

BC 05



BETEC CAD.

Sound Attenuators



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



Globally Recognized. Industry Respected.

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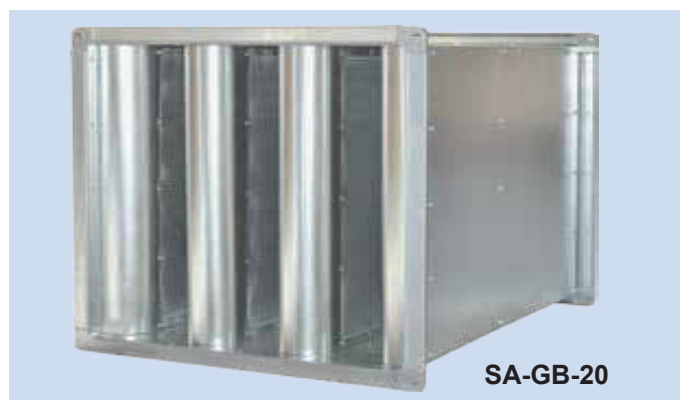
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Low noise level achievement has always been one of the key features of building design. In recent years noise control has become an important criteria due to increasing environmental awareness and the effects of noise on health, safety, comfort and efficiency. Control of the acoustical environment in a building means that all of the factors that may lead to noise problems must be fully considered. This means noise control of HVAC systems, controlling transmission of sound between rooms, protecting hallways, offices and other structures from high noise areas, and providing maximum privacy where needed.

BETEC CAD manufactures new range of Sound Attenuators by adopting latest manufacturing techniques in fabrication and by using software for selecting proper and economical attenuators which are vastly used for both HVAC and industrial applications for either reducing or minimizing the generated noise.



BETEC CAD manufactures square & rectangular Sound Attenuators, cylindrical Sound Attenuator, Cross Talk Attenuators, which provide effective and predictable noise reduction at substantial savings over other and ordinary methods.

They are designed using silencer selection software under given parameter conditions. The use of silencers which are accurately rated under operating conditions is a matter of prime importance.

Standard Types and Models			
Item	Series	Type	Construction
Sound Attenuators	B - 20**	Square & Rectangular Sound Attenuator	G*,S
	B - 30	Cylindrical Sound Attenuator	G*,S
	B - 40	Cross Talk Sound Attenuator	G*,S

Material Details

All types and models of Sound Attenuator are available in Galvanized Steel / Stainless Steel according to the design and application.

Sheet Metal Galvanized Steel (GI)

Zinc coating Z-22 to Z-27 as per **ASTM-A653** Standards.

Sheet Metal Stainless Steel (SS)

Stainless steel **304 / 316L**.

Applications:

GI Construction :For HVAC commercial, residential etc.

SS Construction:For Offshore, Oil & Gas etc.

Note:

* Indicates **BETEC CAD's** Standard Construction.

** Indicates **BETEC CAD's** Models Tested by AMCA.

BETEC CAD. Sound attenuatore are tested as per AMCA ASTM Standard E477-13

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

All Sound Attenuator units are designed to ensure airtight operations with low leakage factor of + 3 %. as per international standards DW 142 class C.

All Sound Attenuators are lined internally, sealed and manufactured as per international standards and confirmed to NFPA 90 A and UL 181 standards for erosion. The respective alphabet indicates the type of material.

G - Galvanized steel (**GI**)

S - Stainless steel (**SS**)

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Sound Attenuator - AMCA Tested

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

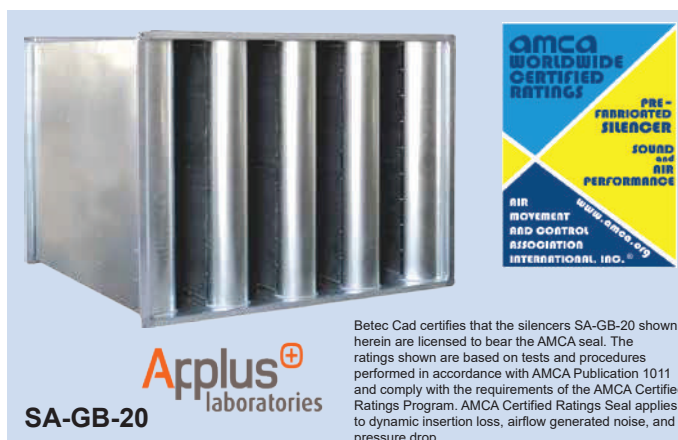
Splitters : 0.9 mm thick Ø5 mm hole perforated galvanized steel sheet.

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.



Betec Cad certifies that the silencers SA-GB-20 shown herein are licensed to bear the AMCA seal. 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. AMCA Certified Ratings Seal applies to dynamic insertion loss, airflow generated noise, and pressure drop.

