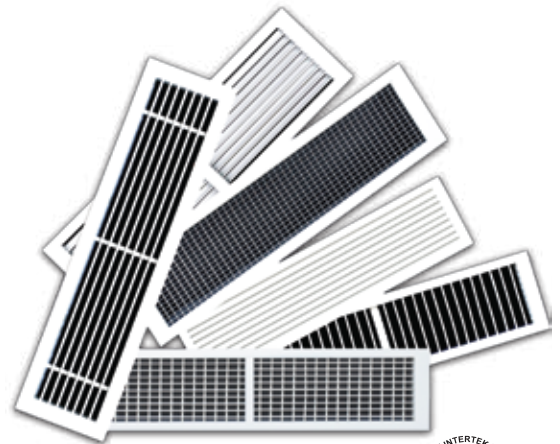


BC 11



BETEC CAD.

Grilles & Registers



Intertek

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



Intertek



BSRIA

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Table Of Contents

S. No	Description	Page No
1	General Information	1
2	Grilles & Registers	2-10
3	Constructional Details and Dimensions	11
4	Linear Bar Grille - General Information	12
5	Linear Bar Grille	13-16
6	Constructional Details and Dimensions	17-19
7	Engineering and performance Data	20-26
8	Certifications	27-28
9	Installation Details	29-30

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



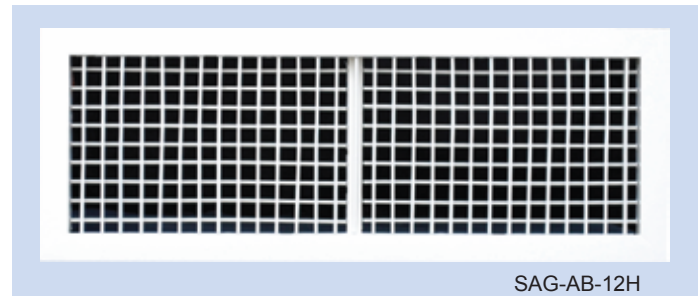
Grille - ETL - Intertek Tested

BETEC CAD. manufactures Grilles for air distribution in HVAC systems. They provide excellent performance for air distribution and low pressure drops at different air passage velocities.

All models of Square or Linear Grilles are designed to give full flexibility in volume and air pattern control. Air distribution pattern can be made horizontal or vertical along the wall or ceiling. Deflecting vanes and opposed blade damper can be adjusted from the grill face in order to control the flow. The volume damper is designed in a unique way that it can be used as an equalizing grid.

Construction

All models incorporate semi-aerofoil shaped deflection blades mounted on 20 mm centers to produce greater than 80% average effective area at 0° deflection setting. Deflecting blades, both horizontally and vertically mounted, are fully adjustable. Vertical blades can be adjusted to produce 0° through 45° spread, or as much as a 50% reduction in forward throw. Horizontal blades may be adjusted upward to 20° to gain a greater ceiling effect for drop control.



Features

- The Grille is constructed from high quality aluminum extruded profiles.
- The Horizontal and vertical vanes are provided with nylon bushes for rattle free operation.
- Grille & Register length above 500mm will be constructed with Mullion partitions.
- All internal accessories are natural mill finish in color. Black matt finish is optional.
- All Registers & Grilles can be supplied with Plenum Boxes on request and with circular spigots as standard. Rectangular & Oval spigots can be supplied (Optional).
- All joints are crimped or welded and sealed for airtight functioning, which adds to maintain rigidity.

Standard Types and Models							
Type	Model	Deflection	Front Horizontal (H)	Front Vertical (V)	With Damper (D)	With Filter (F)	Construction
Supply Air Grille	SAG-AB-11H	Single	*	N/A	*	Optional	A* / S
	SAG-AB-11V		N/A	*	*	Optional	A* / S
	SAG-AB-12H	Double	*	N/A	*	Optional	A* / S
	SAG-AB-12V		N/A	*	*	Optional	A* / S
Return Air Grille	RAG-AB-11H	Single	*	N/A	Optional	Optional	A* / S
	RAG-AB-11V		N/A	*	Optional	Optional	A* / S
	RAG-AB-12H	Double	*	N/A	Optional	Optional	A* / S
	RAG-AB-12V		N/A	*	Optional	Optional	A* / S
Extract Air Grille	EAG-AB-11	Single	*	N/A	Optional	Optional	A* / S
Egg Crate Grille	ECG-AB-11	N/A	N/A	N/A	Optional	Optional	A* / S
Door Grille	DG-AB-12	N/A	*	N/A	N/A	N/A	A* / S

Material Details

All types and models of Grilles and Registers are available in Aluminum and Stainless Steel according to the design and application.

Metal Aluminium (AL)

Extruded aluminium Standards **Alloy - 6063A** with temper T6 according to the design conditions.

Sheet Metal Stainless Steel (SS)

Stainless steel to **304/316L**.

BETEC CAD. Grilles & Registers are tested in accordance with the **ASHRAE 70-2006 Standard "Method of Testing for Rating the Performance of Air Outlets and Inlets"**, which incorporates **ADC 1062: GRD-84 Test Code for Grilles, Registers and Diffusers**.

Note :

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

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



Grille

B - 10 Series

Intertek

Type: Supply Air Grille

Model : SAG-AB-11H/V

Deflection: Single

Construction: Aluminium

H - Front Horizontal; V - Front Vertical

Description

BETEC CAD. model SAG-AB-11H is a single deflection supply air grille, with one set of horizontal aerofoil blades and model SAG-AB-11V, with one set of vertical aerofoil blades.

The frame and blade are constructed from high quality aluminum extruded profiles. The blades in these models are individually adjustable to any degree of deflection. The Horizontal and vertical vanes are provided with nylon bushes for rattle free operation.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm flange width.

Blades

Extruded aluminium aerofoil blades.

Blade Spacing

Standard Blade Spacing of 20 mm.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper

Black matte.

Filter

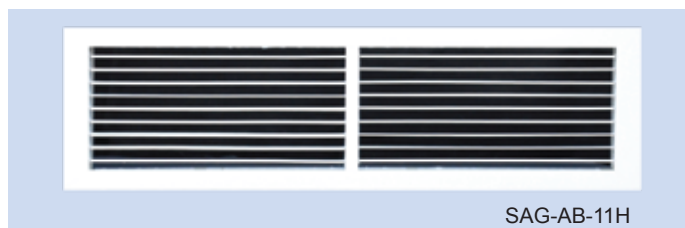
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Finish

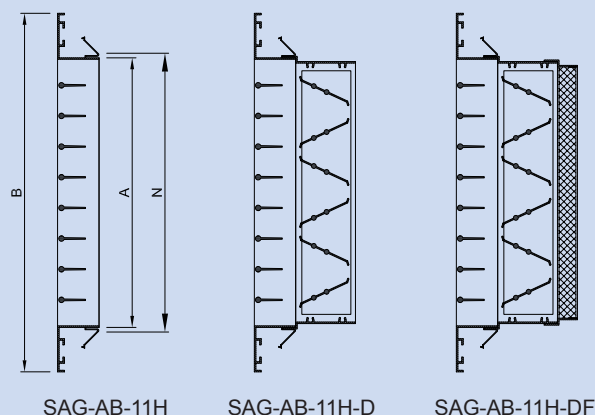
Mill finish or Chrome plating.

Frame and Blades

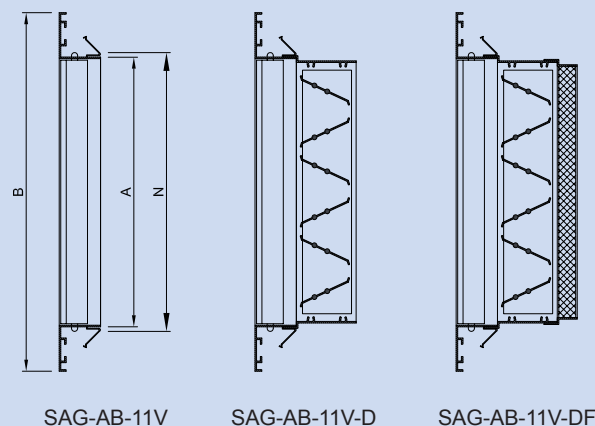
Available in Stainless steel (304/316L).



SAG-AB-11H - Single Deflection



SAD-AB-11V - Single Deflection



Note:

N = Nominal Duct Size, **A** = Neck Size,
B = Overall Size (Face size), **D** = Damper ; **F** = Filter

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

Grille

B - 10 Series

Intertek

Type: Supply Air Grille

Model : SAG-AB-12H/V

Deflection: Double

Construction: Aluminium

H - Front Horizontal; V - Front Vertical

Description

BETEC CAD. Model SAG-AB-12H is a double deflection supply air grille, with one set of horizontal aerofoil blades front and one set of vertical blades at the rear and model SAG-AB-12V, with one set of vertical aerofoil blades front and one set of horizontal blades at the rear respectively.

The frame and blade are constructed from high quality aluminum extruded profiles. The blades in these models are individually adjustable to any degree of deflection. The Horizontal and vertical vanes are provided with nylon bushes for rattle free operation.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm flange width.

Blades

Extruded Aluminium aerofoil blades.

Blade Spacing

Standard Blade Spacing of 20 mm.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper

Black matte.

Filter

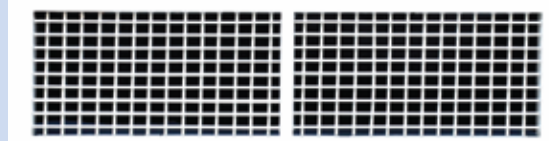
Aluminium media filter.

Finish

Mill finish or Chrome plating.

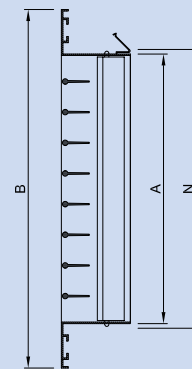
Frame and Blades

Available in Stainless steel (304/316L).

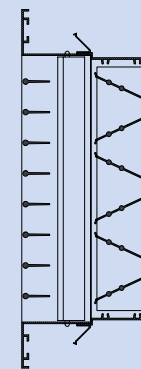


SAG-AB-12H

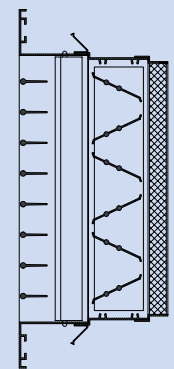
SAG-AB-12H - Double Deflection



SAG-AB-12H



SAG-AB-12H-D



SAG-AB-12H-DF

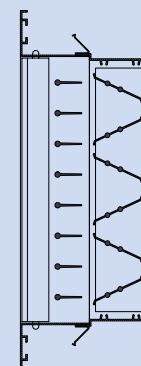


SAG-AB-12V

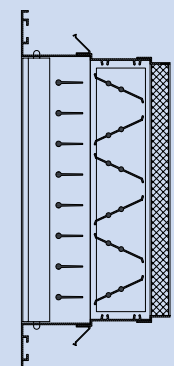
SAG-AB-12V - Double Deflection



SAG-AB-12V



SAG-AB-12V-D



SAG-AB-12V-DF

Note:

N = Nominal Duct Size, A = Neck Size,

B = Overall Size (Face size), D = Damper ; F = Filter

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

Grille

B - 10 Series

Intertek

Type: Return Air Grille

Model : RAG-AB-11H/V

Deflection: Single

Construction: Aluminium

H - Front Horizontal; V - Front Vertical

Description

BETEC CAD. model RAG-AB-11H is a single deflection return air grille, with one set of horizontal aerofoil blades and model RAG-AB-11V, with one set of vertical aerofoil blades.

The frame and blade are constructed from high quality aluminum extruded profiles. The blades in these models are individually adjustable to any degree of deflection. The Horizontal and vertical vanes are provided with nylon bushes for rattle free operation.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm flange width.

Blades

Extruded Aluminium aerofoil blades.

Blade Spacing

Standard Blade Spacing of 20 mm.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screws.

Damper Finish

Black matte.

Filter

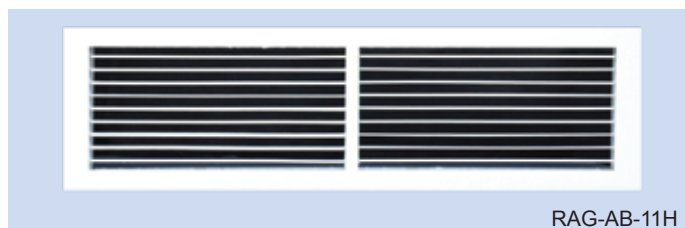
Aluminium media filter.

