

Model CDS Square Cone Diffuser



MODEL CDS
Three Cone



MODEL CDS 4C
Four Cone



SQUARE CEILING DIFFUSERS

Square cone diffusers are the most popular and efficient of the ceiling diffuser family. The square cone diffuser provides a true 360 radial horizontal airflow pattern.

Model CDS three cone diffusers are designed to efficiently handle cooling temperature differentials of 18-20°F at ceiling heights of 8 to 10 feet. The round neck to square face design enables an easy duct connection and simple installation. For applications requiring a vertical airflow, the CDS-A adjustable model employs adjustable air deflecting vanes that provide vertical downward airflow for heating applications.



MODEL CDS



MODEL CDS 4C

CEILING DIFFUSER SQUARE MODEL NOMENCLATURE

Base Model	Core Type	Material	Border Type	Neck Size	Module Size	Finish Color	Damper
CDS	A	S	6	10	24	01	BDS
	Blank = Standard Core A = Adjustable Core	S = Steel AL = Aluminum	-6 = T-Bar Lay in -1 = Flush Surface Mount -6P = T-Bar Lay (Panel) -7 = Concealed Spline Module -9 = Bolt Slot / Donn Finline Module	Diameter of the inlet collar	Nominal overall diffuser size	01 = White 02 = Satin Silver 03 = Black 28 = Custom Color	None = No Damper RSD = Radial Shutter BDS = Butterfly Damper

OPTIONS AND ACCESSORIES

Equalizing Grid G3 - Round Equalizing Grid

Fiberglass Backpan FBGP - Fiberglass Backpan (24x24 module size)
EI - 1/2" External Fiberglass Insulation (12x12 module size)

Baffles BAF-1 One Baffle, BAF-2 Two Baffles, BAF-3 Three Baffles

Earthquake Straps EQS - Earthquake Strap

Fourth Cone 4C - Fourth Cone

Plaster Frame TBPF - T-Bar Plaster Frame

Beaded Collar Standard Inlet Collar
2"BC - 2" Beaded Inlet Collar

MRI Construction MRI - MRI Ready Construction



CDS-WEB PAGE



CDS SUBMITTAL



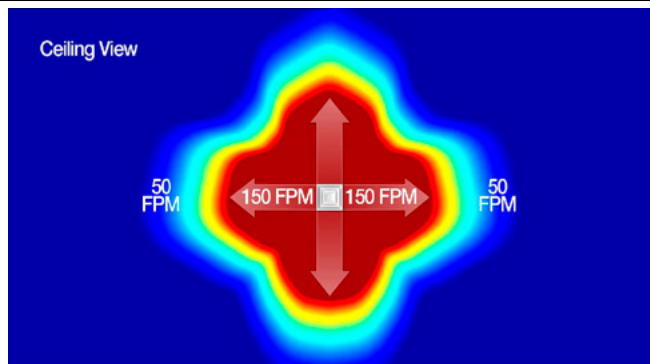
Product Features:

- 3 Cone Ceiling Diffuser
- 360 Degree throw pattern
- Architectural design with pleasing aesthetic
- Excellent pressure and noise performance
- Available in steel and aluminum
- Fit multiple t-bar grid modules
- Available Neck Sizes: 6, 8, 10, 12, 14 and 15 inch
- Optional border styles available for various applications

Finishes

01 - White ¹	03 - Black	¹ White Finish is suitable for a primer coat if field painting is required.
02 - Satin Silver	28 - Wood Grain *	
28 - Custom Color	* Wood Grain Finish Available on Request	

Throw Pattern Visualization



Optional Accessories:

	BDS - Butterfly Damper
	RSD - Radial Shutter Damper
	G3 - Equalizing Grid
	BAF - Directional Baffles
	TBPF - T-Bar Plaster Frame
	EQS - Earthquake Straps
	4C - Fourth Cone
	FGBP - Fiberglass Backpan
	2"BC - 2" Beaded Inlet Collar



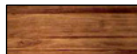
CDS-A SUBMITTAL



Product Features:

