CEILING DIFFUSER

Features:

AEROSYS Ceiling diffusers circular and square are suitable for the introduction of supply air or the removal of extract air in the ceiling. Ceiling diffusers have been a popular product for many years, and are often the standard air terminal in offices and shops. The geometric design is both aesthetically pleasing, especially when used in a square tile ceiling, and also enables a 50% free area to be created, retaining high performance when used for both supply and extract applications.

With one, two, three- and four-way blow diffusers available, **AEROSYS** makes every conceivable type of ceiling diffuser. We do hold four-way blow ceiling diffusers in stock; with square sizes of 150mm, 200mm, 225mm & 300mm held in stock at all times in RAL 9010 / RAL 9016 finish, you can be assured of industry beating delivery times across all of these sizes of ceiling diffuser.

How to Order?

Item	Model	Specification			Material		Finish
		Frame	Way	Application	Frame	Blade	
Ceiling Diffusers	SCD	Square	1 , 2, 3, 4	Supply / Return	AL*	Cone type	Mill / Powder coated
	RCD	Round	1	Supply / Return	AL*	Cone type	Mill Powder coated

Standard Construction (AERO – SCD / RCD):

- *Frame* – High quality extruded aluminum profile with 33 mm flange width.
- *Blades* – Diffuser shall be coned type with each cone manufactured by extruded aluminum louvered profile or one-piece die formed aluminum construction arranged in concentric cones to deflect air equally in all directions.
- *Fixing* – Louvered type core is fixed to the frame with aluminum pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Bushes – Damper blades are separated from its frame by nylon bushes.
- *OBD* – In case of supply the diffuser will be supplied with OBD (opposed blade damper) is screw operated from the face opening of the diffuser after removing the internal core.
- Gasket – Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- *Min. Size* – For Round Ceiling 6" Ø (150Ø mm) / Square ceiling diffuser 6" x 6" (150 x 150 mm).
- *Max.* Size - For Round Ceiling 16"Ø (400Ø mm) / Square Ceiling diffuser 24" x 24" (600 x 600 mm).

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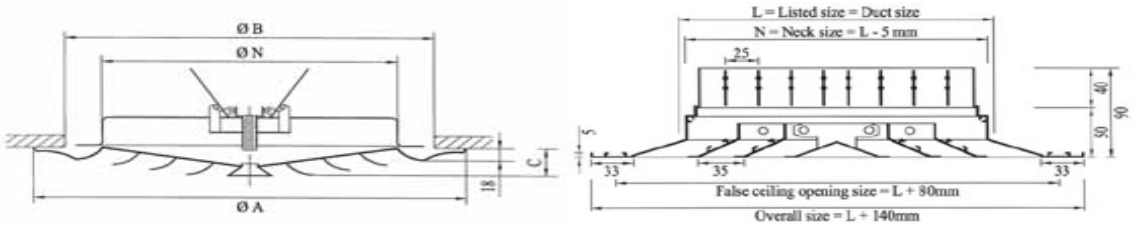
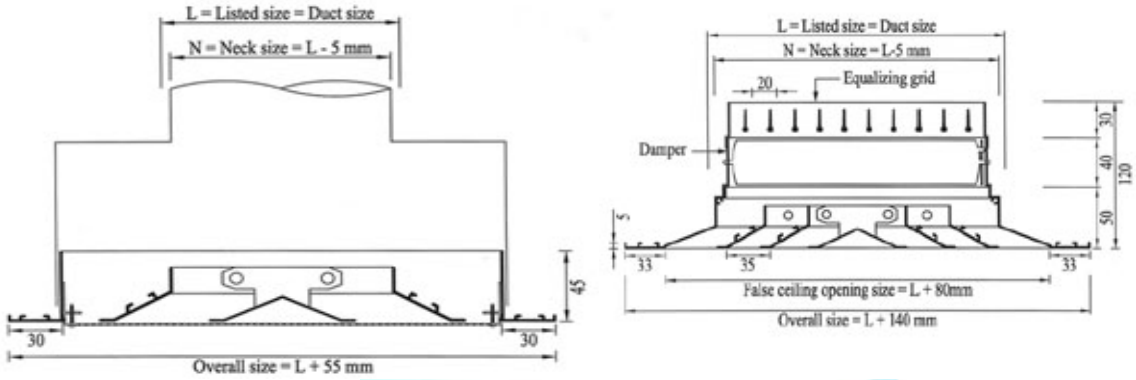
Dimensional Details (AERO – SCD / RCD):

