



Gulf Grilles Company (GGC)

شركة الخليج لفتحات التكييف المركزي

Sound Attenuators





Product Design and Selection

Sound Attenuators are mainly used in HVAC systems, generator rooms and other similar applications that produce noise while it is in operation process. The main purpose of sound attenuators use is to reduce the resulted noise to reach a limited levels that match the served areas requirements with referring to the applied standards at each project.

Sound attenuators are fabricated in different designs, sizes and shapes to fit with each application, and equipped with baffles that is filled with acoustical insulation materials (fiber glass, rockwool, rubber or other) and faced with perforated steel sheets for protection.

Sound attenuators should be carefully selected and designed with referring to the required insertion loss, NC level, maximum pressure drop to achieve the required performance without causing any malfunction in systems operations.

Product Description

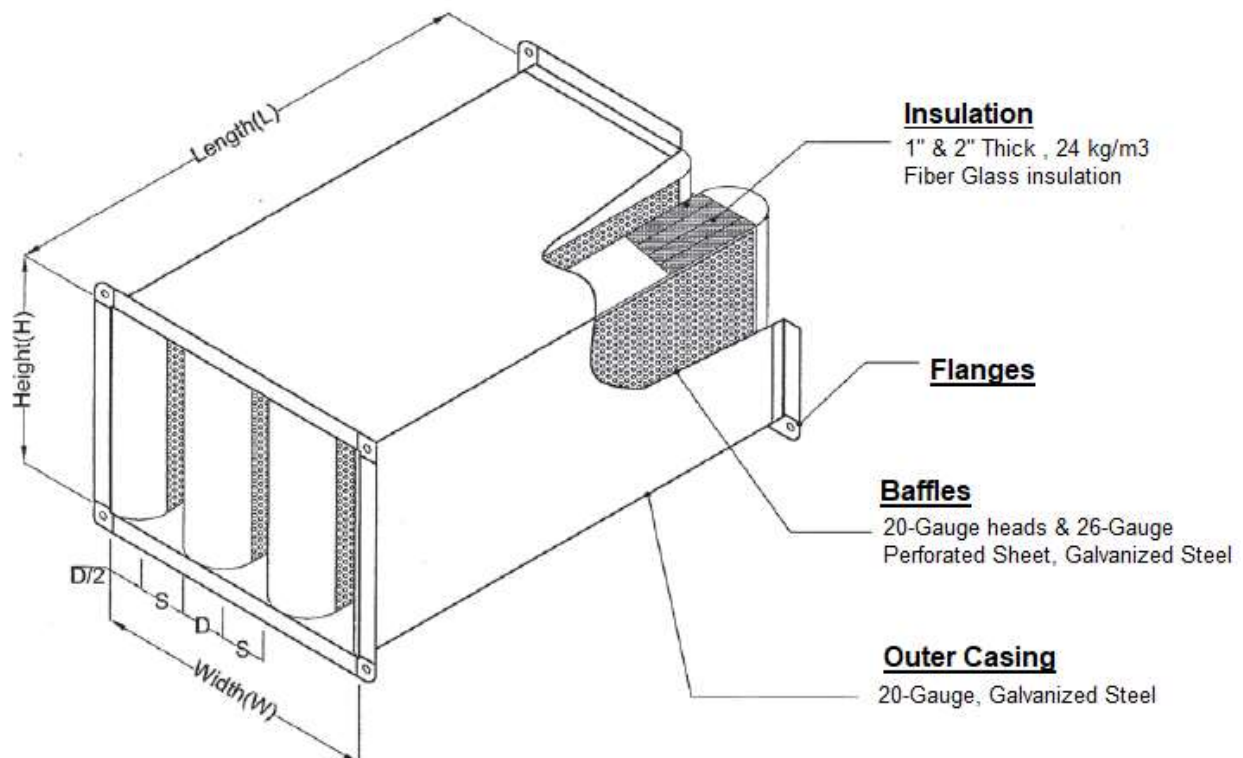
- **Outer Casing:** Lock formed, 20-gauge galvanized sheet steel constructed to the relevant 'HVAC' duct work specification where applicable.
All fixing are by rivets for strength and rigidity.
- **Baffles:** Made of 20-gauge head, 26-gauge perforated galvanized steel filled with inorganic sound absorbing material that is resistant to vermin and moisture (Fiber Glass insulation 1" & 2" – 24 kg/m³).
- **Flanges:** Rolled steel angle flanges securely welded to the attenuator casing. flanges are pre-drilled.
- **Finish:** Galvanized mild steel with flanges finished in one coat of primer paint.
- **Size Ranges:**
Rectangular / Square Type (WxHxL):
 - A) Minimum Size: 200 x 200 x 500 mm.
 - B) Maximum Size (Single Section – without partitions): 1500 x 1000 x 1500 mm.
 - C) Maximum Size (Single Unit – with partitions): 3000 x 2000 x 2400 mm.
 - D) Larger Sizes: Fabricated in multiple units design, to be assembled at project site as requested.

