

BC 11.1



**BETEC CAD.**

## Diffusers



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**Diffusers**
**Supply / Return Ceiling Diffuser**
**B-10 Series**

**BETEC CAD.**'s Square or Linear slot Diffusers are designed to give full flexibility in volume and air pattern control. Air diffusion pattern can be made horizontal along the ceiling, vertically downwards or intermediate. Deflecting vanes and integral volume damper can be adjusted from the diffuser face to adjust flow volume. The flow control does not affect the air pattern. Positive alignment of adjacent sections using alignment strips are provided with each diffuser. The diffuser is constructed from high quality aluminum extruded profiles.

**Features**

- Available in different core styles i.e. 1 way, 2 way, 3 way & 4 way to meet different applications for air diffusion.
- Material is extruded aluminium with natural anodised finish
- Diffuser core is fixed to the frame with aluminium pins loaded with spiral spring, easily removable to provide access for damper adjustment.
- Nylon bushes are positioned in frame to connect damper blades to provide rattle free smooth operation.



Standard Types and Models				
Type of Diffusers		Series	Material	Attachments
Square & Rectangular	SAD (Supply Air Diffuser)	B-10	A* / S	Opposed Blade Damper*
	RAD (Return Air Diffuser)		A* / S	N/A
Slot Diffusers	SLSD (Supply Linear Slot Diffuser)	B-20	A* / S	Slot Damper*
	RLSD (Return Linear Slot Diffuser)		A* / S	N/A
Round Diffusers	SADR (Supply Round Diffuser)	B-30	A* / S	Opposed Blade Damper*
	RADR (Return Round Diffuser)		A* / S	N/A
Swirl Diffusers	SW (Swirl Diffuser)	B-40	A* / S	N/A

**Material Details**

All types and models of Diffusers are available in Aluminum, Chrome and Stainless Steel finish according to the design and application.

**Metal Aluminium (AL)**

Extruded aluminium Standards Alloy - 6063A with temper T6 made according to the design and application.

**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.** Diffusers 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.

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**Diffusers - ETL - Intertek Tested**
**B-10 Series**

Type: Supply / Return Ceiling Diffuser

Throw : One Way

Model: SAD-AB-11; RAD-AB-11

Construction: Aluminium

**Description**

Diffuser frame and core are made of high quality extruded aluminium profiles and discharges air in one way as per blade arrangement.

Diffuser core is fixed to the frame using aluminium pins, which are removable to provide access for damper adjustment. The opposed blade damper is rigidly fixed to the frame by spring clips and is screw operated from the face opening of the diffuser. Nylon bushes are installed between blade and frame for rattle free operation.

**Standard Construction**
**Frame**

Extruded aluminium profile with 33 mm flange width.

**Core**

Die punched single piece sheet.

**Damper**

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

**Bushes**

Nylon.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Fittings**
**Plenum Chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Neck Reducer (R)**

Neck reducers are available with circular, square or rectangular spigots in top entry only.

**Foam Gasket**

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

**Damper Finish**

Black matte.

**Finish**

Mill finish or Chrome plating.

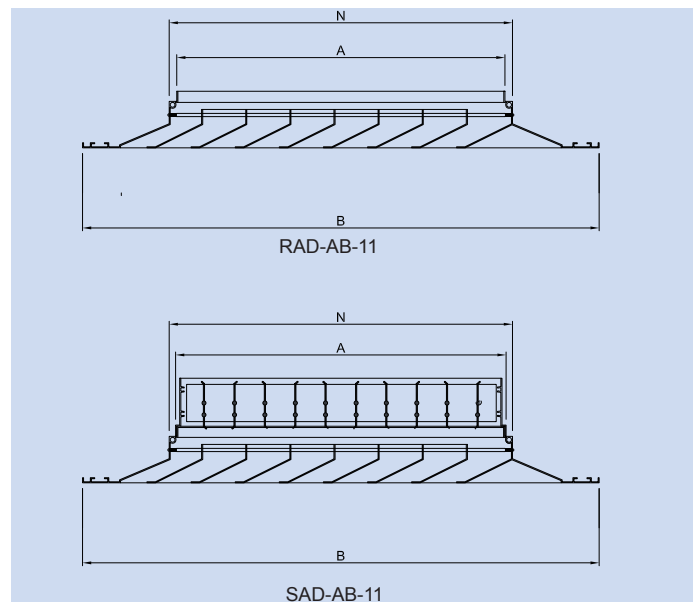
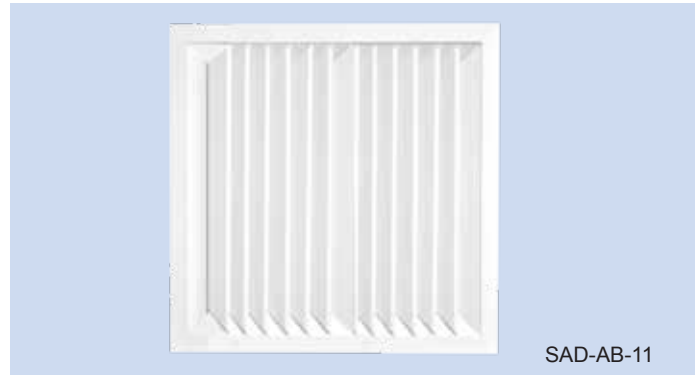
**Frame and Core**

Available in Stainless Steel (304/316L).

**Note:**

Available in rectangular sizes & are suitable for flush mounting in lay-in type ceiling.

SAD - Supply Air Diffuser (with Damper) & RAD - Return Air Diffuser (without Damper)



Standard Sizes of Square type Models					
N = Nominal Size		A = Neck Size		B = Face size	
L x W		L x W		L x W	
150	150	145	145	295	295
225	225	220	220	370	370
300	300	295	295	445	445
375	375	370	370	520	520
450	450	445	445	595	595
525	525	520	520	670	670
600	600	595	595	745	745

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**Diffusers - ETL - Intertek Tested**
**B-10 Series**
**Type: Supply / Return Ceiling Diffuser**
**Throw: Two way**
**Model: SAD-AB-12; RAD-AB-12**
**Construction: Aluminium**
**Description**

Diffuser frame and core are made of high quality extruded aluminium profiles and discharges air in either way as per blade arrangement.

Diffuser core is fixed to the frame using aluminium pins, which are removable to provide access for damper adjustment. The opposed blade damper is rigidly fixed to the frame by spring clips and is screw operated from the face opening of the diffuser. Nylon bushes are installed between blade and frame for rattle free operation.

**Standard Construction**
**Frame**

Extruded aluminium profile with 33 mm flange width.

**Core**

Die punched single piece sheet.

**Damper**

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

**Bushes**

Nylon.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Fittings**
**Plenum Chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Neck Reducer (R)**

Neck reducers are available with circular, square or rectangular spigots in top entry only.

**Foam Gasket**

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

**Damper Finish**

Black matte.

**Finish**

Mill finish or Chrome plating.

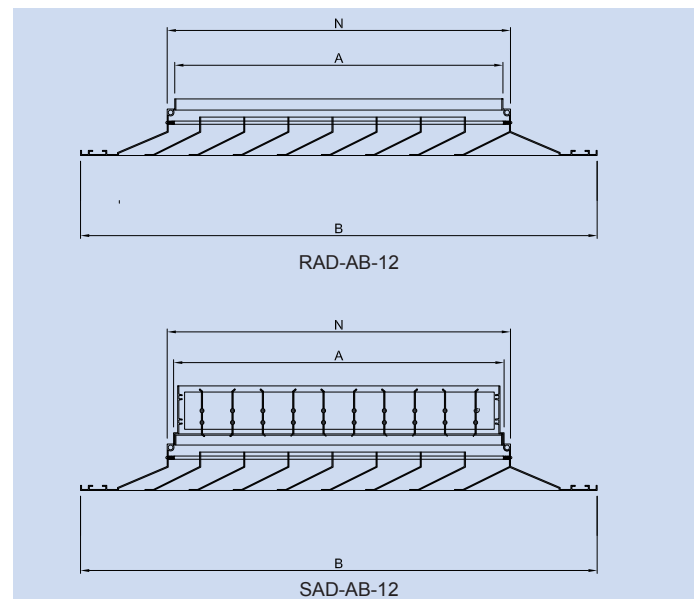
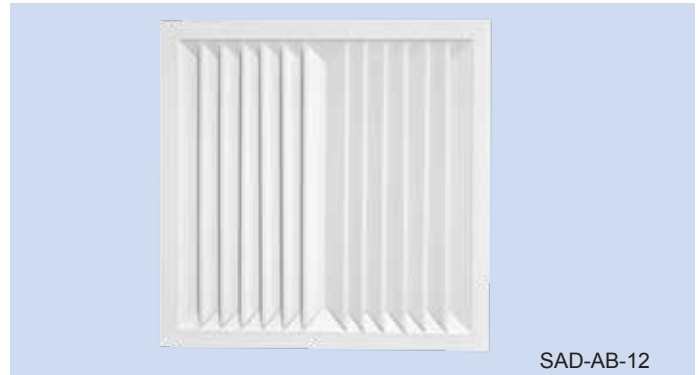
**Frame and Core**

Available in Stainless Steel (304/316L).

**Note:**

Available in rectangular sizes & are suitable for flush mounting in lay-in type ceiling.

SAD - Supply Air Diffuser (with Damper) & RAD - Return Air Diffuser (without Damper)



Standard Sizes of Square type Models					
N = Nominal Size		A = Neck Size		B = Face size	
L x W		L x W		L x W	
150	150	145	145	295	295
225	225	220	220	370	370
300	300	295	295	445	445
375	375	370	370	520	520
450	450	445	445	595	595
525	525	520	520	670	670
600	600	595	595	745	745

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**Diffusers - ETL - Intertek Tested**
**B-10 Series**

Type: Supply / Return Ceiling Diffuser  
 Throw: Two way Corner  
 Model: SAD-AB-12C; RAD-AB-12C  
 Construction: Aluminium

**Description**

Diffuser frame and core are made of high quality extruded aluminium profiles and discharges air in either way as per blade arrangement.

Diffuser core is fixed to the frame using aluminium pins, which are removable to provide access for damper adjustment. The opposed blade damper is rigidly fixed to the frame by spring clips and is screw operated from the face opening of the diffuser. Nylon bushes are installed between blade and frame for rattle free operation.

**Standard Construction**
**Frame**

Extruded aluminium profile with 33 mm flange width.

**Core**

Die punched single piece sheet.

**Damper**

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

**Bushes**

Nylon.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Fittings**
**Plenum Chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Neck Reducer (R)**

Neck reducers are available with circular, square or rectangular spigots in top entry only.

**Foam Gasket**

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

**Damper Finish**

Black matte.

**Finish**

Mill finish or Chrome plating.

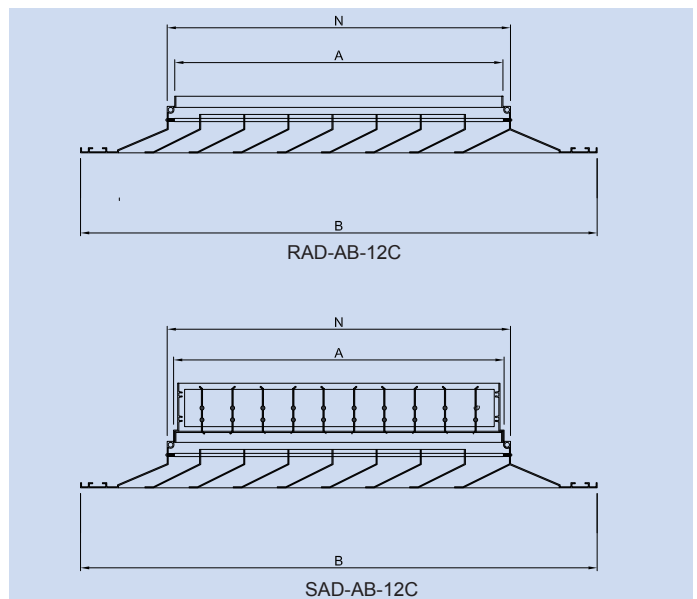
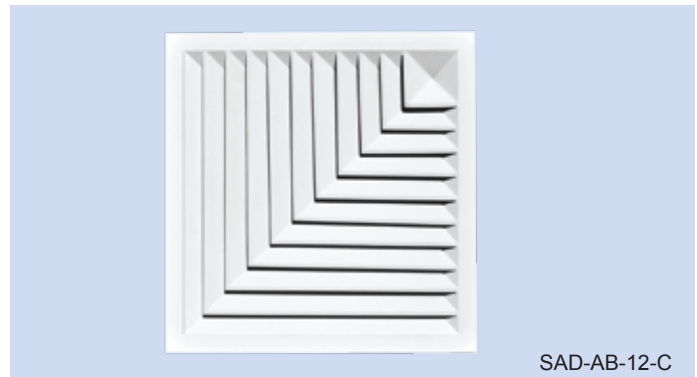
**Frame and Core**

Available in Stainless Steel (304/316L).

**Note:**

Available in rectangular sizes & are suitable for flush mounting in lay-in type ceiling.

SAD - Supply Air Diffuser (with Damper) & RAD - Return Air Diffuser (without Damper)



Standard Sizes of Square type Models					
N = Nominal Size		A = Neck Size		B = Face size	
L x W		L x W		L x W	
150	150	145	145	295	295
225	225	220	220	370	370
300	300	295	295	445	445
375	375	370	370	520	520
450	450	445	445	595	595
525	525	520	520	670	670
600	600	595	595	745	745

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**Diffusers - ETL - Intertek Tested**
**B-10 Series**

Type: Supply / Return Ceiling Diffuser

Throw: Three way

Model: SAD-AB-13; RAD-AB-13

Construction: Aluminium

**Description**

Diffuser frame and core are made of high quality extruded aluminium profiles and discharges air in three ways as per blade arrangement.

Diffuser core is fixed to the frame using aluminium pins, which are removable to provide access for damper adjustment. The opposed blade damper is rigidly fixed to the frame by spring clips and is screw operated from the face opening of the diffuser. Nylon bushes are installed between blade and frame for rattle free operation.

**Standard Construction**
**Frame**

Extruded aluminium profile with 33 mm flange width.

**Core**

Die punched single piece sheet.

**Damper**

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

**Bushes**

Nylon.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Fittings**
**Plenum Chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Neck Reducer (R)**

Neck reducers are available with circular, square or rectangular spigots in top entry only.

**Foam Gasket**

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

**Damper Finish**

Black matte.

**Finish**

Mill finish or Chrome plating.

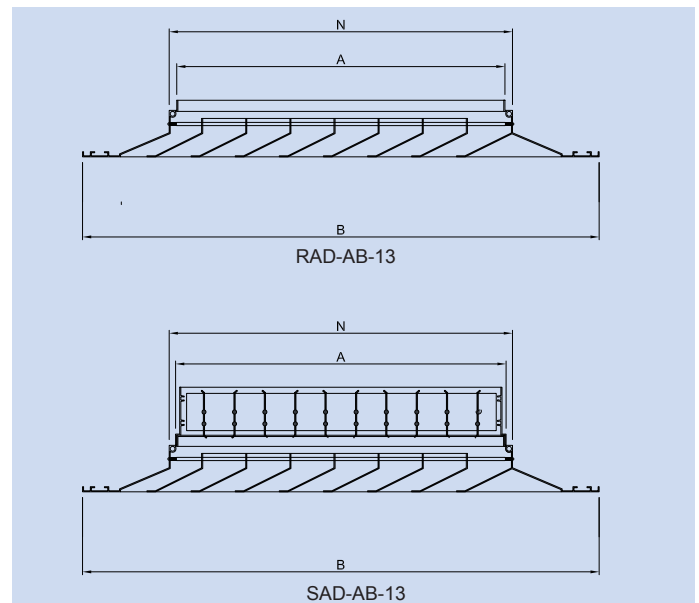
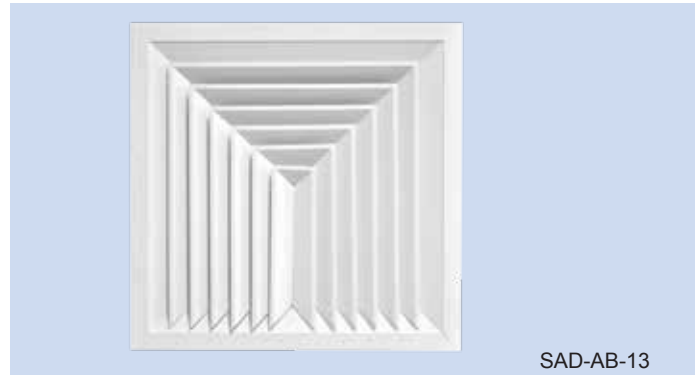
**Frame and Core**

Available in Stainless Steel (304/316L).

