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**FLOWLINE™ LINEAR DIFFUSERS**

## The FlowLine™ System...

### An architectural solution for superior air distribution.

FlowLine™ is a custom architectural linear diffuser system designed to integrate and blend supply and return air openings harmoniously into interior commercial building designs. The flexibility of FlowLine™ provides design and application possibilities that are limited only by your imagination. FlowLine™ can blend or contrast as you integrate it into either ceiling or sidewall applications. FlowLine™ linear may be used to either inconspicuously hide the air distribution system or conversely it may be used as a contrasting, architectural design element, using straight lines and/or curves to enhance the interior of a building.

Whether you require straight lines, mitered angles or smooth curves, Nailor can custom fabricate FlowLine™ to meet your most demanding architectural and engineering performance requirements.

FlowLine™ can be custom curved in any plane to suit architectural requirements. Flat face radiuses for ceilings and concave or convex curving for sidewall applications are available to special order. FlowLine™ is fabricated using sturdy heavy wall aluminum extrusions. A variety of frame/border styles and associated mounting hardware allows FlowLine™ to be installed either during or after ceiling installation. In acoustical suspension ceiling systems using continuous runs, the FlowLine™ system is installed at the same time as the ceiling grid and becomes an integral part of the ceiling assembly.

FlowLine™ linear is available in five slot widths providing a much higher air volume capability than conventional multiple slot linear designs, which are more visible. A two slot option is also available for even higher capacities. Engineered for outstanding

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performance and tested in accordance with the latest ASHRAE Standard 70, FlowLine™ can provide higher airflows at lower noise levels than traditional linear slot designs, making it an ideal solution for high profile architectural projects.

FlowLine™ is available in two air pattern controller designs. The FLH Series features adjustable horizontal high throw pattern controllers for ceiling applications. The FLV Series features adjustable vertical jet pattern controllers for high ceiling and sidewall applications.

**...Invisible Air**

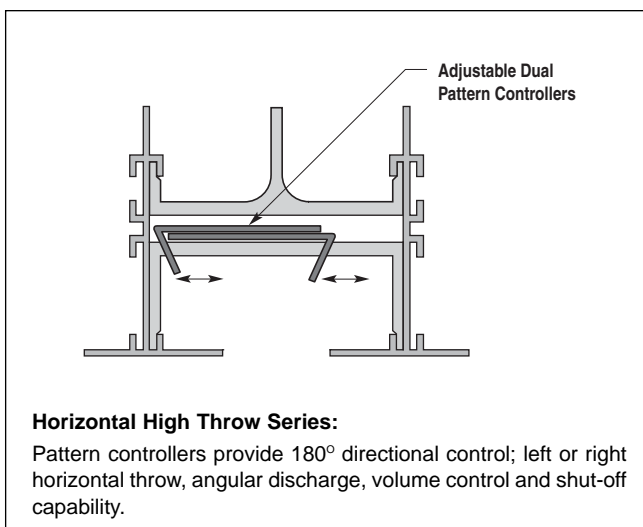


## Key Features:

- High capacity single slot linear diffuser available in five slot widths, offers an attractive alternative to traditional multi-slot designs. Available slot widths are 1" (25), 1½" (38), 2" (51), 2½" (64) and 3" (76). A two slot option is also available.
- Comprehensive selection of frame/border styles and mounting hardware to suit any installation.
- Choice of FLH Series Horizontal or FLV Series Vertical Pattern Controllers. May be combined within a single system.
- Custom curving availability to meet specific design requirements, provides architectural appeal.
- Heavy wall extruded aluminum construction permits support and full integration with ceiling system.
- Mitered end borders are available which maximize aesthetic appeal.
- Available in single sections up to 12 ft. (3658) in length. Longer lengths are supplied in multiple sections with alignment strips for field assembly.
- High performance design is ideally suited to VAV systems, both heating and cooling.
- Custom colors and anodized finishes are available.

