

Sound Attenuator - AMCA Tested

B-20 Series

Type: Square and Rectangular

Model: SA-GB-20

Construction: Galvanized Steel

BETEC CAD. manufactures square, rectangular, cylindrical and cross talk sound attenuators, which are used in commercial, industrial and residential buildings to reduce mechanical equipment noise transmitted through the ducted or un-ducted system achieving desired noise criteria in the occupied space. We design attenuators to achieve desired noise criteria in the occupied space or to reduce environmental noise for generator rooms, to meet project requirements without compromising attenuator performance.

Economical results are obtained by using properly designed **BETEC CAD.** factory calibrated/fabricated Sound Attenuators.

BETEC CAD.'s Sound Attenuators are tested for fire integrity of 2 Hrs @ 400°C.

Standard Construction

Casing

0.9 mm thick galvanized steel sheet.

Splitters

0.7 mm / 0.9 mm thick Ø3 mm hole perforated galvanized steel sheet.

Insulation

48 kg/m³ Density rockwool covered with black glass tissue.

Flanges

25 mm Ductmate flanges on both ends.

Optional Fittings

Flanges

Mild steel angles with red oxide or zinc coating, having Ø8 mm holes at a pitch of 250 mm. Alternate hole pitch available on customers request.

Optional Construction

Casing : Thickness up to 3 mm

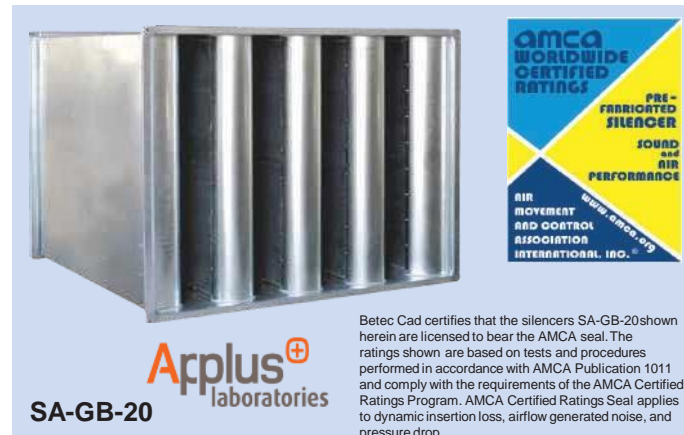
Splitters : 0.9 mm thick Ø5 mm hole perforated galvanized steel sheet.

Casing and Splitter Material : Stainless Steel (304/316L)

Insulation:

48 kg/m³ Density fiberglass wool covered with black glass tissue.

Note : Please contact **BETEC CAD.** for customized design and specification.



Features

- **BETEC CAD.**'s **B20** series Sound Attenuators are aerodynamically designed with bullnose splitters at inlet for square and rectangular type. The standard construction is suitable to withstand a maximum pressure of 2000 Pa.
- Square and Rectangular type sound attenuators are designed for handling maximum air capacities at minimum pressure drop.
- The turbulence of the airflow is minimized due to the bullnose design of the splitter at the air inlet.
- Solid curved splitter face minimises noise generation at the air inlet.
- Acoustic infill media is of superior quality, non combustible and has fungi resistant characteristics complying to and ASTM C 612
- These sound attenuators are maintenance free.

Application

Sound attenuators are designed to attenuate noises of fans, air-conditioning devices in ventilation and air-conditioning systems, Air Handling Units, Fan Inlet and Discharge, Generator rooms and HVAC Duct Systems.

BETEC CAD. sound attenuators are suitable for DW 142 class C applications. Attenuator constructional integrity is suitable for pressures up to 2000 pa.

Sound Attenuators are tested and certified by INTERTEK USA for ASTM standard E477-13 entitled "Standard method for Laboratory Measurements of Acoustical & Airflow performance of Duct liner materials & Prefabricated Silencers".

B-20 Series Model Details					
Material Construction					
Model	Casing		Perforated Splitter		Perforation Details
	Material	Thick	Material	Thick	
SA-GB-20	GI	0.9mm	GI	0.7/0.9mm	Ø 3mm Hole
SA-SB-20	SS	0.7mm	SS	0.7mm	Ø 3mm Hole

