

Technical Data Sheet



A1 Sound attenuators

Introduction

Attenuators are also known and referred to as duct silencers, sound traps or mufflers. These are used to lower the sounds generated from fans and HVAC systems. They are commonly installed near the system that is generating noise, such as a fan. As the sound waves pass through the attenuator, they are absorbed into the insulation and are lowered.

All Fans/Impeller used in Air Conditioning system produce noise, relevant to the amount of work they do to move the air, much of the noise is generated by the fluctuations of radiated pressure and these pressure waves are distributed approximately equally in all directions, causing "duct born noise" and "breakout" or "flanking noise". Our silencers is the reliable answer for these noise problems.

After approximately determining the sound reduction requirements of the concerned area select suitable silencer to match, or reduce noise to the target level, while selecting silencer following parameters are to be considered:

1. Insertion Loss.
2. Air Flow Regenerated Noise.
3. Static Pressure Drop.
4. Forward or Reverse Flow.

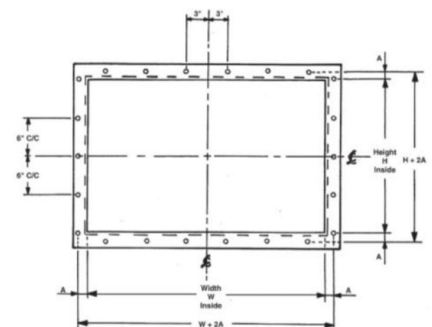
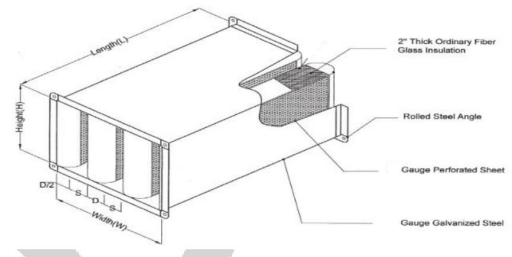
Attenuators have a sound absorbing insulation to keep the sound down, this is Rockwool. This insulation contains millions of tiny air pockets that absorb the sound waves and energy as it passes through the attenuator, and this reduces the noise.

Attenuators do not need to be used at just the discharge of a fan or HVAC system; they can also be used at the intake point as it will still absorb the airborne noise regardless. They are more than just an isolated add-on to the HVAC system and should be considered one of the main components of the system. If they are used as an inclusive part of the system and from the beginning of installment, they will have a better effect than if installed later.

The thickness of the insulation within the attenuator can vary depending on the size of the component needed, as well as the frequency of the sound that the HVAC system makes and needs to be lowered.

† Standard drillings and angle frame size

Attenuator Perimeter (Inches)	Angle Size (Inches)	Hole Diameter (Inches)	'A' (Inches)
36 -83	1 x 1 x 1/8	5/16"	9/16"
84 - Up	1 1/2 x 1 1/2 x 3/16	3/8"	7/8"



Technical Data Sheet



AirQon Synergies

Rectangular Silencer

Product description

Outer Casing: Lock formed, 20 gauge galvanized sheet steel constructed to the relevant 'HVAC' duct work specification where applicable. All fixing are by rivets for strength and rigidity.

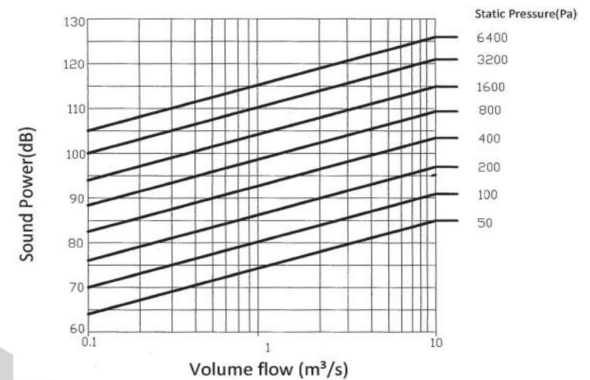
Baffles: They are made of 20 gauge perforated galvanized steel filled with inorganic sound absorbing material that is resistant to vermin and moisture.

