

# METAL\*AIRE®



## formations™

TAKE FLIGHT.

**Revised: 10-05**

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At METALAIRE, we value the working relationships we've developed with some of the world's best known and well run corporations. We're proud to have had the opportunity to work on some great projects with great people. Our experience has taught us that by focusing on our customers' needs and listening to what they want, we're able to respond effectively and provide total solutions to meet their air distribution needs. Our superior quality products, technical expertise and support, and corporate commitment to customer service are reasons why our customers depend on us everyday to help them succeed. Our experience shows and our customers count on it.

**METALAIRE**

**Experience Aire Superiority.**







formations

## **LINEAR AIR DIFFUSERS**

Your dream has become reality.

Now you can intergate your imaginative

design concepts into functional

architectual solutions. Style. Performance.

Aesthetics. Brought together utilizing the

elegant lines and graceful curves

of Formations Linear Air Diffusers.

**You design with Formations,**

**not around it.**

Create dramatic and functional in Interior

space that is also cost-effective.

◀ **BEFORE** With conventional  
diffusers your design options  
are limited.

The sculptured elegance of Formations

integrates seamlessly into your design

with an ease of installation and a

superior level of performance

**Formations enhances your**

**design concept**

by providing optimum air flow patterns

not available with traditional diffusers.

Formations accommodates supply, return and

exhaust air all through elegantly

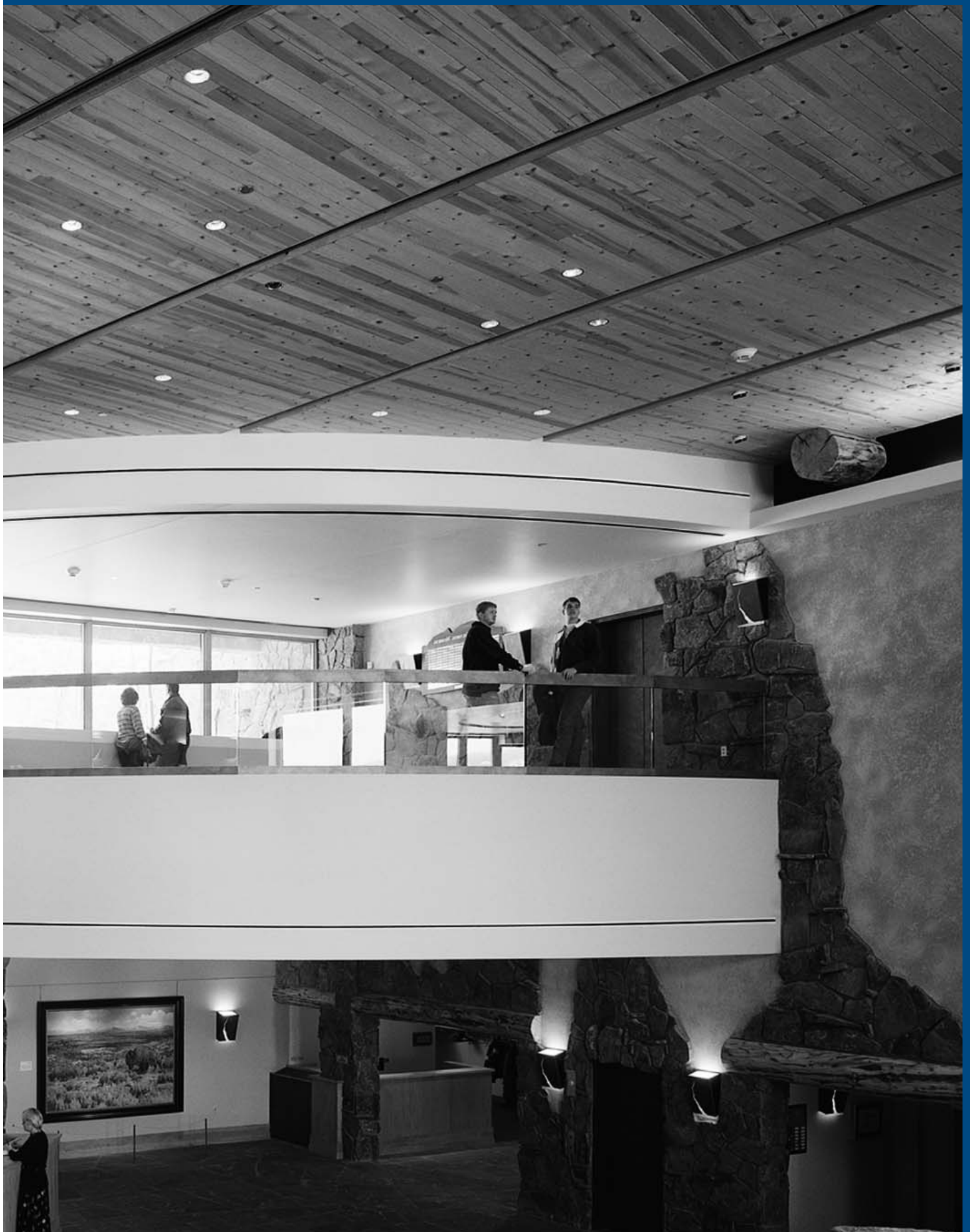
shaped slots. Beautifully smooth

transitions from wall to ceiling provide

visual polish and distinction.

**AFTER** Formations integrates air  
distribution into your design.











Straight lines, angles, simple or complex

curves... METALAIRE can custom fabricate

Formations to meet your most demanding visual and

spatial air distribution requirements.

Formations linear air diffusers can be

configured to provide a variety of

vertical, diagonal and horizontal air flow

patterns. Formations unique design conserves energy

while delivering excellent air circulation without

unwelcome drafts or dead zones.

▼ Formations allows you total flexibility.

Formations is fabricated of sturdy,  
rigid extruded aluminum for  
decades of trouble-free, low maintenance  
operation and lasting beauty. They can  
be mounted with most building materials, in  
any plane and in conjunction with  
most structural elements, using standard construction techniques.

**Formations products are designed to  
be integrated into the ceiling or wall,**

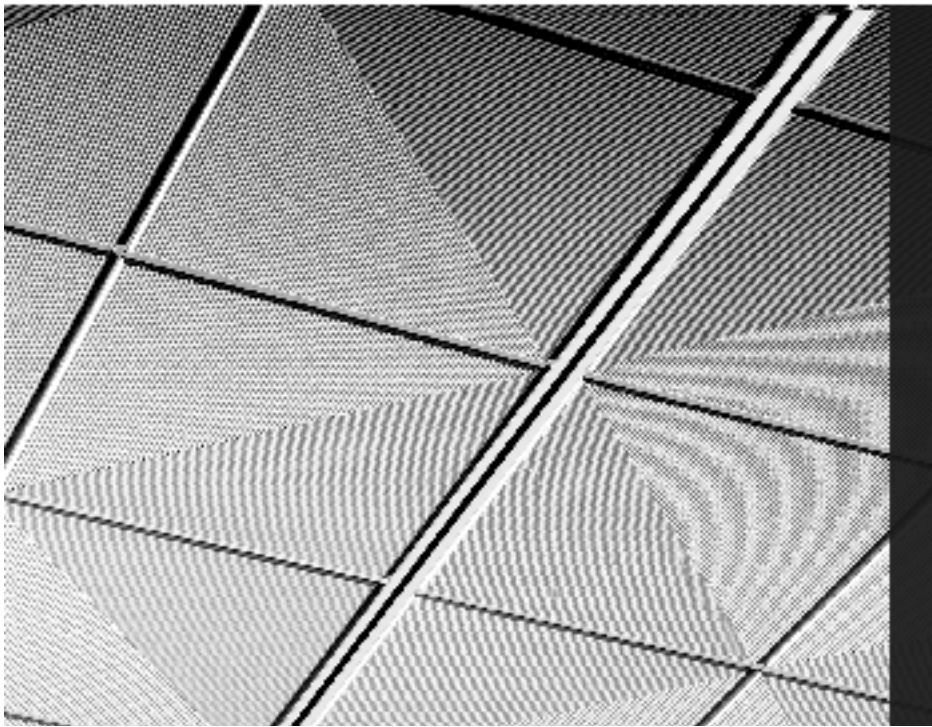
not after-thoughts or add-ons.

Formations helps bring your dream  
to reality...beautifully.









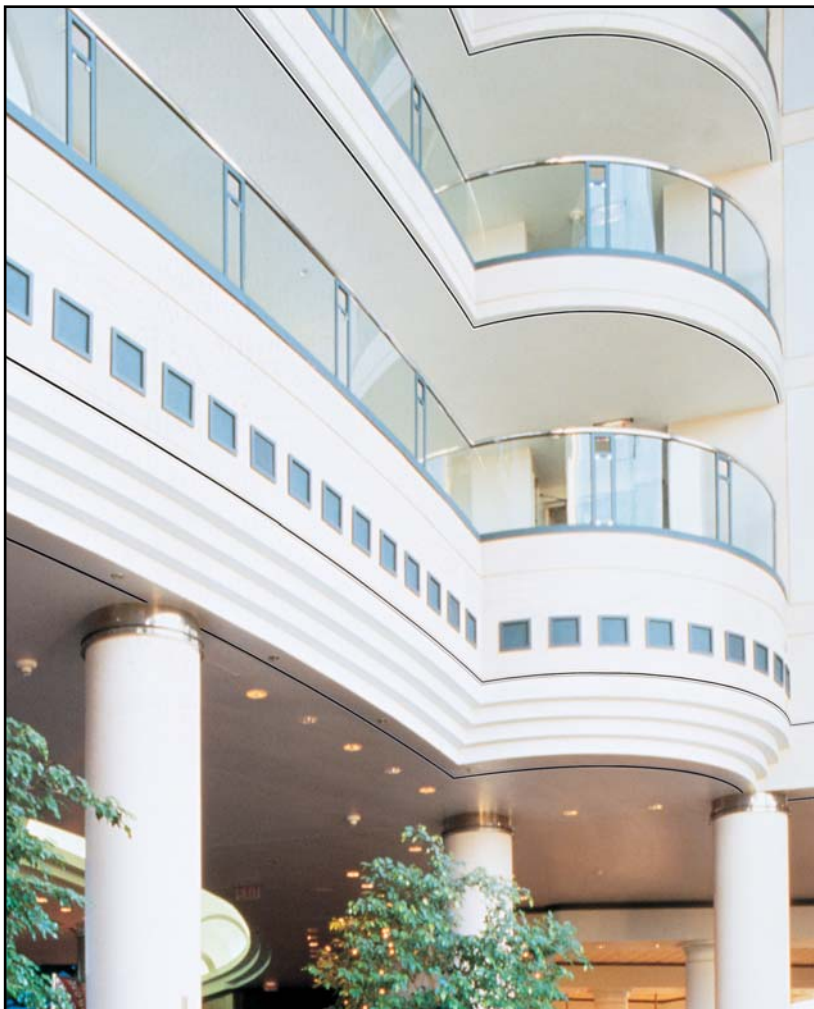
Formations is available in linear, incremental linear and square configurations. The refined lines and visual architectural appeal of Formations makes it ideal for integration into any ceiling system. In acoustical applications, Formations actually becomes the Main runner of the suspension system.

As an incremental "lay-in" diffuser, Formations is available in a 2'x2' configuration or in 2', 3' and 5' linear sections. Formations 2'x2' is called Integra.

With Integra your specified ceiling material actually becomes the face of the diffuser for a truly integrated appearance. Incremental linear is called Formations Tee System and is available for 15/16", 9/16" and Bolt-slot tee systems. Unlike conventional linear diffusers which are usually installed after the ceiling system is in place, Formations can become an integral part of the ceiling system.







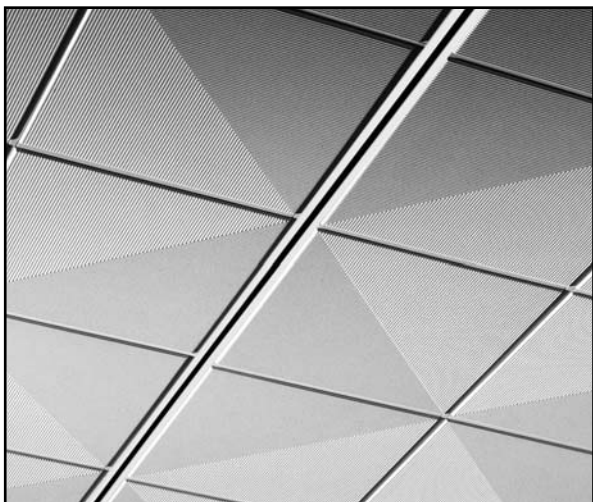
Formations® Linear satisfies the most demanding engineering and architectural criteria, providing both superior air distribution performance and sculptured elegance. Specially designed air pattern controllers are easily adjustable to satisfy a myriad of applications. Available in 24" increments, pattern controllers allow the air flow to be directed horizontally, to the left, right or vertically. Formations Linear is available for straight or curved applications. For both ceiling and wall installations, architecturally seamless effects are achieved with unique 12' sections. Standard slot widths of 1", 1.5", 2", 2.5" and 3" are available. Speedy installation is easy with our state-of-the-art mounting hardware. Our innovative design saves on installed costs and ensures a straight and true installation.

#### MODELS

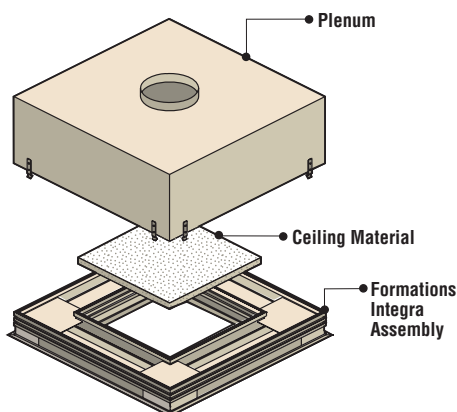
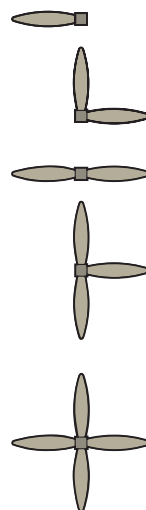
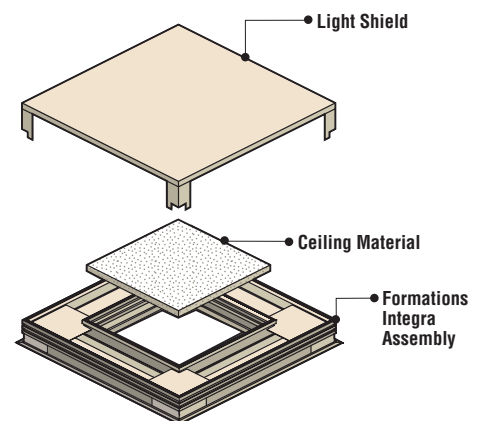
**FAL-10** • 1" SLOT

**FAL-15** • 1.5" SLOT  
**FAL-20** • 2" SLOT

**FAL-25** • 2.5" SLOT  
**FAL-30** • 3" SLOT



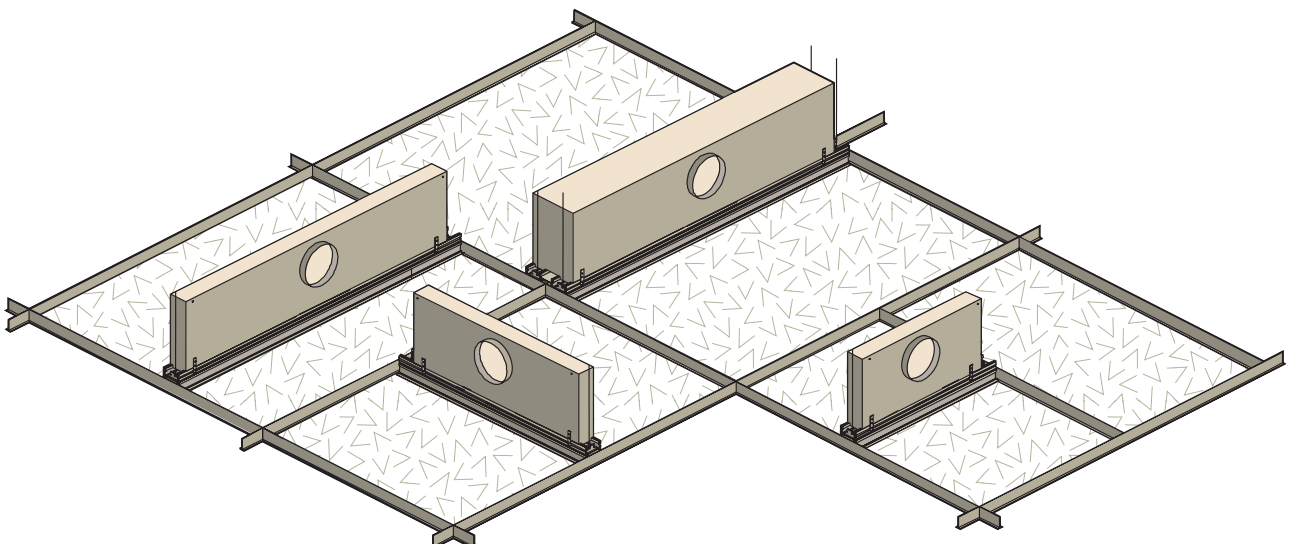
The beauty of Formations Integra is in its design. Laying in an acoustical tee bar or hard ceiling, your specified ceiling material actually becomes the face of the Integra diffuser, providing beautiful design integrity. Integra is available in 1", 1.5" and 2" slot widths. Constructed of the same sturdy extruded aluminum as Formations Linear, Integra diffusers are available for either supply or return solutions and can be adjusted for one, two, three or four-way directional air flow. Horizontal or vertical air patterns are available.

**INTEGRA SUPPLY****OPTIONAL SUPPLY AIR PATTERNS****INTEGRA RETURN**

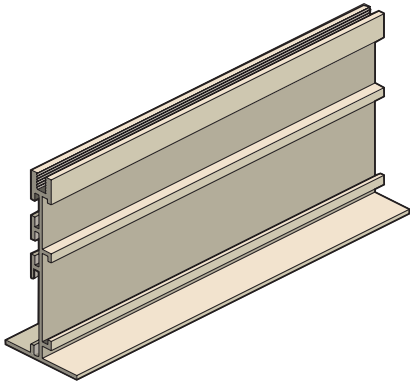




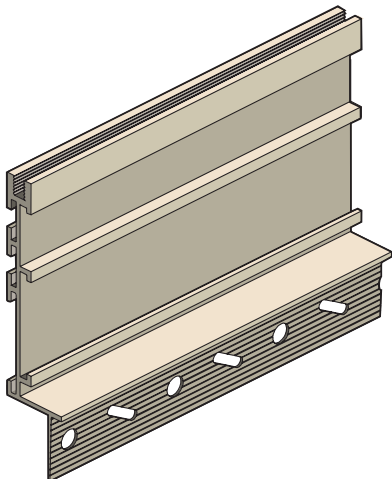
The Formations Tee System is an incremental diffuser created from the Formations Linear diffuser. Available in 2', 4' or 5' lengths, with an integral plenum, the Formations Tee System ensures your diffuser fits tightly into your 15/16", 9/16" or Bolt-slot suspension system for a sleek, clean appearance. A perfect choice for installation in an acoustical ceiling, the Formations Tee System is easily repositioned, providing great flexibility. Manufactured in pre-engineered lengths, the Tee System is available in 1", 1.5" and 2" slot widths.



**FORMATIONS TEE SYSTEM OPTIONS**

**BORDER A**

Our most versatile Formations border option, Border A is ideal for either hard or acoustical ceilings, as well as any sidewall application. Border A provides you with total freedom to incorporate bends and curves in any direction, which means you can select any air flow pattern for maximum comfort, and design without restrictions.

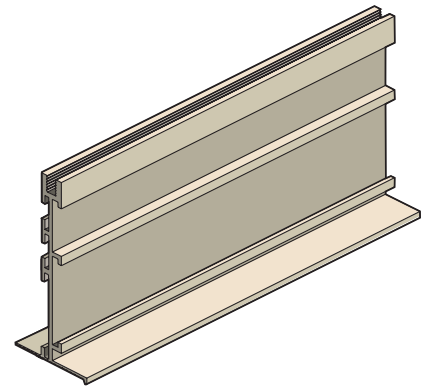
**BORDER B**

For beautifully smooth transitions, Border B lets you hide Formations where ceilings and walls intersect. Because a speedy installation saves everyone time and money, we've incorporated a specially designed leg, to ensure a quick, professional finish.





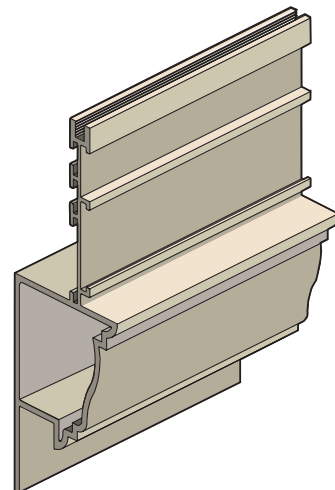
**BORDER C**



Invisible by design, Border C is a great option when you choose to completely hide your Formations diffuser. Cover the flange of Border C with drywall tape and spackle for a totally concealed installation. All that's visible is a very sleek, beautiful black line.

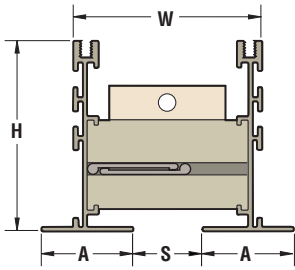
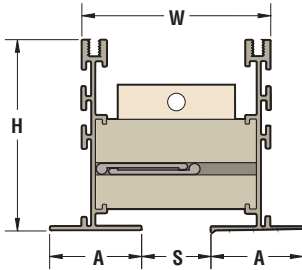
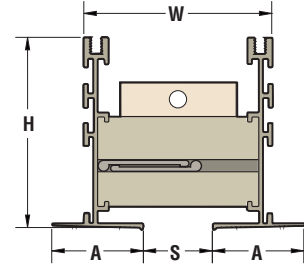
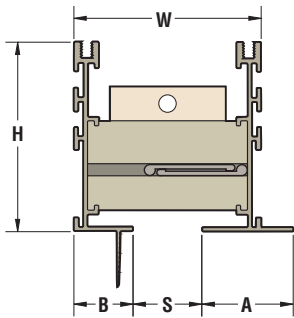
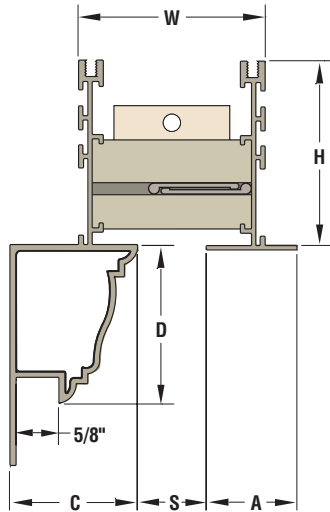
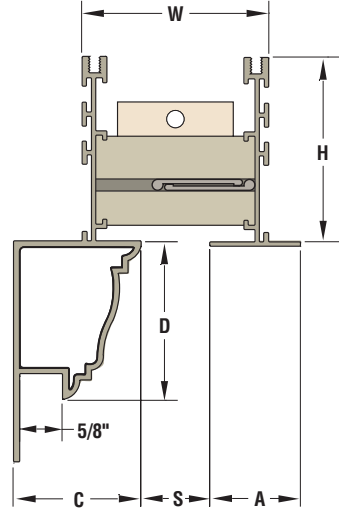
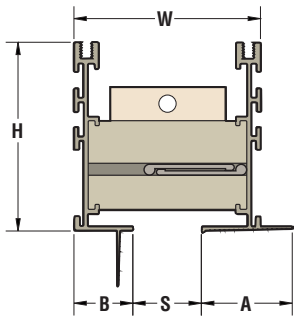


**BORDER D**



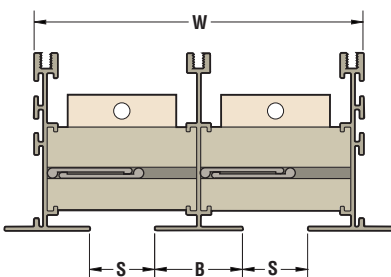
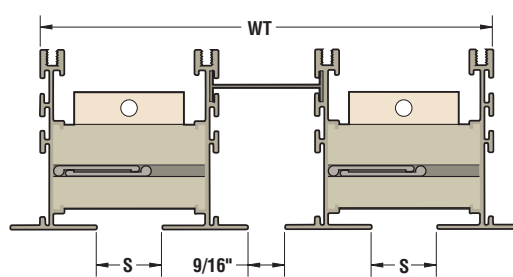
When you want to go beyond concealing to creating a touch of elegance, Border D (patented) provides a fluid integration with wall and ceiling transitions by uniquely disguising the diffuser as a design element. Crown molding, wood trim, marble finish or any of a variety of options... Border D provides a clean, elegant style you'll only find with Formations.



