

# DF1C

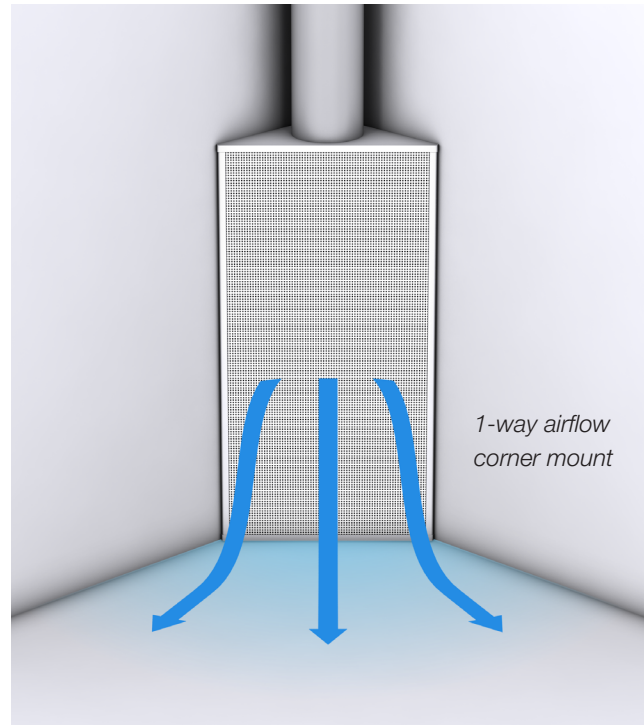
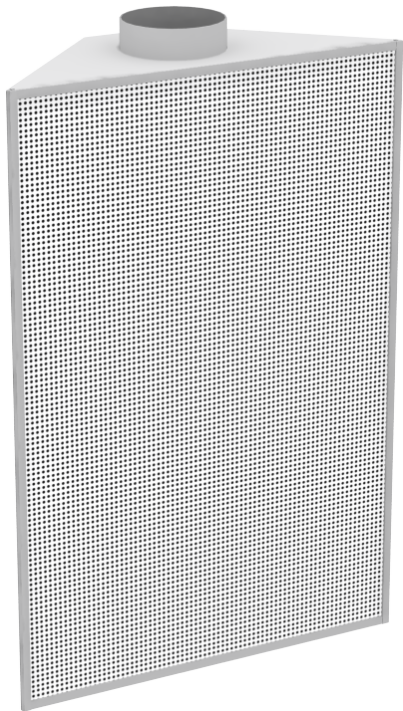
## CORNER DISPLACEMENT DIFFUSER



# DF1C

## Corner Displacement Diffuser

Corner Displacement Diffusers (DF1C) supply low velocity discharge air in a 1-way pattern, directly into the occupied zone. The DF1C is designed for installation at the junction of two walls or in a 90° recess. This diffuser meshes seamlessly into any décor. The superior air quality and low noise levels realized with the DF1C make it suitable for classrooms, office spaces, restaurants, theaters, hotels, and convention centers.



## CONSTRUCTION

### + Material

- Frame and equalization baffle - Aluminum
- Plenum and perforated discharge - Steel

### + Options

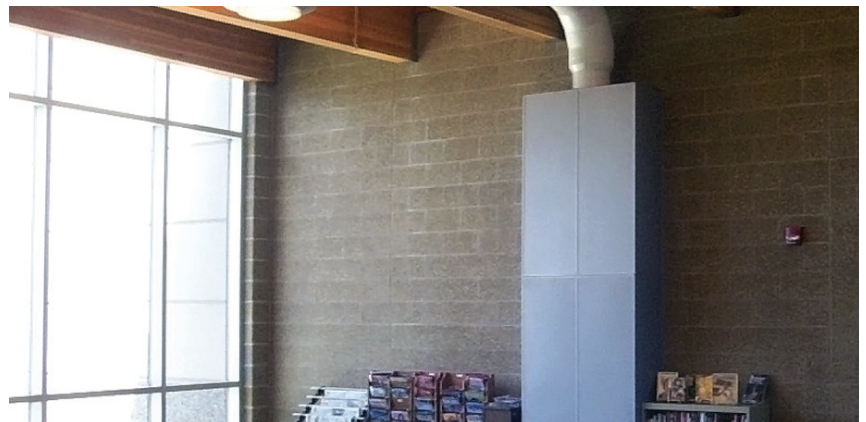
- Inlet locations: bottom, top and rear
- Field-cut inlet
- Ships with protective film on face and inlet

- Base, duct covers, airflow station (see AFSD)
- Standard finishes: Pure white (B11), White (B12), Aluminum (B15), Black (B17)
- Custom color to match

## ACCESSORIES

### Duct Cover

Duct covers match the aesthetic of the diffuser while concealing the duct work for an architecturally appealing installation. Duct covers can be supplied in solid steel or perforated material to match the diffuser face. When using a perforated duct cover, the ductwork can be painted black to conceal the ductwork. The duct cover is available in varying lengths and can be split into multiple sections to create a symmetric look with the diffuser. These units are perfect for top ducted diffusers where exposed ductwork is not desired, such as hotel lobbies, office boardrooms, schools, and restaurants. See specific product for availability.