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

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Constructional Details and Dimensions

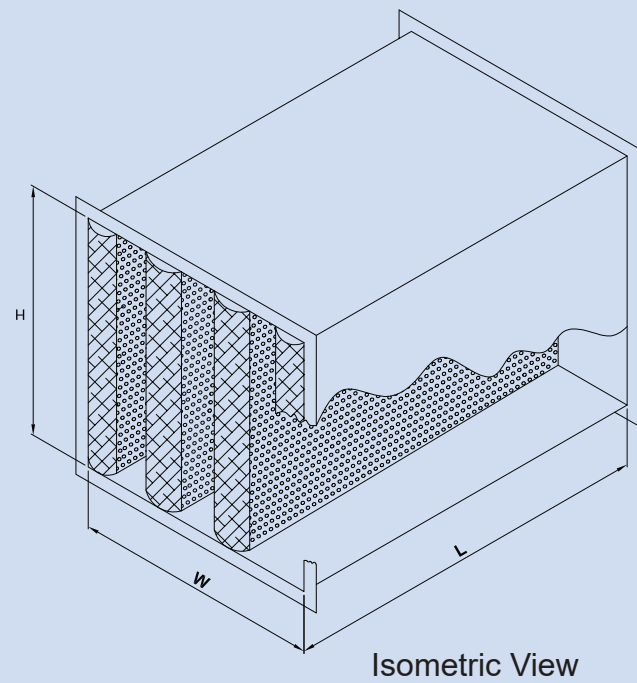
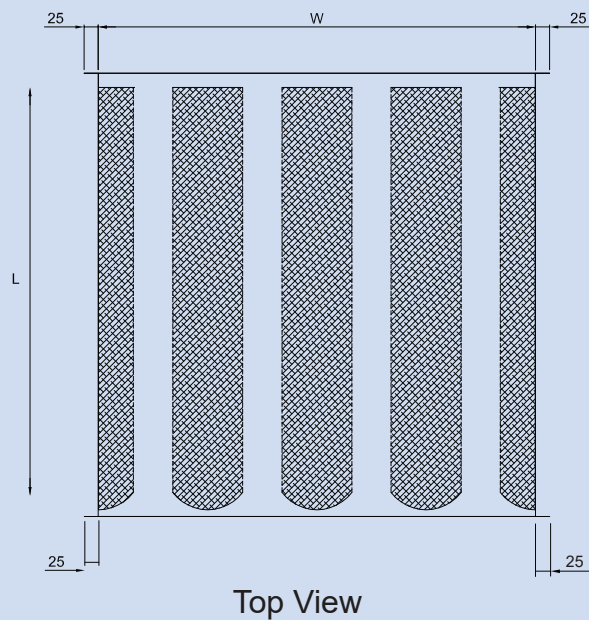
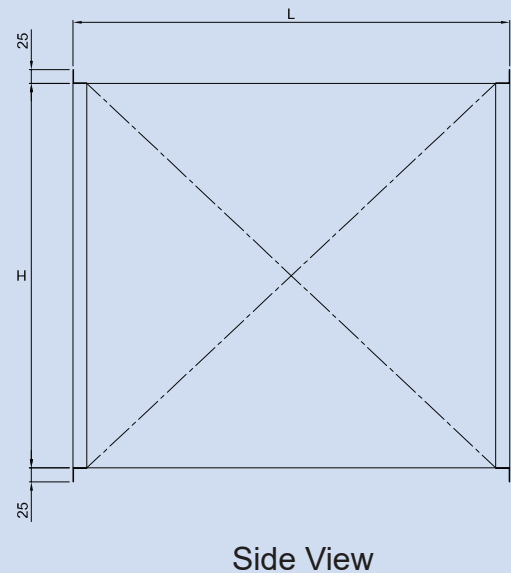
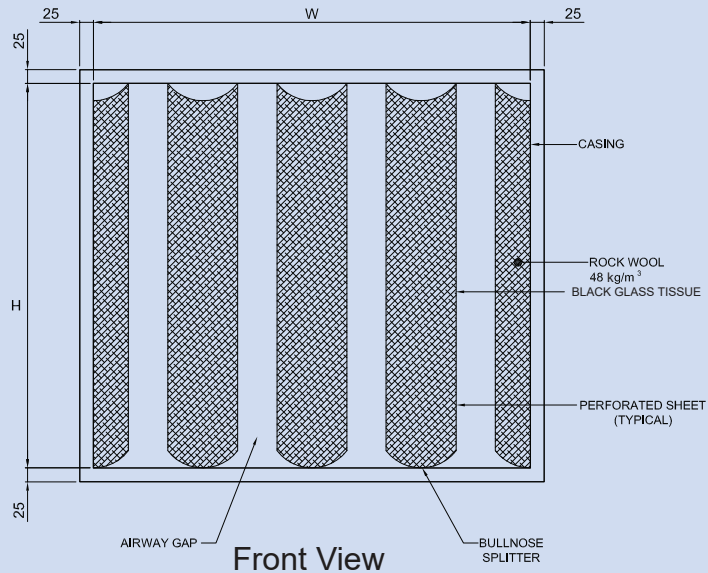
B-20 Series

