



Sara International Factory for Air Conditioning Duct

AEROVAC[®]



SOUND ATTENUATORS

Solution for noise control

SOUND ATTENUATORS CATALOGUE

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AEROVAC SOUND ATTENUATOR

(Noise Reduction & Research Center)

ACOUSTICAL NOISE CONTROL & REDUCTION PRODUCTS

Prime A/C Industries will help you make sound decisions with quality acoustical analysis, engineering and products. We manufacture all products to our standard specifications or to your specific, customized, request.



Prime A/C Acoustics products are easily installed, sturdy and built-to-last. We offer a wide array of construction options including Aluminum, Stainless steel, Natural fiber mold resistant acoustical fill and several types of linings ranging from acoustically transparent to completely impervious.

Our acoustical products applications include industrial noise control and HVAC noise control. We can attenuate noise from HVAC systems, building openings, ventilation systems, plenum equipment and industrial equipment.

Materials Details and Features

1. The casing of Sound Attenuators are manufactured from high quality galvanized sheet steel to the standards ASTM A653/ A653 M, JIS 3302 or BS 2989. (Also can be manufactured from Stainless steel sheet to 304 2B, 316L in finish or aluminum construction - Optional).
2. End flanges are made of slide-on flanges as standard, mild steel angles with red oxide or zinc coating are used for larger units.
3. The acoustic material is inorganic, incombustible, has a class A1 fire rating when tested following BS EN ISO 1182 and BS EN ISO 1716, and non-hygroscopic mineral fiber, which are retained by means of galvanized perforated sheet metal.
4. Attenuator splitters are of vermin proof, rot proof and non-combustible material.
5. The acoustic media in the baffles or splitters is protected by galvanized perforated sheet metal and are fabricated separately prior to assembly in to main casing.
6. The attenuators are designed in accordance with ASHRAE High Pressure Rectangular Duct Work, silencing for air distribution systems. The insertion losses and generated noise levels for each octave band and the pressure loss of the silencer are calculated through computer aided software and submitted prior to supply.
7. Acoustic mineral wool meeting NFPA 90A, and ASTM E84 of sufficient density and packed under at least 5% compression to eliminate voids and to obtain cataloged ratings
8. Tested for determining Air tightness according to ASHRAE Standard 193.

RECTANGULAR ATTENUATOR

Standard Attenuator

AEROVAC sound attenuators are manufactured in many varieties, module sizes and materials, including no-fill models and models that eliminate acoustical fill entrainment into the air stream. Our industrial silencers are engineered for HVAC noise control in commercial industrial and institutional applications, including hospital and clean room systems.

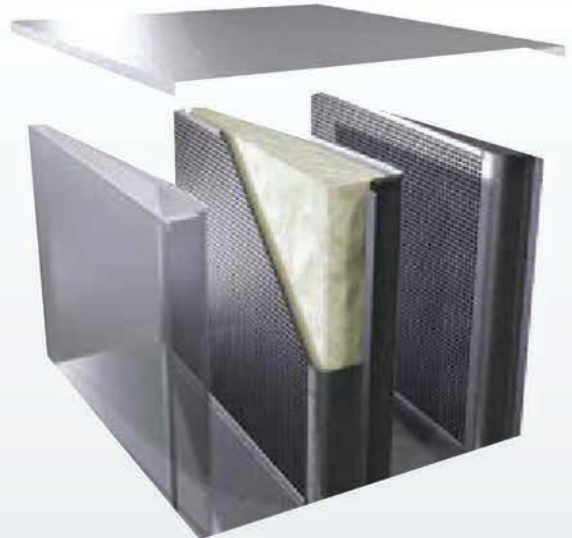
Standard attenuators are available in different models for traditional applications requiring broad band noise reduction. Performance data is provided for four basic lengths - 3', 5', 7', and 10'. Units are also offered in 4', 6', and 8' lengths.

Model HP is high pressure drop unit ideally used for system velocity at or near 700 fpm.

Model SP is a standard pressure drop unit ideally suited for system velocities at or near 1,000 fpm.

Model MP also provides excellent attenuation values along with a moderate pressure drop at somewhat higher air velocities.

Model LP offers the lowest pressure drop for higher velocity systems.



Recommended Velocity in (FPM)	Pressure Loss Type	Pressure Loss at 1500 FPM In Inches Water Column ²	Sizes WxH (Inches)	Standard Lengths (Feet)
<2000	XLP	0.14"	24" x 24"	3', 5', 7' & 10'
<2000	LP	0.15"	24" x 24"	3', 5', 7' & 10'
<2000	MP	0.18"	24" x 24"	3', 5', 7' & 10'
<1000	SP	0.24"	24" x 24"	3', 5', 7' & 10'
<700	HP	0.71"	24" x 24"	3', 5', 7' & 10'

- Pressure loss types: XLP = Extreme low Pressure Drop
 LP = Low Pressure Drop
 MP = Medium Pressure Drop
 SP = Standard Pressure Drop
 HP = High Pressure Drop
- Data listed is for 3' long models only.
- Consult Prime AC for 5', 7' and 10' long performance data
- Other models are also available.