**BORDER AA****BORDER AC****BORDER CC****BORDER BA****BORDER DC****BORDER DA****BORDER BC**

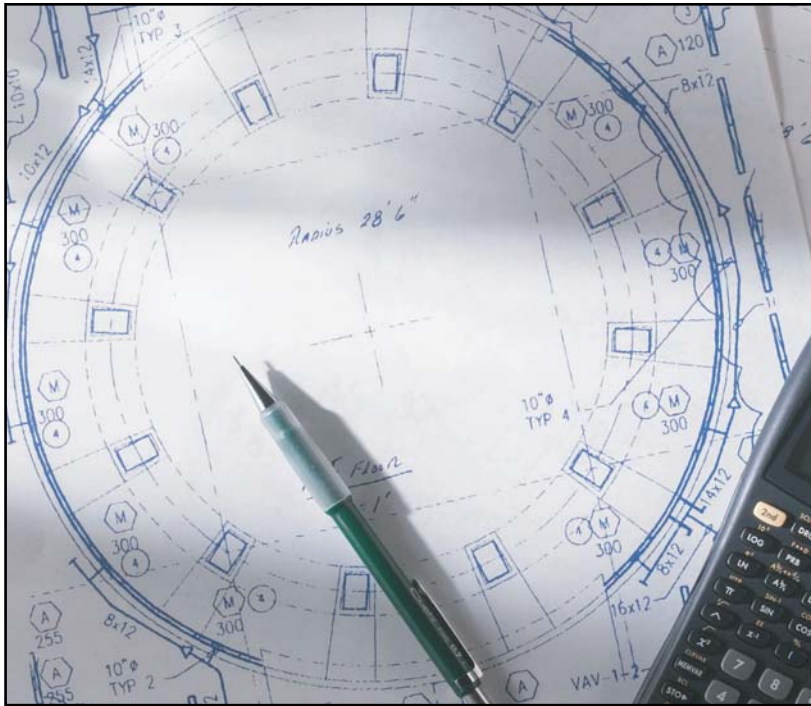
MODEL	S SLOT WIDTH	W WIDTH	A BORDER WIDTH	B BORDER WIDTH	H HEIGHT	C BORDER D WIDTH	D BORDER D HEIGHT
FAL-10	1	2 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>16</sub>	<sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	1 <sup>7</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>16</sub>
FAL-15	1 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	1 <sup>9</sup> / <sub>16</sub>	1 <sup>1</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	-----	-----
FAL-20	2	4 <sup>3</sup> / <sub>4</sub>	1 <sup>13</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>16</sub>
FAL-25	2 <sup>1</sup> / <sub>2</sub>	5 <sup>3</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>16</sub>	-----	-----
FAL-30	3	6 <sup>3</sup> / <sub>4</sub>	2 <sup>5</sup> / <sub>16</sub>	1 <sup>7</sup> / <sub>8</sub>	3 <sup>5</sup> / <sub>8</sub>	-----	-----

All dimensions in inches.

**TWO SLOT****BORDER AA 2 SLOT****BORDER AA 2T SLOT**

MODEL	S SLOT WIDTH	B BORDER WIDTH	W WIDTH	WT WIDTH
FAL-10	1	1 <sup>3</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>8</sub>	6 <sup>15</sup> / <sub>16</sub>
FAL-15	1 <sup>1</sup> / <sub>2</sub>	1 <sup>7</sup> / <sub>8</sub>	7 <sup>1</sup> / <sub>8</sub>	8 <sup>15</sup> / <sub>16</sub>
FAL-20	2	2 <sup>3</sup> / <sub>8</sub>	9 <sup>1</sup> / <sub>8</sub>	9 <sup>15</sup> / <sub>16</sub>
FAL-25	2 <sup>1</sup> / <sub>2</sub>	2 <sup>7</sup> / <sub>8</sub>	11 <sup>1</sup> / <sub>8</sub>	11 <sup>15</sup> / <sub>16</sub>
FAL-30	3	3 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>8</sub>	13 <sup>15</sup> / <sub>16</sub>

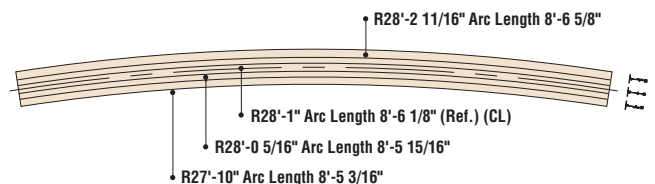
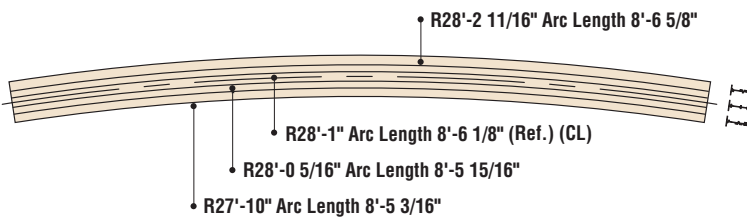
All dimensions in inches.



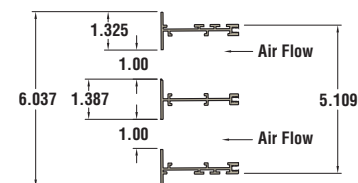
Design with Formations, not around it. The possibilities are endless. We can curve our Formations Linear Diffusers to accent ceilings and walls or complement your custom designs. Using a stretch form process, we individually curve each piece to match the required radius ensuring a uniform curve without ripples or curves on the face of the diffuser. With Formations, you can combine imaginative design with architectural solutions. The only limitation is your imagination.

**“YOU DREAM IT...**  
**METALAIRE WILL MAKE IT REALITY.”**

Show us an architectural drawing of your concept. We'll engineer it and show you how METALAIRE can fulfill your design dreams.



#### FACE VIEW

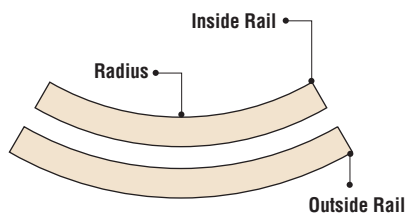
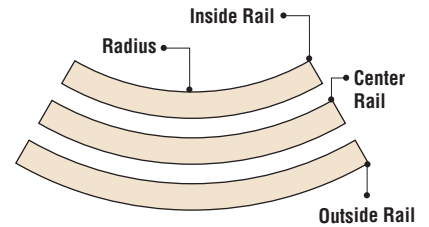
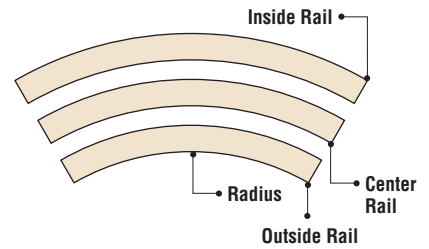
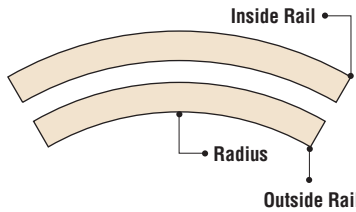


#### VIEW ENLARGED

**CEILING ORIENTATION**

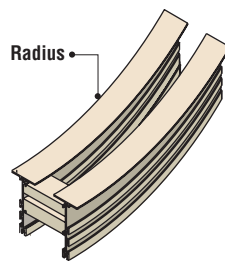
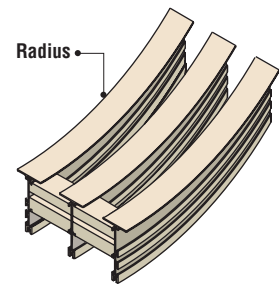
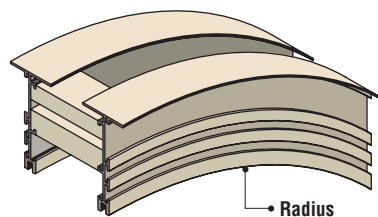
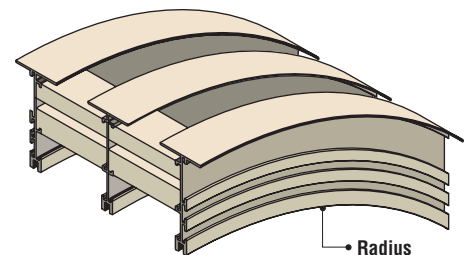
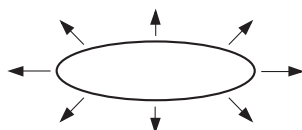
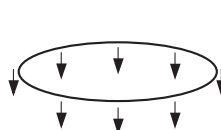
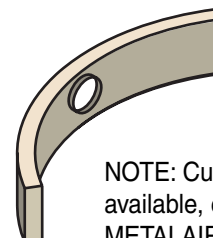
One slot ceiling orientations are available in slot widths of 1", 1 1/2", 2" and 2 1/2" (3" slot width is not available curved). Borders available are: AA, BA, BC, CC.

Two slot ceiling orientations are available in slot widths of 1", 1 1/2", 2" and 2 1/2" (3" slot width is not available curved). Border available is: AA.

**ONE SLOT****TWO SLOT****WALL ORIENTATION**

One slot concave and convex wall orientations are available in slot widths of 1", 2" and 2 1/2" (3" slot width is not available curved). Borders available are: AA, BA, BC, CC.

Two slot concave and convex wall orientations are available in slot widths of 1", 1 1/2", 2" and 2 1/2" (3" slot width is not available curved). Border available is: AA.

**ONE SLOT CONVEX****TWO SLOT CONVEX****ONE SLOT CONCAVE****TWO SLOT CONCAVE****DIRECTION OF AIR FLOW****INSIDE****OUTSIDE****DOWN**

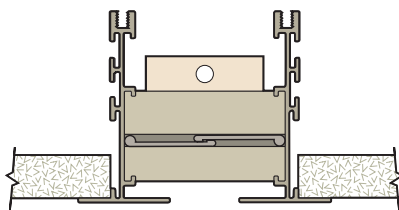
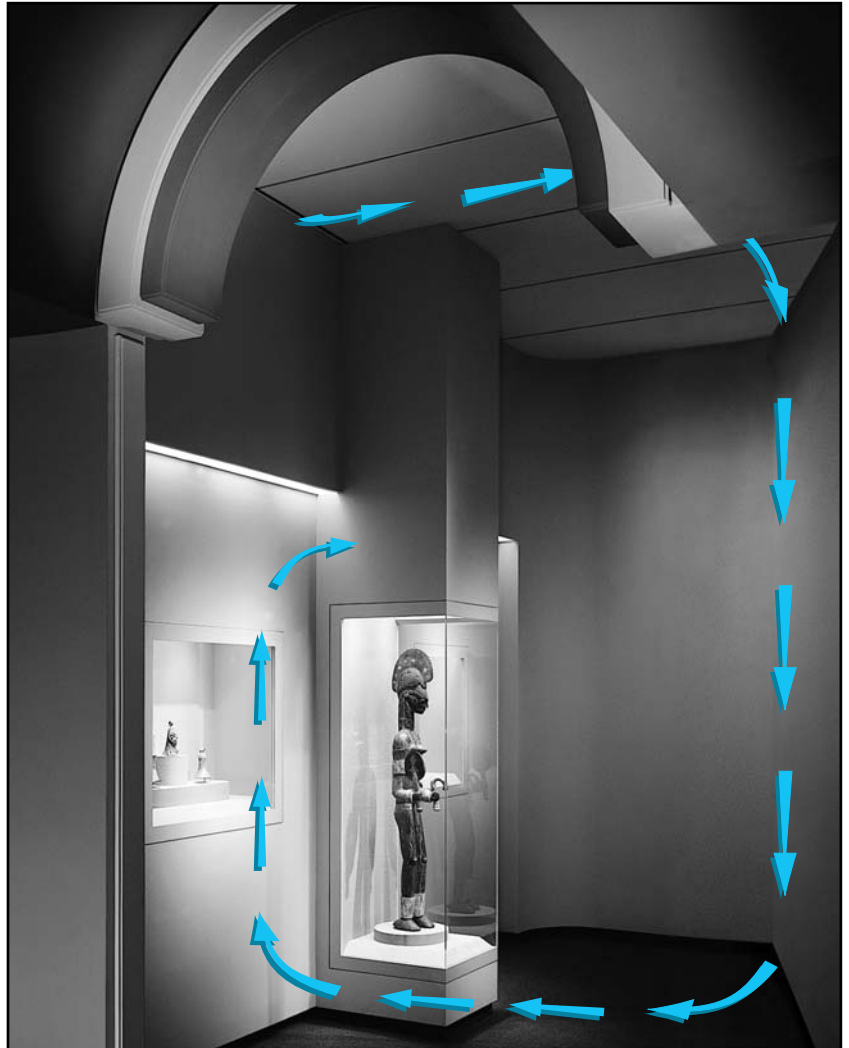
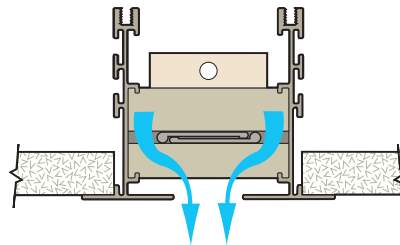
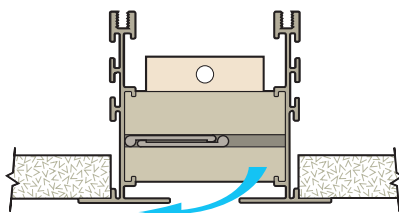
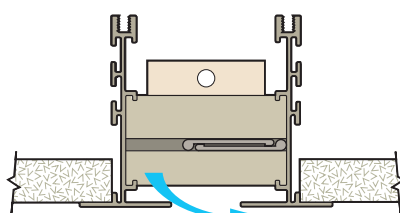
NOTE: Curved plenums are available, contact your METALAIR representative.





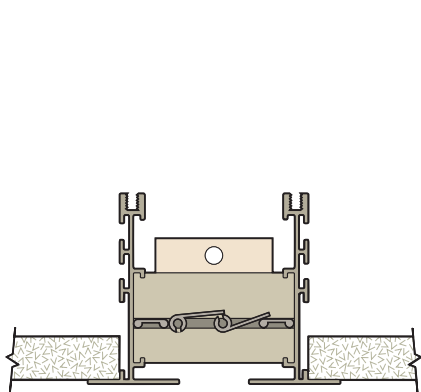
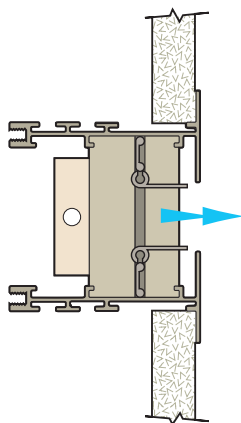
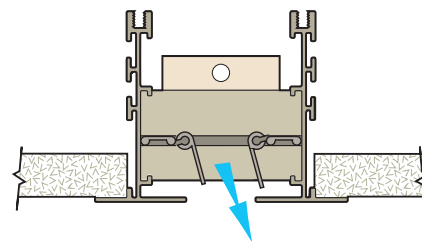
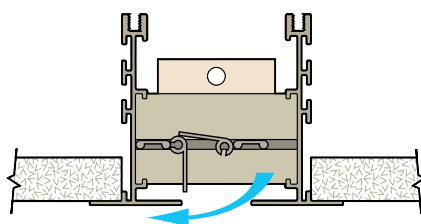
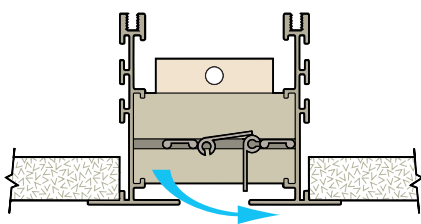
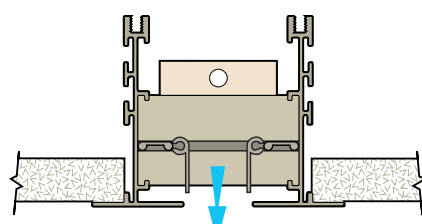
formations™

Our Standard Pattern Controller is extremely versatile and fully adjustable, and is available for all Formations diffusers. Providing maximum comfort for every room occupant, this controller is typically used to throw air along the ceiling, out of the occupied zone, providing excellent mixing with the room air, at low and high velocities. The Standard Pattern Controller can be adjusted to meet most applications and can direct supply air to the right, left or vertically in 2' increments. Appropriate to use when the diffuser is being used in a return, supply or exhaust mode, the Standard Pattern Controller can also act as a damper when fully closed.

**FULLY DAMPERED****VERTICAL****LEFT****RIGHT**



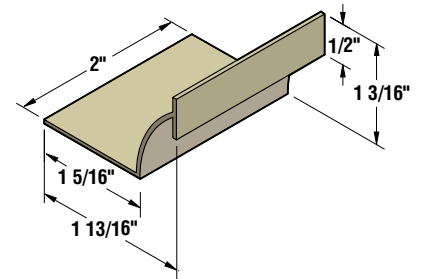
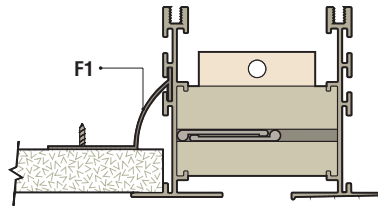
The Formations Combo Pattern Controller, Patent 6,386,970, is a unique state-of-the-art solution offering unequalled flexibility. The Combo Pattern Controller allows adjustment to the air stream in the field, for optimum performance and comfort. Superior performance is obtained both in sidewall and high-bay applications, as well as in any standard ceiling application. With Formations Combo Pattern Controller you always have flexibility to choose, on the job site, the most effective pattern controller adjustment. Combo Pattern Controller is available in straight sections only.

**FULLY DAMPERED****SEIOWALL****VERTICAL OFFSET****LEFT****RIGHT****VERTICAL**

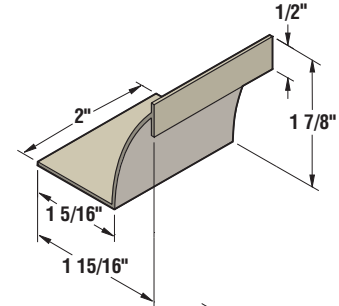
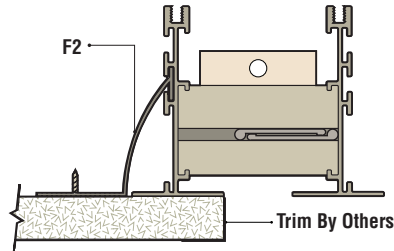


**F1 MOUNTING HARDWARE**

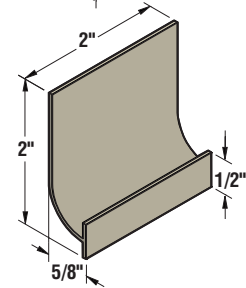
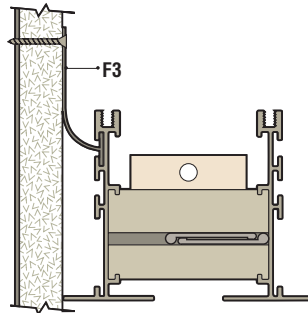
Mounting hardware F1 is typically used with Border A or Border C for hard ceiling installations, when mounting to a standard 5/8" gypsum board ceiling is required.

**F2 MOUNTING HARDWARE**

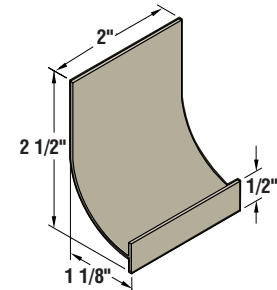
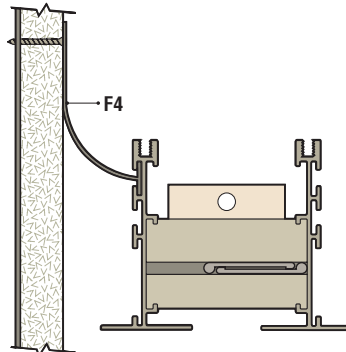
The F2 hardware is used to mount a hard ceiling over the face of Border A.

**F3 MOUNTING HARDWARE**

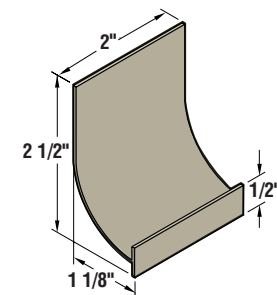
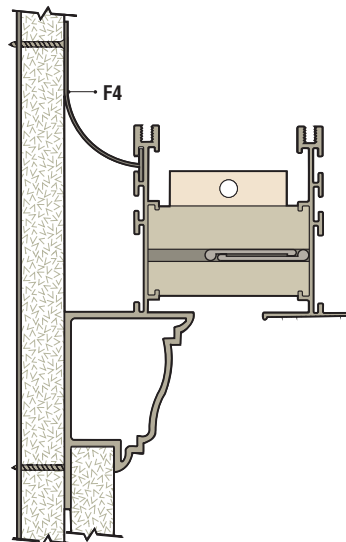
F3 mounting hardware is used to mount Border A for sidewall applications.

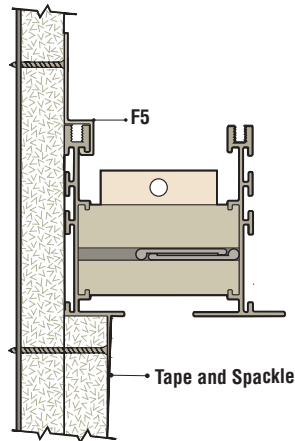
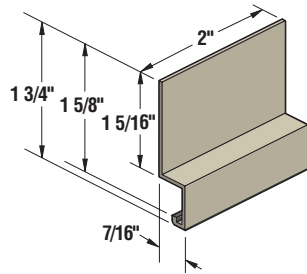
**F4 MOUNTING HARDWARE**

F4 mounting hardware is used to mount Border A along the perimeter of a ceiling with a return air slot.

**F4 MOUNTING HARDWARE**

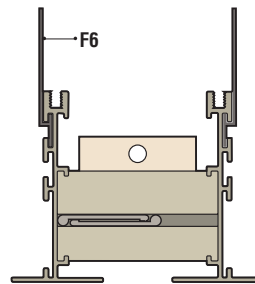
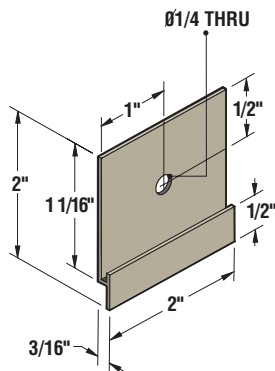
Mounting hardware F4 is used to flush mount Border D against a sidewall.





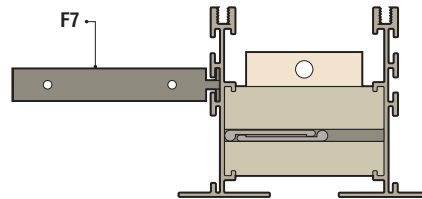
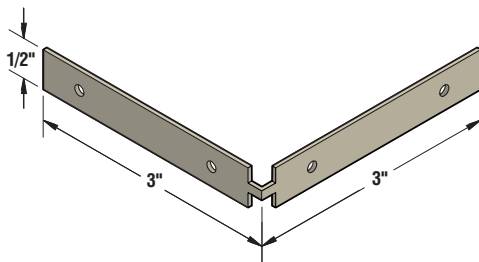
### F5 MOUNTING HARDWARE

Mounting hardware F5 is used to flush mount Border B against a sidewall.



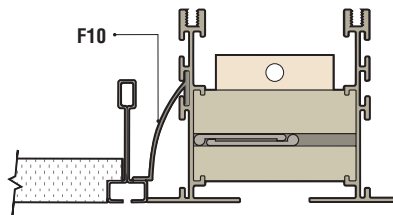
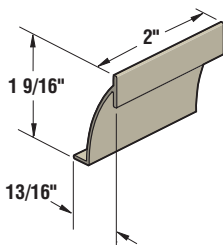
### F6 MOUNTING HARDWARE

F6 mounting hardware is used for easy suspension of the Formations unit from the structure. The clip is designed to utilize standard hanger wire.



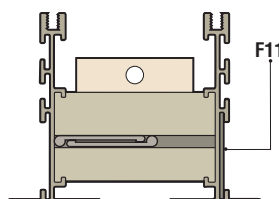
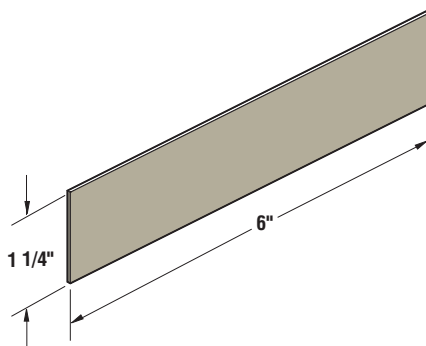
### F7 MOUNTING HARDWARE

Mounting hardware F7 can be used to integrate the Formations assembly into an acoustical suspension system. The F7 clip is field formed and attached to the cross tees.



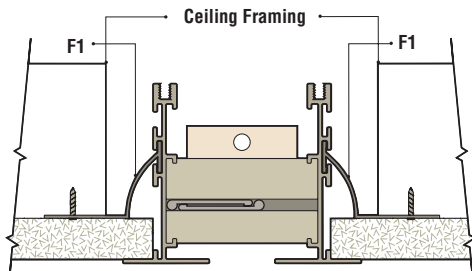
### F10 MOUNTING HARDWARE

F10 mounting hardware is used to align the Formations diffuser surface in a Bolt-slot tee bar application.

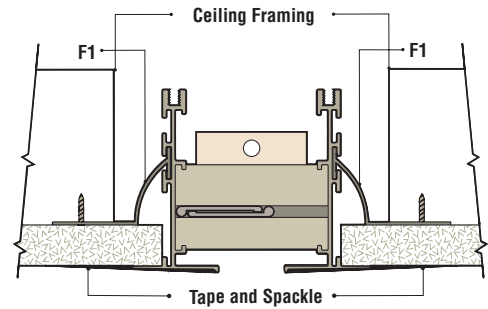


### F11 SPLINE CLIP

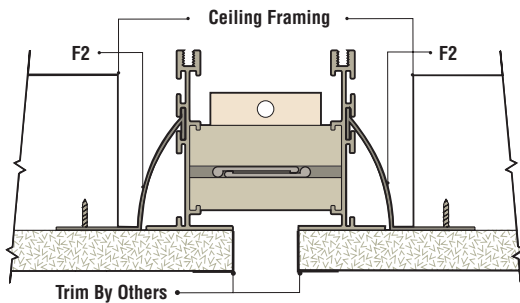
Spline Clips are used to align sections of the Formations diffuser, ensuring a straight and true installation.