Type: Square and Rectangular

Model: SA-GB-20

Construction :Galvanized Steel

Sound Attenuator - SA-GB-20



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

Type: Cylindrical

Model: CS-GB-30A/B/C

A - No Splitter; B - Single Splitter; C - Multiple Splitters

Construction: Galvanized Steel

BETEC CAD.'s 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.

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

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)

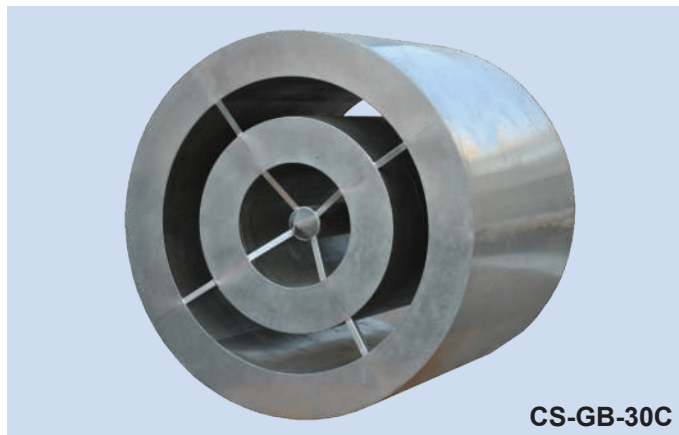
Insulation:

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

B-30 Series Model Details					
Material Construction					
Model	Casing		Perforated Splitter		Perforation Details
	Material	Thick	Material	Thick	
CS-GB-30A/B/C	GI	0.9mm	GI	0.7/0.9mm	Ø 3mm Hole
CS-SB-30A/B/C	SS	0.7mm	SS	0.7mm	Ø 3mm Hole

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

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CS-GB-30C

Features

- **BETEC CAD's** Sound Attenuator CS - B30 Series is of Cylindrical type. This Attenuator has been developed with special concern for both "on-fan" and "in-duct" situation and is suitable for use up to a maximum pressure of 1500 Pa.
- Central splitter is a conical inlet to minimize self generated noise and pressure loss.
- Cylindrical type Sound Attenuators are installed in the duct work between spaces, which must provide noise reduction of air borne noise to at least match the sound transmission loss of the separating structure.
- The cylindrical type Attenuators can be used where there is a demand for large amount of low frequency attenuation.
- All models of Sound Attenuators are shorter in length, smaller in cross-section and easily installable at site. Circular duct work does not require round to rectangular transition.
- 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

Round sound attenuators are used in ventilation and air-conditioning systems to attenuate noise in fan inlet & discharge units, HVAC duct systems, radiators etc. They are suitable for installation in either inlet or outlet pipes of axial fans, in inlet pipes of radial fans or installation in circular cross-section ducts.

BETEC CAD. sound attenuators are suitable for DW 142 class C applications. Attenuator constructional integrity is suitable for pressures up to 1500 pa.

Constructional Details and Dimensions

B - 30 Series

Type: Cylindrical

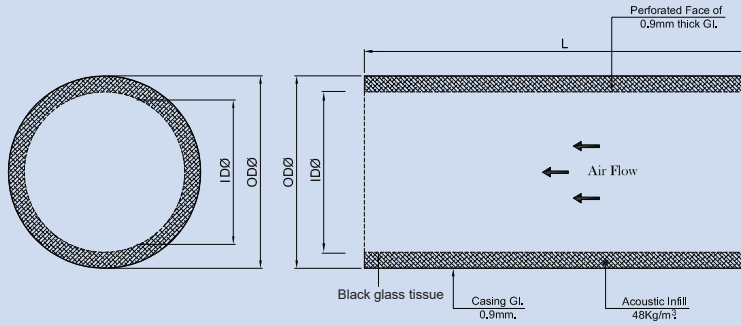
Model: CS-GB-30A/B/C

A - No Splitter; B - Single Splitter; C - Multiple Splitters

Construction: Galvanized Steel (GI)