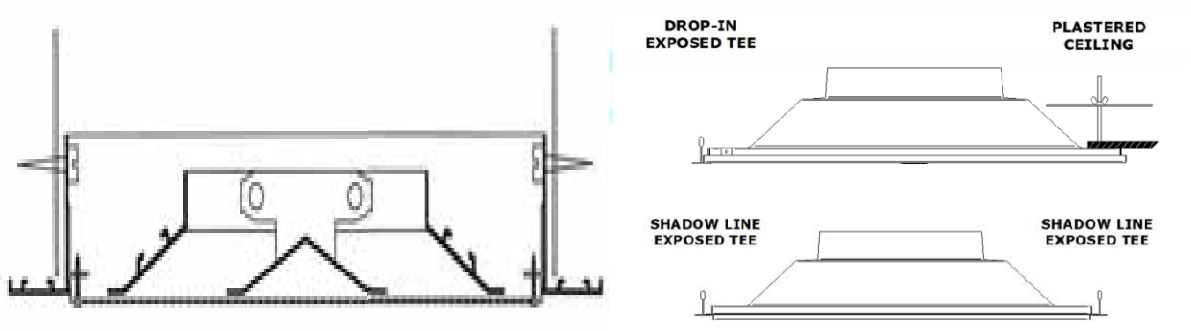


Optional Construction (AERO – SCD / RCD):

- It can be with Equalizing grid.
- It can be with perforated fa eside.
- *It can be supplied along wit ı plenum.*
- *It can be supplied with multiple elements on request.*
- *Available in*Mill Finish.



Recommended Installation Method (AERO – SCD / RCD):



SWIRL DIFFUSER

Swirl Diffuser:

AEROSYS Swirl diffusers consist of a diffuser face with fixed, radially arranged air control elements. Connection to the air duct system is effected via the plenum box, in either vertical or horizontal configuration. They are suitable for deployment in the commercial and industrial sectors, and are available in square and round design.

They consist of the diffuser face and the rear plenum box with round duct connection spigot on the side. The design of these swirl diffusers guarantees a swift reduction in temperature and flow velocity by means of swirling discharge and the addition of induction air.

How to Order?

Item	Model	Specification		Material		Finish
		Casing	Blades	Casing	Blades	
SD	VA	Rectangular	Fixed	Al	Al	Powder coated
	VB	Rectangular	Adjustable	Al	Al	Powder coated
	VC	Round	Adjustable	Al	Al	Powder coated

Standard Construction (AERO – SD-VA / SD-VB / SD-VC):

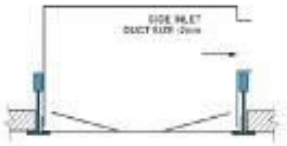
- Diffuser – 1.2 mm thick Aluminum sheet.
- Blades – Fixed blade in case of SD-VA & adjustable blades in case of SD-VB / VC.
- Standard size – 595 x 595 mm (SD – VB/VC).
- Finish – Powder coated as per RAL color codes.

Performance table:

Airflow (m^3/h, m)	Sound Power level (DBA)	Static Pressure G.W	Throw (V_x - 0.25 m/s)
350	32	2.2	1.7
400	36	2.8	2
450	39	3.2	2.2
500	42	3.8	2.6
600	47	5.5	3
650	49	6	3.3
700	51	6.5	3.6

SWIRL DIFFUSER

SD-VA



Features:

*Made of high quality iron sheet.

*Fixed blades.

*Color RAL9010, RAL9016.