Special features of our Standard Attenuators are:

- Diffusion angle to improve pressure drop
- Bellmouth entrance to help minimize turbulence
- 24 gauge minimum galvanized steel casings
- 24 gauge minimum perforated galvanized baffles
- Non-combustible mineral wool as acoutic infill
- Seams are mastic filled to insure airtight units to 8" w.g.
- Optional polyethylene, Mylar or fiberglass cloth liners
- Also Available in S.S. & Alluminium.

ASTM E-84 ratings for the acoustical fill are:

- Flamespread 15
- Smoke Developed 0
- Fuel Contributed 0

Performance Data / Testing

Acoustical performance ratings are based on tests conducted by Intertek Testing Services, accordance with ASTM E477 "Standard Method of Testing Duct Liner Materials and Prefabricated Silencers for Acoustical and Airflow Performance." Copies of the test reports are available upon request.

Note: Other models are also available depends upon the requirement of system. Consult Prime A/C for more technical detail

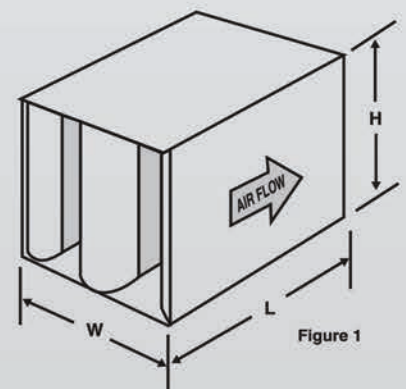


Figure 1

Engineering Data Sheet

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							
3HP	-1500	6	10	19	28	39	43	25	16
	-1000	6	10	18	27	39	42	25	16
	0	6	7	17	26	37	43	26	13
	+1000	7	7	16	24	35	42	28	17
	+1500	6	6	16	23	34	42	29	17
5HP	-1500	9	17	36	46	48	40	34	22
	-1000	8	16	33	45	51	44	41	22
	0	7	13	29	42	58	62	45	25
	+1000	6	12	26	40	57	60	48	27
	+1500	6	12	25	39	54	51	45	28
7HP	-1500	10	24	41	43	47	48	37	30
	-1000	10	23	40	48	51	52	48	34
	0	9	19	38	47	59	63	55	34
	+1000	8	16	36	47	59	62	55	39
	+1500	8	16	34	46	57	55	46	36
10HP	-1500	12	36	46	50	50	44	35	35
	-1000	11	34	46	58	57	47	47	40
	0	10	29	44	58	64	64	59	45
	+1000	10	26	43	58	63	63	58	49
	+1500	9	25	42	60	64	57	54	50

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.

Engineering Data Sheet

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	3	6	14	25	32	24	18	11
	-1000	3	5	13	23	32	28	18	13
	0	1	4	11	22	32	28	17	14
	+1000	0	4	10	20	30	28	18	13
	+1500	1	3	14	19	30	28	18	13
5SP	-1500	5	10	18	31	38	32	28	15
	-1000	5	9	14	31	44	36	21	14
	0	3	8	13	30	48	37	21	15
	+1000	3	7	14	28	48	38	23	16
	+1500	2	6	13	28	48	39	24	16
7SP	-1500	7	14	27	39	38	31	25	16
	-1000	5	14	26	41	45	42	28	16
	0	5	11	22	40	55	51	30	19
	+1000	5	10	21	39	56	52	33	21
	+1500	8	11	21	38	55	53	34	22
10SP	-1500	8	16	30	41	42	53	31	16
	-1000	9	16	18	46	52	51	37	17
	0	7	13	25	47	54	54	35	31
	+1000	7	12	24	46	55	54	38	23
	+1500	6	11	23	45	53	48	39	24

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Engineering Data Sheet

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							
3MP	-1500	1	5	12	23	32	27	14	8
	-1000	0	4	12	22	32	27	13	8
	0	1	4	11	21	31	28	15	10
	+1000	0	4	10	20	29	29	16	11
	+1500	0	3	9	19	28	29	17	10
5MP	-1500	2	8	19	39	46	48	19	11
	-1000	3	7	18	37	48	40	20	11
	0	3	5	16	35	49	42	22	14
	+1000	3	5	15	33	47	43	23	14
	+1500	2	5	14	31	45	42	23	15
7MP	-1500	3	16	31	43	45	41	31	18
	-1000	3	14	28	45	50	48	34	18
	0	3	12	25	45	55	45	37	22
	+1000	2	11	23	43	53	46	39	23
	+1500	2	11	22	41	52	46	40	25
10MP	-1500	4	16	38	46	49	44	36	18
	-1000	4	14	37	47	54	55	37	18
	0	8	14	29	42	56	60	43	23
	+1000	8	14	28	42	55	62	46	26
	+1500	5	11	31	44	53	51	46	26

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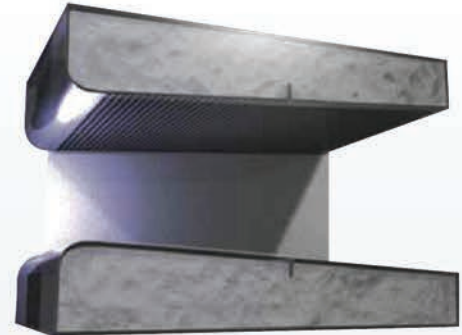
Low Frequency Attenuator

Low Frequency attenuators are available in different models for specific applications requiring increased 2nd & 3rd octave band noise reduction. Performance data is provided for four basic lengths - 3', 5', 7', and 10'. Units are also offered in 4', 6', and 8' lengths.

