air master

Chapter 6

INDEX

air master

Supply air square ceiling diffuser

– One way throw

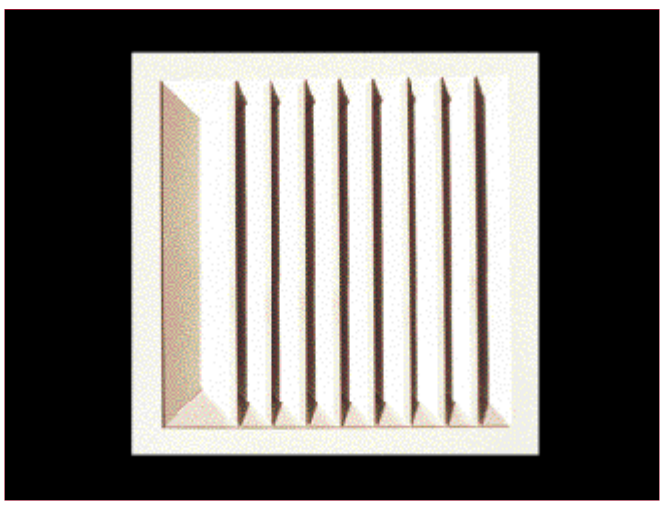
Model: ACD1+D

Construction:

- **Frame and core:** High quality extruded aluminium profile with 33 mm flange width.
- **Damper frame and core:** High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option.

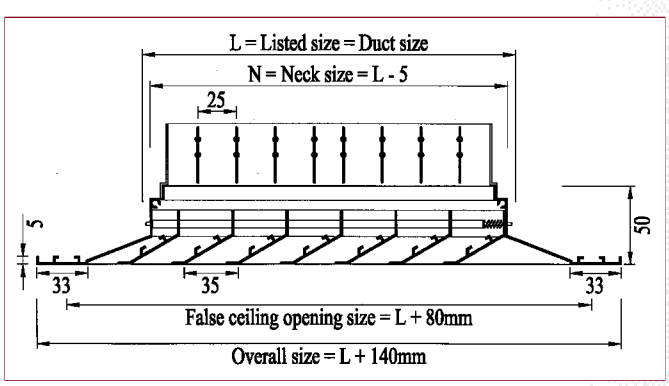
Description:

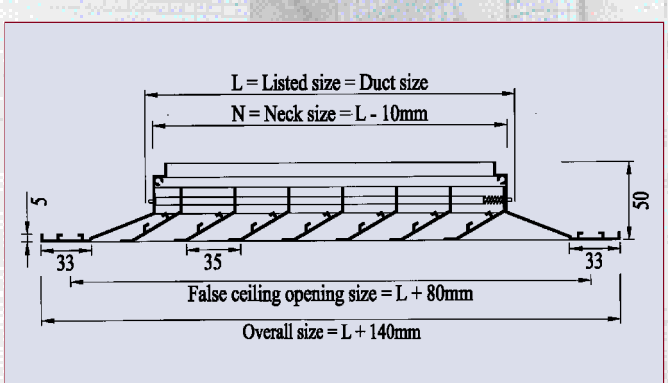
- The frame and blades are of high quality extuded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.



- Discharges air horizontally in one way, either X or Y directions as per pattern arrangement.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option.
- Suitable for flush mounting in lay in type ceiling.

Model ACD1: Same as ACD1+D, but without opposed blade damper. Suitable for return air applications.





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Supply air square ceiling diffuser

– Two way throw

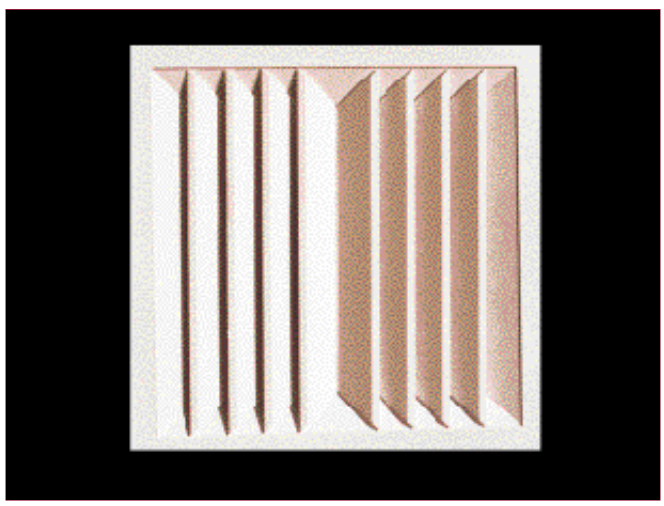
Model: ACD2+D

Construction:

- **Frame and core:** High quality extruded aluminium profile with 33 mm flange width.
- **Damper frame and core:** High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option.

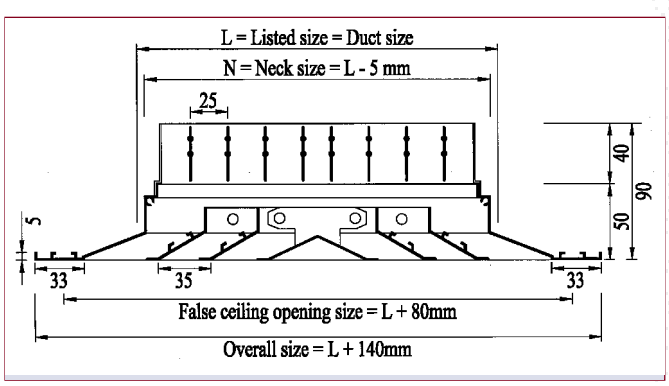
Description:

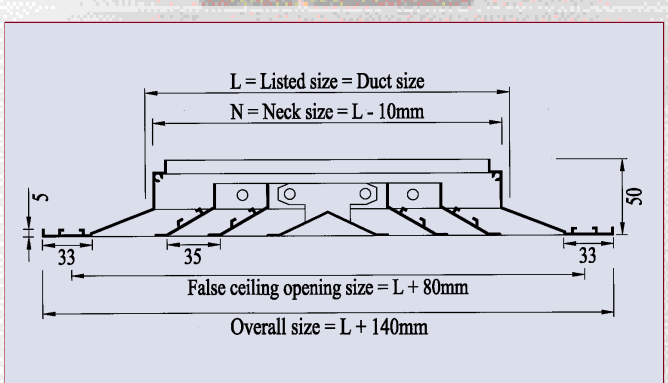
- The frame and blades are of high quality extuded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.



- Discharges air in both the ways, either X or Y directions as per pattern arrangement.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option.
- Suitable for flush mounting in lay in type ceiling.

Model ACD2: Same as ACD2+D, but without opposed blade damper. Suitable for return air applications.





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Supply air square ceiling diffuser

– Two way corner throw

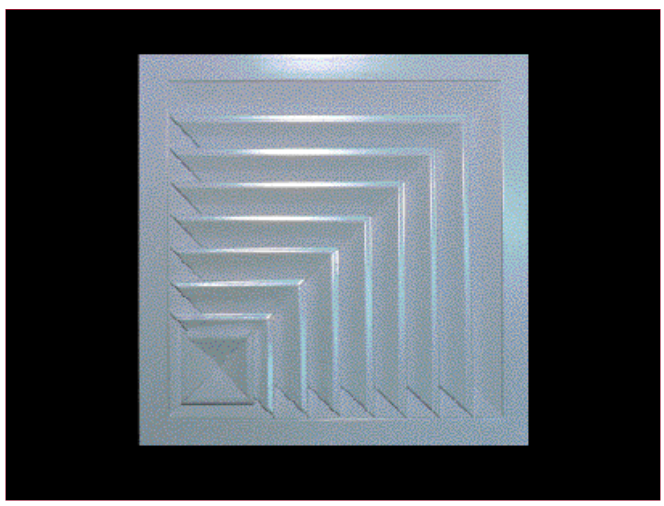
Model: ACD2C+D

Construction:

- **Frame and core:** High quality extruded aluminium profile with 33 mm flange width.
- **Damper frame and core:** High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option.