*Diffuser cover application*

### Base

The diffuser base can offer a look that is consistent with the rest of the space while concealing the ductwork. The base also provides protection from damage or infiltration of moisture during cleaning. The base is available in varying lengths and is inset from the face of the diffuser by 1 inch. The easy installation of the product allows it to be ordered with a displacement unit or as a secondary order if the look is required after the original diffuser's installation. See specific product for availability.

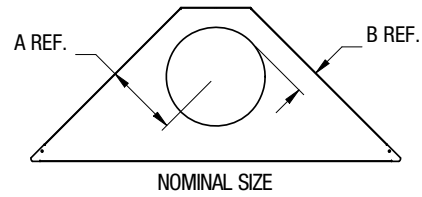
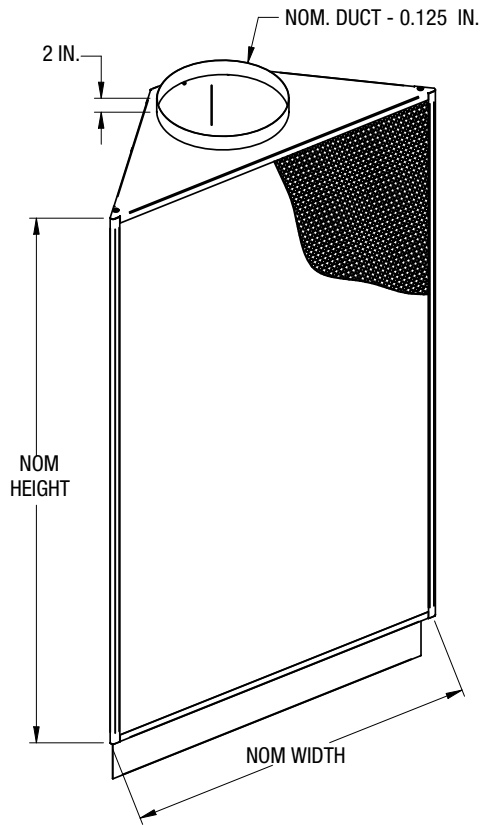


*Diffuser base application*

# DF1C

## Corner Displacement Diffuser

### DIMENSIONAL DATA



Nominal Size (in.)			
W x H	Duct	A	B
24 x 24	8	4.596	0.659
24 x 36			
24 x 48			
24 x 60			
24 x 72			
30 x 24	8	5.834	1.896
	10		0.896
30 x 36	8	5.834	1.896
	10		0.896
30 x 48	10	5.834	0.896
30 x 60			
30 x 72			
36 x 24	8	6.718	2.78
	10		1.78
	12		0.78
36 x 36	12	6.718	0.78
36 x 48			
36 x 60			
36 x 72			

Additional sizes available upon request.

### PERFORMANCE DATA

Unit Size W x H [in]	Inlet Size [in]	Face Velocity [fpm]	Air Flow [cfm]	Total Pressure [in. w.g.]	Static Pressure [in. w.g.]	Noise Criteria [NC]	Proximity to Outlet [ft]			
							DR 20%		Adjacent Zone	
							$\Delta T = 5\text{ }^\circ\text{F}$	$\Delta T = 10\text{ }^\circ\text{F}$	$\Delta T = 5\text{ }^\circ\text{F}$	$\Delta T = 10\text{ }^\circ\text{F}$
24 x 24	8	20	71	-	-	-	-	-	--	--
		30	107	0.02	0.01	-	-	2	--	1
		40	142	0.03	0.02	-	1	4	1	2
		50	178	0.04	0.03	-	3	5	2	4
30 X 24	10	20	90	-	-	-	-	-	--	--
		30	135	0.01	-	-	-	2	--	1
		40	180	0.02	0.02	-	1	3	1	2
		50	225	0.04	0.02	-	2	5	2	4
36 x 24	12	20	109	-	-	-	-	-	--	--
		30	164	0.01	-	-	-	2	--	--
		40	218	0.02	0.01	-	1	3	1	2
		50	273	0.03	0.02	-	2	5	2	4
24 x 36	8	20	109	0.01	-	-	-	2	--	1
		30	163	0.02	0.01	-	2	5	2	4
		40	217	0.04	0.02	-	4	7	5	7
		50	272	0.07	0.03	-	6	12	7	9
30 x 36	10	20	138	-	-	-	-	2	--	1
		30	206	0.02	0.01	-	2	5	2	4
		40	275	0.03	0.02	-	4	7	4	6
		50	344	0.05	0.03	-	5	8	6	8
36 x 36	12	20	167	-	-	-	-	2	--	1
		30	250	0.02	-	-	2	5	2	4
		40	333	0.03	0.02	-	4	7	4	6
		50	417	0.04	0.03	-	5	8	6	8
24 x 48	8	20	146	0.01	-	-	2	5	2	4
		30	219	0.03	-	-	5	7	5	7
		40	292	0.06	0.01	-	7	10	8	10
		50	365	0.09	0.02	19	8	11	10	12
30 x 48	10	20	185	0.01	-	-	2	4	2	3
		30	278	0.03	-	-	4	7	5	7
		40	370	0.05	0.02	-	6	9	7	9
		50	463	0.07	0.03	16	8	11	9	11