Model HP-LF is a high pressure drop unit ideally suited for system velocities below 1,000 fpm.

Model SP-LF also provides excellent low frequency attenuation values long with a standard pressure drop at somewhat higher air velocities.

Model LP-LF offers a lower pressure drop for higher velocity systems.



Model	Recommended Velocity in (FPM)	Pressure Loss Type	Pressure Loss at 1500 FPM In Inches Water Column ²	Sizes WxH (Inches)	Standard Lengths (Feet)
AV-SA	<1,500	HP-LF	1.35"	24" x 24"	3', 5', 7' & 10'
AV-SA	<1,500	SP-LF	0.44"	24" x 24"	3', 5', 7' & 10'
AV-SA	<2,000	LP-LF	0.21"	24" x 24"	3', 5', 7' & 10'

- Pressure loss types:
 - HP-LF = High Pressure drop Low Frequency
 - SP-LF = Standard Pressure drop Low Frequency
 - LP-LF = Low Pressure drop Low Frequency
- Data listed is for 3' long models only.
- Consult Prime AC for 5', 7' and 10' long performance data
- Other models are also available.

Special features of our Low Frequency Attenuators are:

- Diffusion angle to improve pressure drop
- Bellmouth entrance to help minimize turbulence
- 22 gauge minimum galvanized steel casings
- 24 gauge minimum perforated galvanized baffles
- Long strand Fiberglass acoustical fill
- Seams are mastic filled to insure airtight units to 8" w.g.
- Optional polyethylene, Mylar or fiberglass cloth liners A
- Also available in stainless steel or aluminum construction.

ASTM E-84 ratings for the acoustical fill are:

- Flamespread 10
- Smoke Developed 0
- Fuel Contribution 0

Performance Data / Testing

Acoustical performance ratings are based on tests conducted by Intertek Testing Services, in accordance with ASTM E477 "Standard Method of Testing Duct Liner Materials and Prefabricated Silencers for Acoustical and Airflow Performance." Copies of the test reports are available upon request.

Note: Other models are also available depends upon the requirement of system. Consult Prime A/C for more technical detail.

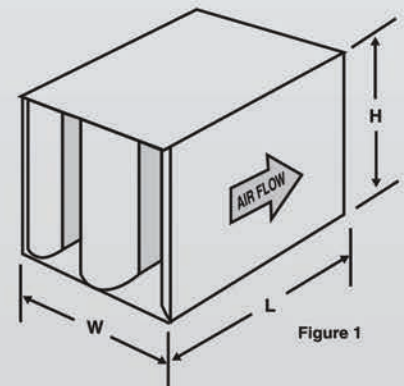
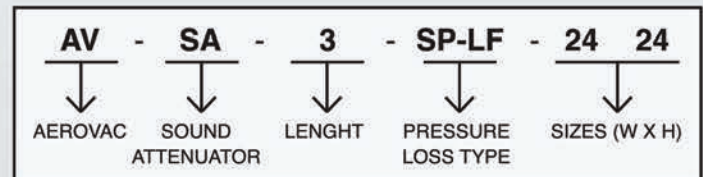


Figure 1

Engineering Data Sheet

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							
3HP-LF	-1500	9	14	24	28	28	21	18	13
	-1000	8	14	23	27	29	18	19	13
	0	8	11	23	26	27	18	19	13
	+1000	9	12	22	24	26	20	18	14
	+1500	9	11	20	23	24	19	18	14
5HP-LF	-1500	15	23	36	39	40	29	21	14
	-1000	15	20	35	39	40	29	21	15
	0	14	20	34	38	39	28	23	19
	+1000	12	18	30	36	38	28	23	18
	+1500	10	17	27	34	35	29	22	18
7HP-LF	-1500	15	32	43	50	54	34	24	19
	-1000	15	30	43	48	53	34	26	19
	0	13	27	41	47	50	34	26	22
	+1000	12	23	40	47	51	38	27	23
	+1500	12	21	39	46	49	39	28	24
10HP-LF	-1500	22	32	48	52	53	44	28	18
	-1000	22	32	49	52	53	44	31	21
	0	22	30	48	52	52	44	32	22
	+1000	20	28	47	51	51	45	35	23
	+1500	18	28	46	51	52	46	35	24