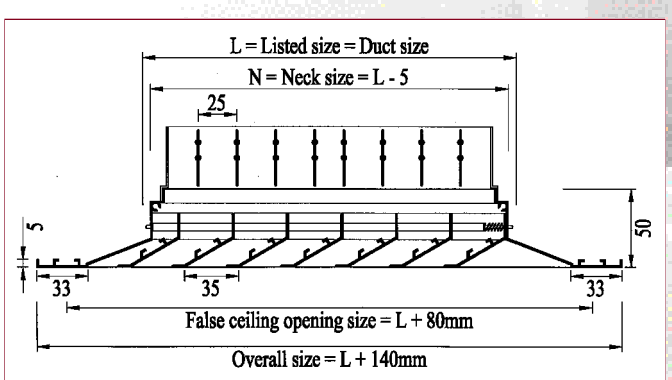
Description:

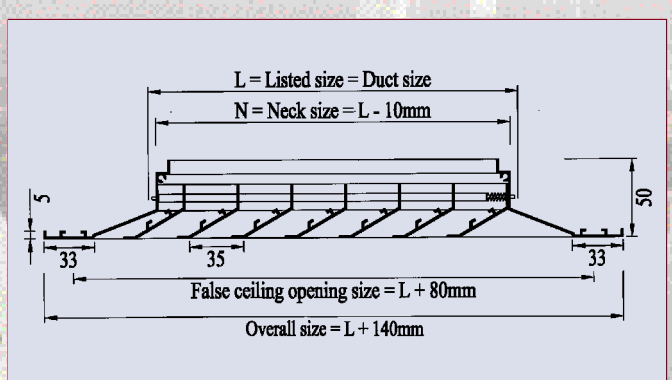
- The frame and blades are of high quality extuded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.



- Discharges air in one way, equally in X and Y direction.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option.
- Suitable for flush mounting in lay in type ceiling.

Model ACD2C: Same as ACD2C+D, but without opposed blade damper. Suitable for return air applications.





air master

Supply air square ceiling diffuser

– Three way throw

Model: ACD3+D

Construction:

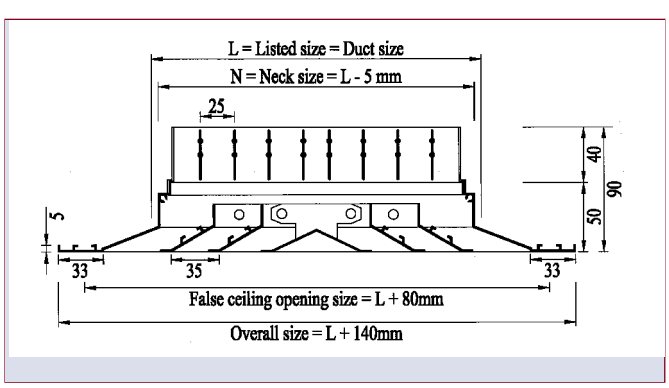
- **Frame and core:** High quality extruded aluminium profile with 33 mm flange width.
- **Damper frame and core:** High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option.

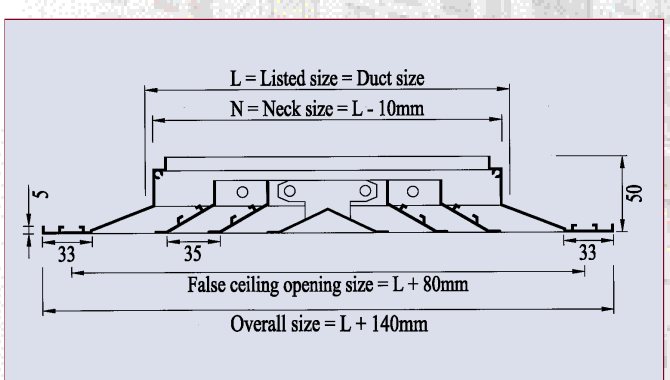
Description:

- The frame and blades are of high quality extuded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.

- Frame with multicore assembly, discharges air horizontally in three directions.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option.
- Suitable for flush mounting in lay in type ceiling.

Model ACD3: Same as ACD3+D, but without opposed blade damper. Suitable for return air applications.





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Supply air square ceiling diffuser

– Four way throw

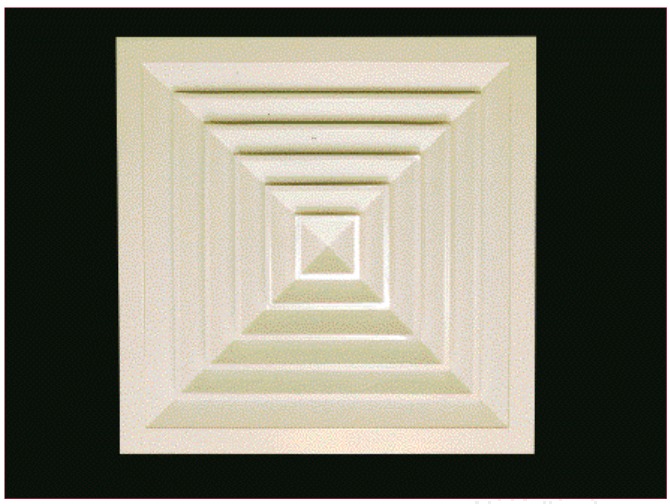
Model: ACD4+D

Construction:

- **Frame and core:** High quality extruded aluminium profile with 33 mm flange width.
- **Damper frame and core:** High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option.
- **Optional diffuser frame:** Stamped aluminium core.

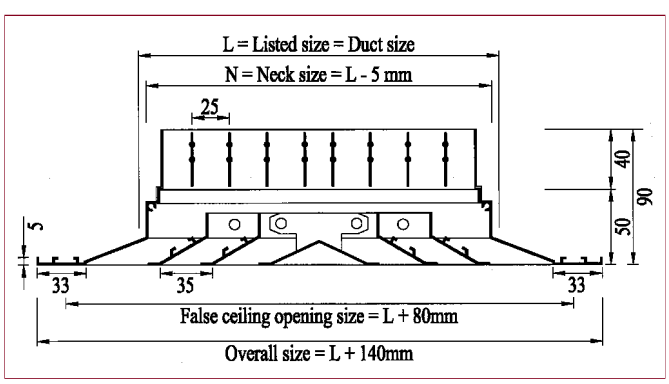
Description:

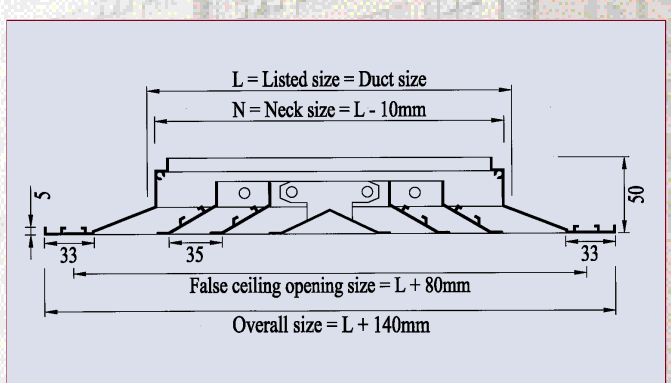
- The frame and blades are of high quality extuded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Diffusers shall be coned type with each cone manufactured by extruded aluminium louvered profiles or one piece die formed aluminium construction – arranged in concentric cones to deflect air equally in four directions.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.



- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.
- Discharge air equally in four horizontal directions.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option. Suitable for flush mounting in lay in type ceiling.

Model ACD4: Same as ACD4+D, but without opposed blade damper. Suitable for return air applications.





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Supply air square ceiling diffuser

– Four way with equalizing grid

Model: ACD4+D+E

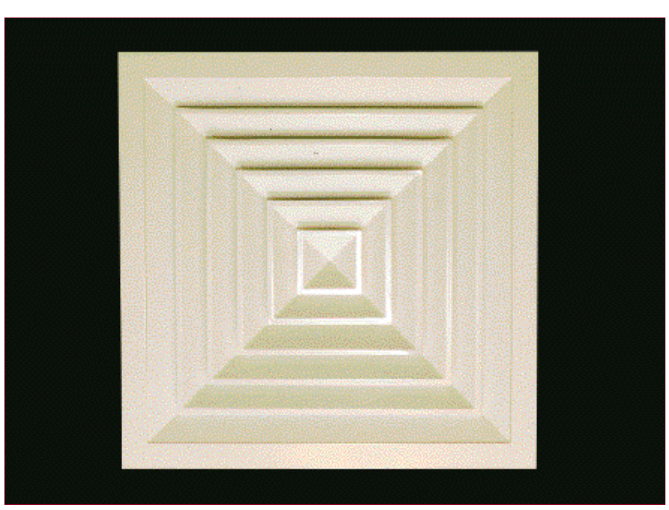
Construction:

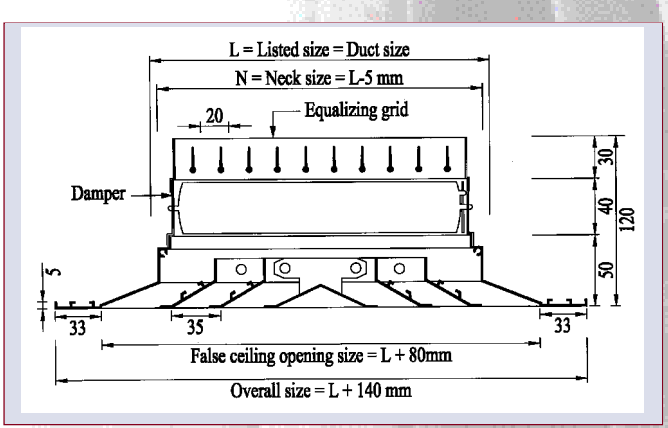
- **Frame and core:** High quality extruded aluminium profile with 33 mm flange width.
- **Damper frame and core:** High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option.
- **Equalizing grid:** High quality aluminium profile with aerofoil blades.
- **Optional diffuser frame:** Stamped aluminium core.

