



"The ART of Noise Control"

For your local ArtUSA Representative

Call: 1-888-454-6973

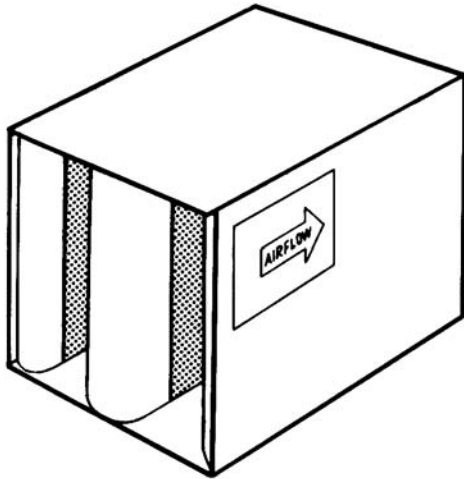
Internet: www.artusaindustries.us

Sound Attenuator

NO. 756-89-R1

SUPERSEDES NO. 756-89

ENGINEERING DATA SHEET



MODEL SP

RECTANGULAR

NOMENCLATURE EXAMPLE:

WIDTH	HEIGHT	LENGTH	MODEL
24	24	3	SP

ArtUSA Acoustics sound attenuators are engineered to achieve a maximum insertion loss with a minimum pressure drop. ArtUSA Acoustics sound attenuators feature airfoil design for efficient aerodynamic performance, as well as superior acoustical materials and totally galvanized steel construction, guaranteeing excellent reliability and performance.

MODEL NO.	OCTAVE BANDS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	CENTER FREQUENCY (Hz)	63	125	250	500	1000	2000	4000	8000
	FACE VELOCITY FPM	DYNAMIC INSERTION LOSS IN DECIBELS							
3SP	-1500	2	7	15	21	31	33	19	12
	-1000	2	6	13	20	29	33	19	12
	0	1	5	12	19	28	34	21	14
	+1000	1	5	12	18	26	33	23	14
	+1500	0	4	11	17	25	33	23	14
5SP	-1500	4	11	24	37	44	46	24	15
	-1000	3	10	22	36	49	49	25	16
	0	4	8	21	34	48	52	26	14
	+1000	3	7	19	32	46	52	27	16
	+1500	3	7	18	30	43	52	28	16
7SP	-1500	7	16	34	48	49	40	30	15
	-1000	6	13	31	47	53	53	32	16
	0	6	12	28	45	58	62	36	19
	+1000	6	11	26	43	58	62	39	21
	+1500	5	10	24	42	55	53	40	22
10SP	-1500	6	25	36	40	43	37	35	19
	-1000	6	21	38	46	49	47	45	20
	0	8	17	32	44	57	64	53	31
	+1000	8	16	31	44	57	64	55	33
	+1500	7	13	31	45	52	49	52	31

THIS TABLE CONTAINS BOTH FORWARD (+) AND BACKWARD (-) FLOW ACOUSTIC AND AERODYNAMIC RATINGS BASED ON TEST RESULTS MEASURED IN ACCORDANCE WITH ASTM E477. COPIES OF THESE TEST REPORTS CAN BE FURNISHED UPON REQUEST.



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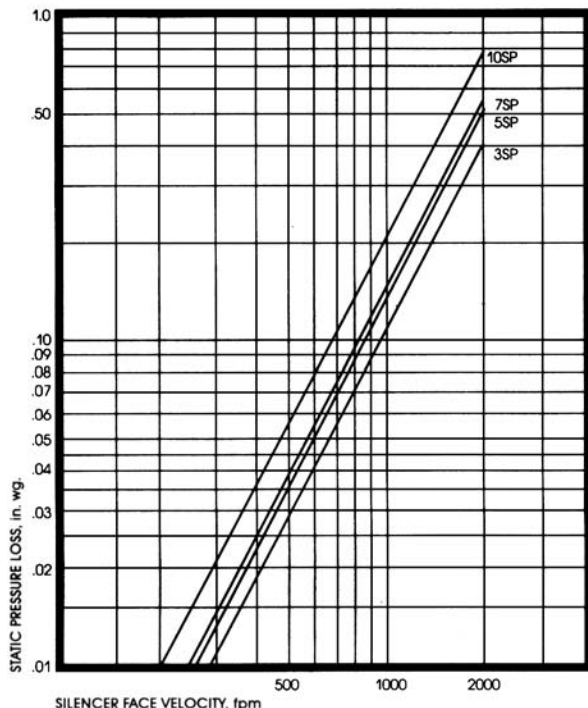
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AIR FLOW RATING FOR THE 12 X 12 SIZE, SHADED, REPRESENTS BOTH CFM AND FACE VELOCITY IN FPM.
USE THIS TO GET THE RATING FOR MULTIPLE MODULE SILENCERS.