Notes:-

- 1) **SAs** are fabricated in stainless steel or aluminum sheets construction on request where required.
- 2) **SAs** are provided with multiple connection options
 - A) Standard design: TDC Flange – 1.38" (35mm).
 - B) Plain "S" Slip & C Drive Slip Joint.
 - C) Angle Bar – 1.97" x 1.97" x 0.197" (50x50x5mm).
- 3) **SAs** are provided with Rubber insulation (for baffles) on request.
- 4) **SAs** are provided with Fire Rated Paint or additional accessories on request.

Listed Models

- **SA40-LPD**: Sound Attenuator – Low Pressure Drop (50% Free Area).



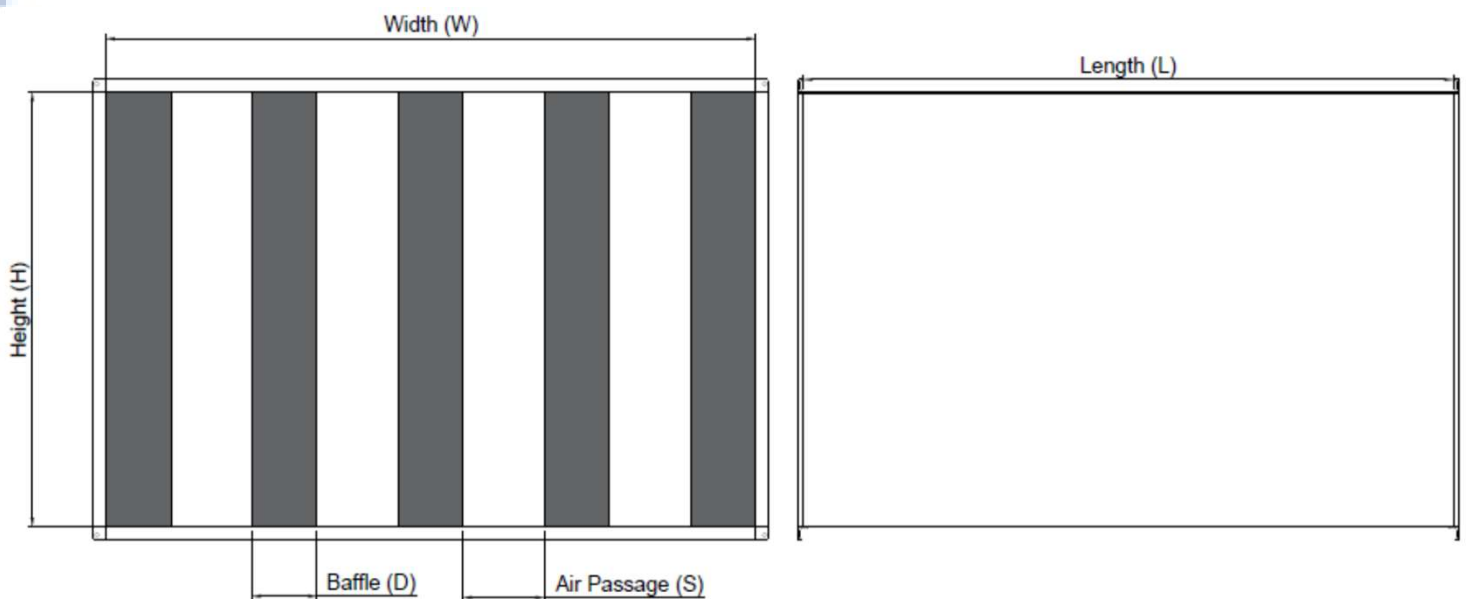
D= Baffle

S= Air Passage

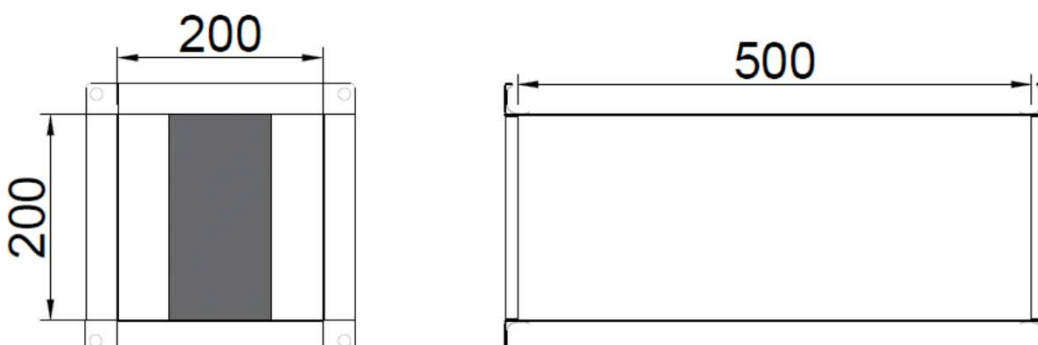
DESIGN DETAILS AND SIZE RANGES

- Acoustic Sound Attenuator - Model No.: SA40-LPD - Free Area= 50%
- Width (W) = ((No. of Baffles*width of Baffles) + (No. of Air passages*width of Air passages))
- (No. of Baffles*width of Baffles) / Width (W) = 50%
- (No. of Air passages*width of Air passages) / Width (W) = 50%

Sound Attenuator Dimension Details (W)*(H)*(L)



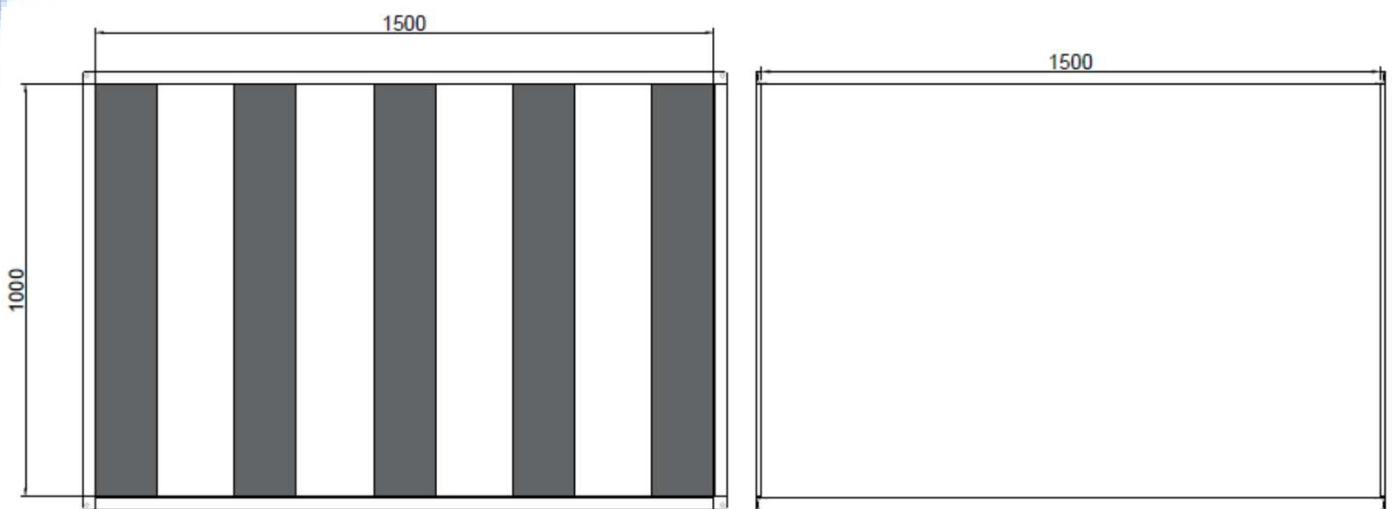
Minimum Size: 200 (W) * 200 (H) * 500 (L) mm