Finish

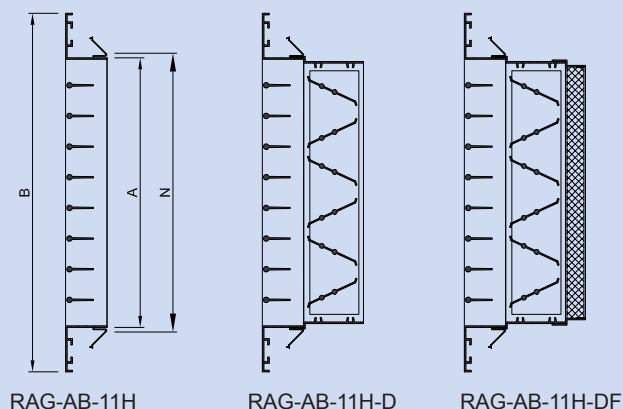
Mill finish or Chrome plating.

Frame and Blades

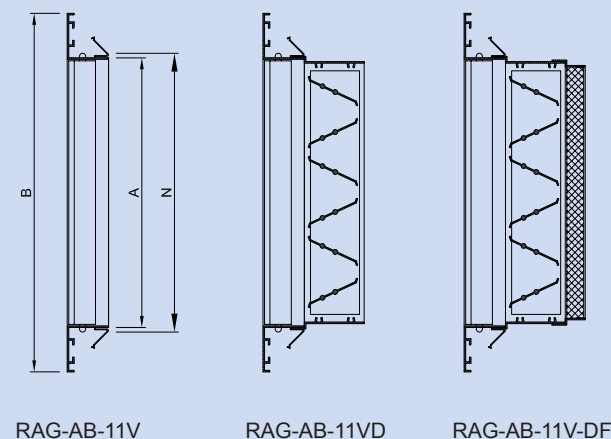
Available in Stainless steel (304/316L).



RAG-AB-11H - Single Deflection



RAG-AB-11V - Single Deflection



Note:

N = Nominal Duct, A = Neck, B = Overall Size (Face size)
D = Damper ; F = Filter

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Grille

B - 10 Series

Intertek

Type: Return Air Grille

Model : RAG-AB-12H/V

Deflection: Double

Construction: Aluminium

H - Front Horizontal; V - Front Vertical

Description

BETEC CAD. Model RAG-AB-12H is a double deflection supply air grille, with one set of horizontal aerofoil blades front and one set of vertical blades at the rear and model RAG-AB-12V, with one set of vertical aerofoil blades front and one set of horizontal blades at the rear respectively.

The frame and blade are constructed from high quality aluminum extruded profiles. The blades in these models are individually adjustable to any degree of deflection. The Horizontal and vertical vanes are provided with nylon bushes for rattle free operation.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm flange width.

Blades

Extruded Aluminium aerofoil blades.

Blade Spacing

Standard Blade Spacing of 20 mm.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screws.

Damper Finish

Black matte.

Filter

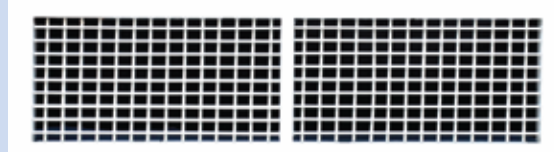
Aluminium media filter.

Finish

Mill finish or Chrome plating.

Frame and Blades

Available in Stainless steel (304/316L).

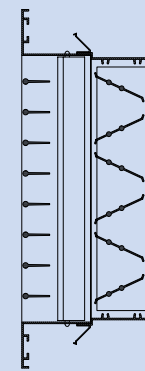


RAG-AB-12H

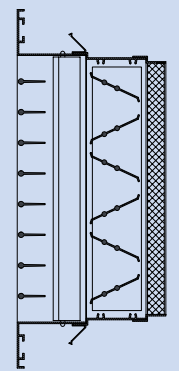
RAG-AB-12H - Double Deflection



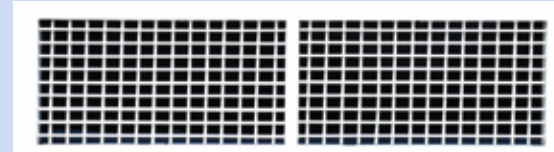
RAG-AB-12H



RAG-AB-12H-D

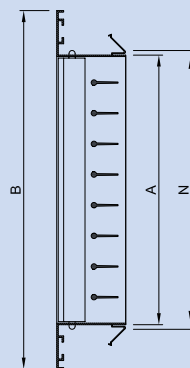


RAG-AB-12H-DF

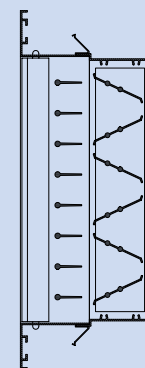


RAG-AB-12V

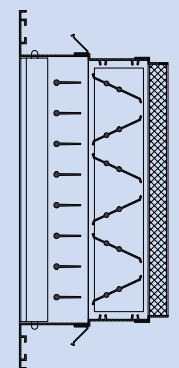
RAG-AB-12V - Double Deflection



RAG-AB-12V



RAG-AB-12V-D



RAG-AB-12V-DF

Note:

N = Nominal Duct Size, A = Neck Size,

B = Overall Size (Face size), D = Damper ; F = Filter

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



Register

B - 10 Series

Type: Supply Air Register

Model : SAR-AB-12H/V

Deflection: Double

Construction: Aluminium

H - Front Horizontal; V - Front Vertical

Description

BETEC CAD. Model SAR-AB-12H is a double deflection supply air register, with one set of horizontal aerofoil blades front and one set of vertical blades at the rear and model SAR-AB-12V, with one set of vertical aerofoil blades front and one set of horizontal blades at the rear respectively.

The frame and blade are constructed from high quality aluminum extruded profiles. The blades in these models are individually adjustable to any degree of deflection. The Horizontal and vertical vanes are provided with nylon bushes for rattle free operation.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm flange width.

Blades

Extruded Aluminium aerofoil blades.

Blade Spacing

Standard Blade Spacing of 20 mm.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper Finish

Black matte.

Filter

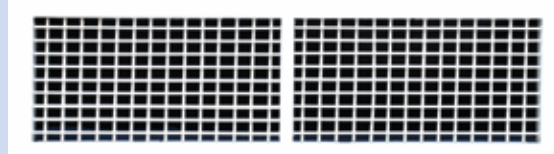
Aluminium media filter

Finish

Mill finish or Chrome plating.

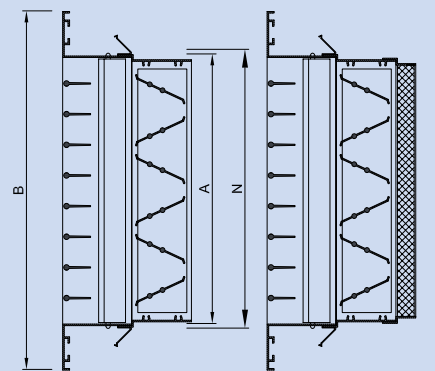
Frame and Blades

Available in Stainless steel (304/316L).



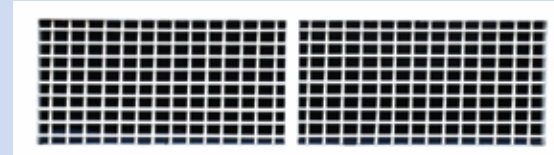
SAR-AB-12H

SAR-AB-12H - Double Deflection



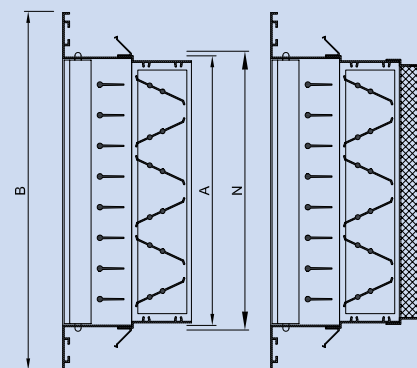
SAR-AB-12H-D

SAR-AB-12H-DF



SAR-AB-12V

SAR-AB-12V - Double Deflection



SAR-AB-12V-D

SAR-AB-12V-DF

Note:

N = Nominal Duct Size, **A** = Neck Size,
B = Overall Size (Face size), **D** = Damper ; **F** = Filter

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



Register

B - 10 Series

Type: Return Air Register

Model : RAR-AB-12H/V

Deflection: Double

Construction: Aluminium

H - Front Horizontal; V - Front Vertical

Description

BETEC CAD. Model RAR-AB-12H is a double deflection return air register, with one set of horizontal aerofoil blades front and one set of vertical blades at the rear and model RAR-AB-12V, with one set of vertical aerofoil blades front and one set of horizontal blades at the rear respectively.

The frame and blade are constructed from high quality aluminum extruded profiles. The blades in these models are individually adjustable to any degree of deflection. The Horizontal and vertical vanes are provided with nylon bushes for rattle free operation.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm flange width.

Blades

Extruded Aluminium aerofoil blades.

Blade Spacing

Standard Blade Spacing of 20 mm.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper Finish

Black matte.

Filter

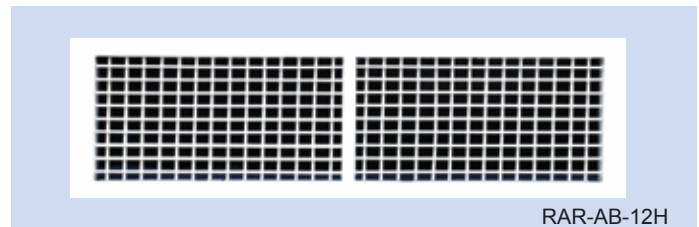
Aluminium media filter.

Finish

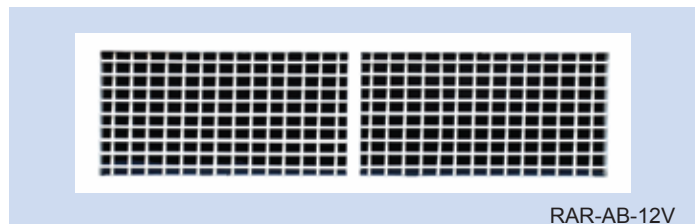
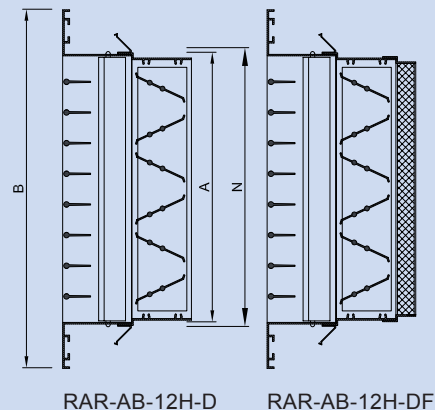
Mill finish or Chrome plating.

Frame and Blades

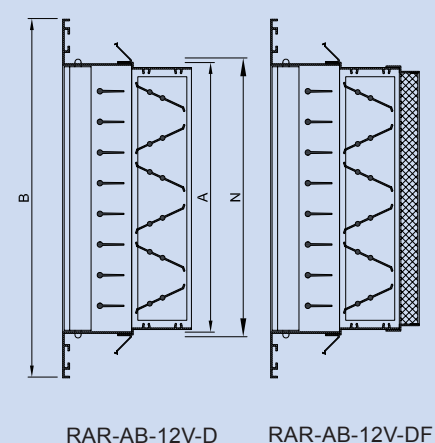
Available in Stainless steel (304/316L).



RAR-AB-12H - Double Deflection



RAR-AB-12V - Double Deflection



Note:

N = Nominal Duct Size, **A** = Neck Size,
B = Overall Size (Face size), **D** = Damper ; **F** = Filter

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

Grille

B - 10 Series

Type: Extract Air Grille

Model : EAG-AB-11

Deflection: Single

Construction: Aluminium

Description

BETEC CAD. model EAG-B11 is an Extract air grille with fixed horizontal aerofoil blades at a 45° angle.

The frame and blades are of high quality extruded aluminum profiled construction.

Deflection blades are fixed rigidly to the frame at an angle of 45° to the horizontal plane.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm Flange width.

Blades

Extruded Aluminium aerofoil blades.

Blade Spacing

Standard Blade Spacing of 20 mm.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Damper Finish

Black matte.

Filter

Aluminium media Filter.

Finish

Mill finish or Chrome plating.