Flanges: Rolled steel angle flanges securely welded to the attenuator casing. flanges are pre-drilled.

Finish: galvanized mild steel Casing with flanges. Powdercoated Perforated Plates.

Fan type	Octave							
	63	125	250	500	1000	2000	4000	8000
Centrifugal fan, backward-curved blades	-4	-6	-9	-11	-13	-16	-19	-22
Centrifugal fan. Forward curved blades	-2	-6	-13	-18	-19	-22	-25	-30
Centrifugal straight, straight radial blades	-3	-5	-7	-7	-8	-11	-16	-18
Axial fan	-7	-9	-7	-7	-8	-11	-16	-18

Spectrum Correction



In Duct Sound Power Level of a Fan

Technical Data Sheet



AirQon Synergies

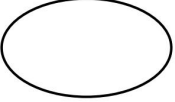
Rectangular Silencer

Silencer section (sound calculations)


Attenuation of straight unlined rectangular sheet metal ducts -dB/m

	Minimum Duct Dimensions (mm)	Mid-frequency Octave Bands, Hz							
		63	125	250	500	1000	2000	4000	8000
	000-200	0.6	0.6	0.45	0.3	0.3	0.3	0.3	0.3
	201-400	0.6	0.6	0.45	0.3	0.2	0.2	0.2	0.2
	401-800	0.6	0.6	0.3	0.15	0.15	0.15	0.15	0.15
	801-1600	0.3	0.15	0.15	0.1	0.06	0.06	0.06	0.06

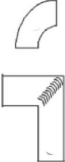
Attenuation of straight unlined circular or round sheet metal ducts-dB/m

	Minimum Duct Dimensions (mm)	Mid-frequency Octave Bands, Hz							
		63	125	250	500	1000	2000	4000	8000
	000-180	0.03	0.03	0.05	0.05	0.1	0.1	0.1	0.1
	181-380	0.03	0.03	0.03	0.05	0.007	0.007	0.007	0.007
	381-760	0.02	0.02	0.02	0.03	0.05	0.05	0.05	0.05
	761-1520	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02

Attenuation of mitered bends without turning vanes or with short chord turning vanes (rectangular ducts)-dB

	Minimum Duct Dimensions (mm)	Mid-frequency Octave Bands, Hz							
		63	125	250	500	1000	2000	4000	8000
	000-200	0	0	0	0	6	8	4	3
	201-400	0	0	0	6	8	4	3	3
	401-800	0	0	6	8	4	3	3	3
	801-2000	0	6	8	4	3	3	3	3

Attenuation of radiused bends or mitered bends with long chord turning vanes (circular or Rectangular ducts)-dB

	Minimum Duct Dimension (mm)	Dimensions in Mid-frequency Octave Bands, Hz							
		63	125	250	500	1000	2000	4000	8000
	000-250	0	0	0	0	1	2	3	3
	251-500	0	0	0	1	2	3	3	3
	501-1000	0	0	1	2	3	3	3	3
	1001-2000	0	1	2	3	3	3	3	3

Technical Data Sheet



AirQon Synergies

Rectangular Silencer Silencer section (sound calculations)

End Reflection Attenuation(dB)						
Duct Dimensions(mm)	Octave Band Centre Frequency (Hz)					
	63.5	125	250	500	1000	2000 and higher
125	17	12	8	4	1	0
250	12	8	4	1	0	0
500	8	4	1	0	0	0
1000	4	1	0	0	0	0
2000	1	0	0	0	0	0

Percentage of total sound factors of dB	
Volume of air (%)	Attenuation dB
1%	-20
2%	-17
3%	-15
4%	-14
5%	-13
10%	-10
20%	-7
50%	-3
100%	0