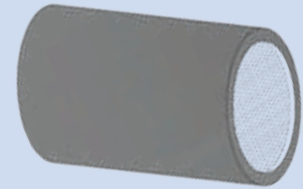
Sound Attenuator - CS-GB-30A

Diameter (mm)	ID (mm)
125	125
160	160
200	200
250	250
315	315



Front View

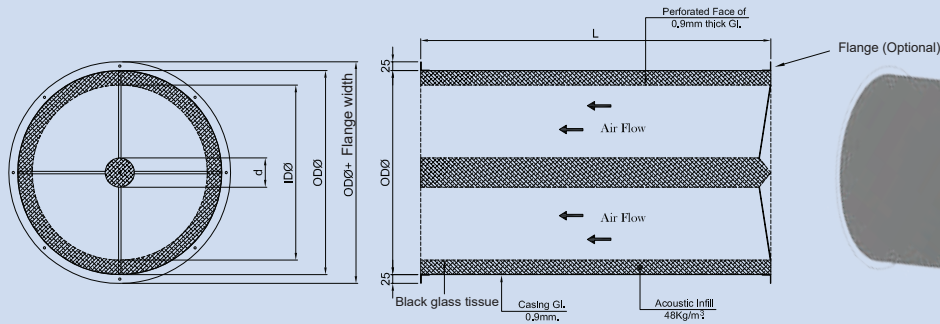
Side View



Isometric View

Sound Attenuator - CS-GB-30B

Diameter (mm)	ID (mm)	d (mm)
350	350	150
400	400	200
450	450	200
500	500	225
550	500	225
600	600	250



Front View

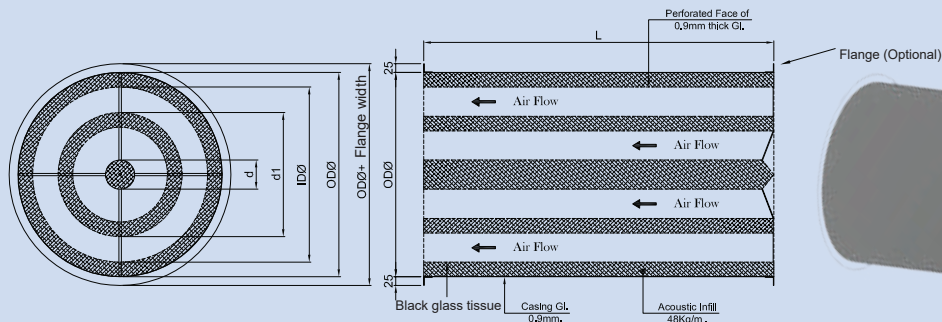
Side View



Isometric View

Sound Attenuator - CS-GB-30C

Diameter (mm)	ID (mm)	d (mm)	d1 (mm)
700	700	150	500
800	800	150	550
900	900	150	650
1000	1000	150	750



Front View

Side View



Isometric View

Note: More than 1000 mm diameter sizes will be manufactured as per software selection design or customer design.

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Sound Attenuators - CT

Type: Cross Talk

Model: CT-GB-40A/B

A - Square & Rectangular; B - Zig-Zag

Construction: Galvanized Steel

BETEC CAD.'s 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.

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 flange or slip connection on both ends.

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.

B- 40 Series Model Details					
Material Construction					
Model	Casing		Perforated Splitter		Perforation Details
	Material	Thick	Material	Thick	
CT-GB-40A/B	GI	0.9mm	GI	0.7/0.9mm	Ø 3mm Hole
CT-SB-40A/B	SS	0.9mm	SS	0.7mm	Ø 3mm Hole

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

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Sound Attenuators

B - 40 Series



CT-GB-40B

Features

- **BETEC CAD.** manufactures Cross Talk Attenuators which are installed to provide maximum background voice, sound masking effect for each office zone, thereby improving speech privacy and aural comfort with acceptable pressure drop level.
- Sturdy maintenance free construction with high noise absorbing capacity to obtain required insertion loss without compromising on performance.
- Acoustic infill media is of superior quality, non combustible and has fungi resistant characteristics complying to and ASTM C 612.
- These attenuators can be installed in places where speech privacy is required or noise generated in areas is frequently causing disturbance and distraction.
- These sound attenuators are maintenance free.

Applications

Cross Talk Attenuators are suitable for crosstalk applications (to attenuate openings in partitions above ceiling voids), terminal equipment applications, and are installed within air conditioning or ventilation ductwork systems to reduce the transmission of airborne ducted noise.

Other applications include common ductwork serving male-female toilets / changing areas, or for privacy between adjacent cellular offices, penetrations in partitions requiring high acoustic performance, broadcasting / recording studios.

BETEC CAD. standard attenuators incorporate sealing and are suitable for DW 142 class C applications.