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Engineering Data Sheet

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-LF	-1500	7	8	17	21	18	15	10	9
	-1000	6	8	17	20	18	14	11	10
	0	6	7	16	19	16	14	11	10
	+1000	5	7	15	18	16	13	11	10
	+1500	4	6	15	17	15	12	10	10
5SP-LF	-1500	12	14	28	31	30	17	15	11
	-1000	11	14	27	30	29	17	15	12
	0	10	13	26	29	28	16	13	11
	+1000	9	12	24	28	27	16	12	11
	+1500	8	12	23	27	26	17	12	12
7SP-LF	-1500	14	19	33	44	43	22	16	13
	-1000	15	18	32	44	42	21	16	15
	0	15	16	30	43	43	22	15	13
	+1000	14	15	29	42	42	23	15	13
	+1500	14	15	27	40	42	23	16	14
10SP-LF	-1500	19	25	43	52	54	27	20	15
	-1000	18	24	42	52	54	28	22	16
	0	17	23	41	51	53	28	21	16
	+1000	17	23	40	50	52	30	22	17
	+1500	17	22	38	49	51	30	23	18

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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							
3LP-LF	-2000	4	8	11	18	20	17	14	13
	-1000	4	8	10	16	19	17	15	14
	0	3	7	10	15	18	15	14	13
	+1000	3	7	9	14	17	16	14	13
	+2000	2	6	8	13	17	16	14	13
5LP-LF	-2000	6	16	17	27	28	21	17	13
	-1000	6	15	16	25	27	22	16	15
	0	6	13	14	23	26	21	15	14
	+1000	6	13	14	22	25	21	15	14
	+2000	5	12	13	21	25	20	14	15
7LP-LF	-2000	9	20	23	34	36	29	22	15
	-1000	9	19	22	32	35	29	23	17
	0	8	18	21	30	34	28	22	16
	+1000	7	17	19	28	34	27	20	11
	+2000	7	16	18	26	33	26	19	12
10LP-LF	-2000	12	23	31	44	45	30	23	16
	-1000	12	22	31	43	45	30	24	16
	0	11	20	30	43	43	30	23	16
	+1000	10	20	29	42	42	29	21	15
	+2000	10	19	28	42	42	27	20	15

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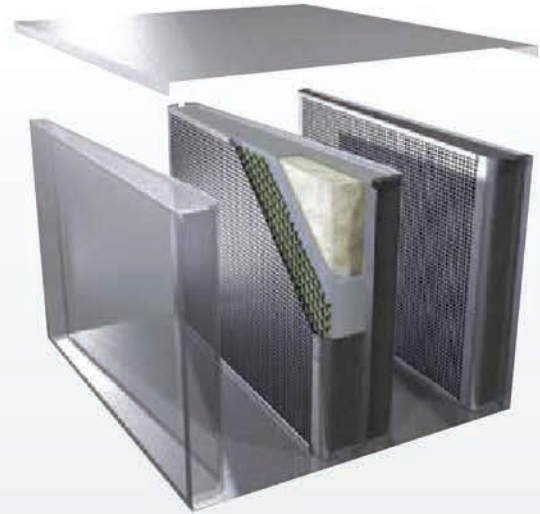
Hospital/Clean Room Attenuator

Hospital/clean Room attenuators are available in different models, specifically engineered for sensitive area applications requiring broad band noise reduction coupled with erosion proof acoustic fill. Performance data is provided for four basic lengths - 3', 5', 7', and 10'. Units are also offered in 4', 6', and 8' lengths.

Model HP-MD is high pressure drop unit ideally suited for system velocities at or near 1,000 fpm.

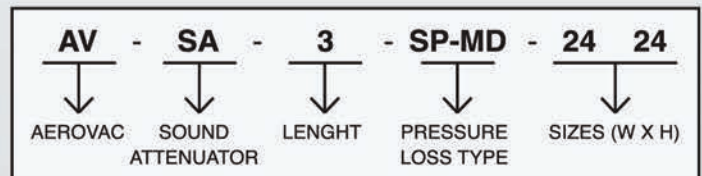
Model SP-MD also provides excellent attenuation values along with a standard pressure drop at somewhat higher air velocities.

Model LP-MD offer the lowest pressure drop for higher velocity systems



Model	Recommended Velocity in (FPM)	Pressure Loss Type	Pressure Loss at 1500 FPM In Inches Water Column ²	Sizes WxH (Inches)	Standard Lengths (Feet)
AV-SA	<2,000	HP-MD	0.40"	24" x 24"	3', 5', 7' & 10'
AV-SA	<2,000	SP-MD	0.22"	24" x 24"	3', 5', 7' & 10'
AV-SA	<1,500	LP-MD	0.13"	24" x 24"	3', 5', 7' & 10'
AV-SA	<1,500	CBA	0.25"	24" x 24"	3', 5', 7' & 10'

- Pressure loss types:
 HP-MD = High Pressure drop Mylar Dampening
 SP-MD = Standard Pressure drop Mylar Dampening
 LP-MD = Low Pressure drop Mylar Dampening
 CBA = Clean Build Application
- Data listed is for 3' long models only.
- Consult Prime AC for 5', 7' and 10' long performance data.



Special features of our Low Frequency Attenuators are:

- Diffusion angle to improve pressure drop
- Bellmouth entrance to help minimize turbulence
- Acoustic fill encapsulated in polyethylene to eliminate erosion and absorption of gases
- Acoustic stand-off between the perforated baffle and the acoustic fill to enhance performance
- Seams are mastic filled to insure airtight units to 8" w.g.
- Also available in stainless steel or aluminum construction.