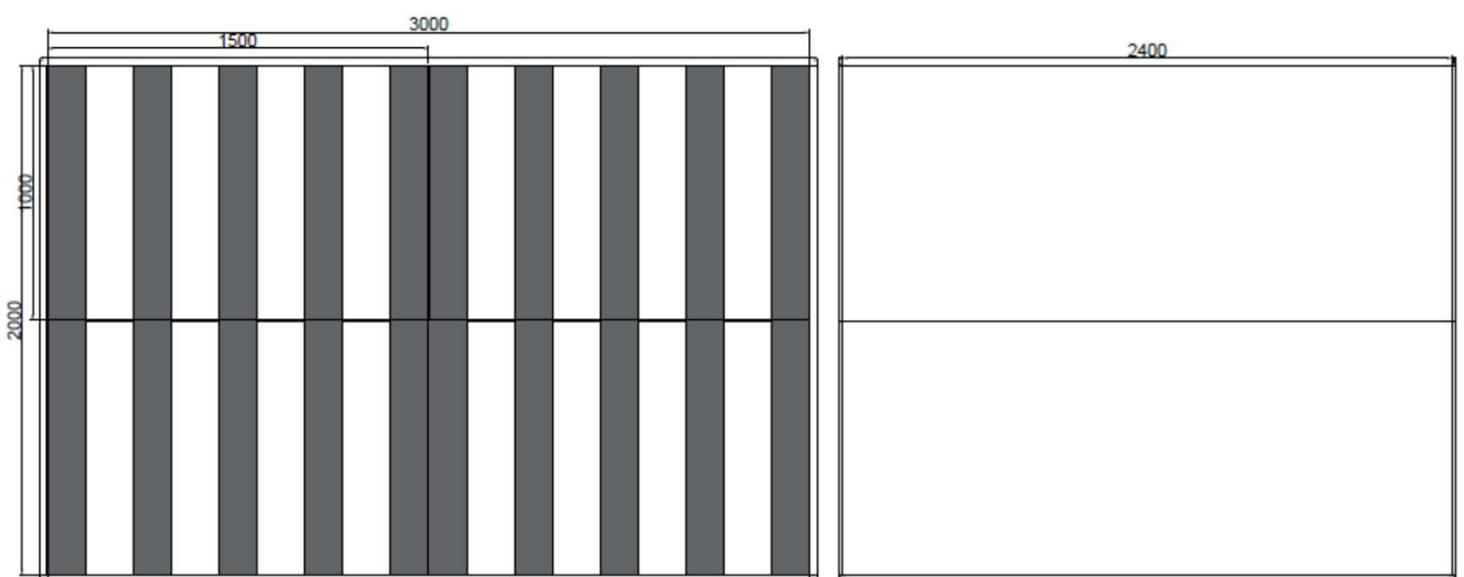


DESIGN DETAILS AND SIZE RANGES

Maximum Size (Single Unit – without Supports/Dividers): 1500 (W) * 1000 (H) * 1500 (L) mm