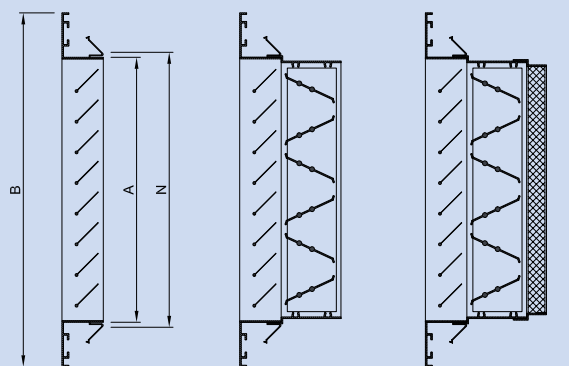
Frame and Blades

Available in Stainless steel (304/316L).



EAG-AB-11

EAG-AB-11 - 45° Fixed Balde



EAG-AB-11

EAG-AB-11-D

EAG-AB-11-DF

Note:

N = Nominal Duct Size, **A** = Neck Size,

B = Overall Size (Face size), **D** = Damper ; **F** = Filter

Grille

B - 10 Series

Type: Egg Crate Grille

Model : ECG-AB-11

Deflection: Single

Construction: Aluminium

Description

BETEC CAD. model ECG-B11 is an Egg-Crate type Return air grille. The Egg Crate square core pattern is of aluminium construction providing maximum free area.

The frame and blade are constructed from high quality aluminum extruded profiles. Aluminium egg crate core of 12.5 mm x 12.5 mm x 12.5 mm size is fixed rigidly to the frame. The Horizontal and vertical vanes are provided with nylon bushes for rigid and rattle free operation.

Designed for return and exhaust applications.

Standard Construction

Frame

Extruded aluminium profiles with 27 mm Flange width.

Egg Crate Core

12.5 x 12.5 x 12.5 mm aluminium grid.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Damper Finish

Black matte.

Filter

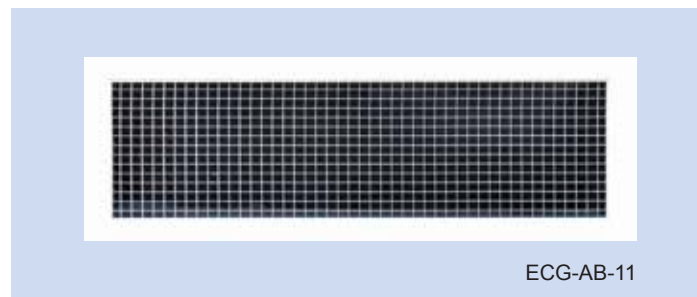
Aluminium media Filter.

Finish

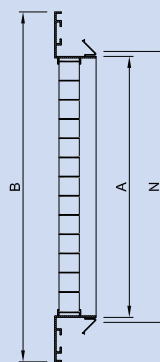
Mill finish or Chrome plating.

Frame and Blades

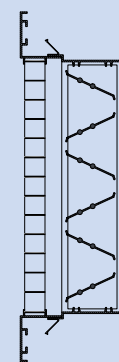
Available in Stainless steel (304/316L).



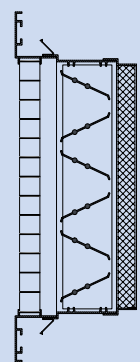
ECG-AB-11



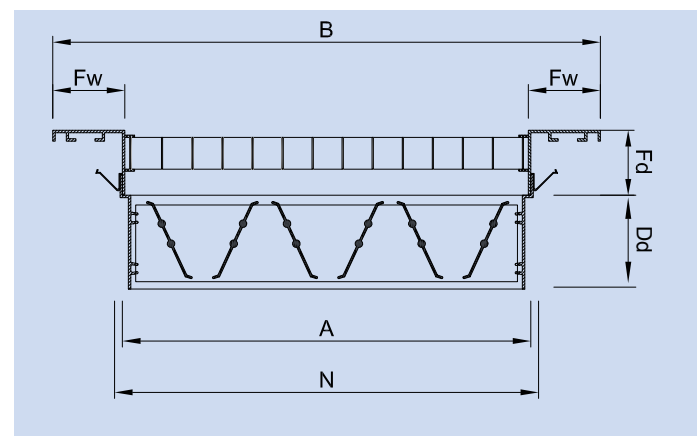
ECG-AB-11



ECG-AB-11-D



ECG-AB-11-DF



Note:

N = Nominal Duct Size, **A** = Neck Size,
B = Overall Size (Face size), **D** = Damper ; **F** = Filter

F_w = Frame width = 30 mm

F_d = Frame depth = 27 mm

D_d = Damper depth = 40 mm (after overlap)

F = Filter thickness = 12.5 mm

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

Grille

B - 10 Series

Type: Door Grille

Model : DG-AB-12

Deflection: Single

Construction: Aluminium

Description

BETEC CAD. model DG-AB-12 is a Door grille with fixed horizontal aerofoil blades at a 45° angle.

Frame and blades are of high quality extruded aluminium profile construction. Inverted " V " type horizontal blades are fixed rigidly to the frame to avoid vibration and corrosion. The blades are spaced at a distance of 15 mm and are provided with counter frames for fixing on both sides of the door.

Made to withstand heavy use to which door grilles are subjected to.

Frame is fabricated to suit door thickness of 30 mm.

The structure provides around 55% free area for air transmission. These grilles are used in facilities such as offices, hospitals, schools and toilets for transfer of air from one room to another room.

Standard Construction

Frame

Extruded aluminium profile with 30 mm Flange width.

Blade

Extruded aluminium profile.

Blade Spacing

Standard Blade Spacing of 20 - 24 mm

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Finish

Mill finish or Chrome plating.

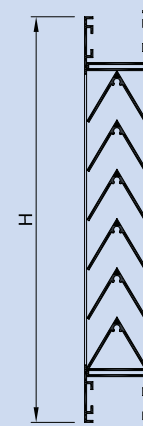
Frame and Blades

Available in Stainless steel (304/316L).

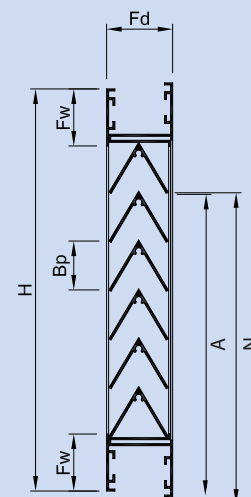


DG-AB-12

DG-AB-12



DG-AB-12



Note:

N = Nominal Duct Size, **A** = Neck Size,

H = Overall Size (Face size)

F_w = Frame width = 29 mm

F_d = Frame depth = 32 mm

B_p = Pitch of the blade = 20 - 24 mm.

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

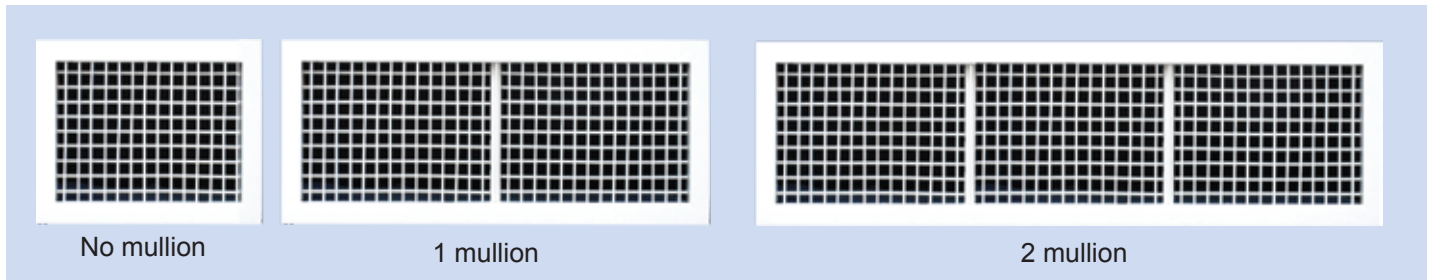


Grille

B - 10 Series

Constructional Details and Dimensions

If W or L < 500mm ----- No mullion
 W or L > 500mm ----- 1 mullion
 W or L > 1000mm ----- 2 mullion



Standard Sizes of **BETEC CAD.**' s Grilles
 SAG, RAG, EAG, ECG, DG

Size (inch)	CFM range	Size (inch)	CFM range	Size (inch)	CFM range	Size (inch)	CFM range	Size (inch)	CFM range
8x4	70-175	8x6	100-235	10x8	150-400	12x10	250-444	12x12	250-580
10x4	85-195	10x6	130-310	12x8	210-480	14x10	290-660	14x12	300-700
14x4	100-200	12x6	150-350	16x8	300-700	16x10	330-760	16x12	410-950
16x4	150-250	16x6	210-480	18x8	300-700	18x10	410-950	18x12	470-1090
18x4	150-250	18x6	230-530	20x8	330-760	20x10	410-950	20x12	500-1100
20x4	200-300	20x6	250-580	24x8	410-950	24x10	500-1100	24x12	600-1400
24x4	200-300	24x6	300-700	28x8	450-950	28x10	550-1250	28x12	600-1400
28x4	250-400	28x6	375-820	30x8	470-950	30x10	600-1400	30x12	680-1580
32x4	300-450	32x6	425-960	32x8	600-1200	32x10	625-1660	32x12	790-1900
36x4	300-450	36x6	470-1090	36x8	600-1580	34x10	750-1875	36x12	900-2100

Note : Standard Sizes L x W (inches)

L = Length of the grille
 W = Width of the grille
 N = Nominal size = Duct size
 N = L x W
 A = Neck Size of the grille
 B = Overall size of grille (Face size)
 A = (L - 10) x (W - 10)
 B = (L + 50) x (W + 50)

F_w = Frame width = 30 mm
 F_d = Frame depth = 27 mm B-11 / 45 mm B-12
 B_p = Pitch of the blade = 20 mm
 D_d = Damper depth = 40 mm (after overlap)
 F = Filter thickness = 12.5 mm
 F_w = Frame width = 25 mm Optional

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



Linear Bar Grille

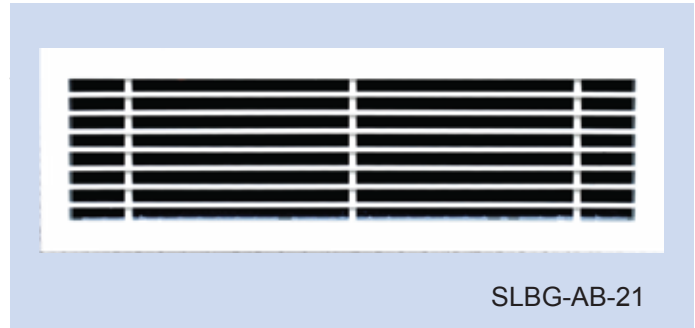
B - 20 Series

BETEC CAD . B20 Series Linear Bar Grilles and Registers are engineered for supply and return air distribution in heating, cooling and ventilating applications. These are designed for sidewall, floor, sill, and ceiling installations.

Construction

Face bars of natural anodized extruded aluminum are mechanically interlocked into heavy gauge cross bars to produce straight, rigid, and blemish free core sections. Placed on 9 mm centers, the face bars 15° angle of deflection cores are secured by steel coated retaining clips. Wall and ceiling cores are permanently attached to their frames.

Bar Grille frames are made of extruded aluminum with 30 mm flange. Steel snap-in friction springs are used as the standard mounting method for floor, sill and sidewall applications, especially where specifications call for concealed installation. Concealed mounting systems, using hanger brackets and leveling screws, are available for ceiling installations.



Features

A complete line of accessories and options is available for Series B20 Linear Bar Grilles and Registers, including mitered corners, opposed blade dampers, adjustable extractors and grids, access doors, and debris screens.

Standard Types and Models							
Type	Model	Deflection	Throw	Linear Bar Pitch	With Damper (D)	With Filter (F)	Construction
Linear Bar Grille	SLBG-AB-21	Single	15° - 2 Way	12 mm	N/A	Optional	A* / S / C
	SLBG-AB-21D		15° - 2 Way	12 mm	*	Optional	A* / S / C
	SLBG-AB-22	Double	15° - 2 Way	12 mm	N/A	Optional	A* / S / C
	SLBG-AB-22D		15° - 2 Way	12 mm	*	Optional	A* / S / C
	RLBG-AB-21	Single	15° - 2 Way	12 mm	N/A	Optional	A* / S / C
	RLBG-AB-21D		15° - 2 Way	12 mm	*	Optional	A* / S / C
	RLBG-AB-22	Double	15° - 2 Way	12 mm	N/A	Optional	A* / S / C
	RLBG-AB-22D		15° - 2 Way	12 mm	*	Optional	A* / S / C

SLBG - Supply Linear Bar Grille; RLBG - Return Linear Bar Grille

Material Details

All types and models of Linear Bar Grilles are available in Aluminum and Stainless Steel finish according to the design and application.