ASTM E-84 ratings for the acoustical fill are:

- Flamespread 15
- Smoke Developed 0
- Fuel Contribution 0

Performance Data / Testing

Acoustical performance ratings are based on tests conducted by Intertek Testing Services, in accordance with ASTM E477 "Standard Method of Testing Duct Liner Materials and Prefabricated Silencers for Acoustical and Airflow Performance." Copies of the test reports are available upon request.

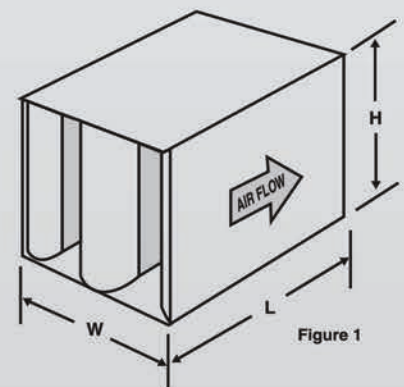


Figure 1

Note: Other models are also available depends upon the requirement of system. Consult Prime A/C for more technical detail.

Engineering Data Sheet

MODEL NO.	OCTAVE BANDS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	CENTER FREQUENCY (H-z)	63	125	250	500	1000	2000	4000	8000
	FACE VELOCITY FPM	DYNAMIC INSERTION LOSS IN DECIBELS							
3HP-MD	-2000	4	7	9	13	21	19	13	11
	-1000	5	6	10	15	22	20	13	10
	0	7	6	9	15	21	20	16	13
	+1000	6	5	9	14	20	20	16	14
	+2000	5	5	7	11	18	19	16	13
5HP-MD	-2000	7	11	14	23	36	36	23	15
	-1000	6	10	16	25	36	37	22	14
	0	9	9	15	24	35	38	26	19
	+1000	8	9	14	23	33	38	27	21
	+2000	8	8	12	19	30	37	28	23
7HP-MD	-2000	9	19	21	28	42	40	29	20
	-1000	9	17	20	30	43	42	30	22
	0	8	19	20	29	42	46	33	26
	+1000	8	15	17	28	39	45	36	31
	+2000	6	15	14	23	35	43	37	33

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	CENTER FREQUENCY (H-z)	63	125	250	500	1000	2000	4000	8000
	FACE VELOCITY FPM	DYNAMIC INSERTION LOSS IN DECIBELS							
3SP-MD	-2000	3	5	8	11	25	16	11	11
	-1000	3	5	8	13	19	18	11	9
	0	4	4	7	12	18	18	13	11
	+1000	3	4	8	11	17	17	14	12
	+2000	3	3	6	9	16	17	13	10
5SP-MD	-2000	7	10	11	19	35	43	18	12
	-1000	5	8	12	21	38	43	17	13
	0	9	8	13	19	32	34	18	13
	+1000	6	8	12	18	29	34	19	15
	+2000	7	8	8	15	26	36	20	15
7SP-MD	-2000	12	14	20	34	42	46	22	13
	-1000	10	13	18	31	45	50	23	14
	0	8	12	18	28	43	48	22	16
	+1000	8	10	15	27	41	46	26	20
	+2000	7	10	13	23	37	43	31	21
10SP-MD	-2000	12	18	22	28	39	47	25	16
	-1000	11	16	21	30	42	48	28	18
	0	10	17	21	29	44	49	32	26
	+1000	10	16	20	29	44	49	33	31
	+2000	9	15	19	27	40	44	35	30

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Engineering Data Sheet

MODEL NO.	OCTAVE BANDS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	CENTER FREQUENCY (H-z)	63	125	250	500	1000	2000	4000	8000
	FACE VELOCITY FPM	DYNAMIC INSERTION LOSS IN DECIBELS							
3LP-MD	-1500	4	4	6	9	12	18	18	9
	-1000	4	5	6	9	12	18	18	8
	0	4	5	6	8	11	17	19	10
	+1000	4	5	6	8	10	16	20	10
	+2000	3	4	5	7	9	16	21	9
5LP-MD	-1500	7	8	10	18	31	30	16	10
	-1000	5	7	8	18	30	30	16	10
	0	7	6	8	16	27	32	17	10
	+1000	4	6	7	15	24	32	18	12
	+2000	4	5	7	14	22	33	18	12
7LP-MD	-1500	9	11	13	22	26	35	21	10
	-1000	8	10	12	22	26	38	22	10
	0	7	9	11	21	31	39	23	11
	+1000	7	8	10	20	28	40	24	12
	+2000	6	7	8	18	27	36	25	12
10LP-MD	-1500	11	12	13	26	38	37	24	18
	-1000	10	11	12	25	37	37	24	18
	0	10	10	12	24	38	36	23	16
	+1000	9	9	11	23	37	37	24	17
	+2000	8	9	10	22	37	37	25	17

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Packless Attenuator

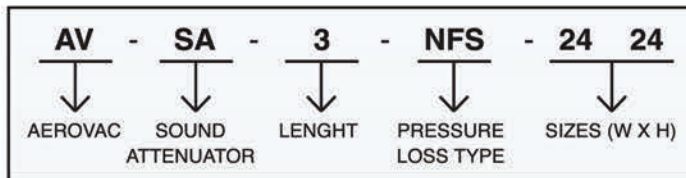
Packless attenuators contain no absorptive fill or media of any kind. Units are available in two models for traditional applications requiring broad band noise reduction. Performance data is provided for three basic lengths - 3', 6', and 9' Contact Prime A/C for other silencer lengths.