Directivity Factor, dB						
Junction of two room Surfaces						
Mid-Frequency octave band (Hz)	Outlet Area, cm ²					
	10-50	50-100	100-500	500-1000	1000-5000	5000-10000
63	6	6	6	7	7	8
125	6	6	7	7	8	8
250	6	6	7	7	8	9
500	6	6	7	7	8	9
1000	7	7	8	8	9	9
2000	7	8	8	8	9	9
4000	7	8	8	8	9	9
8000	8	8	8	8	9	9

Distance Factors dB	
Distance in meter	Attenuation in dB
1	-11
1.5	-14
2	-17
3	-20
4	-23
5	-25
6	-26
7	-28
8	-29
9	-30

Centre of one room surface						
Mid-Frequency octave band (Hz)	Outlet area, cm ²					
	10-50	50-100	100-500	500-1000	1000-5000	5000-10000
63	3	3	3	4	4	6
125	3	3	3	5	5	7
250	3	4	5	6	6	8
500	4	5	6	7	7	9
1000	5	7	7	8	8	9
2000	7	8	8	9	9	9
4000	8	8	8	9	9	9
8000	8	8	8	9	9	9

Technical Data Sheet



AirQon Synergies

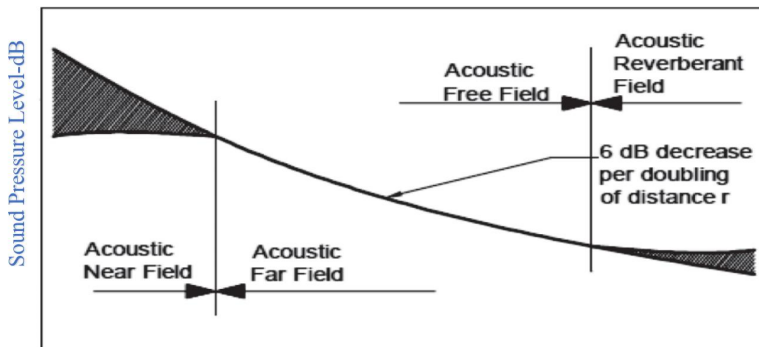
Percentage of total sound factor	
volume of air reaching the	dB reduction
1	-20
2	-17
3	-15
4	-14
5	-13
10	-10
20	-7
50	-3
100	0

Room volume factor, dB	
Volume in me	Room Volume Correction
3	9
5	7
10	4
20	1
50	-3
100	-6
200	-9
500	-13
1000	-16
2000	-19
5000	-23
10000	-26

Addition of Sound Pressure Levels, dB	
Difference in dB	Amount added to higher value
0,1	3 dB
2,3	2dB
4,5,6,7,8	1dB
9 or more	0 dB

Reverberation time factor, dB	
Average furnishings	-3
Limited Furnishing	0
No Furnishing	3
Very hard surface ceiling	6

Radiation fields of a spherical sound source



$\log_{10} r$

Technical Data Sheet



AirQon Synergies

Recommended Noise Criterion-NC		
Type of Room-Space Type	Recommended NC Level	Equivalent Sound Level dBA
Residences		
Apartment Houses	U	35
Assembly Halls	25	35
Churches	30	40
Courtrooms	30	40
Factories	40	50
Private Homes, rural and suburban	20	30
Private Homes, urban	25	34
Hotels/Motels		
individual rooms or suites	25	35
Meeting or banquet rooms	25	35
service and support areas	40	45
Halls, corridors, lobbies	35	50
Offices		
Conference rooms	25	35
Private	30	40
Open plan areas	35	45
Business machines/computers	40	50
Hospitals and clinics		
Private rooms	25	35
Operating rooms	25	35
wards	30	40
Laboratories	35	45
Corridors	30	40
Public Areas	35	45
Schools		
Lecture and Classrooms	25	35
open plan classrooms	35	45
Movie motion pictures theaters	30	40
Libraries	35	40
Legitimate theaters	20	30
Private Residences	25	35
Restaurants	40	50
TV broadcast Studios	15	25
Recording Studios	15	25
Concert and recital halls	15	25
Sport Coliseums	45	55
Sound broadcasting	15	25