Metal Aluminium (AL)

Extruded aluminium Standards **Alloy - 6063A** with temper T6 according to the design conditions.

Sheet Metal Stainless steel (SS)

Stainless steel to **304/316L**

Application

Aluminium Construction : For HVAC Commercial, Residential, Hospitals, Labs, Green Building etc.

SS Construction : For offshore, Oil & Gas etc.

The respective alphabet indicates the type of material construction.

A – Aluminum (AL)

S – Stainless steel (SS)

BETEC CAD. Linear Bar Grilles are manufactured as per international standards and confirmed to **ASHRAE 70-2006 standards**.

Note:

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

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



Linear Bar Grille

B - 20 Series

Type: Supply Linear Bar Grille

Model : SLBG-AB-21

Deflection : Single

Throw: 15°, 2-way

Construction: Aluminium

Intertek

Description

BETEC CAD.s B-20 Series Linear Bar Grilles are engineered to supply air in heating, cooling and ventilating applications and are used for sidewall, floor, sill, and ceiling installations.

Frame and face bars are of high quality extruded aluminium profile, having 15°- 2 way throw.

The face bars are permanently fixed to the frame with 8-mm pipes and total structure is rigidly fixed to opposed blade damper by grippers to maintain straight-line appearance. This ensures positive control over the air stream. Damper blades can be screw operated from the face opening.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm Flange width.

Face bars

Extruded Aluminium Solid blades at 15°, 2-way throw.

Bar Spacing

Standard Blade Spacing of 9 mm.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper Finish

Black matte.

Filter

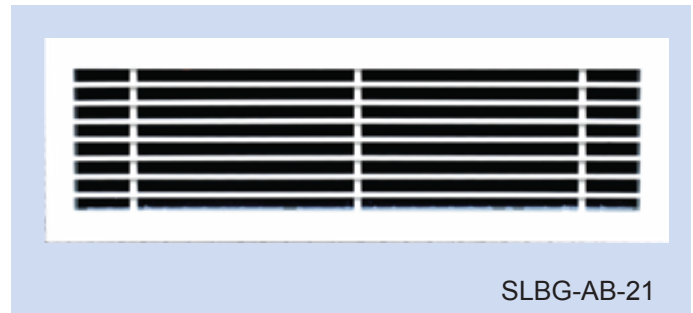
Aluminium media Filter.

Finish

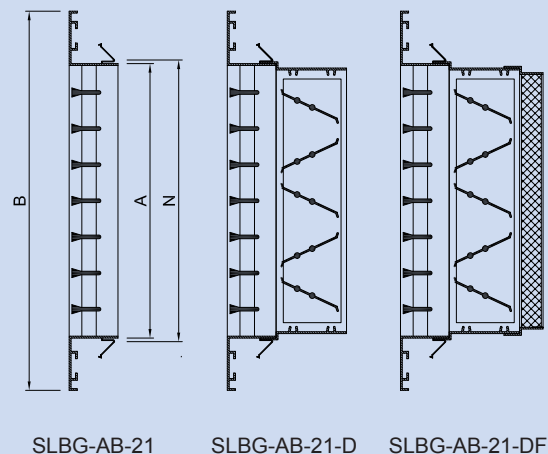
Mill finish or Chrome plating.

Frame and Blades

Available in Stainless steel (304/316L).



SLBG-AB-21 - Single Deflection Blade 15°



Note:

N = Nominal Duct Size, **A** = Neck Size,
B = Overall Size (Face size), **D** = Damper ; **F** = Filter

Available Standard Sizes

Width of the Grille 'W'	Length of the Grille in Number of Pieces 'L'		
	1 Pc	2 Pcs	3 Pcs
50 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
100 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
150 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
200 mm	< 2 Mtrs.	< 4 Mtrs	< 6 Mtrs
250 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
300 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
350 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs

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Linear Bar Grille

B - 20 Series

Type: Supply Linear Bar Grille

Model : SLBG-AB-22

Deflection : Double

Throw: 15°, 2-way

Construction: Aluminium

Intertek

Description

BETEC CAD.s B-20 Series Double deflection supply linear bar grille has fixed profiled extruded aluminium linear blades of 15° - 2 way throw set at 12mm pitch in the front and individually adjustable vertical aerofoil blades in the rear.

The face bars are permanently fixed to the frame with 8-mm pipes and total structure is rigidly fixed to opposed blade damper by grippers to maintain straight-line appearance. This ensures positive control over the air stream. Damper blades can be screw operated from the face opening.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm Flange width.

Face bars

Extruded Aluminium Solid blades at 15°, 2-way throw.

Bar Spacing

Standard Blade Spacing of 9 mm.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper Finish

Black matte.

Filter

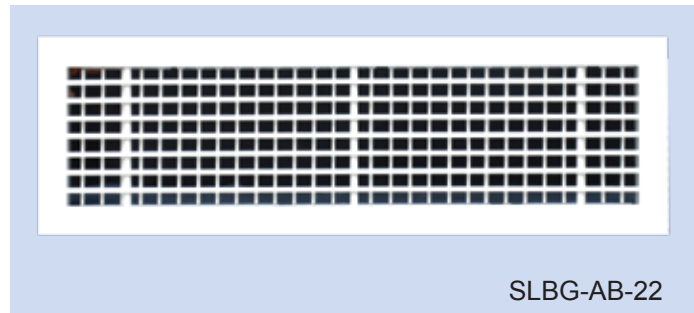
Aluminium media Filter.

Finish

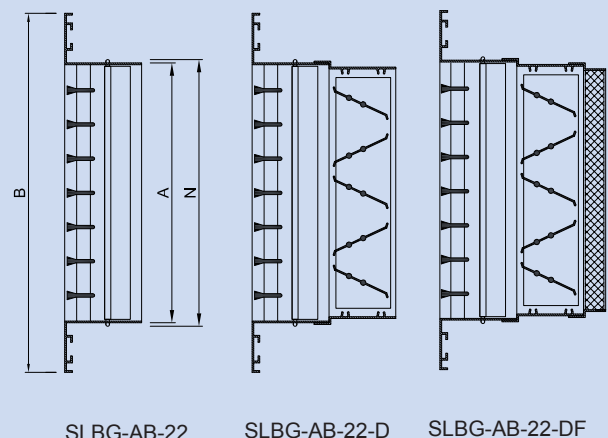
Mill finish or Chrome plating.

Frame and Blades

Available in Stainless steel (304/316L).



SLBG-AB-22 - Double Deflection Blade 15°



Note:

N = Nominal Duct Size, **A** = Neck Size,

B = Overall Size (Face size), **D** = Damper ; **F** = Filter

Available Standard Sizes

Width of the Grille 'W'	Length of the Grille in Number of Pieces 'L'		
	1 Pc	2 Pcs	3 Pcs
50 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
100 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
150 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
200 mm	< 2 Mtrs.	< 4 Mtrs	< 6 Mtrs
250 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
300 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
350 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs

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Linear Bar Grille

B - 20 Series

Type: Return Linear Bar Grille

Model : RLBG-AB-21

Deflection : Single

Throw: 15°, 2-way

Construction: Aluminium

Intertek

Description

BETEC CAD.s B-20 Series Linear Bar Grilles are engineered to return air in heating, cooling and ventilating applications and are used for sidewall, floor, sill, and ceiling installations.

Frame and face bars are of high quality extruded aluminium profile, having 15°- 2 way throw .

The face bars are permanently fixed to the frame with 8-mm pipes and total structure is rigidly fixed to opposed blade damper by grippers to maintain straight-line appearance. This ensures positive control over the air stream. Damper blades can be screw operated from the face opening.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm Flange width.

Face bars

Extruded Aluminium Solid blades at 15°, 2-way throw.

Bar Spacing

Standard Blade Spacing of 9 mm.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Damper Finish

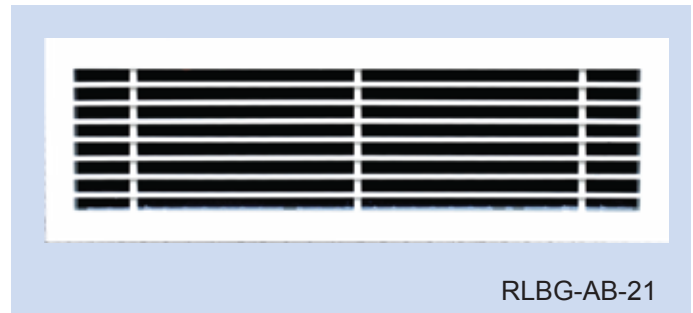
Black matte.

Finish

Mill finish or Chrome plating.

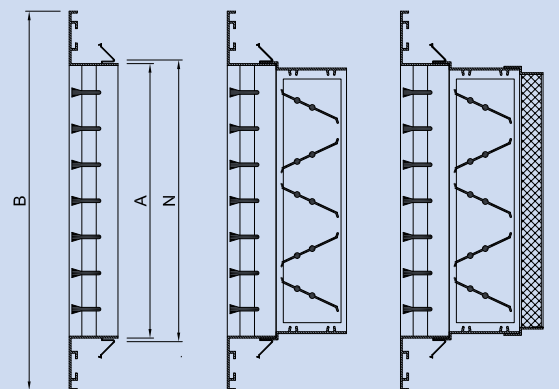
Frame and Blades

Available in Stainless steel (304/316L).



RLBG-AB-21

RLBG-AB-21 - Single Deflection Blade 15°



RLBG-AB-21

RLBG-AB-21-D

RLBG-AB-21-DF

Note:

N = Nominal Duct Size, **A** = Neck Size,

B = Overall Size (Face size), **D** = Damper ; **F** = Filter

Available Standard Sizes

Width of the Grille 'W'	Length of the Grille in Number of Pieces 'L'		
	1 Pc	2 Pcs	3 Pcs
50 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
100 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
150 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
200 mm	< 2 Mtrs.	< 4 Mtrs	< 6 Mtrs
250 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
300 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
350 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs

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Linear Bar Grille

B - 20 Series

Type: Return Linear Bar Grille

Model : RLBG-AB-22

Deflection : Double

Throw: 15°, 2-way

Construction: Aluminium

Intertek

Description

BETEC CAD.s B-20 Series Double deflection return linear bar grille has fixed profiled extruded aluminium linear blades of 15° - 2 way throw set at 12mm pitch in the front and individually adjustable vertical aerofoil blades in the rear.

The face bars are permanently fixed to the frame with 8-mm pipes and total structure is rigidly fixed to opposed blade damper by grippers to maintain straight-line appearance. This ensures positive control over the air stream. Damper blades can be screw operated from the face opening.

Standard Construction

Frame

Extruded aluminium profiles with 30 mm Flange width.

Face bars

Extruded Aluminium Solid blades at 15°, 2-way throw.

Bar Spacing

Standard Blade Spacing of 9 mm.

Finish

Available with RAL powder coating, please specify color.

Optional Construction

Flange

25 mm Flange width.

Foam Gasket

Provided all around the frame, to prevent leakage of air.

Damper

Opposed Blade Damper with extruded aluminium frame and blade operated with screw.

Damper Finish

Black matte.

Filter

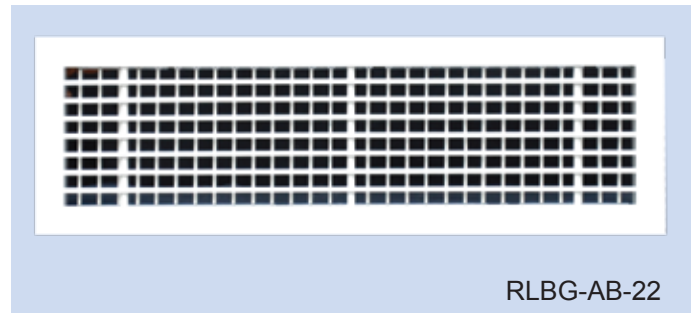
Aluminium media Filter.

Finish

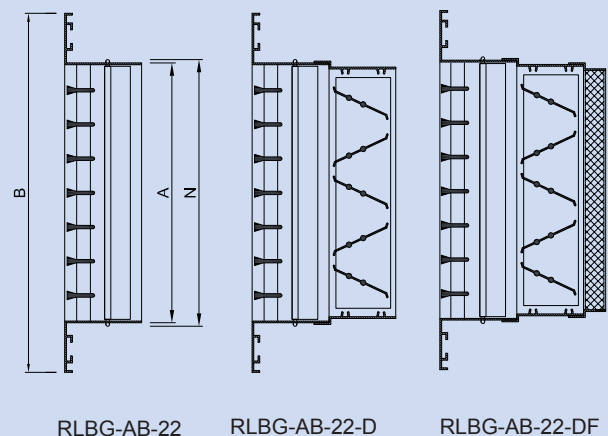
Mill finish or Chrome plating.