Description:

- The frame and blades are of high quality extuded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Diffusers shall be coned type with each cone manufactured by extruded aluminium louvered profiles or one piece die formed aluminium construction – arranged in concentric cones to deflect air equally in four directions.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes.

- Equalizing grid is fixed to the damper by rivets.
- Equalizing grid is manufactured from high quality aluminium profiles with aerofoil blades connected by plastic bushes. Finish will be same as damper.
- This assembly will provide uniform air distribution over the neck of the diffuser, which ensures reduction in pressure drop, noise and trubulence.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.





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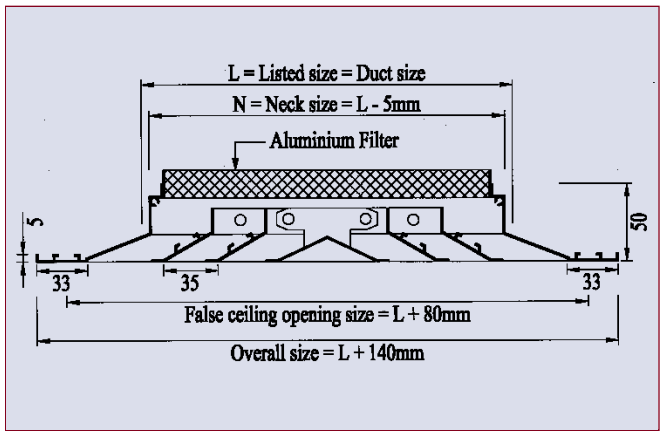
Filters:

- Ceiling diffusers available with removable type washable aluminium filters with aluminium mesh as the filter media.
- Fabricated from 1 mm thick aluminium sheet with aluminium mesh as the filter media.
- Filter frame is screw fixed to the diffuser.
- Generally available in 12, 25, 40 and 50 mm thickness as standard.
- Structure will have high dust holding capacity and low resistance to air flow.
- Other insulating materials available as option.



Rectangular diffuser:

Model: ACD4R+D

Diffusers are available in rectangular sizes as per client's choice. Construction will be same as square diffusers.

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Combined ceilling diffuser

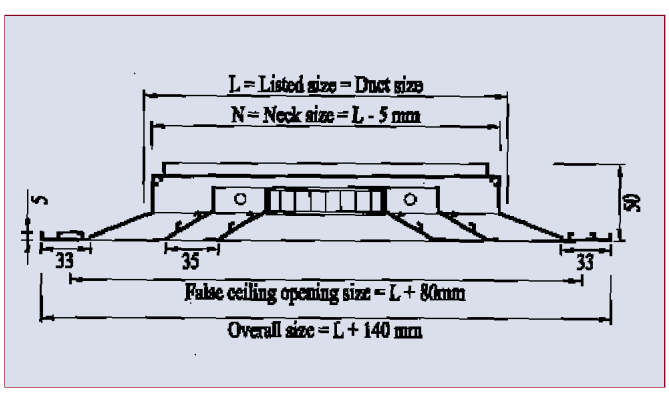
Model: ACCD

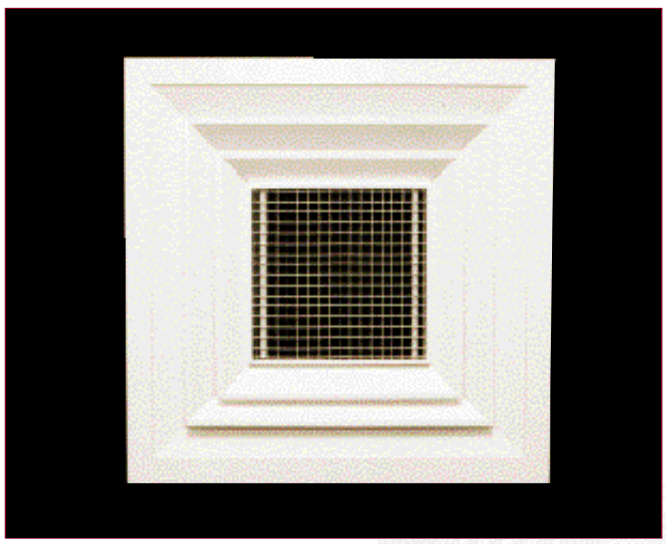
Construction:

- **Frame:** High quality extruded aluminium profile with 33 mm flange width.
- **Core:** High quality extruded aluminium profile with natural aluminium finish.
- **Return air core:** 12.5 mm x 12.5 mm x 12.5 mm aluminium egg crate grid.

Description:

- Frame and core is of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Return air grid is located centrally in the diffuser.
- Supply air inner cores are mounted to the frame by 4 machine screws and two steel springs.
- Return air egg crate grid is rigidly fixed to inner core by rivets.
- Core and return air grid can be easily removed as a single piece to allow for maximum flexibility in installation and maintenance.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.





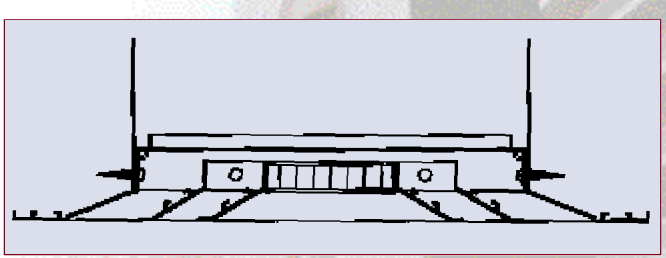
- Available in square size as standard. Rectangular sizes as option.

Standard finishes:

- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finish is available as option.

Fixing details:

- Concealed screw fixing from neck of the diffuser to the duct.



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ACD module type ceiling diffuser

Model: ACDM

Construction:

- **Frame and core:** High quality die formed aluminium sheets with suitable flange as outer frame.
- **Damper frame and blades:** High quality extruded aluminium profile with natural finish. Black matt finish as option.

Description:

- The basic concept of having ACD module type is to replace a ceiling tile by diffuser of any neck size. Thus the alignment of tiles are not altered.
- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Diffusers are coned type, each cone is manufactured as one piece die formed aluminium construction arranged in concentric pattern to deflect air in four directions.
- 3 way, 2 way, 1 way, cones are available as option and are manufatured of high quality extruded aluminium.

- Louvered type core is fixed to the outer frame, which has a constant outer size (600mm x 600mm) for different neck sizes, with steel springs core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets, Fixing by spring clips as option.
- Damper blades are seperated from its frame by nylon bushes.
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.
- Discharge air equally in four horizontal directions.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.

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ACD Module return diffusers are available without damper for return air applications.