Model NFS is a standard pressure drop unit ideally suited for low velocity systems.

Model NFL offers the lowest pressure drop for higher velocity systems.



Model	Recommended Velocity in (FPM)	Pressure Loss Type	Pressure Loss at 1500 FPM In Inches Water Column ²	Sizes WxH (Inches)	Standard Lengths (Feet)
AV-SA	<1,500	NFS	0.73"	24" x 24"	3', 6' & 9'
AV-SA	<1,500	NFL	0.25"	24" x 24"	3', 6' & 9'



- Pressure loss types:
 - NFS = No Fill Standard Pressure Drop
 - NFL = No Fill Low Pressure Drop
- Data listed is for 3' long models only.
- Consult Prime AC for 6' and 9' long performance data

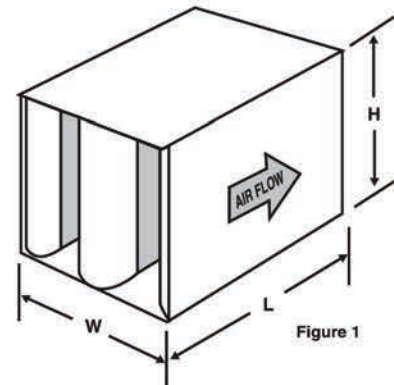


Figure 1

Special features of our Low Frequency Attenuators are:

- No acoustic fill, scrim cloth, or other media
- Bellmouth entrance to help minimize turbulence
- Tuned perforated resonant chambers to achieve broad-band attenuation
- Seams are mastic filled to insure airtight units to 8" w.g.
- Also available in stainless steel or aluminum construction.

Note: Other models are also available depends upon the requirement of system. Consult Prime AC for more technical details.

Engineering Data Sheet

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							
3NFS	-1500	5	8	15	20	27	14	9	9
	-1000	4	7	12	17	23	12	9	9
	0	1	2	6	13	18	12	10	9
	+1000	3	4	11	17	23	13	11	9
	+2000	2	5	12	19	29	16	13	9
6NFS	-1500	7	14	24	30	34	19	11	9
	-1000	6	11	19	26	30	17	11	9
	0	3	4	11	22	28	18	15	13
	+1000	6	9	16	26	31	18	17	14
	+2000	5	10	18	28	34	20	17	14
9NFS	-1500	10	19	32	31	39	25	13	12
	-1000	9	15	27	26	37	23	14	13
	0	4	5	14	20	33	23	17	14
	+1000	7	11	22	25	36	23	19	17
	+2000	7	12	25	29	41	26	19	16

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Engineering Data Sheet

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							
3NFS	-1500	3	4	8	14	18	9	6	6
	-1000	3	3	6	13	17	9	7	6
	0	4	1	3	11	17	10	10	9
	+1000	5	3	6	12	17	10	10	9
	+2000	4	3	7	13	20	11	10	8
6NFS	-1500	5	8	12	23	29	14	9	6
	-1000	4	7	12	21	28	14	9	7
	0	4	3	7	19	29	15	11	10
	+1000	4	6	10	20	29	15	12	11
	+2000	4	7	14	23	31	17	12	11
9NFS	-1500	7	12	20	28	33	16	8	7
	-1000	6	10	15	25	32	16	9	8
	0	5	4	9	22	33	18	13	12
	+1000	7	8	13	24	33	17	14	14
	+2000	6	9	17	28	34	19	14	14

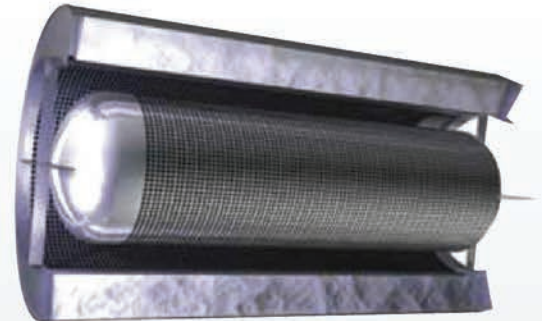
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CIRCULAR ATTENUATOR

Standard Circular Attenuator

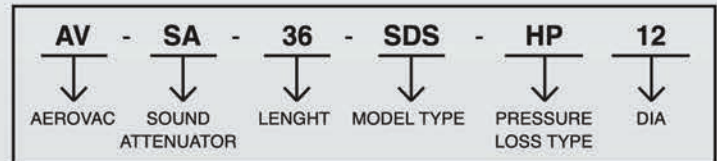
Models SS is single wall units that provide an economical solution to less severe noise problems. Standard unit length is two times the diameter, minimum 36.”