Technical Data Sheet



AirQon Synergies

RECTANGULAR SILENCER PERFORMANCE DATA

Dynamic Insertion Loss in dB									
A1-Y(25% Free Area)		Mid-frequency Octave Bands, Hz							
MODEL	LENGTH (mm)	63	125	250	500	1000	2000	4000	8000
A1-Y75	600	9	13	22	36	45	39	33	29
A1-Y75	900	10	16	27	41	49	47	38	33
A1-Y75	1200	11	18	31	46	50	50	43	38
A1-Y75	1500	12	21	36	50	50	50	48	42
A1-Y75	1800	13	24	41	50	50	50	50	46
A1-Y75	2100	13	26	45	50	50	50	50	50
A1-Y75	2400	12	29	50	50	50	50	50	50
A1-CC(33-42% Free Area)		Mid-frequency Octave Bands, Hz							
MODEL	LENGTH (mm)	63	125	250	500	1000	2000	4000	8000
A1-CC100	600	7	10	18	34	46	40	33	29
A1-CC100	900	8	12	22	37	50	46	36	31
A1-CC100	1200	9	14	26	40	50	50	39	33
A1-CC100	1500	9	17	30	44	50	50	41	35
A1-CC100	1800	10	19	34	47	50	50	44	37
A1-CC100	2100	11	21	38	50	50	50	47	39
A1-CC100	2400	11	24	42	50	50	50	49	41
A1-DB(33-42% Free Area)		Mid-frequency Octave Bands, Hz							
MODEL	LENGTH (mm)	63	125	250	500	1000	2000	4000	8000
A1-DB150	600	8	12	17	34	44	28	23	22
A1-DB150	900	8	14	20	37	47	32	26	24
A1-DB150	1200	9	15	23	40	50	36	29	26
A1-DB150	1500	10	17	26	43	53	40	32	28
A1-DB150	1800	11	18	29	46	57	44	35	31
A1-DB150	2100	11	20	32	49	40	48	38	33
A1-DB150	2400	12	21	35	50	50	50	41	35
A1-EA(50% Free Area)		Mid-frequency Octave Bands, Hz							
MODEL	LENGTH (mm)	63	125	250	500	1000	2000	4000	8000
A1-EA200	600	7	11	16	25	27	23	21	20
A1-EA200	900	8	12	18	30	33	26	23	21
A1-EA200	1200	8	14	21	35	39	30	25	23
A1-EA200	1500	9	15	23	40	44	33	28	24
A1-EA200	1800	9	17	26	45	50	37	30	26
A1-EA200	2100	10	18	28	50	50	40	32	27
A1-EA200	2400	11	19	30	50	50	43	34	28

Technical Data Sheet



RECTANGULAR SILENCER PERFORMANCE DATA

MODEL A1-Y (Standard Pressure Drop)