MODEL	3SP	0.05	0.10	0.16	0.21	0.31	0.41	0.51	0.60	0.75	0.89	1.00	1.08
	5SP	0.06	0.11	0.18	0.25	0.38	0.51	0.64	0.75	0.94	1.12	1.26	1.36
7SP	0.07	0.12	0.18	0.26	0.39	0.53	0.66	0.78	0.97	1.16	1.30	1.40	
10SP	0.09	0.17	0.27	0.39	0.58	0.77	0.96	1.14	1.42	1.70	1.90	2.06	
SIZE W x H	FACE AREA	AIR FLOW IN CFM											
6 x 12	0.50	345	477	600	713	875	1012	1130	1230	1371	1500	1588	1650
6 x 24	1.00	707	953	1200	1425	1750	2023	2260	2459	2742	2999	3175	3300
6 x 36	1.50	1061	1430	1800	2183	2625	3035	3390	3689	4113	4499	4763	4950
12 x 12	1.00	707	953	1200	1425	1750	2023	2260	2459	2742	2999	3175	3300
12 x 24	2.00	1414	1906	2400	2850	3500	4046	4520	4918	5484	5998	6350	6600
12 x 36	3.00	2121	2859	3600	4275	5250	6069	6780	7377	8226	8997	9525	9900
18 x 12	1.50	1061	1430	1800	2138	2625	3035	3390	3689	4113	4499	4763	4950
18 x 18	2.25	1591	2144	2700	3206	3938	4552	5085	5533	6170	6748	7144	7425
18 x 30	3.75	2651	3574	4500	5344	6563	7586	8475	9221	10283	11246	11906	12375
18 x 36	4.50	3182	4289	5400	6413	7875	9104	10170	11066	12339	13496	14288	14850
18 x 48	6.00	4242	5718	7200	8550	10500	12138	13560	14754	16452	17994	19050	19800
24 x 24	4.00	2828	3812	4800	5700	7000	8092	9040	9836	10968	11996	12700	13200
24 x 36	6.00	4242	5718	7200	8550	10500	12138	13560	14754	16452	17994	19050	19800
24 x 48	8.00	5656	7624	9600	11400	14000	16184	18080	19672	21963	23992	25400	26400
30 x 24	5.00	3535	4765	6000	7125	8750	10115	11300	12295	13710	14995	15875	16500
30 x 36	7.50	5303	7148	9000	10638	13125	15173	16950	18443	20565	22493	23813	24750
30 x 48	10.00	7070	9530	12000	14250	17500	20230	22600	24590	27420	29990	31750	33000
36 x 36	9.00	6363	8577	10800	12825	15750	18207	20340	22131	24678	26991	28575	29700
36 x 42	10.50	7424	10007	12600	14963	18375	21242	23730	25820	28791	31490	33338	34650
36 x 48	12.00	8484	11436	14400	17100	21000	24276	27120	29508	32904	35988	38100	39600



Air flow ratings shown include static regain. Therefore if silencers are installed immediately before or after elbows, transitions, at the intake or discharge of the system, or without duct, allowance to compensate for such conditions must be included when calculating the operating pressure loss thru the silencer. Failure to make allowance for these conditions can add several velocity heads to the pressure loss of the system. All acoustic and aerodynamic performance obtained on 24" x 24" cross section production units.

SELF-GENERATED SOUND POWER RATINGS (PWL) dB re 10⁻¹² WATTS

OCTAVE BAND		1	2	3	4	5	6	7	8
HZ		63	125	250	500	1000	2000	4000	8000
MODEL	FACE VELOCITY								
3SP	+2000	62	57	52	48	47	51	51	48
5SP	+1000	51	42	34	31	33	28	24	29
7SP	-1000	53	46	44	47	51	52	43	34
10SP	-2000	63	57	55	56	58	64	66	59

SELF-GENERATED SOUND RATINGS/FACE AREA ADJUSTMENT FACTORS

FACE AREA	.50	1	2	4	8	10	32	64	128
PWL ADJUSTMENT FACTOR, dB	-9	-6	-3	0	+3	+6	+9	+12	+15