SD-VB

SD-VB16 SD-VB24 SD-VB48

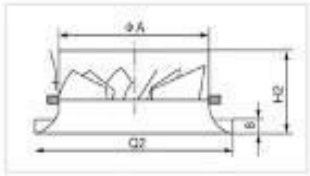
Features:

*Made of high quality iron sheet.

*With black adjustable blades.

*Color RAL9010, RAL9016

SD-VC



Features:

*Made of high quality aluminium sheet.

*Adjustable blades.

*Color RAL9010, RAL9016.

Slection Table:

Standard Size	Air Volume(m3/h)
595x595 (SD-VA)	290-600
595x595 (SD-VB16)	110-400
595x595 (SD-VB24)	210-680
595x595 (SD-VB48)	360-830

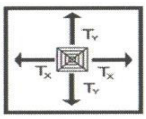
Slection Table:

Standard Size	Air Volume(m3/h)
200	450
250	750
315	1500
400	2500
500	3000
630	3500

CEILING DIFFUSER

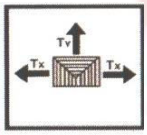
Engineering & Performance table for (AERO – SCD / RCD):

- Neck velocity is measure in m/sec.
- Pr Static pressure loss across the diffuser in mm of H_2O.
- Tx & Ty throw (meters) is measures for terminal velocities of 0.75, 0.5 & 0.25 m/sec.



4 Way Engineering Performance Data.

V_k Outlet Velocity FPM												Listed Size Outlet Area
2000	1800	1500	1400	1200	1000	900	800	700	600	500		
P_r Total Pressure Inches H_2O												
.25	.20	016	.12	.09	.06	.05	.04	.03	.02	.02		
200	180	160	140	120	100	90	80	70	60	50	CFM	6x6 Ak.10
6.11 6.11	5.9 5.9	5.8 5.8	4.8 4.8	4.6 4.6	3.5 3.5	3.5 3.5	2.4 2.4	2.4 2.4	2.3 2.3	2.3 2.3	X Y T	
450	410	360	315	270	225	205	180	155	135	110	CFM	9x9 Ak.22
8.14 8.14	7.13 7.13	6.12 6.12	6.11 6.11	5.9 5.9	5.8 5.8	4.6 4.6	3.5 3.5	3.5 3.5	2.4 2.4	2.4 2.4	X Y T	
800	725	640	560	480	400	360	320	280	240	206	CFM	12x12 Ak.40
10.19 10.19	9.17 9.17	8.15 8.15	7.13 7.13	6.12 6.12	6.11 6.11	5.9 5.9	5.8 5.8	4.8 4.8	4.6 4.6	3.5 3.5	X Y T	
1250	1125	1000	875	750	625	565	500	440	375	310	CFM	15x15 Ak.62
13.23 13.23	12.21 12.21	10.19 10.19	10.18 10.18	8.15 8.15	6.12 6.12	6.11 6.11	6.11 6.11	5.9 5.9	4.8 4.8	4.6 4.6	X Y T	
1800	1620	1440	1260	1080	900	810	720	630	540	450	CFM	18x18 Ak.90
16.30 16.30	15.27 15.27	13.23 13.23	11.20 11.20	10.17 10.17	8.5 8.5	7.13 7.13	6.12 6.12	5.11 5.11	5.9 5.9	4.8 4.8	X Y T	
2460	2220	1970	1725	1475	1230	1110	985	860	740	615	CFM	21x21 Ak1.23
19.35 19.35	17.31 17.31	15.29 15.29	13.25 13.25	11.21 11.21	9.17 9.17	9.15 9.15	8.14 8.14	7.13 7.13	6.11 6.11	5.9 5.9	X Y T	
3200	2890	2570	2240	1925	1600	1440	1275	1120	960	800	CFM	24x24 Ak1.6
20.39 20.39	18.35 18.35	16.31 16.31	14.29 14.29	12.23 12.23	10.19 10.19	9.17 9.17	8.15 8.15	7.14 7.14	7.13 7.13	5.11 5.11	X Y T	
4040	3650	3240	2840	2430	2020	1820	1615	1420	1215	1010	CFM	27x27 Ak2.02
23.42 23.42	20.38 20.38	18.35 18.35	16.32 16.32	14.27 14.27	12.22 12.22	10.19 10.19	10.18 10.18	8.15 8.15	7.13 7.13	6.12 6.12	X Y T	
5500	4950	4400	3850	3300	2750	2470	2200	1925	1650	1370	CFM	33x33 Ak2.75
31.50 31.50	27.46 27.46	23.41 23.41	19.37 19.37	18.33 18.33	16.27 16.27	14.24 14.24	12.21 12.21	10.18 10.18	9.16 9.16	7.13 7.13	X Y T	