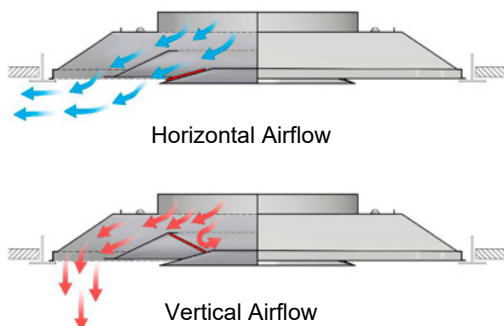
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Finishes

- | | |
|---|---|
| 01 - White ¹ | 03 - Black |
|  |  |
| 02 - Satin Silver | 28 - Wood Grain * |
|  |  |
| 28 - Custom Color | * Wood Grain Finish Available on Request |
|  | |

¹ White Finish is suitable for a primer coat if field painting is required.

Throw Pattern Visualization



Optional Accessories:

- | | |
|---|-------------------------------|
|  | BDS - Butterfly Damper |
|  | RSD - Radial Shutter Damper |
|  | G3 - Equalizing Grid |
|  | BAF - Directional Baffles |
|  | TBPF - T-Bar Plaster Frame |
|  | EQS - Earthquake Straps |
|  | 4C - Fourth Cone |
|  | FGBP - Fiberglass Backpan |
|  | 2"BC - 2" Beaded Inlet Collar |



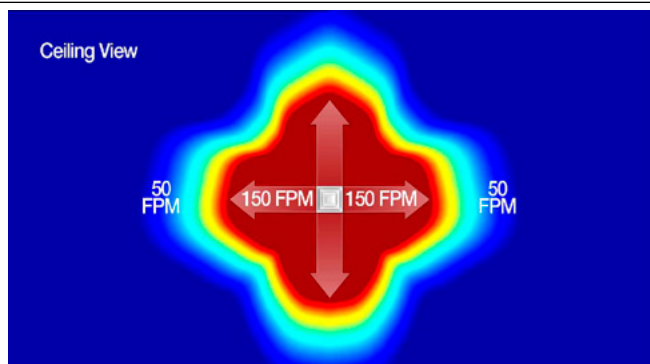
Product Features:

- 4 Cone Ceiling Diffuser
- 360 Degree throw pattern
- Architectural design with pleasing aesthetic
- Excellent pressure and noise performance
- Available in steel and aluminum
- Fit multiple t-bar grid modules
- Available Neck Sizes: 6, 8, 10, 12, 14 and 15 inch
- Optional border styles available for various applications

Finishes

01 - White ¹	03 - Black	¹ White Finish is suitable for a primer coat if field painting is required.
02 - Satin Silver	28 - Wood Grain *	
28 - Custom Color	* Wood Grain Finish Available on Request	

Throw Pattern Visualization



Optional Accessories:

	BDS - Butterfly Damper
	RSD - Radial Shutter Damper
	G3 - Equalizing Grid
	BAF - Directional Baffles
	TBPF - T-Bar Plaster Frame
	EQS - Earthquake Straps
	FGBP - Fiberglass Backpan
	2"BC - 2" Beaded Inlet Collar



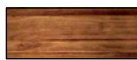
CDS-A 4C SUBMITTAL



Product Features:

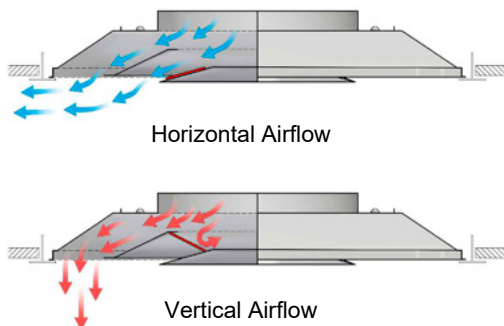
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¹ White Finish is suitable for a primer coat if field painting is required.