**Note:**

Available in rectangular sizes & are suitable for flush mounting in lay-in type ceiling.

SAD - Supply Air Diffuser (with Damper) & RAD - Return Air Diffuser (without Damper)



Standard Sizes of Square type Models					
N = Nominal Size		A = Neck Size		B = Face size	
L x W		L x W		L x W	
150	150	145	145	295	295
225	225	220	220	370	370
300	300	295	295	445	445
375	375	370	370	520	520
450	450	445	445	595	595
525	525	520	520	670	670
600	600	595	595	745	745

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**Diffusers - ETL - Intertek Tested**
**Type: Supply / Return Ceiling Diffuser**
**Throw: Four way**
**Model :SAD-AB-14; RAD-AB-14**
**Construction: Aluminium**
**B-10 Series**

**Description**

Diffuser frame and core are made of high quality extruded aluminium profiles and discharges air equally in four ways as per blade arrangement.

Diffuser core is fixed to the frame using aluminium pins, which are removable to provide access for damper adjustment. The opposed blade damper is rigidly fixed to the frame by spring clips and is screw operated from the face opening of the diffuser. Nylon bushes are installed between blade and frame for rattle free operation.

**Standard Construction**
**Frame**

Extruded aluminium profile with 33 mm flange width.

**Core**

Die punched single piece sheet.

**Damper**

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

**Bushes**

Nylon.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Fittings**
**Plenum Chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Neck Reducer (R)**

Neck reducers are available with circular, square or rectangular spigots in top entry only.

**Foam Gasket**

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

**Damper Finish**

Black matte.

**Finish**

Mill finish or Chrome plating.

**Frame and Core**

Available in Stainless Steel (304/316L).

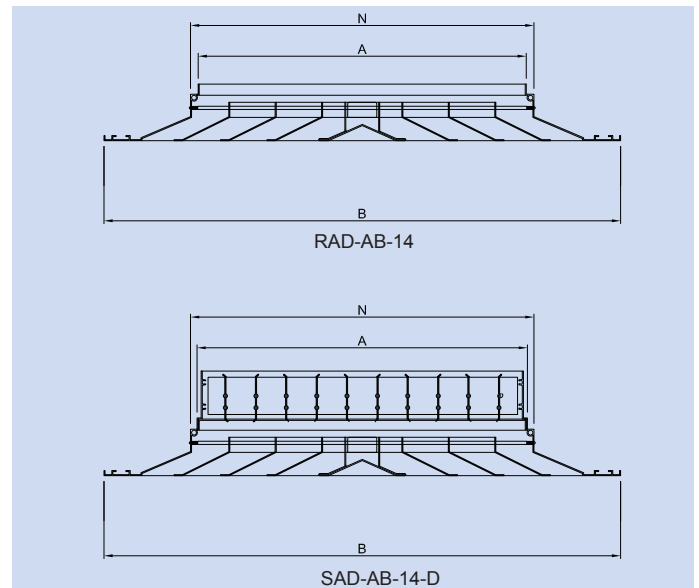
**Note:**

Available in rectangular sizes & are suitable for flush mounting in lay-in type ceiling.

SAD - Supply Air Diffuser (with Damper) & RAD - Return Air Diffuser (without Damper)



SAD-AB-14



Standard Sizes of Square type Models					
N = Nominal Size		A = Neck Size		B = Face size	
L x W		L x W		L x W	
150	150	145	145	295	295
225	225	220	220	370	370
300	300	295	295	445	445
375	375	370	370	520	520
450	450	445	445	595	595
525	525	520	520	670	670
600	600	595	595	745	745

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## Diffuser Plenums

## B-10 Series

Type: Plenums For Supply / Return Ceiling Diffuser

Model :SAD-AB-1x+P; RAD-AB-1x+P

Construction: Galvanized Steel

SAD - Supply Air Diffuser (with Damper + Plenum)

RAD - Return Air Diffuser (without Damper+ Plenum)

**BETEC CAD.**'s Diffusers with Plenum / Neck reducers are recommended for heating, ventilating and cooling in centralized air conditioning systems.

Diffusers, with 4,3,2 or 1 way pattern deflectors for horizontal diffusion of air in their respective ways without change in air volume, pressure or sound level. 100% utilization of diffuser face area, regardless of pattern deflection, gives optimum performance in terms of air handling characteristics. These diffusers have high diffusion induction rates, resulting in rapid temperature and velocity equalization of the mixed air mass, well above the zone of occupancy.

Correct selection and sizing of distribution plenum chambers and neck reducers is critical because terminal air resistance is very low relative to the distribution ductwork resistance. A similar effect results from use of neck reducers with circular duct connections because the reduced duct area will cause generally higher velocities and hence increased risk of noise generation

### Standard Construction

#### Plenum chamber

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

#### Plenum Casing

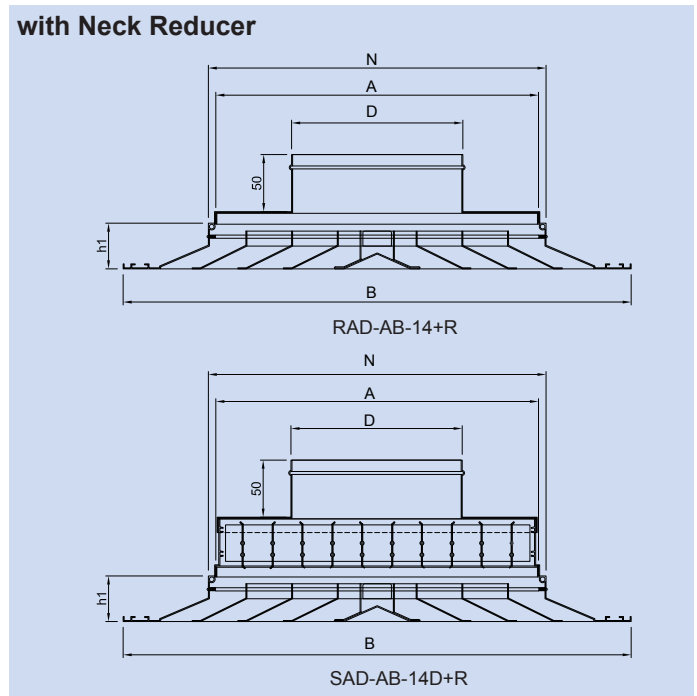
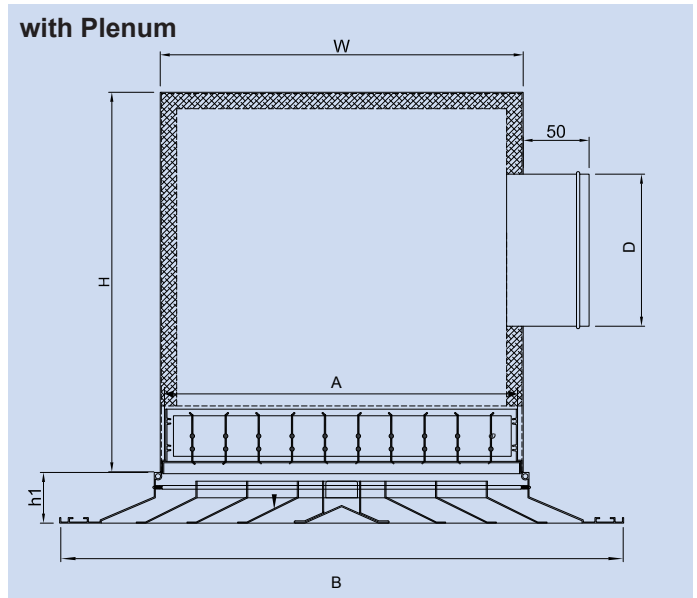
0.7 mm thick galvanized steel.

#### Insulation

Acoustic liner of 13 mm thickness, 32 kg/m<sup>3</sup> density.

#### Neck Reducer (R)

0.7 mm Thick Galvanized steel sheet adopted to neck  
Available in Square / Round.



Standard sizes and dimensions for straight plenum boxes				
Diffuser Neck (N)	Plenum Height (H)	Plenum inlet Dia (D)	Plenum width (W)	h1
150 x 150	200	100	140 x 140	40
225 x 225	275	150	215 x 215	40
300 x 300	325	200	290 x 290	40
375 x 375	400	250	365 x 365	40
450 x 450	450	300	440 x 440	40

Standard Sizes and dimensions for Neck Reducer		
Diffuser Neck	Neck Dia (D)	Neck Height
150 x 150	100	50
225 x 225	150	50
300 x 300	200	50
375 x 375	250	50
450 x 450	300	50

#### Note:

Online plenums also available

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## Diffusers - with Equalizing Grid

Type: Equalizing Grid For Supply Ceiling Diffuser

Throw: Four way

Model :SAD-AB-14-E

Construction: Aluminium

### Description

Diffuser frame and core are made of high quality extruded aluminium profiles and discharges air equally in four ways as per blade arrangement.

Equalizing grid is manufactured from high quality aluminium profiles with 20 mm pitch aerofoil blades connected by plastic bushes. Finish will be same as damper. Equalizing grid is fixed to the damper with rivets.

### Standard Construction

#### Frame

Extruded aluminium profile with 33 mm flange width.

#### Core

Die punched single piece sheet.

#### Damper

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

#### Equalizing Grid

Extruded aluminium profile frame and blade.

#### Bushes

Nylon.

#### Finish

Available with RAL powder coating, please specify color.

### Optional Fittings

#### Plenum Chamber

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

#### Neck Reducer (R)

Neck reducers are available with circular, square or rectangular spigots in top entry only.

#### Foam Gasket

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

#### Damper Finish

Black matte.

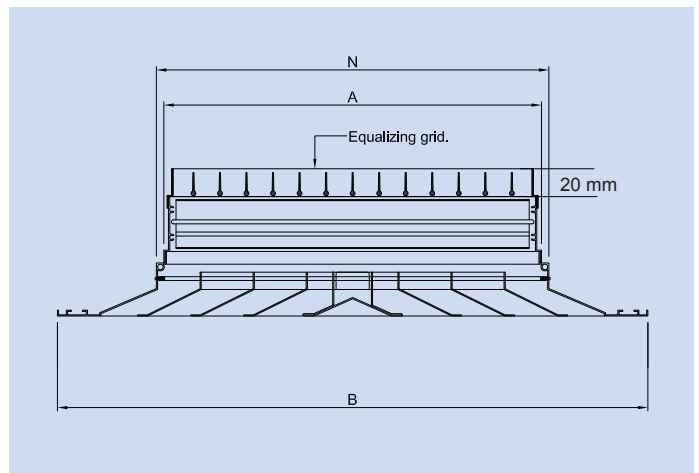
#### Finish

Mill finish or Chrome plating.

#### Frame and Core

Available in Stainless Steel (304/316L).

## B-10 Series



Standard Sizes of Square type Models					
N = Nominal Size		A = Neck Size		B = Face size	
L x W		L x W		L x W	
150	150	145	145	295	295
225	225	220	220	370	370
300	300	295	295	445	445
375	375	370	370	520	520
450	450	445	445	595	595
525	525	520	520	670	670
600	600	595	595	745	745

#### Note:

Available in rectangular sizes.

Suitable for flush mounting in lay-in type ceiling.

SAD - Supply Air Diffuser (with Damper)

RAD - Return Air Diffuser (without Damper)

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

**Diffusers - With Media Filter**
**Type: Filter For Return Ceiling Diffuser**
**Throw: Four way**
**Model :RAD-AB-14-F**
**Construction: Aluminium**
**B-10 Series**
**Description**

Diffuser frame and core are made of high quality extruded aluminium profiles and discharges air equally in four ways as per blade arrangement.

Diffuser core is fixed to the frame using aluminium pins, which are removable to provide access for damper adjustment. Ceiling diffusers available with removable type washable aluminium media filter.

**Standard Construction**
**Frame**

Extruded aluminium profile with 33 mm flange width.

**Core**

Die punched single piece sheet.

**Filter**

12 mm Thick aluminium media filter.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Fittings**
**Plenum Chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Filter**

25 mm Thick aluminium media filter.

**Neck Reducer (R)**

Neck reducers are available with circular, square or rectangular spigots in top entry only.

**Foam Gasket**

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

**Finish**

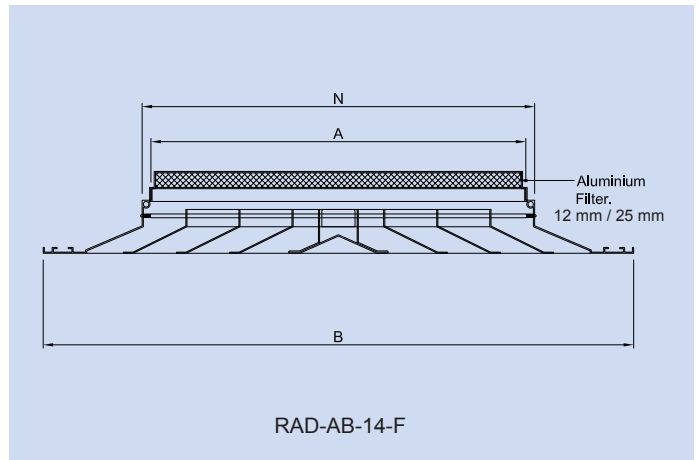
Mill finish or Chrome plating.

**Frame and Core**

Available in Stainless Steel (304/316L).



RAD-AB-14-F



RAD-AB-14-F

Standard Sizes of Square type Models					
N = Nominal Size		A = Neck Size		B = Face size	
L x W		L x W		L x W	
150	150	145	145	295	295
225	225	220	220	370	370
300	300	295	295	445	445
375	375	370	370	520	520
450	450	445	445	595	595
525	525	520	520	670	670
600	600	595	595	745	745

**Note:**

Available in rectangular sizes & are suitable for flush mounting in lay-in type ceiling.

SAD - Supply Air Diffuser (with Damper) & RAD - Return Air Diffuser (without Damper)

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## Perforated Diffusers

## B-10 Series

**Type:** Perforated Face - Supply / Return Ceiling Diffuser

**Throw:** Four way

**Model :** PD-AB-14-P

**Construction:** Aluminium

### Description

Perforated diffuser frame and core are of high quality extruded aluminium profile having natural anodised finish. The perforated panel is fixed to the frame by screws and can be removed easily by loosening the screws. Supply air diffusers are provided with plenum box. Because of high induction rates, velocity and temperature will be equalized quite rapidly above the occupied zone.

Different types of internal cores can be fixed inside the perforated panel as an option. The core is fixed to the frame with aluminium pins loaded with steel springs and can be easily removable and interchangeable to allow for maximum flexibility in installation and maintenance.

### Standard Construction

#### Frame

Extruded aluminium profile with 30 mm flange width.

#### Core

Die punched single piece sheet.

#### Perforated Panel

0.9 mm Galvanized steel sheet with 3mm hole.

#### Plenum box

0.7 mm Thick Galvanized steel sheet.

#### Finish

Available with RAL powder coating, please specify color.

### Optional Fittings

#### Plenum Chamber

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

#### Neck Reducer (R)

Neck reducers are available with circular, square or rectangular spigots in top entry only.