Maximum Size (Single Unit – with Supports/Dividers): 3000 (W) * 2000 (H) * 2400 (L) mm



Larger Sizes: Fabricated in multiple units design, to be assembled at project site as requested



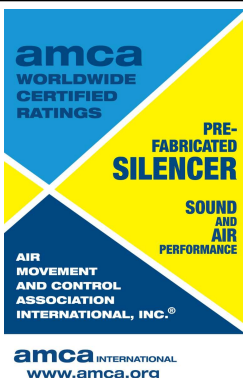
PERFORMANCE

Test Information:

Tested in accordance to ASTM Standard E477-20, entitled "Standard Test Method for Laboratory Measurements of Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers.

GGC, Model: SA40-LPD – Dynamic insertion loss, dB (Forward Flow)										
Model and Dimensions	Face Velocity	Static Pressure	Octave Band Center Frequency, Hz							
(WxHxL) in inch	(fpm)	("w.g)	63	125	250	500	1000	2000	4000	8000
Gulf Grilles Company (GGC) Model: SA40-LPD Size: 24x24x24	0	0	2	3	5	11	14	13	9	9
	500	0.03	2	3	6	11	14	13	9	9
	1000	0.1	1	3	6	11	14	13	10	9
	1500	0.2	1	3	5	10	14	13	10	9
	2000	0.36	1	3	5	10	14	13	10	9

GGC, Model: SA40-LPD – Generated Noise, dB (Forward Flow)										
Model and Dimensions	Face Velocity	Static Pressure	Octave Band Center Frequency, Hz							
(WxHxL) in inch	(fpm)	("w.g)	63	125	250	500	1000	2000	4000	8000
Gulf Grilles Company (GGC) Model: SA40-LPD Size: 24x24x24	500	0.03	59	44	36	34	28	19	19	23
	1000	0.1	60	51	47	47	45	41	31	23
	1500	0.2	65	61	55	54	53	53	46	34
	2000	0.36	78	69	64	60	59	60	56	46



Gulf Grilles Company (GGC) certifies that the Sound Attenuator shown herein is licensed to bear the AMCA Seal for Model SA40-LPD. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 1011 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Program Seal applies to Dynamic insertion loss, Airflow generated noise and Pressure drop.

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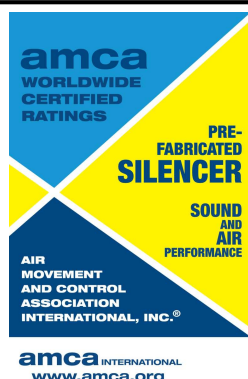
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GGC, Model: SA40-LPD – Dynamic insertion loss, dB (Reverse Flow)										
Model and Dimensions	Face Velocity	Static Pressure	Octave Band Center Frequency, Hz							
(WxHxL) in inch	(fpm)	("w.g)	63	125	250	500	1000	2000	4000	8000
Gulf Grilles Company (GGC) Model: SA40-LPD Size: 24x24x24	0	0	1	3	5	11	14	13	9	9
	500	0.03	3	4	6	12	14	13	9	8
	1000	0.1	2	4	6	12	14	13	9	8
	1500	0.2	3	4	7	12	14	13	9	8
	2000	0.36	3	4	7	12	15	13	9	8

GGC, Model: SA40-LPD – Generated Noise, dB (Reverse Flow)										
Model and Dimensions	Face Velocity	Static Pressure	Octave Band Center Frequency, Hz							
(WxHxL) in inch	(fpm)	("w.g)	63	125	250	500	1000	2000	4000	8000
Gulf Grilles Company (GGC) Model: SA40-LPD Size: 24x24x24	500	0.03	62	43	34	33	27	18	19	23
	1000	0.1	63	50	49	50	48	41	30	23
	1500	0.2	66	57	55	54	57	54	44	31
	2000	0.36	73	62	60	57	60	63	54	43



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