SoundChek
RECTANGULAR DISSIPATIVE SILENCER
MODEL A

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NET INSERTION LOSS RATINGS (SEE NOTES 1, 2 AND 3)

MODEL A			OCTAVE BAND NUMBER & CENTER FREQ. (Hz)							
			1	2	3	4	5	6	7	8
	FACE VELOCITY (FPM)	STATIC PRESSURE DROP (WG)	63	125	250	500	1000	2000	4000	8000
			INSERTION LOSS (dB)							
A-36	-2000	0.96	5	11	21	30	37	28	14	10
	-1000	0.24	7	10	20	30	38	29	16	11
	0	–	5	8	18	29	37	33	20	13
	1000	0.24	5	7	17	27	35	32	20	13
	2000	0.96	3	7	16	24	33	32	20	13
A-60	-2000	1.13	9	17	35	43	51	43	27	16
	-1000	0.28	9	14	32	44	51	47	27	16
	0	–	6	12	28	40	48	50	31	19
	1000	0.28	6	11	26	40	48	50	31	19
	2000	1.13	4	11	25	38	48	46	31	19
A-84	-2000	1.32	9	22	43	46	52	45	34	19
	-1000	0.33	11	23	42	46	52	51	37	19
	0	–	9	17	37	43	49	54	41	22
	1000	0.33	7	15	33	43	49	54	41	22
	2000	1.32	5	14	31	41	49	48	38	22
A-120	-2000	1.48	15	27	45	51	55	48	45	21
	-1000	0.37	16	26	47	55	52	49	47	21
	0	–	10	23	49	56	58	59	55	30
	1000	0.37	9	21	45	56	58	59	55	30
	2000	1.48	7	19	42	53	58	52	53	30

AIRFLOW-GENERATED SOUND POWER LEVELS (See Note 5)

MODEL A	OCTAVE BAND NUMBER & CENTER FREQ. (Hz)							
FACE VELOCITY	1	2	3	4	5	6	7	8
	63	125	250	500	1000	2000	4000	8000
-2000	62	60	58	56	54	60	62	64
-1750	60	57	54	53	51	56	58	60
-1500	57	53	50	49	48	51	52	54
-1250	54	49	45	45	45	46	47	49
-1000	50	43	39	40	40	39	39	41
-750	45	36	31	33	34	30	29	31
-500	38	26	20	24	26	20	20	20
500	38	26	20	24	26	20	20	20
750	45	36	31	33	34	30	29	31
1000	50	43	39	40	40	39	39	41
1250	54	49	45	45	45	46	47	49
1500	57	53	50	49	48	51	52	54
1750	60	57	54	53	51	56	58	60
2000	62	60	58	56	54	60	62	64

FACE AREA ADJUSTMENT FACTORS

Self Generated Power Levels listed above require adjustment for silencer or silencer banks with face area other than 4 sq. ft. Add or subtract the following factors to all octave bands.

Face Area (sq ft)	0.5	1	2	4	8	16	32	64	128	256	512
Adjustment Factor (decibles)	-9	-6	-3	0	+3	+6	+9	+12	+15	+18	+21