#### Foam Gasket

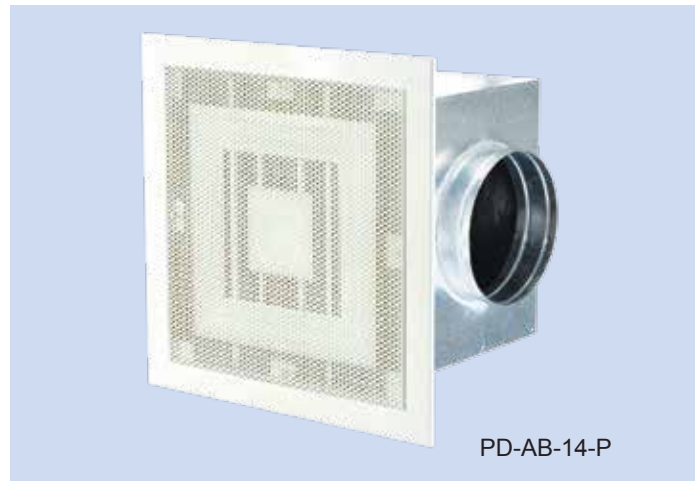
Can be provided through out the back of frame, to prevent the leakage of air.

#### Finish

Mill finish or Chrome plating.

#### Note:

Available in rectangular sizes & are suitable for flush mounting in lay-in type ceiling.



#### Features:

Efficient, draftless air distribution for all types of ceilings.

Air pattern controllers do not dampen the air in any way. Flow rate and sound level remain constant regardless of air pattern required.

Air pattern controllers can be replaced to any desired pattern.

Perforated surface plate completely conceals pattern controllers.

Always available in powder coated finish in any colour to match with the false ceiling grid.

For supply diffusers, perforated face is dropped slightly below the ceiling.

Concealed fixing and easily removable perforated face, give easy access to air pattern deflectors and control damper.

Suitable for installation into tiled ceilings.

Spigot air inlets are available in a variety of sizes, suitable for flexible duct connections.

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

**Perforated Diffusers**
**B-10 Series**

**Type:** Perforated Face - Supply / Return Ceiling Diffuser  
**Throw:** Four way  
**Model :** PD-AB-14-P  
**Construction:** Aluminium

**BETEC CAD.'s** Diffusers with Plenum / Neck reducers are recommended for heating, ventilating and cooling in centralized air conditioning systems.

Diffusers, with 4,3,2 or 1 way pattern deflectors for horizontal diffusion of air in their respective ways without change in air volume, pressure or sound level. 100% utilization of diffuser face area, regardless of pattern deflection, gives optimum performance in terms of air handling characteristics.

These diffusers have high diffusion induction rates, resulting in rapid temperature and velocity equalization of the mixed air mass, well above the zone of occupancy.

Correct selection and sizing of distribution plenum chambers and neck reducers is critical because terminal air resistance is very low relative to the distribution ductwork resistance. A similar effect results from use of neck reducers with circular duct connections because the reduced duct area will cause generally higher velocities and hence increased risk of noise generation

**Standard Construction**
**Plenum Casing**

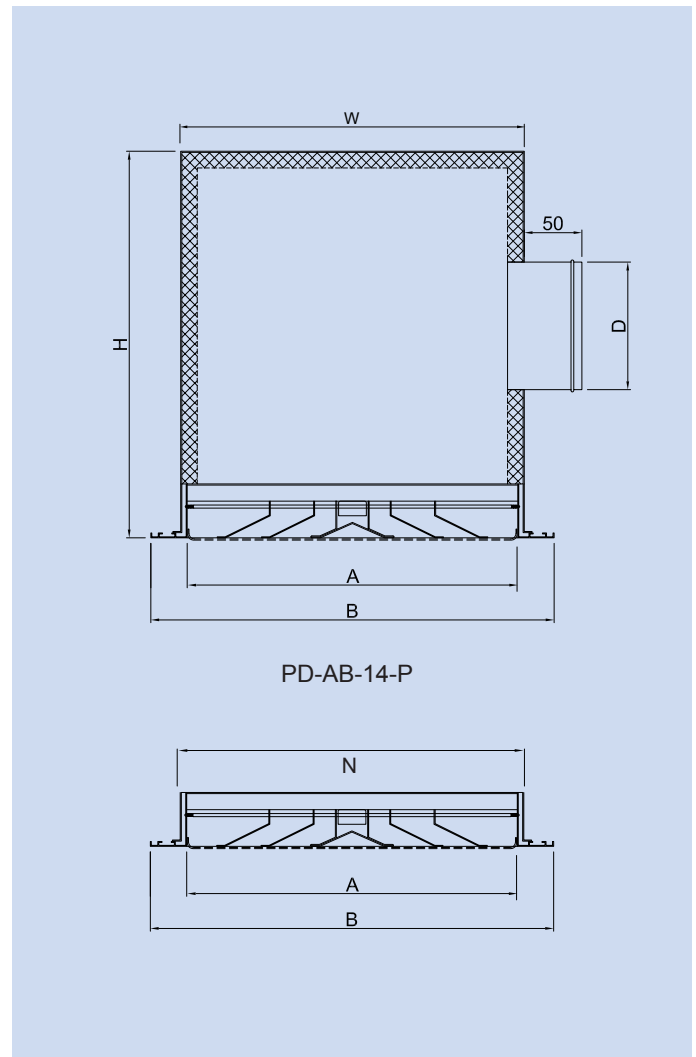
0.7 mm thick galvanized steel.

**Insulation**

Acoustic liner of 13 mm thickness, 32 kg/m<sup>3</sup> density.

**Neck Reducer (R)**

0.7 mm Thick galvanized steel sheet adopted to neck  
 Available in Square / Round.



Standard Sizes and dimensions for straight plenum boxes					
Diffuser Neck (mm)	Plenum Height - H (mm)	D (mm)	Plenum Width - W (mm)	A = Neck Size (mm)	B = Face Size (mm)
300 x 300	300	150	300	300	360
400 x 400	350	200	400	400	460
500 x 500	400	250	500	500	560
600 x 600	450	300	600	600	660

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



**Diffusers - ETL - Intertek Tested**
**B-10 Series**
**Supply / Return Ceiling Diffuser**
**Operation of opposed Blade Damper:**

An opposed blade damper is specially designed for use with **BETEC CAD.** ceiling diffusers of all models. Blade arrangement ensure uniform distribution through diffuser throat. Provides positive control air volume from full open to full closed position, regardless of system pressure. The full open to full closed position of damper to any degree can be operated by a screw driver after removing the internal core which is shown in the figure.

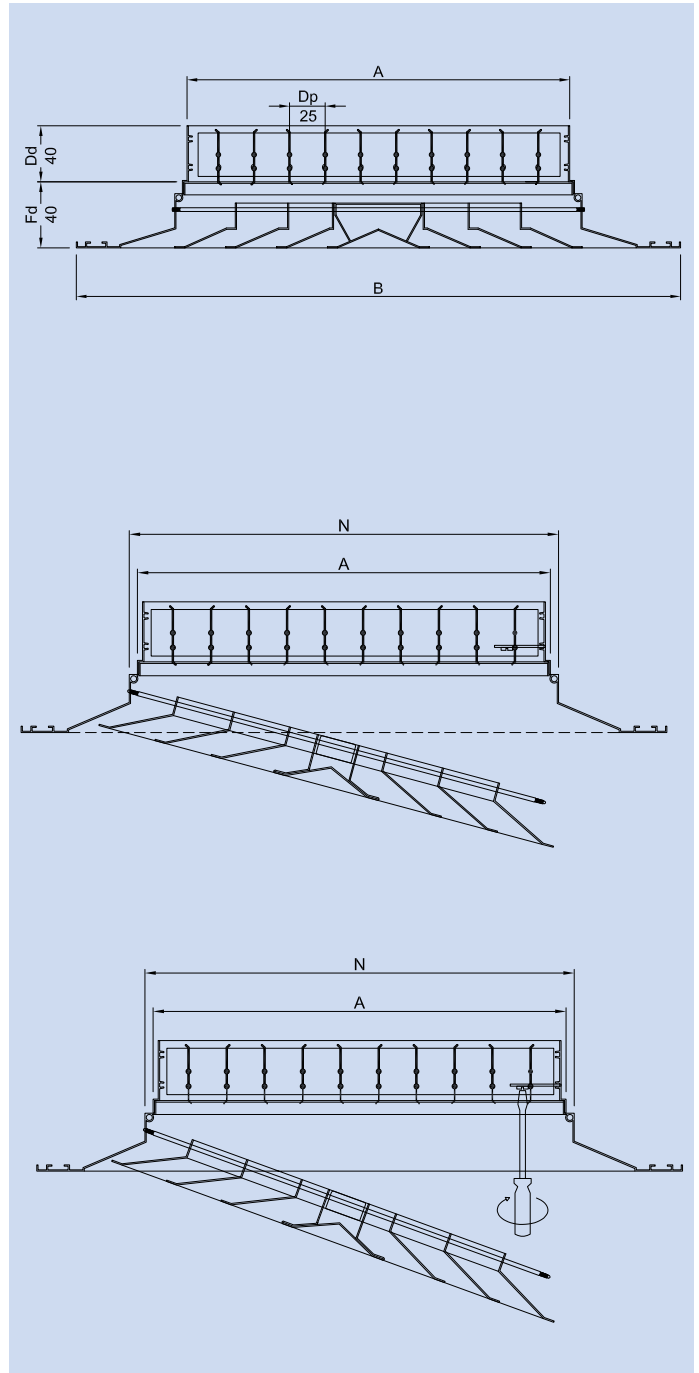
**Excellent for Variable Air Volume Applications:**

The uniform nearly horizontal jet from the outer core maintains effective distribution even when the air volumes vary over a considerable range.

**Duct fixing and core removal:**

Insertion of diffuser core is effected by depressing core pin springs in holes located at end of border frame and releasing core when pins are aligned with corresponding holes at opposite end of frame.

Procedure is reversed for removal of core.



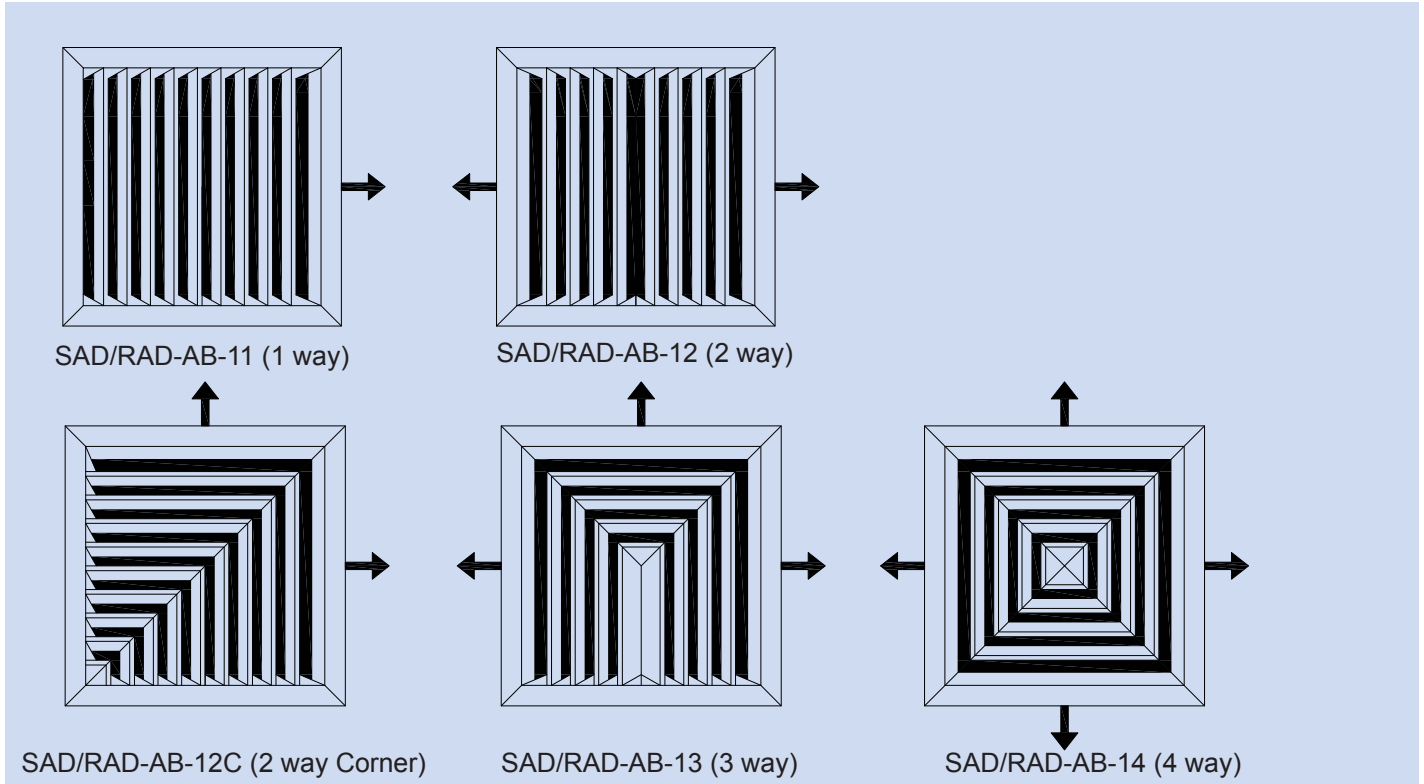
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**Diffusers - ETL - Intertek Tested**

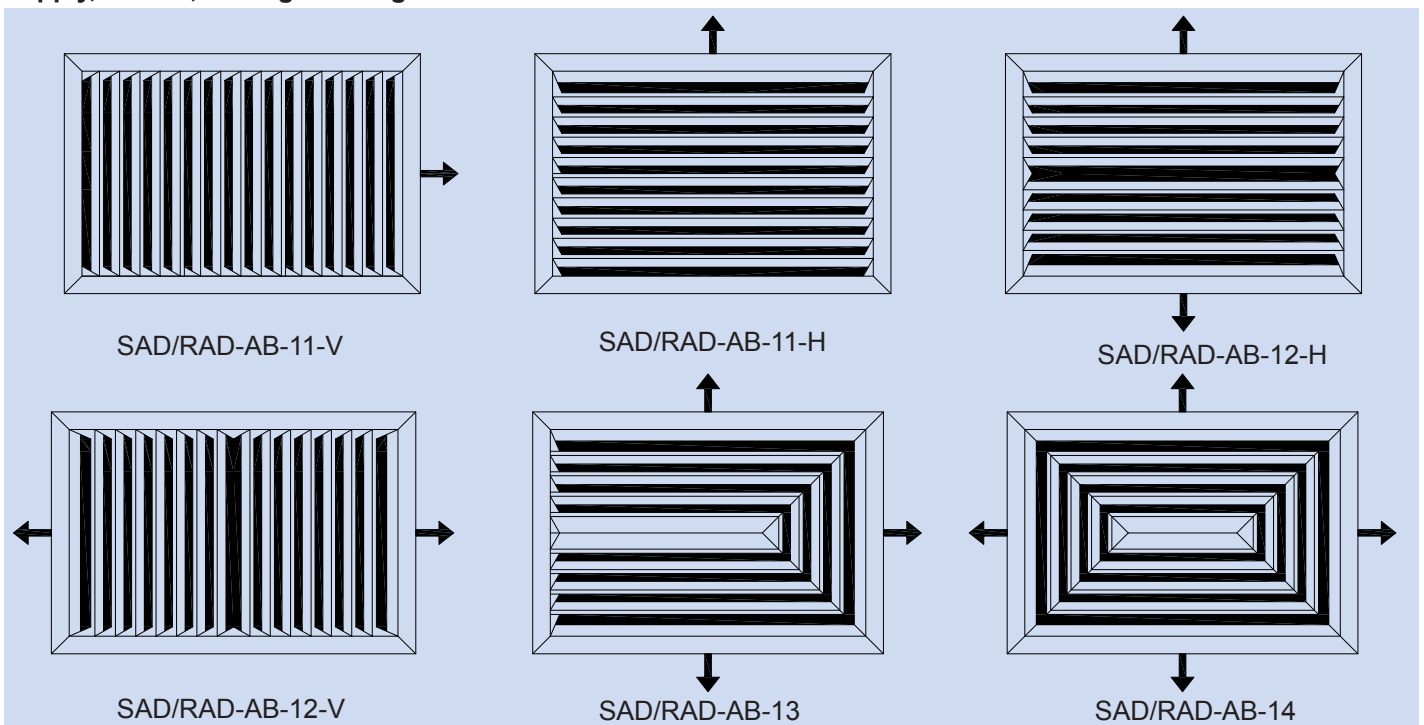
**B-10 Series**

Standard directional core patterns of ceiling Diffusers

Supply, Return, Ceiling Square Diffuser



Supply, Return, Ceiling Rectangular Diffuser



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**Diffusers - ETL - Intertek Tested**  
**Standard sizes of ceiling Diffusers**
**B-10 Series**
**Supply, Return, Ceiling Square / Rectangular Diffuser**

