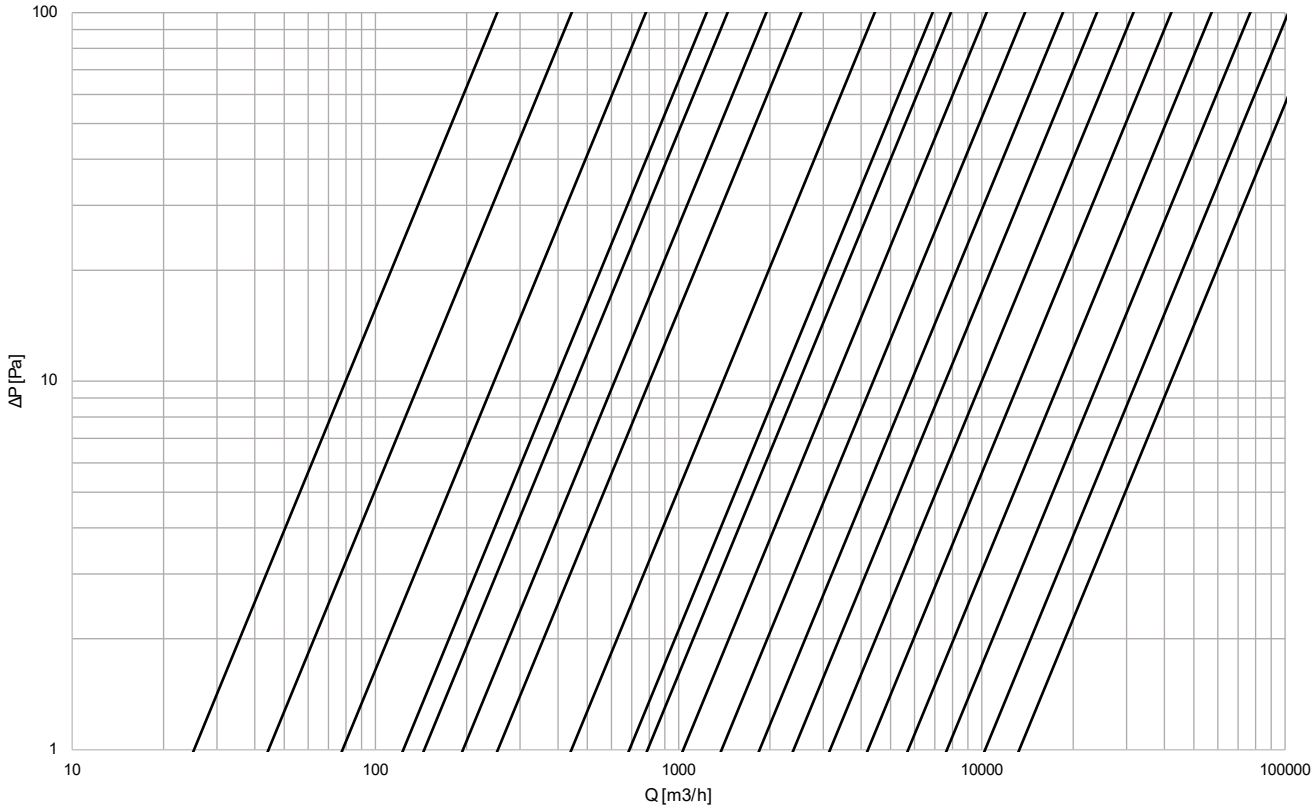
L=900	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	2533	9120	50	47	42	40	37	34	29	27	43
6	3800	13680	60	57	52	50	47	44	39	37	53
8	5067	18240	67	64	59	57	54	51	46	44	60
10	6333	22801	73	70	65	63	60	57	52	50	65
12	7600	27361	77	74	69	67	64	61	56	54	70

L=1000	Q		Lw [dB]								LwA [dB(A)]
V [m/s]	[l/s]	[m³/h]	63	125	250	500	1000	2000	4000	8000	
4	3129	11265	52	49	44	42	39	36	31	29	44
6	4694	16897	62	59	54	52	49	46	41	39	54
8	6258	22529	69	66	61	59	56	53	48	46	62
10	7823	28161	74	71	66	64	61	58	53	51	67
12	9387	33794	79	76	71	69	66	63	58	56	72

