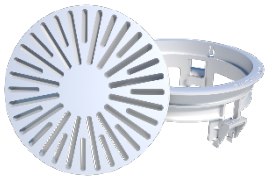
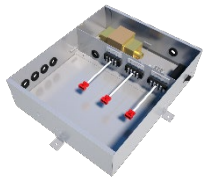


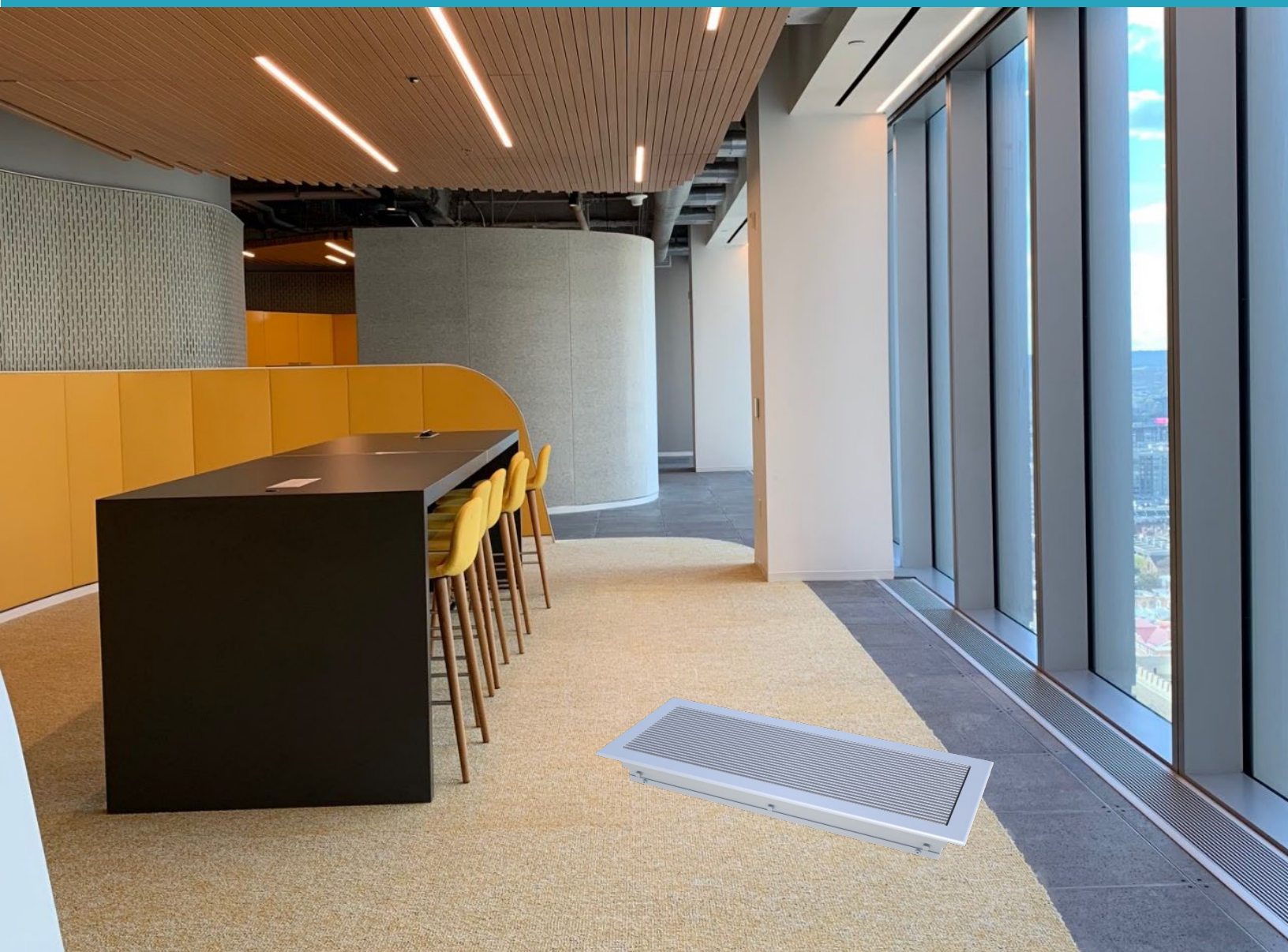




GLOBAL IFS®

Underfloor Air Distribution System

Displacement Bar Grille (DBG)



SYSTEM OVERVIEW

The Displacement Bar Grille (DBG) is a floor mounted linear displacement grille that supplies low velocity discharge air from an underfloor plenum or a ducted supply into the occupied zone. The DBG is best suited for linear perimeter applications and is typically used in raised floors, floor cavities or on the top of sills. The low noise levels combined with the sleek look of the diffuser make it suitable for office spaces, places of worship, galleries, schools or any application requiring a comfortable, quiet space.