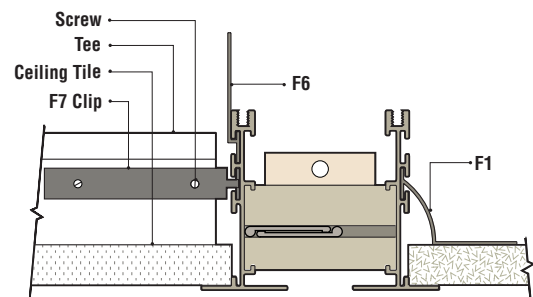
**BORDER AA HARD CEILING**



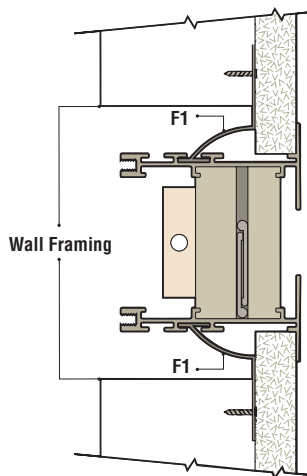
**BORDER CC HARD CEILING**



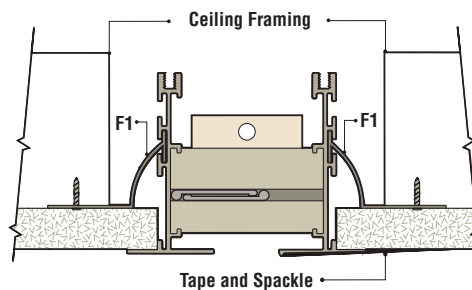
**BORDER AA  
HARD CEILING / COVERED FLANGE**



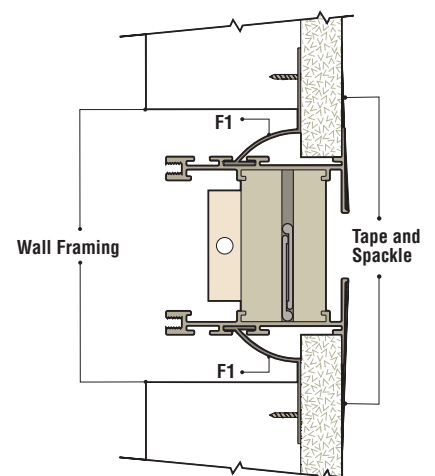
**BORDER AA HARD CEILING**



**BORDER AA SIDE WALL**

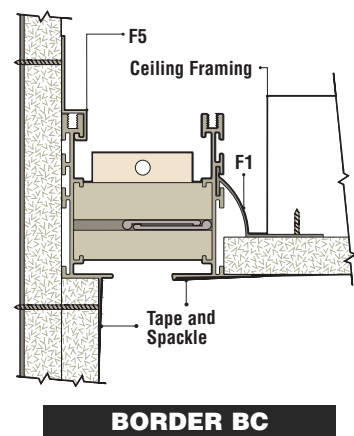
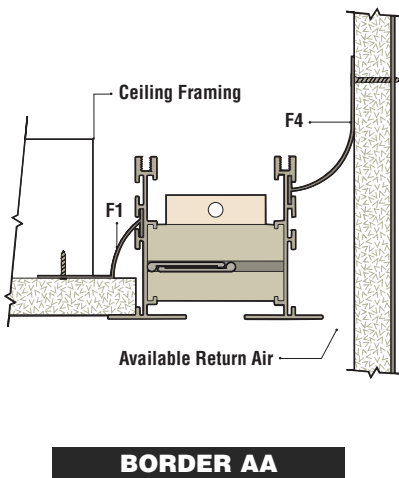
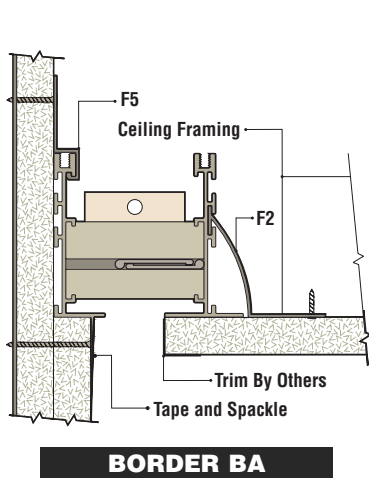
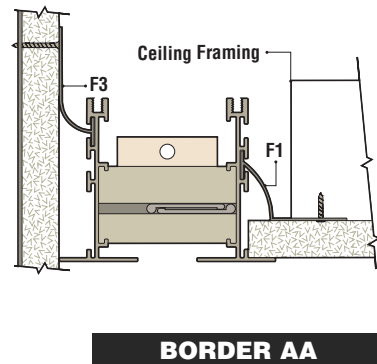
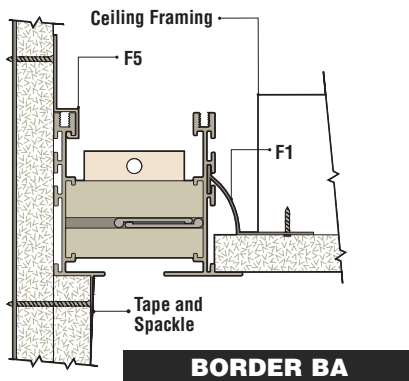
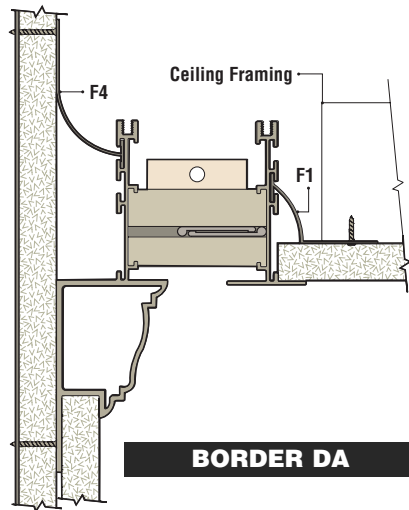
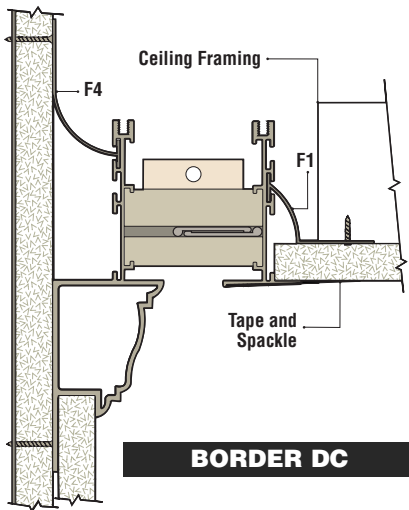


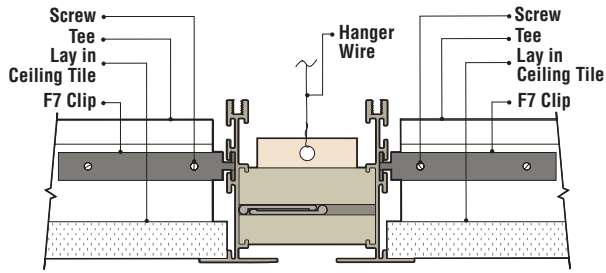
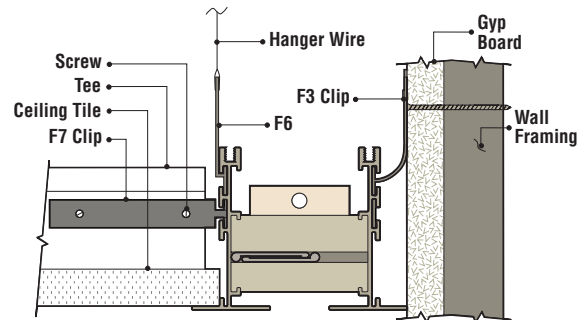
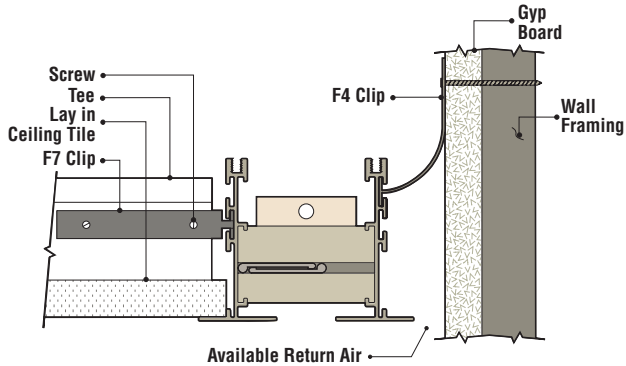
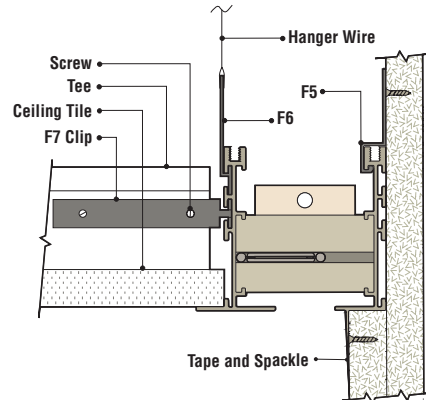
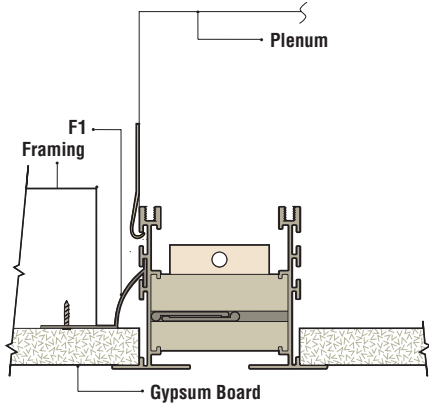
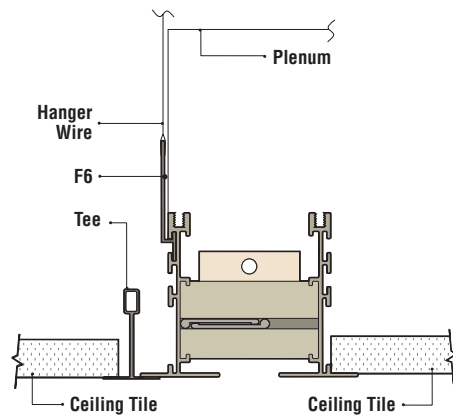
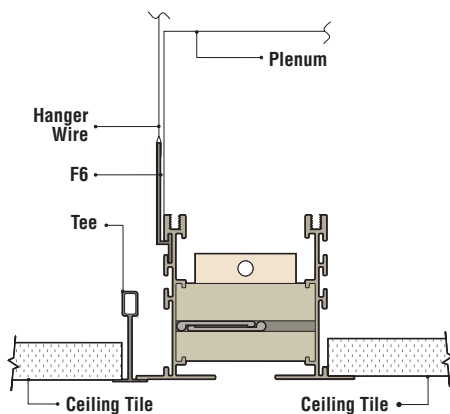
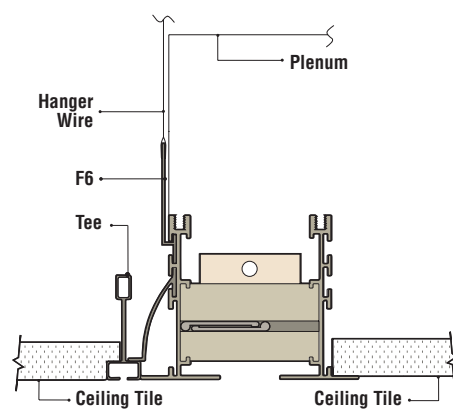
**BORDER AC HARD CEILING**



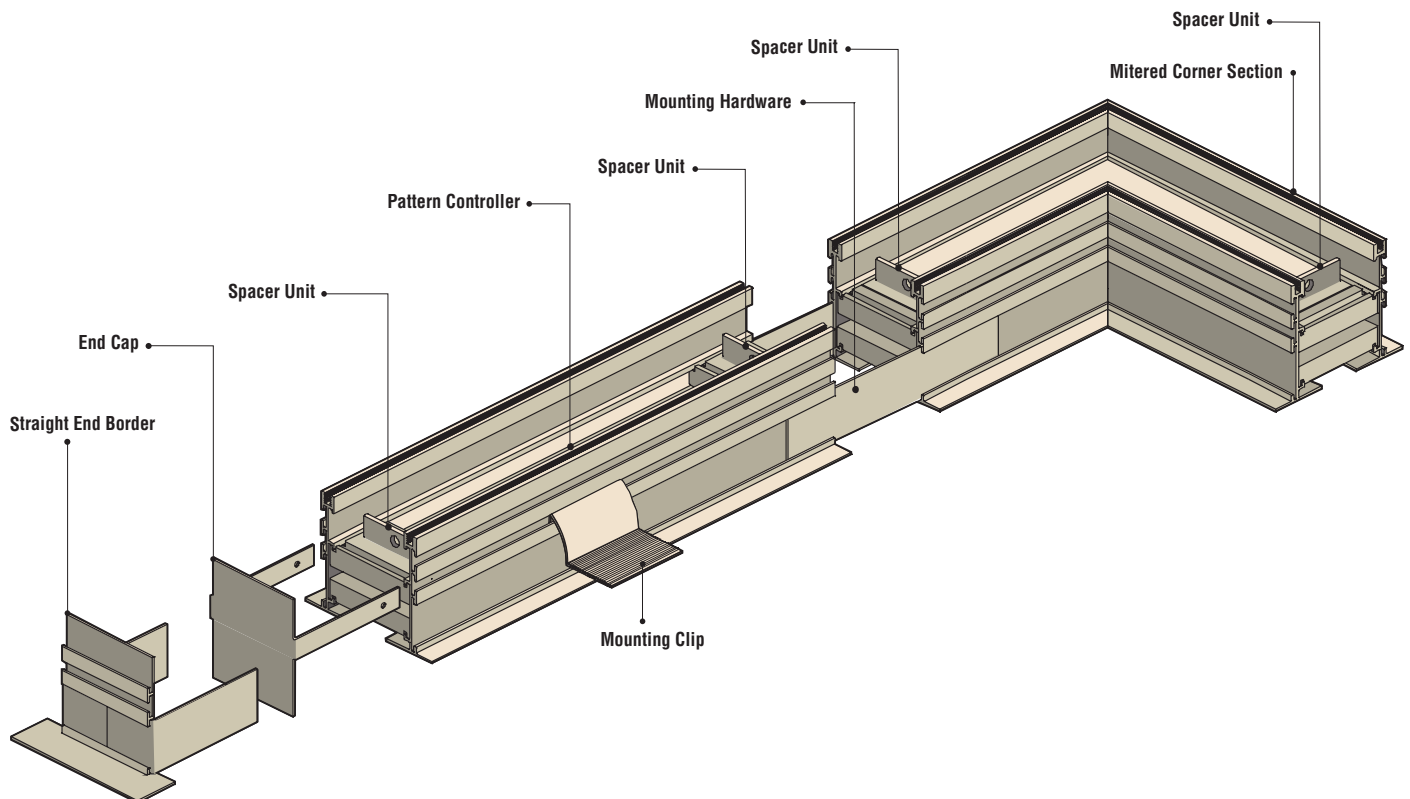
**BORDER CC SIDE WALL**



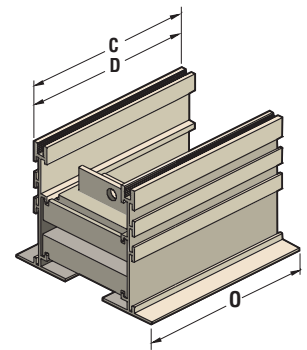
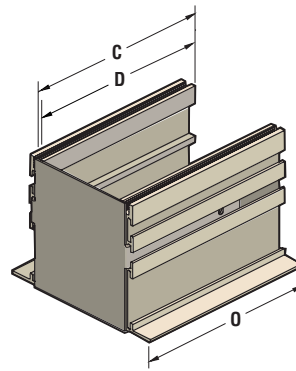
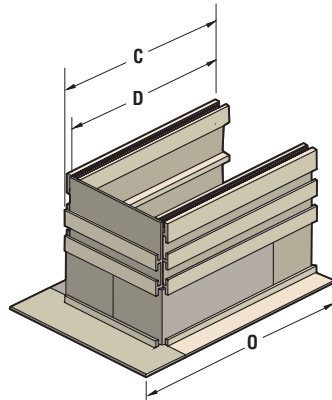
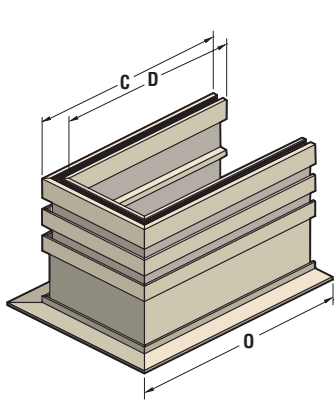
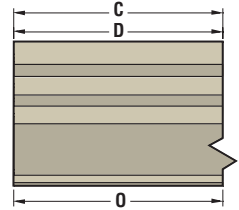
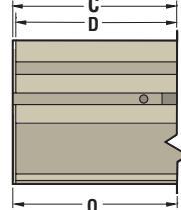
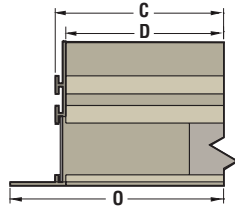
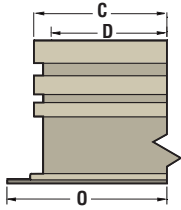


**BORDER AA MAIN TEE****BORDER AA PERIMETER****BORDER AA PERIMETER REVEL****BORDER AB PERIMETER****INTEGRA APPLICATIONS****BORDER AA HARD CEILING****BORDER AA ACOUSTICAL 15/16" TEE****BORDER AA ACOUSTICAL 9/16" TEE****BORDER AA ACOUSTICAL BOLT SLOT**

Formations Linear diffusers offer a large selection of features for a variety of applications to enhance your design while providing superior air flow patterns not available from traditional diffusers. Optional end details, including straight ends, mitered ends and end caps, allow for a total finished, customized appearance for your specific requirements. Mitered corners are available in 90° and 135° angles with a variety of custom options available. Unique pre-engineered mounting hardware helps reduce installation costs while ensuring the professional appearance of a straight, seamless installation. Straight lines, angles, simple or complex curves... You dream it and we'll make it fly.

**FORMATIONS DIFFUSER**













MITERED END

STRAIGHT END

END CAP

OPEN END

															
		STRAIGHT	STRAIGHT	STRAIGHT	OPEN	OPEN	OPEN	MITERED	MITERED	MITERED	OPEN	END CAP	END CAP	END CAP	OPEN
BORDER TYPE	SLOT WIDTH	C	O	C	O	C	O	C	O	C	O	C	O	C	O
AA	1	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
	1.5	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
	2	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
	2.5	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
	3	D+ <sup>3</sup> / <sub>8</sub>	D+2 <sup>1</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>16</sub>	D+1 <sup>1</sup> / <sub>16</sub>	D	D	D+ <sup>3</sup> / <sub>4</sub>	D+1 <sup>5</sup> / <sub>8</sub>	D+ <sup>3</sup> / <sub>8</sub>	D+ <sup>13</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
BA	1	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
AC	1.5	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
BC	2	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
CC	2.5	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
DA	2.5	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>
DC	3	N/A	N/A	N/A	N/A	D	D	N/A	N/A	N/A	N/A	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>8</sub>	D+ <sup>1</sup> / <sub>16</sub>	D+ <sup>1</sup> / <sub>16</sub>

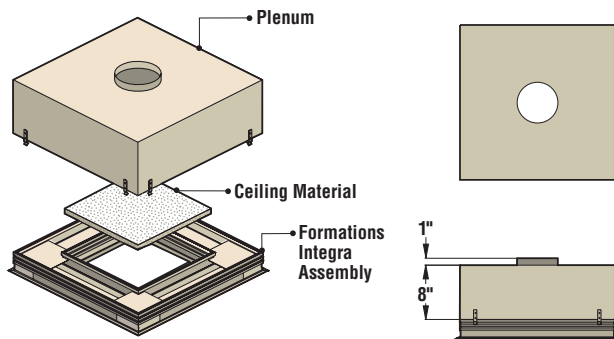
All dimensions are in inches.

D - Order Specified Length

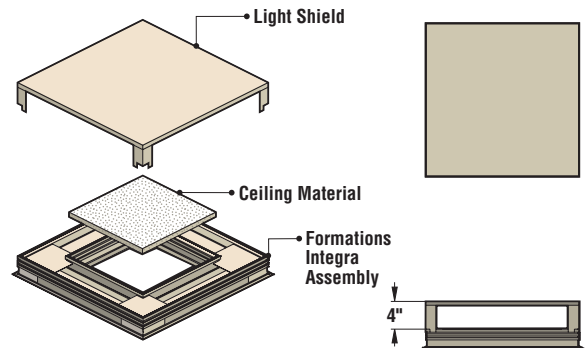
## INTEGRA MODELS

<b>FAI-10</b>	• 1" SLOT		<b>FAIB-10</b>	• 1" SLOT	• BOLT SLOT
<b>FAI-15</b>	• 1.5" SLOT		<b>FAIB-15</b>	• 1.5" SLOT	• BOLT SLOT
<b>FAI-20</b>	• 2" SLOT		<b>FAIB-20</b>	• 2" SLOT	• BOLT SLOT
<b>FAII-10</b>	• 1" SLOT	• INSULATED	<b>FAIBI-10</b>	• 1" SLOT	• BOLT SLOT • INSULATED
<b>FAII-15</b>	• 1.5" SLOT	• INSULATED	<b>FAIBI-15</b>	• 1.5" SLOT	• BOLT SLOT • INSULATED
<b>FAII-20</b>	• 2" SLOT	• INSULATED	<b>FAIBI-20</b>	• 2" SLOT	• BOLT SLOT • INSULATED
<b>FAIR-10</b>	• 1" SLOT	• RETURN	<b>FAIBR-10</b>	• 1" SLOT	• BOLT SLOT • RETURN
<b>FAIR-15</b>	• 1.5" SLOT	• RETURN	<b>FAIBR-15</b>	• 1.5" SLOT	• BOLT SLOT • RETURN
<b>FAIR-20</b>	• 2" SLOT	• RETURN	<b>FAIBR-20</b>	• 2" SLOT	• BOLT SLOT • RETURN

## INTEGRA SUPPLY



## INTEGRA RETURN



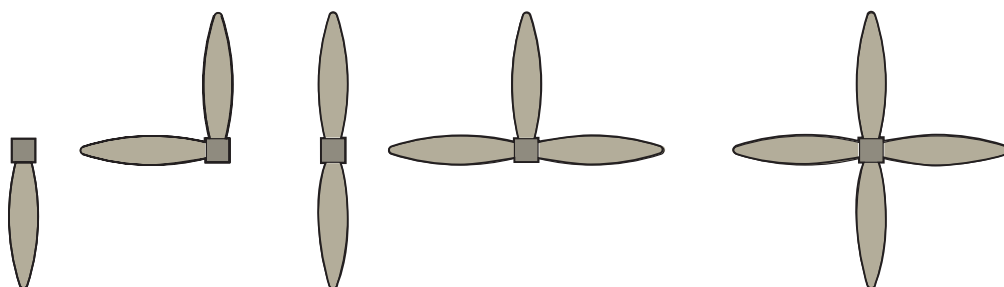
**AVAILABLE SIZES** 24 X 24 Nominal

**INLET SIZES** 6", 8", 10", 12"

**FINISH** Face is White, Interior is Black

**APPLICATIONS**  $\frac{15}{16}$ " Tee System,  $\frac{9}{16}$ " Tee System,  $\frac{9}{16}$ " Bolt Slot Tee System, Hard Ceiling

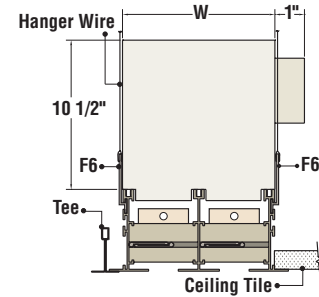
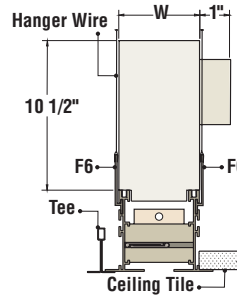
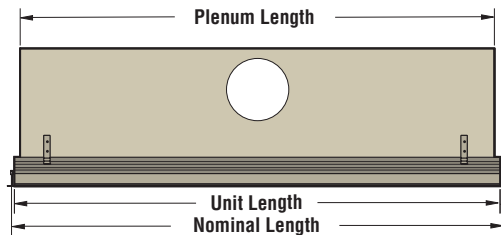
## OPTIONAL SUPPLY AIR PATTERNS



## TEE SYSTEM MODELS

- FTS-10** • 1" SLOT  
**FTS-15** • 1.5" SLOT  
**FTS-20** • 2" SLOT

- FTSI-10** • 1" SLOT • INSULATED  
**FTSI-15** • 1.5" SLOT • INSULATED  
**FTSI-20** • 2" SLOT • INSULATED

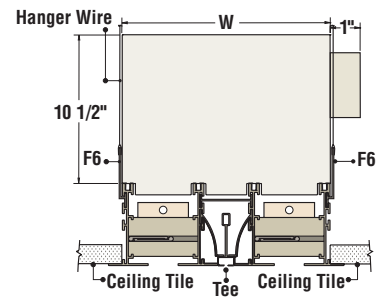
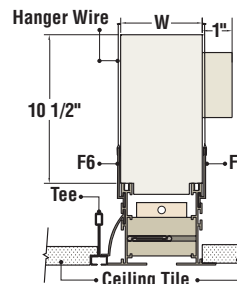
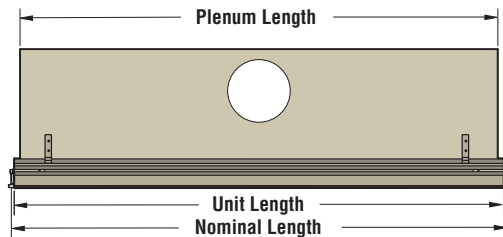