Frame and Blades

Available in Stainless steel (304/316L).



RLBG-AB-22 Double Deflection Blade 15°



Note:

N = Nominal Duct Size, **A** = Neck Size,
B = Overall Size (Face size), **D** = Damper ; **F** = Filter

Available Standard Sizes

Width of the Grille 'W'	Length of the Grille in Number of Pieces 'L'		
	1 Pc	2 Pcs	3 Pcs
50 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
100 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
150 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
200 mm	< 2 Mtrs.	< 4 Mtrs	< 6 Mtrs
250 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
300 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs
350 mm	< 2 Mtrs	< 4 Mtrs	< 6 Mtrs

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Linear Bar Grille

Constructional Details and Dimensions

B-20 Series Aluminium Construction.

B - 20 Series

RLBG / SLGB Single Deflection B21

F_w = Frame width = 30 mm
 F_d = Frame depth = 27 mm
 B_s = Linear bar space = 9 mm
 B = Overall size of Bar grille (Face size)
 A = Neck Size of the grille
 N = Nominal size = Duct size

RLBG/SLBG Single Deflection with Damper B21

F_w = Frame width = 30 mm
 F_d = Frame depth = 27 mm
 B_s = Linear bar space = 9 mm
 D_d = Damper depth = 40 mm
 B = Overall size of Bar grille (Face size)
 A = Neck Size of the grille
 N = Nominal size = Duct size

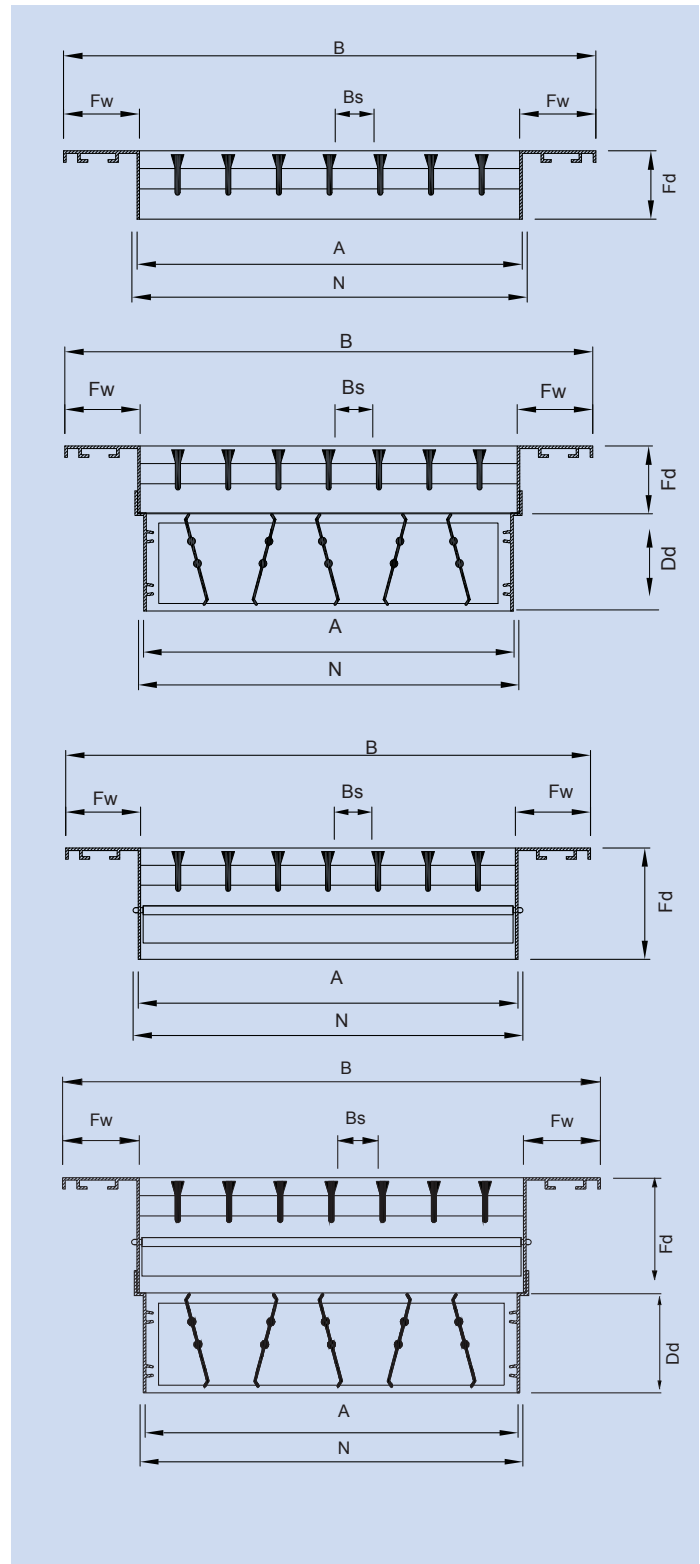
RLBG/SLBG Double Deflection B22

F_w = Frame width = 30 mm
 F_d = Frame depth = 45 mm
 B_s = Linear bar space = 9 mm
 B = Overall size of Bar grille (Face size)
 A = Neck Size of the grille
 N = Nominal size = Duct size

RLBG/SLBG Double Deflection with Damper B22

F_w = Frame width = 30 mm
 F_d = Frame depth = 45 mm
 B_s = Linear bar space = 9 mm
 D_d = Damper depth = 40 mm
 B = Overall size of Bar grille (Face size)
 A = Neck Size of the grille
 N = Nominal size = Duct size

L = Length of the grille ; W = Width of the grille
 N = Nominal size = Duct size = $L \times W$
 A = Neck Size of the grille = $(L - 10) \times (W - 10)$
 B = Overall size of grille (Face size) = $(L + 50) \times (W + 50)$



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Linear Bar Grille

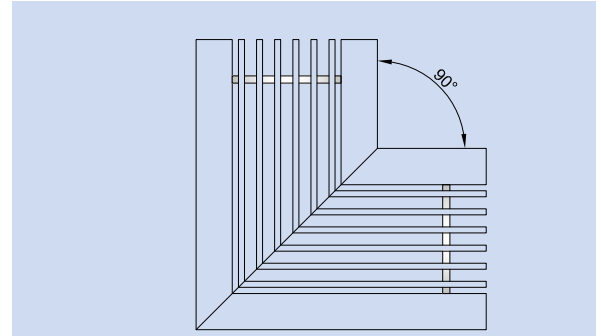
Supply / Return Linear Bar Grilles

B-20 Series Aluminium Construction.

B - 20 Series

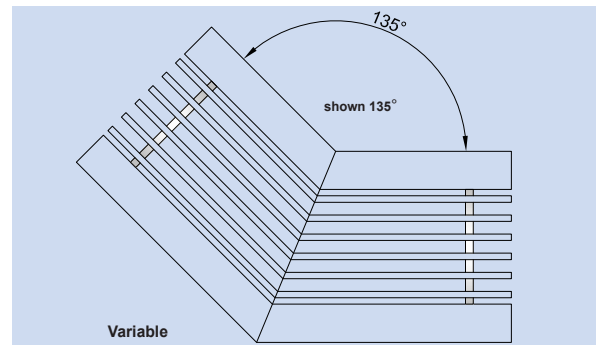
90° Horizontal mitered corner section

Available for installation in ceiling, floor, sill or sidewall applications, the standard horizontal (flat) mitered corner section includes an angle of 90° and is available in 15° 2 way deflection. The corner section contains two (2) feet of straight grille, one foot on either side of the miter line. When specifying a corner section with 15° deflection, it is imperative to specify the direction of the air throw either toward the inside or the outside of the corner. Normally inactive, corner sections are of one piece welded construction and are not supplied with dampers, equalizing grids, or other accessories.



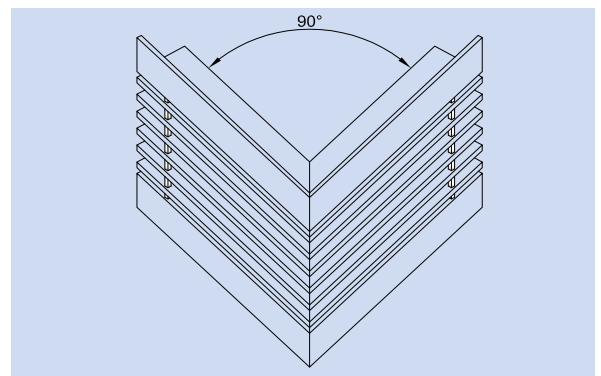
Special Horizontal mitered corner section

Available for installation in ceiling, floor, sill or sidewall applications, the special horizontal (flat) mitered corner section includes an angle greater than 90° and less than 180° and is available in 15° deflection. Horizontal corner sections are not available for included angles of less than 90°. The corner section contains two (2) feet of straight grille, one foot on either side of the miter line. When specifying a corner section with 15° 2 way deflection, it is imperative to specify the direction of the air throw either toward the inside or the outside of the corner. Normally inactive, corner sections are of one piece welded construction and are not supplied with dampers, equalizing grids, or other accessories.



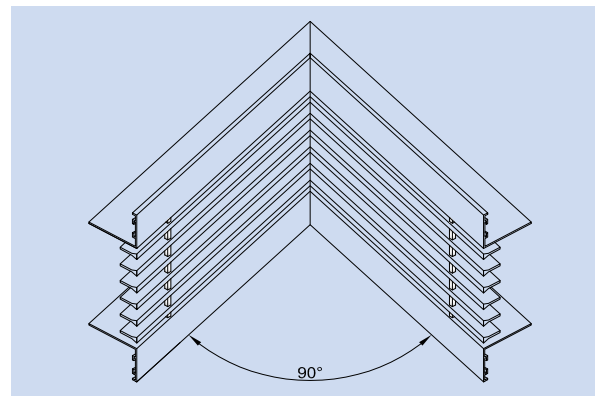
Vertical outside mitered corner section

Designed for sidewall installation at the junction of two outside walls, the vertical outside mitered corner section includes an angle of 90° and is available in 15° 2 way deflection. Vertical outside corner sections are not available for included angles other than 90°. The corner section contains two (2) feet of straight grille, one foot on either side of the miter line. Normally inactive, corner sections are of one piece welded construction and are not supplied with dampers, equalizing grids, or other accessories. An outside vertical mitered corner section is specified when the adjoining walls in which it is installed face outward from each other.



Vertical inside mitered corner section

Designed for sidewall installation at the junction of two inside walls, the vertical inside mitered corner section includes an angle of 90° and is available in 15° 2 way deflection. Vertical inside mitered corner sections are not available for included angles other than 90°. The corner section contains two (2) feet of straight grille, one foot on either side of the miter line. Normally inactive, corner sections are of one piece welded construction and are not supplied with dampers, equalizing grids, or other accessories. A vertical inside mitered corner section is specified when the adjoining walls in which it is installed face inward toward each other.