Features

- Pressed and mandrel cores
- Choice of deflection angle and blade spacing
- Pencil and heel-proof spacing available
- Spring clip and counter-sunk screw fastening types
- Optional directional vanes (DV1) providing up to 60 degree deflection
- Various finish options

Superior Construction

Made from Aluminum extruded frame with reinforcing support bars and aluminum perforated baffle

Variety of core styles and fasteners

1- or 2-way discharge patterns

Variety of finishes and custom color matches available

Flexibility in Design

Multiple section lengths are provided with alignment space plates

Sizes ranging from 12” – 72” lengths

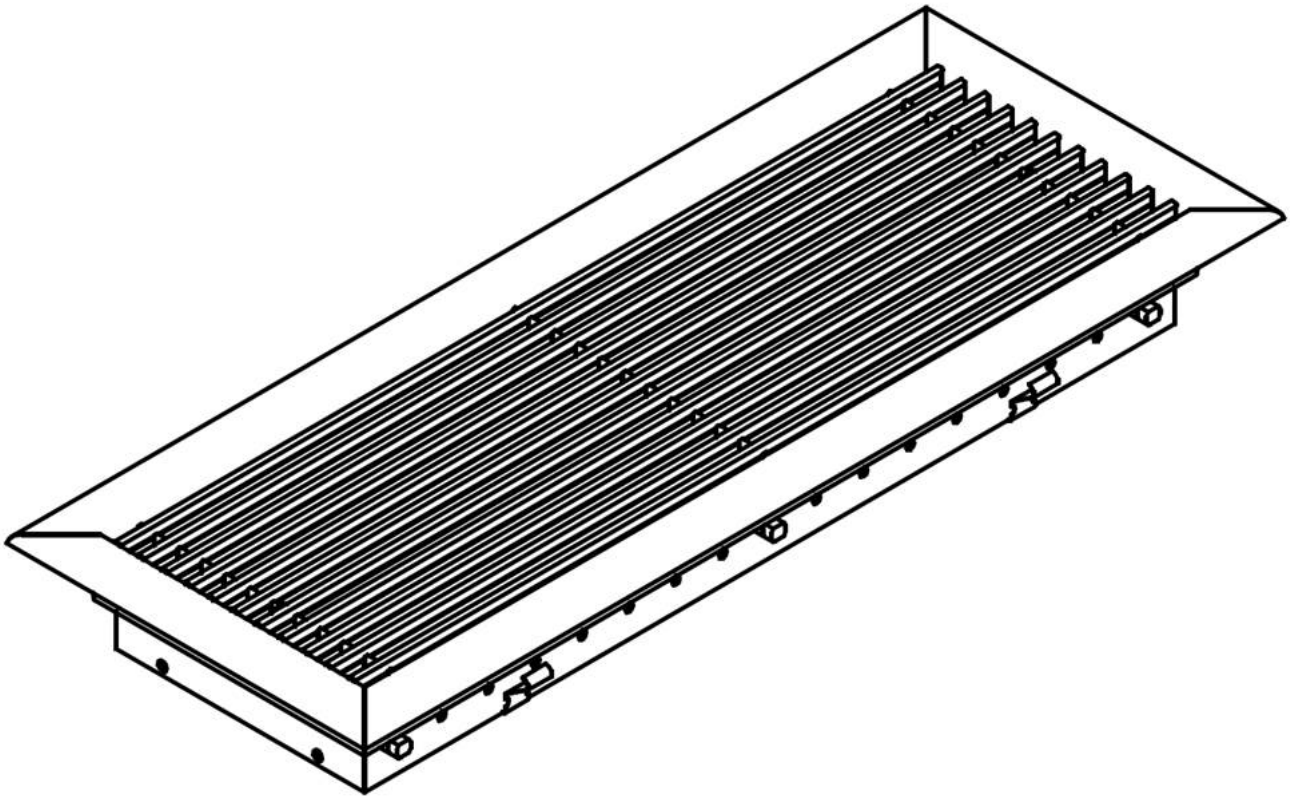
Widths ranging from 6” – 12”