Throw Pattern Visualization



Optional Accessories:

- | | |
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|  | G3 - Equalizing Grid |
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|  | EQS - Earthquake Straps |
|  | 4C - Fourth Cone |
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|  | 2"BC - 2" Beaded Inlet Collar |

Ceiling Diffuser Square Cone - MODELS CDS/CDS-A, CDS 4C/CDS-A 4C

Listed Size	Neck Size	fpm Vn	400	500	600	700	800	900	1000	1200	1400	2000
		Pv	0.01	0.016	0.022	0.031	0.04	0.05	0.062	0.09	0.122	0.249
12 x 12	6	CFM	80	100	120	135	155	175	195	235	275	395
		Pt	0.021	0.033	0.048	0.061	0.080	0.102	0.127	0.184	0.253	0.521
		Throw*	2-3-06	3-4-07	3-5-07	3-5-08	4-6-08	4-6-09	5-7-09	6-7-10	6-8-11	8-9-13
		Throw	3-4-06	3-5-07	4-5-07	4-6-08	5-6-08	5-6-09	5-7-09	6-7-10	6-8-11	8-10-13
		NC	-	<15	18	20	23	26	28	33	36	44
	8	CFM	140	175	210	245	280	315	350	420	490	700
		Pt	0.029	0.046	0.066	0.090	0.118	0.149	0.184	0.265	0.360	0.735
		Throw*	3-4-08	3-5-09	4-6-10	5-7-11	5-8-11	6-8-12	7-9-13	8-10-14	9-11-15	10-13-18
		Throw	3-5-08	4-6-09	5-7-10	6-7-11	7-8-11	7-8-12	7-9-13	8-10-14	9-11-15	10-13-18
		NC	-	<15	19	22	25	28	31	36	40	46

See end of section for performance notes

Ceiling Diffuser Square Cone - MODELS CDS/CDS-A, CDS 4C/CDS-A 4C

Listed Size	Neck Size	fpm Vn	400	500	600	700	800	900	1000	1200	1400	2000
		Pv	0.01	0.016	0.022	0.031	0.04	0.05	0.062	0.09	0.122	0.249
20 x 20	6	CFM	80	100	120	135	155	175	195	235	275	395
		Pt	0.018	0.027	0.040	0.051	0.066	0.085	0.105	0.153	0.209	0.432
		Throw*	2-2-5	2-3-5	2-3-6	3-3-6	3-4-6	4-5-6	4-5-7	5-6-7	5-6-8	5-6-9
		Throw	2-4-7	3-5-8	4-5-9	4-6-9	5-7-9	5-8-10	6-8-11	7-9-12	8-10-14	9-11-15
		NC	-	-	-	-	-	18	21	26	31	49
	8	CFM	140	175	210	245	280	315	350	420	490	700
		Pt	0.021	0.033	0.047	0.062	0.082	0.104	0.129	0.185	0.252	0.514
		Throw*	2-3-6	3-4-7	3-5-7	4-6-8	4-6-8	5-6-9	5-7-9	6-7-9	7-8-10	8-10-11
		Throw	3-5-10	4-6-11	5-7-12	6-9-12	6-10-13	7-10-14	8-11-14	10-12-15	11-13-16	13-16-20
		NC	-	-	-	-	-	21	24	30	35	63
	10	CFM	220	275	325	380	435	490	545	655	765	1090
		Pt	0.025	0.039	0.055	0.074	0.098	0.125	0.153	0.222	0.303	0.615
		Throw*	3-4-8	3-5-8	4-6-9	5-7-9	5-8-10	6-8-10	7-8-11	8-9-12	8-10-13	10-12-16
		Throw	4-6-11	5-8-13	6-9-15	7-11-15	8-12-16	9-13-17	10-14-18	12-15-19	13-16-21	16-19-25
		NC	-	-	-	-	18	23	28	35	40	72