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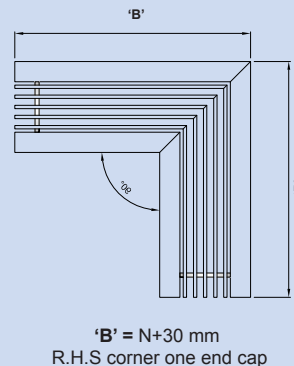
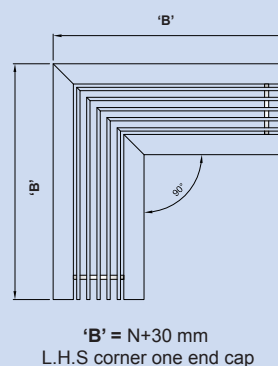
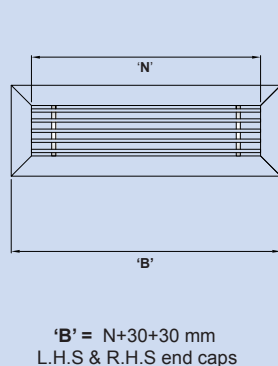
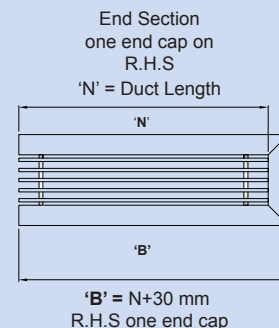
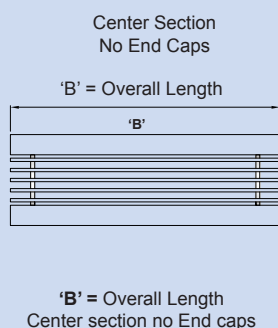
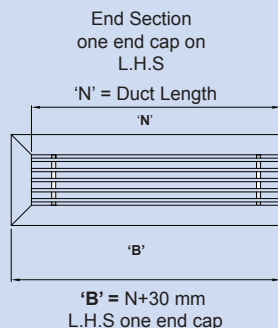
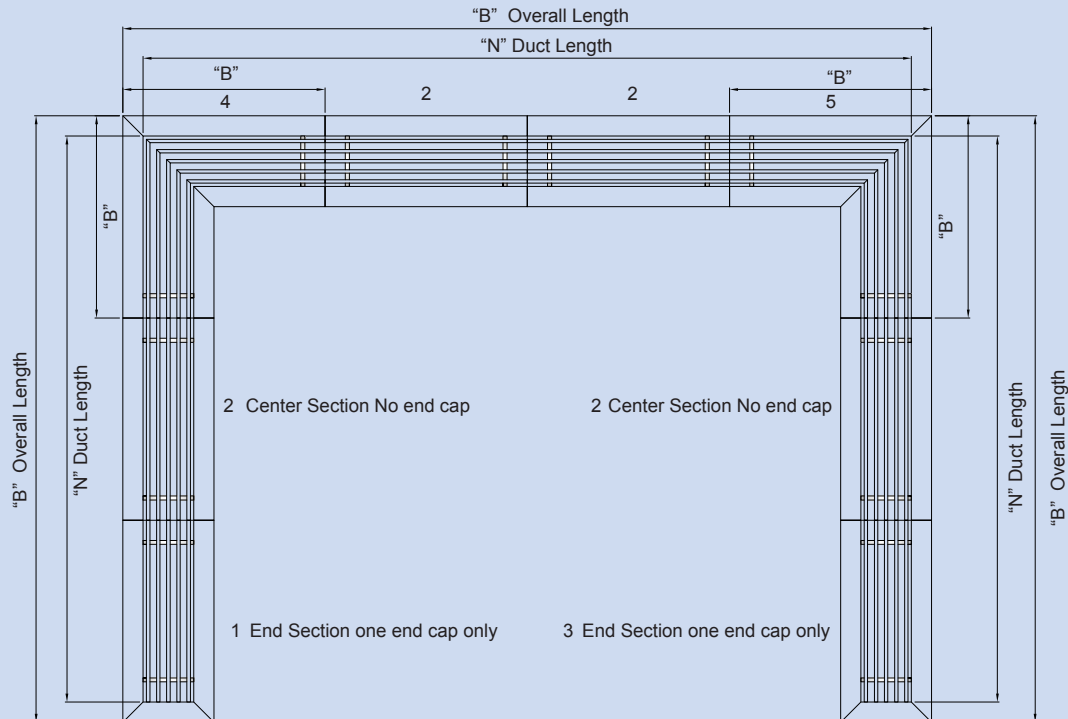
Linear Bar Grille

B - 20 Series

Supply / Return Linear Bar Grilles

Dimensions For Continuous Linear Bar Grilles

All Dimensions for 30 mm Flange Linear Bar Grilles.



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

Grille and Linear Bar Grille**B - 10/20 Series****Performance Notes and Terminology**

Area Factor - Ak is the symbol for area factor. It is a performance characteristic of air outlets or inlets that when multiplied by the average outlet velocity of the airstream yields the volume of air being handled. The formula for area factor is

$$A_k = \frac{CFM}{V_k}$$

where CFM is the volume of air and V_k is the outlet velocity. The area factor of an outlet is always less than its nominal area because the blades, vanes, damper etc., of the outlet core necessarily obstruct some airflow.

Air Change Rate - The air change rate is the number of times per hour that the total volume of a conditioned space is replaced with fresh supply air (normally between 6-10 changes/hour). The formula used for calculating CFM is

$$CFM = \frac{\text{Room Volume} \times \text{Number of Air Changes/Hr}}{60 \text{ Minutes}}$$

CFM - CFM is the standard unit of measure for air volume, and stands for Cubic Feet per Minute. The capacity of an air outlet or air inlet (i.e., the volume of air it can handle) is normally expressed in CFM.

Delta T (ΔT) - Delta stands for differential and T for temperature, sometimes this expression is written dT or AT. Delta T is the difference in temperature (measured in °F) between room air and supply air.

Discharge Velocity (V_k) - Discharge velocity is the velocity of the supply airstream as it leaves its supply outlet. It is also known as face velocity. The standard unit of measure for discharge velocity is FPM (Feet Per Minute).

Decibel (dB) - Decibel is the standard unit of measure for sound pressure and is abbreviated as dB. Sound levels are based on the Ak or 40 dB weighted scale of a standard sound level meter. Decibels are measured on a logarithmic scale where 0 dB equals the threshold of human hearing and 140 dB equals the threshold of pain (See NC).

Drop - Drop is the vertical distance that a horizontally projected airstream falls measured from the base of the outlet to the bottom of the airstream at the end of its throw. Drop is primarily affected by the length of throw and Delta T

FPM - FPM is the standard unit of measurement for air velocity, and stands for Feet Per Minute.

Noise Criteria (NC) - NC values represent equal loudness in all eight octave bands, despite varying sound pressure levels in each band. They are based on a room absorption of 10 dB for sound power level (L_w) RE: 1 pW (10 watts). An NC less than 20 is below the threshold of audibility in all octave bands.

Occupied Zone - The occupied zone of a conditioned space is that portion of its interior area normally used by people. The occupied zone is generally considered to extend from floor up 6 feet and to within 6 inches of the sidewalls.

Primary Air - Primary air, or Supply air, is the treated air delivered by an air outlet to the conditioned space. Some definitions of primary air include that portion of the room air which is entrained with the supply airstream within a 150 FPM envelope.

Room Velocity - Room velocity is the air velocity in the occupied zone.

Secondary Air - Secondary air is room air entrained with supply air at or near the diffuser. The movement of secondary air up and into the flow of supply air is called Secondary Air Motion.

Spread - Spread is the maximum distance between the extremes of terminal velocity envelope. It is a measure of how far the supply airstream diverges after it leaves the supply outlet.

Static Pressure (Ps) - Static pressure is that portion of the total pressure of the airstream which produces outward force against the inside of the duct static pressure can exist in air at rest or in motion and is measured in inches of water gauge.

Terminal Velocity (V_t) - Terminal velocity is the highest velocity of an airstream at the end of its throw, terminal velocity can vary considerably depending on the application and conditions, but for grilles and registers it is normally selected between 50 and 100 FPM and for ceiling outlets between 75 and 200 FPM. Increasing the selected terminal velocity of an outlet will decrease the throw and decreasing the terminal velocity will increase the throw, all other conditions being equal.

Throw (T) - Throw is the distance an airstream travels from the supply outlet to a point where it reaches a supplied terminal velocity. Throw values for sidewall supply grilles reflect min to max velocities of 50-100-150 FPM.

Neck Velocity - Values in the Performance Data are for Neck or Duct velocity and refer to the velocity of the supply airstream in the duct just before it meets the supply outlet. It is measured in FPM.

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



Grille
B - 10 Series
Engineering & Performance Data
Intertek

SAG, RAG, SAR, RAR, EAG,

Size in inches	Neck Velocity (fpm)		300	400	500	600	700	800	900	1000	1100	1200
	Terminal Velocity (fpm)		50,100,150	50,100,150	50,100,150	50,100,150	50,100,150	50,100,150	50,100,150	50,100,150	50,100,150	50,100,150
8 x 6	Area Factor Ak = 0.107	CFM	100	133	167	200	233	267	300	333	367	400
		Ps (in.w.g)	0.031	0.055	0.085	0.123	0.167	0.219	0.277	0.342	0.413	0.492
		NC	<15	23	31	36	41	46	49	>50	>50	>50
		Throw (ft.)	29,16,2	34,25,7	40,33,7	44,39,9	47,44,11	49,48,12	52,50,13	55,54,14	56,57,15	59,60,17
16 x 4	Area Factor Ak = 0.179	CFM	133	178	222	267	311	356	400	444	489	533
		Ps (in.w.g)	0.027	0.047	0.074	0.106	0.145	0.189	0.239	0.296	0.358	0.426
		NC	<15	21	28	34	39	43	47	>50	>50	>50
		Throw (ft.)	28,16,4	33,24,7	38,31,8	42,36,10	44,40,11	46,44,12	49,46,14	51,49,15	52,51,16	55,54,17
18 x 4	Area Factor Ak = 0.215	CFM	150	200	250	300	350	400	450	500	550	600
		Ps (in.w.g)	0.025	0.044	0.069	0.099	0.135	0.176	0.222	0.275	0.332	0.395
		NC	<15	20	27	33	38	42	46	49	>50	>50
		Throw (ft.)	28,16,4	32,23,8	37,30,9	41,35,11	43,38,12	45,42,13	47,44,14	50,47,15	51,49,16	53,52,17
16 x 6	Area Factor Ak = 0.287	CFM	200	267	333	400	467	533	600	667	733	800
		Ps (in.w.g)	0.02	0.035	0.055	0.079	0.108	0.141	0.179	0.22	0.267	0.317
		NC	<15	17	25	30	35	40	44	47	>50	>50
		Throw (ft.)	27,16,6	31,22,9	35,27,10	38,31,12	40,34,13	42,37,14	44,39,15	46,41,16	47,43,17	49,45,18
20 x 6	Area Factor Ak = 0.431	CFM	250	333	417	500	583	667	750	833	917	1000
		Ps (in.w.g)	0.016	0.029	0.045	0.064	0.088	0.115	0.145	0.179	0.217	0.258
		NC	<15	16	23	29	34	38	42	46	49	>50
		Throw (ft.)	26,16,8	30,21,10	33,25,11	36,28,13	38,31,14	40,33,15	41,35,16	43,36,17	44,38,18	46,40,19
16 x 8	Area Factor Ak = 0.467	CFM	267	356	444	533	622	711	800	889	978	1067
		Ps (in.w.g)	0.015	0.027	0.042	0.061	0.082	0.108	0.136	0.168	0.203	0.242
		NC	<15	15	23	29	34	38	42	45	48	>50
		Throw (ft.)	26,16,8	30,21,10	33,24,12	35,27,14	37,30,15	39,32,16	41,34,17	42,35,18	43,37,19	45,38,19
36 x 4	Area Factor Ak = 0.539	CFM	300	400	500	600	700	800	900	1000	1100	1200
		Ps (in.w.g)	0.014	0.024	0.038	0.054	0.074	0.096	0.122	0.151	0.182	0.217
		NC	<15	15	22	28	33	38	41	45	48	>50
		Throw (ft.)	26,16,9	29,20,11	32,23,13	34,26,15	36,28,16	38,31,17	40,32,17	41,33,18	42,35,19	43,36,20
16 x 10	Area Factor Ak = 0.611	CFM	333	444	556	667	778	889	1000	1111	1222	1333
		Ps (in.w.g)	0.012	0.022	0.035	0.05	0.068	0.089	0.112	0.139	0.168	0.2
		NC	<15	15	22	28	33	38	41	45	48	>50
		Throw (ft.)	26,16,10	29,20,12	31,23,13	34,25,15	35,27,16	37,29,17	39,30,18	40,32,19	41,33,20	42,34,20
24 x 8	Area Factor Ak = 0.828	CFM	400	533	667	800	933	1067	1200	1333	1467	1600
		Ps (in.w.g)	0.012	0.021	0.033	0.048	0.065	0.085	0.107	0.132	0.16	0.19
		NC	<15	16	24	29	35	39	43	46	49	>50
		Throw (ft.)	26,17,11	29,20,13	31,22,15	33,24,17	35,26,18	37,28,19	38,29,20	39,30,21	40,31,22	41,32,22
36 x 8	Area Factor Ak = 1.151	CFM	600	800	1000	1200	1400	1600	1800	2000	2200	2400
		Ps (in.w.g)	0.023	0.04	0.063	0.09	0.123	0.16	0.203	0.25	0.303	0.36
		NC	21	30	37	43	48	>50	>50	>50	>50	>50
		Throw (ft.)	29,20,13	33,24,16	36,27,19	38,30,21	41,33,23	43,35,24	44,36,26	46,38,27	47,39,28	48,41,29
30 x 10	Area Factor Ak = 1.241	CFM	625	833	1042	1250	1458	1667	1875	2083	2292	2500
		Ps (in.w.g)	0.025	0.045	0.07	0.101	0.137	0.179	0.226	0.279	0.338	0.402
		NC	24	33	40	46	>50	>50	>50	>50	>50	>50
		Throw (ft.)	30,21,13	34,25,16	37,28,19	39,32,21	43,35,24	45,37,25	46,38,27	48,40,28	49,41,29	50,44,30
32 x 12	Area Factor Ak = 1.620	CFM	800	1067	1333	1600	1867	2133	2400	2667	2933	3200
		Ps (in.w.g)	0.052	0.092	0.143	0.207	0.281	0.367	0.465	0.574	0.694	0.826
		NC	50	>50	>50	>50	>50	>50	>50	>50	>50	>50
		Throw (ft.)	36,25,12	43,34,18	50,42,22	53,49,24	58,55,28	60,58,29	62,60,33	67,65,34	68,67,35	70,72,39
24 x 24	Area Factor Ak = 2.483	CFM	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800
		Ps (in.w.g)	0.165	0.294	0.46	0.662	0.901	1.177	1.489	1.839	2.225	2.648
		NC	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50
		Throw (ft.)	62,41,<2	81,72,19	—,—,25	—,—,27	—,—,38	—,—,39	—,—,50	—,—,51	—,—,52	—,—,68

Note:

- Airflow is measured in Cubic Foot/ minute (CFM).
- Static Pressure (Ps) is measured in inch water gauge (in.w.g).
- Noise criteria (NC) is measured in decibals (dB).
- Terminal velocity and Neck velocity are measured in feet/minute (fpm).
- Throw is measured in feet (ft).

