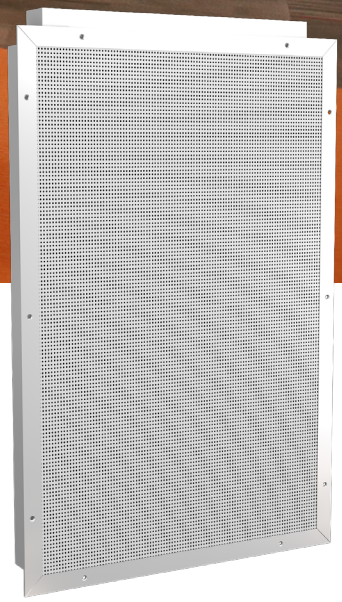
DFW

DISPLACEMENT FLOW IN-WALL DIFFUSER

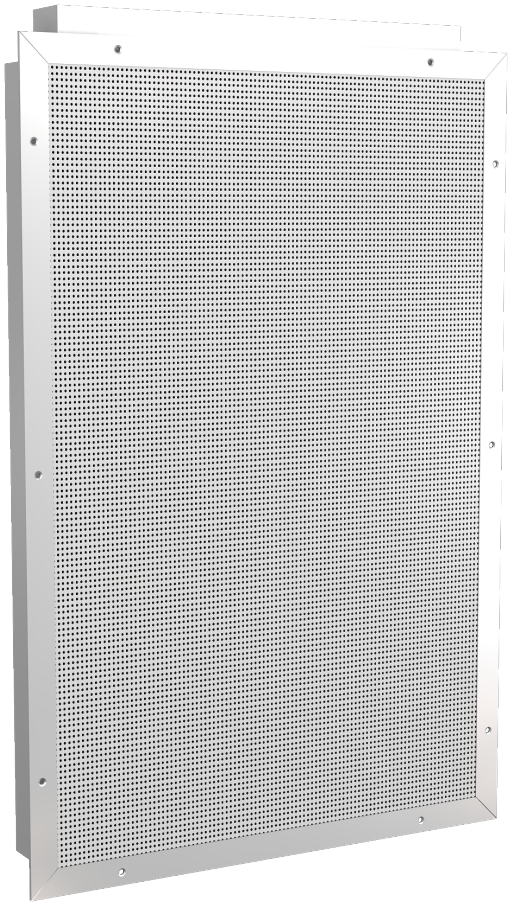




price | DISPLACEMENT

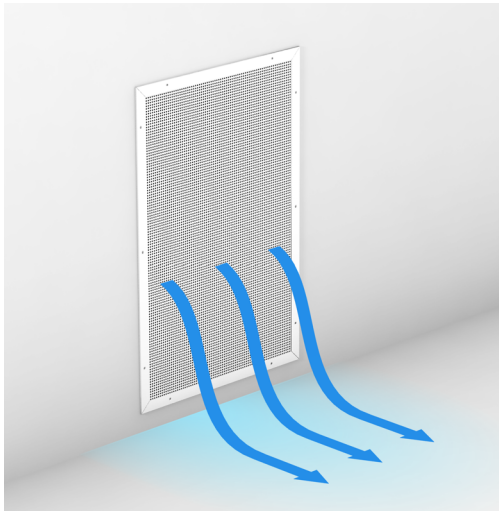
DFW
Displacement Flow In-Wall Diffuser

The Displacement Flow In-wall diffuser (DFW) supplies low velocity air in a 1-way pattern into the occupied zone. The DFW together with its plenum are designed to fit in a standard 4 in. deep stud wall. The DFW diffuser mounts flush to the wall surface and allow for more floor space, making them ideal for high occupancy areas such as classrooms, office spaces, restaurants, supermarkets, theaters, hotels, and convention centers.





