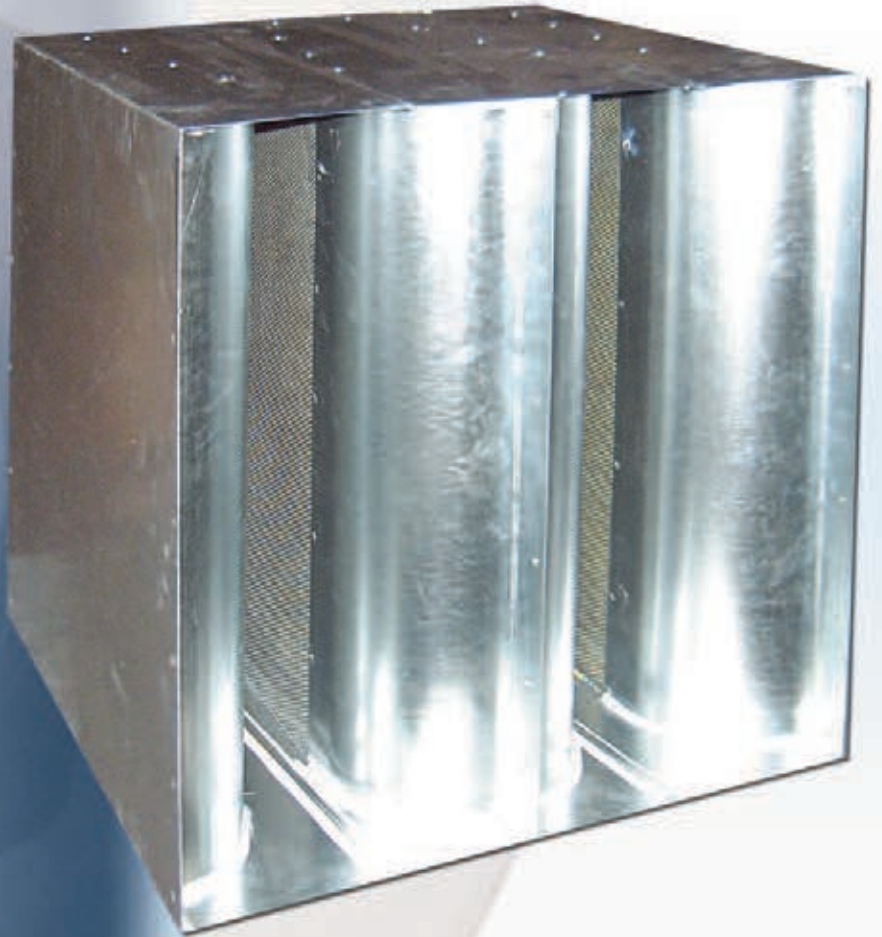




**Engineered  
Acoustics**

*by Nailor Industries Inc.*



# Silencers

For most up-to-date catalog information, please visit [www.engineeredacoustics.com](http://www.engineeredacoustics.com)

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## Models:

### Rectangular Dissipative Silencer

RBB-LP Low Pressure

RBB-MP Medium Pressure

RBB-HP High Pressure



Rectangular Dissipative Silencer

## FEATURES AND BENEFITS OF ENGINEERED ACOUSTICS:

Engineered Acoustics' rectangular dissipative silencers are designed to offer superior acoustic and aerodynamic performance. Rectangular models utilize acoustical splitters, sometimes called baffles, for broad-band attenuation. Perforated metal protects the glass fiber from erosion by the airflow. Similarly circular models have acoustical center-bodies, sometimes referred to as pods. They also incorporate glass fiber external to the duct connection size.

Splitters in rectangular models vary in quantity and thickness, and air passages also vary in size. The splitters and center bodies are aerodynamically shaped to minimize pressure drop.

The latest in control components and options provide maximum flexibility with a wide scope for cost effective innovation.

### DESCRIPTION:

- Engineered Acoustics' rectangular dissipative silencers are designed to offer superior acoustic and aerodynamic performance.
- All performance data is independently tested using a 24" x 24" (610 x 610) rectangular sample.
- Engineered Acoustics' designs and manufactures silencers for virtually any application, as well as custom designs to meet any special need.

• Applications include return, supply, and exhaust ductwork, in addition to, fan plenums and air handling units.

• Constructed with a standard outer casing of 22 gauge (0.85) galvanized steel, all external seams are lock formed and sealed to withstand up to 10" w.g. (2.5 kPa) pressure differential.

• Each internal "pod" includes a solid 22 gauge (0.85) elliptical nosepiece, transparent perforated metal, and is exceptionally tapered to minimize dynamic pressure loss and maximize static pressure regain.