## FLH Series:

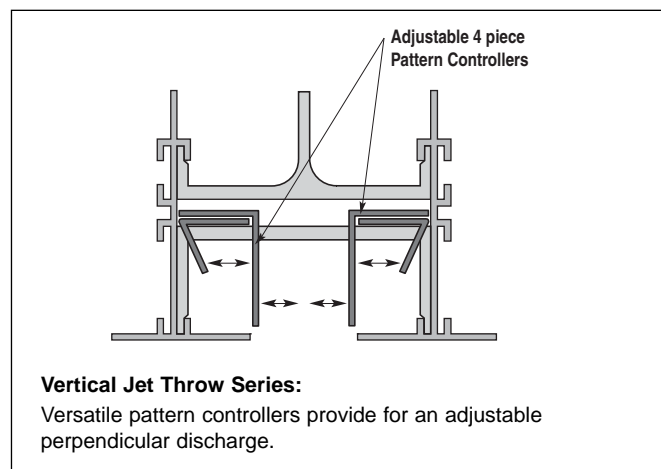
Designed primarily for continuous linear slot ceiling applications requiring horizontal air patterns. Tight, high induction air pattern maximizes coanda effect under a wide range of airflow volumes for maximum occupant comfort. Typical applications would include open office perimeter zones, entrance foyers and lobbies, mall and office entrance atriums and conference meeting rooms.



## FLV Series:

Designed primarily for continuous linear slot ceiling applications requiring an adjustable extended throw vertical air pattern. Typical applications would include perimeter glass curtain walls and high bays for heated and/or cooled air, which may be directed downwards, terminating at the floor at a comfortable velocity. Also suitable for interior zones with high ceilings, such as entrance foyers and lobbies, mall and office entrance atriums, convention center and theaters.

This model may also be used in high sidewall applications with long throw requirements.



## FLP(I) Series:

Nailor offers factory built supply air plenum boots in various lengths to suit the application in both uninsulated and insulated versions. Nailor engineered plenums save on costly field labor and ensure a sure-fit trouble free installation.

## FT Series:

The FlowLine™ Series is available in modular lengths for lay-in T-Bar applications, utilizing either the horizontal high throw or vertical jet throw pattern controllers. Units are supplied with factory installed engineered plenums in uninsulated or insulated versions.

## FM Series:

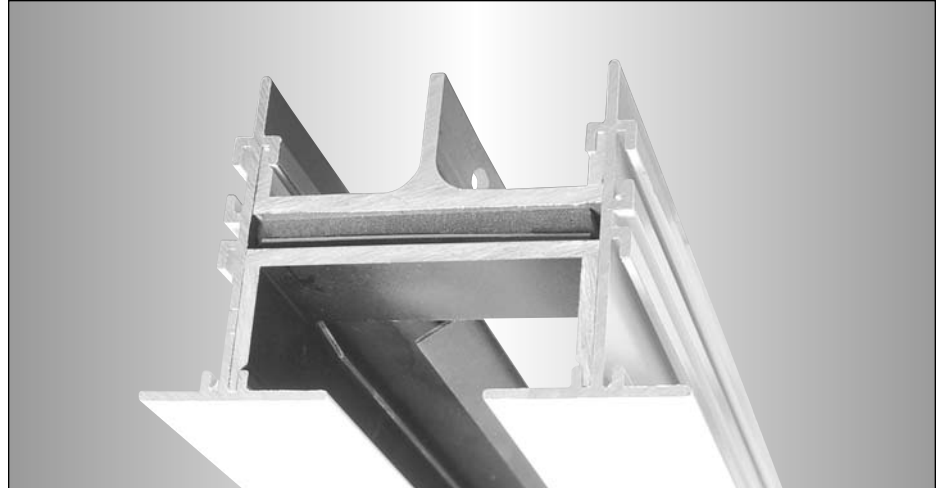
The FM Series is an architecturally pleasing modular square ceiling diffuser primarily for lay-in T-Bar applications. Designed to compliment the FlowLine™ Linear Diffuser System, the FM Series features a single slot at the perimeter of a 2 ft. x 2 ft. (600 x 600) ceiling module and accommodates a center acoustic ceiling tile.