- Area factor (Ak) is measured in square meter (m²).
- Dashed line [-] in the Throw box indicates throw greater than 100 feet and may not be reliable data.

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



Grille
B - 10 Series
Engineering & Performance Data
Egg Crate Grilles

Size in Inches	CFM	100	235	353	470	588	706
4 x 8	FPM	1017	2035				
	Ps (in.w.g)	0.05	0.21				
	NC	29	44				
4 x 10	FPM	785	1570				
	Ps (in.w.g)	0.03	0.12				
	NC	27	42				
4 x 12	FPM	639	1279	1919			
	Ps (in.w.g)	0.02	0.08	0.19			
	NC	25	39	49			
6 x 10	FPM	454	911	1366			
	Ps (in.w.g)	0.03	0.04	0.21			
	NC	20	35	45			
6 x 12	FPM	370	742	1112			
	Ps (in.w.g)	0	0.02	0.06			
	NC	18	32	42			
6 x 14	FPM	313	626	937			
	Ps (in.w.g)	0	0.02	0.04			
	NC	<15	30	39			
8 x 12	FPM	261	521	783	1045		
	Ps (in.w.g)	0	0.01	0.03	0.05		
	NC	>15	26	36	43		
8 x 14	FPM	220	440	661	879		
	Ps (in.w.g)	0	0.01	0.02	0.04		
	NC	>15	23	33	40		
8 x 16	FPM	190	379	570	761		
	Ps (in.w.g)	0	0	0.01	0.02		
	NC	>15	20	30	37		
10 x 14	FPM	340	509	679	850		
	Ps (in.w.g)	0	0.01	0.02	0.03		
	NC	18	27	34	40		
10 x 16	FPM	293	440	586	734		
	Ps (in.w.g)	0	0.01	0.01	0.02		
	NC	<15	24	31	37		
10 x 18	FPM	257	387	517	647		
	Ps (in.w.g)	0	0.01	0.01	0.02		
	NC	<15	21	28	34		
12 x 16	FPM		328	492	655	820	
	Ps (in.w.g)		0	0	0.01	0.01	
	NC		<15	19	26	32	
12 x 18	FPM		277	415	553	690	
	Ps (in.w.g)		0	0	0.01	0	
	NC		15	<15	22	28	
12 x 20	FPM			358	478	599	
	Ps (in.w.g)			0	0.02	0.01	
	NC			<15	19	25	
12 x 24	FPM			232	311	387	464
	Ps (in.w.g)			0	0	0.01	0.01
	NC			<15	<15	19	24

Note :

- Airflow is measured in Cubic Foot/ minute (CFM).
- Static Pressure (Ps) is measured in inch water guage (in.w.g).
- Noise criteria (NC) is measured in decibals (dB).
- Terminal velocity is measured in feet/minute (FPM).

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



Grille
B - 10 Series
Engineering & Performance Data

Door Grille

Size in Inches	Neck Velocity	100	150	200
	Ps (in.w.g)	0	0.01	0.02
6 x 6	CFM	20	30	40
8 x 6	CFM	27	40	54
10 x 6	CFM	36	52	70
8 x 8	CFM	38	58	76
12 x 6	CFM	43	63	83
14 x 6	CFM	50	73	97
16 x 6	CFM	58	87	116
10 x 10	CFM	60	90	119
18 x 6	CFM	64	97	127
20 x 6	CFM	73	109	144
22 x 6	CFM	78	117	156
24 x 6	CFM	89	133	178
30 x 6	CFM	112	168	223
14 x 14	CFM	120	184	244
18 x 12	CFM	137	204	272
22 x 10	CFM	138	207	275
26 x 8	CFM	150	225	299
18 x 14	CFM	160	240	319
16 x 16	CFM	163	244	325
24 x 12	CFM	183	274	364
18 x 18	CFM	208	312	415
24 x 14	CFM	215	323	429
30 x 12	CFM	230	340	460
24 x 16	CFM	247	370	493
20 x 20	CFM	258	387	515
26 x 16	CFM	312	468	624
22 x 22	CFM	315	473	630
24 x 22	CFM	344	516	687
30 x 18	CFM	351	526	701
24 x 24	CFM	376	564	752
30 x 24	CFM	472	709	944
28 x 18	CFM	517	776	1033
30 x 28	CFM	552	828	1104
30 x 30	CFM	596	899	1190

Note :

1. Airflow is measured in Cubic Foot/ minute (CFM).
2. Static Pressure (Ps) is measured in inch water guage (in.w.g).
3. Neck velocity is measured in feet/minute (fpm).

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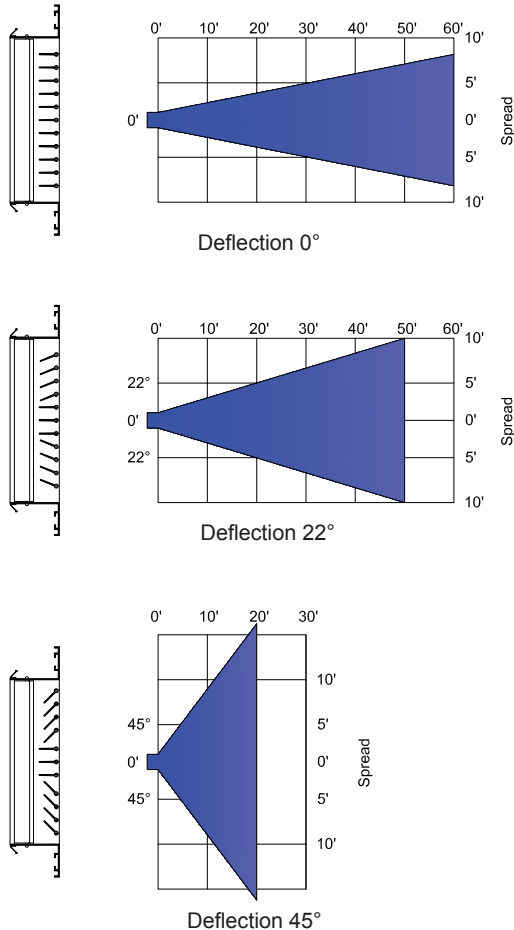


Grille

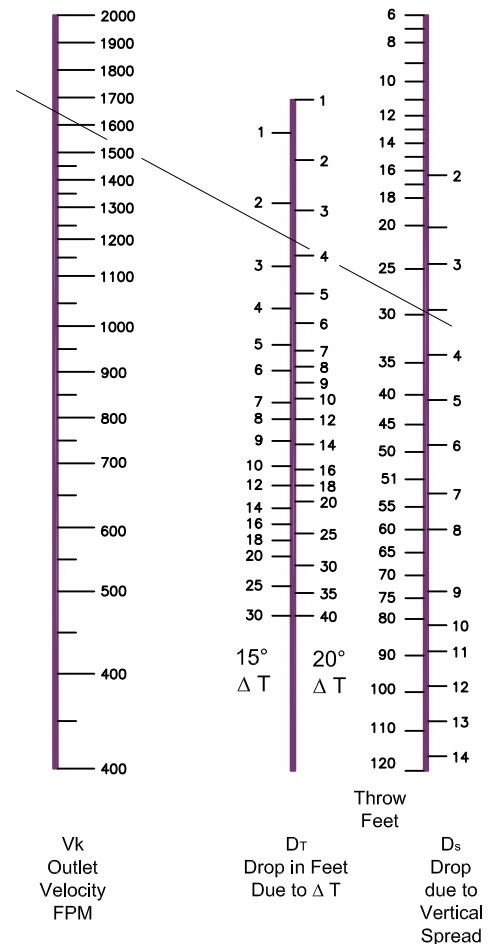
B - 10 Series

Engineering & Performance Data

Deflection settings and air patterns



DROP CHART



Deflection	Throw	V _k	Pt	N.C.
22°	X 0.7	X 1.2	X 1.4	3
45°	X 0.5	X 1.4	X 2	4

Notes:

- Grilles with vertical blades and blade setting of 0° have the longest throw and the smallest spread.
- Changing the blades setting towards a longer angle will decrease the throw and increase the spread and induction. So a better mixing of supply air and room air will occur.
- With in the double deflection grilles, the spread can be adjusted in the horizontal and vertical plane.
- Blade setting over 45° is not recommended.

Drop Correction with 10° - 15° Upward Deflection Throw (in feet)						
10	15	20	25	30	40	50
2.5	3.5	4.5	6.0	7.0	9.0	12
Drop Reduction (in feet)						

Solutions:

On the drop chart, extended a straight line through 1667 on the V_k outlet velocity ordinate and 27' on the throw ft. ordinate. read the intercepts of 3.2' for 20° ΔT on the D_T ordinate and 3.4' on the D_s ordinate.
Total Drop = D_T + D_s = 3.2 + 3.4 = 6.6 ft.
Registers should be installed 6.6' above the 6 foot level of the occupied zone or as close to 6.6 as the room construction allows.

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Linear Bar Grille Engineering and Performance Data.

B - 20 Series



Supply / Return Linear Bar Grilles

Width of the Grille (inches)	Area Factor (Ak)	Neck Velocity (FPM)	500	600	700	800	900	1000	1100	1200	1300	1400
2	0.038	CFM	201	243	285	327	369	411	453	495	537	579
		NC	<15	<15	17	20	22	26	30	33	36	39
		Throw	25,15,6	26,18,8	28,19,9	29,21,11	30,23,14	31,24,16	31,25,17	33,25,19	34,29,21	35,33,23
		Ps (in.w.g)	0.037	0.045	0.061	0.071	0.096	0.125	0.157	0.186	0.201	0.226
4	0.056	CFM	307	368	429	490	552	613	674	736	797	858
		NC	<15	17	22	26	30	34	37	39	42	44
		Throw	29,21,8	32,23,10	33,25,12	35,27,13	36,29,14	38,30,15	39,32,16	40,33,17	41,34,18	42,35,19
		Ps (in.w.g)	0.026	0.037	0.051	0.066	0.084	0.103	0.125	0.149	0.174	0.202
6	0.078	CFM	423	506	589	672	755	838	921	984	1067	1150
		NC	<15	17	19	20	22	24	26	27	29	32
		Throw	29,21,10	32,23,12	33,25,14	35,27,15	36,29,16	38,30,18	39,32,20	40,33,22	41,34,24	42,35,25
		Ps (in.w.g)	0.016	0.020	0.025	0.031	0.038	0.048	0.061	0.071	0.088	0.096
8	0.096	CFM	522	626	730	834	939	1043	1147	1252	1356	1460
		NC	<15	<15	16	21	25	29	33	36	39	42
		Throw	25,15,11	26,18,14	28,19,16	29,21,18	30,22,20	31,23,22	32,24,24	33,25,25	33,26,26	34,27,27
		Ps (in.w.g)	0.011	0.016	0.021	0.028	0.035	0.043	0.052	0.062	0.073	0.085
10	0.114	CFM	619	742	866	990	1113	1237	1361	1484	1608	1732
		NC	<15	<15	17	22	26	30	33	37	40	42
		Throw	25,15,12	26,18,15	28,20,18	29,22,20	30,23,22	31,24,24	32,25,26	33,26,27	33,27,28	34,29,29
		Ps (in.w.g)	0.008	0.011	0.015	0.020	0.025	0.031	0.038	0.045	0.053	0.061
14	0.148	CFM	800	960	1120	1280	1440	1600	1760	1920	2080	2240
		NC	15	20	25	29	33	36	39	42	44	47
		Throw	29,21,14	31,25,17	33,28,20	34,31,22	35,33,24	36,36,26	37,38,27	38,39,29	39,41,30	40,43,31
		Ps (in.w.g)	0.011	0.016	0.022	0.028	0.036	0.044	0.053	0.064	0.075	0.087

NC adjustment for various diffuser lengths, meters.