• The inorganic, odorless, vermin and moisture proof, absorption media is compressed a minimum of 5% to eliminate voids and prevent settling.

• The incombustible filler material does not exceed the fire hazard classifications in accordance with NFPA 90A and UL 181.

• Silencer models include: Rectangular Broadband – Low Pressure, Medium Pressure, and High Pressure.

### SIZES:

• Rectangular Dissipative Silencer lengths available in 36", 60" and 84"

### STANDARD FEATURES:

• Constructed with a standard outer casing of 22 gauge (0.85 mm) galvanized steel

• All external seams are lock formed and sealed to withstand up to 10" w.g. (2.5 kPa) pressure differential.

• Each internal "pod" includes a solid 22 gauge (0.85) elliptical nosepiece, transparent perforated metal, and is exceptionally tapered to minimize dynamic pressure loss and maximize static pressure regain.

• Baffles are filled with inorganic, odorless, vermin, and moisture proof, absorption media is compressed a minimum of 5% to eliminate voids and prevent settling.

• Galvanized aerodynamically shaped nose at inlet

• Centerbody pods are centered in air stream and supported by steel brackets

• Perforated galvanized baffles are complete with perforated diffuser tail

### Options:

- High temperature sealant
- Field or Factory assembled multiple modules
- TDF Flange one or both ends
- 2" flange one or both ends
- 18 gauge (1.31 mm) outer casing construction

## Performance Data • Insertion Loss Octave Band (Hz)

Model: RBB-LP • Rectangular Broad Band - Low Pressure Insertion Loss

Length	Face Velocity	Static Pressure Drop	Octave Band (Hz)							
			63	125	250	500	1000	2000	4000	8000
36	-2000	0.20	1	5	10	18	25	19	13	9
	-1000	0.07	1	5	9	19	25	19	13	10
	0	0	2	4	9	18	25	19	14	10
	+2000	0.19	2	4	8	16	24	19	15	10
	+2500	0.30	1	4	8	16	24	19	15	10
60	-2000	0.30	1	9	15	31	41	30	17	8
	-1000	0.10	2	9	14	31	42	31	17	9
	0	0	2	7	13	30	45	33	19	12
	+2000	0.27	2	6	12	27	42	34	21	12
	+2500	0.42	1	6	12	26	41	33	20	12
84	-2000	0.40	4	13	23	40	44	38	21	11
	-1000	0.12	4	11	20	42	47	40	23	11
	0	0	4	10	19	41	49	42	26	15
	+1000	0.10	3	9	18	40	49	42	27	15
	+2000	0.38	3	9	17	39	47	40	27	16

### Self Generated Noise

Face Velocity (fpm)	Octave Band (Hz)							
	63	125	250	500	1000	2000	4000	8000
-2000	66	61	57	61	63	67	59	52
-1000	55	51	48	52	56	49	42	32
+1000	58	49	40	39	34	27	24	22
+2000	62	59	52	50	51	54	53	48

### Face Area Correction Factors

Area	0.5	1	2	4	8	16	32	64	128	256
PWL (dB)	-8	-6	-3	0	+3	+6	+9	+12	+15	+18

## Performance Data • Insertion Loss Octave Band (Hz)

Model: RBB-MP • Rectangular Broad Band - Medium Pressure Insertion Loss

Length	Face Velocity	Static Pressure Drop	Octave Band (Hz)							
			63	125	250	500	1000	2000	4000	8000
36	-1500	0.18	2	6	12	21	29	23	13	7
	-1000	0.09	2	6	11	21	29	23	13	7
	0	0	2	5	10	21	28	23	16	10
	+1000	0.07	2	4	10	20	28	23	16	10
	+2000	0.28	1	4	9	18	27	23	15	10
60	-1500	0.26	3	10	17	35	45	36	20	11
	-1000	0.12	4	9	16	35	46	38	22	11
	0	0	5	9	16	35	47	41	25	14
	+1000	0.10	5	8	15	34	47	41	26	14
	+2000	0.41	4	7	15	33	46	39	26	14
84	-1500	0.30	8	12	24	40	46	40	26	15
	-1000	0.15	8	12	23	42	47	41	27	15
	0	0	6	11	21	43	49	45	29	16
	+1000	0.13	7	10	20	42	49	46	29	16
	+1500	0.28	6	9	19	41	46	44	30	17

### Self Generated Noise

Face Velocity (fpm)	Octave Band (Hz)							
	63	125	250	500	1000	2000	4000	8000
-1500	61	55	54	58	60	62	56	48
-1000	54	50	49	52	55	55	47	37
+1000	54	50	42	42	39	36	34	29
+2000	60	59	59	52	52	55	56	52