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

Constructional Details and Dimensions

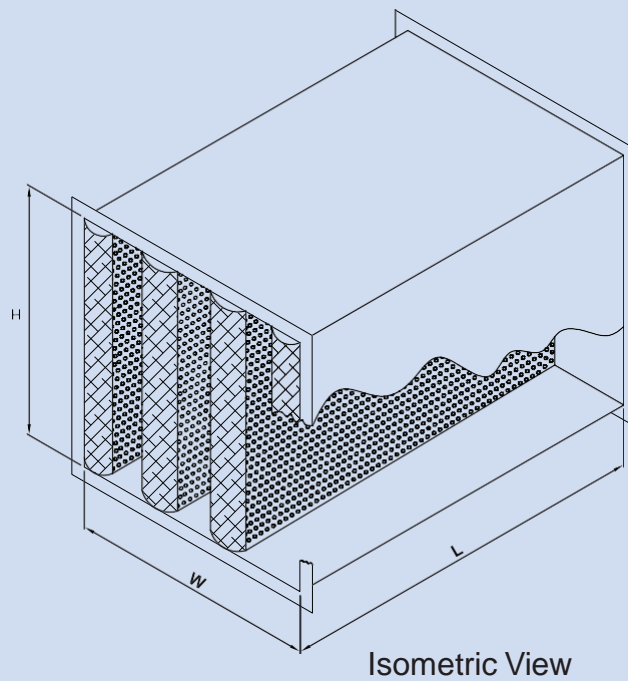
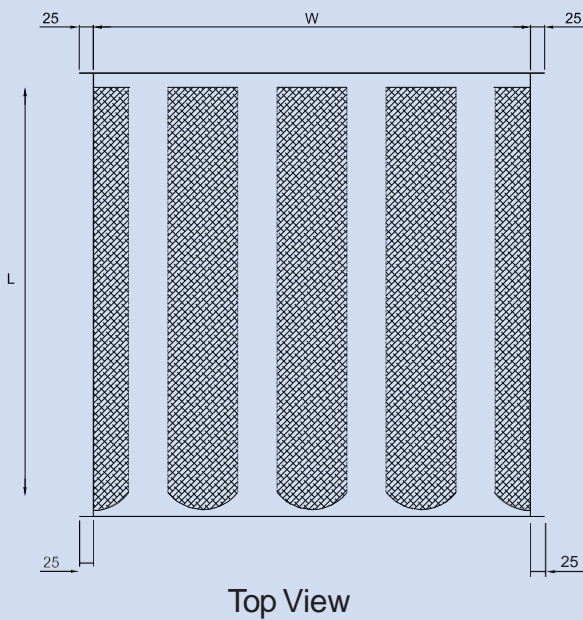
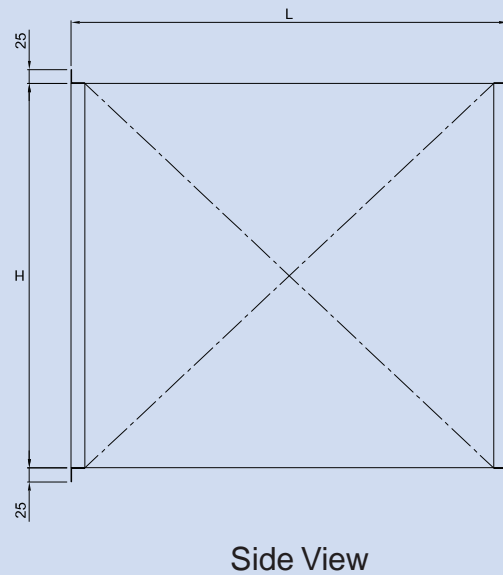
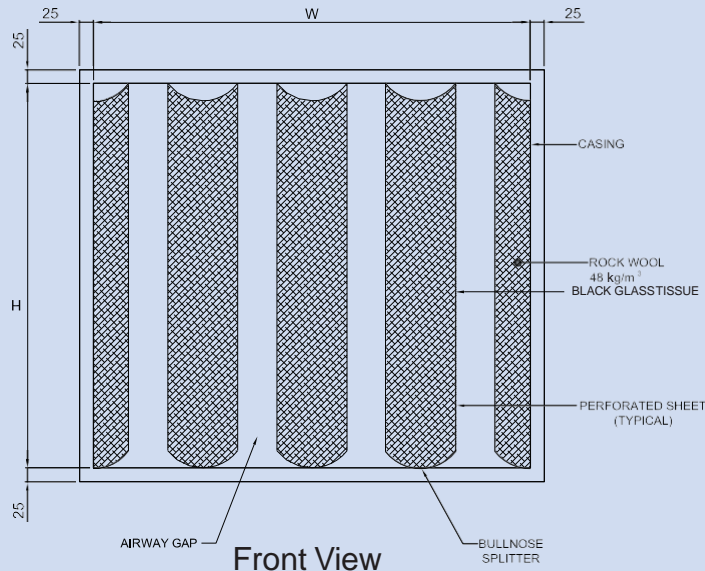
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Type: Square and Rectangular

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Sound Attenuator - SA-GB-20



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Engineering And Performance Data



B-20 Series

Model: SA-GB-20

Attenuator Size: 600 (W) x 600 (H) x 900 mm (L)

