

## Low Frequency

# Hospital/Clean Room Attenuator - Model **ALMLPC**

				Dynamic Insertion Loss (dB) Octave Band/Center Frequency (Hz)							
Model	Flow	Velocity fpm	Press Drop	1 63	2 125	3 250	4 500	5 1K	6 2K	7 4K	8 8K
ALMLPC-36	Reverse	-2000	0.56	6	8	12	15	15	12	9	6
	Flow	-1500	0.32	6	7	12	14	14	11	9	6
		-1000	0.14	6	7	12	14	14	11	9	6
		0		5	7	11	14	13	11	8	6
	Forward	1000	0.14	5	6	11	31	13	11	8	5
	Flow	1500	0.32	5	6	11	13	14	10	8	5
	2000	0.56	5	6	11	12	13	10	7	5	
ALMLPC-48	Reverse	-2000	0.61	7	10	15	19	19	15	11	7
	Flow	-1500	0.34	7	10	14	17	19	15	10	7
		-1000	0.15	7	10	14	17	18	15	10	6
		0		6	9	14	17	17	14	10	6
	Forward	1000	0.15	6	8	13	26	17	14	10	6
	Flow	1500	0.34	6	8	13	16	17	13	9	5
	2000	0.61	6	8	13	15	17	13	8	5	
ALMLPC-60	Reverse	-2000	0.66	9	13	19	23	24	19	12	8
	Flow	-1500	0.37	9	13	18	22	24	19	12	8
		-1000	0.17	9	13	18	21	23	18	11	7
		0		8	12	17	20	22	18	13	7
	Forward	1000	0.17	8	11	17	20	22	18	13	7
	Flow	1500	0.37	8	11	16	20	21	17	11	6
	2000	0.66	8	10	16	19	21	16	10	6	
ALMLPC-72	Reverse	-2000	0.7	10	15	21	26	26	21	13	9
	Flow	-1500	0.39	10	14	21	25	26	21	13	8
		-1000	0.18	10	14	20	25	26	21	13	8
		0		9	13	20	24	25	20	13	8
	Forward	1000	0.18	9	13	19	24	24	20	13	8
	Flow	1500	0.39	9	12	19	24	24	19	12	8
	2000	0.7	9	12	18	23	24	19	11	7	

Forward Flow - characteristic of supply or discharge fan systems.

Reverse Flow - typical of return or intake fan systems.

### Pressure Drop Calculation for Specific Velocity

Actual Velocity (fpm) =  $CFM \times 144 \div [\text{Height (in.)} \times \text{Width (in.)}]$

$$\text{Pressure Drop} = \left( \frac{\text{Actual Velocity}}{1500} \right)^2 \times \text{Catalog Pressure Drop @ 1500 fpm}$$

#### Standard Construction

22 gauge galvanized casings

24 gauge perforated baffles

Acoustic Fill encapsulated in polyethylene to eliminate erosion and absorption of gases

#### Optional Features

Stainless steel or aluminum construction

Computer program available, which provides attenuator performance at actual job conditions.

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Model	Flow	Velocity fpm	Press Drop	1 63	2 125	3 250	4 500	5 1K	6 2K	7 4K	8 8K
ALMLPC-84	Reverse Flow	-2000	0.74	12	16	24	30	28	24	15	10
		-1500	0.42	11	16	24	30	28	24	15	10
		-1000	0.19	11	15	23	30	29	24	15	9
	Forward Flow	0		11	15	22	29	29	23	14	9
		1000	0.19	11	14	22	28	28	22	14	9
		1500	0.42	11	14	21	28	27	22	14	9
		2000	0.74	10	14	20	27	27	22	13	8
ALMLPC-96	Reverse Flow	-2000	0.78	12	18	26	32	31	24	16	11
		-1500	0.44	12	17	25	31	31	24	16	10
		-1000	0.2	11	16	25	31	31	24	15	10
	Forward Flow	0		11	16	24	30	31	24	15	10
		1000	0.2	11	15	24	30	30	24	14	10
		1500	0.44	11	15	23	30	30	23	14	10
		2000	0.78	10	15	22	29	30	23	14	9
ALMLPC-108	Reverse Flow	-2000	0.82	13	20	28	34	34	26	17	12
		-1500	0.46	13	19	27	33	34	26	17	11
		-1000	0.21	12	18	27	33	34	26	16	11
	Forward Flow	0		12	18	27	33	33	26	16	11
		1000	0.21	12	17	27	32	33	25	16	11
		1500	0.46	12	17	26	32	32	25	16	11
		2000	0.82	11	17	25	31	32	25	15	11
ALMLPC-120	Reverse Flow	-2000	0.84	14	22	30	36	36	27	18	13
		-1500	0.47	13	21	29	35	36	27	18	12
		-1000	0.21	13	20	29	35	27	17	12	0
	Forward Flow	0		12	19	29	35	35	27	17	12
		1000	0.21	12	19	29	34	35	27	17	12
		1500	0.47	12	19	28	34	35	26	17	12
		2000	0.84	12	18	28	33	35	26	17	12

Forward Flow - characteristic of supply or discharge fan systems.  
Reverse Flow - typical of return or intake fan systems.

### Pressure Drop Calculation for Specific Velocity

Actual Velocity (fpm) = CFM x 144 ! [Height (in.) x Width (in.)]

$$\text{Pressure Drop} = \left( \frac{\text{Actual Velocity}}{1500} \right)^2 \times \text{Catalog Pressure Drop @ 1500 fpm}$$

#### Standard Construction

22 gauge galvanized casings  
24 gauge perforated baffles  
Acoustic Fill encapsulated in polyethylene to eliminate erosion and absorption of gases

#### Optional Features

Stainless steel or aluminum construction

Computer program available, which provides attenuator performance at actual job conditions.

# Rectangular Attenuators

## Self-noise Power Levels

Self-Noise Power Levels, <b>dB re 10<sup>-12</sup> Watts</b> Octave Band/Center Frequency (Hz)									
Model	Velocity fpm	1 63	2 125	3 250	4 500	5 1K	6 2K	7 4K	8 8K
ALSPC	1000	56	41	41	47	46	41	30	30
	1500	56	47	45	48	53	59	56	48
	2000	63	55	49	51	54	63	67	60
ALMSPC	1000	51	40	39	42	42	40	27	26
	1500	53	45	46	48	49	52	46	39
	2000	57	52	54	53	53	58	58	50
ALMPC	1000	47	39	37	37	39	39	24	22
	1500	50	43	47	48	45	46	36	30
	2000	52	49	59	55	52	54	49	40
ALMLPC	1000	46	38	35	36	37	37	23	21
	1500	48	42	43	43	43	45	33	29
	2000	49	46	53	51	50	53	47	39
ALLPC	1000	45	37	34	35	36	36	22	20
	1500	46	41	40	39	41	44	30	29
	2000	47	44	48	47	48	53	45	39

Area Correction Factors - Listed self-noise power levels are for silencers with a face area of four (4) square feet. For silencers with different face areas, the following values must be added to those in the table.

Face area (sq. ft.)	0.5	1	2	4	6	8	16	32	64	128
PWL Correction Factors, dB	-9	-6	-3	0	2	3	6	9	12	15