Models DS, SDS, and SDS-NB provide improved performance by adding a double wall casing. Unit width is diameter plus 8”. Standard unit length is two times the diameter, minimum 36,” plus 2” long collar on each end.



Model	Recommended Velocity in (FPM)	Pressure Loss Type	Pressure Loss at 1500 FPM In Inches Water Column	Standard Sizes		
				D1 Diameter (Inches)	D2 Diameter (Inches)	Length (Inches)
AV-SA-DS	< 4,000	LP	0.18"	12" TO 60"	D1 + 8"	2 X D1 (not < 36")
AV-SA-DS	< 4,000	MP	0.20"	12" TO 60"	D1 + 8"	2 X D1 (not < 36")
AV-SA-DS	< 4,000	HP	0.40"	12" TO 60"	D1 + 8"	2 X D1 (not < 36")
AV-SA-SDS	< 4,000	LP	0.18"	12" TO 60"	D1 + 16"	2 X D1 (not < 36")
AV-SA-SDS	< 4,000	MP	0.20"	12" TO 60"	D1 + 16"	2 X D1 (not < 36")
AV-SA-SDS	< 4,000	HP	0.40"	12" TO 60"	D1 + 16"	2 X D1 (not < 36")
AV-SA-SS	< 4,000	LP	0.25"	12" TO 60"	NA	3 X D1 (not < 36")
AV-SA-SS	< 4,000	HP	0.40"	12" TO 60"	NA	3 X D1 (not < 36")
AV-SA-SDS-NB	NA	NA	NA	12" TO 24"	D1 + 8"	(not < 25")

- Pressure loss types: LP = Low Pressure Drop
MP = Medium Pressure Drop
HP = High Pressure Drop
NA = Not Applicable
- Model Types: SS = Single Shell
DS = Dual Shell
SDS = Special Dual Shell
SDS-NB = Special Dual Shell-No Bullet



Special features of our Standard Attenuators are:

- Radius spun inlet nose on center absorber to provide minimum pressure drop
- Available in one inch diameter increments from 10” - 22” and 2” diameter increments from 24” - 60”.
- SMACNA galvanized steel gauges for outer casings
- 24 gauge minimum perforated galvanized baffles
- Long strand Fiberglass acoustical fill
- Seams are roll formed and mastic filled to insure airtight units to 8” w.g.
- Optional polyethylene, Mylar or fiberglass cloth liners
- Also available in SS or Aluminium construction

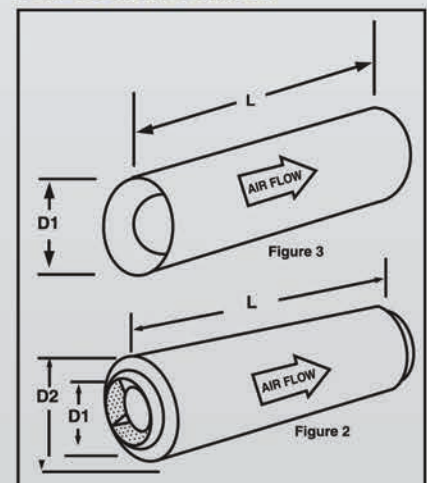
ASTM E-84 ratings for the acoustical fill are:

- Flamespread 15
- Smoke Developed 0
- Fuel Contributed 0

Performance Data / Testing

Acoustical performance ratings are based on tests conducted by Intertek Testing Services, in accordance with ASTM E477 “Standard Method of Testing Duct Liner Materials and Prefabricated Silencers for Acoustical and Airflow Performance.”

NOMENCLATURE EXAMPLE:



Engineering Data Sheet

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							
DS-HP	-4000	10	13	20	35	41	35	22	13
	-2000	9	12	18	34	38	36	23	16
	0	7	11	19	33	35	37	24	18
	+2000	6	11	19	32	34	38	25	19
	+4000	5	10	18	31	33	37	28	21
DS-MP	-4000	7	11	18	33	38	29	18	12
	-2000	6	10	17	30	35	30	19	15
	0	5	9	16	30	33	30	20	18
	+2000	5	8	17	25	31	30	21	18
	+4000	4	7	15	24	30	29	21	18
DS-LP	-4000	6	9	15	27	33	22	18	12
	-2000	5	8	13	26	32	23	19	12
	0	4	8	12	25	31	24	20	16
	+2000	4	7	12	25	30	24	20	16
	+4000	3	7	12	24	29	25	21	16

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Engineering Data Sheet

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							
SDS-HP	-4000	10	17	30	40	41	35	22	13
	-2000	9	15	28	39	38	36	23	16
	0	8	11	19	33	35	37	24	18
	+2000	7	12	25	32	36	35	25	19
	+4000	6	11	21	31	33	37	24	21
SDS-MP	-4000	7	15	25	35	38	29	18	12
	-2000	6	14	24	34	35	30	19	15
	0	5	10	18	30	33	30	20	18
	+2000	5	11	23	28	31	29	21	18
	+4000	4	10	18	27	30	28	21	17
SDS-LP	-4000	6	12	22	33	33	22	18	12
	-2000	5	11	20	30	32	23	19	12
	0	4	9	16	28	31	24	20	16
	+2000	4	10	18	26	30	23	20	16
	+4000	3	9	17	24	29	25	21	15