Models :

ACDM - 4	4 way
ACDM - 3	3 way
ACDM - 2	2 way
ACDM - 1	1 way

ACD Module Supply & Return Diffusers Sizes:

S.Number	Neck size in “mm”	Outer Flange size in “mm”
01.	150 x 150	600 x 600
02.	225 x 225	600 x 600
03.	300 x 300	600 x 600
04.	375 x 375	600 x 600
05.	450 x 450	600 x 600

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Curved blade ceiling diffuser

Adjustable pattern

Model: ACBD

Construction:

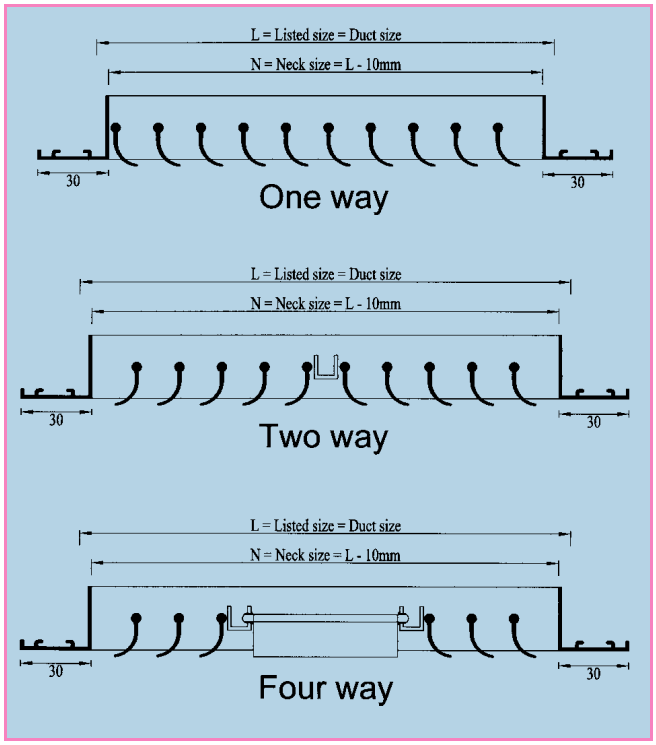
- **Frame:** High quality extruded aluminium profile with 30mm flange width.
- **Blades:** Aerofoil blades from aluminium profiles.

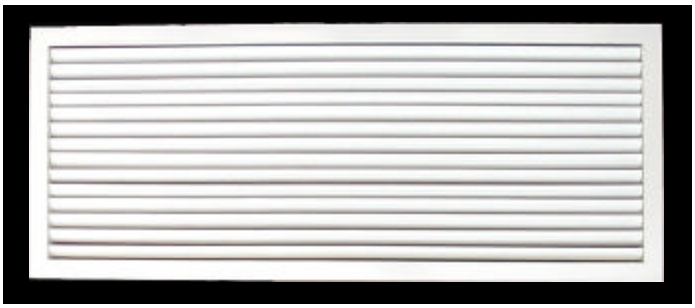
Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Frame is separated from aerofoil blades by nylon bushings. This ensures quiet, smooth and rattle free operation.
- Frame gasket is sealed around the back of the frame as option to avoid air leakage.

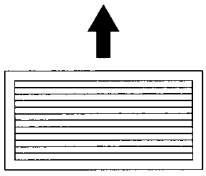
Standard finishes:

- Powder coated as per RAL color codes.
- Flexibility of finishing is available as option.

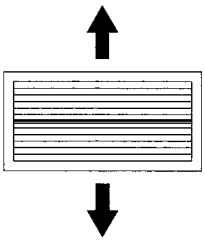




One Way



Two way



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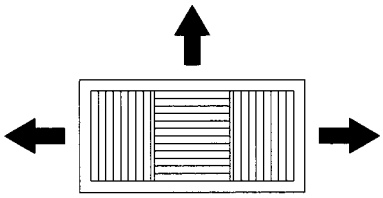
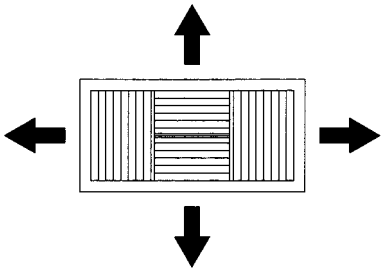


Three way



Four way

Standard sizes:

		Height					
		100	200	300	400	500	600
Length	200	x	x				
	300	x	x	x			
	400		x	x	x		
	500		x	x	x	x	
	600		x	x	x	x	x
	800		x	x	x	x	x
	1000		x	x	x	x	x
	1200			x	x	x	x

Other sizes available on request

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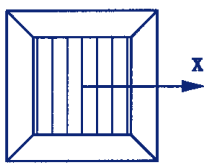
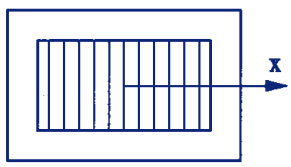
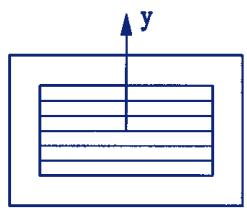
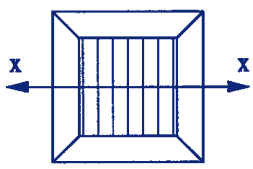
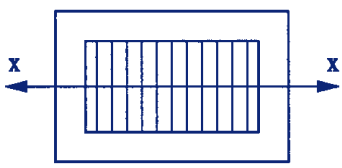
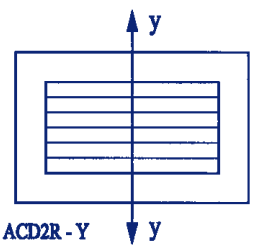
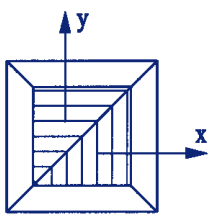
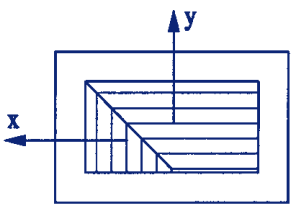
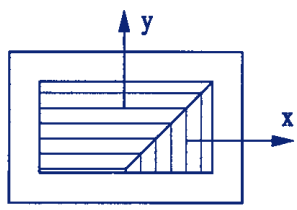
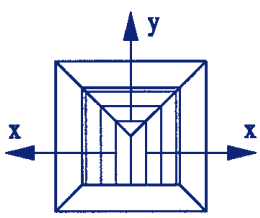
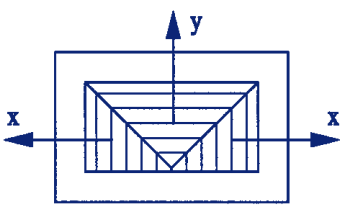
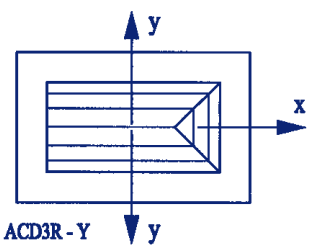
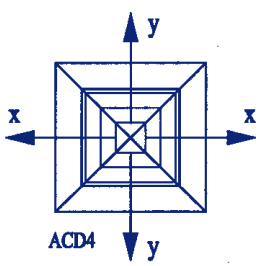
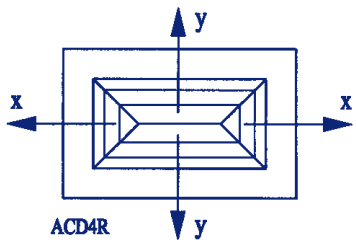
Core pattern:

Air pattern	Square	Rectangular	
One way	 ACD1	 ACD1R - X	 ACD1R - Y
Two way	 ACD2	 ACD2R - X	 ACD2R - Y
Two way corner	 ACD2C	 ACD2R - C_1	 ACD2R - C_2
Three way	 ACD3	 ACD3R - X	 ACD3R - Y
Four way	 ACD4		 ACD4R

air master

Standard finishes:

- Natural anodized aluminium finish.
- Powder coated colour finish as per RAL colour codes.
- Flexibility of finish is available as option.

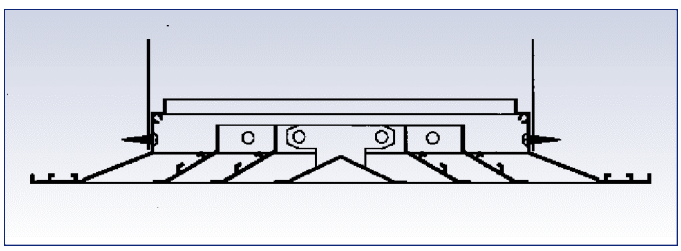
Standard sizes:

- Available in square and rectangular sizes.
- Any combination of W x D.

W = width in mm	150	225	300	375	450	525	600
D = Depth in mm	150	225	300	375	450	525	600

False ceiling sizes:

Duct size in mm x mm	150 x 150	225 x 225	300 x 300	375 x 375	450 x 450	525 x 525	600 x 600
False ceiling opening size	230 x 230	305 x 305	380 x 380	455 x 455	530 x 530	605 x 605	680 x 680



Fixing details:

- Concealed screw fixing from neck of the diffuser to the duct, after removing the inner core.