Length	0.5	1.0	1.5	2.0	3.0
NC	-3	0	+2	+3	+5

Note :

- Airflow is measured in Cubic Foot/ minute (CFM).
- Static Pressure (Ps) is measured in inch water guage (in.w.g).
- Noise criteria (NC) is measured in decibals (dB).
- Neck velocity is measured in feet/minute (fpm).
- Throw is measured in feet (Ft).
- Area factor (Ak) is measured in square meter (m²).

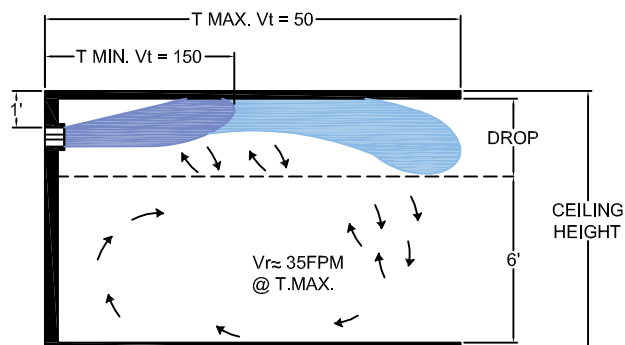
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Linear Bar Grille

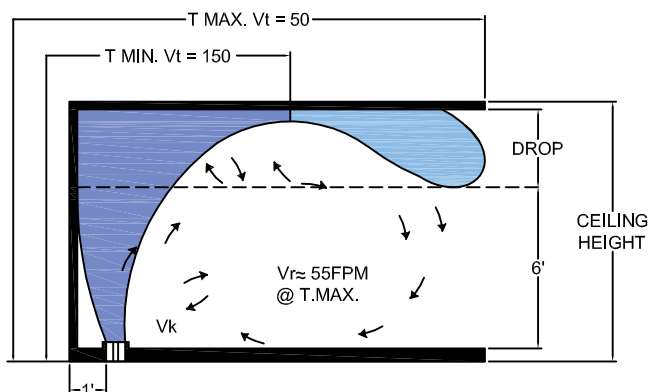
B - 20 Series

Flow Patterns



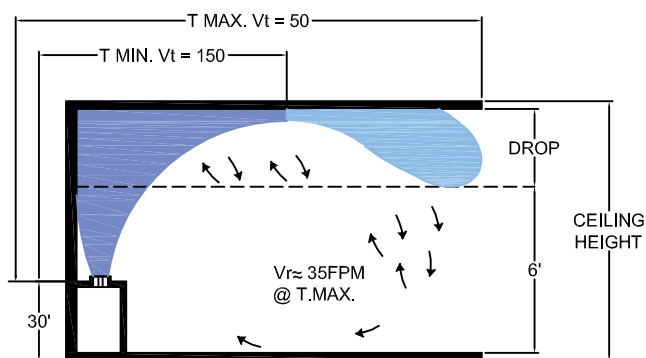
SIDEWALL AIR PATTERN

Sidewall: Selection data are based on a Bar Grille installed in a sidewall one foot below a 9 foot ceiling supplying air across an unobstructed ceiling surface.



FLOOR AIR PATTERN

Floor: Selection data are based on a 0° deflection Bar Grille installed in the floor 6 inches from the wall surface and supplying air vertically toward a 9 foot ceiling. Floor Grilles located 7 inches to 18 inches from the active wall surface should be specified with 15° deflection bars to direct the supply air towards the wall to take advantage of the adhesive Coanda Effect produced by the upward velocity of the air mass along the wall surface and out across the ceiling.



SILL AIR PATTERN

Sill: Selection data are based on a Bar Grille installed horizontally on the top surface of a 30 inch high sill enclosure and supplying air vertically toward a 9 foot ceiling.

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



Performance Test Certificate

Issued To

RENDERED TO
BETEC CAD Ind. (Fzc)
Plot No. P4-02, PO Box 8805
Sharjah Airport International Free Zone,
Sharjah-U.A.E.
Tel: +971-6-5575252
Fax: +971-6-5575151/61

Branch:
Kross Air Distribution Systems
Plot No. 90-93, Road No. 9
EPIP Zone, Pashamylaram
Hydrabad-502307, A.P. India
Tel: 009140-8455224212

Intertek has tested three representative samples of
BETEC CAD Ind. (Fzc) Supply/Return Linear Air Grilles
Model Number SAG-B10/RAG-B10
16x6, 24x8 and 36x8 inch models were tested
in accordance with the standards listed below and were found
to perform in a manner appropriate to the dictates of the standards.

STANDARDS

ASHRAE 70-2006 "Method of Testing for Rating
the Performance of Air Outlets and Inlets"

ADC 1062: GRD-84 "Test Code for Grilles, Registers and Diffusers"

ISO 5219 "Air Distribution and Air Diffusion – Laboratory
Aerodynamic Testing and Rating of Air Terminal Devices"

SCOPE OF TESTING

The grilles were tested for the following performance characteristics:
"Reference Intertek Reports Number 3185702CRT-001f and -001h dated November 20, 2009"

- A) Sound Power Level ((NC)
- B) Air Velocity versus Static Pressure
- C) Area Factor
- D) Throw Pattern

Date: July 6, 2011



James R. Kline
Intertek
Engineer / Quality Supervisor

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





Performance Test Certificate

Issued To

RENDERED TO
BETEC CAD Ind. (Fzc)
Plot No. P4-02, PO Box 8805
Sharjah Airport International Free Zone,
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Tel: +971-6-5575252
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Branch:
Kross Air Distribution Systems
Plot No. 90-93, Road No. 9
EPIP Zone, Pashamylaram
Hydrabad-502307, A.P. India
Tel: 009140-8455224212

Intertek has tested three representative samples of
BETEC CAD Ind. (Fzc) Supply/Return Linear Bar Grilles
Model Number SLBG-B20/RLBG-B20
4, 8, and 10 inch by 40 inch models were tested
in accordance with the standards listed below and were found
to perform in a manner appropriate to the dictates of the standards.

STANDARDS

ASHRAE 70-2006 "Method of Testing for Rating
the Performance of Air Outlets and Inlets"

ADC 1062: GRD-84 "Test Code for Grilles, Registers and Diffusers"

ISO 5219 "Air Distribution and Air Diffusion – Laboratory
Aerodynamic Testing and Rating of Air Terminal Devices"

SCOPE OF TESTING

The grilles were tested for the following performance characteristics:
"Reference Intertek Report Number 100354230CRT-001b dated May 31, 2011
and Report Numbers 3185702CRT-001i and -001j dated November 20, 2009"

- A) Sound Power Level (NC)
- B) Air Velocity versus Static Pressure
- C) Area Factor
- D) Throw Pattern

Date: July 6, 2011



James R. Kline
Intertek
Engineer / Quality Supervisor

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Installation Details

Concealed Type Fixing



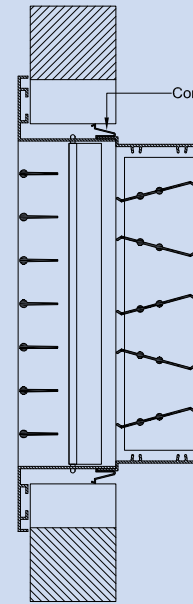
Concealed
Clip

SAG/RAG - B11



Concealed
Clip

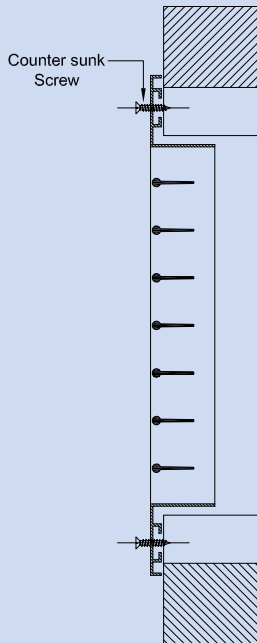
SAG/RAG - B22



Concealed
Clip

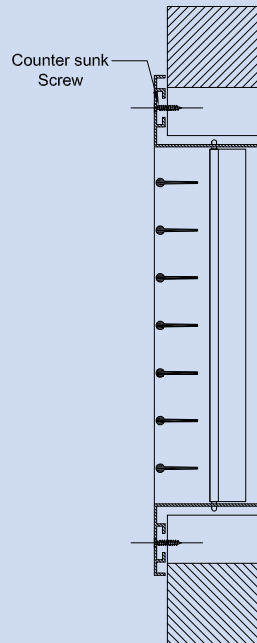
SAG/RAG - B22D

Screw Type Fixing



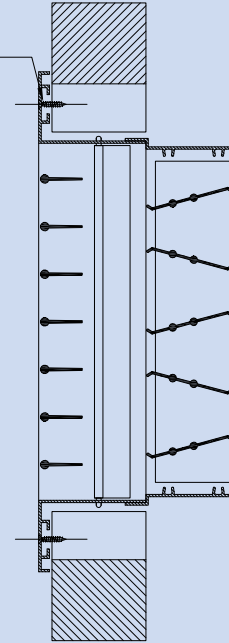
Counter sunk
Screw

SAG/RAG - B11



Counter sunk
Screw

SAG/RAG - B22



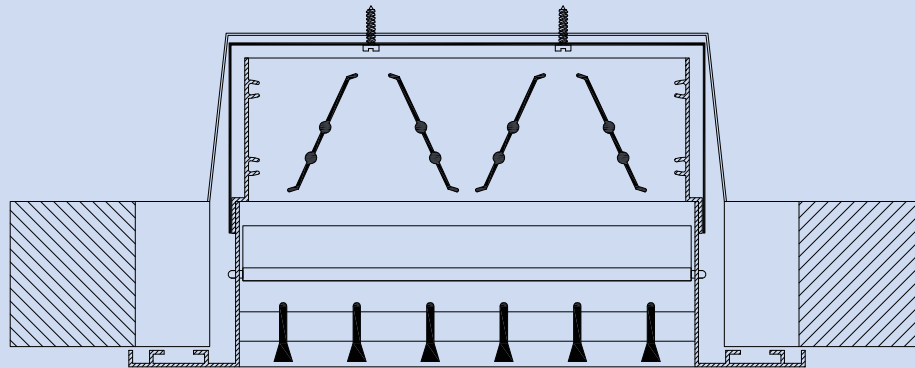
Counter sunk
Screw

SAG/RAG - B22D

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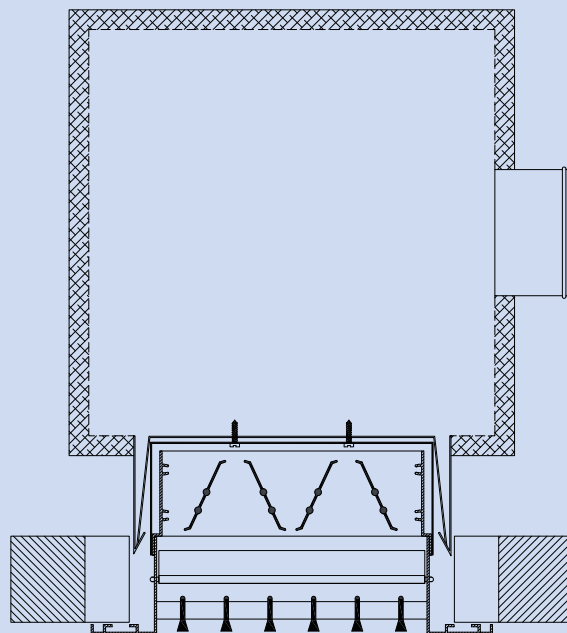
Installation Details

Clamp Fixing



SLBG/RLBG-B22

Plenum Fixing



SLBG/RLBG-B22+Plenum

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[illegible]

Special Notes:

[illegible]

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[illegible]

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April - 2018