Many core options available

PRODUCT APPLICATION

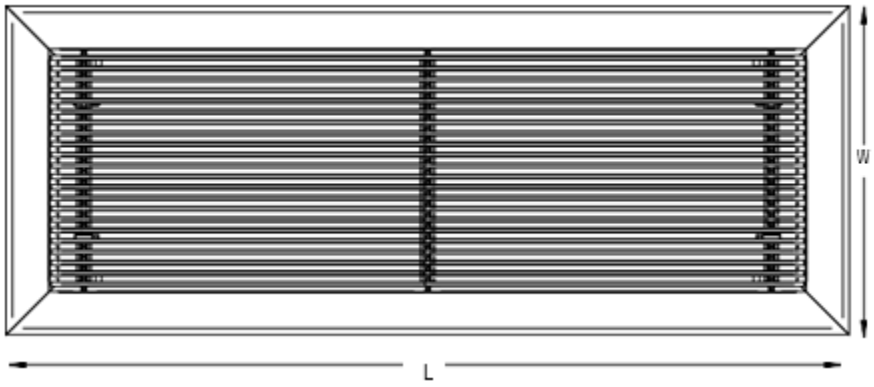
The DBG can withstand regular foot traffic. This makes them well suited for offices, lobbies, schools and universities with raised floor or trench systems along the perimeter. Plenum options allow for ducted, cooling, and heating applications.

DBG 1000 Series Frame



DIMENSIONAL DATA

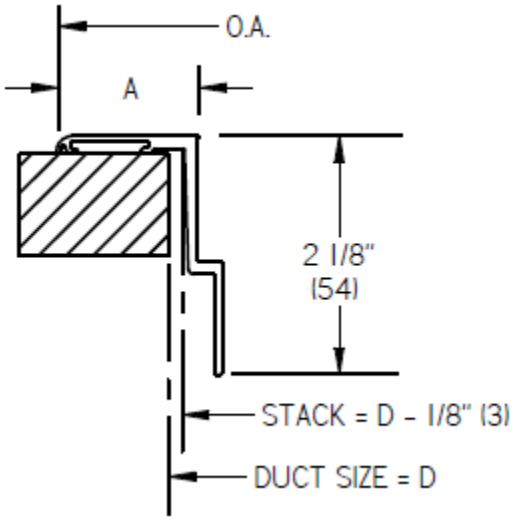
Frame Dimensions



Widths range 6” – 12”

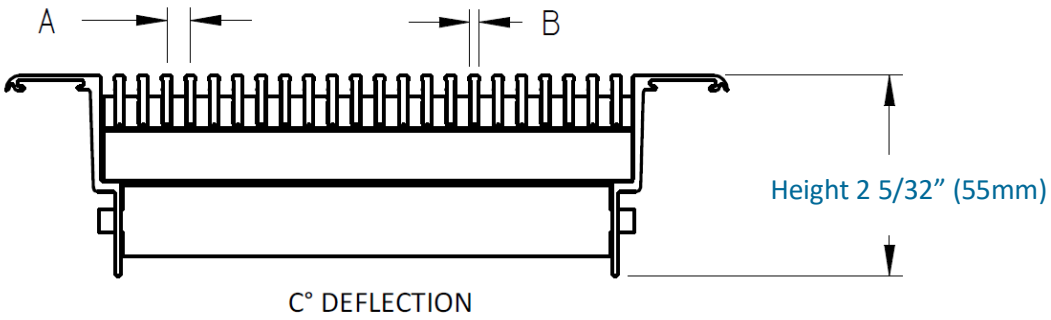
Lengths range 12” – 72”

Border Dimensions



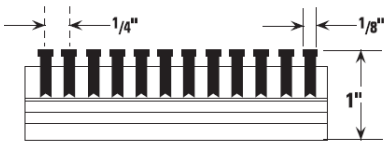
Border Style	Border Width A (in.)	Overall OA (in.)
750	3/4" (19mm)	Duct size + 1 1/8 (29mm)
1000	1” (25mm)	Duct size + 1 5/8 (41mm)
1250	1 1/4" (32mm)	Duct size + 2 1/8 (54mm)