Constructional Details and Dimensions

B - 40 Series

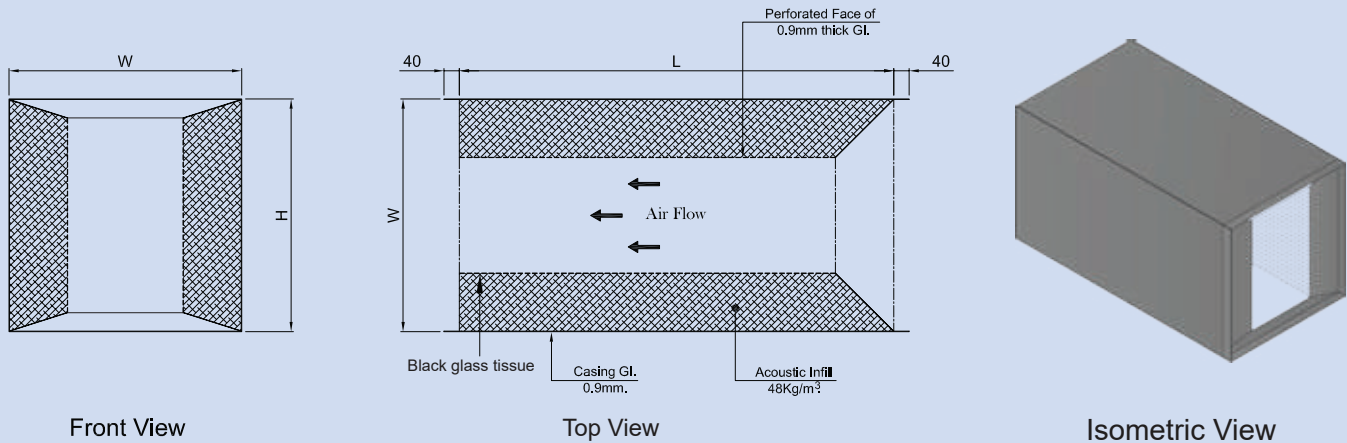
Type: Cross Talk

Model: CT-GB-40A/B

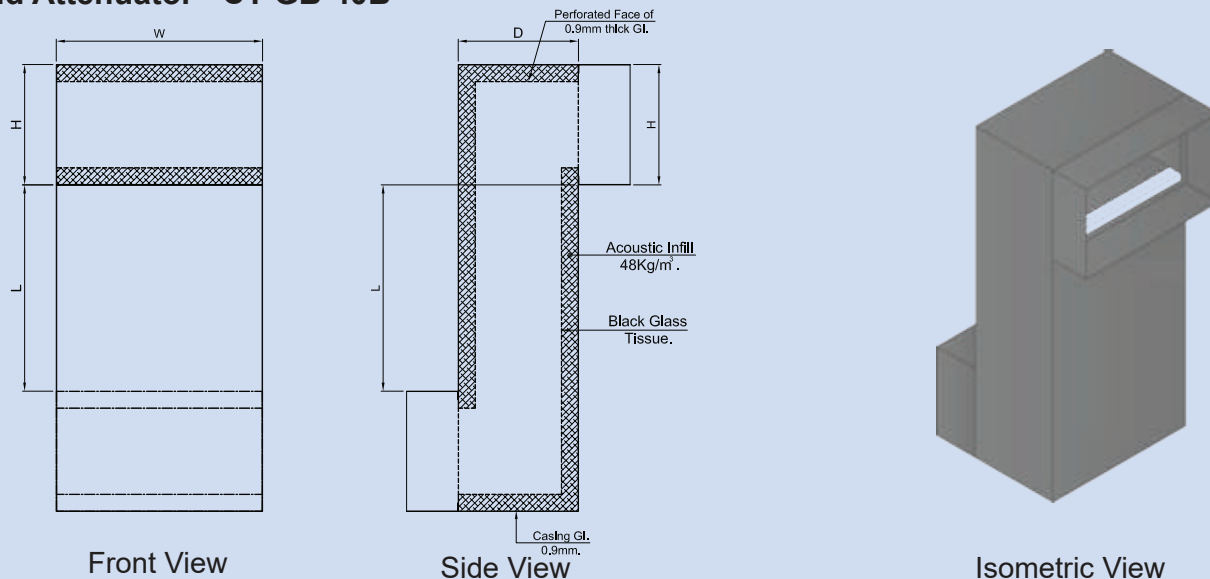
A - Square & Rectangular; B - Zig-Zag

Construction: Galvanized Steel (GI)

Sound Attenuator - CT-GB-40A



Sound Attenuator - CT-GB-40B



BETEC CAD B-40 Series Transmission Loss Noise Levels in dB								
Attenuator Length (L)	Octave Band Center Frequency , Hz							
	63	125	250	500	1000	2000	4000	8000
900 mm	7	9	17	21	30	25	21	17
1500 mm	10	15	27	36	45	36	29	24

Air Performance Data			
Width (mm)	Height		
	200	300	400
	Air Flow (CFM)		
300	198	252	395
450	293	389	584
600	388	512	777
750	484	645	964
900	578	770	1155
1050	673	897	1345
1200	763	1024	1533

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Engineering And Performance Data
Model: SA-GB-20
Attenuator Size: 600 (W) x 600 (H) x 900 mm (L)

B-20 Series

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.

