



SoundChek RECTANGULAR DISSIPATIVE SILENCER MODEL DM

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NET INSERTION LOSS RATINGS (SEE NOTES 1, 2 AND 3)										
MODEL DM	FACE VELOCITY (FPM)	STATIC PRESSURE DROP (WG)	OCTAVE BAND NUMBER & CENTER FREQ. (Hz)							
			1	2	3	4	5	6	7	8
			63	125	250	500	1000	2000	4000	8000
INSERTION LOSS (dB)										
DM-36	-4000	0.77	3	7	13	16	22	14	11	6
	-2000	0.19	2	6	12	16	22	15	11	6
	0	–	2	5	11	15	21	17	12	7
	2000	0.19	1	5	10	14	20	17	12	7
	4000	0.77	1	4	9	13	19	17	12	7
DM-60	-4000	0.92	6	11	20	31	34	19	11	8
	-2000	0.23	5	11	20	30	34	20	12	8
	0	–	3	10	17	26	33	25	16	10
	2000	0.23	2	9	16	25	32	25	16	10
	4000	0.92	2	7	14	24	31	25	16	10
DM-84	-4000	1.08	7	17	29	43	41	24	15	12
	-2000	0.27	6	16	27	42	42	25	16	12
	0	–	5	14	21	35	44	32	21	13
	2000	0.27	4	13	20	34	43	32	21	13
	4000	1.08	3	11	19	33	41	32	21	13
DM-120	-4000	1.28	14	24	33	41	47	31	19	13
	-2000	0.32	12	23	32	42	49	32	21	14
	0	–	7	20	28	48	61	42	27	17
	2000	0.32	6	18	27	47	59	42	27	17
	4000	1.28	4	16	25	45	57	42	27	17



AIRFLOW-GENERATED SOUND POWER LEVELS (See Note 5)									
MODEL DM	OCTAVE BAND NUMBER & CENTER FREQ. (Hz)								
	FACE VELOCITY	1	2	3	4	5	6	7	8
		63	125	250	500	1000	2000	4000	8000
	-4000	72	68	60	59	56	59	62	59
	-3000	66	61	53	52	49	53	55	50
	-2500	62	57	49	47	45	48	50	44
	-2000	57	52	44	42	40	43	44	37
	-1000	43	35	28	26	24	26	27	15
	1000	43	35	28	26	24	26	27	15
	2000	57	52	44	42	40	43	44	37
	2500	62	57	49	47	45	48	50	44
	3000	66	61	53	52	49	53	55	50
	4000	72	68	60	59	56	59	62	59