2 SLOT

## TEE SYSTEM MODELS - BOLT SLOT

- FTSB-10** • 1" SLOT • BOLT SLOT  
**FTSB-15** • 1.5" SLOT • BOLT SLOT  
**FTSB-20** • 2" SLOT • BOLT SLOT

- FTSBI-10** • 1" SLOT • BOLT SLOT • INSULATED  
**FTSBI-15** • 1.5" SLOT • BOLT SLOT • INSULATED  
**FTSBI-20** • 2" SLOT • BOLT SLOT • INSULATED



2 TEE SLOT

**AVAILABLE LENGTHS** 2', 4', 5' (FTS, FTSI Only)

**INLET SIZES** 6", 8", 10", 12"

**FINISH** Face is White, Interior is Black

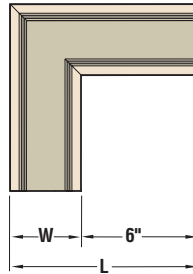
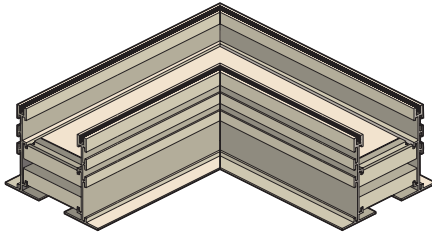
**APPLICATIONS** <sup>15</sup>/<sub>16</sub>" Tee System, <sup>9</sup>/<sub>16</sub>" Tee System, <sup>9</sup>/<sub>16</sub>" Bolt Slot Tee System

## TEE SYSTEM DIMENSIONAL DATA

FORMATIONS TEE SYSTEM	W (WIDTH)			NOMINAL LENGTH	AVAILABLE INLETS (INCHES)		PLENUM LENGTH (INCHES)		UNIT LENGTH (INCHES)	
	SLOTS				RND	OVAL	STANDARD	BOLT SLOT	STANDARD	BOLT SLOT
	1	2T	2							
FTS, FTSB-10	2 <sup>3</sup> / <sub>4</sub>	6 <sup>15</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub>	24, 48, 60	6	8, 10, 12	21 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	21 <sup>3</sup> / <sub>8</sub> , 45 <sup>3</sup> / <sub>8</sub> , 57 <sup>3</sup> / <sub>8</sub>	23 <sup>21</sup> / <sub>32</sub> , 47 <sup>21</sup> / <sub>32</sub> , 59 <sup>21</sup> / <sub>32</sub>	23 <sup>11</sup> / <sub>32</sub> , 47 <sup>11</sup> / <sub>32</sub> , 59 <sup>11</sup> / <sub>32</sub>
FTS, FTSB-15	3 <sup>3</sup> / <sub>4</sub>	8 <sup>15</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>8</sub>	24, 48, 60	6	8, 10, 12	21 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	21 <sup>3</sup> / <sub>8</sub> , 45 <sup>3</sup> / <sub>8</sub> , 57 <sup>3</sup> / <sub>8</sub>	23 <sup>21</sup> / <sub>32</sub> , 47 <sup>21</sup> / <sub>32</sub> , 59 <sup>21</sup> / <sub>32</sub>	23 <sup>11</sup> / <sub>32</sub> , 47 <sup>11</sup> / <sub>32</sub> , 59 <sup>11</sup> / <sub>32</sub>
FTS, FTSB-20	4 <sup>3</sup> / <sub>4</sub>	10 <sup>15</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>8</sub>	24, 48, 60	6	8, 10, 12	21 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	21 <sup>3</sup> / <sub>8</sub> , 45 <sup>3</sup> / <sub>8</sub> , 57 <sup>3</sup> / <sub>8</sub>	23 <sup>21</sup> / <sub>32</sub> , 47 <sup>21</sup> / <sub>32</sub> , 59 <sup>21</sup> / <sub>32</sub>	23 <sup>11</sup> / <sub>32</sub> , 47 <sup>11</sup> / <sub>32</sub> , 59 <sup>11</sup> / <sub>32</sub>
FTSI, FTSBI-10	2 <sup>3</sup> / <sub>4</sub>	6 <sup>15</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>8</sub>	24, 48, 60	6	8, 10, 12	21 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	21 <sup>3</sup> / <sub>8</sub> , 45 <sup>3</sup> / <sub>8</sub> , 57 <sup>3</sup> / <sub>8</sub>	23 <sup>21</sup> / <sub>32</sub> , 47 <sup>21</sup> / <sub>32</sub> , 59 <sup>21</sup> / <sub>32</sub>	23 <sup>11</sup> / <sub>32</sub> , 47 <sup>11</sup> / <sub>32</sub> , 59 <sup>11</sup> / <sub>32</sub>
FTSI, FTSBI-15	3 <sup>3</sup> / <sub>4</sub>	8 <sup>15</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>8</sub>	24, 48, 60	6	8, 10, 12	21 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	21 <sup>3</sup> / <sub>8</sub> , 45 <sup>3</sup> / <sub>8</sub> , 57 <sup>3</sup> / <sub>8</sub>	23 <sup>21</sup> / <sub>32</sub> , 47 <sup>21</sup> / <sub>32</sub> , 59 <sup>21</sup> / <sub>32</sub>	23 <sup>11</sup> / <sub>32</sub> , 47 <sup>11</sup> / <sub>32</sub> , 59 <sup>11</sup> / <sub>32</sub>
FTSI, FTSBI-20	4 <sup>3</sup> / <sub>4</sub>	10 <sup>15</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>8</sub>	24, 48, 60	6	8, 10, 12	21 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	21 <sup>3</sup> / <sub>8</sub> , 45 <sup>3</sup> / <sub>8</sub> , 57 <sup>3</sup> / <sub>8</sub>	23 <sup>21</sup> / <sub>32</sub> , 47 <sup>21</sup> / <sub>32</sub> , 59 <sup>21</sup> / <sub>32</sub>	23 <sup>11</sup> / <sub>32</sub> , 47 <sup>11</sup> / <sub>32</sub> , 59 <sup>11</sup> / <sub>32</sub>

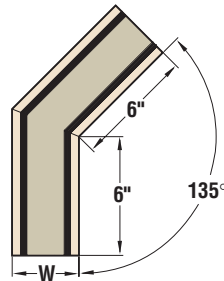
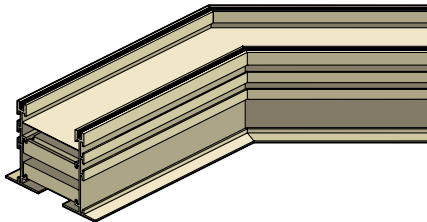
All dimensions are in inches.



**MITERED CORNER 90°**

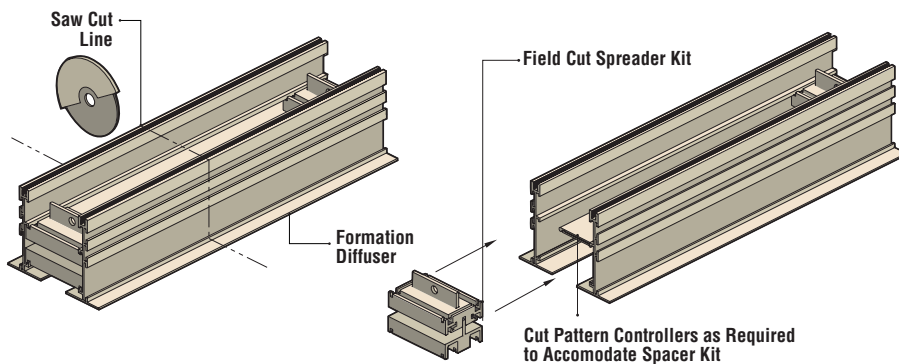
- FAM90-10** • 1" SLOT  
**FAM90-15** • 1.5" SLOT  
**FAM90-20** • 2" SLOT  
**FAM90-25** • 2.5" SLOT  
**FAM90-30** • 3" SLOT

NUMBER OF SLOTS	SLOT WIDTH	DIM L	DIM W
1	1	9 <sup>11</sup> / <sub>16</sub>	3 <sup>11</sup> / <sub>16</sub>
	1 1/2	10 <sup>11</sup> / <sub>16</sub>	4 <sup>11</sup> / <sub>16</sub>
	2	11 <sup>11</sup> / <sub>16</sub>	5 <sup>11</sup> / <sub>16</sub>
	2 1/2	12 <sup>11</sup> / <sub>16</sub>	6 <sup>11</sup> / <sub>16</sub>
	3	13 <sup>11</sup> / <sub>16</sub>	7 <sup>11</sup> / <sub>16</sub>

**MITERED CORNER 135°**

- FAM135-10** • 1" SLOT  
**FAM135-15** • 1.5" SLOT  
**FAM135-20** • 2" SLOT  
**FAM135-25** • 2.5" SLOT  
**FAM135-30** • 3" SLOT

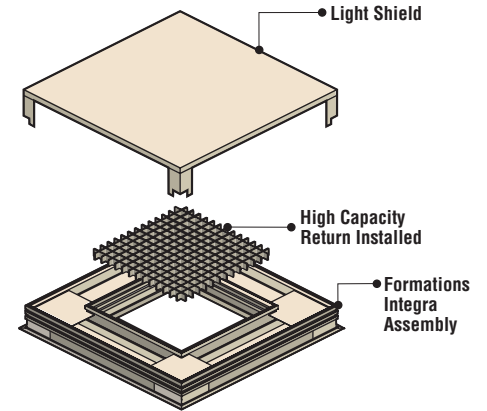
NUMBER OF SLOTS	SLOT WIDTH	DIM W
1	1	3 <sup>11</sup> / <sub>16</sub>
	1 1/2	4 <sup>11</sup> / <sub>16</sub>
	2	5 <sup>11</sup> / <sub>16</sub>
	2 1/2	6 <sup>11</sup> / <sub>16</sub>
	3	7 <sup>11</sup> / <sub>16</sub>

**FIELD CUT SPACER KIT**

- FAFC-10** • 1" SLOT  
**FAFC-15** • 1.5" SLOT  
**FAFC-20** • 2" SLOT  
**FAFC-25** • 2.5" SLOT  
**FAFC-30** • 3" SLOT

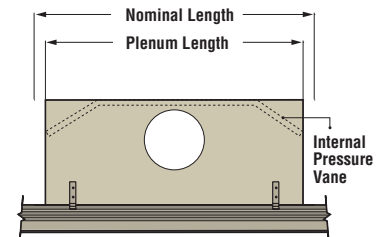
### HIGH CAPACITY RETURN

- FAIH-10** • 1" SLOT  
**FAIH-15** • 1.5" SLOT  
**FAIH-20** • 2" SLOT



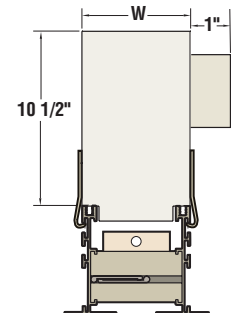
### FORMATIONS PLENUMS - STRAIGHT SIDE

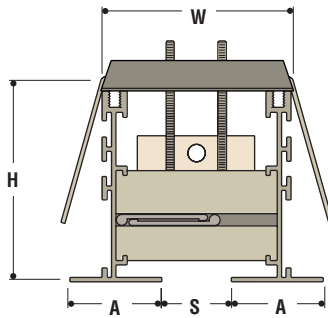
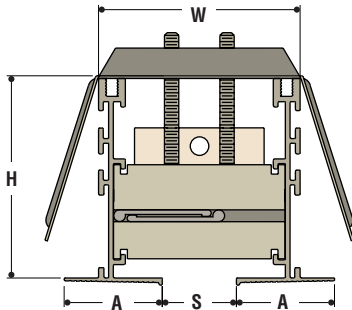
- |               |             |                |             |             |
|---------------|-------------|----------------|-------------|-------------|
| <b>FAP-10</b> | • 1" SLOT   | <b>FAPI-10</b> | • 1" SLOT   | • INSULATED |
| <b>FAP-15</b> | • 1.5" SLOT | <b>FAPI-15</b> | • 1.5" SLOT | • INSULATED |
| <b>FAP-20</b> | • 2" SLOT   | <b>FAPI-20</b> | • 2" SLOT   | • INSULATED |
| <b>FAP-25</b> | • 2.5" SLOT | <b>FAPI-25</b> | • 2.5" SLOT | • INSULATED |
| <b>FAP-30</b> | • 3" SLOT   | <b>FAPI-30</b> | • 3" SLOT   | • INSULATED |



FORMATIONS UNIT SLOT WIDTH	NUMBER OF SLOTS	DIM W (WIDTH)	NOMINAL LENGTH	PLENUM LENGTH	STANDARD AVAILABLE INLETS	
					Round	Oval
1	1	2 <sup>3</sup> / <sub>4</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
1 1/2	1	3 <sup>3</sup> / <sub>4</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
2	1	4 <sup>3</sup> / <sub>4</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
2 1/2	1	5 <sup>3</sup> / <sub>4</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
3	1	6 <sup>3</sup> / <sub>4</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
1	2	5 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
1 1/2	2	7 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
2	2	9 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
2 1/2	2	11 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
3	2	13 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	21 <sup>3</sup> / <sub>4</sub> , 33 <sup>3</sup> / <sub>4</sub> , 45 <sup>3</sup> / <sub>4</sub> , 57 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12

All dimensions are in inches.



**BORDER AA****BORDER CC****CONCEALED MOUNTING MODELS**

- FALC-10** • 1" SLOT
- FALC-15** • 1.5" SLOT
- FALC-20** • 2" SLOT
- FALC-25** • 2.5" SLOT
- FALC-30** • 3" SLOT

FORMATIONS UNIT SLOT WIDTH	NUMBER OF SLOTS	DIM W (WIDTH)	DIM H (HEIGHT)	DIM A (BORDER WIDTH)
1	1	2 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub>	1 <sup>5</sup> / <sub>16</sub>
1 1/2	1	3 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub>	1 <sup>9</sup> / <sub>16</sub>
2	1	4 <sup>3</sup> / <sub>4</sub>	2 <sup>3</sup> / <sub>4</sub>	1 <sup>13</sup> / <sub>16</sub>
2 1/2	1	5 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>16</sub>
3	1	6 <sup>3</sup> / <sub>4</sub>	3 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>16</sub>

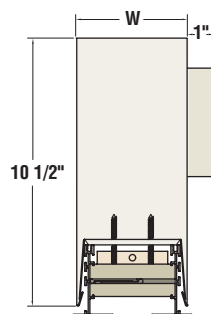
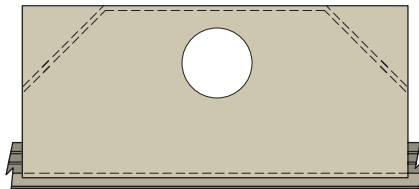
All dimensions are in inches.

**FORMATIONS PLENUMS - HEMMED**

- FAPH-10** • 1" SLOT
- FAPH-15** • 1.5" SLOT
- FAPH-20** • 2" SLOT
- FAPH-25** • 2.5" SLOT
- FAPH-30** • 3" SLOT

- FAPHI-10** • 1" SLOT • INSULATED
- FAPHI-15** • 1.5" SLOT • INSULATED
- FAPHI-20** • 2" SLOT • INSULATED
- FAPHI-25** • 2.5" SLOT • INSULATED
- FAPHI-30** • 3" SLOT • INSULATED

For models FALC with concealed mounting



FORMATIONS UNIT SLOT WIDTH	NUMBER OF SLOTS	DIM W (WIDTH)	NOMINAL LENGTH	PLENUM LENGTH	STANDARD AVAILABLE INLETS	
					Round	Oval
1	1	3 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
1 1/2	1	4 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
2	1	5 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
2 1/2	1	6 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
3	1	7 <sup>1</sup> / <sub>8</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
1	2	6 <sup>1</sup> / <sub>4</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
1 1/2	2	8 <sup>1</sup> / <sub>4</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
2	2	10 <sup>1</sup> / <sub>4</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
2 1/2	2	12 <sup>1</sup> / <sub>4</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12
3	2	14 <sup>1</sup> / <sub>4</sub>	24, 36, 48, 60	23 <sup>3</sup> / <sub>4</sub> , 35 <sup>3</sup> / <sub>4</sub> , 47 <sup>3</sup> / <sub>4</sub> , 59 <sup>3</sup> / <sub>4</sub>	6	8, 10, 12

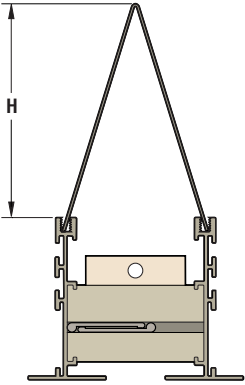
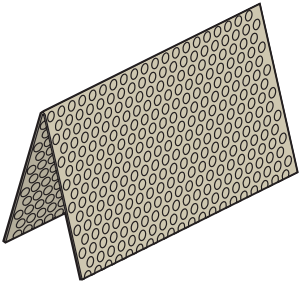
All dimensions are in inches.



### HOODS

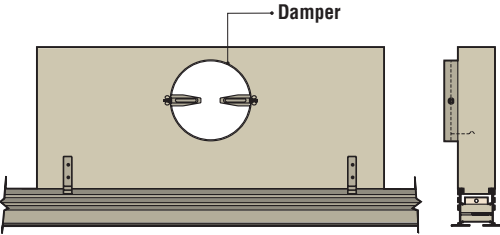
- FAR-10** • 1" SLOT
- FAR-15** • 1.5" SLOT
- FAR-20** • 2" SLOT
- FAR-25** • 2.5" SLOT
- FAR-30** • 3" SLOT

SLOT NUMBER	SLOT WIDTH	DIM H
1	1	3 <sup>1</sup> / <sub>8</sub>
	1 1/2	3 <sup>1</sup> / <sub>8</sub>
	2	3 <sup>1</sup> / <sub>8</sub>
	2 1/2	3 <sup>1</sup> / <sub>8</sub>
	3	3 <sup>1</sup> / <sub>8</sub>
SLOT NUMBER	SLOT WIDTH	DIM H
2	1	2 <sup>3</sup> / <sub>4</sub>
	1 1/2	3
	2	3 <sup>3</sup> / <sub>4</sub>
	2 1/2	5
	3	5 <sup>3</sup> / <sub>4</sub>



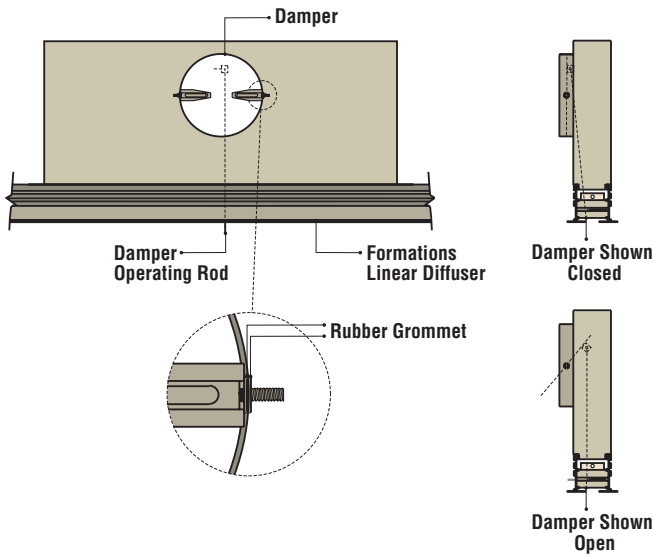
### NECK MOUNTED DAMPER

- ID** • INLET DAMPER



### FACE OPERATED DAMPER

- FODR** • FACE OPERATED DAMPER



P E R F O R M A N C E   D A T A



formations™

1 SLOT STANDARD BLADE HORIZONTAL THROW WITH METALARE PLENUM										
One Slot - 1.0" Slot Width Horizontal Throw 6" Oval Inlet	2 ft.	Airflow, cfm	55	65	80	95	105	120	130	145
		Static Pressure	0.044	0.067	0.096	0.129	0.168	0.212	0.261	0.315
		Total Pressure	0.049	0.074	0.106	0.144	0.186	0.235	0.288	0.349
		NC (Noise Criteria)	<15	19	24	27	30	33	35	37
	4 ft.	Airflow, cfm	110	135	160	185	210	240	265	290
		Static Pressure	0.048	0.075	0.106	0.144	0.187	0.235	0.290	0.350
		Total Pressure	0.068	0.104	0.143	0.199	0.258	0.329	0.403	0.486
		NC (Noise Criteria)	17	21	26	29	32	35	37	39
	5 ft.	Airflow, cfm	135	170	200	235	265	300	330	365
		Static Pressure	0.053	0.082	0.117	0.158	0.205	0.259	0.319	0.384
		Total Pressure	0.083	0.129	0.182	0.247	0.319	0.405	0.495	0.600
		NC (Noise Criteria)	18	23	27	31	34	36	39	41
	6 ft.	Airflow, cfm	160	200	240	285	330	375	420	465
		Static Pressure	0.063	0.102	0.141	0.187	0.235	0.290	0.350	0.415
		Total Pressure	0.093	0.149	0.202	0.267	0.339	0.425	0.515	0.620
		NC (Noise Criteria)	19	24	28	32	35	38	41	44

One Slot - 1.0" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	55	65	80	95	105	120	130	145
		Static Pressure	0.043	0.066	0.094	0.126	0.164	0.207	0.255	0.307
		Total Pressure	0.044	0.068	0.097	0.132	0.171	0.215	0.265	0.320
		NC (Noise Criteria)	<15	17	22	26	30	33	36	39
	4 ft.	Airflow, cfm	110	135	160	185	210	240	265	290
		Static Pressure	0.047	0.073	0.104	0.141	0.183	0.230	0.283	0.342
		Total Pressure	0.054	0.084	0.119	0.160	0.208	0.264	0.324	0.391
		NC (Noise Criteria)	<15	19	24	28	32	35	38	41
	5 ft.	Airflow, cfm	135	170	200	235	265	300	330	365
		Static Pressure	0.052	0.080	0.114	0.155	0.201	0.253	0.311	0.376
		Total Pressure	0.063	0.097	0.138	0.187	0.242	0.306	0.375	0.453
		NC (Noise Criteria)	<15	20	25	30	34	37	40	42
	6 ft.	Airflow, cfm	160	200	240	285	330	375	420	465
		Static Pressure	0.057	0.096	0.135	0.183	0.231	0.289	0.350	0.415
		Total Pressure	0.087	0.143	0.196	0.251	0.315	0.389	0.463	0.540
		NC (Noise Criteria)	20	25	29	33	36	39	42	45

One Slot - 1.5" Slot Width Horizontal Throw 6" Oval Inlet	2 ft.	Airflow, cfm	55	70	90	110	125	145	160	180
		Static Pressure	0.026	0.047	0.073	0.105	0.143	0.187	0.236	0.292
		Total Pressure	0.031	0.055	0.086	0.125	0.168	0.221	0.278	0.344
		NC (Noise Criteria)	<15	18	23	27	31	34	37	39
	4 ft.	Airflow, cfm	110	145	180	215	250	290	325	360
		Static Pressure	0.029	0.052	0.081	0.117	0.159	0.207	0.262	0.324
		Total Pressure	0.049	0.086	0.133	0.191	0.260	0.343	0.433	0.534
		NC (Noise Criteria)	<15	20	25	29	33	36	39	41
	5 ft.	Airflow, cfm	135	180	225	270	315	360	405	450
		Static Pressure	0.032	0.057	0.089	0.128	0.175	0.228	0.289	0.356
		Total Pressure	0.062	0.109	0.171	0.246	0.335	0.438	0.554	0.684
		NC (Noise Criteria)	15	21	27	31	34	37	40	43
	6 ft.	Airflow, cfm	160	210	260	310	360	410	460	510
		Static Pressure	0.037	0.062	0.100	0.141	0.187	0.236	0.290	0.350
		Total Pressure	0.067	0.123	0.186	0.251	0.329	0.419	0.519	0.620
		NC (Noise Criteria)	16	22	28	32	35	38	41	44

One Slot - 1.5" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	55	70	90	110	125	145	160	180
		Static Pressure	0.024	0.042	0.066	0.094	0.129	0.168	0.213	0.262
		Total Pressure	0.025	0.045	0.070	0.102	0.138	0.180	0.227	0.281
		NC (Noise Criteria)	<15	19	24	27	30	33	36	39
	4 ft.	Airflow, cfm	110	145	180	215	250	290	325	360
		Static Pressure	0.026	0.047	0.073	0.105	0.143	0.187	0.236	0.292
		Total Pressure	0.033	0.059	0.092	0.132	0.179	0.236	0.298	0.367
		NC (Noise Criteria)	<15	21	26	31	35	38	41	44
	5 ft.	Airflow, cfm	135	180	225	270	315	360	405	450
		Static Pressure	0.029	0.051	0.080	0.115	0.157	0.205	0.260	0.321
		Total Pressure	0.039	0.070	0.110	0.158	0.215	0.281	0.355	0.439
		NC (Noise Criteria)	<15	16	22	28	32	36	39	42
	6 ft.	Airflow, cfm	160	210	260	310	360	410	460	510
		Static Pressure	0.034	0.059	0.097	0.137	0.183	0.231	0.289	0.350
		Total Pressure	0.064	0.120	0.183	0.248	0.319	0.393	0.467	0.540
		NC (Noise Criteria)	17	22	27	31	34	37	40	43

One Slot - 2.0" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	100	120	140	160	180	200	220	240
		Static Pressure	0.044	0.063	0.086	0.112	0.142	0.176	0.212	0.253
		Total Pressure	0.050	0.072	0.097	0.127	0.161	0.199	0.241	0.286
		NC (Noise Criteria)	<15	18	23	27	30	33	36	38
	4 ft.	Airflow, cfm	200	240	280	320	360	400	440	480
		Static Pressure	0.049	0.070	0.096	0.125	0.158	0.195	0.236	0.281
		Total Pressure	0.072	0.104	0.141	0.184	0.233	0.288	0.349	0.415
		NC (Noise Criteria)	15	20	25	29	32	35	38	40
	5 ft.	Airflow, cfm	250	300	350	400	450	500	550	600
		Static Pressure	0.054	0.077	0.105	0.137	0.174	0.215	0.260	0.309
		Total Pressure	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518
		NC (Noise Criteria)	17	22	26	30	34	37	39	42
	6 ft.	Airflow, cfm	300	360	420	480	540	600	660	720
		Static Pressure	0.063	0.092	0.129	0.167	0.205	0.243	0.281	0.320
		Total Pressure	0.103	0.150	0.196	0.251	0.315	0.389	0.463	0.540
		NC (Noise Criteria)	19	24	28	32	35	38	41	44