BETEC CAD B-20 Series Insertion Loss (IL) Values, In dB			Forward Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 900 mm)	0	0	2	5	11	20	25	21	17	13
	500	0.05	2	4	11	20	24	21	17	14
	1000	0.19	1	4	10	20	24	20	18	15
	1500	0.41	1	3	10	19	23	20	18	15
	2000	0.73	1	4	10	18	22	20	18	15

BETEC CAD B-20 Series Regenerated Noise Levels In dB			Forward Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 900 mm)	500	0.05	57	39	30	23	24	17	19	22
	1000	0.19	58	49	42	43	46	42	34	24
	1500	0.41	65	60	51	50	52	52	48	41
	2000	0.73	78	68	60	56	57	58	57	51

BETEC CAD B-20 Series Insertion Loss (IL) Values, In dB			Reverse Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 900 mm)	0	0	3	5	12	20	25	21	17	13
	500	0.05	6	8	15	21	25	21	17	13
	1000	0.19	5	7	14	21	25	21	16	12
	1500	0.41	7	9	16	21	25	21	16	12
	2000	0.73	7	9	17	22	25	21	16	12

BETEC CAD B-20 Series Regenerated Noise Levels In dB			Reverse Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 900 mm)	500	0.05	61	37	30	25	24	17	19	22
	1000	0.19	58	48	46	47	47	42	35	25
	1500	0.41	71	58	56	55	56	54	50	43
	2000	0.73	76	65	61	61	59	60	58	52

Forward Flow: Occurs when the noise and air flows in same direction.

Reverse Flow: Occurs when the noise and air flows in opposite direction.

BETEC CAD. Rectangular Sound Attenuators B-20 Series have been tested in accordance with ASTM Standard E477-13. Insertion Loss in dB, pressure drop and generated sound power level (Lw) dB referenced 10⁻¹² watt in relation to a given airflow in fpm.

NOTE:

The above tabulated values are based on the AMCA Test Reports and for the most practical applications the results may vary. Silencer Selection Sheet will provide for customised sizes and as per the client requirement.

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Model: SA-GB-20

Attenuator Size: 600 (W) x 600 (H) x 1200 mm (L)

BETEC CAD B-20 Series Insertion Loss (IL) Values, In dB			Forward Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 1200 mm)	0	0	2	6	15	28	35	29	22	17
	500	0.07	3	5	15	27	34	28	23	18
	1000	0.21	1	5	14	26	33	28	23	19
	1500	0.46	1	5	14	25	32	27	23	19
	2000	0.80	0	4	14	25	31	27	23	19

BETEC CAD B-20 Series Regenerated Noise Levels In dB			Forward Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 1200 mm)	500	0.07	56	39	31	27	24	17	19	22
	1000	0.21	57	48	41	43	46	41	34	24
	1500	0.46	65	59	50	50	52	52	49	41
	2000	0.80	76	68	58	56	57	58	57	51

BETEC CAD B-20 Series Insertion Loss (IL) Values, In dB			Reverse Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 1200 mm)	0	0	2	6	15	27	35	28	22	17
	500	0.07	3	7	17	27	35	29	22	16
	1000	0.21	3	8	18	28	35	29	22	16
	1500	0.46	7	11	21	28	35	30	22	16
	2000	0.80	7	10	21	29	33	30	22	15

BETEC CAD B-20 Series Regenerated Noise Levels In dB			Reverse Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 1200 mm)	500	0.07	55	41	30	27	24	17	19	22
	1000	0.21	58	47	46	48	48	43	36	26
	1500	0.46	70	57	53	55	56	54	50	43
	2000	0.80	75	63	57	58	60	60	58	53

Forward Flow: Occurs when the noise and air flows in same direction.

Reverse Flow: Occurs when the noise and air flows in opposite direction.

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Model: SA-GB-20
Attenuator Size: 600 (W) x 600 (H) x 1500 mm (L)

BETEC CAD B-20 Series Insertion Loss (IL) Values, In dB			Forward Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 1500 mm)	0	0	2	7	19	34	44	36	27	20
	500	0.07	2	7	18	33	42	35	28	22
	1000	0.23	1	7	18	32	41	35	28	22
	1500	0.52	1	6	17	31	40	34	29	23
	2000	0.89	1	6	17	31	35	33	28	23

BETEC CAD B-20 Series Regenerated Noise Levels In dB			Forward Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 1500 mm)	500	0.07	56	43	30	27	24	17	20	22
	1000	0.23	63	48	42	43	46	42	35	24
	1500	0.52	66	59	50	50	53	52	49	41
	2000	0.89	76	67	59	56	57	59	58	51