Pressure loss ΔP, inches of wg		0.06	0.1	0.14	0.2	0.24	0.3	0.34	0.4	0.44	0.5
Face Velocity V fpm		315	412	472	725	629	688	747	786	855	904
Attenuator self-noise guide against face velocity V		NC 25			NC30			NC35		NC40	
Width (inches)	Height (inches)	Volume flow rate V I/s									
11 One baffle	6	138	180	212	254	275	307	328	350	371	403
	12	275	360	424	509	551	614	657	699	742	805
	18	424	551	636	763	848	911	996	1059	1123	1208
	24	551	742	848	1017	1123	1229	1335	1398	1504	1610
	30	699	911	1059	1271	1398	1526	1653	1759	1886	2013
	36	848	1102	1250	1526	1674	1843	1992	2098	2246	2416
J	12	551	742	848	1017	1123	1229	1335	1398	1504	1610
	18	848	1102	1250	1526	1674	1843	1992	2098	2246	2416
	24	1123	1462	1674	2034	2246	2458	2649	2797	3009	3221
	30	1398	1843	2098	2543	2797	3051	3327	3496	3750	4026
	36	1674	2204	2521	3051	3348	3666	3984	4195	4513	4831
	42	1949	2564	2945	3539	3920	4280	4640	4895	5255	5636
33 Three Baffles	18	1250	1653	1886	2288	2521	2755	2988	3157	3390	3623
	24	1674	2204	2521	3051	3348	3666	3984	4195	4513	4831
	30	2098	2755	3157	3793	4195	4598	4979	5255	5636	6039
	36	2521	3305	3772	4556	5043	5509	5975	6293	6759	7247
	42	2945	3856	4407	5318	5869	6420	6971	7353	7882	8433
	48	3348	4407	5043	6081	6717	7353	7967	8391	9027	9641
44 Four Baffles	24	2245	2945	3348	4047	4471	4895	5318	5594	6018	6441
	30	2797	3666	4195	5064	5594	6124	6653	6992	7522	8052
	36	3348	4407	5043	6081	6717	7353	7967	8391	9027	9641
	42	3920	5149	5869	7098	7840	8560	9302	9789	10531	11251
	48	4471	5869	6717	8115	8942	9789	10637	11188	12035	12862
	54	5043	6611	7543	9132	10065	11018	11951	12586	13540	14472
55 Five Baffles	30	3496	4598	5255	6336	6992	7649	8306	8751	9387	10044
	36	4195	5509	6293	7607	8391	9175	9959	10489	11273	12057
	42	4895	6420	7331	8878	9789	10700	11633	12247	13158	14069
	48	5594	7353	8391	10150	11188	12247	13286	13985	15044	16082
	54	6293	8264	9450	11400	12586	13773	14938	15743	16909	18095
	60	6992	9175	10489	12671	13985	15298	16612	17481	18795	20108
66 SIX BAFFLES	36	5043	6611	7543	9132	10065	11018	11951	12586	13540	14472
	42	5869	7713	8815	10637	11739	12841	13964	14684	15786	16888
	48	6717	8815	10065	12162	13434	14684	15934	16782	18032	19303
	54	7543	9916	11336	13588	15108	16527	17926	18879	20299	21719
	60	8391	11018	12586	15214	16782	18350	19918	20977	22545	24134
	66	9238	12120	13836	16739	18456	20193	21931	23075	24812	26529
77 SEVEN BAFFLES	42	6844	8984	10277	12417	13709	14981	1610	17142	18413	19706
	48	7840	10277	11739	14197	15659	17142	18604	19579	21041	22524
	54	8815	11569	13222	15977	17629	19282	20935	22037	23668	25321
	60	9789	12841	14684	17735	19579	21422	23244	24473	26317	28139
	66	10764	14133	16146	19515	21528	23562	25575	26910	28944	30957
	72	11739	15426	17629	21295	23499	25702	27906	29368	31572	33775
88 Eight Baffles	48	8942	11739	13434	16231	17905	19579	21253	22376	24050	25723
	54	10065	13222	15108	18244	20130	22037	23922	25173	27058	28944
	60	11188	14684	16782	20278	22376	24473	26571	27969	30067	32165
	66	12311	16167	18456	22312	24622	26931	29220	30766	33076	35386
	72	13434	17629	20130	24325	26846	29368	31889	33563	36085	38606
	78	14536	19091	21825	26359	29092	31826	34538	36360	39094	41806
99 NINE BAFFLES	54	11336	14875	16994	20532	22651	25342	26910	28330	30449	333451
	60	12586	16527	18879	22822	25173	27525	29898	31466	33818	36191
	66	13836	18180	20765	25088	27694	30279	32885	34602	37208	39814
	72	15108	19833	22651	27376	30216	33034	35873	37759	40598	43416
	78	16358	21486	24537	29665	32716	35788	38861	40895	43967	47040
	84	17629	23117	26423	31932	35237	38543	41848	44052	47357	50663
90	18879	24770	28330	34220	37759	41297	44836	47209	508430	54286	
96	20130	26423	30216	36509	40280	44052	47824	50345	54117	57888	