Normal Size L x W (mm)	Core Style									
	Square Type					Rectangular Type				
	1 - Way	2 - Way	2C - Way	3 - Way	4 - Way	1 - Way	2 - Way	2C - Way	3 - Way	4 - Way
150 x 150	✓	✓	✓	✓	✓	x	x	x	x	x
225 x 150	x	x	x	x	x	✓	✓	✓	✓	✓
300 x 150	x	x	x	x	x	✓	✓	✓	✓	✓
375 x 150	x	x	x	x	x	✓	✓	✓	✓	✓
450 x 150	x	x	x	x	x	✓	✓	✓	✓	✓
600 x 150	x	x	x	x	x	✓	✓	✓	✓	✓
225 x 225	✓	✓	✓	✓	✓	x	x	x	x	x
300 x 225	x	x	x	x	x	✓	✓	✓	✓	✓
375 x 225	x	x	x	x	x	✓	✓	✓	✓	✓
450 x 225	x	x	x	x	x	✓	✓	✓	✓	✓
525 x 225	x	x	x	x	x	✓	✓	✓	✓	✓
600 x 225	x	x	x	x	x	✓	✓	✓	✓	✓
300 x 300	✓	✓	✓	✓	✓	x	x	x	x	x
375 x 300	x	x	x	x	x	✓	✓	✓	✓	✓
450 x 300	x	x	x	x	x	✓	✓	✓	✓	✓
525 x 300	x	x	x	x	x	✓	✓	✓	✓	✓
600 x 300	x	x	x	x	x	✓	✓	✓	✓	✓
375 x 375	✓	✓	✓	✓	✓	x	x	x	x	x
450 x 375	x	x	x	x	x	✓	✓	✓	✓	✓
525 x 375	x	x	x	x	x	✓	✓	✓	✓	✓
600 x 375	x	x	x	x	x	✓	✓	✓	✓	✓
450 x 450	✓	✓	✓	✓	✓	x	x	x	x	x
525 x 450	x	x	x	x	x	✓	✓	✓	✓	✓
600 x 450	x	x	x	x	x	✓	✓	✓	✓	✓
525 x 525	✓	✓	✓	✓	✓	x	x	x	x	x
600 x 525	x	x	x	x	x	✓	✓	✓	✓	✓
600 x 600	✓	✓	✓	✓	✓	x	x	x	x	x

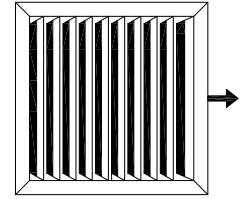
Check mark indicates available sizes.

Cross mark indicates unavailable sizes.

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





**Diffusers - ETL - Intertek Tested  
Engineering and Performance Data**
**Type: Supply, Return, Ceiling Diffuser**
**Throw : One way**
**Model: SAD-AB-11; RAD-AB-11**
**Construction: Aluminium**
**B-10 Series**


SAD/RAD-AB-11 (1 way Diffuser)												
Neck Size (inches)	Area Factor (Ak)	Neck Velocity (FPM)	250	350	450	550	650	750	850	950	1050	1150
6 x 6	0.017	Flow	63	88	113	138	163	188	213	238	263	288
		NC	<15	<15	<15	19	24	28	32	35	38	40
		Throw	8,5,3	12,8,5	15,12,8	19,12,8	20,14,10	24,15,11	24,15,10	25,17,11	26,18,11	29,19,12
		Ps	0.024	0.036	0.079	0.18	0.2	0.25	0.31	0.34	0.35	0.4
9 x 9	0.028	Flow	141	197	253	309	366	422	478	534	591	647
		NC	<15	<15	20	26	31	35	39	42	45	47
		Throw	10,6,4	14,9,5	16,11,9	19,12,8	20,14,9	22,16,10	24,17,11	26,16,10	26,17,11	27,18,12
		PS	0.024	0.027	0.036	0.12	0.19	0.26	0.29	0.36	0.39	0.43
12 x 12	0.045	Flow	250	350	450	550	650	750	850	950	1050	1150
		NC	<15	19	27	33	38	43	46	50	>50	>50
		Throw	13,8,4	16,12,6	18,15,11	20,14,8	21,16,12	26,18,10	26,16,10	26,18,11	26,18,13	26,19,17
		Ps	0.03	0.06	0.13	0.21	0.29	0.39	0.45	0.5	0.54	0.6
15 x 15	0.061	Flow	391	547	703	859	1016	1172	1328	1484	1641	1797
		NC	<15	23	32	39	44	49	>50	>50	>50	>50
		Throw	15,10,5	19,14,8	21,15,9	22,17,11	24,17,11	24,18,12	25,18,12	26,20,13	21,21,17	21,21,19
		Ps	0.03	0.06	0.21	0.24	0.34	0.45	0.49	0.54	0.58	0.6
18 x 18	0.075	Flow	502	702	903	1104	1305	1505	1706	1907	2107	2308
		NC	<15	23	32	40	46	>50	>50	>50	>50	>50
		Throw	16,11,7	20,15,10	23,19,12	24,19,12	26,19,12	26,19,12	27,21,17	28,22,18	29,24,20	30,24,21
		Ps	0.03	0.09	0.1	0.24	0.29	0.34	0.46	0.5	0.54	0.6
21 x 21	0.088	Flow	582	812	1042	1272	1502	1732	1962	2192	2422	2652
		NC	<15	23	33	42	46	>50	>50	>50	>50	>50
		Throw	17,12,7	18,12,7	20,14,9	22,16,10	23,18,11	24,19,11	25,19,12	25,20,13	26,21,14	28,22,14
		Ps	0.04	0.1	0.26	0.28	0.31	0.36	0.47	0.54	0.62	0.7
24 x 24	0.1	Flow	634	914	1194	1474	1754	2034	2314	2594	2874	3154
		NC	<15	24	34	41	48	>50	>50	>50	>50	>50
		Throw	18,12,8	18,14,9	20,16,10	21,17,10	23,18,11	24,19,12	25,19,13	26,21,14	26,22,14	29,23,15
		Ps	0.06	0.12	0.28	0.3	0.32	0.38	0.49	0.56	0.64	0.72

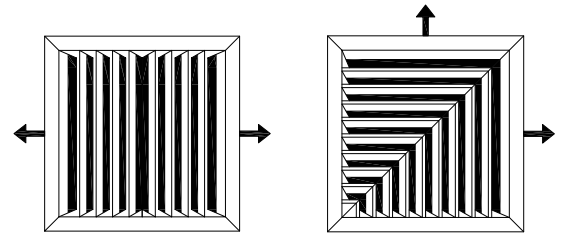
**Note:**

1. Airflow is measured in cubic feet / minute (CFM).
2. Static Pressure (Ps) is measured in inch water guage (in.w.g).
3. Noise criteria (NC) is measured in decibals (dB).
4. Neck velocity is measured in feet/minute (fpm).

5. Throw is measured in feet (ft).
6. Area factor (Ak) is measured in square meter (m<sup>2</sup>).

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**Diffusers - ETL - Intertek Tested**
**Engineering and Performance Data**
**Type: Supply, Return, Ceiling Diffuser**
**Throw : Two way**
**Model: SAD-AB-12; RAD-AB-12**
**Construction: Aluminium**


SAD/RAD-AB-12 (2 way Diffuser)												
Neck Size (inches)	Area Factor (Ak)	Neck Velocity (FPM)	250	350	450	550	650	750	850	950	1050	1150
6 x 6	0.017	Flow	63	88	113	138	163	188	213	238	263	288
		NC	<15	<15	<15	19	24	28	32	35	38	40
		Throw	8,5,3	12,8,5	15,12,8	19,12,8	20,14,10	24,15,11	24,15,10	25,17,11	26,18,11	29,19,12
		Ps	0.024	0.036	0.079	0.18	0.2	0.25	0.31	0.34	0.35	0.4
9 x 9	0.028	Flow	141	197	253	309	366	422	478	534	591	647
		NC	<15	<15	20	26	31	35	39	42	45	47
		Throw	10,6,4	14,9,5	16,11,9	19,12,8	20,14,9	22,16,10	24,17,11	26,16,10	26,17,11	27,18,12
		PS	0.024	0.027	0.036	0.12	0.19	0.26	0.29	0.36	0.39	0.43
12 x 12	0.045	Flow	250	350	450	550	650	750	850	950	1050	1150
		NC	<15	19	27	33	38	43	46	50	>50	>50
		Throw	13,8,4	16,12,6	18,15,11	20,14,8	21,16,12	26,18,10	26,16,10	26,18,11	26,18,13	26,19,17
		Ps	0.03	0.06	0.13	0.21	0.29	0.39	0.45	0.5	0.54	0.6
15 x 15	0.061	Flow	391	547	703	859	1016	1172	1328	1484	1641	1797
		NC	<15	23	32	39	44	49	>50	>50	>50	>50
		Throw	15,10,5	19,14,8	21,15,9	22,17,11	24,17,11	24,18,12	25,18,12	26,20,13	21,21,17	21,21,19
		Ps	0.03	0.06	0.21	0.24	0.34	0.45	0.49	0.54	0.58	0.6
18 x 18	0.075	Flow	502	702	903	1104	1305	1505	1706	1907	2107	2308
		NC	<15	23	32	40	46	>50	>50	>50	>50	>50
		Throw	16,11,7	20,15,10	23,19,12	24,19,12	26,19,12	26,19,12	27,21,17	28,22,18	29,24,20	30,24,21
		Ps	0.03	0.09	0.1	0.24	0.29	0.34	0.46	0.5	0.54	0.6
21 x 21	0.088	Flow	582	812	1042	1272	1502	1732	1962	2192	2422	2652
		NC	<15	23	33	42	46	>50	>50	>50	>50	>50
		Throw	17,12,7	18,12,7	20,14,9	22,16,10	23,18,11	24,19,11	25,19,12	25,20,13	26,21,14	28,22,14
		Ps	0.04	0.1	0.26	0.28	0.31	0.36	0.47	0.54	0.62	0.7
24 x 24	0.1	Flow	634	914	1194	1474	1754	2034	2314	2594	2874	3154
		NC	<15	24	34	41	48	>50	>50	>50	>50	>50
		Throw	18,12,8	18,14,9	20,16,10	21,17,10	23,18,11	24,19,12	25,19,13	26,21,14	26,22,14	29,23,15
		Ps	0.06	0.12	0.28	0.3	0.32	0.38	0.49	0.56	0.64	0.72

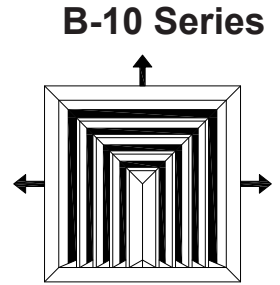
**Note:**

1. Airflow is measured in cubic feet / minute (CFM).
2. Static Pressure (Ps) is measured in inch water guage (in.w.g).
3. Noise criteria (NC) is measured in decibals (dB).
4. Neck velocity is measured in feet/minute (fpm).

5. Throw is measured in feet (ft).

 6. Area factor (Ak) is measured in square meter (m<sup>2</sup>).

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

**Diffusers - ETL - Intertek Tested  
Engineering and Performance Data**
**Type: Supply, Return, Ceiling Diffuser**
**Throw : Three way**
**Model: SAD-AB-13; RAD-AB-13**
**Construction: Aluminium**


SAD/RAD-AB-13 (3 way Diffuser)												
Neck Size (inches)	Area Factor (Ak)	Neck Velocity (FPM)	250	350	450	550	650	750	850	950	1050	1150
6 x 6	0.017	Flow	63	88	113	138	163	188	213	238	263	288
		NC	<15	<15	<15	19	24	28	32	35	38	40
		Throw	8,5,3	12,8,5	15,12,8	19,12,8	20,14,10	24,15,11	24,15,10	25,17,11	26,18,11	29,19,12
		Ps	0.024	0.036	0.079	0.18	0.2	0.25	0.31	0.34	0.35	0.4
9 x 9	0.028	Flow	141	197	253	309	366	422	478	534	591	647
		NC	<15	<15	20	26	31	35	39	42	45	47
		Throw	10,6,4	14,9,5	16,11,9	19,12,8	20,14,9	22,16,10	24,17,11	26,16,10	26,17,11	27,18,12
		PS	0.024	0.027	0.036	0.12	0.19	0.26	0.29	0.36	0.39	0.43
12 x 12	0.045	Flow	250	350	450	550	650	750	850	950	1050	1150
		NC	<15	19	27	33	38	43	46	50	>50	>50
		Throw	13,8,4	16,12,6	18,15,11	20,14,8	21,16,12	26,18,10	26,16,10	26,18,11	26,18,13	26,19,17
		Ps	0.03	0.06	0.13	0.21	0.29	0.39	0.45	0.5	0.54	0.6
15 x 15	0.061	Flow	391	547	703	859	1016	1172	1328	1484	1641	1797
		NC	<15	23	32	39	44	49	>50	>50	>50	>50
		Throw	15,10,5	19,14,8	21,15,9	22,17,11	24,17,11	24,18,12	25,18,12	26,20,13	21,21,17	21,21,19
		Ps	0.03	0.06	0.21	0.24	0.34	0.45	0.49	0.54	0.58	0.6
18 x 18	0.075	Flow	502	702	903	1104	1305	1505	1706	1907	2107	2308
		NC	<15	23	32	40	46	>50	>50	>50	>50	>50
		Throw	16,11,7	20,15,10	23,19,12	24,19,12	26,19,12	26,19,12	27,21,17	28,22,18	29,24,20	30,24,21
		Ps	0.03	0.09	0.1	0.24	0.29	0.34	0.46	0.5	0.54	0.6
21 x 21	0.088	Flow	582	812	1042	1272	1502	1732	1962	2192	2422	2652
		NC	<15	23	33	42	46	>50	>50	>50	>50	>50
		Throw	17,12,7	18,12,7	20,14,9	22,16,10	23,18,11	24,19,11	25,19,12	25,20,13	26,21,14	28,22,14
		Ps	0.04	0.1	0.26	0.28	0.31	0.36	0.47	0.54	0.62	0.7
24 x 24	0.1	Flow	634	914	1194	1474	1754	2034	2314	2594	2874	3154
		NC	<15	24	34	41	48	>50	>50	>50	>50	>50
		Throw	18,12,8	18,14,9	20,16,10	21,17,10	23,18,11	24,19,12	25,19,13	26,21,14	26,22,14	29,23,15
		Ps	0.06	0.12	0.28	0.3	0.32	0.38	0.49	0.56	0.64	0.72

**Note:**

- Airflow is measured in cubic feet / 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 (m<sup>2</sup>).