### Face Area Correction Factors

Area	0.5	1	2	4	8	16	32	64	128	256
PWL (dB)	-8	-6	-3	0	+3	+6	+9	+12	+15	+18

## Performance Data • Insertion Loss Octave Band (Hz)

Model: RBB-HP • Rectangular Broad Band - High Pressure Insertion Loss

Length	Face Velocity	Static Pressure Drop	Octave Band (Hz)							
			63	125	250	500	1000	2000	4000	8000
36	-1500	0.50	3	9	16	26	30	27	18	11
	-1000	0.23	3	8	15	26	31	28	19	12
	0	0	3	6	14	27	36	31	21	13
	+1000	0.21	3	6	13	25	35	31	21	13
	+2000	0.83	2	6	12	23	32	30	19	11
60	-1000	0.39	9	14	22	40	44	45	31	15
	-500	0.11	10	13	21	42	46	48	33	17
	0	0	8	12	21	42	49	50	35	20
	+1000	0.37	8	11	19	40	48	50	36	20
	+1500	0.84	6	10	18	39	47	49	35	19
84	-1000	0.40	9	18	31	39	43	45	33	19
	-500	0.21	10	17	30	42	46	48	37	22
	0	0	10	16	26	45	49	51	38	23
	+1000	0.38	9	14	25	44	47	48	37	22
	+1500	0.86	7	14	25	44	45	46	35	20

### Self Generated Noise

Face Velocity (fpm)	Octave Band (Hz)							
	63	125	250	500	1000	2000	4000	8000
-1500	63	58	57	62	66	71	68	61
-1000	55	51	51	56	61	63	57	49
+1000	50	49	43	44	41	40	42	38
+2000	66	62	58	56	56	60	55	62

### Face Area Correction Factors

Area	0.5	1	2	4	8	16	32	64	128	256
PWL (dB)	-8	-6	-3	0	+3	+6	+9	+12	+15	+18

### Submittal Data Request

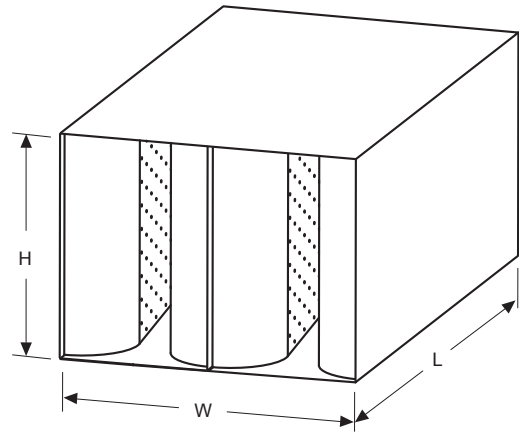
#### Models: RBB-LP, MP and HP • Rectangular Broad Band

**SPECIFICATIONS:**

Outer casing is constructed of 22 gauge galvanized steel. All external seams are lockformed and filled with a suitable joint compound and air tight up to 10.0" water gauge pressure differential. Stiffeners prevent audible vibration during normal operation of air systems.

Interior partitions are minimum 22 gauge galvanized steel perforated to remove no more than 15% of the area. Inorganic fiberglass acoustically absorptive filler material is compressed a minimum of 5% to eliminate voids and prevent setting and is vermin proof, moisture proof and odorless.

Incombustible filler material does not exceed the following fire and smoke hazard classification values when used in accordance with NFPA 90A and UL 181.



**S**

**SILENCERS**

TAG	QTY	W	H	L	REMARKS

**OPTIONS:**

- High temperature sealant
- Field or factory assembled multiple modules
- TDF Flange one or both ends
- 1.5" (38) flange one or both ends
- 18 gauge (1.31) outer casing construction



# Engineered Acoustics is part of the Nailor Family of Air Control and Air Distribution Equipment

The Nailor Family of Products Include:

(Pictured from left to right)

**Air Handlers** by Thermal Corporation

**Silencers** by Engineered Acoustics

**Duct Heaters** by Heatmasters

**Specialty Clean Room, Hospital and  
Operating Room Systems** by Nailor

**Air Control Dampers** by Nailor

**Fire Dampers and Combination  
Fire/Smoke Dampers** by Nailor

**Industrial Dampers** by Nailor

**Grilles, Registers and Diffusers** by Nailor

**Single Duct Terminal Units** by Nailor

**Dual Duct Terminal Units** by Nailor

**Fan Powered Terminal Units** by Nailor

**Underfloor Air Distribution Systems** by Nailor

**Single Duct Terminal Units** by Nailor

**Dual Duct Terminal Units** by Nailor

**Fan Powered Terminal Units** by Nailor

**Underfloor Air Distribution Systems** by Nailor