The pressure loss data above relates to a straight attenuator 1200mm long. The following factors are applicable to other lengths:

Length L in mm	600	900	1200	1500	1800	2100	2400
ΔP factor	x0.90	x0.95	0	x1.05	x1.1	x1.15	x1.20

Technical Data Sheet



AirQon Synergies

MODEL: A1-CC (Medium Pressure Drop) Pressure Loss - Cross Section Sizing

Pressure loss ΔP, inches of water	0.08	0.13	0.18	0.25	0.31	0.38	0.43	0.51	0.56	0.64	
Face velocity V fpm	413	531	629	747	825	924	983	1061	1112	1179	
Attenuator self-noise guide against face velocity V	NC 25			NC30		NC35		NC40			
Width(inches)	H _{in}	VOLUME FLOW RATE V(cfm)									
12 ONE BAFFLE	6	201	254	307	360	403	445	477	519	540	572
	12	403	509	614	720	805	890	954	1038	1081	1144
	18	593	763	911	1081	1208	1335	1441	1547	1632	1716
	24	805	1038	1229	1441	1610	1801	1907	2055	2182	2288
	30	996	1293	1526	1822	2013	2246	2394	2585	2712	2861
36	1208	1547	1822	2182	2394	2691	2861	3094	3263	3433	
24 TWO BAFFLES	12	805	1038	6399	1441	1610	1801	1907	2055	2182	2288
	18	1208	1547	360	2182	2394	2691	2861	3094	3263	3433
	24	1610	2055	4810	2903	3200	3581	3814	4111	4344	4577
	30	2013	2543	6018	3623	4005	4492	4768	5149	5446	5721
	36	2394	3094	7204	4344	4810	5382	5721	6187	6526	6865
42	2797	3602	8348	5064	5615	6272	6675	7204	7607	8009	
36 THREE BAFFLES	48	3200	4111	4873	5806	6399	7162	7628	8115	8687	9154
	18	1801	2310	2755	3263	360	4062	4301	4640	4895	5149
	24	2394	3094	3666	4344	4810	5382	5721	6187	6526	6865
	30	3009	3856	4577	5446	6018	6717	7162	7734	8158	8582
	36	3602	4640	5488	6526	7204	8073	8582	9260	9789	10298
42	4217	5403	6399	7607	8348	9408	1002	10806	11421	12014	
48 FOUR BAFFLES	48	4810	6187	7331	8687	9260	10764	11442	12353	13052	13730
	54	5403	6950	8243	9489	10806	12099	12883	13900	14684	15447
	24	3200	4111	4873	5806	6399	7162	7628	8115	8687	9154
	30	4005	5149	6102	7247	8009	8963	9535	10298	10870	11442
	36	4810	6187	7331	8687	9620	10764	11442	12353	13052	13730
42	5615	7204	8539	10150	11209	12544	13349	14409	15214	16019	
60 Five Baffles	48	6399	8243	9768	11590	12819	14387	15256	16485	17396	18307
	54	7204	9260	10976	13052	14409	16125	17163	18540	19557	20596
	24	8009	10298	12205	14493	16019	18138	1907	20596	21740	22884
	30	5001	611	7628	9069	10022	11209	11929	12883	13582	14303
	36	6018	7734	9154	10870	12014	13455	14303	15447	16316	17163