One Slot - 2.0" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	100	120	140	160	180	200	220	240
		Static Pressure	0.043	0.062	0.085	0.111	0.140	0.173	0.209	0.249
		Total Pressure	0.045	0.065	0.088	0.115	0.146	0.180	0.218	0.259
		NC (Noise Criteria)	<15	17	22	26	30	33	36	38
	4 ft.	Airflow, cfm	200	240	280	320	360	400	440	480
		Static Pressure	0.048	0.069	0.094	0.123	0.156	0.192	0.232	0.276
		Total Pressure	0.055	0.079	0.108	0.141	0.179	0.221	0.267	0.318
		NC (Noise Criteria)	<15	19	24	28	32	35	38	40
	5 ft.	Airflow, cfm	250	300	350	400	450	500	550	600
		Static Pressure	0.053	0.076	0.103	0.135	0.171	0.211	0.256	0.304
		Total Pressure	0.064	0.092	0.125	0.164	0.207	0.256	0.310	0.369
		NC (Noise Criteria)	<15	20	25	29	33	36	39	42
	6 ft.	Airflow, cfm	300	360	420	480	540	600	660	720
		Static Pressure	0.057	0.086	0.123	0.163	0.205	0.251	0.299	0.350
		Total Pressure	0.087	0.133	0.186	0.241	0.309	0.389	0.463	0.540
		NC (Noise Criteria)	20	25	29	33	36	39	42	45

1 SLOT STANDARD BLADE HORIZONTAL THROW WITH METALAIR PLENUM										
One Slot - 2.5" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	130	160	190	220	250	280	310	340
		Static Pressure	0.049	0.075	0.106	0.142	0.183	0.229	0.281	0.338
		Total Pressure	0.054	0.082	0.116	0.156	0.201	0.253	0.310	0.372
		NC (Noise Criteria)	<15	16	22	27	31	34	37	39
	Throw	7 10 17	9 13 19	10 14 20	12 15 22	13 16 23	14 17 25	15 18 26	16 19 27	
	4 ft.	Airflow, cfm	260	320	380	440	500	560	620	680
		Static Pressure	0.055	0.083	0.117	0.157	0.203	0.255	0.312	0.376
		Total Pressure	0.075	0.114	0.160	0.215	0.277	0.348	0.427	0.513
		NC (Noise Criteria)	<15	18	24	29	33	36	39	41
	Throw	10 15 24	12 18 26	14 20 29	17 22 31	19 23 33	20 25 35	21 26 37	22 27 38	
	5 ft.	Airflow, cfm	325	400	475	550	625	700	775	850
		Static Pressure	0.060	0.092	0.129	0.173	0.223	0.280	0.344	0.413
		Total Pressure	0.092	0.139	0.196	0.263	0.339	0.426	0.522	0.628
		NC (Noise Criteria)	<15	20	25	30	34	37	40	43
	Throw	13 20 27	16 25 29	19 27 32	22 29 34	25 31 37	27 33 39	28 35 41	30 36 43	

One Slot - 2.5" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	130	160	190	220	250	280	310	340
		Static Pressure	0.044	0.066	0.093	0.125	0.162	0.203	0.249	0.299
		Total Pressure	0.047	0.071	0.100	0.134	0.173	0.217	0.266	0.320
		NC (Noise Criteria)	<15	16	22	27	31	34	37	39
	4 ft.	Airflow, cfm	260	320	380	440	500	560	620	680
		Static Pressure	0.049	0.074	0.104	0.139	0.180	0.225	0.276	0.332
		Total Pressure	0.061	0.092	0.130	0.174	0.225	0.282	0.345	0.415
		NC (Noise Criteria)	<15	18	24	29	33	36	39	41
	5 ft.	Airflow, cfm	325	400	475	550	625	700	775	850
		Static Pressure	0.053	0.081	0.114	0.153	0.198	0.248	0.304	0.366
		Total Pressure	0.072	0.110	0.155	0.207	0.268	0.336	0.412	0.495
		NC (Noise Criteria)	<15	20	25	30	34	37	40	43
	10 ft.	Airflow, cfm	130	160	190	220	250	280	310	340
		Static Pressure	0.044	0.066	0.093	0.125	0.162	0.203	0.249	0.299
		Total Pressure	0.047	0.071	0.100	0.134	0.173	0.217	0.266	0.320
		NC (Noise Criteria)	<15	16	22	27	31	34	37	39

One Slot - 3.0" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	140	170	200	230	260	290	320	350
		Static Pressure	0.053	0.078	0.108	0.143	0.183	0.227	0.276	0.331
		Total Pressure	0.059	0.087	0.120	0.159	0.203	0.252	0.307	0.367
		NC (Noise Criteria)	<15	16	21	25	29	33	35	38
	4 ft.	Airflow, cfm	280	340	400	460	520	580	640	700
		Static Pressure	0.059	0.087	0.120	0.159	0.203	0.252	0.307	0.368
		Total Pressure	0.082	0.121	0.168	0.222	0.283	0.352	0.429	0.513
		NC (Noise Criteria)	<15	18	23	27	31	35	37	40
	5 ft.	Airflow, cfm	350	425	500	575	650	725	800	875
		Static Pressure	0.065	0.095	0.132	0.175	0.223	0.278	0.338	0.404
		Total Pressure	0.101	0.149	0.206	0.273	0.349	0.434	0.528	0.632
		NC (Noise Criteria)	<15	19	24	29	33	36	39	41
	10 ft.	Airflow, cfm	140	170	200	230	260	290	320	350
		Static Pressure	0.051	0.075	0.104	0.137	0.175	0.218	0.265	0.317
		Total Pressure	0.054	0.080	0.111	0.146	0.187	0.233	0.283	0.339
		NC (Noise Criteria)	<15	16	21	25	29	33	35	38

One Slot - 3.0" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	140	170	200	230	260	290	320	350
		Static Pressure	0.051	0.075	0.104	0.137	0.175	0.218	0.265	0.317
		Total Pressure	0.054	0.080	0.111	0.146	0.187	0.233	0.283	0.339
		NC (Noise Criteria)	<15	16	21	25	29	33	35	38
	4 ft.	Airflow, cfm	280	340	400	460	520	580	640	700
		Static Pressure	0.056	0.083	0.115	0.152	0.194	0.242	0.294	0.352
		Total Pressure	0.070	0.104	0.144	0.190	0.243	0.302	0.368	0.440
		NC (Noise Criteria)	<15	18	23	27	31	35	37	40
	5 ft.	Airflow, cfm	350	425	500	575	650	725	800	875
		Static Pressure	0.062	0.091	0.127	0.167	0.214	0.266	0.324	0.387
		Total Pressure	0.084	0.124	0.171	0.227	0.290	0.360	0.439	0.525
		NC (Noise Criteria)	<15	19	24	29	33	36	39	41
	10 ft.	Airflow, cfm	140	170	200	230	260	290	320	350
		Static Pressure	0.051	0.075	0.104	0.137	0.175	0.218	0.265	0.317
		Total Pressure	0.054	0.080	0.111	0.146	0.187	0.233	0.283	0.339
		NC (Noise Criteria)	<15	16	21	25	29	33	35	38

- All pressures are in inches of water.
- Isothermal throws are given for velocities of 150, 100 and 50 fpm.
- Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
- Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- Performance data is based on an insulated plenum.

Table 1. NC correction for length

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

Table 2. Throw correction multiplier for length

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8



## 2 SLOT STANDARD BLADE HORIZONTAL THROW WITH METALARE PLENUM

Two Slot - 1.0" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	115	145	175	205	235	260	290	320
		Static Pressure	0.046	0.072	0.103	0.140	0.183	0.232	0.286	0.346
		Total Pressure	0.054	0.084	0.121	0.165	0.215	0.271	0.335	0.405
		NC (Noise Criteria) Throw	<15 7 11 16	16 9 13 18	22 11 14 19	27 12 15 21	31 13 16 22	35 14 17 24	40 14 18 25	45 15 19 26
	4 ft.	Airflow, cfm	235	290	350	410	465	525	580	640
		Static Pressure	0.051	0.080	0.115	0.156	0.204	0.257	0.318	0.384
		Total Pressure	0.083	0.129	0.186	0.254	0.329	0.418	0.513	0.622
		NC (Noise Criteria) Throw	<15 10 15 22	18 12 18 25	24 15 19 28	29 17 21 30	33 18 22 32	37 19 24 34	40 20 25 35	42 21 26 37
	5 ft.	Airflow, cfm	295	365	440	510	585	655	730	800
		Static Pressure	0.056	0.088	0.126	0.172	0.224	0.283	0.349	0.422
		Total Pressure	0.107	0.165	0.239	0.323	0.423	0.533	0.660	0.795
		NC (Noise Criteria) Throw	<15 13 20 25	20 17 24 28	26 20 26 31	31 23 28 33	35 25 30 35	38 26 32 38	41 27 34 40	43 29 35 42

Two Slot - 1.0" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	115	145	175	205	235	260	290	320
		Static Pressure	0.037	0.058	0.083	0.112	0.147	0.185	0.229	0.276
		Total Pressure	0.041	0.064	0.092	0.125	0.163	0.205	0.254	0.307
		NC (Noise Criteria) Throw	<15 7 11 16	16 9 13 18	22 11 14 19	27 12 15 21	31 13 16 22	35 14 17 24	38 14 18 25	40 15 19 26
	4 ft.	Airflow, cfm	235	290	350	410	465	525	580	640
		Static Pressure	0.041	0.064	0.092	0.125	0.163	0.206	0.254	0.307
		Total Pressure	0.057	0.089	0.128	0.175	0.227	0.288	0.354	0.429
		NC (Noise Criteria) Throw	<15 10 15 22	18 12 18 25	24 15 19 28	29 17 21 30	33 18 22 32	37 19 24 34	40 20 25 35	42 21 26 37
	5 ft.	Airflow, cfm	295	365	440	510	585	655	730	800
		Static Pressure	0.045	0.070	0.101	0.137	0.179	0.227	0.279	0.338
		Total Pressure	0.071	0.110	0.159	0.215	0.281	0.354	0.438	0.528
		NC (Noise Criteria) Throw	<15 13 20 25	20 17 24 28	26 20 26 31	31 23 28 33	35 25 30 35	38 26 32 38	41 27 34 40	43 29 35 42

Two Slot - 1.5" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	125	160	190	220	255	285	320	350
		Static Pressure	0.045	0.071	0.102	0.140	0.183	0.232	0.287	0.347
		Total Pressure	0.054	0.086	0.123	0.168	0.221	0.279	0.346	0.419
		NC (Noise Criteria) Throw	<15 6 9 17	17 8 12 18	23 9 14 20	28 11 15 22	32 12 17 23	36 14 18 25	39 15 19 26	41 16 19 28
	4 ft.	Airflow, cfm	250	315	380	445	510	570	635	700
		Static Pressure	0.050	0.079	0.114	0.155	0.203	0.258	0.319	0.386
		Total Pressure	0.086	0.136	0.198	0.271	0.355	0.447	0.553	0.671
		NC (Noise Criteria) Throw	<15 9 13 23	19 11 16 26	25 13 20 29	30 15 22 31	34 18 23 33	38 20 25 35	41 21 26 37	43 22 28 39
	5 ft.	Airflow, cfm	315	395	475	555	635	715	795	875
		Static Pressure	0.055	0.087	0.125	0.171	0.224	0.283	0.350	0.424
		Total Pressure	0.113	0.177	0.256	0.350	0.458	0.581	0.718	0.870
		NC (Noise Criteria) Throw	<15 12 18 26	21 15 22 29	27 18 27 32	32 21 29 35	36 24 31 37	39 27 33 39	42 29 35 41	45 30 37 44

Two Slot - 1.5" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	125	160	190	220	255	285	320	350
		Static Pressure	0.031	0.049	0.071	0.098	0.128	0.162	0.200	0.243
		Total Pressure	0.034	0.054	0.078	0.106	0.139	0.177	0.219	0.265
		NC (Noise Criteria) Throw	<15 6 9 17	17 8 12 18	22 9 14 20	28 11 15 22	32 12 17 23	35 14 18 25	38 15 19 26	41 16 19 28
	4 ft.	Airflow, cfm	250	315	380	445	510	570	635	700
		Static Pressure	0.035	0.055	0.079	0.108	0.142	0.180	0.222	0.270
		Total Pressure	0.046	0.073	0.105	0.144	0.189	0.238	0.295	0.358
		NC (Noise Criteria) Throw	<15 9 13 23	19 11 16 26	24 13 20 29	30 15 22 31	34 18 23 33	37 20 25 35	40 21 26 37	43 22 28 39
	5 ft.	Airflow, cfm	315	395	475	555	635	715	795	875
		Static Pressure	0.038	0.060	0.087	0.119	0.156	0.198	0.245	0.296
		Total Pressure	0.056	0.088	0.128	0.175	0.229	0.290	0.358	0.434
		NC (Noise Criteria) Throw	<15 12 18 26	20 15 22 29	26 18 27 32	31 21 29 35	35 24 31 37	39 27 33 39	42 29 35 41	44 30 37 44

Two Slot - 2.0" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	155	190	225	260	295	330	365	400
		Static Pressure	0.065	0.097	0.137	0.183	0.235	0.294	0.360	0.432
		Total Pressure	0.079	0.118	0.166	0.222	0.286	0.357	0.437	0.525
		NC (Noise Criteria) Throw	<15 9 13 18	16 11 14 20	21 13 16 22	26 14 17 24	30 15 18 25	33 15 19 27	36 16 20 28	38 17 21 29
	4 ft.	Airflow, cfm	310	380	450	520	590	660	730	800
		Static Pressure	0.072	0.108	0.152	0.203	0.261	0.327	0.400	0.480
		Total Pressure	0.128	0.192	0.270	0.360	0.464	0.580	0.710	0.853
		NC (Noise Criteria) Throw	<15 9 14 26	18 11 17 29	23 14 20 31	28 16 23 34	32 18 25 36	35 20 27 38	38 22 28 40	40 24 29 42
	5 ft.	Airflow, cfm	390	475	565	650	740	825	915	1000
		Static Pressure	0.079	0.119	0.167	0.223	0.287	0.359	0.440	0.528
		Total Pressure	0.168	0.250	0.353	0.469	0.606	0.756	0.927	1.110
		NC (Noise Criteria) Throw	<15 12 19 29	19 15 23 32	24 18 27 35	29 21 31 37	33 24 34 40	36 27 36 42	39 29 38 44	42 32 39 47

Two Slot - 2.0" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	155	190	225	260	295	330	365	400
		Static Pressure	0.032	0.048	0.067	0.089	0.115	0.143	0.175	0.211
		Total Pressure	0.036	0.054	0.076	0.101	0.130	0.163	0.199	0.239
		NC (Noise Criteria) Throw	<15 6 10 18	16 8 12 20	21 10 14 22	26 11 17 24	30 13 18 25	33 14 19 27	36 16 20 28	38 17 21 29
	4 ft.	Airflow, cfm	310	380	450	520	590	660	730	800
		Static Pressure	0.035	0.053	0.074	0.099	0.127	0.159	0.195	0.234
		Total Pressure	0.052	0.079	0.110	0.147	0.190	0.238	0.291	0.349
		NC (Noise Criteria) Throw	<15 9 14 26	18 11 17 29	23 14 20 31	28 16 23 34	32 18 25 36	35 20 27 38	38 22 28 40	40 24 29 42
	5 ft.	Airflow, cfm	390	475	565	650	740	825	915	1000
		Static Pressure	0.039	0.058	0.081	0.109	0.140	0.175	0.214	0.257
		Total Pressure	0.066	0.099	0.139	0.185	0.238	0.297	0.365	0.437
		NC (Noise Criteria) Throw	<15 12 19 29	19 15 23 32	24 18 27 35	29 21 31 37	33 24 34 40	36 27 36 42	39 29 38 44	42 32 39 47

2 SLOT STANDARD BLADE HORIZONTAL THROW WITH METALAIRE PLENUM										
Two Slot - 2.5" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	210	255	300	345	390	430	475	520
		Static Pressure	0.061	0.088	0.122	0.160	0.203	0.252	0.306	0.365
		Total Pressure	0.074	0.108	0.148	0.195	0.248	0.307	0.373	0.445
		NC (Noise Criteria)	<15	18	23	27	31	34	37	39
	4 ft.	Throw	8 12 21	10 15 24	11 17 25	13 19 27	15 20 29	16 22 31	18 23 32	19 24 34
		Airflow, cfm	425	510	600	690	775	865	950	1040
		Static Pressure	0.067	0.098	0.135	0.178	0.226	0.280	0.340	0.406
		Total Pressure	0.121	0.176	0.242	0.319	0.404	0.502	0.608	0.727
	5 ft.	NC (Noise Criteria)	<15	20	25	29	33	36	39	41
		Throw	11 17 30	14 21 33	16 24 36	19 27 39	21 29 41	23 31 43	26 32 45	27 34 47
		Airflow, cfm	530	640	750	860	970	1080	1190	1300
		Static Pressure	0.084	0.123	0.169	0.222	0.282	0.350	0.425	0.507
		Total Pressure	0.168	0.245	0.336	0.442	0.562	0.696	0.845	1.009
NC (Noise Criteria)		16	21	26	31	35	38	41	43	
Throw		15 23 34	18 28 37	22 32 40	25 37 43	28 39 46	31 41 48	34 43 51	37 45 53	

Two Slot - 2.5" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	210	255	300	345	390	430	475	520
		Static Pressure	0.038	0.055	0.076	0.100	0.127	0.157	0.191	0.228
		Total Pressure	0.046	0.067	0.092	0.121	0.154	0.191	0.232	0.277
		NC (Noise Criteria)	<15	17	22	26	30	34	36	39
	4 ft.	Airflow, cfm	425	510	600	690	775	865	950	1040
		Static Pressure	0.042	0.061	0.084	0.111	0.141	0.175	0.212	0.254
		Total Pressure	0.075	0.108	0.149	0.196	0.249	0.309	0.375	0.448
		NC (Noise Criteria)	<15	19	24	28	32	36	38	41
	5 ft.	Airflow, cfm	530	640	750	860	970	1080	1190	1300
		Static Pressure	0.046	0.068	0.093	0.122	0.155	0.192	0.234	0.279
		Total Pressure	0.097	0.141	0.194	0.255	0.324	0.402	0.488	0.583
		NC (Noise Criteria)	<15	20	26	30	34	37	40	42
	5 ft.	Throw	15 23 34	18 28 37	22 32 40	25 37 43	28 39 46	31 41 48	34 43 51	37 45 53

Two Slot - 3.0" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	195	240	280	320	365	405	450	490
		Static Pressure	0.027	0.039	0.054	0.072	0.092	0.114	0.139	0.166
		Total Pressure	0.038	0.056	0.078	0.102	0.131	0.163	0.199	0.238
		NC (Noise Criteria)	<15	16	21	25	29	33	36	38
	4 ft.	Airflow, cfm	390	475	560	645	730	810	895	980
		Static Pressure	0.030	0.044	0.060	0.080	0.102	0.127	0.155	0.185
		Total Pressure	0.075	0.111	0.154	0.203	0.260	0.322	0.392	0.470
		NC (Noise Criteria)	<15	18	23	27	31	35	37	40
	5 ft.	Airflow, cfm	490	595	700	805	910	1015	1120	1225
		Static Pressure	0.041	0.061	0.085	0.112	0.143	0.178	0.216	0.259
		Total Pressure	0.113	0.166	0.230	0.304	0.389	0.484	0.589	0.705
		NC (Noise Criteria)	<15	19	24	29	33	36	39	41
	5 ft.	Throw	11 19 32	15 24 36	18 28 39	21 32 42	24 36 44	27 40 47	30 42 49	32 44 51

Two Slot - 3.0" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	195	240	280	320	365	405	450	490
		Static Pressure	0.022	0.032	0.044	0.058	0.075	0.093	0.113	0.135
		Total Pressure	0.028	0.042	0.058	0.077	0.098	0.122	0.149	0.178
		NC (Noise Criteria)	<15	15	20	24	28	32	35	37
	4 ft.	Airflow, cfm	390	475	560	645	730	810	895	980
		Static Pressure	0.024	0.035	0.049	0.065	0.083	0.103	0.125	0.150
		Total Pressure	0.051	0.076	0.105	0.140	0.179	0.221	0.269	0.323
		NC (Noise Criteria)	<15	17	22	26	30	34	37	39
	5 ft.	Airflow, cfm	490	595	700	805	910	1015	1120	1225
		Static Pressure	0.026	0.039	0.054	0.071	0.091	0.113	0.138	0.165
		Total Pressure	0.070	0.103	0.142	0.188	0.240	0.298	0.363	0.435
		NC (Noise Criteria)	<15	18	23	28	32	35	38	41
	5 ft.	Throw	11 19 32	15 24 36	18 28 39	21 32 42	24 36 44	27 40 47	30 42 49	32 44 51

1. All pressures are in inches of water.
2. Isothermal throws are given for velocities of 150, 100 and 50 fpm.
3. Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
4. Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
5. Performance data is based on an insulated plenum.

Table 1. NC correction for length

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

Table 2. Throw correction multiplier for length

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8

## PRESSURIZED CEILING PLENUM WITH STANDARD BLADE PATTERN CONTROLLER

1.0" Slot Width	1 Slot	Airflow, cfm/lf	25	40	65	80	95	110	125	140
		Static Pressure	0.026	0.066	0.174	0.264	0.372	0.499	0.644	0.808
		NC (Noise Criteria)	<15	16	31	37	42	45	48	51
		Throw	6 9 15	10 13 19	14 17 24	15 19 26	17 20 29	18 22 31	19 23 33	20 25 35
	2 Slots	Airflow, cfm/lf	40	60	100	120	145	165	190	210
		Static Pressure	0.017	0.038	0.105	0.151	0.221	0.286	0.379	0.463
		NC (Noise Criteria)	-	<15	26	32	38	41	45	47
		Throw	7 10 19	10 15 23	17 21 29	19 23 32	20 25 35	22 27 38	23 29 41	25 30 43

1.5" Slot Width	1 Slot	Airflow, cfm/lf	30	50	80	95	115	130	150	170
		Static Pressure	0.026	0.072	0.184	0.259	0.380	0.486	0.647	0.831
		NC (Noise Criteria)	<15	16	31	36	41	44	48	50
		Throw	6 9 16	10 15 21	15 19 26	17 20 29	18 22 32	19 24 34	21 25 36	22 27 38
	2 Slots	Airflow, cfm/lf	45	75	120	145	175	195	225	255
		Static Pressure	0.017	0.048	0.123	0.179	0.261	0.324	0.431	0.553
		NC (Noise Criteria)	-	<15	25	31	37	40	44	47
Throw		5 9 19	11 16 25	17 23 32	20 25 35	22 28 39	24 29 41	25 31 44	27 33 47	

2.0" Slot Width	1 Slot	Airflow, cfm/lf	35	55	90	110	135	155	175	195
		Static Pressure	0.025	0.062	0.166	0.248	0.374	0.493	0.628	0.780
		NC (Noise Criteria)	-	<15	27	33	39	42	45	48
	2 Slots	Throw	5 9 17	9 14 22	15 20 28	18 22 31	20 24 34	21 26 37	22 28 39	24 29 41
		Airflow, cfm/lf	55	85	135	165	205	235	265	295
		Static Pressure	0.016	0.039	0.099	0.148	0.229	0.301	0.383	0.474
		NC (Noise Criteria)	-	<15	20	27	34	38	41	44
Throw	5 10 20	10 15 27	16 24 34	20 27 38	24 30 42	26 32 45	28 34 48	29 36 51		

2.5" Slot Width	1 Slot	Airflow, cfm/lf	40	60	100	120	145	165	190	210
		Static Pressure	0.020	0.045	0.126	0.181	0.265	0.343	0.455	0.556
		NC (Noise Criteria)	-	<15	23	29	35	38	42	44
	Throw	5 9 18	9 14 23	15 21 29	18 23 32	20 25 35	22 27 38	23 29 41	25 30 43	
	2 Slots	Airflow, cfm/lf	60	90	150	180	220	250	285	315
		Static Pressure	0.012	0.026	0.073	0.105	0.156	0.202	0.262	0.320
NC (Noise Criteria)		-	<15	17	22	29	33	37	40	
Throw	4 9 20	9 15 28	16 24 36	20 28 39	24 31 44	27 33 47	29 35 50	30 37 52		

3.0" Slot Width	1 Slot	Airflow, cfm/ft	45	70	115	145	170	200	225	250
		Static Pressure	0.021	0.051	0.138	0.219	0.301	0.416	0.527	0.650
		NC (Noise Criteria)	-	<15	21	29	34	38	42	44
		Throw	5 9 19	10 15 25	16 22 32	20 25 35	22 27 38	24 29 42	25 31 44	27 33 47
	2 Slots	Airflow, cfm/ft	70	105	175	220	255	300	340	420
		Static Pressure	0.011	0.025	0.070	0.111	0.150	0.207	0.266	0.406
		NC (Noise Criteria)	-	<15	16	23	28	33	37	43
		Throw	4 9 21	9 16 30	17 26 39	22 31 44	25 33 47	29 36 51	31 38 54	35 43 60

1. All pressures are in inches of water.
2. Isothermal throws are given for velocities of 150, 100 and 50 fpm.
3. Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
4. Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
5. Performance data is based on an insulated plenum.