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

Engineering And Performance Data
Model: SA-GB-20
Attenuator Size: 600 (W) x 600 (H) x 1200 mm (L)

B-20 Series

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.

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.

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



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

B-20 Series

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.

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.

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

Leakage Characteristics for Sound Attenuators Models SA-GB-20- Leakage Curve

AIR LEAKAGE

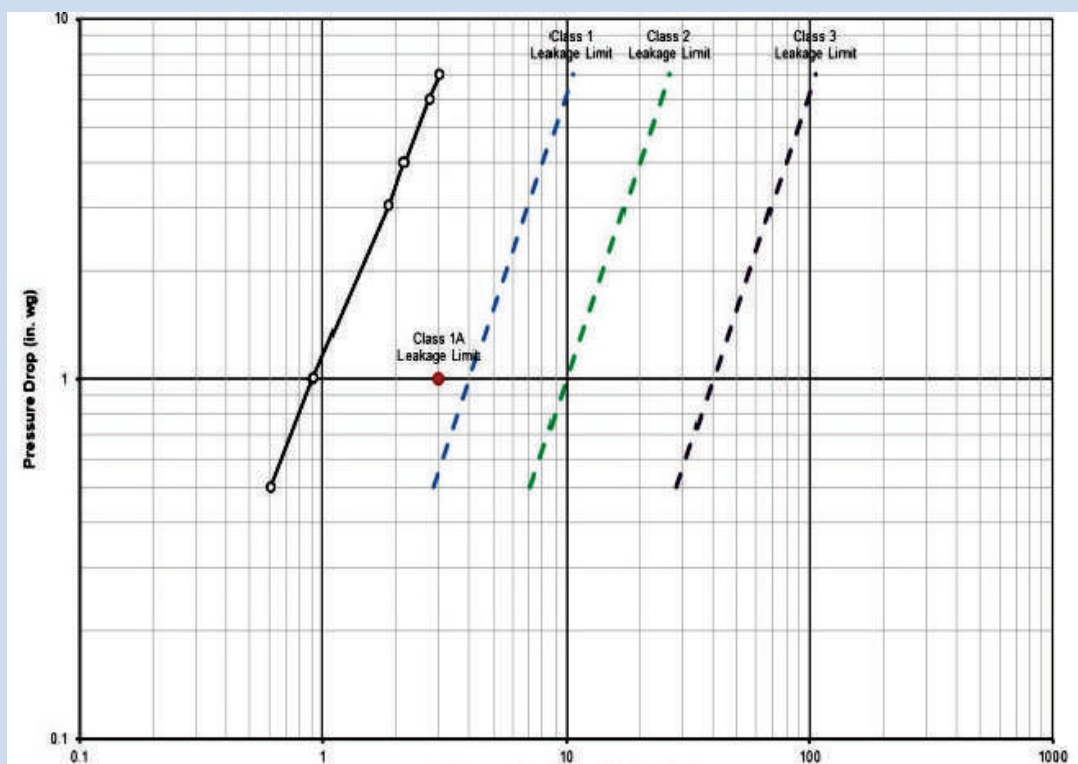
- Air leakage is based on operation between 32 °F and 120 °F
- Tested for air leakage at standard air density in accordance with ANSI/AMCA Standard 500-D-18(Leakage) ,Figure 5.4 Alternate

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




SA-GB-20

Betec Cad certifies that the silencers SA-GB-20 shown herein are licensed to bear the AMCA seal. 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. AMCA Certified Ratings Seal applies to dynamic insertion loss, airflow generated noise, and pressure drop.