DFW's installed in a classroom setting



DFW air pattern

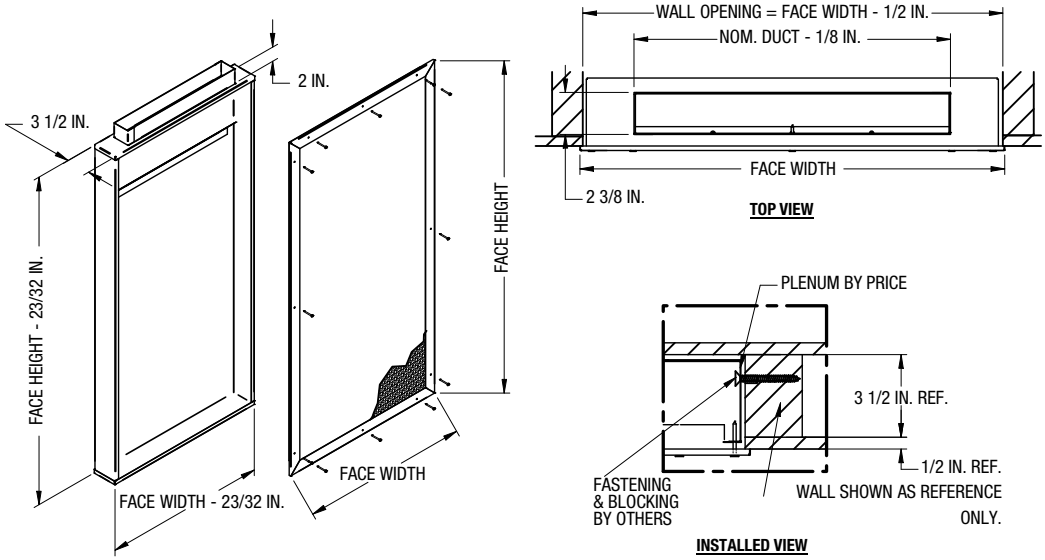
CONSTRUCTION

+ Material
  - Equalization baffle – Aluminum
  - Plenum, frame and perforated face – Steel
+ Options
  - Ships with protective film on face

- Stainless steel (304) face, frame, baffle, and plenum
- Standard finishes: Pure white (B11), White (B12), Aluminum (B15), Black (B17)
- Custom color to match

DIMENSIONAL DATA

DFW



Size:

+ Wall opening width = face width - 1/2 in.
+ Wall opening height = face height - 1/2 in.
+ Minimum face size 15 in. x 15 in.
+ Maximum face size 48 in. x 24 in.

Inlet Size:

+ For face width less than 20 in.: 12 in. X 2.5 in.
+ For face width greater than or equal to 20 in.: 18 in. x 2.5 in.
+ For face width greater than or equal to 22 in.: 20 in. x 2.5 in.

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	
							ΔT = 5 °F	ΔT = 10 °F	ΔT = 5°F	ΔT = 10°F
15 x 24	2.5 x 12	20	44	-	-	-	-	-	-	-
		30	66	-	-	-	-	-	-	-
		40	88	0.01	-	-	1	2	-	-
		50	109	0.02	0.01	-	3	5	2	3
15 x 30	2.5 x 12	20	55	-	-	-	-	-	-	-
		30	83	0.01	-	-	-	-	-	-
		40	111	0.02	0.01	-	1	3	-	1
		50	138	0.03	0.02	-	4	6	4	4
15 x 36	2.5 x 12	20	67	-	-	-	-	-	-	-
		30	100	0.01	-	-	-	1	-	-
		40	134	0.02	0.01	-	2	4	1	2
		50	167	0.04	0.02	-	5	7	5	6
15 x 48	2.5 x 12	20	90	-	-	-	-	-	-	-
		30	135	0.02	0.01	-	-	1	-	-
		40	180	0.04	0.02	-	3	5	3	4
		50	225	0.06	0.03	16	6	8	7	8
23 x 23	2.5 x 18	20	66	-	-	-	-	-	-	-
		30	99	0.01	-	-	1	2	-	-
		40	132	0.02	0.01	-	4	6	3	4
		50	165	0.04	0.02	-	7	9	7	8
23 x 30	2.5 x 18	20	87	-	-	-	-	-	-	-
		30	131	0.02	-	-	1	3	1	1
		40	175	0.04	0.02	-	5	7	5	6
		50	218	0.06	0.03	16	8	10	9	10
23 x 36	2.5 x 18	20	105	0.01	-	-	-	-	-	-
		30	158	0.03	0.01	-	2	4	1	2
		40	211	0.05	0.02	-	6	8	6	7
		50	264	0.08	0.03	20	9	11	10	11
23 x 48	2.5 x 18	20	142	0.02	-	-	-	1	-	-
		30	213	0.04	0.02	-	3	5	3	4
		40	284	0.08	0.03	21	7	10	9	9
		50	355	0.13	0.05	28	11	13	13	13
30 x 24	2.5 x 18	20	91	-	-	-	-	-	-	-
		30	137	0.02	0.01	-	2	4	1	2
		40	183	0.04	0.02	-	6	8	6	7
		50	228	0.06	0.03	17	9	12	10	11
36 x 24	2.5 x 18	20	110	0.01	-	-	-	1	-	-
		30	165	0.03	0.01	-	4	6	3	4
		40	221	0.05	0.02	-	8	10	9	9
		50	276	0.08	0.04	22	11	14	13	13
48 x 24	2.5 x 20	20	148	0.02	-	-	1	3	-	1
		30	223	0.04	0.01	-	6	9	7	8
		40	297	0.07	0.03	22	11	13	12	13
		50	371	0.11	0.04	29	14	17	16	17

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. ΔT 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^2, 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.

price | DISPLACEMENT

® Price is a registered trademark of Price Industries Limited. © 2018. Printed in Canada. v001