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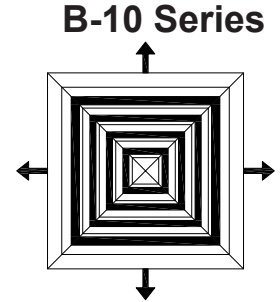
## Diffusers - ETL - Intertek Tested Engineering and Performance Data

Type: Supply, Return, Ceiling Diffuser

Throw : Four way

Model: SAD-AB-14; RAD-AB-14

Construction: Aluminium



SAD/RAD-AB-14 (4 way Diffuser)												
Neck Size (inches)	Area Factor (Ak)	Neck Velocity (FPM)	250	350	450	550	650	750	850	950	1050	1150
6 x 6	0.017	Flow	63	88	113	138	163	188	213	238	263	288
		NC	<15	<15	<15	19	24	28	32	35	38	40
		Throw	7,4,2	12,7,4	15,10,6	18,11,7	20,13,8	22,14,9	24,15,9	25,16,10	26,17,11	28,18,11
		Ps	0.014	0.028	0.046	0.069	0.097	0.129	0.166	0.207	0.253	0.303
9 x 9	0.028	Flow	141	197	253	309	366	422	478	534	591	647
		NC	<15	<15	20	26	31	35	39	42	45	47
		Throw	10,6,3	14,9,5	16,11,6	19,12,7	20,14,8	22,15,9	24,16,10	25,16,10	26,17,11	27,18,11
		Ps	0.021	0.042	0.069	0.103	0.144	0.191	0.246	0.307	0.375	0.45
12 x 12	0.045	Flow	250	350	450	550	650	750	850	950	1050	1150
		NC	<15	19	27	33	38	43	46	50	>50	>50
		Throw	13,8,4	16,11,6	18,12,7	20,14,8	21,15,9	23,16,10	24,17,11	25,17,11	26,18,12	26,19,12
		Ps	0.027	0.053	0.087	0.13	0.181	0.241	0.31	0.387	0.473	0.567
15 x 15	0.061	Flow	391	547	703	859	1016	1172	1328	1484	1641	1797
		NC	<15	23	32	39	44	49	>50	>50	>50	>50
		Throw	15,10,5	18,13,7	19,14,8	21,15,9	22,17,10	24,17,11	24,18,12	25,18,12	26,19,13	26,20,13
		Ps	0.027	0.052	0.086	0.129	0.18	0.24	0.308	0.385	0.47	0.564
18 x 18	0.075	Flow	502	702	903	1104	1305	1505	1706	1907	2107	2308
		NC	<15	23	32	40	46	>50	>50	>50	>50	>50
		Throw	16,11,6	18,13,8	20,15,9	21,16,10	23,18,11	24,18,11	25,19,12	25,20,12	26,21,13	27,21,13
		Ps	0.021	0.041	0.067	0.101	0.141	0.187	0.241	0.3	0.367	0.44
21 x 21	0.088	Flow	582	812	1042	1272	1502	1732	1962	2192	2422	2652
		NC	<15	23	33	42	46	>50	>50	>50	>50	>50
		Throw	17,12,7	18,12,7	20,14,9	22,16,10	23,18,11	24,19,11	25,19,12	25,20,13	26,21,14	28,22,14
		Ps	0.022	0.042	0.068	0.102	0.141	0.183	0.241	0.3	0.47	0.44
24 x 24	0.1	Flow	634	914	1194	1474	1754	2034	2314	2594	2874	3154
		NC	<15	24	34	41	48	>50	>50	>50	>50	>50
		Throw	18,12,8	18,14,9	20,16,10	21,17,10	23,18,11	24,19,12	25,19,13	26,21,14	26,22,14	29,23,15
		Ps	0.021	0.04	0.066	0.103	0.142	0.187	0.241	0.33	0.367	0.5

**Note:**

1. Airflow is measured in cubic feet / minute (CFM).
2. Static Pressure (Ps) is measured in inch water guage (in.w.g).
3. Noise criteria (NC) is measured in decibals (dB).
4. Neck velocity is measured in feet/minute (fpm).
5. Throw is measured in feet (ft).
6. Area factor (Ak) is measured in square meter (m<sup>2</sup>).

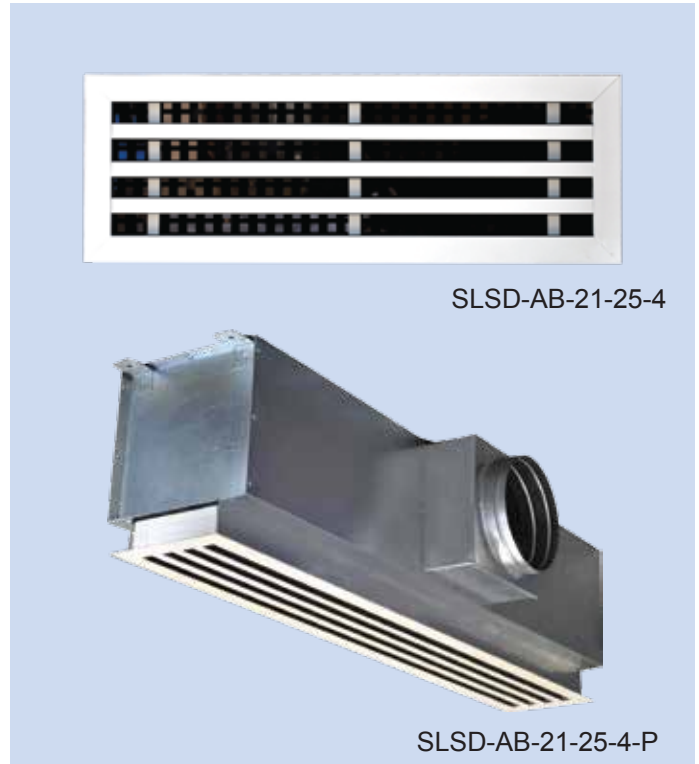
Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

**Linear Slot Diffusers ETL - Intertek Tested**  
**Supply / Return Linear Slot Diffuser**
**B-20 series**

**BETEC CAD.'s** Linear slot diffusers provides combination of engineering excellence and architectural appeal in a single product. The solid extruded aluminum construction contributes to the clean, crisp, straight lines without any compromise to air distribution performance.

**Features**

- Available in number of slots from 1 through 8 slots with 3 different slot widths for low, medium and high air volume capacity
- Material is extruded aluminium with natural anodised finish
- Slot arrangement provides 180° adjustable air diffusing patterns.
- Air diffusion pattern can be made horizontal along the ceiling, vertically downwards or intermediate.
- Deflecting vanes and integral volume damper can be adjusted from the face of the diffuser.



Standard Types and Models						
Type	Model	Slot width (S)	Number of slots (x)	With Damper (D)	With Plenum (P)	Construction
Linear Slot Diffuser	SLSD-AB-21	16 / 20 / *25 mm	1 to 8	*	Optional	A* / S
	RLSD-AB-21	16 / 20 / *25 mm	1 to 8	N/A	Optional	A* / S
	CLSD-AB-21	16 / 20 / *25 mm	1 to 8	N/A	N/A	A* / S

**Note:** **SLSD** = Supply ; **RLSD** = Return ; **CLSD** = Curved, Linear slot diffusers; S = Slot width ; Y = Number of slots.

**Material Details**

All types and models of Linear Slot Diffusers are available in Aluminum, Chrome and Stainless Steel finish according to the design and application.

**Metal Aluminium**

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

**Sheet Metal Stainless Steel (SS)**

Stainless steel to **304/316L**

**Application:**

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

**SS Construction :** For Offshore, Oil & Gas etc.

**The respective alphabet will indicates the type of material construction.**

A – Aluminum (**AL**)

S – Stainless Steel (**SS**)

**BETEC CAD. Diffusers 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.

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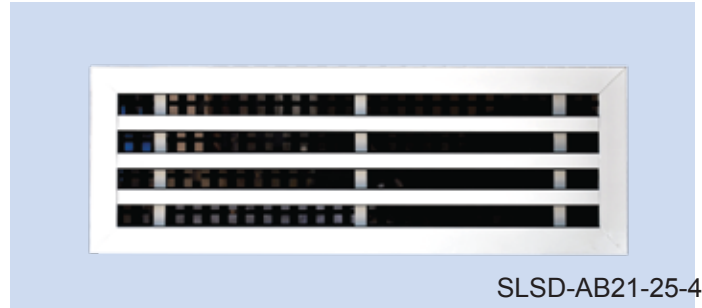


**Linear Slot Diffusers ETL - Intertek Tested**
**B-20 series**
**Type: Supply Linear Slot Diffusers**

**Model : SLSD-AB-21-S-x**
**Slot width (S) : 16 / 20 / 25\* mm; No. of Slots (x) : 1 to 8**
**Construction: Aluminium**
**Description**

Slot diffuser frame and deflection blades are made of extruded aluminium profiles. Air diffusion pattern can be varied for horizontal airflow along the ceiling, vertically downwards flow or intermediate flow.

The defelecting vanes and integral volume damper (hit and miss damper) can be adjusted from the face of the diffuser. Slot diffusers are suitable for installations in ceiling and sill.



SLSD-AB21-25-4

**Standard Construction**
**Frame**

Extruded Aluminum profile.

**Deflection Blades**

Extruded Aluminum profile.

**Damper**

Galvanized steel hit and miss damper with black matte finish.

**Slot Width**

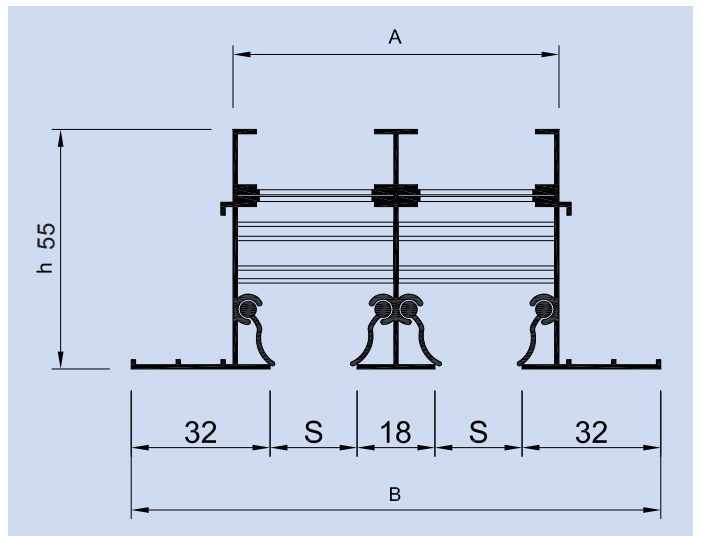
25 mm.

**Number of Slots**

1,2,3,4,5,6,7,8.

**Finish**

Available with RAL powder coating, please specify color.


**Optional Fittings**
**Plenum chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Slot width**

16 &amp; 20 mm.

**Foam Gasket**

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

**Finish**

Mill finish or Chrome plating.

Standard Sizes of B-20 Series Slot Diffusers			
No. of Slots	Number of Pieces		
	1 Pc	2 Pcs.	3 Pcs.
1,2& 3 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
4 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
5 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
6 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
7 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
8 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs

Dimensions of B-20 Series Linear Slot Diffusers						
No. of Slots	S = Slot width 16 mm		S = Slot width 20 mm		S = Slot width 25 mm	
	A (mm)	B (mm)	A (mm)	B (mm)	A (mm)	B (mm)
1 Slot	40	80	44	84	49	89
2 Slots	74	114	82	122	92	132
3 Slots	108	148	120	160	135	175
4 Slots	142	182	158	198	178	218
5 Slots	176	216	196	236	221	261
6 Slots	210	250	234	274	264	304
7 Slots	244	284	272	312	307	347
8 Slots	278	318	310	350	350	390

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



**Linear Slot Diffusers ETL - Intertek Tested**
**B-20 series**

**Type: Return Linear Slot Diffusers**
**Model : RLSD-AB-21-S-x**
**Slot width (S) : 16 / 20 / 25\* mm; No. of Slots (x) : 1 to 8**
**Construction: Aluminium**
**Description**

Slot diffuser frame and deflection blades are made of extruded aluminium profiles. Air diffusion pattern can be varied for horizontal airflow along the ceiling, vertically downwards flow or intermediate flow.

The defelecting vanes and integral volume damper (hit and miss damper) can be adjusted from the face of the diffuser. Slot diffusers are suitable for installations in ceiling and sill.

**Standard Construction**
**Frame**

Extruded Aluminum profile.

**Deflection Blades**

Extruded Aluminum profile.

**Damper**

Galvanized steel hit and miss damper with black matte finish.

**Slot Width**

25 mm.

**Number of Slots**

1,2,3,4,5,6,7,8.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Fittings**
**Plenum chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Slot width**

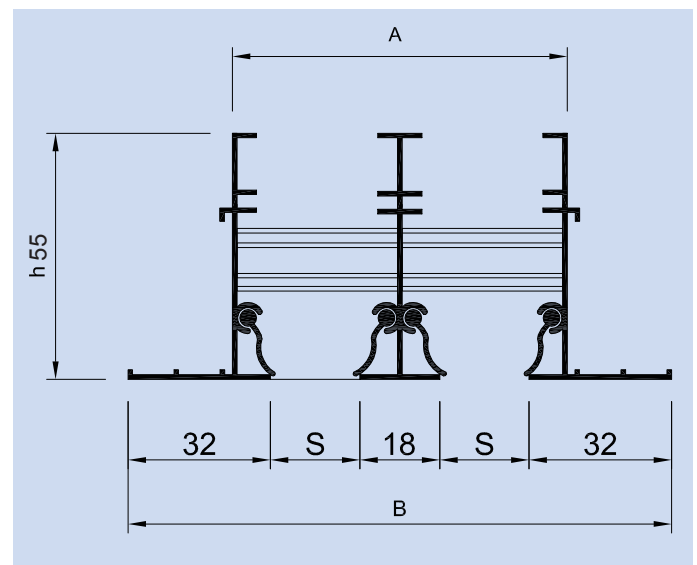
16 &amp; 20 mm.

**Foam Gasket**

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

**Finish**

Mill finish or Chrome plating.



Standard Sizes of B-20 Series Slot Diffusers			
No. of Slots	In Number of Pieces		
	1 Pc	2 Pcs.	3 Pcs.
1,2& 3 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
4 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
5 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
6 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
7 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs
8 Slots	< 2.4 Mtrs	> 2.4 Mtrs	> 4.8 Mtrs

Dimensions of B-20 Series Linear Slot Diffusers						
No. of Slots	S = Slot width 16 mm		S = Slot width 20 mm		S = Slot width 25 mm	
	A (mm)	B (mm)	A (mm)	B (mm)	A (mm)	B (mm)
1 Slot	40	80	44	84	49	89
2 Slots	74	114	82	122	92	132
3 Slots	108	148	120	160	135	175
4 Slots	142	182	158	198	178	218
5 Slots	176	216	196	236	221	261
6 Slots	210	250	234	274	264	304
7 Slots	244	284	272	312	307	347
8 Slots	278	318	310	350	350	390

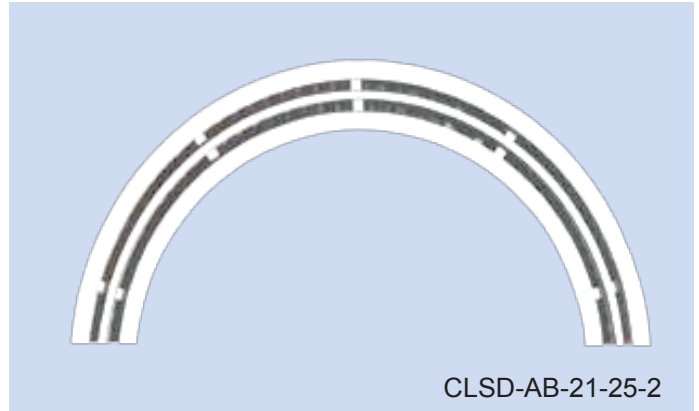
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**Curved Linear Slot Diffusers ETL - Intertek Tested**
**B-20 series**
**Type: Curved Linear Slot Diffusers**
**Model : CLSD-AB-21-S-x**
**Slot width (S) : 16 / 20 / 25\* mm; No. of Slots (x) : 1 to 8**
**Construction: Aluminium**
**Description**

Slot diffuser frame and deflection blades are made of extruded aluminium profiles. Air diffusion pattern can be varied for horizontal airflow along the ceiling, vertically downwards flow or intermediate flow.