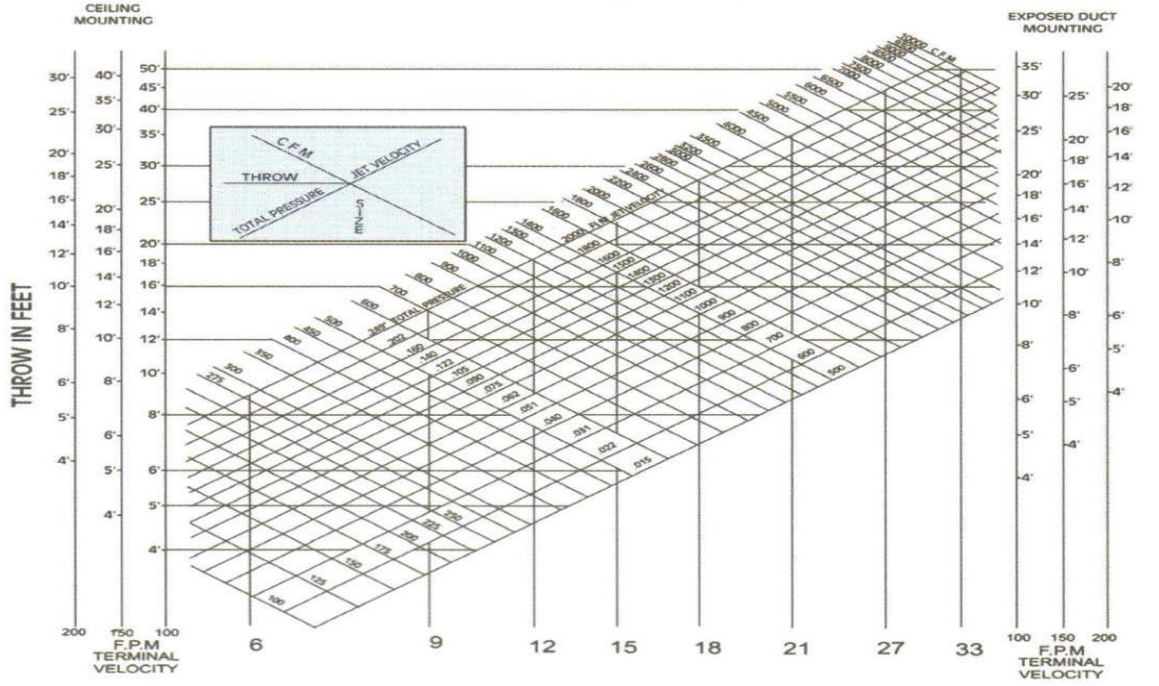


3 Way Engineering Performance Data.

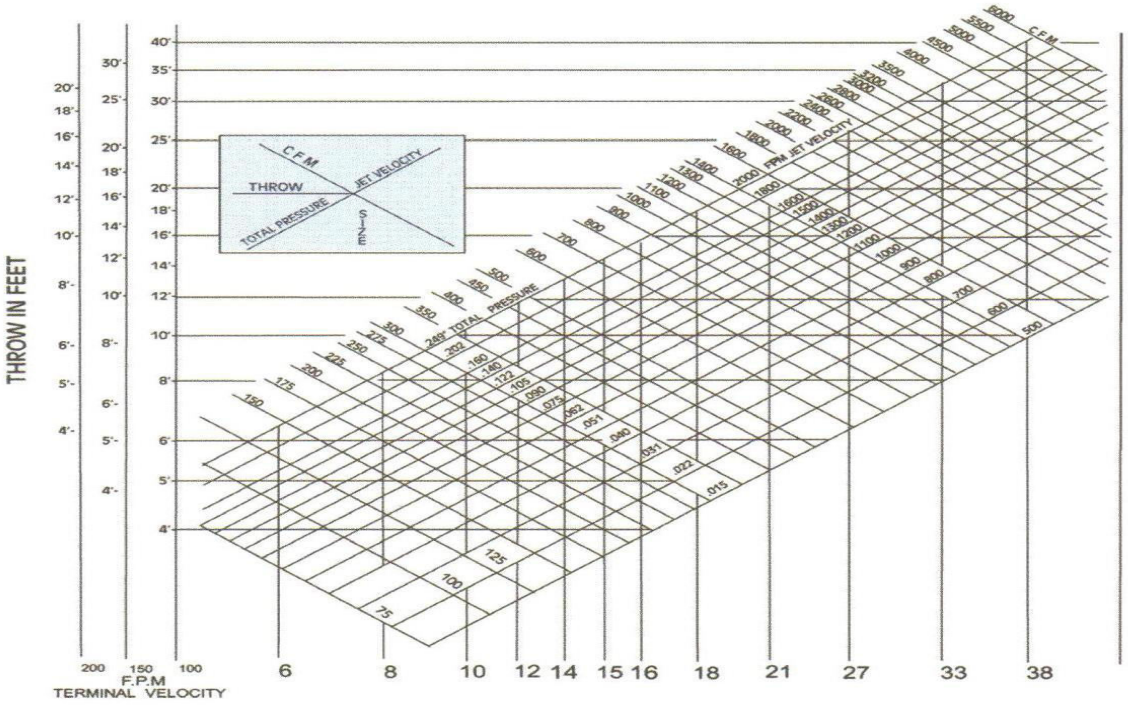
V_k Outlet Velocity FPM												Listed Size Outlet Area
2000	1800	1500	1400	1200	1000	900	800	700	600	500		
P_r Total Pressure Inches H_2O												
.25	.20	016	.12	.09	.06	.05	.04	.03	.02	.02		
200	180	160	140	120	100	90	80	70	60	50	CFM	6x6 Ax.10
7.13 4.8	6.11 4.7	6.11 4.7	6.10 3.6	5.9 3.6	4.7 2.4	4.7 2.4	3.5 2.3	3.5 2.3	2.4 1.2	2.4 1.2	X Y T	
450	410	360	315	270	225	205	180	155	135	110	CFM	9x9 Ax.22
11.20 7.12	10.18 6.11	9.15 6.10	7.13 5.9	6.12 4.7	5.9 3.6	5.9 3.6	4.8 2.4	4.7 2.4	3.6 2.3	2.4 2.3	X Y T	
800	725	640	560	480	400	360	320	280	240	200	CFM	12x12 Ax.40
16.27 9.16	14.24 8.14	13.22 8.13	12.21 7.12	9.16 6.10	7.13 5.9	6.11 4.8	6.10 4.7	6.10 4.7	5.9 3.6	4.7 2.5	X Y T	
1250	1125	1000	875	750	625	565	500	440	375	310	CFM	15x15 Ax.62