Core Styles

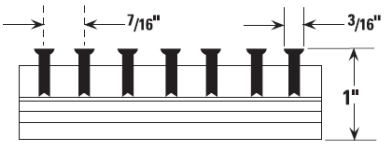


Core Style	Spacing Between Vanes (A)	Vane Thickness (B)	Deflection (C)
15A	1/4” (6mm)	3/32” (2mm)	0
16A	1/4” (6mm)	1/8” (3mm)	15
25C	7/16” (11mm)	3/16” (5mm)	0
26C			15
27C			30

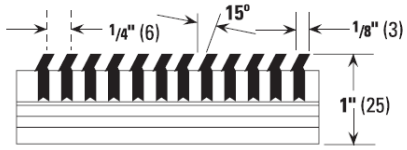
Narrow Bar Spacing
Core 15A 0° Deflection



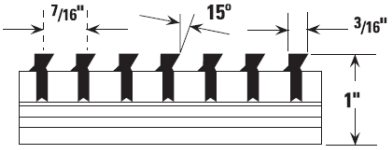
Pencil Proof Bar Spacing
Core 25C 0° Deflection



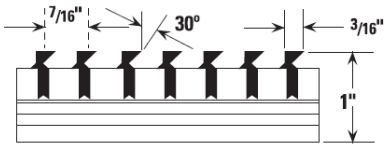
Core 16A 15° Deflection



Core 26C 15° Deflection



Core 27C 30° Deflection



PERFORMANCE DATA

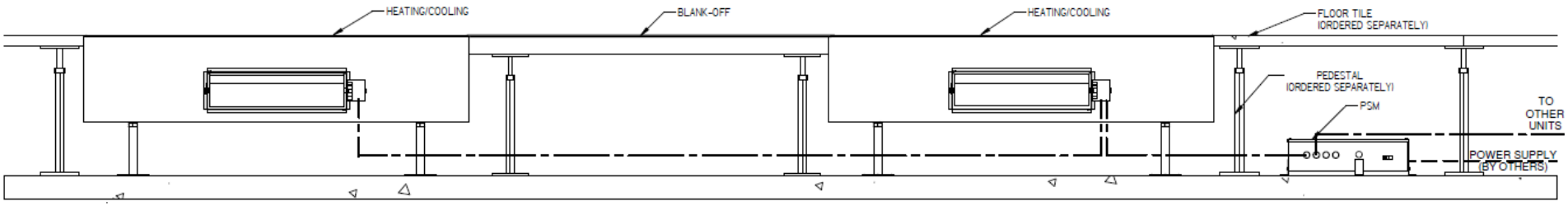
Unit Size L x W [in]	Face Velocity [fpm]	Air Flow [cfm]	Total Pressure [in. w.g.]	Static Pressure [in. w.g.]	Noise Criteria [NC]	Proximity to Outlet [ft] DR 20%		Adjacent Zone	
						ΔT = 5 °F	ΔT = 10 °F	DT = 5°F	DT = 10°F
24 x 12	20	38	-	-	-	-	-	-	-
	30	57	-	-	-	-	-	-	-
	40	76	0.01	0.01	-	-	-	-	-
	50	95	0.02	0.02	-	-	-	-	-
48 x 12	20	77	-	-	-	-	-	-	-
	30	115	-	-	-	-	-	-	-
	40	154	0.01	0.01	-	-	-	-	-
	50	192	0.02	0.02	-	-	1	-	-
72 x 12	20	116	-	-	-	-	-	-	-
	30	173	-	-	-	-	1	-	-
	40	231	-	-	-	-	2	-	1
	50	289	0.01	0.01	-	-	4	1	3