AIRFLOW PERFORMANCE

RUSKIN MODEL						STATIC PRESSURE LOSS (INCHES WG)													
TOTAL WEIGHTS PER MODULAR SILENCER (LBS) (SEE NOTE 6)	A-120					0.052	0.093	0.145	0.208	0.283	0.370	0.468	0.578	0.700	0.833	0.977	1.133	1.301	1.480
		A-84				0.046	0.083	0.129	0.186	0.253	0.330	0.418	0.516	0.624	0.743	0.871	1.011	1.160	1.320
			A-60			0.039	0.070	0.109	0.158	0.214	0.280	0.354	0.438	0.529	0.630	0.739	0.858	0.984	1.120
				A-36		0.034	0.060	0.094	0.135	0.184	0.240	0.304	0.375	0.454	0.540	0.634	0.735	0.844	0.960
					Face Velocity (fpm)	375	500	625	750	875	1000	1125	1250	1375	1500	1625	1750	1875	2000
					Size (W x H) / Face Area (Sq. Ft.)	Airflow (cfm)													
	62	44	32	19	**6 x 12** 0.50	188	250	313	375	438	500	563	625	688	750	813	875	938	1000
	68	49	35	22	**7½ x 12** 0.63	234	313	391	469	547	625	703	781	859	938	1016	1094	1172	1250
	85	59	43	26	**9 x 12** 0.75	281	375	469	563	656	750	844	938	1031	1125	1219	1313	1406	1500
	91	65	47	29	**12 x 12** 1.00	375	500	625	750	875	1000	1125	1250	1375	1500	1625	1750	1875	2000
	155	109	79	48	**12 x 24** 2.00	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
	186	131	95	59	**12 x 30** 2.50	938	1250	1563	1875	2188	2500	2813	3125	3438	3750	4063	4375	4688	5000
	218	154	111	69	**12 x 36** 3.00	1125	1500	1875	2250	2625	3000	3375	3750	4125	4500	4875	5250	5625	6000
	103	72	53	32	**15 x 12** 1.25	469	625	781	938	1094	1250	1406	1563	1719	1875	2031	2188	2344	2500
	177	126	90	56	**18 x 24** 3.00	1125	1500	1875	2250	2625	3000	3375	3750	4125	4500	4875	5250	5625	6000
	230	162	118	73	**21 x 24** 3.50	1313	1750	2188	2625	3063	3500	3938	4375	4813	5250	5688	6125	6563	7000
	198	140	102	62	**24 x 18** 3.00	1125	1500	1875	2250	2625	3000	3375	3750	4125	4500	4875	5250	5625	6000
	246	174	126	78	**24 x 24** 4.00	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
	294	208	151	94	**24 x 30** 5.00	1875	2500	3125	3750	4375	5000	5625	6250	6875	7500	8125	8750	9375	10000
	342	242	176	109	**24 x 36** 6.00	2250	3000	3750	4500	5250	6000	6750	7500	8250	9000	9750	10500	11250	12000
	402	277	201	125	**24 x 42** 7.00	2625	3500	4375	5250	6125	7000	7875	8750	9625	10500	11375	12250	13125	14000
	–	–	226	140	**24 x 48** 8.00	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	14000	15000	16000
	262	186	134	83	**27 x 24** 4.50	1688	2250	2813	3375	3938	4500	5063	5625	6186	6750	7313	7875	8438	9000
	172	122	87	54	**30 x 12** 2.50	938	1250	1563	1875	2188	2500	2813	3125	3438	3750	4063	4375	4688	5000
	278	197	142	89	**30 x 24** 5.00	1875	2500	3125	3750	4375	5000	5625	6250	6875	7500	8125	8750	9375	10000
	331	234	170	106	**30 x 30** 6.25	2344	3125	3906	4688	5469	6250	7031	7813	8594	9375	10156	10938	11719	12500
	385	273	198	123	**30 x 36** 7.50	2813	3750	4688	5625	6563	7500	8438	9375	10313	11250	12188	13125	14063	15000
	450	310	226	141	**30 x 42** 8.75	3281	4375	5469	6563	7656	8750	9844	10938	12031	13125	14219	15313	16406	17500
	–	–	253	158	**30 x 48** 10.00	3750	5000	6250	7500	8750	10000	11250	12500	13750	15000	16250	17500	18750	20000
	350	248	180	112	**33 x 30** 6.88	2578	3438	4297	5156	6016	6875	7734	8594	9453	10313	11172	12031	12891	13750
	251	178	129	80	**36 x 18** 4.50	1688	2250	2813	3375	3938	4500	5063	5625	6188	6750	7313	7875	8438	9000
	310	219	159	99	**36 x 24** 6.00	2250	3000	3750	4500	5250	6000	6750	7500	8250	9000	9750	10500	11250	12000
	368	261	190	118	**36 x 30** 7.50	2813	3750	4688	5625	6563	7500	8438	9375	10313	11250	12188	13125	14063	15000
	426	302	220	137	**36 x 36** 9.00	3375	4500	5625	6750	7875	9000	10125	11250	12375	13500	14625	15750	16875	18000
	501	344	250	156	**36 x 42** 10.50	3938	5250	6563	7875	9188	10500	11813	13125	14438	15750	17063	18375	19688	21000
	–	–	281	175	**36 x 48** 12.00	4500	6000	7500	9000	10500	12000	13500	15000	16500	18000	19500	21000	22500	24000
	–	–	294	183	**39 x 42** 11.38	4266	5688	7109	8531	9953	11375	12797	14219	15641	17063	18484	19906	21328	22750
	–	–	195	121	**42 x 24** 7.00	2625	3500	4375	5250	6125	7000	7875	8750	9625	10500	11375	12250	13125	14000
	–	–	232	145	**42 x 30** 8.75	3281	4375	5469	6563	7656	8750	9844	10938	12031	13125	14219	15313	16406	17500
	–	–	270	168	**42 x 36** 10.50	3938	5250	6563	7875	9188	10500	11813	13125	14438	15750	17063	18375	19688	21000
	–	–	306	191	**42 x 42** 12.25	4594	6125	7656	9188	10719	12250	13781	15313	16844	18375	19906	21438	22969	24500
	–	–	343	214	**42 x 48** 14.00	5250	7000	8750	10500	12250	14000	15750	17500	19250	21000	22750	24500	26250	28000
	–	–	358	223	**45 x 48** 15.00	5625	7500	9375	11250	13125	15000	16875	18750	20625	22500	24375	26250	28125	30000
	–	–	172	106	**48 x 18** 6.00	2250	3000	3750	4500	5250	6000	6750	7500	8250	9000	9750	10500	11250	12000
	–	–	211	132	**48 x 24** 8.00	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	14000	15000	16000
	–	–	251	157	**48 x 30** 10.00	3750	5000	6250	7500	8750	10000	11250	12500	13750	15000	16250	17500	18750	20000
	–	–	290	182	**48 x 36** 12.00	4500	6000	7500	9000	10500	12000	13500	15000	16500	18000	19500	21000	22500	24000
	–	–	332	207	**48 x 42** 14.00	5250	7000	8750	10500	12250	14000	15750	17500	19250	21000	22750	24500	26250	28000
	–	–	372	232	**48 x 48** 16.00	6000	8000	10000	12000	14000	16000	18000	20000	22000	24000	26000	28000	30000	32000