BETEC CAD B-20 Series Insertion Loss (IL) Values, In dB			Reverse Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 1500 mm)	0	0	2	8	19	33	44	36	28	20
	500	0.07	3	9	20	34	44	36	27	19
	1000	0.23	5	11	23	34	43	37	27	19
	1500	0.52	4	9	23	34	35	37	27	18
	2000	0.89	5	10	24	34	33	34	27	18

BETEC CAD B-20 Series Regenerated Noise Levels In dB			Reverse Flow							
Attenuator Model & Dimensions	Attenuator Face Velocity	Static Pressure	Octave Band Center Frequency , Hz							
(W X H X L) in mm	(fpm)	(Inch Wg)	63	125	250	500	1000	2000	4000	8000
BETEC CAD B-20 Series Rectangular Type (600 mm x 600 mm x 1500 mm)	500	0.07	55	39	33	32	28	18	19	22
	1000	0.23	58	50	49	50	49	44	36	26
	1500	0.52	71	58	55	57	57	55	50	43
	2000	0.89	75	63	57	59	61	61	58	52

Forward Flow: Occurs when the noise and air flows in same direction.

Reverse Flow: Occurs when the noise and air flows in opposite direction.

BETEC CAD. Rectangular Sound Attenuators B-20 Series have been tested in accordance with ASTM Standard E477-13. Insertion Loss in dB, pressure drop and generated sound power level (Lw) dB referenced 10⁻¹² watt in relation to a given airflow in fpm.

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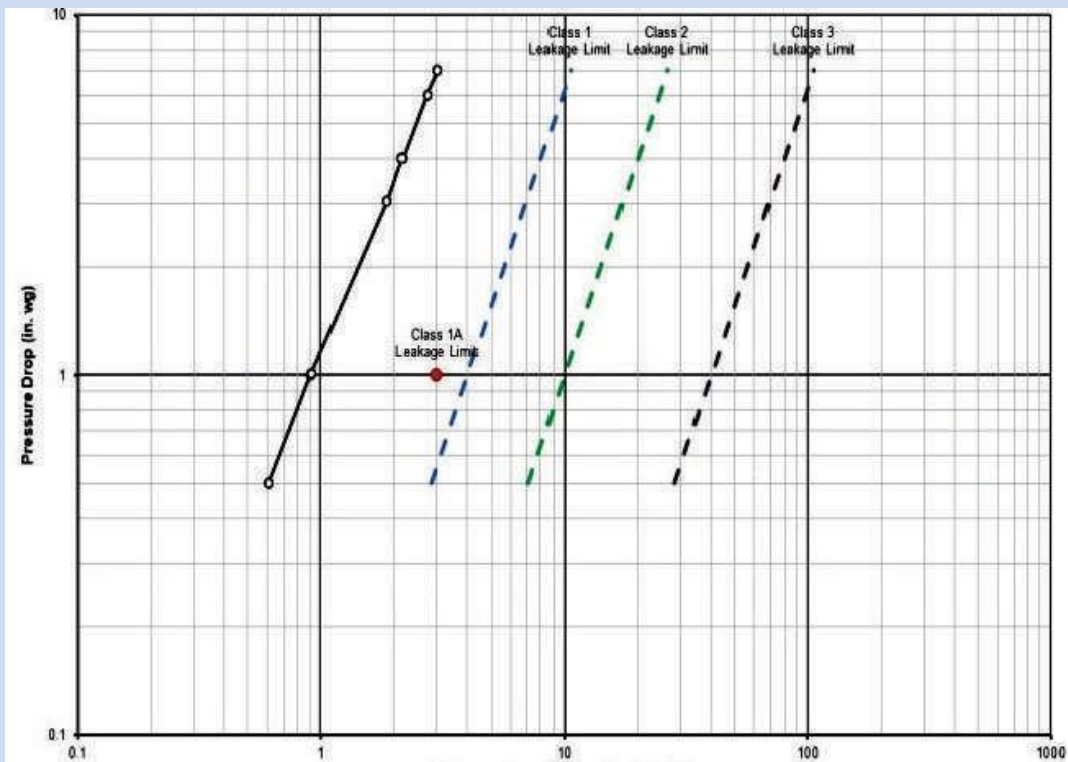
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**Leakage Characteristics for Sound Attenuators
Models SA-GB-20- Leakage Curve**
AIR LEAKAGE

•Air leakage is based on operation between 32 °F and 120 °F

•Tested for air leakage at standard air density in accordance with ANSI/AMCA Standard 500-D-18(Leakage) ,Figure 5.4 Alternate

Maximum Allowable Leakage, cfm/ft ²				
Class	at 1in.wg	at 4in.wg	at 6in.wg	at 8in.wg
1A	3	N/A	N/A	N/A
1	4	8	10	11
2	10	20	24	28
3	40	80	98	112



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