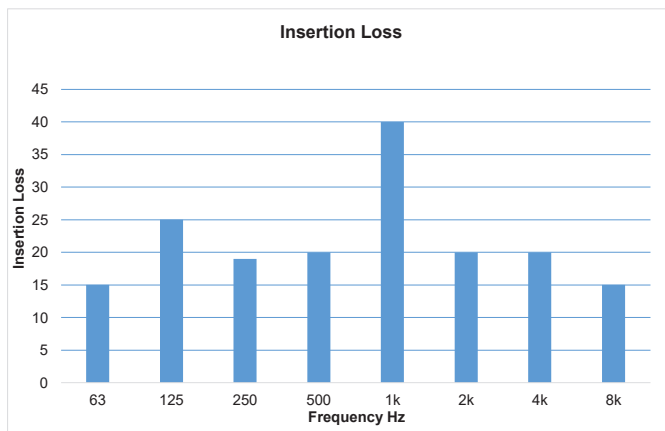
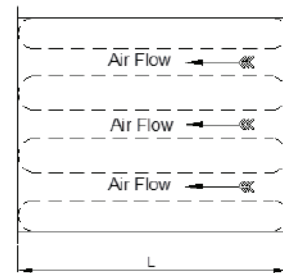
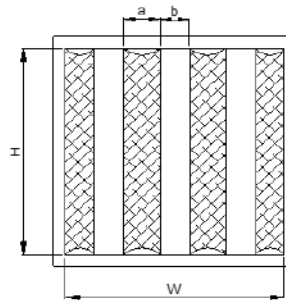
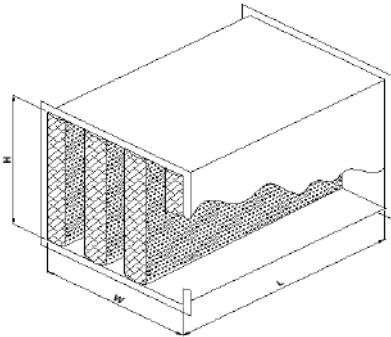


Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

Silencer Selection Data Sheet

Customer Name	
Project Name	
Note:	

Product: SA-GB-20 Series



Silencer Dimensions

Width, W:	
Height, H:	
Length, L:	
Splitter Info, a/b:	

Silencer Reference:

Volume Flow:

l/s

Pressure Drop :

Pa

	Octave Band Center Frequency, Hz								Resultant dB(A)
	63	125	250	500	1k	2k	4k	8k	
Sound Level(Lw) Before Silencer									dB
Insertion Loss									dB
Regenerated Noise									dB
Sound Level (Lw) after Silencer									dB

Description:

BETEC CAD's B-20 Series Rectangular Type Silencers are manufactured with Bull nosed Splitters at inlet side. The baffles are filled with acoustic infill material of Rock Wool as standard, Fiber Glass Optional. Internal Baffles are covered with Black Glass tissue and Perforated Sheet having the casing Material Galvanized Steel as standard, Stainless Steel Optional.