1. SoundChek silencers have been tested in accordance with ASTM E-477 standard (Standard Method of Testing Duct Liner Materials and Prefabricated Silencers for Acoustical and Airflow Performance) for 24 inch by 24 inch modular sizes.
2. Product performance associated with airflow has been rated for both forward and reverse flow conditions. Forward flow occurs when air flows in the same direction as the noise (typically supply side system). Reverse flow occurs when air flows opposite the noise flow direction.
3. Static Pressure Drop values have been measured in accordance with ASTM E-477 testing standard. This standard relies on specific length ductwork up and down stream of the silencer. Therefore the data presented is for laminar flow and includes static regain. If the silencer is to be used under conditions that vary from laminar flow, adjustments must be made to the system calculations. The data presented has been tested under standard conditions with air density of 0.075 pounds mass per cubic foot. Systems moving gases or air of sufficiently different density must allow for a different static pressure drop.
4. Insertion Loss Data does not account for break out noise. Therefore to achieve insertion loss in excess of 50 dB duct lagging is suggested.
5. Airflow Generated Sound Power Levels should be reviewed when low acoustical design goals are required. This data has been measured per the ASTM E-477 testing standard in enough detail to allow representation for a variety of airflow levels. The face area adjustment factors are to be used by octave band on the Airflow Generated Power Levels for face areas that differ from 4 square feet.
6. **Weights and Modular sizes shown on the Airflow Performance chart do not represent a complete list of sizes available.** It is only intended to provide the designer with enough information to accurately calculate the specifics for the projects requirements.
7. Silencer sizes are defined width by height. This defines the baffle arrangement. Consult your local representative if other than up/down baffle arrangement is required.

Useful Conversions and Formulas

Multiply	by	To Obtain
cfm	.0004719	cubic meters per second (m^3/sec)
fpm	0.00508	meters per second (m/s)
in	25.4	millimeters (mm)
WG"	249.1	Newton per square meter (n/M^2)
ft	0.3048	meters (m)
ft^2	0.0929	square meters (m^2)
lb	0.4535	kilogram (kg)

To calculate the exact static pressure for airflow not shown on the Airflow Performance Chart use the following ratio: $\sqrt{\ }$ **(sp^1/sp^2) = (cfm^1/cfm^2).**

Silencer Face Area is defined as the total inlet area of the silencer. This is not the same as the free area. **CFM = (Face Area sq. ft.) x (fpm).**