19.33 12.21	17.29 11.20	15.26 10.18	13.23 9.15	11.19 7.12	9.16 6.10	8.15 5.9	8.14 4.8	7.13 4.7	6.11 4.7	4.8 2.4	X Y T	
1800	1620	1440	1260	1080	900	810	720	630	540	450	CFM	18x18 Ax.90
23.40 14.25	20.35 12.22	18.32 11.20	15.26 10.18	13.24 9.15	11.20 7.12	10.18 6.11	9.15 6.10	7.13 5.9	6.11 4.7	4.9 3.5	X Y T	
2460	2220	1970	1725	1475	1230	1110	985	860	740	615	CFM	21x21 Ax1.23
27.45 18.29	24.42 16.25	21.39 14.23	19.34 11.20	16.29 10.17	13.23 8.14	12.21 8.13	11.20 7.12	11.19 6.11	7.13 4.8	5.11 3.6	X Y T	
3200	2890	2570	2240	1925	1600	1440	1275	1120	960	800	CFM	24x24 Ax1.6
32.47 20.33	28.43 18.31	25.39 16.27	21.35 14.24	17.31 11.19	16.27 9.16	14.24 9.15	13.21 8.14	11.19 7.13	9.16 6.11	7.14 5.9	X Y T	
4040	3650	3240	2840	2430	2020	1820	1615	1420	1215	1010	CFM	27x27 Ax2.02
31.50 21.36	28.46 19.33	25.41 18.30	22.37 14.25	18.31 12.21	15.27 10.18	14.25 9.16	13.23 9.15	11.20 87.13	9.16 6.11	7.13 4.9	X Y T	