42	7014	9008	10679	12692	14027	15680	16697	18032	19028	20024	
72 Five Baffles	48	8009	10298	12205	14493	16019	17926	19070	20596	21740	22884
	54	9005	11590	13730	16316	18032	20172	21464	23181	24452	25745
	60	10022	12883	15256	18117	20024	22418	23838	25745	27185	28605
	66	11018	14154	16782	19939	22037	24643	26232	28330	29898	31466
	72	12014	15447	18307	21740	24028	26889	28605	30894	32610	34326
36	7204	9260	10976	13052	14409	16125	17163	18540	19557	20596	
42	8412	10806	12819	15214	16824	18816	20024	21634	22821	24028	
84 Six Baffles	48	9620	12353	14642	17396	19218	21507	22884	24706	26084	27461
	54	10806	13900	16485	19557	21634	24198	25745	27800	29347	30894
	60	12014	15447	18307	21740	24028	26889	28605	30894	32610	34326
	66	13222	16994	20130	23922	26423	29580	31466	33987	35873	37759
	72	14409	18540	21973	26084	28838	32271	34326	37081	39708	41191
78	15616	20087	23795	28266	31233	34962	37187	40153	42399	44624	
42	9811	12607	14959	17756	19621	21952	23371	25236	26635	28033	
48	11209	14409	17078	20299	22418	25088	26698	28838	30427	32038	
96 Seven Baffles	54	12607	16210	19218	22821	25236	26105	30046	32440	34241	36042
	60	14027	18032	21359	25363	28033	31381	33373	36042	38055	40047
	66	15426	19833	23499	27906	30830	34517	36721	39645	41848	44052
	72	16824	21534	25639	30427	33648	37653	40047	43247	45662	48057
	78	18223	23435	27758	32970	36445	40789	43395	46849	49455	52061
84	19621	25236	29898	35513	39242	43925	46722	50451	53269	56066	
90	21019	27037	32038	38055	42060	47061	50070	54074	57062	60071	
48	12819	16485	19536	23181	25639	28690	3051	32949	34835	36615	
96 Eight baffles	54	14409	18540	21973	26084	28838	32271	34326	37081	39136	41191
	60	16019	20596	24410	28987	32038	35852	38140	41191	43480	45768
	66	17629	22651	26846	31889	35237	39433	41954	45302	47824	50345
	72	19218	24728	29283	34792	38437	43768	45768	49434	52167	54922
	78	20829	26783	31741	37674	41658	49582	49582	53545	56532	59499
84	22418	28838	34178	40577	44857	53396	53396	57676	60876	64076	
90	24028	30894	36615	43480	48057	57210	57210	61787	65220	68652	
96	25639	32970	39051	46383	51256	61024	51024	65898	69563	73229	
The pressure loss data above relates to a straight attenuator 1200mm long. The following factors are applicable to other lengths:											
Length Lin mm	600	900	1200	1500	1800	2100	2400				
■P factor	x0.90	x0.95	0	x1.05	x1.10	x1.15	x1.20				