See end of section for performance notes

Ceiling Diffuser Square Cone - MODELS CDS/CDS-A, CDS 4C/CDS-A 4C

Listed Size	Neck Size	fpm Vn	400	500	600	700	800	900	1000	1200	1400	2000
		Pv	0.01	0.016	0.022	0.031	0.04	0.05	0.062	0.09	0.122	0.249
24 x 24	6	CFM	80	100	120	135	155	175	195	235	275	395
		Pt	0.014	0.021	0.031	0.039	0.051	0.065	0.081	0.118	0.161	0.332
		Throw*	2-2-05	2-3-05	2-4-06	3-4-06	3-4-06	4-5-07	4-5-07	5-6-08	5-6-08	6-7-10
		Throw	2-4-07	3-5-08	4-6-09	4-6-10	5-7-10	5-8-11	6-8-12	7-9-13	8-10-14	10-12-17
		NC	-	-	-	-	<15	16	18	23	27	43
	8	CFM	140	175	210	245	280	315	350	420	490	700
		Pt	0.016	0.025	0.036	0.048	0.063	0.080	0.099	0.142	0.194	0.395
		Throw*	2-3-06	3-4-07	3-5-07	4-6-08	4-6-09	5-6-09	5-7-10	6-7-10	7-8-11	8-10-13
		Throw	3-5-10	4-6-11	5-7-12	6-9-13	6-10-14	7-10-15	8-11-16	10-12-17	11-13-18	13-16-22
		NC	-	-	-	-	<15	18	21	26	30	55
	10	CFM	220	275	325	380	435	490	545	655	765	1090
		Pt	0.019	0.030	0.042	0.057	0.075	0.096	0.118	0.171	0.233	0.473
		Throw*	3-4-08	3-5-08	4-6-09	5-7-10	5-8-11	6-8-11	7-8-12	8-9-13	8-10-14	10-12-17
		Throw	4-6-12	5-8-14	6-9-15	7-11-16	8-12-17	9-13-18	10-14-19	12-15-21	13-16-23	16-19-28
		NC	-	-	-	<15	16	20	24	30	35	63
	12	CFM	315	395	470	550	630	705	785	940	1100	1570
		Pt	0.021	0.033	0.046	0.063	0.083	0.104	0.129	0.185	0.253	0.515
		Throw*	3-5-09	4-6-10	5-7-11	6-8-12	7-9-13	7-10-14	8-10-14	9-11-16	10-12-17	12-14-20
		Throw	5-7-15	6-9-17	7-11-18	8-13-20	10-15-21	11-16-22	12-17-23	14-18-26	16-20-28	19-23-33
		NC	-	-	-	<15	19	23	27	33	39	68
	14	CFM	430	535	640	750	855	960	1070	1285	1495	2140
		Pt	0.026	0.041	0.058	0.080	0.104	0.131	0.163	0.234	0.377	0.650
		Throw*	4-6-11	5-7-12	6-9-13	7-10-14	8-11-15	9-11-16	10-12-17	11-13-18	11-14-20	14-17-24
		Throw	6-9-17	7-11-19	8-13-21	10-15-23	11-17-24	13-18-26	14-19-27	17-21-30	19-23-32	22-27-39
		NC	-	*	<15	<15	18	23	28	35	40	57
	15	CFM	490	615	735	860	980	1105	1225	1475	1720	2455
		Pt	0.032	0.051	0.072	0.099	0.129	0.164	0.201	0.292	0.396	0.808
		Throw*	4-6-11	5-8-13	6-9-14	7-11-15	8-11-16	9-12-17	10-13-18	11-14-20	12-15-21	15-18-25
		Throw	6-9-18	8-11-21	9-14-23	11-16-24	12-18-26	14-20-28	15-21-29	18-23-32	20-24-35	24-29-41
		NC	-	-	<15	16	22	27	31	39	46	68

PERFORMANCE NOTES. All data is tested in accordance with ANSI/ASHRAE 70-2006.

DEFINITION OF UNITS

CFM	Cubic Feet per Minute (air)
fpm	Velocity of air stream in Feet per Minute
Pv	Velocity pressure (inches of water column)
Pt	Total pressure (inches of water column)
Ps	Static pressure = Pt-Pv (inches of water column)
Throw*	Non-isothermal horizontal throw (supply air temperature 15°F colder than average room temperature); values are for 150, 100 and 50 fpm velocities
Throw	Isothermal throw (supply air temperature the same as average room temperature); values are for 150, 100 and 50 fpm velocities
NC	Noise criterion, sound pressure level NC ratings are based on sound power level (Lw) re: 10 ⁻¹² watts minus a 10 dB room attenuation in all octave bands
Vn	Neck Velocity