How to order:

Model	Accessories	Size	Quantity	Finish
ACD1	D = Damper	Specify duct opening size in mm x mm	Specify the quantity in numbers	A = Anodized aluminium finish
ACD2				
ACD3	F = Filter			B = RAL9010
ACD4	E = Equalizing grid			C = Other RAL colours.
ACD2C				

Selection example:

To select supply air square ceiling diffuser, four way throw, size 450 x 450, quantity 60 nos with powder coated color finish (RAL-9010).

Order as : ACD4+D-450 x 450 – 60 – B.

air master

Supply air square ceiling diffuser

– One way throw

Model: ACD1+D

Table 6.1 Air flow data

Neck size in mm x mm Area factor In m^2	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0098	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	47 0.023 0.69 1.3-2-2.7 <15	72 0.034 1.05 2-2.8-3.6 16	95 0.045 2.11 2.8-3.7-4.4 21	119 0.056 3.54 3.3-4.2-4.9 27	144 0.068 4.98 4-4.7-5.9 34	167 0.079 6.44 4.4-5.5-6.2 39
225 x 225 0.018	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	108 0.051 069 1.3-2-2.7 <15	161 0.076 1.37 2.0-2.8-3.9 17	214 0.101 2.8 2.9-3.7-5.2 24	269 0.127 4.26 3.8-5.3-6.8 30	322 0.152 6.05 5.1-7-9.3 36	375 0.177 8.23 7-8.6-11.6 41
300 x 300 0.03	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	191 0.09 0.69 2.4-3.5-5.5 <15	286 0.135 1.75 3.6-5.0-7.1 17	381 0.18 3.17 4.8-5.9-8.8 26	476 0.225 5.31 5.7-7.2-9.8 33	572 0.27 7.46 6.3-7.4-11 38	667 0.31 10.4 7-8.6-12.5 43
375 x 375 0.046	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	299 0.141 1.03 2.7-4.1-6.2 <15	447 0.211 2.09 4.6-6.4-8.8 18	595 0.281 3.52 6.2-7.3-10.6 28	745 0.352 5.66 7.2-8.7-12.5 35	893 0.422 8.18 7.8-9-7-14.5 40	1042 0.492 11.46 8.6-10.5-15.6 44
450 x 450 0.0695	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	430 0.203 1.03 3.5-5.2-8.5 <15	644 0.304 2.09 5.3-7.4-10.6 20	858 0.405 3.86 7.9-9.1-12.8 30	1071 0.506 6.38 8.3-10.5-5-15 36	1287 0.608 9.24 9.7-11.8-17 41	1501 0.709 11.46 10.5-13-18 44
525 x 525 0.099	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	585 0.276 1.03 4.1-5.8-9.5 15	875 0.413 2.45 6-8.8-12.6 23	1165 0.55 4.22 8.4-10.2-15 32	1461 0.69 6.74 9.8-12-17.4 37	1757 0.83 9.6 10.9-14-20 42	2033 0.96 11.83 12-14.8-21.5 45
600 x 600 0.139	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	762 0.36 1.03 4.5-6.5-11.6 16	1143 0.54 2.45 6.7-9.1-14 26	1524 0.72 4.22 9.1-12-17.1 33	1906 0.9 6.74 10.5-14-20 38	2287 1.08 9.6 12-16-23 42	2668 1.26 11.83 12.8-17.2-24 45

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H_2O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) is based on room attenuation of 10 dB.

air master

Supply air square ceiling diffuser

– Two way throw

Model: ACD2+D

Table 6.2 Air flow data

Neck size in mm x mm Area factor In m^2	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0096	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	47 0.023 0.64 1.3-2-2.7 <15	72 0.034 0.87 2-2.8-3.6 16	95 0.045 2.02 2.8-3.7-4.4 21	119 0.056 3.41 3.2-4-4.8 27	144 0.068 4.83 3.8-4.5-5.6 34	167 0.079 6.1 4.1-5.2-6 39
225 x 225 0.0175	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	108 0.051 0.64 1.3-2-2.7 <15	161 0.076 1.29 2-2.8-3.9 17	214 0.101 2.7 2.8-3.7-5.1 24	269 0.127 4.1 3.7-5.2-6.6 30	322 0.152 5.86 4.8-6.7-9 36	375 0.177 7.77 6.7-8.2-11 41
300 x 300 0.029	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	191 0.09 0.64 2.4-3.5-5.5 <15	286 0.135 1.64 3.6-4.9-7 17	381 0.18 3.05 4.7-5.8-8.6 26	476 0.225 5.1 5.5-6.9-9.5 33	572 0.27 7.23 5.9-7.1-11 38	667 0.315 9.81 6.7-8.4-12 43
375 x 375 0.045	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	299 0.141 0.96 2.7-4.1-6.2 <15	447 0.211 1.96 4.6-6.3-8.7 18	595 0.281 3.71 6.1-7.2-10.4 28	745 0.352 5.5 6.9-8.4-12.1 35	893 0.422 7.92 7.4-9.3-14 40	1042 0.492 10.81 8.1-10-14.9 44
450 x 450 0.068	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	430 0.203 0.96 3.4-5.1-8.5 <15	644 0.304 1.96 5.3-7.4-10 20	858 0.405 4.06 8.3-10-15 30	1071 0.506 6.68 8-10.2-14.6 36	1287 0.608 8.9 9.3-11-16.3 41	1501 0.709 12.16 10-12.3-17 44
525 x 525 0.097	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	585 0.276 0.96 4.1-5.8-9.5 15	875 0.413 2.29 6-8.7-12.6 23	1165 0.55 4.06 8.3-10-15 32	1461 0.69 6.49 9.5-11.8-17 37	1757 0.83 9.31 10.4-13.4-19 42	2033 0.96 11.1 11.6-14.1-20 45
600 x 600 0.136	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	762 0.36 0.96 4.5-6.5-11 16	1143 0.54 2.29 6.6-9-14 26	1524 0.72 4.06 9-11.8-16.9 33	1906 0.9 6.49 10.2-13.6-19 38	2287 1.08 9.31 11.4-15.2-22 42	2668 1.26 11.1 12.2-16-23 45

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H_2O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) is based on room attenuation of 10 dB.