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 (decibels)	-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)	DM-120				0.065	0.097	0.130	0.174	0.218	0.274	0.336	0.405	0.470	0.551	0.638	0.720	0.871	0.980		
	DM-84				0.057	0.085	0.114	0.152	0.191	0.240	0.294	0.354	0.412	0.482	0.559	0.630	0.762	0.858		
	DM-60				0.049	0.073	0.098	0.131	0.163	0.205	0.252	0.304	0.353	0.413	0.479	0.540	0.653	0.735		
	DM-36				0.041	0.061	0.081	0.109	0.136	0.171	0.210	0.253	0.294	0.345	0.399	0.450	0.545	0.613		
					Face Velocity (fpm)		900	1100	1275	1475	1650	1850	2050	2250	2425	2625	2825	3000	3300	3500
				Size (W x H)	Face Area (Sq. Ft.)	Airflow (cfm)														
59	41	30	18	6 x 12	0.50	450	550	638	738	825	925	1025	1125	1213	1313	1413	1500	1650	1750	
64	45	32	20	7½ x 12	0.63	563	688	797	922	1031	1156	1281	1406	1516	1641	1766	1875	2063	2188	
69	49	35	22	9 x 12	0.75	675	825	956	1106	1238	1388	1538	1688	1819	1969	2119	2250	2475	2625	
89	63	45	28	12 x 12	1.00	900	1100	1275	1475	1650	1850	2050	2250	2425	2625	2825	3000	3300	3500	
149	104	76	47	12 x 24	2.00	1800	2200	2550	2950	3300	3700	4100	4500	4850	5250	5650	6000	6600	7000	
178	126	91	56	12 x 30	2.50	2250	2750	3188	3688	4125	4625	5125	5625	6063	6563	7063	7500	8250	8750	
208	146	106	65	12 x 36	3.00	2700	3300	3825	4425	4950	5550	6150	6750	7275	7875	8475	9000	9900	10500	
94	66	48	29	15 x 12	1.25	1125	1375	1594	1844	2063	2313	2563	2813	3031	3281	3531	3750	4125	4375	
167	118	85	53	18 x 24	3.00	2700	3300	3825	4425	4950	5550	6150	6750	7275	7875	8475	9000	9900	10500	
181	128	93	57	21 x 24	3.50	3150	3850	4463	5163	5775	6475	7175	7875	8488	9188	9888	10500	11550	12250	
190	133	97	60	24 x 18	3.00	2700	3300	3825	4425	4950	5550	6150	6750	7275	7875	8475	9000	9900	10500	
234	165	119	73	24 x 24	4.00	3600	4400	5100	5900	6600	7400	8200	9000	9700	10500	11300	12000	13200	14000	
278	196	142	88	24 x 30	5.00	4500	5500	6375	7375	8250	9250	10250	11250	12125	13125	14125	15000	16500	17500	
322	228	165	102	24 x 36	6.00	5400	6600	7650	8850	9900	11100	12300	13500	14550	15750	16950	18000	19800	21000	
374	258	187	116	24 x 42	7.00	6300	7700	8925	10325	11550	12950	14350	15750	16975	18375	19775	21000	23100	24500	
-	290	210	130	24 x 48	8.00	7200	8800	10200	11800	13200	14800	16400	18000	19400	21000	22600	24000	26400	28000	
247	174	126	78	27 x 24	4.50	4050	4950	5738	6638	7425	8325	9225	10125	10913	11813	12713	13500	14850	15750	
165	116	84	51	30 x 12	2.50	2250	2750	3188	3688	4125	4625	5125	5625	6063	6563	7063	7500	8250	8750	
261	184	133	82	30 x 24	5.00	4500	5500	6375	7375	8250	9250	10250	11250	12125	13125	14125	15000	16500	17500	
309	218	158	98	30 x 30	6.25	5625	6875	7969	9219	10313	11563	12813	14063	15156	16406	17656	18750	20625	21875	
356	252	183	113	30 x 36	7.50	6750	8250	9563	11063	12375	13875	15375	16875	18188	19688	21188	22500	24750	26250	
415	286	207	128	30 x 42	8.75	7875	9625	11156	12906	14438	16188	17938	19688	21219	22969	24719	26250	28875	30625	
-	320	232	144	30 x 48	10.00	9000	11000	12750	14750	16500	18500	20500	22500	24250	26250	28250	30000	33000	35000	
324	229	166	103	33 x 30	6.88	6188	7563	8766	10141	11344	12719	14094	15469	16672	18047	19422	20625	22688	24063	
236	167	121	74	36 x 18	4.50	4050	4950	5738	6638	7425	8325	9225	10125	10913	11813	12713	13500	14850	15750	
287	203	147	91	36 x 24	6.00	5400	6600	7650	8850	9900	11100	12300	13500	14550	15750	16950	18000	19800	21000	
339	240	173	108	36 x 30	7.50	6750	8250	9563	11063	12375	13875	15375	16875	18188	19688	21188	22500	24750	26250	
390	276	201	124	36 x 36	9.00	8100	9900	11475	13275	14850	16650	18450	20250	21825	23625	25425	27000	29700	31500	
454	313	227	141	36 x 42	10.50	9450	11550	13388	15488	17325	19425	21525	23625	25463	27563	29663	31500	34650	36750	
-	349	253	157	36 x 48	12.00	10800	13200	15300	17700	19800	22200	24600	27000	29100	31500	33900	36000	39600	42000	
-	-	254	158	39 x 42	11.38	10238	12513	14503	16778	18769	21044	23319	25594	27584	29859	32134	34125	37538	39813	
-	-	170	106	42 x 24	7.00	6300	7700	8925	10325	11550	12950	14350	15750	16975	18375	19775	21000	23100	24500	
-	-	202	125	42 x 30	8.75	7875	9625	11156	12906	14438	16188	17938	19688	21219	22969	24719	26250	28875	30625	
-	-	233	144	42 x 36	10.50	9450	11550	13388	15488	17325	19425	21525	23625	25463	27563	29663	31500	34650	36750	
-	-	264	164	42 x 42	12.25	11025	13475	15619	18069	20213	22663	25113	27563	29706	32156	34606	36750	40425	42875	
-	-	295	183	42 x 48	14.00	12600	15400	17850	20650	23100	25900	28700	31500	33950	36750	39550	42000	46200	49000	
-	-	305	190	45 x 48	15.00	13500	16500	19125	22125	24750	27750	30750	33750	36375	39375	42375	45000	49500	52500	
-	-	150	93	48 x 18	6.00	5400	6600	7650	8850	9900	11100	12300	13500	14550	15750	16950	18000	19800	21000	
-	-	183	114	48 x 24	8.00	7200	8800	10200	11800	13200	14800	16400	18000	19400	21000	22600	24000	26400	28000	
-	-	216	134	48 x 30	10.00	9000	11000	12750	14750	16500	18500	20500	22500	24250	26250	28250	30000	33000	35000	
-	-	249	155	48 x 36	12.00	10800	13200	15300	17700	19800	22200	24600	27000	29100	31500	33900	36000	39600	42000	
-	-	282	175	48 x 42	14.00	12600	15400	17850	20650	23100	25900	28700	31500	33950	36750	39550	42000	46200	49000	
-	-	314	196	48 x 48	16.00	14400	17600	20400	23600	26400	29600	32800	36000	38800	42000	45200	48000	52800	56000	

- 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.
- 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.
- 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.
- Insertion Loss Data does not account for break out noise. Therefore to achieve insertion loss in excess of 50 dB duct lagging is suggested.
- 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.

- 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.
- 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).**