Technical Data Sheet



MODEL: A1-EA (Low Pressure Drop) Pressure Loss - Cross Section Sizing

AirQon Synergies

Pressure loss, ΔP , inches of		0.06	0.1	0.14	0.2	0.24	0.3	0.34	0.4	0.44	0.5		
Face velocity V fpm		786	983	1218	1454	1572	1749	1886	2044	2162	2279		
Attenuator self-noise guide against face velocity V		NC 25		NC 30		NC 35		NC 40		NC 45		NC 50	
Width (inches)	Height (inches)	VOLUME FLOW RATE V cfm											
16 ONE BAFFLE	6	509	636	784	943	1017	1134	1218	1324	1398	1473		
	12	1017	1271	1568	1886	2034	2267	2437	2649	2797	2945		
	18	1526	1907	2373	2818	3051	3390	3666	3962	4195	4429		
	24	2034	2543	3157	3772	4068	4534	4873	5297	5594	5891		
	30	2543	3178	3941	4704	5085	5657	6102	6611	6992	7374		
	36	3051	3814	4725	5636	6102	6780	7331	7925	8391	8857		
	42	3560	4450	5509	6590	7120	7925	8539	9260	9789	10319		
	48	4068	5085	6314	7522	8137	9048	9768	10573	11188	11802		
32 TWO BAFFLES	18	3051	3814	4725	5636	6102	6780	7331	7925	8391	8857		
	24	4068	5085	6314	7522	8137	9048	9768	10573	11188	11802		
	30	2966	6357	7882	9408	10171	11315	12205	13222	13985	14748		
	36	3984	7628	9450	11294	12205	13582	14642	15871	16782	17693		
	42	7755	8899	11039	13180	14239	15849	17078	18519	19579	20638		
	48	8137	10171	12607	15044	16273	18095	19536	21147	22376	23605		
	54	9154	11442	14197	16930	18307	20363	21973	23795	25173	26550		
	60	10171	12713	15765	18816	20341	22630	24410	26444	27969	29495		
48 THREE BAFFLES	24	5102	7628	9450	11294	12205	13582	14642	15871	16782	17693		
	30	7628	9535	11823	14112	15256	16972	18307	19833	20977	22121		
	36	9154	11442	14197	16930	18307	20363	21973	23795	25173	26550		
	42	10679	13349	16549	19748	21359	23753	25630	27758	29368	30978		
	48	12205	15256	18922	22587	24410	27164	29283	31741	33563	35386		
	54	13730	17163	21274	25406	27461	30555	32949	35703	37759	39814		
	60	15256	19070	23647	28224	30512	33945	35615	39666	41954	44243		
	66	16782	20977	26020	31042	33563	37335	40280	43628	46150	48671		
64 FOUR BAFFLES	72	18307	22884	28372	33860	36615	40725	43946	47590	50345	53100		
	36	12205	15256	18922	22587	24410	27164	29283	31741	33563	35386		
	42	14239	17799	22079	26338	28478	31678	34178	37017	39157	41297		
	48	15273	20341	25215	30110	32546	36212	39051	42314	44751	47188		
	54	18307	22884	28372	33860	36615	40725	43946	47590	50345	53100		
	60	20341	25427	31529	37632	40683	45260	48819	52888	55939	58990		
	66	22376	27969	34686	41403	44751	51913	53693	58185	61533	64902		
	72	24410	30512	37844	45154	48819	54307	58588	63461	67127	70792		
80 FIVE BAFFLES	78	26444	33055	40980	48925	52888	58842	63461	68758	72721	76683		
	84	28478	35598	44137	52676	56956	63355	68356	74034	78315	82595		
	42	17799	22248	27588	32928	35598	39602	42717	46277	48947	51616		
	48	20341	25427	31529	37632	40683	45260	48819	52888	55939	58990		
	54	22884	28605	35470	42336	45768	50917	54922	59499	62931	66364		
	60	25427	31784	39412	47040	50854	56575	61024	66110	69924	73738		
	66	27969	34962	43353	51744	55939	62232	67127	72721	76916	81111		
	72	30512	38140	47294	56447	61024	67890	73229	79332	83908	88485		
96 SIX BAFFLES	78	33055	41319	51235	61151	66110	73547	79332	85943	90901	95859		
	84	35598	44497	55176	65855	71195	79204	85434	92554	97893	103233		
	90	38140	47675	59117	70559	76280	84852	91536	99165	104886	110607		
	96	40683	50854	63058	75263	81366	90519	97639	105775	111878	117980		
	48	24410	30512	37844	45154	48819	54307	58588	63461	67127	70771		
	54	27461	34326	42569	50811	54922	61109	65898	71343	75518	79628		
	60	30512	38140	47294	56447	61024	67890	73229	79332	83908	88485		
	66	33563	41954	52019	62084	67127	74670	8094	87256	92299	97342		
72	36615	45768	56744	67741	73229	81472	87871	95202	100690	106178			
78	39666	49582	61490	73378	79332	88252	95202	103127	109081	115035			
84	42717	53396	66216	79035	85434	95054	102512	111073	117472	123871			
96	48819	61024	75666	90308	97639	108615	117175	126922	134254	141585			
The pressure loss data above relates to a straight attenuator 1200mm long. Below factors apply to other length:													
Length L mm	600	900	1200	1500	1800	2100	2400						
ΔP Factor	x0.90	x0.95	0	x1.05	x1.10	x1.15	x1.20						