air master

Supply air square ceiling diffuser

– Three way throw

Model: ACD3+D

Table 6.3 Air flow data

Neck size in mm x mm Area factor In m^2	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0095	Total CFM Total M^3/Sec M^3/Sec each side of X M^3/Sec in Y side P_s in mm of H_2O Throw in each side of X-(M) Throw in Y side-(M) NC	47 0.023 0.008 0.007 0.56 1.2-1.8-2.4 1.2-1.8-2.5 <15	72 0.034 0.013 0.008 0.85 1.8-2.4-3.1 1.8-2.6-3.4 16	95 0.045 0.017 0.011 1.72 2.4-3.1-3.7 2.6-3.4-4.0 21	119 0.056 0.021 0.014 2.87 2.7-3.4-4 3.0-3.7-4.4 27	144 0.068 0.025 0.018 4.06 3.1-3.7-4.6 3.5-4.1-5.0 34	167 0.079 0.03 0.019 5.29 3.4-4.3-4.9 3.7-4.7-5.4 39
225 x 225 0.0172	Total CFM Total M^3/Sec M^3/Sec each side of X M^3/Sec in Y side P_s in mm of H_2O Throw in each side of X-(M) Throw in Y side-(M) NC	108 0.051 0.019 0.013 0.56 1.2-1.8-2.4 1.2-1.8-2.5 <15	161 0.076 0.028 0.020 1.12 1.8-2.4-3.4 1.8-2.6-3.7 17	214 0.101 0.038 0.025 2.29 2.4-3.1-4.3 2.6-3.4-4.7 24	269 0.127 0.048 0.031 3.45 3.1-4.3-5.5 3.4-4.8-6.1 30	322 0.152 0.057 0.038 4.92 4.5.5-7.3 44-6.1-8.2 36	375 0.177 0.066 6.72 5.84 5.5-6.7-9.1 6.1-7.5-10.1 41
300 x 300 0.028	Total CFM Total M^3/Sec M^3/Sec each side of X M^3/Sec in Y side P_s in mm of H_2O Throw in each side of X-(M) Throw in Y side-(M) NC	191 0.09 0.033 0.024 0.56 2.1-3.1-4.9 2.1-3.3-5.2 <15	286 0.135 0.051 0.033 1.45 3.1-4.3-6.1 3.4-4.6-6.5 17	381 0.18 0.068 0.044 2.59 4.0-4.9-7.3 4.3-5.4-8.0 26	476 0.225 0./084 0.057 4.36 4.6-5.8-7.9 5.1-6.3-8.5 33	572 0.27 0.101 0.068 6.08 4.9-5.8-9.1 5.4-6.6-10.1 38	667 0.315 0.118 0.079 8.48 5.5-6.7-9.8 6.2-7.7-10.6 43
375 x 375 0.044	Total CFM Total M^3/Sec M^3/Sec each side of X M^3/Sec in Y side P_s in mm of H_2O Throw in each side of X-(M) Throw in Y side-(M) NC	299 0.141 0.053 0.035 0.84 2.4-3.7-5.5 2.5-3.9-5.8 <15	447 0.211 0.079 0.053 1.70 4.0-5.5-7.6 4.3-5.9-8.2 18	595 0.281 0.105 0.071 2.87 5.2-6.1-8.8 5.6-6.7-9.4 28	745 0.352 0.132 0.088 4.59 5.8-7-10.1 6.4-7.6-10.9 35	893 0.422 0.158 0.106 6.66 6.1-7.6-11.3 6.7-8.3-12.5 40	1042 0.492 0.185 0.122 9.35 6.7-8.2-12.2 7.4-9.1-13.4 44
450 x 450 0.067	Total CFM Total M^3/Sec M^3/Sec each side of X M^3/Sec in Y side P_s in mm of H_2O Throw in each side of X-(M) Throw in Y side-(M) NC	430 0.203 0.076 0.051 0.84 3.1-4.6-7.6 3.2-4.9-8.1 <15	644 0.304 0.114 0.076 1.70 4.6-06.4-9.1 4.9-6.8-9.5 20	858 0.405 0.151 0.103 3.16 6.6-7.6-10.7 7.2-8.7-12.5 30	1071 0.506 0.19 0.126 5.16 6.7-8.5-12.2 7.2-9.2-13.4 36	1287 0.608 0.228 0.152 7.52 7.6-9.2-13.4 8.3-10.2-15.4 41	1501 0.709 0.267 0.175 10.51 8.2-10.1-14 9.1-11.3-15.6 44
525 x 525 0.095	Total CFM Total M^3/Sec M^3/Sec each side of X M^3/Sec in Y side P_s in mm of H_2O Throw in each side of X-(M) Throw in Y side-(M) NC	585 0.276 0.103 0.07 0.84 3.7-5.2-8.5 3.9-5.6-9.2 15	875 0.413 0.155 0.103 1.99 5.2-7.6-11 5.6-8.2-11.9 23	1165 0.55 0.206 0.138 3.5 7.0-8.5-12.5 7.6-9.3-13.7 32	1461 0.69 0.259 0.172 5.46 7.9-9.8-14 8.5-10.4-15.4 37	1757 0.83 0.311 0.208 7.82 8.5-11-15.9 9.4-12.5-17.7 42	2033 0.96 0.36 0.24 9.65 9.5-11.6-16.8 10.6-13.1-17.8 45
600 x 600 0.133	Total CFM Total M^3/Sec M^3/Sec each side of X M^3/Sec in Y side P_s in mm of H_2O Throw in each side of X-(M) Throw in Y side-(M) NC	762 0.36 0.135 0.09 0.84 4-5.8-10.4 4.2-6.2-10.7 16	1143 0.54 0.202 0.136 1.99 5.8-8-12.2 6.2-8.3-13.1 26	1524 0.72 0.27 0.18 3.5 7.6-10-14.3 8.4-10.9-15.4 33	1906 0.9 0.338 0.224 5.46 8.5-11.3-16.1 9.3-12.1-17.6 38	2287 1.08 0.405 0.270 7.82 9.4-12.5-18 10.2-14.0-20 42	2668 1.26 0.472 0.316 9.65 10-13.4-19.5 11.2-15.0-21.6 45

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H_2O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) is based on room attenuation of 10 dB.

air master

Supply air square ceiling diffuser

– Four way throw

Model: ACD4+D

Table 6.4 Air flow data

Neck size in mm x mm Area factor In m^2	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0093	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	47 0.023 0.51 1.2-1.8-2.4 <15	72 0.034 0.76 1.8-2.4-3.1 16	95 0.045 1.52 2.4-3.1-3.7 21	119 0.056 2.54 2.7-3.4-4 27	144 0.068 3.56 3.1-3.7-4.6 34	167 0.079 4.57 3.4-4.3-4.9 39
225 x 225 0.0169	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	108 0.051 0.51 1.2-1.8-2.4 <15	161 0.076 1.00 1.8-2.4-3.4 17	214 0.101 2.03 2.4-3.1-4.3 24	269 0.127 3.05 3.1-4.3-5.5 30	322 0.152 4.32 4-5.5-7.3 36	375 0.177 5.84 5.5-6.7-9.1 41
300 x 300 0.028	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	191 0.09 0.51 2.1-3.1-4.9 <15	286 0.135 1.27 3.1-4.3-6.1 17	381 0.18 2.29 4.0-4.9-7.3 26	476 0.225 3.81 4.6-5.8-7.9 33	572 0.27 5.33 4.9-5.8-9.1 38	667 0.315 7.37 5.5-6.7-9.8 43
375 x 375 0.043	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	299 0.141 0.76 2.4-3.7-5.5 <15	447 0.211 1.52 4.0-5.5-7.6 18	595 0.281 2.54 5.2-6.1-8.8 28	745 0.352 4.06 5.8-7-10.1 35	893 0.422 5.84 6.1-7.6-11.3 40	1042 0.492 8.13 6.7-8.2-12.2 44
450 x 450 0.065	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	430 0.203 0.76 3.1-4.6-7.6 <15	644 0.304 1.52 4.6-6.4-9.1 20	858 0.405 2.79 5.6-7.6-10.7 30	1071 0.506 4.57 6.7-8.5-12.2 36	1287 0.608 6.6 7.6-9.2-13.4 41	1501 0.709 9.14 8.2-10.1-14 44
525 x 525 0.093	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	585 0.276 0.76 3.7-5.2-8.5 15	875 0.413 1.78 5.2-7.6-11 23	1165 0.55 3.05 7.0-8.5-12.5 32	1461 0.69 4.83 7.9-9.8-14 37	1757 0.83 6.86 8.5-11-15.9 42	2033 0.96 8.39 9.5-11.6-16.8 45
600 x 600 0.13	Cfm M^3/sec. P_s in mm H_2O Throw in m NC	762 0.36 0.76 4-5.8-10.4 16	1143 0.54 1.78 5.8-8-12.2 26	1524 0.72 3.05 7.6-10-14.3 33	1906 0.9 4.83 8.5-11.3-16.1 38	2287 1.08 6.86 9.4-12.5-18 42	2668 1.26 8.39 10-13.4-19.5 45

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss across the diffuser in mm of H_2O.
- Throw (meters) is measured for a terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) is based on room attenuation of 10 dB.

air master

Return air square ceiling diffuser

– One way

Model: ACD1

Table 6.5 Air flow data

Neck size in mm x mm Neck Area In m^2	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 150 0.023	CFM M^3/sec. - P_s in mm H_2O NC	49 0.023 0.65 <15	61 0.029 1.04 <15	74 0.035 1.51 <15	85 0.04 2.06 <15	97 0.046 2.66 19	123 0.058 4.25 25	146 0.069 6.12 30	171 0.081 8.54 34	195 0.092 11.18 40
225 x 225 0.051	CFM M^3/sec. - P_s in mm H_2O NC	108 0.051 0.70 <15	135 0.064 1.14 <15	163 0.077 1.72 <15	188 0.089 2.25 16	216 0.102 3.04 21	271 0.128 4.71 28	324 0.153 6.79 34	379 0.179 9.65 40	432 0.204 12.57 45
300 x 300 0.09	CFM M^3/sec. - P_s in mm H_2O NC	193 0.09 0.81 <15	239 0.113 1.26 <15	286 0.135 1.85 16	335 0.158 2.51 21	381 0.18 3.34 25	476 0.225 5.25 32	572 0.27 7.61 38	667 0.315 10.47 43	762 0.36 13.97 48
375 x 375 0.141	CFM M^3/sec. - P_s in mm H_2O NC	298 0.141 0.91 <15	372 0.176 1.42 <15	449 0.212 2.11 19	521 0.246 2.85 25	597 0.282 3.79 32	747 0.353 5.93 38	896 0.423 8.7 43	1046 0.494 11.85 47	1194 0.564 15.64 51
450 x 450 0.203	CFM M^3/sec. - P_s in mm H_2O NC	430 0.203 0.99 <15	538 0.254 1.52 17	646 0.305 2.27 24	752 0.355 3.09 31	860 0.406 4.14 36	1076 0.508 6.46 40	1289 0.609 9.24 45	1505 0.711 12.95 48	1719 0.812 17.04 52
525 x 525 0.276	CFM M^3/sec. - P_s in mm H_2O NC	584 0.276 1.06 18	730 0.345 1.66 25	877 0.414 2.45 30	1023 0.483 3.33 36	1168 0.552 4.44 40	1461 0.69 6.99 44	1753 0.828 10.05 47	2045 0.966 13.78 51	2337 1.104 18.44 55
600 x 600 0.36	CFM M^3/sec. - P_s in mm H_2O NC	762 0.36 1.16 23	953 0.45 1.82 30	1143 0.54 2.64 36	1334 0.63 3.65 40	1524 0.72 4.79 42	1905 0.9 7.54 46	2287 1.08 10.87 49	2668 1.26 15.16 54	3049 1.44 20.12 58