Table 1. NC correction for length

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

Table 2. Throw correction multiplier for length

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8

**1 SLOT COMBO BLADE PATTERN CONTROLLER WITH METALARE PLENUM-HORIZONTAL DISCHARGE**

One Slot - 1.0" Slot Width Horizontal Throw 6" Oval Inlet	2 ft.	Airflow, cfm	20	40	60	80	100	120	140	160
		Static Pressure	0.004	0.018	0.040	0.071	0.111	0.159	0.217	0.283
		Total Pressure	0.005	0.020	0.046	0.081	0.127	0.182	0.248	0.324
		NC (Noise Criteria)	-	<15	20	26	31	35	38	41
		Throw	1 3 7	4 7 11	7 10 14	9 11 16	10 13 18	11 14 19	12 15 21	13 16 22
	4 ft.	Airflow, cfm	40	80	120	160	200	240	280	320
		Static Pressure	0.005	0.020	0.044	0.079	0.123	0.177	0.241	0.314
		Total Pressure	0.008	0.030	0.068	0.120	0.188	0.270	0.368	0.480
		NC (Noise Criteria)	-	<15	22	28	33	37	40	43
		Throw	2 4 9	6 9 16	9 14 19	13 16 22	14 18 25	16 19 27	17 21 30	18 22 32
5 ft.	Airflow, cfm	50	100	150	200	250	300	350	400	
	Static Pressure	0.005	0.022	0.049	0.086	0.135	0.195	0.265	0.346	
	Total Pressure	0.009	0.038	0.085	0.151	0.236	0.340	0.463	0.605	
	NC (Noise Criteria)	<15	16	23	29	34	38	42	45	
	Throw	2 5 11	8 13 18	13 18 22	17 21 25	19 24 28	21 26 31	23 28 33	24 30 35	



**1 SLOT COMBO BLADE PATTERN CONTROLLER WITH METALAIR PLENUM - HORIZONTAL DISCHARGE**

One Slot - 2.5" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	65	110	150	190	235	275	320	360
		Static Pressure	0.016	0.042	0.081	0.133	0.197	0.274	0.364	0.467
		Total Pressure	0.017	0.046	0.088	0.143	0.214	0.297	0.394	0.505
	4 ft.	NC (Noise Criteria)	-	<15	19	24	29	34	37	41
		Throw	3 4 8	4 6 12	6 9 17	7 11 22	9 13 25	11 16 27	12 18 29	14 21 31
		Airflow, cfm	130	215	300	385	470	550	635	720
	5 ft.	Static Pressure	0.017	0.047	0.090	0.147	0.219	0.305	0.404	0.518
		Total Pressure	0.022	0.060	0.117	0.191	0.285	0.395	0.524	0.672
		NC (Noise Criteria)	-	<15	21	26	31	36	39	43
One Slot - 2.5" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	130	215	300	385	470	550	635	720
		Static Pressure	0.016	0.044	0.085	0.139	0.207	0.288	0.382	0.489
		Total Pressure	0.019	0.052	0.101	0.166	0.246	0.342	0.454	0.582
	4 ft.	NC (Noise Criteria)	-	<15	21	26	31	36	39	43
		Throw	4 5 11	6 9 18	8 12 24	10 16 31	13 19 35	15 23 38	17 26 41	20 29 44
		Airflow, cfm	165	270	375	480	585	690	795	900
	5 ft.	Static Pressure	0.019	0.051	0.099	0.162	0.241	0.335	0.445	0.570
		Total Pressure	0.027	0.073	0.141	0.231	0.343	0.477	0.633	0.811
		NC (Noise Criteria)	<15	15	22	28	33	37	41	44

One Slot - 2.5" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	65	110	150	190	235	275	320	360
		Static Pressure	0.015	0.040	0.076	0.125	0.186	0.259	0.344	0.440
		Total Pressure	0.016	0.042	0.080	0.132	0.196	0.272	0.362	0.464
	4 ft.	NC (Noise Criteria)	-	<15	19	24	29	34	37	41
		Throw	3 4 8	4 6 12	6 9 17	7 11 22	9 13 25	11 16 27	12 18 29	14 21 31
		Airflow, cfm	130	215	300	385	470	550	635	720
	5 ft.	Static Pressure	0.016	0.044	0.085	0.139	0.207	0.288	0.382	0.489
		Total Pressure	0.019	0.052	0.101	0.166	0.246	0.342	0.454	0.582
		NC (Noise Criteria)	-	<15	21	26	31	36	39	43
One Slot - 2.5" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	130	215	300	385	470	550	635	720
		Static Pressure	0.016	0.044	0.085	0.139	0.207	0.288	0.382	0.489
		Total Pressure	0.019	0.052	0.101	0.166	0.246	0.342	0.454	0.582
	4 ft.	NC (Noise Criteria)	-	<15	21	26	31	36	39	43
		Throw	4 5 11	6 9 18	8 12 24	10 16 31	13 19 35	15 23 38	17 26 41	20 29 44
		Airflow, cfm	165	270	375	480	585	690	795	900
	5 ft.	Static Pressure	0.018	0.048	0.093	0.153	0.227	0.316	0.420	0.538
		Total Pressure	0.023	0.062	0.119	0.194	0.289	0.402	0.533	0.684
		NC (Noise Criteria)	<15	15	22	28	33	37	41	44

One Slot - 3.0" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	135	180	220	260	305	345	390	430
		Static Pressure	0.032	0.055	0.084	0.119	0.160	0.207	0.260	0.320
		Total Pressure	0.037	0.064	0.098	0.139	0.187	0.242	0.305	0.374
	4 ft.	NC (Noise Criteria)	<15	18	23	28	31	35	38	40
		Throw	5 7 14	6 9 19	8 12 23	9 14 26	11 16 28	12 18 30	14 20 32	15 23 34
		Airflow, cfm	270	355	440	525	610	690	775	860
	5 ft.	Static Pressure	0.036	0.061	0.093	0.132	0.177	0.230	0.289	0.355
		Total Pressure	0.057	0.098	0.150	0.214	0.288	0.371	0.467	0.575
		NC (Noise Criteria)	<15	20	25	30	33	37	40	42
One Slot - 3.0" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	135	180	220	260	305	345	390	430
		Static Pressure	0.030	0.052	0.079	0.112	0.151	0.195	0.246	0.302
		Total Pressure	0.033	0.057	0.088	0.124	0.167	0.217	0.273	0.335
	4 ft.	NC (Noise Criteria)	<15	18	23	28	31	35	38	40
		Throw	5 7 14	6 9 19	8 12 23	9 14 26	11 16 28	12 18 30	14 20 32	15 23 34
		Airflow, cfm	270	355	440	525	610	690	775	860
	5 ft.	Static Pressure	0.034	0.057	0.088	0.124	0.167	0.217	0.273	0.335
		Total Pressure	0.047	0.080	0.122	0.174	0.234	0.302	0.381	0.468
		NC (Noise Criteria)	<15	20	25	30	33	37	40	42

One Slot - 3.0" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	135	180	220	260	305	345	390	430
		Static Pressure	0.030	0.052	0.079	0.112	0.151	0.195	0.246	0.302
		Total Pressure	0.033	0.057	0.088	0.124	0.167	0.217	0.273	0.335
	4 ft.	NC (Noise Criteria)	<15	18	23	28	31	35	38	40
		Throw	5 7 14	6 9 19	8 12 23	9 14 26	11 16 28	12 18 30	14 20 32	15 23 34
		Airflow, cfm	270	355	440	525	610	690	775	860
	5 ft.	Static Pressure	0.034	0.057	0.088	0.124	0.167	0.217	0.273	0.335
		Total Pressure	0.047	0.080	0.122	0.174	0.234	0.302	0.381	0.468
		NC (Noise Criteria)	<15	20	25	30	33	37	40	42
One Slot - 3.0" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	135	180	220	260	305	345	390	430
		Static Pressure	0.030	0.052	0.079	0.112	0.151	0.195	0.246	0.302
		Total Pressure	0.033	0.057	0.088	0.124	0.167	0.217	0.273	0.335
	4 ft.	NC (Noise Criteria)	<15	18	23	28	31	35	38	40
		Throw	5 7 14	6 9 19	8 12 23	9 14 26	11 16 28	12 18 30	14 20 32	15 23 34
		Airflow, cfm	270	355	440	525	610	690	775	860
	5 ft.	Static Pressure	0.037	0.063	0.096	0.137	0.184	0.239	0.300	0.369
		Total Pressure	0.058	0.099	0.151	0.214	0.288	0.373	0.469	0.576
		NC (Noise Criteria)	16	22	27	31	35	38	41	44

1. All pressures are in inches of water.
2. Isothermal throws are given for velocities of 150, 100 and 50 fpm.
3. Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
4. Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
5. Performance data is based on an insulated plenum.

**Table 1. NC correction for length**

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

**Table 2. Throw correction multiplier for length**

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8

**1 SLOT COMBO BLADE PATTERN CONTROLLER WITH METALARE PLENUM-VERTICAL DISCHARGE**

One Slot - 1.0" Slot Width Vertical Throw 8" Oval Inlet	2 ft.	Airflow, cfm	70	110	155	200	240	285	325	370
		Static Pressure	0.009	0.025	0.048	0.078	0.116	0.161	0.213	0.273
		Total Pressure	0.012	0.032	0.062	0.101	0.149	0.208	0.275	0.353
		NC (Noise Criteria)	<15	20	26	30	34	37	40	43
	4 ft.	Airflow, cfm	140	225	310	395	480	570	655	740
		Static Pressure	0.014	0.036	0.068	0.112	0.166	0.230	0.305	0.390
		Total Pressure	0.025	0.065	0.124	0.203	0.300	0.419	0.555	0.709
		NC (Noise Criteria)	<15	22	28	32	36	39	42	45
	5 ft.	Airflow, cfm	175	280	390	495	605	710	820	925
		Static Pressure	0.018	0.046	0.089	0.145	0.215	0.299	0.396	0.507
		Total Pressure	0.035	0.092	0.178	0.288	0.428	0.592	0.788	1.005
		NC (Noise Criteria)	15	23	29	34	38	41	44	46
	5 ft.	Throw	7 10 16	11 17 21	15 21 24	19 23 28	21 26 31	23 28 33	25 30 36	26 32 38

One Slot - 1.0" Slot Width Vertical Throw 10" Oval Inlet	2 ft.	Airflow, cfm	70	110	155	200	240	285	325	370
		Static Pressure	0.012	0.031	0.060	0.097	0.144	0.200	0.266	0.340
		Total Pressure	0.013	0.035	0.067	0.109	0.161	0.225	0.297	0.381
		NC (Noise Criteria)	<15	17	22	26	29	32	34	36
	4 ft.	Airflow, cfm	140	225	310	395	480	570	655	740
		Static Pressure	0.017	0.045	0.085	0.139	0.206	0.286	0.380	0.486
		Total Pressure	0.023	0.060	0.114	0.186	0.275	0.383	0.507	0.649
		NC (Noise Criteria)	<15	19	24	28	31	34	36	38
	5 ft.	Airflow, cfm	175	280	390	495	605	710	820	925
		Static Pressure	0.022	0.058	0.111	0.181	0.268	0.372	0.493	0.632
		Total Pressure	0.031	0.081	0.156	0.254	0.377	0.522	0.693	0.886
		NC (Noise Criteria)	<15	20	26	30	33	35	38	40
	5 ft.	Throw	7 10 16	11 17 21	15 21 24	19 23 28	21 26 31	23 28 33	25 30 36	26 32 38

One Slot - 1.0" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	70	110	155	200	240	285	325	370
		Static Pressure	0.009	0.024	0.046	0.075	0.111	0.154	0.204	0.261
		Total Pressure	0.010	0.026	0.050	0.082	0.121	0.168	0.223	0.286
		NC (Noise Criteria)	<15	18	23	27	30	33	35	37
	4 ft.	Airflow, cfm	140	225	310	395	480	570	655	740
		Static Pressure	0.013	0.034	0.065	0.107	0.158	0.220	0.291	0.373
		Total Pressure	0.016	0.043	0.083	0.135	0.200	0.278	0.368	0.471
		NC (Noise Criteria)	-	<15	20	25	29	32	35	37
	5 ft.	Airflow, cfm	175	280	390	495	605	710	820	925
		Static Pressure	0.017	0.044	0.085	0.139	0.206	0.286	0.379	0.485
		Total Pressure	0.022	0.059	0.112	0.183	0.272	0.376	0.500	0.639
		NC (Noise Criteria)	<15	16	22	27	30	33	36	38
	5 ft.	Throw	7 10 16	11 17 21	15 21 24	19 23 28	21 26 31	23 28 33	25 30 36	26 32 38

One Slot - 1.5" Slot Width Vertical Throw 8" Oval Inlet	2 ft.	Airflow, cfm	80	140	200	260	320	380	440	500
		Static Pressure	0.012	0.037	0.075	0.127	0.192	0.270	0.363	0.468
		Total Pressure	0.016	0.048	0.098	0.166	0.251	0.354	0.475	0.614
		NC (Noise Criteria)	<15	18	25	30	34	37	40	42
	4 ft.	Airflow, cfm	160	280	400	520	640	760	880	1000
		Static Pressure	0.017	0.052	0.107	0.181	0.274	0.386	0.518	0.669
		Total Pressure	0.032	0.098	0.200	0.338	0.512	0.723	0.969	1.251
		NC (Noise Criteria)	<15	20	27	32	36	39	42	44
	5 ft.	Airflow, cfm	200	350	500	650	800	950	1100	1250
		Static Pressure	0.022	0.068	0.139	0.235	0.356	0.502	0.673	0.869
		Total Pressure	0.046	0.139	0.285	0.481	0.729	1.028	1.378	1.779
		NC (Noise Criteria)	<15	22	28	33	37	40	43	46
	5 ft.	Throw	7 10 16	11 17 23	16 24 28	21 27 32	24 30 35	27 33 38	29 35 41	30 37 44

One Slot - 1.5" Slot Width Vertical Throw 10" Oval Inlet	2 ft.	Airflow, cfm	80	140	200	260	320	380	440	500
		Static Pressure	0.008	0.026	0.052	0.088	0.134	0.189	0.253	0.326
		Total Pressure	0.010	0.031	0.064	0.108	0.164	0.231	0.310	0.401
		NC (Noise Criteria)	-	15	21	26	29	32	34	36
	4 ft.	Airflow, cfm	160	280	400	520	640	760	880	1000
		Static Pressure	0.012	0.037	0.075	0.126	0.191	0.269	0.361	0.466
		Total Pressure	0.020	0.060	0.122	0.206	0.313	0.441	0.591	0.763
		NC (Noise Criteria)	<15	17	23	28	31	34	36	38
	5 ft.	Airflow, cfm	200	350	500	650	800	950	1100	1250
		Static Pressure	0.016	0.048	0.097	0.164	0.248	0.350	0.469	0.606
		Total Pressure	0.027	0.084	0.171	0.289	0.438	0.618	0.829	1.070
		NC (Noise Criteria)	<15	19	25	29	32	35	37	40
	5 ft.	Throw	7 10 16	11 17 23	16 24 28	21 27 32	24 30 35	27 33 38	29 35 41	30 37 44

One Slot - 1.5" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	80	140	200	260	320	380	440	500
		Static Pressure	0.006	0.020	0.040	0.068	0.103	0.145	0.194	0.250
		Total Pressure	0.008	0.023	0.047	0.080	0.121	0.170	0.229	0.295
		NC (Noise Criteria)	-	<15	17	22	26	30	32	35
	4 ft.	Airflow, cfm	160	280	400	520	640	760	880	1000
		Static Pressure	0.009	0.028	0.057	0.097	0.146	0.206	0.277	0.358
		Total Pressure	0.014	0.042	0.086	0.145	0.220	0.310	0.416	0.537
		NC (Noise Criteria)	-	<15	19	24	28	32	34	37
	5 ft.	Airflow, cfm	200	350	500	650	800	950	1100	1250
		Static Pressure	0.012	0.036	0.074	0.126	0.190	0.268	0.360	0.465
		Total Pressure	0.019	0.058	0.119	0.202	0.305	0.431	0.577	0.746
		NC (Noise Criteria)	-	<15	21	26	30	33	36	38
	5 ft.	Throw	7 10 16	11 17 23	16 24 28	21 27 32	24 30 35	27 33 38	29 35 41	30 37 44

## 1 SLOT COMBO BLADE PATTERN CONTROLLER WITH METALARE PLENUM-VERTICAL DISCHARGE

One Slot - 2.0" Slot Width Vertical Throw 8" Oval Inlet	2 ft.	Airflow, cfm	70	125	180	235	290	350	405	460
		Static Pressure	0.007	0.024	0.051	0.088	0.134	0.191	0.257	0.333
		Total Pressure	0.010	0.033	0.070	0.120	0.183	0.262	0.353	0.456
		NC (Noise Criteria)	<15	19	25	31	35	38	41	44
	4 ft.	Airflow, cfm	135	250	360	470	585	695	810	920
		Static Pressure	0.010	0.035	0.073	0.125	0.192	0.272	0.367	0.476
		Total Pressure	0.021	0.071	0.148	0.254	0.391	0.554	0.749	0.969
		NC (Noise Criteria)	<15	21	27	33	37	40	43	46
	5 ft.	Airflow, cfm	170	310	450	590	730	870	1010	1150
		Static Pressure	0.014	0.045	0.095	0.163	0.249	0.354	0.477	0.619
		Total Pressure	0.030	0.101	0.213	0.366	0.560	0.795	1.071	1.389
		NC (Noise Criteria)	<15	22	29	34	38	41	44	47
	8 ft.	Airflow, cfm	210	390	540	690	840	990	1140	1290
		Static Pressure	0.017	0.055	0.110	0.187	0.283	0.398	0.533	0.688
		Total Pressure	0.034	0.119	0.238	0.402	0.596	0.829	1.105	1.432
		NC (Noise Criteria)	<15	23	30	36	40	44	47	50

One Slot - 2.0" Slot Width Vertical Throw 10" Oval Inlet	2 ft.	Airflow, cfm	70	125	180	235	290	350	405	460
		Static Pressure	0.006	0.020	0.041	0.071	0.109	0.155	0.209	0.271
		Total Pressure	0.007	0.024	0.051	0.088	0.134	0.191	0.258	0.334
		NC (Noise Criteria)	<15	15	22	26	30	32	35	37
	4 ft.	Airflow, cfm	135	250	360	470	585	695	810	920
		Static Pressure	0.008	0.028	0.059	0.102	0.156	0.221	0.298	0.387
		Total Pressure	0.014	0.047	0.098	0.167	0.257	0.365	0.493	0.638
		NC (Noise Criteria)	<15	17	24	28	32	34	37	39
	5 ft.	Airflow, cfm	170	310	450	590	730	870	1010	1150
		Static Pressure	0.011	0.037	0.077	0.132	0.203	0.288	0.388	0.503
		Total Pressure	0.020	0.065	0.137	0.236	0.361	0.513	0.691	0.896
		NC (Noise Criteria)	<15	19	25	30	33	36	38	41
	8 ft.	Airflow, cfm	210	390	540	690	840	990	1140	1290
		Static Pressure	0.012	0.039	0.078	0.132	0.203	0.288	0.388	0.503
		Total Pressure	0.022	0.069	0.141	0.240	0.365	0.517	0.695	0.900
		NC (Noise Criteria)	<15	20	26	31	34	37	39	41

One Slot - 2.0" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	70	125	180	235	290	350	405	460
		Static Pressure	0.004	0.012	0.026	0.044	0.067	0.095	0.129	0.167
		Total Pressure	0.005	0.015	0.031	0.054	0.082	0.117	0.158	0.205
		NC (Noise Criteria)	<15	18	23	27	31	33	36	39
	4 ft.	Airflow, cfm	135	250	360	470	585	695	810	920
		Static Pressure	0.005	0.017	0.036	0.063	0.096	0.136	0.184	0.238
		Total Pressure	0.008	0.029	0.060	0.102	0.157	0.223	0.302	0.390
		NC (Noise Criteria)	<15	20	25	29	33	35	38	41
	5 ft.	Airflow, cfm	170	310	450	590	730	870	1010	1150
		Static Pressure	0.007	0.022	0.047	0.081	0.125	0.177	0.239	0.309
		Total Pressure	0.012	0.040	0.084	0.144	0.220	0.313	0.422	0.547
		NC (Noise Criteria)	<15	22	27	31	34	37	39	41
	8 ft.	Airflow, cfm	210	390	540	690	840	990	1140	1290
		Static Pressure	0.008	0.025	0.050	0.085	0.129	0.183	0.248	0.323
		Total Pressure	0.013	0.041	0.082	0.141	0.216	0.309	0.428	0.567
		NC (Noise Criteria)	<15	23	28	33	37	40	43	46

One Slot - 2.5" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	195	290	385	480	575	670	765	860
		Static Pressure	0.017	0.037	0.065	0.101	0.145	0.196	0.256	0.324
		Total Pressure	0.023	0.052	0.091	0.142	0.204	0.277	0.361	0.456
		NC (Noise Criteria)	<15	22	27	32	35	38	40	42
	4 ft.	Airflow, cfm	390	580	770	960	1150	1340	1530	1720
		Static Pressure	0.024	0.053	0.093	0.144	0.207	0.281	0.366	0.462
		Total Pressure	0.051	0.113	0.199	0.310	0.444	0.603	0.786	0.994
		NC (Noise Criteria)	17	24	29	34	37	40	42	44
	5 ft.	Airflow, cfm	490	725	965	1200	1440	1675	1915	2150
		Static Pressure	0.031	0.068	0.120	0.187	0.269	0.365	0.475	0.601
		Total Pressure	0.074	0.163	0.288	0.446	0.641	0.869	1.134	1.432
		NC (Noise Criteria)	18	25	31	35	38	41	43	45
	8 ft.	Airflow, cfm	610	915	1215	1515	1815	2115	2415	2715
		Static Pressure	0.037	0.085	0.150	0.237	0.337	0.450	0.576	0.714
		Total Pressure	0.081	0.191	0.326	0.494	0.699	0.934	1.199	1.494
		NC (Noise Criteria)	<15	26	32	38	43	47	50	53

One Slot - 3.0" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	195	290	385	480	575	670	765	860
		Static Pressure	0.015	0.033	0.058	0.090	0.130	0.176	0.229	0.290
		Total Pressure	0.022	0.048	0.085	0.132	0.189	0.257	0.335	0.423
		NC (Noise Criteria)	<15	20	24	28	31	33	35	37
	4 ft.	Airflow, cfm	390	580	770	960	1150	1340	1530	1720
		Static Pressure	0.021	0.047	0.083	0.129	0.185	0.251	0.328	0.414
		Total Pressure	0.049	0.108	0.190	0.295	0.423	0.574	0.748	0.946
		NC (Noise Criteria)	<15	17	22	26	30	33	35	37
	5 ft.	Airflow, cfm	490	725	965	1200	1440	1675	1915	2150
		Static Pressure	0.028	0.061	0.108	0.168	0.241	0.327	0.426	0.538
		Total Pressure	0.071	0.156	0.275	0.426	0.613	0.831	1.085	1.369
		NC (Noise Criteria)	<15	18	24	28	31	34	37	39
	8 ft.	Airflow, cfm	610	915	1215	1515	1815	2115	2415	2715
		Static Pressure	0.020	0.049	0.088	0.137	0.196	0.265	0.344	0.433
		Total Pressure	0.045	0.101	0.181	0.281	0.400	0.540	0.700	0.880
		NC (Noise Criteria)	<15	19	24	29	33	36	39	41

1. All pressures are in inches of water.
2. Isothermal throws are given for velocities of 150, 100 and 50 fpm.
3. Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
4. Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
5. Performance data is based on an insulated plenum.