The defelecting vanes and integral volume damper (hit and miss damper) can be adjusted from the face of the diffuser. Slot diffusers are suitable for installations in ceiling and sill.


**Standard Construction**
**Frame**

Extruded Aluminum profile.

**Deflection Blades**

Extruded Aluminum profile.

**Slot Width**

25 mm.

**Number of Slots**

1,2,3,4,5,6,7,8.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Fittings**
**Slot width**

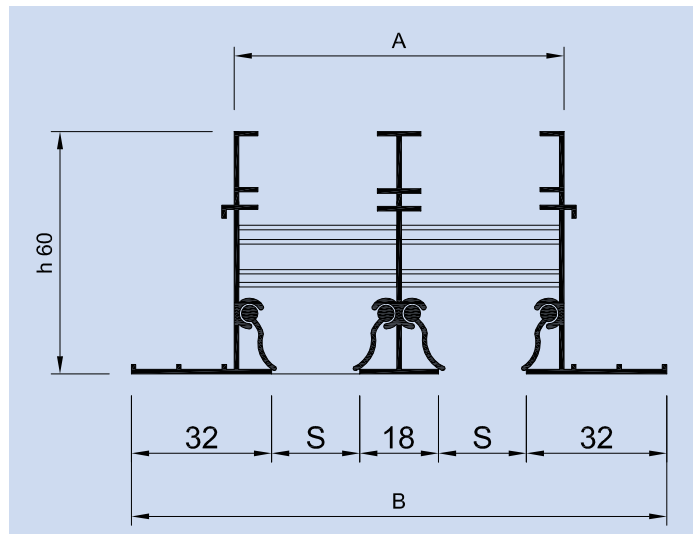
16 &amp; 20 mm.

**Foam Gasket**

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

**Finish**

Mill finish or Chrome plating.



Dimensions of B-20 Series Linear Slot Diffusers						
No. of Slots	S = Slot width 16 mm		S = Slot width 20 mm		S = Slot width 25 mm	
	A (mm)	B (mm)	A (mm)	B (mm)	A (mm)	B (mm)
1 Slot	40	80	44	84	49	89
2 Slots	74	114	82	122	92	132
3 Slots	108	148	120	160	135	175
4 Slots	142	182	158	198	178	218
5 Slots	176	216	196	236	221	261
6 Slots	210	250	234	274	264	304
7 Slots	244	284	272	312	307	347
8 Slots	278	318	310	350	350	390

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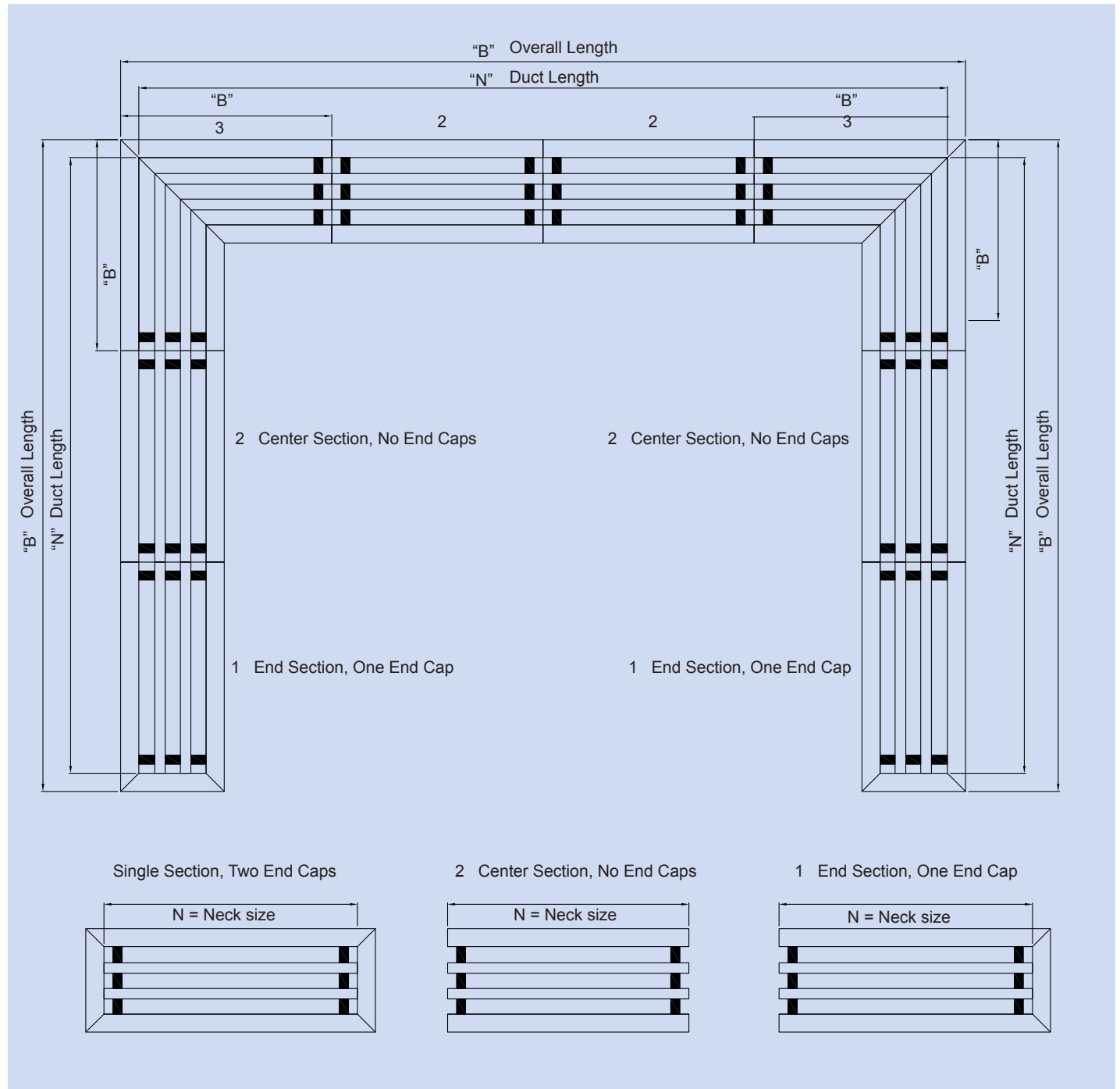
**Linear Slot Diffusers ETL - Intertek Tested**
**B-20 series**
**Construction Details and Dimensions**

Type: Supply Linear Slot Diffusers

Model : SLSD-AB-21-S-x

Slot width (S) : 16 / 20 / 25\* mm; No. of Slots (x) : 1 to 8

Construction: Aluminium

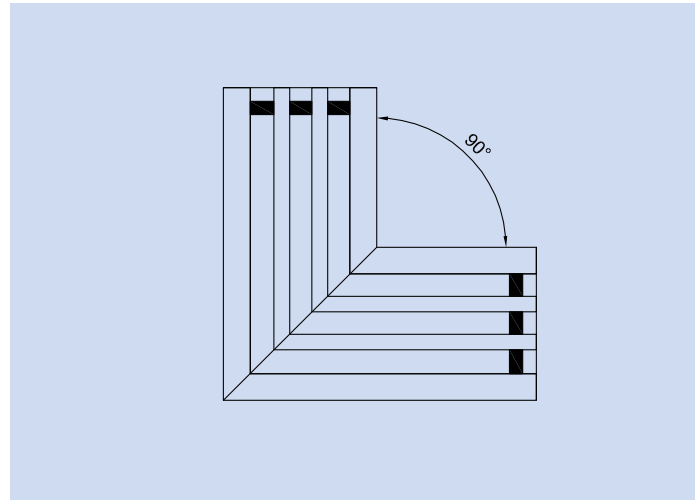
**Dimensions for Continuous Section**


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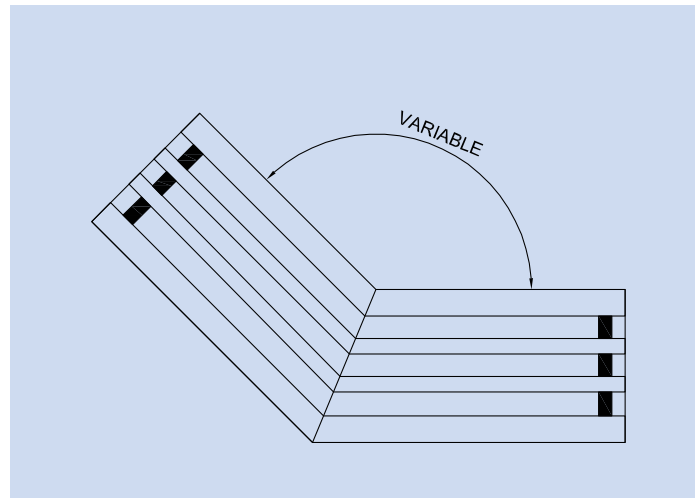


**Linear Slot Diffusers ETL - Intertek Tested**
**B-20 series**
**Mitered Corners**
**90° Mitered Corner Section**

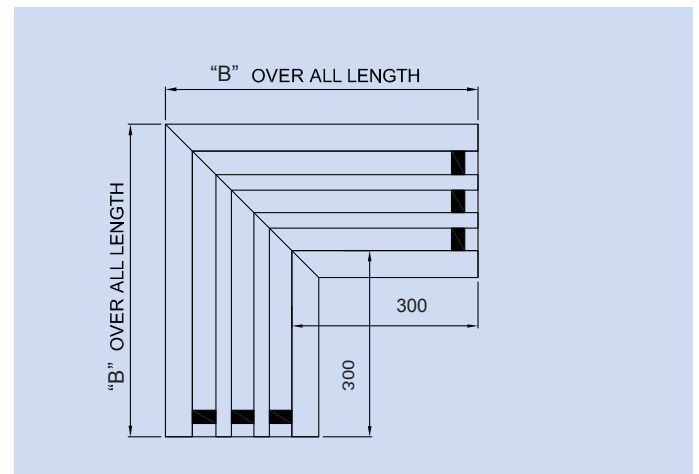
Available for installation in ceiling or sidewall applications, the standard horizontal (flat) mitered corner section includes an angle of 90° and is available for and slot widths of types 25mm Linear Slot Diffusers. The corner section contains 600mm of straight diffuser, 300mm on either side of the miter line. (See across for detail drawings). Normally inactive, corner sections are of one piece welded construction and are supplied with pattern controllers only.


**Special Mitered Corners Sections**

Available for installation in ceiling or sidewall applications, the special horizontal (flat) mitered corner section includes an angle greater than 90° and less than 180° and is available for of types 25mm Linear Slot Diffusers. Horizontal corner sections are not available for included angles of less than 90°. The corner section contains 300mm of straight diffuser, one foot on either side of the miter line. Normally inactive, corner sections are of one piece welded construction and are supplied with pattern controllers only. These special mitered corner sections are available only for horizontal (flat) installations. The corners are cut to the specified angle and are manufactured within standard industrial tolerances.


**90° Mitered Corner Dimensions**

No of Slots	16mm	20mm	25mm
1	355	359	364
2	389	397	407
3	423	435	450
4	457	473	493
5	491	511	536
6	525	549	579
7	559	587	622
8	593	625	665



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**Linear Slot Diffusers ETL - Intertek Tested**
**B-20 series**
**Construction Details and Dimensions**
**Plenum Box details**
**Linear Slot Plenums**

**BETEC CAD.**'s Linear slot plenums are manufactured to suit the full range of linear diffusers from 1 to 8 slots models of **RLSD / SLSD**, for horizontal diffusion of air without change in air volume, pressure or sound level. 100% utilization of diffuser face area, regardless of pattern deflection, gives optimum performance in terms of air handling characteristics. These diffusers have high diffusion induction rates, resulting in rapid temperature and velocity equalization of the mixed air volume, well above the zone of occupancy.

Correct selection and sizing of distribution plenum chambers and neck reducers is critical because terminal air resistance is very low relative to the distribution ductwork resistance. A similar effect results from use of neck reducers with circular duct connections because the reduced duct area will cause generally higher velocities and hence increased risk of noise generation.

Maximum one piece length is 1200mm. Above this length plenums are supplied in multiple sections of even length each provided with an inlet spigot.

**Standard Construction**
**Plenum Chamber**

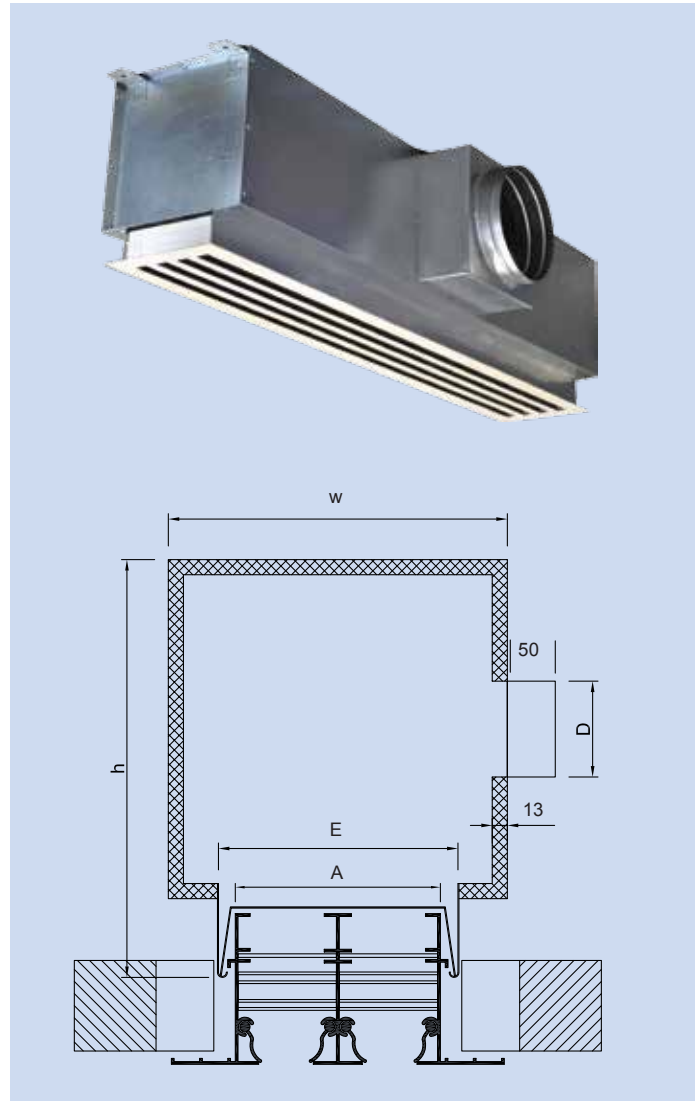
Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Casing**

0.7 mm thick galvanized steel.

**Insulation**

Acoustic liner of 13 mm thickness, 32 kg/m<sup>3</sup> density.