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H_2O.
- Noise criteria (NC) is based on room attenuation of 10 dB.

air master

Return air square ceiling diffuser

– Two way

Model: ACD2

Table 6.6 Air flow data

Neck size in mm x mm Neck Area In m^2	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 150 0.023	CFM M^3/sec. - P_s in mm H_2O NC	49 0.023 0.65 <15	61 0.029 1.04 <15	74 0.035 1.49 <15	85 0.04 2.04 <15	97 0.046 2.61 19	123 0.058 4.17 25	146 0.069 6.00 30	171 0.081 8.34 34	195 0.092 10.77 40
225 x 225 0.051	CFM M^3/sec. - P_s in mm H_2O NC	108 0.051 0.7 <15	135 0.064 1.14 <15	163 0.077 1.69 <15	188 0.089 2.22 16	216 0.102 2.98 21	271 0.128 4.62 28	324 0.153 6.67 34	379 0.179 9.42 40	432 0.204 12.12 45
300 x 300 0.09	CFM M^3/sec. - P_s in mm H_2O NC	193 0.09 0.80 <15	239 0.113 1.26 <15	286 0.135 1.83 16	335 0.158 2.48 21	381 0.18 3.28 25	476 0.225 5.15 32	572 0.27 7.47 38	667 0.315 10.23 43	762 0.36 13.46 48
375 x 375 0.141	CFM M^3/sec. - P_s in mm H_2O NC	298 0.141 0.90 <15	372 0.176 1.41 <15	449 0.212 2.09 19	521 0.246 2.82 25	597 0.282 3.72 32	747 0.353 5.81 38	896 0.423 8.54 43	1046 0.494 11.58 47	1194 0.564 15.07 51
450 x 450 0.203	CFM M^3/sec. - P_s in mm H_2O NC	430 0.203 0.98 <15	538 0.254 1.52 17	646 0.305 2.25 24	752 0.355 3.06 31	860 0.406 4.07 36	1076 0.508 6.33 40	1289 0.609 9.07 45	1505 0.711 12.66 48	1719 0.812 16.42 52
525 x 525 0.276	CFM M^3/sec. - P_s in mm H_2O NC	584 0.276 1.06 18	730 0.345 1.65 25	877 0.414 2.43 30	102.3 0.483 3.29 36	1168 0.552 4.36 40	1461 0.69 6.86 44	1753 0.828 9.86 47	2045 0.966 13.46 51	2337 1.104 17.77 55
600 x 600 0.36	CFM M^3/sec. - P_s in mm H_2O NC	762 0.36 1.16 23	953 0.45 1.81 30	1143 0.54 2.62 36	1334 0.63 3.62 40	1524 0.72 4.7 42	1905 0.9 7.39 46	2287 1.08 10.67 49	2668 1.26 14.81 54	3049 1.44 19.39 58

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H_2O.
- Noise criteria (NC) is based on room attenuation of 10 dB.

air master

Return air square ceiling diffuser

– Three way

Model: ACD3

Table 6.7 Air flow data

Neck size in mm x mm Neck Area In m^2	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 150 0.023	CFM M^3/sec. - P_s in mm H_2O NC	49 0.023 0.7 <15	61 0.029 1.12 <15	74 0.035 1.48 <15	85 0.04 2.02 <15	97 0.046 2.59 19	123 0.058 4.14 25	146 0.069 5.96 30	171 0.081 8.2 34	195 0.092 10.67 40
225 x 225 0.051	CFM M^3/sec. - P_s in mm H_2O NC	108 0.051 0.76 <15	135 0.064 1.23 <15	163 0.077 1.68 <15	188 0.089 2.20 16	216 0.102 2.96 21	271 0.128 4.58 28	324 0.156 6.62 34	379 0.179 9.27 40	432 0.204 12.00 45
300 x 300 0.09	CFM M^3/sec. - P_s in mm H_2O NC	193 0.09 0.87 <15	239 0.113 1.36 <15	286 0.135 1.82 16	335 0.158 2.46 21	381 0.18 3.25 25	476 0.225 5.11 32	572 0.27 7.41 38	667 0.315 10.06 43	762 0.36 13.34 48
375 x 375 0.141	CFM M^3/sec. - P_s in mm H_2O NC	298 0.141 0.98 <15	372 0.176 1.53 <15	449 0.212 2.07 19	521 0.246 2.79 25	597 0.282 3.69 32	747 0.353 5.77 38	896 0.423 8.48 43	1046 0.494 11.38 47	1194 0.564 14.93 51
450 x 450 0.203	CFM M^3/sec. - P_s in mm H_2O NC	430 0.203 1.07 <15	538 0.254 1.63 17	646 0.305 2.22 24	752 0.355 3.03 31	860 0.406 4.04 36	1076 0.508 6.29 40	1289 0.609 9.01 45	1505 0.711 12.45 48	1719 0.812 16.26 52
525 x 525 0.276	CFM M^3/sec. - P_s in mm H_2O NC	584 0.276 1.14 18	730 0.345 1.79 25	877 0.414 2.41 30	102.3 0.483 3.26 36	1168 0.552 4.33 40	1461 0.69 6.81 44	1753 0.828 9.79 47	2045 0.966 13.24 51	2337 1.104 17.59 55
600 x 600 0.36	CFM M^3/sec. - P_s in mm H_2O NC	762 0.36 1.25 23	953 0.45 1.97 30	1143 0.54 2.59 36	1334 0.63 3.58 40	1524 0.72 4.67 42	1905 0.9 7.34 46	2287 1.08 10.59 49	2668 1.26 14.56 54	3049 1.44 19.2 58

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H_2O.
- Noise criteria (NC) is based on room attenuation of 10 dB.

air master

Return air square ceiling diffuser

– Four way

Model: ACD4

Table 6.8 Air flow data

Neck size in mm x mm Neck Area In m^2	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 150 0.023	CFM M^3/sec. - P_s in mm H_2O NC	49 0.023 0.64 <15	61 0.029 1.02 <15	74 0.035 1.45 <15	85 0.04 1.98 <15	97 0.046 2.51 19	123 0.058 4.01 25	146 0.069 5.72 30	171 0.081 7.9 34	195 0.092 10.16 40
225 x 225 0.051	CFM M^3/sec. - P_s in mm H_2O NC	108 0.051 0.69 <15	135 0.064 1.12 <15	163 0.077 1.65 <15	188 0.089 2.16 16	216 0.102 2.87 21	271 0.128 4.44 28	324 0.153 6.35 34	379 0.179 8.89 40	432 0.204 11.43 45
300 x 300 0.09	CFM M^3/sec. - P_s in mm H_2O NC	193 0.09 0.79 <15	239 0.113 1.24 <15	286 0.135 1.78 16	335 0.158 2.41 21	381 0.18 3.15 25	476 0.225 4.95 32	572 0.27 7.11 38	667 0.315 9.65 43	762 0.36 12.7 48
375 x 375 0.141	CFM M^3/sec. - P_s in mm H_2O NC	298 0.141 0.89 <15	372 0.176 1.39 <15	449 0.212 2.03 19	521 0.246 2.74 25	597 0.282 3.58 32	747 0.353 5.59 38	896 0.423 8.13 43	1046 0.494 10.9 47	1194 0.564 14.22 51
450 x 450 0.203	CFM M^3/sec. - P_s in mm H_2O NC	430 0.203 0.97 <15	538 0.254 1.49 17	646 0.305 2.18 24	752 0.355 2.97 31	860 0.406 3.91 36	1076 0.508 6.09 40	1289 0.609 8.64 45	1505 0.711 11.94 48	1719 0.812 15.49 52
525 x 525 0.276	CFM M^3/sec. - P_s in mm H_2O NC	584 0.276 1.04 18	730 0.345 1.63 25	877 0.414 2.36 30	1023 0.483 3.2 36	1168 0.552 4.19 40	1461 0.69 6.6 44	1753 0.828 9.39 47	2045 0.966 12.7 51	2337 1.104 16.76 55
600 x 600 0.36	CFM M^3/sec. - P_s in mm H_2O NC	762 0.36 1.14 23	953 0.45 1.78 30	1143 0.54 2.54 36	1334 0.63 3.51 40	1524 0.72 4.52 42	1905 0.9 7.11 46	2287 1.08 10.16 49	2668 1.26 13.9 54	3049 1.44 18.29 58

- Neck velocity is measured in m/sec.
- P_s: Static pressure loss in mm of H_2O.
- Noise criteria (NC) is based on room attenuation of 10 dB.