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Engineering Data Sheet

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							
SS-HP	-4000	5	11	16	23	22	17	11	11
	-2000	5	10	15	22	21	18	12	12
	0	6	11	15	21	20	17	12	11
	+2000	5	10	13	19	21	19	12	11
	+4000	3	9	14	18	20	19	12	12
SS-LP	-4000	4	8	13	15	16	11	9	8
	-2000	2	7	11	14	15	11	9	8
	0	3	6	11	14	15	12	10	9
	+2000	2	5	10	13	14	11	9	8
	+4000	2	5	10	13	14	11	9	8

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Packless Circular Attenuator

These in-line tubular packless (no acoustic fill) attenuators are available in two models for special applications requiring broad band noise reduction. Performance data is provided for three basic diameters – 8”, 12”, and 16”.

Model NF SDS-20 provides excellent attenuation values with a moderate pressure drop for system velocities at or near 1000 fpm.

Model NF SDS-8 is a low-pressure drop unit ideally suited for higher velocities at or near 2,000 fpm.



Special features of our Standard Attenuators are:

- No acoustic fill or other sound absorptive material
- 22 gauge minimum galvanized steel casings
- 24 gauge minimum perforated galvanized baffle
- Seams are mastic filled to insure airtight units to 8” w.g.
- also available in SS or aluminium construction

Performance Data / Testing

Acoustical performance ratings are based on tests conducted by Intertek Testing Services, formerly ETL Testing Laboratories, Inc., in accordance with ASTM E477 “Standard Method of Testing Duct Liner Materials and Prefabricated Silencers for Acoustical and Airflow Performance.”

Note: Other models are also available depends upon the requirement of system. Consult PRIME AC for more technical details

Engineering Data Sheet

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							
NF-SDS8-HP	-2000	4	6	12	24	34	21	18	13
	-1000	3	5	11	23	33	21	19	16
	0	3	6	11	22	34	22	22	21
	+1000	1	6	10	21	34	21	23	24
	+2000	3	5	9	20	34	20	22	21
NF-SDS8-LP	-2000	2	4	7	21	21	10	10	11
	-1000	2	4	8	22	23	11	14	14
	0	4	4	10	22	22	11	12	13
	+1000	2	3	9	21	21	10	12	12
	+2000	2	3	8	20	21	10	12	11

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Engineering Data Sheet

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							
NF-SDS20-HP	-2000	9	16	28	28	20	19	16	17
	-1000	8	16	27	28	20	19	17	17
	0	9	15	28	28	20	21	17	18
	+1000	7	13	26	27	19	20	18	18
	+2000	7	13	26	27	19	21	18	19
NF-SDS20-LP	-2000	8	13	26	25	14	14	12	13
	-1000	7	14	15	15	14	15	14	15
	0	8	15	31	25	14	15	12	13
	+1000	7	11	25	24	13	15	12	13
	+2000	7	11	24	24	13	15	12	13

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TRANSFER SILENCER

NR is the difference between the sound pressure levels between two rooms separated by a wall containing a TRANSFER SILENCER. NOISE REDUCTION (NR) EXPRESSED IN DECIBELS, dB

All of our standard and custom silencers are available in any construction gauge and material to meet the most demanding application. Our application engineers review all selections to ensure the best available solution is applied to meet your needs.

SPEECH INTERFERENCE LEVEL:

SPEECH INTERFERENCE LEVEL (SIL) is the average noise reduction, in the three speech-interference octave bands 4, 5, and 6 (500, 1000, and 2000 Hz center frequencies, respectively).

STANDARD CONSTRUCTION:

1. Shell - 24 gauge galvanized steel
2. Baffles - 24 gauge galvanized steel
3. Fill - inorganic mineral glass fiber



MODEL TS - U



MODEL TS - L



MODEL TS - Z

FEATURES AND BENEFITS:

1. Allows transfer of air between adjoining office spaces and jury rooms while maintaining speech privacy (STC Rating)
2. Available in "T", "L", "Z", & "U" configurations to meet the designed building wall STC rating
3. Typically installed in the wall or ceiling spaces where a conventional silencer will not work
4. Available in any cross-sectional size suited to meet the specific site requirements

Consult PRIME AC for more Technical Details

ENGINEERING DATA SHEET

ITEM AND DESCRIPTION	OCVATE BAND NUMBERS								SPEECH INTERFERENCE LEVEL (SIL)* on noise reduction
	SPEECH INTERFERENCE BANDS								
	1	2	3	4	5	6	7	8	
TS	23	31	36	40	51	57	61	52	49
CS	15	21	25	32	43	49	49	42	41
DS	11	15	18	22	27	36	39	33	28



Sara International Factory for Air Conditioning Duct

AEROVAC®



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SOUND ATTENUATORS CATALOGUE