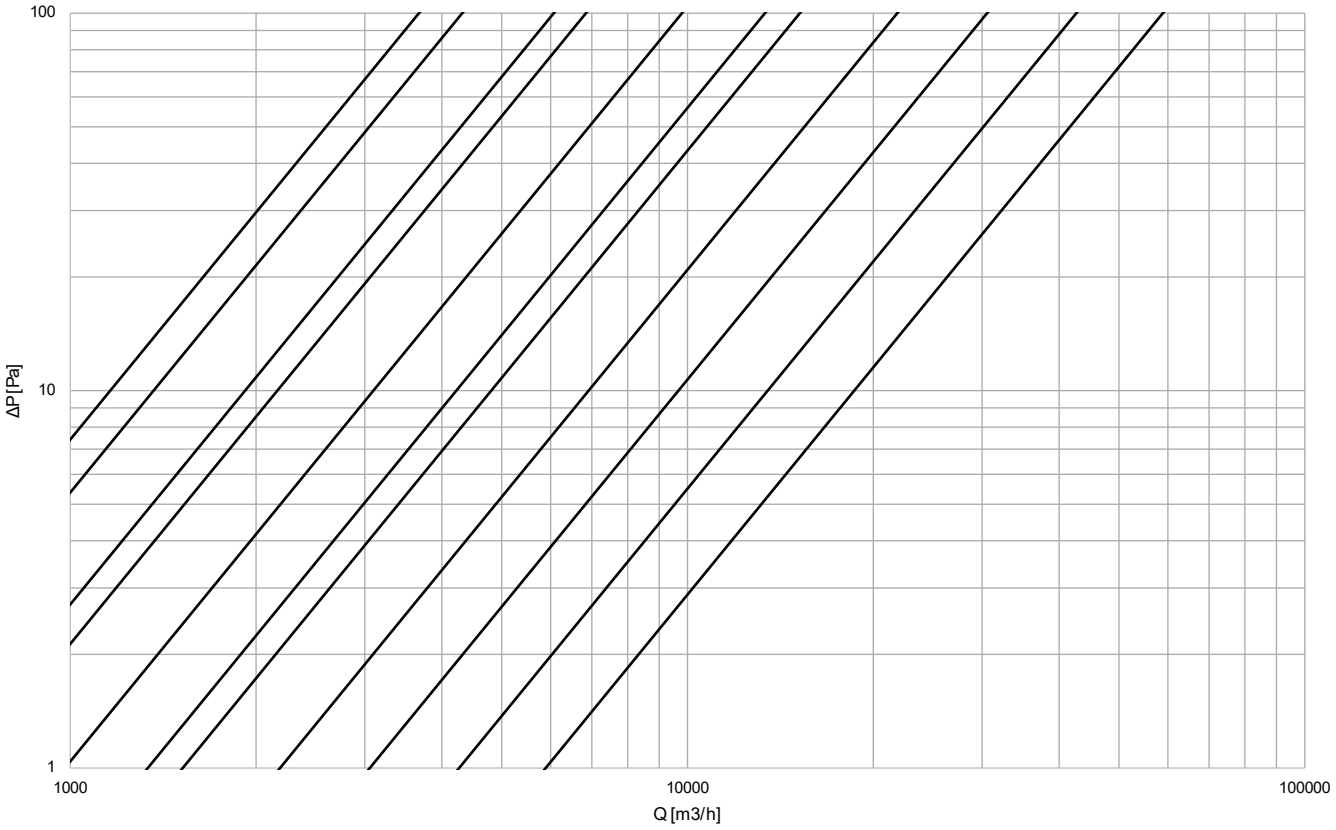
V: Air velocity through cross-section, in m/s
Q: Air flow, in m³/h and in L/s
$L_{w\ oct}$: Sound power level per octave band, in dB/Hz
L_w: Sound power level, in dB(A)

Pressure drop graphs

PRESSURE DROP ASK-1



PRESSURE DROP ASK-2



Codification

ASK-1-50 - 300 - 500 -Metu flange

1 2 3 4

1. Model:

ASK-1-50 — Circular silencer with 50 mm insulation thickness

ASK-1-100 — Circular silencer with 100 mm insulation thickness

ASK-2-50 — Circular silencer with baffle and 50 mm insulation thickness

ASK-2-100 — Circular silencer with baffle and 100 mm insulation thickness

2. Diameter:

80 mm
100 mm
125 mm
150 mm
160 mm
180 mm
200 mm
250 mm
300 mm
315 mm
355 mm
400 mm
450 mm
500 mm
560 mm
630 mm
710 mm
800 mm
900 mm
1000 mm

3. Length:

500 mm
600 mm
750 mm
900 mm
1000 mm
1500 mm
2000 mm

4. Accessories:

Airtight seal
Metu flange

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