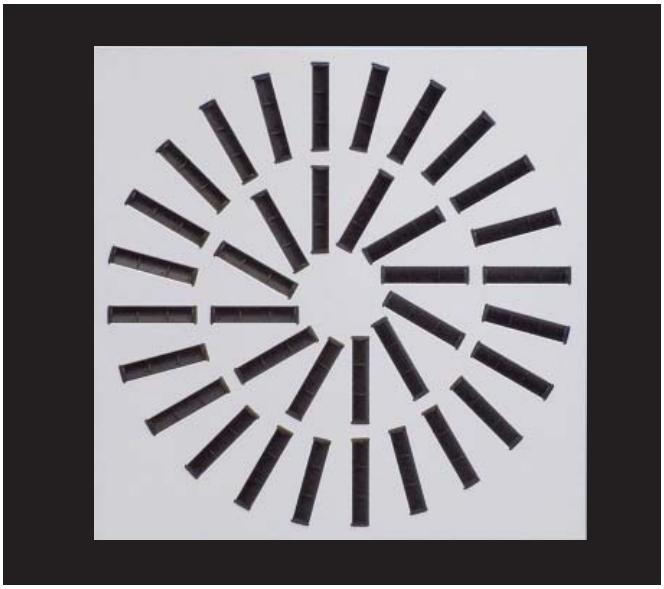
air master

Swirl diffuser - Adjustable

Model: ASD-A

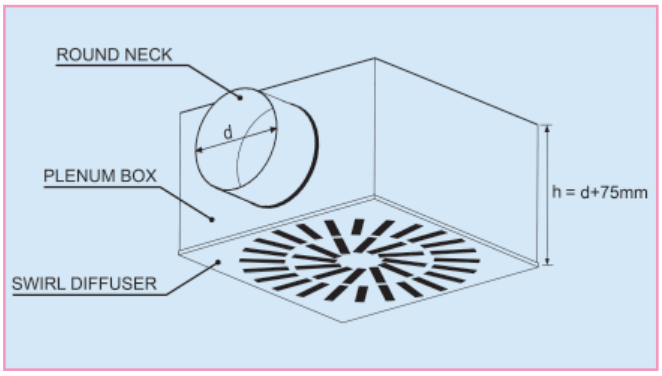
Construction:

- **Diffuser:** 1.2mm (or) 1.5mm thick aluminium sheet.
- **Diffuser Blades:** Easily rotatable plastic blades
- **Neck:** Standard size 250 dia.
- **Module:** 600mmx600mm, 595mmx595m.
- **Plenum:** 20 gauge (or) 22 gauge thick GI sheet.



Description:

- Diffuser is made by punching high quality aluminium sheet 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.
- Supply air jet velocity is effectively reduced due to high mixing effect.
- Ability to create either an external or internal swirl.
- Diffuser can be fixed up to a height of 4.5m.



Standard finishes:

- Powder coated as per RAL color codes.

Plenum Neck size 250dia, Module size 600x600mm

Air flow in CFM	**186**	**234**	**280**	**327**	**374**	**419**	**464**	**511**	**566**
Air flow in m^3/sec	**0.088**	**0.111**	**0.132**	**0.154**	**0.176**	**0.197**	**0.219**	**0.241**	**0.267**
Face velocity in m/sec	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
P loss in mm of H_2O	0.410	0.640	0.922	1.26	1.64	2.05	2.46	2.96	3.57
Throw in meters	1.3-2.0	1.8-2.6	2.1-3.2	2.4-3.6	2.6-4.3	3.1-4.7	3.6-5.4	4.2-6.2	5.0-6.8
NC	<15	18	23	28	31	35	39	43	50

- Neck size measured in mm dia.
- Static pressure loss across the diffuser in mm of H_2O.
- Throw (meters) is measured for a terminal velocities of 0.5 & 0.25 m/sec.
- Noice criteria (NC) is based on room attenuation of 10dB.

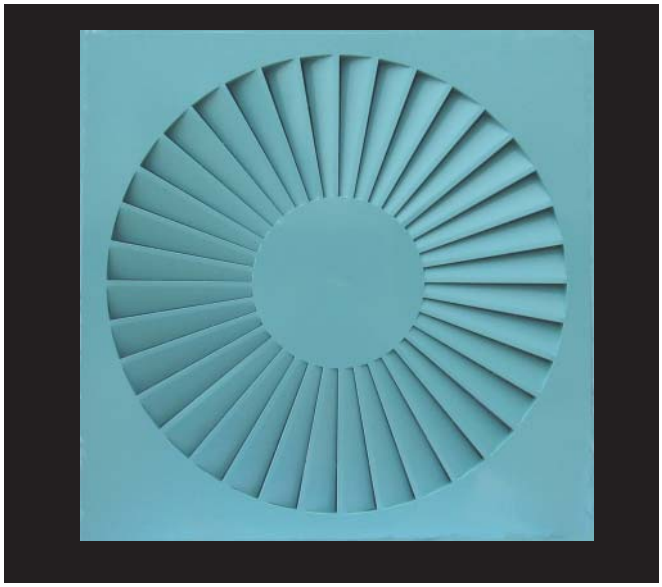
air master

Swirl diffuser - Fixed

Model: ASD-F

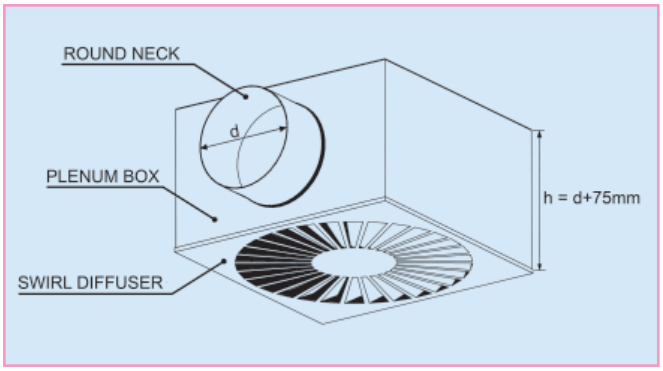
Construction:

- **Diffuser:** 1.2mm (or) 1.5mm thick aluminium sheet.
- **Neck:** Standard size 250 dia.
- **Module:** 600mmx600mm, 595mmx595m.
- **Plenum:** 20 gauge (or) 22 gauge thick GI sheet.



Description:

- Diffuser is made by punching high quality aluminium sheet.
- The slotted rotary face design and the circular pattern of the radial fixed vanes provide the swirl air horizontal distribution all over the occupant area.
- Supply air jet velocity is effectively reduced due to high mixing effect.
- The diffuser can be fixed upto a height of 4.5m.



Standard finishes:

- Powder coated as per RAL color codes.

Plenum Neck size 250dia, Module size 600x600mm

Air flow in CFM	**212**	**265**	**318**	**371**	**424**	**477**	**530**	**583**	**636**
Air flow in m^3/sec	**0.100**	**0.125**	**0.150**	**0.175**	**0.200**	**0.225**	**0.250**	**0.275**	**0.300**
Face velocity in m/sec	2	2.5	3	3.5	4	4.5	5	5.5	6
P loss in mm of H_2O	0.315	0.563	0.811	1.103	1.441	1.808	2.175	2.675	3.475
Throw in meters	0.9-1.6	1.3-2.0	1.6-2.5	2.0-2.9	2.3-3.4	2.6-3.9	3.1-4.4	3.7-5.0	4.0-5.7
NC	16	20	26	30	34	39	45	50	>50

- Neck size measured in mm dia.
- Static pressure loss across the diffuser in mm of H_2O.
- Throw (meters) is measured for a terminal velocities of 0.5 & 0.25 m/sec.
- Noice criteria (NC) is based on room attenuation of 10dB.