Table 1. NC correction for length

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

Table 2. Throw correction multiplier for length

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8

2 SLOT COMBO BLADE PATTERN CONTROLLER WITH METALARE PLENUM-HORIZONTAL DISCHARGE										
Two Slot - 1.0" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	110	145	180	215	250	290	325	360
		Static Pressure	0.037	0.065	0.102	0.147	0.200	0.261	0.331	0.408
		Total Pressure	0.044	0.078	0.121	0.174	0.236	0.310	0.392	0.484
		NC (Noise Criteria) Throw	<15 6 10 15	17 9 13 18	22 11 14 20	26 13 15 22	30 14 17 24	34 15 18 25	37 15 19 27	40 16 20 28
	4 ft.	Airflow, cfm	215	290	360	430	505	575	650	720
		Static Pressure	0.041	0.073	0.113	0.163	0.222	0.290	0.367	0.454
		Total Pressure	0.068	0.122	0.189	0.271	0.371	0.483	0.613	0.755
		NC (Noise Criteria) Throw	<15 9 14 22	19 12 18 25	24 15 20 28	28 18 22 31	32 19 24 33	36 21 25 36	39 22 27 38	42 23 28 40
	5 ft.	Airflow, cfm	270	360	450	540	630	720	810	900
		Static Pressure	0.045	0.080	0.125	0.180	0.244	0.319	0.404	0.499
		Total Pressure	0.087	0.155	0.243	0.349	0.476	0.621	0.786	0.971
		NC (Noise Criteria) Throw	<15 12 18 24	20 16 24 28	25 21 27 32	30 24 29 35	34 26 32 37	37 28 34 40	40 29 36 42	43 31 38 45

Two Slot - 1.0" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	110	145	180	215	250	290	325	360
		Static Pressure	0.033	0.058	0.091	0.131	0.179	0.233	0.295	0.365
		Total Pressure	0.036	0.065	0.101	0.145	0.197	0.258	0.327	0.403
		NC (Noise Criteria) Throw	<15 6 10 15	17 9 13 18	22 11 14 20	26 13 15 22	30 14 17 24	34 15 18 25	37 15 19 27	40 16 20 28
	4 ft.	Airflow, cfm	215	290	360	430	505	575	650	720
		Static Pressure	0.036	0.065	0.101	0.146	0.198	0.259	0.328	0.405
		Total Pressure	0.050	0.090	0.140	0.201	0.274	0.357	0.454	0.559
		NC (Noise Criteria) Throw	<15 9 14 22	19 12 18 25	24 15 20 28	28 18 22 31	32 19 24 33	36 21 25 36	39 22 27 38	42 23 28 40
	5 ft.	Airflow, cfm	270	360	450	540	630	720	810	900
		Static Pressure	0.040	0.071	0.111	0.160	0.218	0.285	0.361	0.446
		Total Pressure	0.062	0.110	0.172	0.247	0.336	0.439	0.556	0.686
		NC (Noise Criteria) Throw	<15 12 18 24	20 16 24 28	25 21 27 32	30 24 29 35	34 26 32 37	37 28 34 40	40 29 36 42	43 31 38 45

Two Slot - 1.5" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	95	125	155	185	215	250	280	310
		Static Pressure	0.018	0.033	0.051	0.073	0.100	0.130	0.165	0.203
		Total Pressure	0.024	0.042	0.065	0.093	0.127	0.166	0.210	0.259
		NC (Noise Criteria) Throw	<15 4 7 14	17 6 9 17	22 8 11 18	27 9 14 20	31 11 15 22	34 12 17 23	37 14 18 25	40 15 18 26
	4 ft.	Airflow, cfm	185	250	310	370	435	495	560	620
		Static Pressure	0.020	0.036	0.056	0.081	0.111	0.145	0.183	0.226
		Total Pressure	0.040	0.073	0.112	0.161	0.221	0.287	0.366	0.450
		NC (Noise Criteria) Throw	<15 5 10 19	19 9 13 23	24 11 16 26	29 13 19 29	33 15 22 31	36 17 23 33	39 19 25 35	42 21 26 37
	5 ft.	Airflow, cfm	235	310	390	465	545	620	700	775
		Static Pressure	0.022	0.040	0.062	0.089	0.122	0.159	0.201	0.248
		Total Pressure	0.055	0.096	0.151	0.215	0.295	0.383	0.486	0.598
		NC (Noise Criteria) Throw	15 7 13 22	21 12 17 26	26 14 22 29	30 17 26 32	34 20 29 35	38 23 31 37	41 26 33 39	43 29 35 41

Two Slot - 1.5" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	95	125	155	185	215	250	280	310
		Static Pressure	0.017	0.030	0.047	0.068	0.092	0.120	0.152	0.188
		Total Pressure	0.019	0.033	0.051	0.074	0.100	0.132	0.166	0.205
		NC (Noise Criteria) Throw	<15 4 7 14	17 6 9 17	22 8 11 18	26 9 14 20	30 11 15 22	34 12 17 23	37 14 18 25	40 15 18 26
	4 ft.	Airflow, cfm	185	250	310	370	435	495	560	620
		Static Pressure	0.019	0.033	0.052	0.075	0.102	0.134	0.169	0.209
		Total Pressure	0.025	0.045	0.070	0.100	0.136	0.178	0.226	0.278
		NC (Noise Criteria) Throw	<15 5 10 19	19 9 13 23	24 11 16 26	28 13 19 29	32 15 22 31	36 17 23 33	39 19 25 35	41 21 26 37
	5 ft.	Airflow, cfm	235	310	390	465	545	620	700	775
		Static Pressure	0.021	0.037	0.057	0.083	0.113	0.147	0.186	0.230
		Total Pressure	0.031	0.054	0.085	0.122	0.166	0.216	0.274	0.338
		NC (Noise Criteria) Throw	<15 7 13 22	20 12 17 26	25 14 22 29	30 17 26 32	34 20 29 35	37 23 31 37	40 26 33 39	43 29 35 41

Two Slot - 2.0" Slot Width Horizontal Throw 8" Oval Inlet	2 ft.	Airflow, cfm	100	140	175	210	250	285	325	360
		Static Pressure	0.015	0.028	0.044	0.065	0.090	0.119	0.151	0.188
		Total Pressure	0.021	0.039	0.062	0.091	0.126	0.166	0.213	0.264
		NC (Noise Criteria) Throw	<15 6 9 15	17 8 12 17	22 11 14 20	27 12 15 22	31 14 17 23	35 14 18 25	38 15 19 27	41 16 20 28
	4 ft.	Airflow, cfm	200	275	350	425	500	570	645	720
		Static Pressure	0.016	0.031	0.049	0.072	0.100	0.132	0.168	0.209
		Total Pressure	0.040	0.075	0.121	0.178	0.246	0.321	0.410	0.511
		NC (Noise Criteria) Throw	<15 4 9 18	19 7 12 25	24 11 16 28	29 13 19 31	33 15 22 33	37 17 25 36	40 19 27 38	43 22 28 40
	5 ft.	Airflow, cfm	255	345	440	530	625	715	810	900
		Static Pressure	0.018	0.034	0.054	0.080	0.110	0.145	0.185	0.230
		Total Pressure	0.056	0.103	0.167	0.243	0.337	0.443	0.567	0.701
		NC (Noise Criteria) Throw	<15 5 12 20	20 10 17 28	26 14 21 31	30 17 26 34	34 20 30 37	38 23 34 40	41 26 36 42	44 29 38 45

Two Slot - 2.0" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	100	140	175	210	250	285	325	360
		Static Pressure	0.013	0.024	0.039	0.057	0.079	0.104	0.133	0.165
		Total Pressure	0.015	0.028	0.044	0.065	0.090	0.119	0.152	0.188
		NC (Noise Criteria) Throw	<15 3 6 13	17 5 9 17	22 7 11 20	27 9 14 22	31 11 16 23	35 12 18 25	38 14 19 27	41 15 20 28
	4 ft.	Airflow, cfm	200	275	350	425	500	570	645	720
		Static Pressure	0.014	0.027	0.043	0.063	0.088	0.116	0.147	0.183
		Total Pressure	0.022	0.040	0.065	0.096	0.132	0.174	0.222	0.276
		NC (Noise Criteria) Throw	<15 4 9 18	19 7 12 25	24 11 16 28	29 13 19 31	33 15 22 33	37 17 25 36	40 19 27 38	43 22 28 40
	5 ft.	Airflow, cfm	255	345	440	530	625	715	810	900
		Static Pressure	0.016	0.030	0.048	0.070	0.096	0.127	0.162	0.201
		Total Pressure	0.028	0.051	0.082	0.120	0.167	0.219	0.280	0.347
		NC (Noise Criteria) Throw	<15 5 12 20	20 10 17 28	26 14 21 31	30 17 26 34	34 20 30 37	38 23 34 40	41 26 36 42	44 29 38 45



2 SLOT COMBO BLADE PATTERN CONTROLLER WITH METALAIR PLENUM-HORIZONTAL DISCHARGE										
Two Slot - 2.5" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	140	185	230	275	320	370	415	460
		Static Pressure	0.015	0.027	0.042	0.061	0.083	0.108	0.137	0.169
		Total Pressure	0.021	0.037	0.058	0.083	0.113	0.149	0.188	0.232
		NC (Noise Criteria) Throw	<15 4 8 16	17 6 11 20	22 9 13 23	26 11 16 25	30 12 18 27	33 14 20 28	37 16 21 30	39 18 23 32
	4 ft.	Airflow, cfm	275	370	460	550	645	735	830	920
		Static Pressure	0.017	0.030	0.047	0.068	0.092	0.120	0.152	0.188
		Total Pressure	0.039	0.071	0.110	0.157	0.216	0.281	0.357	0.439
		NC (Noise Criteria) Throw	<15 5 11 22	19 9 15 28	24 12 19 32	28 15 22 35	32 17 26 38	35 20 28 40	39 22 30 43	41 25 32 45
	5 ft.	Airflow, cfm	345	460	575	690	805	920	1035	1150
		Static Pressure	0.019	0.033	0.052	0.074	0.101	0.132	0.167	0.207
		Total Pressure	0.054	0.096	0.150	0.216	0.294	0.384	0.486	0.599
		NC (Noise Criteria) Throw	<15 7 15 25	20 12 20 32	25 17 25 36	30 20 30 39	33 23 35 42	37 27 38 45	40 30 41 48	43 33 43 50

Two Slot - 2.5" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	140	185	230	275	320	370	415	460
		Static Pressure	0.014	0.025	0.039	0.056	0.076	0.099	0.125	0.155
		Total Pressure	0.017	0.031	0.048	0.069	0.094	0.124	0.156	0.193
		NC (Noise Criteria) Throw	<15 4 8 16	16 6 11 20	21 9 13 23	25 11 16 25	29 12 18 27	32 14 20 28	35 16 21 30	38 18 23 32
	4 ft.	Airflow, cfm	275	370	460	550	645	735	830	920
		Static Pressure	0.015	0.028	0.043	0.062	0.084	0.110	0.139	0.172
		Total Pressure	0.029	0.052	0.081	0.116	0.159	0.207	0.263	0.324
		NC (Noise Criteria) Throw	<15 5 11 22	18 9 15 28	23 12 19 32	27 15 22 35	31 17 26 38	34 20 28 40	37 22 30 43	40 25 32 45
	5 ft.	Airflow, cfm	345	460	575	690	805	920	1035	1150
		Static Pressure	0.017	0.030	0.047	0.068	0.093	0.121	0.153	0.189
		Total Pressure	0.038	0.068	0.107	0.154	0.209	0.273	0.346	0.427
		NC (Noise Criteria) Throw	<15 7 15 25	19 12 20 32	24 17 25 36	28 20 30 39	32 23 35 42	36 27 38 45	39 30 41 48	42 33 43 50

Two Slot - 3.0" Slot Width Horizontal Throw 10" Oval Inlet	2 ft.	Airflow, cfm	150	200	250	300	350	400	450	500
		Static Pressure	0.015	0.027	0.042	0.061	0.083	0.108	0.137	0.169
		Total Pressure	0.022	0.039	0.061	0.087	0.119	0.156	0.197	0.243
		NC (Noise Criteria) Throw	<15 3 7 16	17 6 10 21	22 9 13 23	26 10 16 26	30 12 18 28	34 14 21 30	37 16 22 32	40 17 23 33
	4 ft.	Airflow, cfm	300	400	500	600	700	800	900	1000
		Static Pressure	0.017	0.030	0.047	0.068	0.092	0.120	0.152	0.188
		Total Pressure	0.044	0.078	0.121	0.174	0.237	0.310	0.392	0.485
		NC (Noise Criteria) Throw	<15 5 10 22	19 8 15 29	24 12 18 33	28 15 22 36	32 17 26 39	36 20 29 42	39 22 32 45	42 25 33 47
	5 ft.	Airflow, cfm	375	500	625	750	875	1000	1125	1250
		Static Pressure	0.019	0.033	0.052	0.074	0.101	0.132	0.167	0.206
		Total Pressure	0.060	0.107	0.168	0.241	0.328	0.429	0.543	0.670
		NC (Noise Criteria) Throw	<15 6 14 25	20 11 20 33	25 16 25 37	30 20 30 41	34 23 35 44	37 26 40 47	40 30 42 50	43 33 45 53

Two Slot - 3.0" Slot Width Horizontal Throw 12" Oval Inlet	2 ft.	Airflow, cfm	150	200	250	300	350	400	450	500
		Static Pressure	0.014	0.026	0.040	0.058	0.079	0.103	0.130	0.160
		Total Pressure	0.018	0.033	0.051	0.074	0.101	0.131	0.166	0.205
		NC (Noise Criteria) Throw	<15 3 7 16	16 6 10 21	21 9 13 23	25 10 16 26	29 12 18 28	32 14 21 30	35 16 22 32	38 17 23 33
	4 ft.	Airflow, cfm	300	400	500	600	700	800	900	1000
		Static Pressure	0.016	0.029	0.045	0.064	0.087	0.114	0.144	0.178
		Total Pressure	0.032	0.057	0.089	0.129	0.175	0.229	0.290	0.358
		NC (Noise Criteria) Throw	<15 5 10 22	18 8 15 29	23 12 18 33	27 15 22 36	31 17 26 39	34 20 29 42	37 22 32 45	40 25 33 47
	5 ft.	Airflow, cfm	375	500	625	750	875	1000	1125	1250
		Static Pressure	0.018	0.031	0.049	0.071	0.096	0.125	0.159	0.196
		Total Pressure	0.043	0.076	0.119	0.172	0.234	0.305	0.386	0.477
		NC (Noise Criteria) Throw	<15 6 14 25	19 11 20 33	24 16 25 37	29 20 30 41	32 23 35 44	36 26 40 47	39 30 42 50	42 33 45 53

1. All pressures are in inches of water.
2. Isothermal throws are given for velocities of 150, 100 and 50 fpm.
3. Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
4. Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
5. Performance data is based on an insulated plenum.

Table 1. NC correction for length

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

Table 2. Throw correction multiplier for length

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8

**2 SLOT COMBO BLADE PATTERN CONTROLLER WITH METALARE PLENUM-VERTICAL DISCHARGE**

Two Slot - 1.0" Slot Width Vertical Throw 8" Oval Inlet	2 ft.	Airflow, cfm	95	150	205	260	315	370	425	480
		Static Pressure	0.013	0.032	0.059	0.095	0.139	0.192	0.253	0.323
		Total Pressure	0.018	0.045	0.083	0.134	0.197	0.271	0.358	0.457
		NC (Noise Criteria) Throw	<15 3 4 8	20 4 6 13	25 6 9 17	30 7 11 22	33 9 13 27	36 10 16 30	39 12 18 32	42 14 20 34
	4 ft.	Airflow, cfm	190	300	410	520	630	740	850	960
		Static Pressure	0.018	0.045	0.084	0.135	0.198	0.274	0.361	0.461
		Total Pressure	0.039	0.097	0.182	0.293	0.430	0.593	0.782	0.997
		NC (Noise Criteria) Throw	<15 4 6 11	22 6 9 18	27 8 12 25	32 10 16 31	35 13 19 38	38 15 22 42	41 17 26 45	44 19 29 48
	5 ft.	Airflow, cfm	240	375	515	650	790	925	1065	1200
		Static Pressure	0.023	0.059	0.109	0.176	0.258	0.356	0.470	0.599
		Total Pressure	0.057	0.140	0.264	0.422	0.621	0.854	1.130	1.437
		NC (Noise Criteria) Throw	15 5 8 13	23 8 12 20	29 11 17 28	33 14 21 35	37 17 25 42	40 20 30 47	43 23 34 51	45 26 39 54

Two Slot - 1.0" Slot Width Vertical Throw 10" Oval Inlet	2 ft.	Airflow, cfm	95	150	205	260	315	370	425	480
		Static Pressure	0.007	0.018	0.034	0.055	0.081	0.111	0.147	0.187
		Total Pressure	0.010	0.025	0.047	0.075	0.110	0.152	0.200	0.256
		NC (Noise Criteria) Throw	<15 3 4 8	16 4 6 13	22 6 9 17	26 7 11 22	29 9 13 27	31 10 16 30	33 12 18 32	35 14 20 34
	4 ft.	Airflow, cfm	190	300	410	520	630	740	850	960
		Static Pressure	0.010	0.026	0.049	0.078	0.115	0.159	0.210	0.267
		Total Pressure	0.021	0.053	0.099	0.159	0.233	0.321	0.424	0.541
		NC (Noise Criteria) Throw	<15 4 6 11	18 6 9 18	24 8 12 25	28 10 16 31	31 13 19 38	33 15 22 42	35 17 26 45	37 19 29 48
	5 ft.	Airflow, cfm	240	375	515	650	790	925	1065	1200
		Static Pressure	0.014	0.034	0.063	0.102	0.150	0.206	0.272	0.347
		Total Pressure	0.031	0.076	0.142	0.227	0.335	0.461	0.609	0.775
		NC (Noise Criteria) Throw	<15 5 8 13	20 8 12 20	25 11 17 28	29 14 21 35	32 17 25 42	35 20 30 47	37 23 34 51	39 26 39 54

Two Slot - 1.0" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	95	150	205	260	315	370	425	480
		Static Pressure	0.009	0.022	0.041	0.066	0.097	0.134	0.177	0.226
		Total Pressure	0.010	0.026	0.049	0.078	0.115	0.159	0.209	0.267
		NC (Noise Criteria) Throw	<15 3 4 8	18 4 6 13	22 6 9 17	26 7 11 22	29 9 13 27	31 10 16 30	33 12 18 32	34 14 20 34
	4 ft.	Airflow, cfm	190	300	410	520	630	740	850	960
		Static Pressure	0.013	0.032	0.059	0.095	0.139	0.192	0.253	0.323
		Total Pressure	0.019	0.048	0.089	0.143	0.210	0.290	0.383	0.488
		NC (Noise Criteria) Throw	- 4 6 11	<15 6 9 18	20 8 12 25	24 10 16 31	28 13 19 38	31 15 22 42	34 17 26 45	36 19 29 48
	5 ft.	Airflow, cfm	240	375	515	650	790	925	1065	1200
		Static Pressure	0.016	0.041	0.076	0.123	0.181	0.249	0.329	0.419
		Total Pressure	0.027	0.066	0.124	0.199	0.293	0.403	0.533	0.678
		NC (Noise Criteria) Throw	<15 5 8 13	16 8 12 20	21 11 17 28	26 14 21 35	29 17 25 42	33 20 30 47	35 23 34 51	37 26 39 54

Two Slot - 1.5" Slot Width Vertical Throw 8" Oval Inlet	2 ft.	Airflow, cfm	195	310	420	530	645	755	870	980
		Static Pressure	0.027	0.066	0.123	0.198	0.290	0.400	0.527	0.672
		Total Pressure	0.049	0.122	0.226	0.362	0.533	0.732	0.968	1.231
		NC (Noise Criteria) Throw	<15 5 7 14	20 7 11 21	26 10 15 29	30 12 18 36	34 15 22 39	37 18 26 43	40 20 30 46	42 23 34 49
	4 ft.	Airflow, cfm	390	615	840	1065	1290	1510	1735	1960
		Static Pressure	0.038	0.095	0.176	0.283	0.415	0.572	0.753	0.960
		Total Pressure	0.127	0.315	0.587	0.943	1.384	1.899	2.506	3.197
		NC (Noise Criteria) Throw	<15 6 10 19	22 10 15 30	28 14 21 41	32 17 26 51	36 21 32 56	39 25 37 60	42 28 43 65	44 32 48 69
	5 ft.	Airflow, cfm	490	770	1050	1330	1610	1890	2170	2450
		Static Pressure	0.050	0.123	0.229	0.368	0.539	0.743	0.979	1.249
		Total Pressure	0.190	0.469	0.871	1.398	2.048	2.823	3.721	4.743
		NC (Noise Criteria) Throw	16 9 13 22	24 14 20 34	29 18 28 46	34 23 35 57	37 28 42 62	40 33 50 68	43 38 57 72	46 43 65 77

Two Slot - 1.5" Slot Width Vertical Throw 10" Oval Inlet	2 ft.	Airflow, cfm	195	310	420	530	645	755	870	980
		Static Pressure	0.018	0.044	0.081	0.131	0.192	0.264	0.348	0.444
		Total Pressure	0.029	0.072	0.134	0.214	0.315	0.433	0.573	0.729
		NC (Noise Criteria) Throw	<15 5 7 14	20 7 11 21	25 10 15 29	29 12 18 36	32 15 22 39	34 18 26 43	37 20 30 46	39 23 34 49
	4 ft.	Airflow, cfm	390	615	840	1065	1290	1510	1735	1960
		Static Pressure	0.025	0.063	0.116	0.187	0.274	0.377	0.497	0.634
		Total Pressure	0.071	0.175	0.326	0.524	0.768	1.054	1.391	1.775
		NC (Noise Criteria) Throw	<15 6 10 19	22 10 15 30	27 14 21 41	31 17 26 51	34 21 32 56	36 25 37 60	39 28 43 65	41 32 48 69
	5 ft.	Airflow, cfm	490	770	1050	1330	1610	1890	2170	2450
		Static Pressure	0.033	0.081	0.151	0.243	0.356	0.490	0.646	0.824
		Total Pressure	0.104	0.258	0.479	0.768	1.126	1.551	2.045	2.607
		NC (Noise Criteria) Throw	16 9 13 22	23 14 20 34	29 18 28 46	32 23 35 57	35 28 42 62	38 33 50 68	40 38 57 72	43 43 65 77

Two Slot - 1.5" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	195	310	420	530	645	755	870	980
		Static Pressure	0.017	0.042	0.077	0.124	0.181	0.250	0.330	0.420
		Total Pressure	0.024	0.059	0.109	0.174	0.256	0.352	0.466	0.593
		NC (Noise Criteria) Throw	- 5 7 14	<15 7 11 21	18 10 15 29	23 12 18 36	26 15 22 39	29 18 26 43	32 20 30 46	34 23 34 49
	4 ft.	Airflow, cfm	390	615	840	1065	1290	1510	1735	1960
		Static Pressure	0.024	0.059	0.110	0.177	0.259	0.357	0.471	0.600
		Total Pressure	0.051	0.127	0.237	0.381	0.558	0.767	1.012	1.291
		NC (Noise Criteria) Throw	- 6 10 19	<15 10 15 30	20 14 21 41	25 17 26 51	28 21 32 56	31 25 37 60	34 28 43 65	36 32 48 69
	5 ft.	Airflow, cfm	490	770	1050	1330	1610	1890	2170	2450
		Static Pressure	0.031	0.077	0.143	0.230	0.337	0.464	0.612	0.780
		Total Pressure	0.074	0.184	0.341	0.548	0.803	1.106	1.458	1.859
		NC (Noise Criteria) Throw	<15 9 13 22	16 14 20 34	22 18 28 46	26 23 35 57	30 28 42 62	33 33 50 68	36 38 57 72	38 43 65 77

2 SLOT COMBO BLADE PATTERN CONTROLLER WITH METALAIR PLENUM-VERTICAL DISCHARGE										
Two Slot - 2.0" Slot Width Vertical Throw 8" Oval Inlet	2 ft.	Airflow, cfm	170	260	350	440	530	620	710	800
		Static Pressure	0.044	0.104	0.188	0.296	0.430	0.589	0.772	0.980
		Total Pressure	0.061	0.143	0.259	0.409	0.594	0.812	1.065	1.353
		NC (Noise Criteria)	-	<15	19	23	27	30	32	34
	4 ft.	Airflow, cfm	340	520	700	880	1060	1240	1420	1600
		Static Pressure	0.063	0.148	0.268	0.424	0.614	0.841	1.103	1.400
		Total Pressure	0.131	0.305	0.553	0.874	1.269	1.736	2.277	2.890
		NC (Noise Criteria)	<15	16	21	25	29	32	34	36
	5 ft.	Airflow, cfm	425	650	875	1100	1325	1550	1775	2000
		Static Pressure	0.082	0.192	0.348	0.551	0.799	1.093	1.434	1.820
		Total Pressure	0.187	0.438	0.794	1.255	1.821	2.492	3.268	4.149
		NC (Noise Criteria)	<15	18	23	27	30	33	36	38
	5 ft.	Throw	7 10 16	10 15 25	13 20 34	17 25 42	20 31 46	24 36 50	27 41 54	31 46 57

Two Slot - 2.0" Slot Width Vertical Throw 10" Oval Inlet	2 ft.	Airflow, cfm	170	260	350	440	530	620	710	800
		Static Pressure	0.008	0.019	0.035	0.056	0.081	0.110	0.145	0.184
		Total Pressure	0.017	0.039	0.072	0.113	0.164	0.225	0.294	0.374
		NC (Noise Criteria)	<15	21	26	29	32	35	37	40
	4 ft.	Airflow, cfm	340	520	700	880	1060	1240	1420	1600
		Static Pressure	0.012	0.028	0.050	0.079	0.115	0.158	0.207	0.262
		Total Pressure	0.046	0.108	0.196	0.309	0.449	0.614	0.806	1.023
		NC (Noise Criteria)	15	23	28	31	34	37	39	42
	5 ft.	Airflow, cfm	425	650	875	1100	1325	1550	1775	2000
		Static Pressure	0.015	0.036	0.065	0.103	0.150	0.205	0.269	0.341
		Total Pressure	0.069	0.162	0.293	0.463	0.671	0.919	1.205	1.529
		NC (Noise Criteria)	17	24	29	33	36	38	41	43
	5 ft.	Throw	7 10 16	10 15 25	13 20 34	17 25 42	20 31 46	24 36 50	27 41 54	31 46 57

Two Slot - 2.0" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	170	260	350	440	530	620	710	800
		Static Pressure	0.008	0.020	0.036	0.057	0.083	0.113	0.148	0.188
		Total Pressure	0.014	0.032	0.058	0.092	0.133	0.182	0.239	0.303
		NC (Noise Criteria)	<15	17	22	27	30	33	36	38
	4 ft.	Airflow, cfm	340	520	700	880	1060	1240	1420	1600
		Static Pressure	0.012	0.028	0.051	0.081	0.118	0.161	0.212	0.269
		Total Pressure	0.033	0.077	0.139	0.220	0.320	0.438	0.574	0.729
		NC (Noise Criteria)	<15	19	24	29	32	35	38	40
	5 ft.	Airflow, cfm	425	650	875	1100	1325	1550	1775	2000
		Static Pressure	0.016	0.037	0.067	0.106	0.153	0.210	0.275	0.349
		Total Pressure	0.048	0.113	0.204	0.323	0.469	0.642	0.841	1.068
		NC (Noise Criteria)	<15	20	26	30	34	37	39	41
	5 ft.	Throw	7 10 16	10 15 25	13 20 34	17 25 42	20 31 46	24 36 50	27 41 54	31 46 57

Two Slot - 2.5" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	215	330	440	550	665	775	890	1000
		Static Pressure	0.009	0.021	0.038	0.060	0.086	0.118	0.155	0.196
		Total Pressure	0.017	0.041	0.073	0.114	0.166	0.226	0.297	0.376
		NC (Noise Criteria)	<15	17	23	27	30	33	36	38
	4 ft.	Airflow, cfm	430	655	880	1105	1330	1550	1775	2000
		Static Pressure	0.013	0.030	0.054	0.085	0.123	0.169	0.221	0.280
		Total Pressure	0.046	0.107	0.193	0.305	0.441	0.600	0.787	0.999
		NC (Noise Criteria)	<15	19	25	29	32	35	38	40
	5 ft.	Airflow, cfm	540	820	1100	1380	1660	1940	2220	2500
		Static Pressure	0.017	0.039	0.070	0.111	0.160	0.219	0.287	0.364
		Total Pressure	0.069	0.160	0.288	0.453	0.656	0.895	1.173	1.487
		NC (Noise Criteria)	<15	21	26	30	34	37	39	41
	5 ft.	Throw	7 11 19	11 17 28	15 23 38	19 28 47	23 34 52	27 40 56	31 46 60	34 52 64

Two Slot - 3.0" Slot Width Vertical Throw 12" Oval Inlet	2 ft.	Airflow, cfm	430	595	760	925	1090	1250	1415	1580
		Static Pressure	0.022	0.042	0.068	0.101	0.139	0.185	0.236	0.294
		Total Pressure	0.055	0.105	0.172	0.254	0.353	0.465	0.596	0.743
		NC (Noise Criteria)	<15	19	24	28	31	34	36	38
	4 ft.	Airflow, cfm	865	1190	1520	1850	2175	2505	2830	3160
		Static Pressure	0.031	0.060	0.097	0.144	0.199	0.264	0.337	0.420
		Total Pressure	0.166	0.314	0.512	0.759	1.049	1.391	1.776	2.214
		NC (Noise Criteria)	16	21	26	30	33	36	38	40
	5 ft.	Airflow, cfm	1080	1490	1900	2310	2720	3130	3540	3950
		Static Pressure	0.041	0.078	0.126	0.187	0.259	0.343	0.439	0.546
		Total Pressure	0.250	0.477	0.775	1.146	1.588	2.103	2.690	3.350
		NC (Noise Criteria)	17	23	28	31	34	37	39	41
	5 ft.	Throw	14 20 34	19 28 47	24 36 55	29 43 61	34 51 66	39 59 71	44 64 76	50 68 80

1. All pressures are in inches of water.
2. Isothermal throws are given for velocities of 150, 100 and 50 fpm.
3. Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
4. Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
5. Performance data is based on an insulated plenum.

