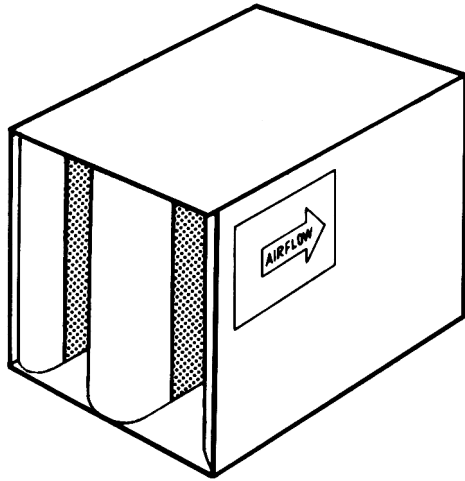




## ENGINEERING DATA SHEET



# MODEL SP18

## RECTANGULAR

### NOMENCLATURE EXAMPLE:

WIDTH	HEIGHT	LENGTH	MODEL
36	24	3	SP18

Commercial Acoustics sound attenuators are engineered to achieve a maximum insertion loss with a minimum pressure drop. Commercial 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							
3SP18	-2000	3	7	12	18	25	20	10	8
	-1000	3	7	12	17	24	21	10	7
	0	2	6	11	17	24	20	12	7
	+1000	1	6	11	16	23	21	13	9
	+2000	1	6	10	15	23	21	13	10
5SP18	-2000	7	10	25	36	46	29	14	9
	-1000	8	8	23	34	46	32	16	10
	0	7	9	21	33	45	32	18	12
	+1000	8	9	20	31	44	33	19	14
	+2000	6	8	19	29	42	34	20	15
7SP18	-2000	4	18	27	39	49	41	19	13
	-1000	3	16	27	36	50	42	18	11
	0	3	14	24	35	51	43	21	13
	+1000	3	13	23	34	50	45	23	15
	+2000	2	12	23	33	48	45	24	16

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.

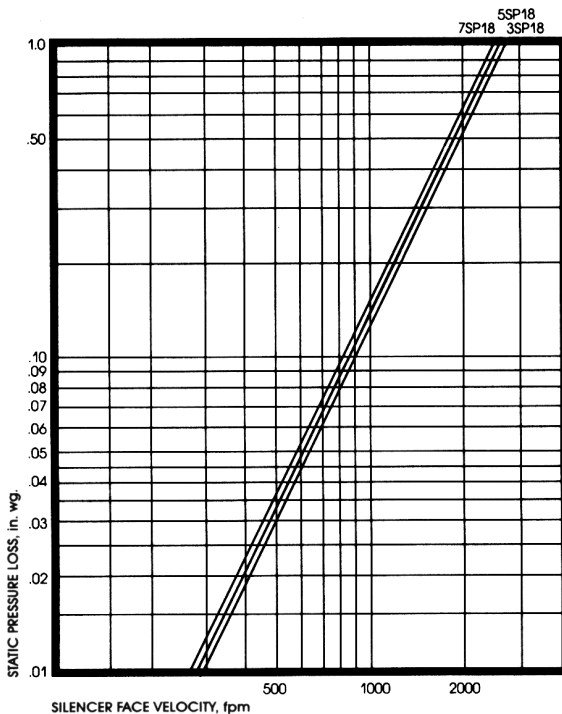
# Sound Attenuator

RECTANGULAR MODEL SP-18

## ENGINEERING DATA

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-18	0.06	0.11	0.17	0.22	0.28	0.34	0.45	0.55	0.66	0.83	1.11	1.39
	5SP-18	0.06	0.11	0.17	0.23	0.29	0.35	0.46	0.58	0.69	0.86	1.16	1.45
7SP-18	0.07	0.14	0.21	0.28	0.35	0.42	0.56	0.71	0.85	1.06	1.41	1.77	
SIZE W x H	FACE AREA	AIR FLOW IN CFM											
9 x 12	0.75	528	750	919	1058	1189	1305	1500	1680	1838	2050	2378	2663
9 x 18	1.13	793	1130	1378	1586	1784	1958	2260	2520	2756	3083	3566	3994
9 x 24	1.50	1057	1500	1838	2115	2378	2610	3000	3360	3675	4110	4755	5325
9 x 30	1.88	1322	1875	2297	2644	2972	3263	3750	4200	4594	5138	5944	6656
9 x 36	2.25	1586	2250	2756	3173	3566	3915	4500	5040	5513	6165	7133	7988
9 x 42	2.63	1850	2625	3216	3701	4161	4568	5250	5880	6431	7193	8321	9319
18 x 12	1.50	1057	1500	1838	2115	2378	2610	3000	3360	4594	4110	4755	5325
18 x 18	2.25	1586	2250	2756	3173	3566	3915	4500	5040	5513	6165	7133	7988
18 x 24	3.00	2115	3000	3675	4230	4755	5220	6000	6720	7350	8220	9510	10650
18 x 30	3.75	2644	3750	4594	5288	5944	6525	7500	8400	9188	10275	11888	13313
18 x 36	4.50	3173	4500	5513	6345	7133	7830	9000	10080	11025	12330	14265	15975
18 x 42	5.25	3701	5250	6431	7403	8321	9135	10500	11760	12863	14385	16643	18638
18 x 48	6.00	4230	6000	7350	8460	9510	10440	12000	13440	14700	16440	19020	21300
36 x 12	3.00	2115	3000	3675	4230	4755	5220	6000	6720	7350	8220	9510	10650
36 x 18	4.50	3173	4500	5513	6345	7133	7830	9000	10080	11025	12330	14265	15975
36 x 24	6.00	4230	6000	7350	8460	9510	10440	12000	13440	14700	16440	19020	21300
36 x 30	7.50	5288	7500	9188	10575	11888	13050	15000	16800	18375	20550	23775	26625
36 x 36	9.00	6345	9000	11025	12690	14265	15660	18000	20160	22050	24660	28530	31950
36 x 42	10.50	7403	10500	12863	14805	16643	18270	21000	23520	25725	28770	33285	37275
36 x 48	12.00	8406	12000	14700	16920	19020	20880	24000	26880	29400	32880	38040	42600
FACE VELOCITY, fpm		705	1000	1225	1410	1585	1740	2000	2240	2450	2740	3170	3550



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<sup>-12</sup> 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	56	54	48	46	44	52	51	47
5SP	+1000	55	42	34	31	33	31	25	27
7SP	-1000	58	48	43	43	44	43	35	28
	-2000	59	56	53	55	54	59	60	53

### 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