**Plenum Box with Insulation**

No of Slots	D (mm)	H (mm)	E (mm)	W (mm)
1	150	300	A+10	E+100
2	150	300	A+10	E+100
3	200	350	A+10	E+100
4	250	400	A+10	E+100
5	250	400	A+10	E+100
6	300	450	A+10	E+100
7	300	450	A+10	E+100
8	300	450	A+10	E+100

**Note :**

A = Slot Diffuser Neck size

**Plenum Box without Insulation**

No of Slots	D (mm)	H (mm)	E (mm)	W (mm)
1	150	275	A+10	E+50
2	200	275	A+10	E+50
3	200	275	A+10	E+50
4	250	275	A+10	E+50
5	250	275	A+10	E+50
6	315	340	A+10	E+50
7	315	340	A+10	E+50
8	315	340	A+10	E+50

**Note :**

A = Slot Diffuser Neck size

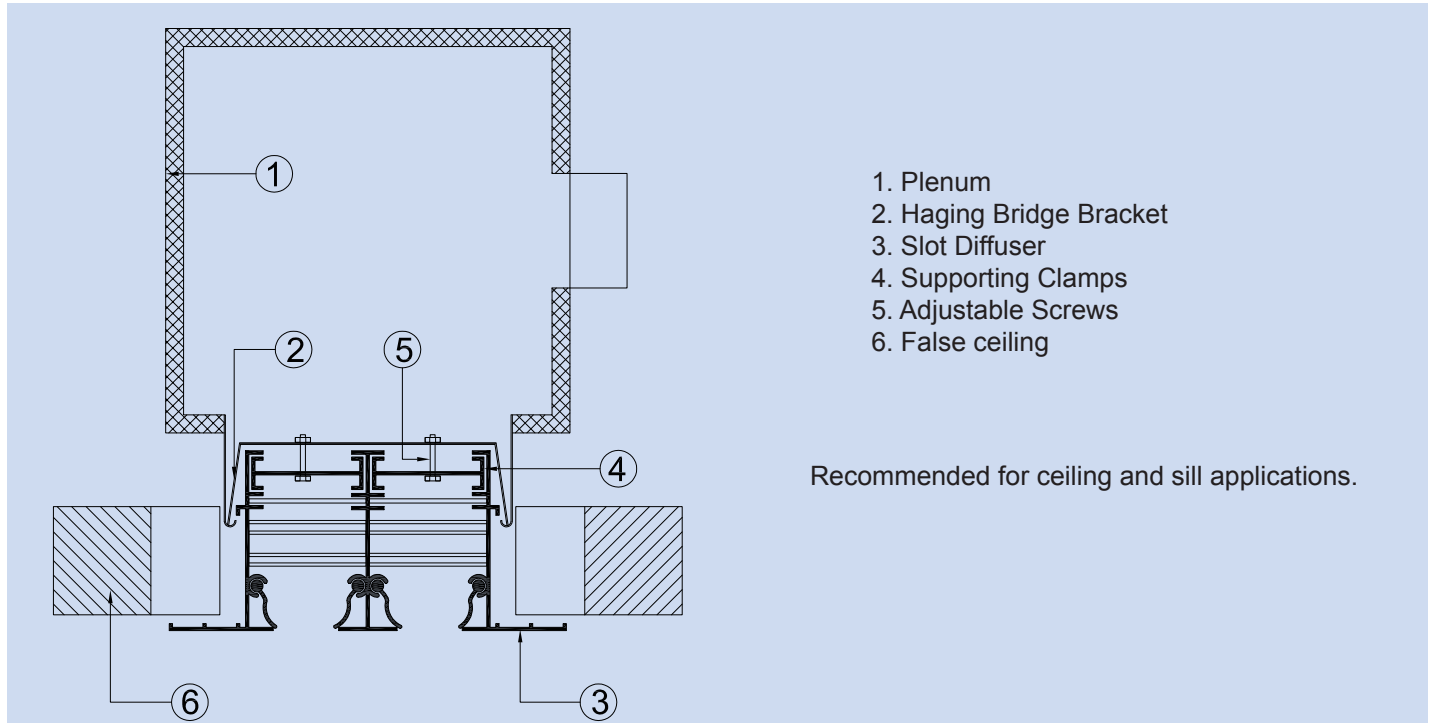
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**Linear Slot Diffusers ETL - Intertek Tested**

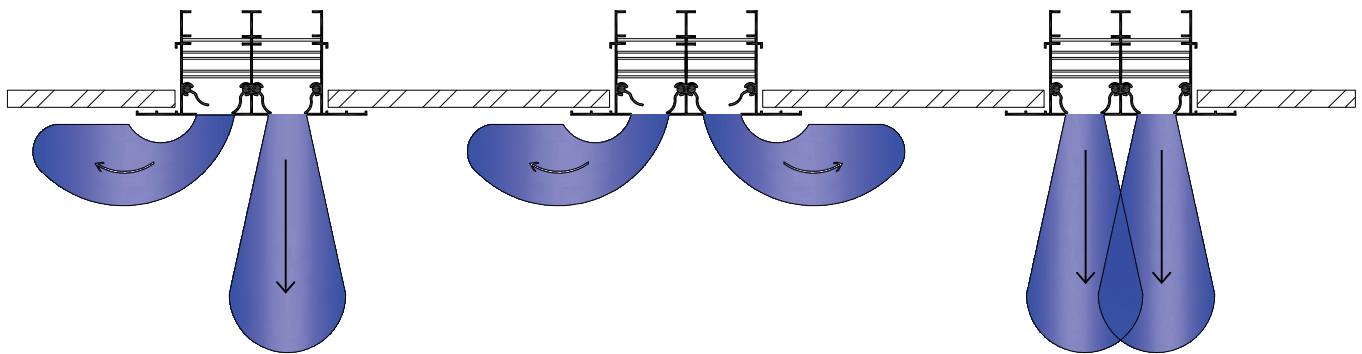
**B-20 series**

**Linear Slot Diffusers Fixing Details**



**Engineering and performance Data**

Possible Combinations of discharging of air by adjusting the deflectors.  
 Model : SLSD-AB-21-S-x



50% Horizontal along the ceiling  
 50% Vertically downwards

100% Horizontal along the ceiling

100% Vertically downwards

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Linear Slot Diffusers ETL - Intertek Tested

B-20 series

Engineering and performance Data



Supply / Return Linear Slot Diffusers

Supply / Return Linear Slot Diffuser Model: SLSD-AB-20 / RLSD-AB-20												
Neck FPM		250	325	400	475	550	625	700	775	850	925	
Slot 1	Ak 0.252	CFM	63	82	101	120	139	158	176	195	214	233
		Ps	0.049	0.083	0.126	0.177	0.237	0.306	0.384	0.471	0.567	0.671
		NC	36	43	49	>50	>50	>50	>50	>50	>50	>50
		Throw	35,<2,<2	34,<2,<2	35,3,<2	36,5,<2	34,4,2	35,6,<2	36,8,2	36,9,7	37,7,5	38,12,9
Slot 2	Ak 0.295	CFM	74	96	118	140	162	184	207	229	251	273
		Ps	0.024	0.041	0.061	0.087	0.116	0.150	0.188	0.231	0.277	0.329
		NC	<15	20	27	32	36	40	44	47	50	>50
		Throw	18.2,<2	22.6,<2	25.9,3	28,12,6	30,14,8	32,16,10	34,17,12	35,19,14	37,20,15	38,22,17
Slot 3	Ak 0.324	CFM	81	105	130	154	178	203	227	251	275	300
		Ps	0.012	0.019	0.029	0.042	0.056	0.072	0.090	0.111	0.133	0.158
		NC	<15	<15	15	20	25	29	32	35	38	40
		Throw	11.3,<2	16.7,2	19,10,4	22,13,7	25,16,9	27,18,12	29,19,14	30,21,15	32,23,17	33,24,18
Slot 4	Ak 0.346	CFM	87	112	138	164	190	216	242	268	294	320
		Ps	0.012	0.020	0.030	0.042	0.056	0.072	0.091	0.111	0.134	0.159
		NC	<15	<15	15	20	24	28	31	34	36	39
		Throw	14,2,<2	16,3,2	17,6,2	18,8,4	19,10,5	20,12,7	21,14,8	21,15,10	22,16,11	22,16,11
Slot 5	Ak 0.365	CFM	91	119	146	173	201	228	256	283	310	338
		Ps	0.024	0.041	0.062	0.087	0.117	0.151	0.190	0.233	0.280	0.331
		NC	<15	21	26	30	34	37	40	43	45	47
		Throw	27,<2,<2	22,<2,<2	19,<2,<2	16,<2,<2	12,<2,<2	11,<2,<2	10,2,<2	8,<2,<2	7,<2,<2	8,4,<2
Slot 6	Ak 0.384	CFM	93	123	153	183	213	243	273	303	330	364
		Ps	0.024	0.041	0.061	0.087	0.116	0.15	0.188	0.231	0.272	0.299
		NC	<15	18	21	25	27	30	33	36	40	44
		Throw	24,<2,<2	22,<2,<2	19,<2,<2	18,8,4	12,<2,<2	11,<2,<2	10,2,<2	8,<2,<2	7,<2,<2	8,4,<2
Slot 7	Ak 0.402	CFM	95	127	159	191	223	255	287	319	351	383
		Ps	0.024	0.041	0.061	0.087	0.116	0.15	0.188	0.231	0.277	0.299
		NC	<15	19	22	26	29	32	36	39	42	46
		Throw	20,<2,<2	21,<2,<2	22,13,7	25,16,9	27,18,12	29,19,14	30,21,15	32,23,17	33,24,18	34,24,19
Slot 8	Ak 0.424	CFM	97	132	167	202	237	272	307	342	377	412
		Ps	0.012	0.02	0.03	0.042	0.056	0.072	0.091	0.111	0.134	0.148
		NC	45	20	23	27	30	33	36	39	42	47
		Throw	25,<2,<2	27,<2,<2	30,14,8	32,16,10	34,17,12	35,19,14	37,20,15	38,22,17	40,22,18	41,22,19

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 :**

1. Airflow is measured in cubic feet/ minute (CFM).
2. Static Pressure (Ps) is measured in inch water guage (in. w.g).
3. Noise criteria (NC) is measured in decibals (dB).
4. Neck velocity is measured in feet/minute (fpm).
5. Throw is measured in feet (Ft).
6. Area factor (AK) is measured in square meter (m<sup>2</sup>).

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## Round Diffusers

Type: Round Supply / Return Ceiling Diffuser

Model: SADR-AB-31; RADR-AB-31

Construction: Aluminium

### Description

**BETEC CAD's** Round ceiling diffusers are designed for both supply and return applications. The diffuser frame and inner cones are constructed from high quality aluminium sheet.

The expanded diffuser cones construction provides a wider and draft-free diffusion of air that results in excellent air distribution and efficient cooling.

Diffuser core is fixed to the frame with aluminium pins loaded with spiral spring, easily removable to provide access for damper adjustment.

### Standard Construction Details

#### Frame

Extruded aluminum profile.

#### Core

Die punched single piece sheet.

#### Damper

Butterfly type opposed blade damper made of galvanized steel operated with screw.

#### Finish

Available with RAL powder coating, please specify color.

### Optional Fittings

#### Plenum chamber

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

#### Foam Gasket

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

#### Finish

Mill finish or Chrome plating.

### Plenum Construction

#### Casing

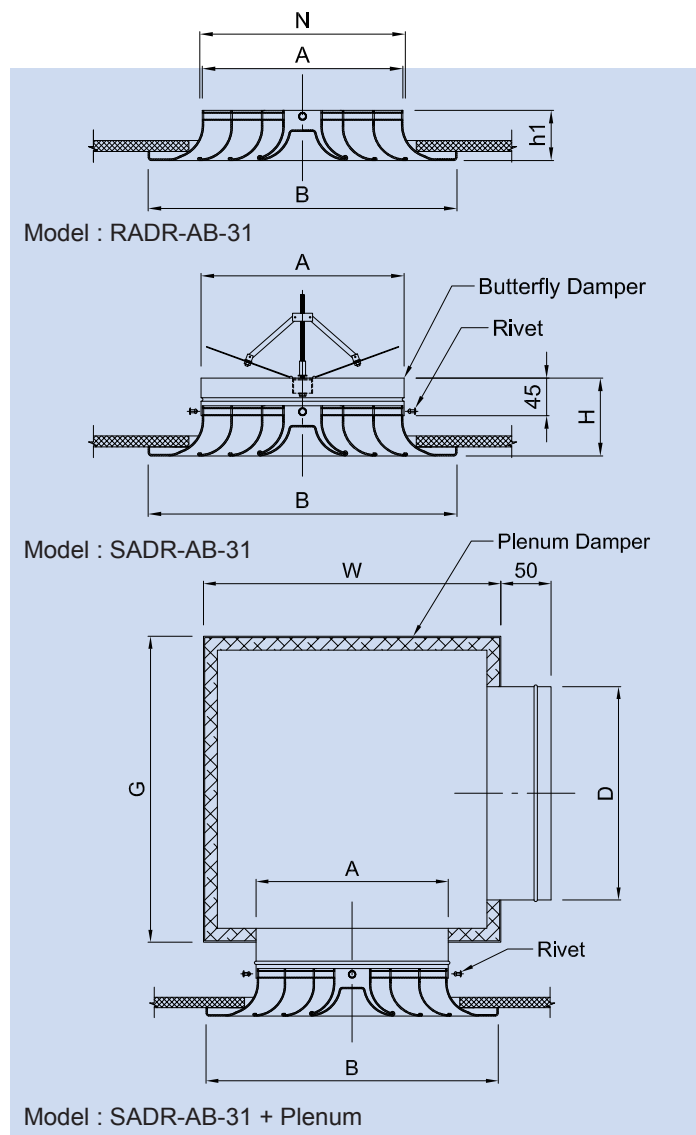
0.7 mm thick galvanized steel.

#### Insulation

Acoustic liner of 13 mm thickness, 32 kg/m<sup>3</sup> density.

Standard Sizes of Round Diffuser Models									
N = Nominal Duct		A	B	Flange	h 1	W	D	G	H
Dia in Inches	Dia in mm	Dia (mm)	Dia (mm)	Width (mm)	(mm)	Width (mm)	Dia (mm)	(mm)	(mm)
6	150	138	250	33	50	250	125	225	95
8	200	188	300	33	50	300	150	250	95
10	250	238	350	33	50	350	150	250	95
12	300	288	400	33	50	400	200	300	95
14	350	338	450	33	50	450	250	350	95
16	400	387	500	33	50	500	300	400	95
18	450	438	550	33	50	550	300	450	95
20.5	521	521	653	35	50	653	300	450	95
22.6	573	573	704	35	50	704	300	450	95
24.6	625	625	756	35	50	756	350	500	95

## B-30 series



#### Note :

N = Nominal Duct Dia; A = Neck Dia; B = Outer/Face Dia;  
 h1 = Diffuser Height; H = Diffuser with Damer Height  
 W = Plenum Width; G = Plenum Height; D = Plenum inlet

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

**Round Diffuser**
**B-30 series**
**Engineering and performance Data**
**Type: Round Supply / Return Ceiling Diffuser**
**Model: SADR-AB-31; RADR-AB-31**
**Construction: Aluminium**