Table 1. NC correction for length

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

Table 2. Throw correction multiplier for length

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8

PRESSURIZED CEILING PLENUM WITH COMBO BLADE PATTERN CONTROLLER-HORIZONTAL FLOW											
1.0" Slot Width	1 Slot	Airflow, cfm/lf	25	40	65	80	95	110	125	140	
		Static Pressure	0.023	0.058	0.152	0.230	0.325	0.436	0.563	0.706	
		NC (Noise Criteria)	<15	21	35	40	45	49	52	55	
	Throw	6 11 15	9 13 19	12 17 24	13 19 27	14 20 29	15 22 31	16 23 33	17 25 35		
	2 Slots	Airflow, cfm/lf	40	60	100	120	145	165	190	210	
		Static Pressure	0.015	0.033	0.092	0.133	0.194	0.251	0.333	0.406	
NC (Noise Criteria)		<15	18	30	35	41	44	48	51		
Throw	5 13 19	10 16 23	15 21 30	16 23 33	18 25 36	19 27 38	20 29 41	21 30 43			

1.5" Slot Width	1 Slot	Airflow, cfm/lf	30	50	80	95	115	130	150	170
		Static Pressure	0.023	0.063	0.160	0.226	0.331	0.423	0.563	0.723
		NC (Noise Criteria)	<15	19	31	36	41	45	48	52
		Throw	5 12 16	9 15 21	13 19 27	14 20 29	16 23 32	17 24 34	18 26 36	19 27 39
	2 Slots	Airflow, cfm/lf	45	75	120	145	175	195	225	255
		Static Pressure	0.013	0.037	0.094	0.137	0.200	0.248	0.330	0.424
		NC (Noise Criteria)	<15	16	26	31	36	39	44	47
		Throw	6 14 20	12 18 26	16 23 33	18 25 36	19 28 39	20 29 41	22 32 45	23 34 47

2.0" Slot Width	1 Slot	Airflow, cfm/lf	35	55	90	110	110	155	175	195
		Static Pressure	0.025	0.061	0.162	0.242	0.242	0.481	0.613	0.761
		NC (Noise Criteria)	<15	15	27	33	33	42	46	48
	Throw	4 12 18	9 16 22	14 20 28	15 22 31	15 22 31	18 26 37	19 28 39	20 29 41	
	2 Slots	Airflow, cfm/lf	55	85	135	165	165	235	265	295
		Static Pressure	0.015	0.037	0.093	0.139	0.139	0.283	0.360	0.446
NC (Noise Criteria)		-	<15	23	28	28	37	41	44	
Throw	4 13 22	9 19 27	16 24 35	19 27 38	19 27 38	22 32 46	24 34 48	25 36 51		

2.5" Slot Width	1 Slot	Airflow, cfm/lf	40	60	100	120	145	165	190	210
		Static Pressure	0.025	0.056	0.156	0.225	0.329	0.426	0.564	0.689
		NC (Noise Criteria)	-	<15	24	29	34	38	42	44
		Throw	4 12 19	8 16 23	14 21 30	16 23 33	18 25 36	19 27 38	20 29 41	21 30 43
	2 Slots	Airflow, cfm/lf	60	90	150	180	220	250	285	315
		Static Pressure	0.014	0.033	0.091	0.130	0.195	0.252	0.327	0.400
		NC (Noise Criteria)	-	<15	20	24	29	33	37	39
		Throw	3 13 23	7 19 28	15 26 36	19 28 40	22 31 44	23 33 47	25 35 50	26 37 53

3.0" Slot Width	1 Slot	Airflow, cfm/lf	45	70	115	145	170	200	225	250
		Static Pressure	0.023	0.055	0.149	0.237	0.325	0.450	0.570	0.703
		NC (Noise Criteria)	-	<15	23	29	33	38	41	44
	Throw	4 12 20	9 18 25	15 23 32	18 25 36	19 27 39	21 30 42	22 32 45	23 33 47	
	2 Slots	Airflow, cfm/lf	70	105	175	220	255	300	340	375
		Static Pressure	0.014	0.032	0.090	0.142	0.191	0.264	0.339	0.413
NC (Noise Criteria)		-	<15	19	25	28	33	36	39	
Throw	3 14 25	7 20 30	16 28 39	21 31 44	23 34 47	25 36 51	27 39 55	28 41 58		

1. All pressures are in inches of water.
2. Isothermal throws are given for velocities of 150, 100 and 50 fpm.
3. Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
4. Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."

**Table 1. NC correction for length**

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

**Table 2. Throw correction multiplier for length**

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8



PRESSURIZED CEILING PLENUM WITH COMBO BLADE PATTERN CONTROLLER-VERTICAL FLOW											
1.0" Slot Width	1 Slot	Airflow, cfm/lf	50	75	100	120	140	160	180	200	
		Static Pressure	0.033	0.074	0.131	0.189	0.257	0.335	0.424	0.524	
		NC (Noise Criteria)	<15	20	25	29	32	34	36	38	
		Throw	3 11 18	4 15 22	5 18 25	6 19 27	7 21 29	9 22 31	10 24 33	11 25 35	
	2 Slots	Airflow, cfm/lf	75	115	150	180	210	240	270	300	
		Static Pressure	0.022	0.052	0.089	0.128	0.174	0.227	0.287	0.355	
		NC (Noise Criteria)	<15	18	23	26	29	32	34	36	
		Throw	3 12 22	4 18 27	6 22 30	7 24 33	8 26 36	9 27 39	10 29 41	11 30 43	

1.5" Slot Width	1 Slot	Airflow, cfm/lf	65	95	125	150	175	200	225	250
		Static Pressure	0.027	0.058	0.100	0.145	0.197	0.257	0.326	0.402
		NC (Noise Criteria)	<15	18	24	27	30	33	35	37
		Throw	3 12 20	4 17 24	5 20 28	7 22 30	8 23 33	9 25 35	10 26 37	11 28 39
	2 Slots	Airflow, cfm/lf	110	160	215	255	300	340	385	425
		Static Pressure	0.023	0.049	0.089	0.125	0.174	0.223	0.286	0.349
		NC (Noise Criteria)	<15	18	24	27	30	32	35	37
		Throw	3 14 26	5 21 31	7 26 36	8 28 40	9 30 43	11 32 46	12 35 49	13 36 51

2.0" Slot Width	1 Slot	Airflow, cfm/lf	100	150	200	240	280	320	360	400
		Static Pressure	0.039	0.089	0.158	0.227	0.309	0.403	0.511	0.630
		NC (Noise Criteria)	<15	22	27	31	33	36	38	40
	Throw	4 16 25	6 22 30	8 25 35	9 27 39	11 29 42	12 31 45	14 33 47	15 35 50	
	2 Slots	Airflow, cfm/lf	150	225	300	360	420	480	540	600
		Static Pressure	0.027	0.060	0.106	0.153	0.208	0.272	0.344	0.425
NC (Noise Criteria)		<15	19	25	28	31	34	36	38	
Throw		4 17 30	6 25 37	8 30 43	10 33 47	11 36 51	13 39 55	14 41 58	16 43 61	

2.5" Slot Width	1 Slot	Airflow, cfm/lf	125	190	250	300	350	400	450	500
		Static Pressure	0.041	0.095	0.164	0.237	0.322	0.421	0.533	0.658
		NC (Noise Criteria)	<15	22	27	31	33	36	38	40
	Throw	4 18 28	6 24 34	8 28 39	10 30 43	12 33 47	13 35 50	15 37 53	17 39 56	
	2 Slots	Airflow, cfm/lf	190	285	375	450	525	600	675	750
		Static Pressure	0.028	0.064	0.111	0.160	0.217	0.284	0.359	0.443
NC (Noise Criteria)		<15	19	25	28	31	34	36	38	
Throw		5 19 34	7 29 42	9 34 48	11 37 53	13 40 57	14 43 61	16 46 65	18 48 68	

3.0" Slot Width	1 Slot	Airflow, cfm/lf	150	225	300	360	420	480	540	600
		Static Pressure	0.047	0.106	0.189	0.272	0.370	0.484	0.612	0.756
		NC (Noise Criteria)	<15	22	27	31	33	36	38	40
	Throw	5 19 30	7 26 37	9 30 43	11 33 47	13 36 51	15 39 55	17 41 58	18 43 61	
	2 Slots	Airflow, cfm/lf	225	340	450	540	630	720	810	900
		Static Pressure	0.032	0.073	0.128	0.184	0.250	0.327	0.413	0.510
NC (Noise Criteria)		<15	19	25	28	31	34	36	38	
Throw	5 21 37	7 31 46	10 37 53	12 41 58	14 44 62	16 47 67	18 50 71	20 53 75		

1. All pressures are in inches of water.
2. Isothermal throws are given for velocities of 150, 100 and 50 fpm.
3. Throw values are based on a 1-way discharge from the slot with the controller set at 0 discharge. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the unit.
4. Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."

Table 1. NC correction for length

Length (feet)	+2	+4	+6	+8	+10
Supply	-2	+0	+2	+3	+5
Return	+0	+3	+5	+6	+8

Table 2. Throw correction multiplier for length

Length (feet)	2	4	8	10	12
Throw Correction	0.72	0	1.5	1.7	1.8

<b>METALAIRES INTEGRA 24 INCH X 24 INCH</b>									
<b>1.5" Slot Width Four Way Throw</b>	<b>6" Inlet</b>	<b>Airflow, cfm</b>	<b>80</b>	<b>120</b>	<b>155</b>	<b>190</b>	<b>225</b>	<b>260</b>	<b>300</b>
		Static Pressure, in.WG	0.024	0.049	0.084	0.128	0.181	0.244	0.315
		Total Pressure	0.035	0.072	0.123	0.187	0.264	0.355	0.459
		NC (Noise Criteria) Throw	<15 3 5 10	17 5 7 13	23 6 9 14	28 7 11 16	32 9 12 17	36 10 13 19	39 12 14 20
	<b>8" Inlet</b>	<b>Airflow, cfm</b>	<b>85</b>	<b>120</b>	<b>160</b>	<b>195</b>	<b>230</b>	<b>265</b>	<b>300</b>
		Static Pressure, in.WG	0.013	0.026	0.043	0.065	0.091	0.122	0.157
		Total Pressure	0.016	0.033	0.056	0.084	0.118	0.158	0.203
		NC (Noise Criteria) Throw	<15 3 5 10	18 5 7 13	24 6 9 15	29 8 11 16	33 9 12 18	36 10 13 19	40 12 14 20
	<b>10" Inlet</b>	<b>Airflow, cfm</b>	<b>90</b>	<b>130</b>	<b>165</b>	<b>205</b>	<b>240</b>	<b>275</b>	<b>315</b>
		Static Pressure, in.WG	0.009	0.018	0.030	0.045	0.063	0.084	0.108
		Total Pressure	0.011	0.022	0.036	0.054	0.075	0.100	0.129
		NC (Noise Criteria) Throw	<15 4 5 11	19 5 8 13	25 7 10 15	30 8 12 17	34 9 13 18	37 11 14 19	40 12 15 21
	<b>12" Inlet</b>	<b>Airflow, cfm</b>	<b>100</b>	<b>140</b>	<b>175</b>	<b>210</b>	<b>245</b>	<b>280</b>	<b>320</b>
		Static Pressure, in.WG	0.008	0.014	0.023	0.034	0.046	0.061	0.077
		Total Pressure	0.009	0.016	0.026	0.038	0.052	0.069	0.087
		NC (Noise Criteria) Throw	<15 4 6 12	20 5 8 14	26 7 10 15	31 8 12 17	35 10 13 18	38 11 14 19	41 12 15 21

<b>1.5" Slot Width Three Way Throw</b>	<b>6" Inlet</b>	<b>Airflow, cfm</b>	<b>70</b>	<b>100</b>	<b>125</b>	<b>155</b>	<b>180</b>	<b>210</b>	<b>235</b>
		Static Pressure, in.WG	0.021	0.041	0.066	0.099	0.137	0.182	0.233
		Total Pressure	0.029	0.056	0.092	0.137	0.190	0.252	0.323
		NC (Noise Criteria) Throw	<15 2 4 7	17 3 5 10	23 4 6 13	28 5 8 14	32 6 9 16	35 7 10 17	39 8 12 18
	<b>8" Inlet</b>	<b>Airflow, cfm</b>	<b>75</b>	<b>105</b>	<b>130</b>	<b>160</b>	<b>190</b>	<b>215</b>	<b>245</b>
		Static Pressure, in.WG	0.012	0.022	0.035	0.052	0.072	0.095	0.121
		Total Pressure	0.015	0.027	0.044	0.065	0.090	0.118	0.151
		NC (Noise Criteria) Throw	<15 3 4 8	18 3 5 10	24 4 7 13	29 5 8 15	33 6 9 16	36 7 11 17	39 8 12 18
	<b>10" Inlet</b>	<b>Airflow, cfm</b>	<b>75</b>	<b>105</b>	<b>135</b>	<b>165</b>	<b>195</b>	<b>225</b>	<b>255</b>
		Static Pressure, in.WG	0.007	0.014	0.023	0.035	0.049	0.065	0.084
		Total Pressure	0.008	0.016	0.027	0.041	0.057	0.076	0.097
		NC (Noise Criteria) Throw	<15 2 4 7	18 3 5 10	24 4 7 13	29 5 8 15	34 6 10 16	37 7 11 17	40 8 13 18
	<b>12" Inlet</b>	<b>Airflow, cfm</b>	<b>70</b>	<b>105</b>	<b>135</b>	<b>165</b>	<b>195</b>	<b>225</b>	<b>260</b>
		Static Pressure, in.WG	0.005	0.009	0.016	0.024	0.034	0.046	0.060
		Total Pressure	0.005	0.011	0.018	0.027	0.038	0.051	0.066
		NC (Noise Criteria) Throw	<15 2 4 7	18 3 5 10	24 4 7 13	29 5 8 15	34 7 10 16	38 8 11 17	41 9 13 19

<b>1.5" Slot Width Two Way Throw</b>	<b>6" Inlet</b>	<b>Airflow, cfm</b>	<b>55</b>	<b>75</b>	<b>95</b>	<b>115</b>	<b>140</b>	<b>160</b>	<b>180</b>
		Static Pressure, in.WG	0.014	0.027	0.045	0.066	0.092	0.123	0.157
		Total Pressure	0.019	0.036	0.060	0.089	0.123	0.163	0.209
		NC (Noise Criteria) Throw	<15 1 3 5	18 2 4 7	24 3 5 9	29 4 6 11	33 4 7 13	36 5 8 15	39 6 9 16
	<b>8" Inlet</b>	<b>Airflow, cfm</b>	<b>60</b>	<b>80</b>	<b>95</b>	<b>115</b>	<b>135</b>	<b>155</b>	<b>175</b>
		Static Pressure, in.WG	0.008	0.014	0.022	0.032	0.043	0.057	0.072
		Total Pressure	0.010	0.017	0.027	0.039	0.053	0.069	0.088
		NC (Noise Criteria) Throw	<15 1 3 6	19 2 4 7	25 3 5 9	29 4 6 11	33 4 7 13	36 5 8 14	39 6 8 15
	<b>10" Inlet</b>	<b>Airflow, cfm</b>	<b>60</b>	<b>80</b>	<b>100</b>	<b>120</b>	<b>140</b>	<b>160</b>	<b>180</b>
		Static Pressure, in.WG	0.006	0.010	0.015	0.022	0.029	0.038	0.048
		Total Pressure	0.007	0.011	0.017	0.025	0.034	0.044	0.055
		NC (Noise Criteria) Throw	<15 2 3 6	20 3 4 8	26 3 5 10	30 4 6 12	34 5 7 14	37 5 8 15	39 6 9 16
	<b>12" Inlet</b>	<b>Airflow, cfm</b>	<b>65</b>	<b>85</b>	<b>105</b>	<b>125</b>	<b>145</b>	<b>165</b>	<b>185</b>
		Static Pressure, in.WG	0.004	0.007	0.011	0.016	0.022	0.028	0.035
		Total Pressure	0.005	0.008	0.012	0.018	0.024	0.031	0.039
		NC (Noise Criteria) Throw	<15 2 3 6	21 3 4 8	26 3 5 10	31 4 6 12	34 5 7 14	37 5 8 15	40 6 9 16

<b>1.5" Slot Width One Way Throw</b>	<b>6" Inlet</b>	<b>Airflow, cfm</b>	<b>15</b>	<b>30</b>	<b>45</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>115</b>
		Static Pressure, in.WG	0.001	0.005	0.011	0.021	0.033	0.048	0.067
		Total Pressure	0.001	0.006	0.015	0.027	0.044	0.064	0.088
		NC (Noise Criteria) Throw	<15 0 0 0	14 0 1 2	22 1 1 4	28 1 2 5	32 2 3 7	36 3 4 8	40 3 5 10
	<b>8" Inlet</b>	<b>Airflow, cfm</b>	<b>30</b>	<b>45</b>	<b>60</b>	<b>75</b>	<b>90</b>	<b>105</b>	<b>120</b>
		Static Pressure, in.WG	0.002	0.005	0.008	0.013	0.019	0.026	0.034
		Total Pressure	0.002	0.005	0.010	0.016	0.023	0.031	0.041
		NC (Noise Criteria) Throw	<15 0 0 2	20 0 1 4	26 1 2 5	30 1 3 6	34 2 4 7	37 3 4 9	40 3 5 10
	<b>10" Inlet</b>	<b>Airflow, cfm</b>	<b>35</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>95</b>	<b>110</b>	<b>125</b>
		Static Pressure, in.WG	0.002	0.004	0.006	0.009	0.014	0.018	0.024
		Total Pressure	0.002	0.004	0.007	0.011	0.015	0.021	0.027
		NC (Noise Criteria) Throw	16 0 1 3	22 1 1 4	27 1 2 5	32 2 3 7	35 2 4 8	38 3 5 9	41 3 5 10
	<b>12" Inlet</b>	<b>Airflow, cfm</b>	<b>40</b>	<b>55</b>	<b>70</b>	<b>85</b>	<b>100</b>	<b>115</b>	<b>130</b>
		Static Pressure, in.WG	0.002	0.003	0.005	0.007	0.010	0.014	0.018
		Total Pressure	0.002	0.003	0.005	0.008	0.011	0.015	0.019
		NC (Noise Criteria) Throw	18 0 1 3	24 1 2 4	29 1 3 6	33 2 3 7	36 3 4 8	39 3 5 9	42 4 5 11

- All pressures are in inches of water column.
- Isothermal throws are given for horizontal discharge with velocities of 150, 100 and 50 fpm.
- NC values are based on a room absorption of 10 dB re 10-12 watts.
- Data was collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets."
- Four way throw is based on all four slots discharging in four directions. Three way throw is based on three slots discharging in different directions. Two way throw is based on two slots discharging in different directions and one way throw is based on only one slot discharging air.



### 1. Product Name

Formations™ Architectural Linear Diffusers, including: • Formations Linear • Formations Integra • Formations Tee System

### 2. Manufacturer

METALAIRE 1310 North Hercules Avenue Clearwater, FL 33765 (727) 441-2651 Fax: (727) 449-0731 www.metalair.com

### 3. Product Description

**BASIC USE** - Formations™ Architectural Linear Slot Diffusers are engineered for supply, return or exhaust air distribution in heating, cooling and ventilating applications. They are designed for ceiling and sidewall installation, and work equally well in variable-volume or constant-volume air distribution systems. Formations is suitable for both commercial and residential applications. Numerous frame styles allow the specifier to either make an aesthetic statement or to conceal the Formations diffuser. Formations also can be curved for the ceiling or sidewall. The Formations line of architectural diffusers is an excellent choice for offices, libraries, airports, community buildings, restaurants, lobbies and retail spaces.

**ADVANTAGES** - Features include:

- 12' (4 m) sections for seamless appearance
- Heavy wall extruded aluminum
- Numerous border options to fit specific requirements
- Curved units for the ceiling and wall
- Fast installation for lower installed costs
- Meets a wide range of performance requirements

**COMPOSITION & MATERIALS** - Formations are made of high-grade 6036 aluminum extrusions for maximum strength, corrosion resistance and dimensional stability.

**TYPE S** - • Formations Linear • Formations Integra • Formations Tee System

**SIZES & SHAPES** - Formations are available in 1", 1 1/2", 2", 2 1/2" and 3" (25.4, 51, 64 and 76 mm) standard slot widths. One and 2 slot units are available standard. Formations is available in virtually any length but segments are limited to a maximum 12' (4 m) sections. Sections longer than 12" (305 mm) are formed by butting multiple diffuser sections together with alignment splines at the ends, resulting in hairline joints for a smooth, unbroken appearance. Formations diffusers are designed for mounting in both gypsum wallboard and lay-in type ceilings and many other ceiling and wall applications. The width of linear slot units varies with the number of slots and the slot width chosen. Formations are available with mitered corners, mitered ends, straight ends and end caps. Formations are also available in curved sections. There are many frame styles within the Formations family of diffusers from which to choose.

**FINISHES** - Formations are delivered prefinished with the interior painted flat black and the exposed flange painted a standard white. A factory-controlled baked-on polyester coating ensures maximum durability unmatched by field painting. Custom colors are also available and anodizing is available as an additional finish.

**BORDER STYLES** - There are currently 4 standard border styles. Typical configurations are shown on page 20. The published linear performance data is obtained utilizing ANSI/ASHRAE 70 (ISO 5219). See pages 36-51.

### 4. Technical Data

**APPLICABLE STANDARDS** - American National Standards Institute (ANSI) - ANSI S1.31 Precision Methods for the Determination of Sound Power Levels of Broad Band Noise Sources and Reverberant Rooms.

American National Standards Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

- ANSI/ASHRAE 113 Method of Testing for Room Air Diffusion
- ANSI/ASHRAE 70 Method of Testing for Rating the Performance of Air Outlets and Inlets

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

- ASHRAE 41.2 Standard Methods for Laboratory Airflow Measurements
- ASHRAE 41.3 Standard Methods for Pressure Measurement

International Organization for Standardization (ISO) - ISO 5219 Air distribution and air diffusion - Laboratory aerodynamic testing and rating of air terminal devices.

### 5. Installation

**HARD CEILING** - Formations unique support method allows for a fast and easy installation. The ceiling framer leaves a framed opening for the Formations. Mounting hardware is slipped into the slots on the sides of the Formations diffuser at 10" (254 mm) intervals. The Formations air diffuser is then lifted into place, under the ceiling framing in a hard ceiling, and mounting hardware is attached to the framing.

**ACOUSTICAL CEILING** - Depending on project requirements, Formations can be mounted in an acoustical ceiling incrementally or continuously. Formations Tee Bar is a Formations diffuser pre-engineered to fit in a specified ceiling. As a continuous diffuser, Formations can become the main runner of the suspension system. Formations Integra is a 2' x 2' (0.6 x 0.6 m) Formations diffuser with an engineered plenum.

**BUILDING CODES** - Current data on building code requirements and product compliance can be obtained from METALAIRE's technical support specialists. Installation must comply with the requirements of all applicable local, state and national code jurisdictions.

### 6. Availability & Cost

**AVAILABILITY** - METALAIRE Architectural Products are available throughout the world. Contact METALAIRE for more information.

**COST** - Pricing varies with the series selected and unit size. For specific costs, contact METALAIRE.

### 7. Warranty

METALAIRE's product warranty on Formations covers a period of 6 months from the date of startup, not to exceed 1 year from the extent that we will furnish a new product to replace that which is proven to be defective by manufacturer.

### 8. Maintenance

Little maintenance is required. If cleaning is desired, systems can be washed with mild soap and water followed by a clean water rinse.

### 9. Technical Services

METALAIRE supports a network of representatives and distributors knowledgeable in all aspects of the heating, ventilating and air conditioning (HVAC) industry. This worldwide network can provide detailed information on the entire line of METALAIRE products. For the name and number of a local representative, contact METALAIRE at the above phone number.

### 10. Filing Systems

- Architects' First Source Products
- MANU-SPEC®
- Sweet's Catalog Files
- Sweet's CD
- Additional product information is available from the manufacturer upon request.
- Additional information available online at [www.metalair.com](http://www.metalair.com)