CEILING DIFFUSER

Selection Chart For (**Round Ceiling Diffuser Step Down**)



Selection Chart For (**Round Ceiling Diffuser Flat**)



CEILING DIFFUSER

Performance Data - Swirl Diffuser

ceiling height	air volume M³/S	air volume M³/H	Ps Pa	LoA NC	In more than one row and B <4.0m distance between rows: B=2.7m throw(t)m	B=3.2m throw(t)m	B=3.6m throw(t)m	In one row or more rows B>4.0m throw(t)m
2.7m	0.050	180	3	-	0.7	0.7	0.7	0.7
	0.060	216	4	-	1.2	1	0.8	0.7
	0.070	252	5	-	1.4	1.2	1	0.9
	0.080	288	7	-	1.6	1.3	1.2	1.0
	0.090	324	8	-	1.7	1.4	1.3	1.2
	0.100	360	10	-	1.8	1.5	1.4	1.2
	0.125	450	16	-	1.9	1.7	1.5	1.4
	0.150	540	23	25	2.0	1.8	1.6	1.5
	0.175	630	31	29	2.2	1.9	1.8	1.7
	0.200	720	41	33	2.4	2.2	2.1	2.0
3.0m	0.050	180	3	-	0.7	0.7	0.7	0.7
	0.060	216	4	-	0.7	0.7	0.7	0.7
	0.070	252	5	-	1.0	0.8	0.7	0.7
	0.080	288	7	-	1.3	1.1	0.9	0.8
	0.090	324	8	-	1.5	1.2	1.1	0.9
	0.100	360	10	-	1.6	1.3	1.2	1.0
	0.125	450	16	-	1.8	1.5	1.4	1.3
	0.150	540	23	25	1.9	1.7	1.5	1.4
	0.175	630	31	29	2.0	1.7	1.6	1.5
	0.200	720	41	33	2.1	1.8	1.7	1.6
3.6m	0.050	180	3	-	0.7	0.7	0.7	0.7
	0.060	216	4	-	0.7	0.7	0.7	0.7
	0.070	252	5	-	0.7	0.7	0.7	0.7
	0.080	288	7	-	0.8	0.7	0.7	0.7
	0.090	324	8	-	0.8	0.7	0.7	0.7
	0.100	360	10	-	1.2	0.9	0.8	0.7
	0.125	450	16	-	1.5	1.2	1.1	1.0
	0.150	540	23	25	1.7	1.4	1.3	1.7
	0.175	630	31	29	1.9	1.6	1.4	1.3
	0.200	720	41	33	1.9	1.6	1.5	1.4

Notes On Performance Data

1. Throw is based on a 8° temperature differential.
2. The dB(A) values are based on a 10 db room attenuation.
3. Performance Data are subject to change without notice for further improvement.

Neck Vel = Neck Velocity, m/s P = Pressure, mm H^2O
T = Throw, m Q = Airflow, m^3/h dB(A) = Noise level