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

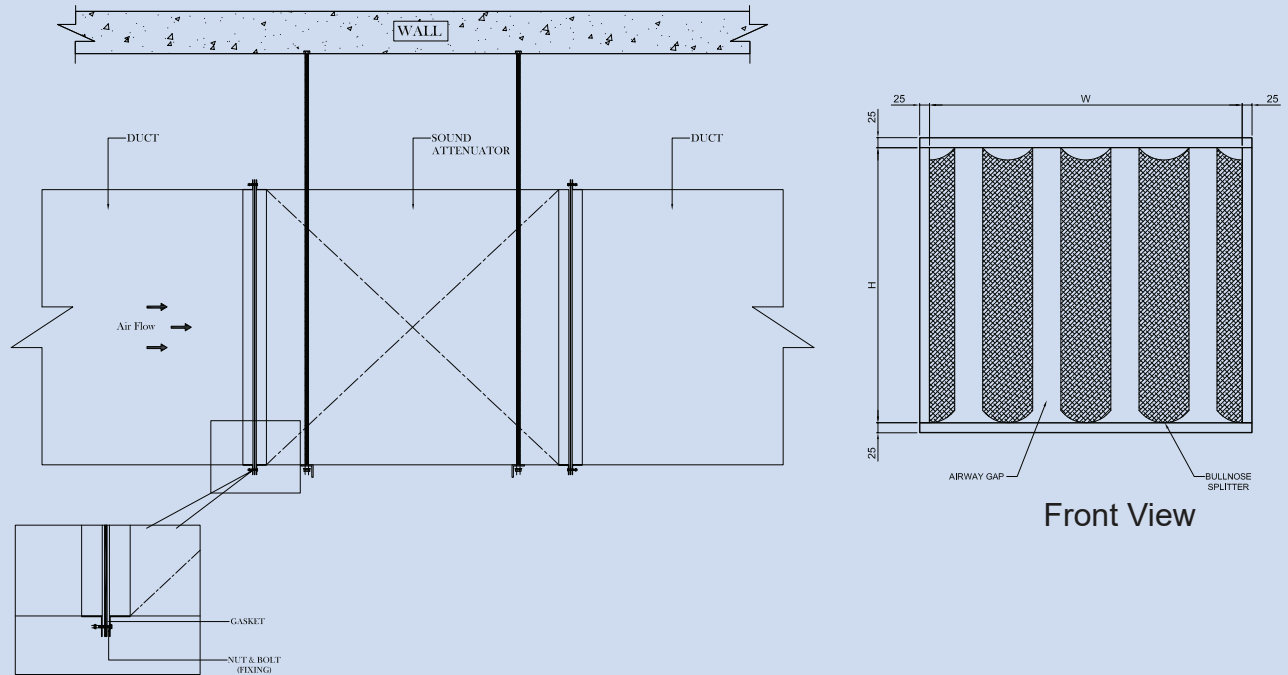
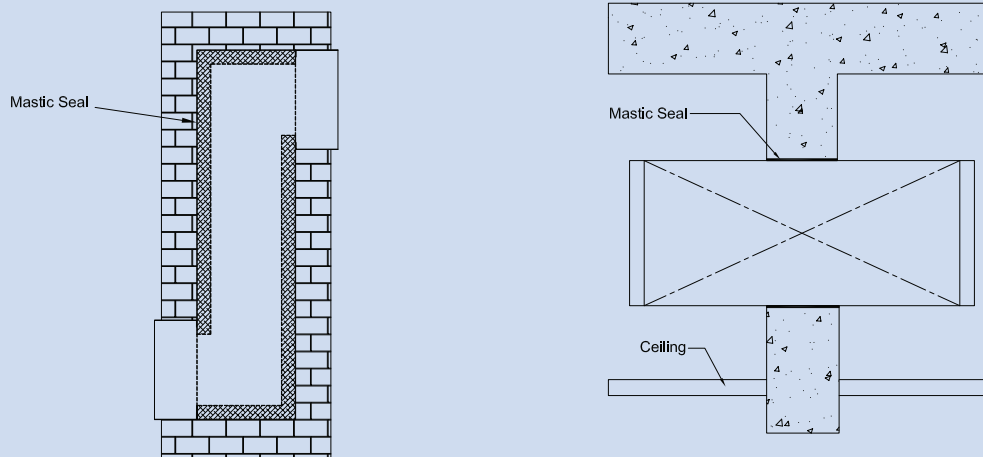
Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

Recommended Noise Criterion Index For Various Type Of Applications

Back ground noise criteria for ventilation noise control	NC - Index
Studio and Auditoria:	
Sound Broadcasting (drama)	15
Sound Broadcasting (general). Recording Studio	20
T.V (Audience studio)	25
Concert Hall, Theatre	20-25
Lecture Theatre, Cinema	25-30
Hospitals:	
Audio metric Room	30-35
Multi-bed ward, Waiting room	35
Corridor, Laboratory	35-40
Wash room, Toilet, Kitchen	35-45
Staff Room, Recreation room	30-40
Hotels:	
Individual room, Suite	20-30
Ballroom, Banquet room	30-35
Corridor lobby	35-40
Kitchen, Laundry	40-45
Restaurants, shops and stores:	
Restaurant department store (upper floor)	35-40
Night club, public house, cafeteria, canteen, retail store (main floor)	40-45
Offices:	
Bedroom, Large conference room	25-30
Small conference room, Executive office, Reception room	30-35
Open plan (Buroland shaft) office	35
Drawing office, Computer Suite	35-45
Public buildings:	
Court room	25-30
Assembly room	25-35
Library, Bank, Museum	30-35
Washroom, Toilet	35-45
Swimming pool, Sports arena	40-50
Garage, Car park	55
Churches and academic Buildings	
Church	25-30
Classroom, Lecture Theatre	25-35
Laboratory, workshop	35-40
Corridor, Gymnasium	35-45
Industrial	
Warehouse, Garage	45-50
Workshop (light engineering)	45-55
Workshop (heavy engineering)	50-65
Private devilling (urban)	
Bedroom	25
Living room	30

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



Sound Attenuators B-20 Series

Sound Attenuators B-40 Series

Installation Guide

Do not place the silencer immediately after the noise source like air handler or blower in order to allow uniform flow profile to develop. Leave at least 2-5 duct diameters in the upstream and downstream of the silencer for better silencer efficiency.

Do not expose the silencer to dirt or excess humidity while installation or during storage.

The HVAC system should be designed meticulously for proper dehumidification and air- filtration to prevent microbial growth within the silencer and the duct system.

It is recommended to install the silencer after the volume control damper to prevent regenerated noise.

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"Due to continuous progress and product improvement, **BETEC CAD.** reserves the right to make changes without notice"

November-2020