Neck Velocity	Size	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
100	CFM	50	78	106	151	236	326	370	444	562	606
	Ps in w.g	0.02	0.01	0	0	0	0	0	0	0	0
	Throw	0.6-1.6	0.7-1.8	0.8-2	1-2.2	1.2-2.4	1.5-2.7	3.4-5.4	4-6.2	5.2-7.7	5.7-8.5
	NC	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
150	CFM	79	118	160	228	352	444	488	562	682	724
	Ps in w.g	0.05	0.01	0.01	0	0	0	0	0	0	0
	Throw	1-2.0	1-2.3	1.31-2.6	1.6-3.0	1.8-3.2	2.0-3.35	3.9-6.0	4.8-7.3	6-9.0	6.5-9.5
	NC	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
200	CFM	108	160	212	305	470	562	606	680	802	842
	Ps in w.g	0.08	0.02	0.01	0.01	0	0	0	0	0	0
	Throw	1.2-2.5	1.44-2.7	1.7-3.14	2.16-3.7	2.4-4.0	2.6-4.6	4.4-6.9	5.7-8.4	7-10.1	7.2-10.4
	NC	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
250	CFM	137	199	265	390	588	680	724	798	922	960
	Ps in w.g	0.13	0.03	0.01	0.01	0.01	0	0	0	0	0
	Throw	1.57-3.0	1.8-3.2	2.16-3.7	2.6-4.4	2.8-4.6	3.13-4.8	5.5-8	6.5-9.5	7.8-11.2	8-11.4
	NC	18	18	<15	<15	<15	<15	<15	<15	<15	<15
300	CFM	166	238	316	456	706	798	843	916	1042	1078
	Ps in w.g	0.18	0.04	0.02	0.01	0.01	0	0	0	0	0
	Throw	1.8-3.3	2.16-3.7	2.6-4.3	3.2-5.15	3.4-5.4	3.72-5.8	6.89-9.23	7.3-10.6	8.6-12.4	8.8-12.6
	NC	21	24	<15	<15	<15	<15	<15	<15	<15	<15
350	CFM	195	277	356	533	822	916	961	1037	1162	1196
	Ps in w.g	0.25	0.05	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Throw	2.1-3.7	2.5-4.2	3-4.8	3.7-5.8	3.9-6.0	3.9-6.0	7.98-11	8.4-11.5	10-13.8	10.2-13.9
	NC	24	28	18	<15	<15	<15	<15	<15	<15	<15
400	CFM	224	316	397	610	940	1034	1080	1158	1282	1308
	Ps in w.g	0.32	0.06	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Throw	2.4-4.1	2.8-4.7	3.4-5.4	4.2-6.7	4.4-6.9	5-6.9	8.6-11.76	10-12.6	12-14.6	12.7-15
	NC	28	32	21	<15	<15	<15	<15	<15	<15	<15
450	CFM	253	355	224	687	1043	1152	1198	1279	1402	1426
	Ps in w.g	0.41	0.08	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01
	Throw	2.8-4.6	3.2-5.1	4.0-6.0	4.8-7.3	5.0-7.9	6.1-7.9	9.4-13	10.9-14.4	13.4-15.7	13.6-15.9
	NC	34	35	25	18	21	<15	<15	<15	<15	<15
500	CFM		394	555	761	1177	1270	1316	1400	1522	1544
	Ps in w.g		0.1	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.01
	Throw		3.6-5.6	4.3-6.6	5.3-8	5.7-8.6	7.3-8.9	10.4-14.65	11.8-15.8	14.7-17.1	14.9-17.6
	NC		38	28	22	26	<15	<15	<15	<15	<15
600	CFM		433	633	915	1411	1388	1435	1521	1642	1662
	Ps in w.g		0.14	0.06	0.03	0.02	0.01	0.01	0.01	0.01	0.01
	Throw		4.3-6.6	5.2-7.7	6.4-9.4	6.6-10.1	8.7-10.2	12-16.3	13-17	16.2-18.4	16.4-18.6
	NC		43	33	26	28	20	21	17	18	<15

**Note :**

1. Neck velocity is measured in feet/minute (fpm).
2. Static Pressure (Ps) is measured in inch water guage (in. w.g).
3. Throw is measured in feet (ft).
4. Noise criteria (NC) is measured in decibals (dB).
5. Airflow is measured in cubic feet / minute (CFM).

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



**Round Diffuser**
**B-30 series**
**Engineering and performance Data**
**Type: Round Supply / Return Ceiling Diffuser**
**Model: SADR-AB-31; RADR-AB-31**
**Construction: Aluminium**

Neck Velocity	Size	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
700	CFM		472	722	1066	1647	1506	1554	1642	1762	1780
	Ps in w.g		0.19	0.08	0.04	0.02	0.01	0.01	0.01	0.01	0.01
	Throw		5.0-7.5	6-9.0	7.5-10.8	7.9-11.2	9-12.2	13.67-17.2	14.7-19	17.8-20.1	18-20.7
	NC		47	37	31	33	24	23	21	22	22
800	CFM			811	1220	1883	1624	1673	1763	1882	1898
	Ps in w.g			0.1	0.05	0.03	0.02	0.02	0.02	0.02	0.02
	Throw			7-10.1	8.6-12.4	8.8-12.6	10.2-13.6	14.5-18.6	15.65-19.3	18.7-21.2	19.1-22.3
	NC			41	36	36	26	25	25	24	26
900	CFM			900	1372	2119	1742	1792	1884	2002	2016
	Ps in w.g			0.13	0.06	0.04	0.02	0.02	0.02	0.02	0.02
	Throw			7.8-11.2	9.3-13.3	9.6-13.7	10.9-14.9	15.1-19	16.9-21	19.6-23.4	19.8-23.6
	NC			44	39	41	28	26	29	28	30
1000	CFM			989	1525	2155	1860	1910	2005	2122	2134
	Ps in w.g			0.16	0.08	0.05	0.02	0.02	0.02	0.02	0.02
	Throw			8.6-12.4	10.1-13.7	10.4-14.1	13-16.7	17-22	17.8-23	21-25.2	21.2-25.4
	NC			47	43	43	32	28	32	31	33
1100	CFM			1078	1678	2191	1978	2028	2126	2242	2252
	Ps in w.g			0.11	0.1	0.05	0.03	0.03	0.03	0.03	0.03
	Throw			13.5-16.8	11.1-14.1	11.3-14.6	13.8-18.2	18.4-23.4	19.1-24.1	22-26.16	22.3-26.4
	NC			50	47	47	36	30	34	35	35
1200	CFM				1833	2227	2096	2146	2247	2362	2370
	Ps in w.g				0.11	0.06	0.03	0.03	0.03	0.03	0.03
	Throw				11.7-14.5	12.3-14.9	14.6-19.4	19.6-24.5	21-25.2	23.42-27.6	23.8-27.8
	NC				51	48	38	32	37	38	38
1300	CFM				1988	2263	2214	2265	2368	2482	2488
	Ps in w.g				0.13	0.08	0.04	0.04	0.04	0.04	0.04
	Throw				12.3-15	12.7-15.6	15.1-22.4	20.2-25.3	22.6-26.8	24.8-29	30-29.2
	NC				54	50	43	36	39	40	40
1500	CFM						2332	2383	2489	2602	2608
	Ps in w.g						0.04	0.04	0.04	0.04	0.04
	Throw						17.1-23	22-26.16	24.1-27.6	25.7-31	26.1-31.2
	NC						45	40	43	45	44
1700	CFM						2450	2502	2610	2722	2762
	Ps in w.g						0.05	0.05	0.05	0.05	0.05
	Throw						18-24.32	23.35-28.1	25.2-28.8	26.4-32.4	26.8-32.6
	NC						46	44	46	47	47
2000	CFM						2568	2621	2731	2842	2844
	Ps in w.g						0.05	0.05	0.05	0.05	0.05
	Throw						19.6-25.7	25-30	26.7-31.2	27.6-34.59	27.8-35.2
	NC						49	47	50	51	51

**Note :**

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

3. Throw is measured in feet (ft).
4. Noise criteria (NC) is measured in decibals (dB).
5. Airflow is measured in cubic feet / minute (CFM).

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





**Swirl Diffusers**
**B-40series**
**Type: Swirl Diffuser**
**Model: SWD - B41-24D/48D**
**Construction: Galvanized / Aluminium**
**Model : SWD - B40-24D/48D**
**Fixing Blades Quantity:**
**24 Blades - Model : SWD-B-41-24D**
**48 Blades - Model : SWD-B-41-48D**
**Description**

Diffuser is made of galvanized sheet steel, powder coated and fixed with easily rotatable plastic blades.

The slotted circular face design with easily adjustable plastic blades provides both horizontal and vertical projection of air discharge all over the occupant area.

The efficient swirl creates high induction levels, thereby rapidly reducing the temperature difference and airflow velocity. Individually adjustable air control elements to meet individual local requirements for supply and extract air. It fits perfectly in the ceiling space where the ceiling tile was originally placed. The production of these unusually contoured blades is only possible by the use of high-quality plastics and applying innovative production technology. The round swirl diffuser is widely used in big space which higher than 4.2 Meters.

**Standard Construction Details**
**Diffuser**

1.2 mm Galvanized steel sheet.

**Deflectors**

rotatable type plastic diffusers.

**Module**

595 x 595 mm.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Construction**
**Plenum chamber**

Plenum is available with circular, square or rectangular spigots in either top or side entry applications.

**Casing**

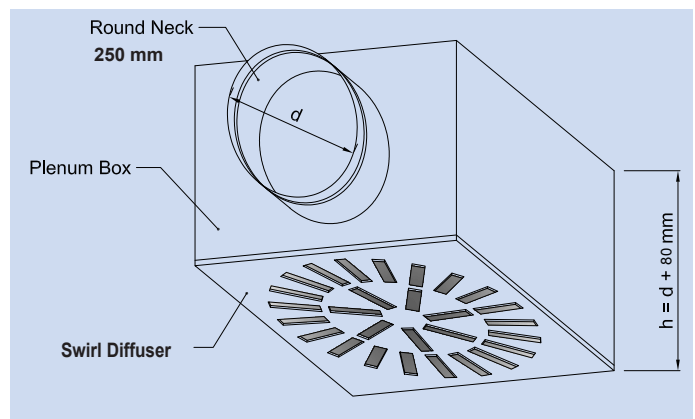
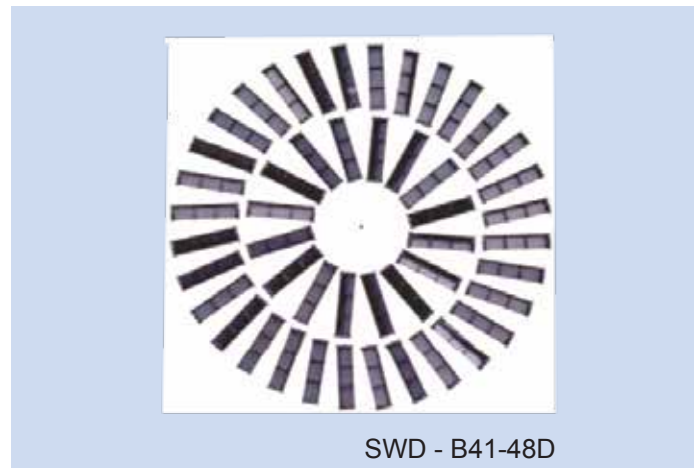
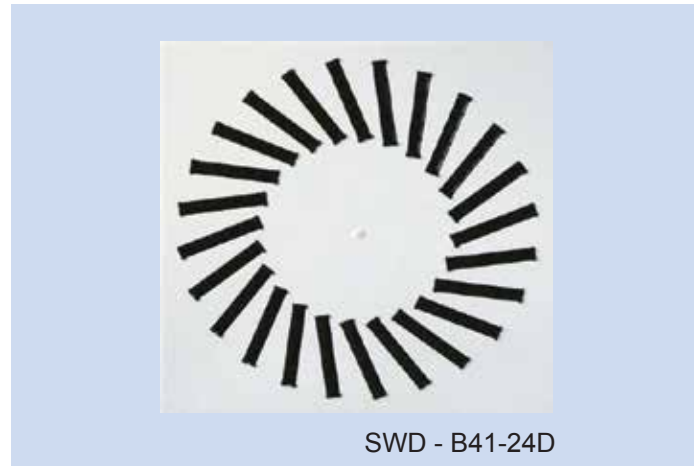
0.7 mm thick galvanized steel.

**Insulation**

Acoustic liner of 13 mm thickness, 32 kg/m<sup>3</sup> density.

**Finish**

Mill finish.



Size	CFM	186	234	280	327	374	419	464	511	566
600x600	Velocity	400	500	600	700	800	900	1000	1100	1200
	Ps in wg.	0.01	0.02	0.03	0.049	0.06	0.08	0.09	0.11	0.14
	Throw	4.2-6.5	6-8.5	6.8-10.4	7.8-11.8	8.5-14	10.1-15.4	11.8-17.7	13.7-20.3	16.4-22.3
	NC	<15	18	23	28	31	35	39	43	50

**Note :**

Velocity in FPM, Static Pressure (Ps) in inch. w.g, Throw in Feet , NC is the Noise Criteria, level of noise in dBA.

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**Swirl Diffusers**
**B-40series**
**Type: Swirl Round Diffusers**
**Model: SWRD-AB-42**
**Construction: Aluminium**

**BETEC CAD.** Swirl air diffuser makes air stream flow in the direction adapted to the building's layout by regulating the blades in different directions. The air stream blows swirly in one or two directions to ensure high induction rate, high wind speed and the rapid drop in air temperature.

Blades are designed based on the principles of fluid dynamics, the blades make air to form a vortex flow with certain nozzle velocity while sending it outdoors, and the velocity will make bigger delivery range and enhance the air convection. The blades can change air supply angle, sending rotating airflow in horizontal, diagonal and vertical direction according to different operating conditions.

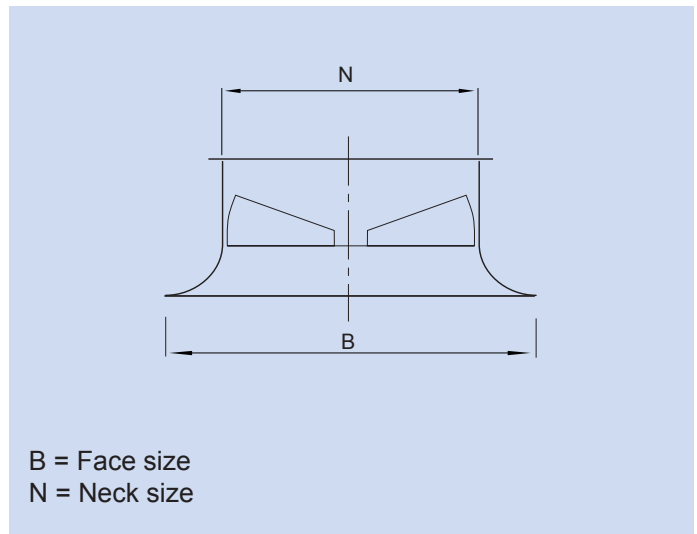
The round swirl diffuser is widely used in big space which higher than 3.8m, such as airports, stations, waiting halls, theaters, stadiums, industrial plants, commercial business offices, large conference rooms, reception halls, shopping malls, shared space in shopping malls and etc.

Swirl Diffuser is an air distribution outlet specially designed for commercial air conditioning use. it is commonly seen in the theater, airport, and the exhibition hall.

The swirl diffuser spreads out air in a spiral pattern. With adjustable blades, users can easily control the air flow direction via adjusting the blade inclination angle.



SWRD-AB-42


 B = Face size  
 N = Neck size

**Standard Construction Details**
**Frame**

0.9 mm Aluminium sheet.

**Diffusers Blades**

Rotatable type.

**Finish**

Available with RAL powder coating, please specify color.

**Optional Construction**
**Plenum chamber**

Plenum are available with circular, square or rectangular spigots in either top or side.

**Plenum Casing**

0.7 mm thick Galvanized steel sheet.

**Insulation**

 Acoustic liner of 13 mm thickness, 32 kg/m<sup>3</sup> density.

**Finish**

Mill finish

**Performance Data**

Air flow (M <sup>3</sup> /hr)	350	400	450	500	600	650	700
Sound Power Level (dB A)	32	36	39	42	47	49	51
Static Pressure	2.2	2.8	3.2	3.8	5.5	6.0	6.5
Throw (V <sub>2</sub> = 0.25 m/s)	1.7	2	2.2	2.6	3.0	3.3	3.6

**Specification**

Standard Sizes N Dia mm	Air Volume (m <sup>3</sup> /h)
200 ∅	450
250 ∅	750
315 ∅	1500
400 ∅	2500
500 ∅	3000
600 ∅	3500

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## 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 Square Ceiling Diffusers  
Model Number SAD-B10/RAD-B10  
6, 12 and 18 inch square 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 diffusers were tested for the following performance characteristics:  
"Reference Intertek Report Numbers 3185702CRT-001a through -001c 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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## Performance Test Certificate

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**Plot No. P4-02, PO Box 8805**  
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**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) Linear Slot Diffusers  
Model Number SLD x Slot-B20/RLD x SLOT-B20  
Two, three, and four slot 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 diffusers were tested for the following performance characteristics:  
"Reference Intertek Report Number 100354230CRT-001c dated May 31, 2011 and Report Numbers  
3185702CRT-001k and -001l 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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July - 2017