For Performance Notes, please see next page.

# PERFORMANCE DATA

Unit Size W x H [in]	Inlet Size [in]	Face Velocity [fpm]	Air Flow [cfm]	Total Pressure [in. w.g.]	Static Pressure [in. w.g.]	Noise Criteria [NC]	Proximity to Outlet [ft]			
							DR 20%		Adjacent Zone	
							$\Delta T = 5^\circ\text{F}$	$\Delta T = 10^\circ\text{F}$	$\Delta T = 5^\circ\text{F}$	$\Delta T = 10^\circ\text{F}$
36 x 48	12	20	224	-	-	-	2	4	1	3
		30	336	0.02	0.01	-	4	7	5	7
		40	448	0.04	0.02	-	6	9	7	9
		50	560	0.06	0.03	-	8	11	9	11
24 x 60	8	20	184	0.02	-	-	4	6	4	6
		30	276	0.04	-	-	6	9	8	10
		40	367	0.07	-	15	9	12	10	12
		50	459	0.11	-	22	10	14	12	14
30 x 60	10	20	233	0.01	-	-	3	6	4	6
		30	349	0.03	-	-	6	9	7	9
		40	465	0.06	0.01	-	8	12	10	12
		50	582	0.09	0.02	19	10	13	12	14
36 x 60	12	20	282	0.01	-	-	3	6	4	5
		30	422	0.03	-	-	6	9	7	9
		40	563	0.05	0.02	-	8	11	9	11
		50	704	0.07	0.02	17	10	13	11	13
24 x 72	8	20	221	0.02	-	-	5	8	6	8
		30	332	0.05	-	-	8	11	10	12
		40	442	0.08	-	18	10	13	12	14
		50	553	0.13	-	25	12	15	14	16
30 x 72	10	20	280	0.02	-	-	5	8	6	8
		30	420	0.04	-	-	8	11	9	11
		40	560	0.07	-	15	10	13	12	14
		50	700	0.11	-	22	12	15	14	15
36 x 72	12	20	339	0.01	-	-	5	8	5	7
		30	509	0.03	-	-	8	11	9	11
		40	678	0.06	0.01	-	10	13	11	13
		50	848	0.09	0.02	20	12	15	13	15

### Performance Notes:

1. Sound and pressure drop tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cubic feet per minute, cfm.
3. Pressure is in inches of water, in. w.g.
4. The NC values, sound pressure level, are based on a room absorption of 10 dB, re  $10^{-12}$  watts and one diffuser.
5.  $\Delta T$  is the difference between the room air temperature 3 ½ ft above the floor and the temperature of the supply air.
6. Proximity to outlet is the minimum distance from an outlet to the occupant in order to achieve the listed DR value.
7. Distances closer to the diffuser have a higher DR than the cataloged value.
8. DR is the predicted percentage of people dissatisfied (PPD) due to draft. A value of less than 20 meets the requirements of ASHRAE Standard 55-2004, Thermal Environmental Conditions for Human Occupancy.
9. Blanks "-" indicate that the DR is below the specified value at all distances from the diffuser face.
10. DR catalog data is presented for an occupant density of 25 people/1000ft<sup>2</sup>, which is the default occupancy density for classrooms (ages 5-8) given by ASHRAE 62.1-2004. For other occupant densities, please refer to the DV Room Designer Software.
11. The Adjacent zone describes the distance from the face of the diffuser and measured 1 in. from the floor, at which the supply air velocity is 50 fpm.



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