Performance Notes

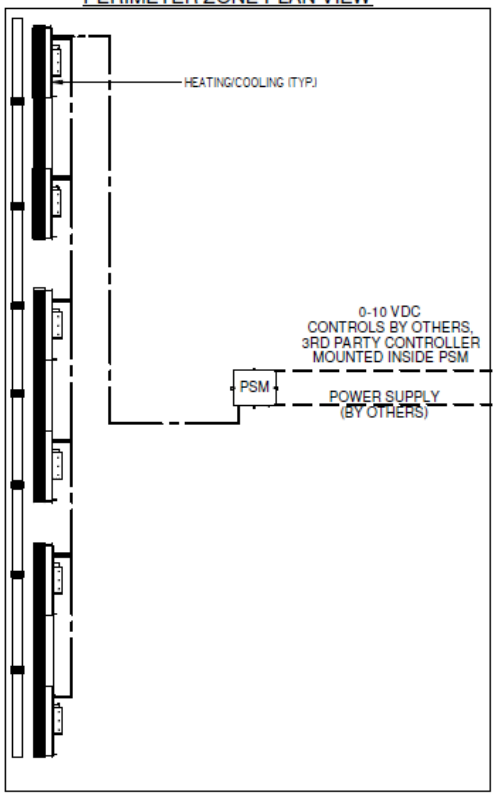
1. Sound and pressure drop tested in accordance with ASHRAE Standard 70-2006 (RA 2011) "Method of Testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cubic feet per minute, cfm.
3. Pressure is in inches of water, in. w.g.
4. The NC values, sound pressure level, are based on a room absorption of 10 dB, re 10^{-12} watts and one diffuser.
5. ΔT is the difference between the room air temperature 3½ 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 55-2013, 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/1000 ft^2, which is the default occupancy density for classrooms (ages 5-8) given by ASHRAE 62.1-2013. 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.

TYPICAL PERIMETER ZONE DETAIL

PERIMETER ZONE



PERIMETER ZONE PLAN VIEW



NOTES:
1. VARIABLE AIR VOLUME UNITS DAISY CHAINED WITH M-CABLES
2. ALL CABLES USED IN PLENUM MUST MEET PLENUM RATING REQUIREMENTS
3. STANDARD CABLE LENGTH OF 25 FT (15 AND 35FT CABLES AVAILABLE AS NEEDED)

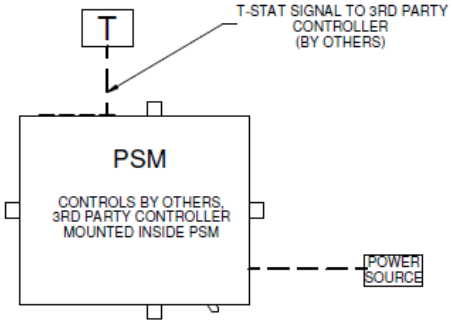
POWER SUPPLY MODULE (PSM):
- PLUG AND PLAY BOARD FOR USE WITH ZONE CONTROLLERS BY OTHERS
- ZONE CONTROLLERS FIELD INSTALLED BY BAS CONTRACTOR
- CONTROL DAMPER POSITION PROPORTIONALLY BASED ON 0-10 VDC INPUT SIGNAL SEPARATE SIGNALS FOR COOLING ONLY AND HEAT/COOL UNITS
- MAX 6 UNITS PER LINE
- 6-PIN MTA CONNECTOR, ACCEPTS COMMON OR UNIQUE 0-10 VDC INPUT SIGNAL PER CONNECTOR

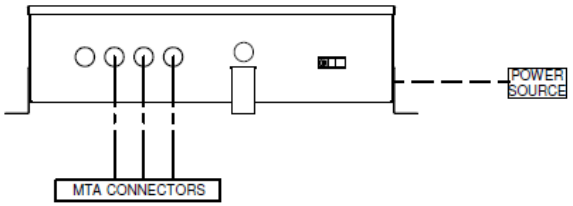
OPTIONS:
☐ 50VA TRANSFORMER, 2 MTA CONNECTORS (MAX 10 DEVICES)
☐ 50VA TRANSFORMER, 1 MTA CONNECTOR (MAX 10 DEVICES)

WIRING:
- PLACE PSM UNDER TILE NEAR CENTER OF ZONE. COORDINATE LOCATION AVOID PLACING UNDER FURNITURE
- WIRE EACH PORT TO THE CLOSEST AVAILABLE UNIT, THEN PROCEED WITH DAISY CHAINING ADDITIONAL UNITS

PERIMETER UNIT:
☐ PBT
☐ PNT
☐ PFT
☐ HHT

POWER SUPPLY:
☐ 115V
☐ 240V
☐ 277V





WIRE LEGEND

BY ELECTRICAL CONTRACTOR

MODULAR PLUG & PLAY CABLES
(BY GIFS)