## FLH Series

- HORIZONTAL HIGH THROW PATTERN CONTROLLERS
- CONTINUOUS CUSTOM LINEAR DIFFUSER

### Models:

<b>FLH10</b>	<b>1" (25) Slot</b>
<b>FLH15</b>	<b>1½" (38) Slot</b>
<b>FLH20</b>	<b>2" (51) Slot</b>
<b>FLH25</b>	<b>2½" (64) Slot</b>
<b>FLH30</b>	<b>3" (76) Slot</b>



The FlowLine™ FLH Series continuous slot diffuser is designed primarily for ceiling applications. The adjustable pattern controllers, which are easily adjusted from the face, allow the discharge air to be directed to the left or right as well as downward. When positioned for horizontal discharge, a tight horizontal air pattern is produced that makes full use of the ceiling (coanda) effect, even at reduced air volumes. High induction characteristics maximize room air movement and mixing, making FlowLine™ FLH Series eminently suitable for variable air volume systems.

### STANDARD FEATURES:

- Heavy wall extruded aluminum construction with galvanized steel pattern controllers.
- Sliding pattern controller design provides easy adjustment for horizontal or vertical directional control as well as a volume control or shut-off capability.
- Dual blade pattern controllers are constructed on 24" (610) centers as standard for maximum flexibility.
- Five slot widths in a one or two slot configuration provide a high air volume capability.
- Single section lengths up to 12 ft. (3658) reduce the number of joints in continuous runs.
- Multiple section assemblies are divided into equal length single

sections and are provided with alignment strips.

- Mitered end borders on standard frame Type AA provide a superior architectural finish not available from several competitors.
- FlowLine™ can be custom curved in any plane - concave, convex or flat radius.

### FRAME/BORDER STYLES:

- FlowLine™ FLH Series is designed for continuous length installation in both hard drywall or acoustical suspension (T-Bar) ceiling systems. Optional mounting hardware is available to suit the installation method.
- Available in two standard and various special frame/border designs to suit any installation requirement.

- Various end border options are available to suit installation.
- Mitered corner and transition sections are available.

### SUPPLY AIR PLENUMS:

- Model Series FLP(I) factory engineered plenum boots are available, which ensure both a trouble free installation and that catalog performance is met.

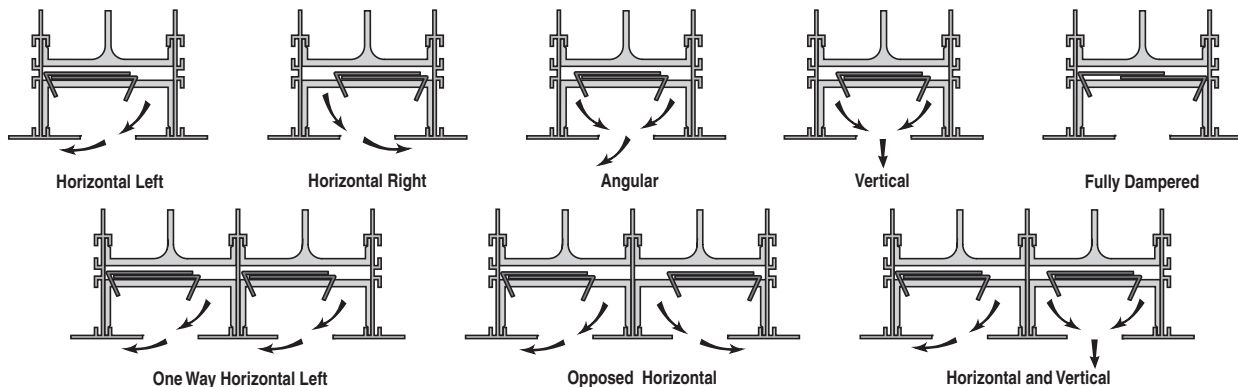
### FINISH:

- Standard finish is AW Appliance White baked enamel on exposed frame surfaces. Pattern controllers and interior surfaces are black.
- Custom color baked enamel and anodized finishes are available to suit architectural requirements.

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### FLH Series Pattern Controller Adjustment

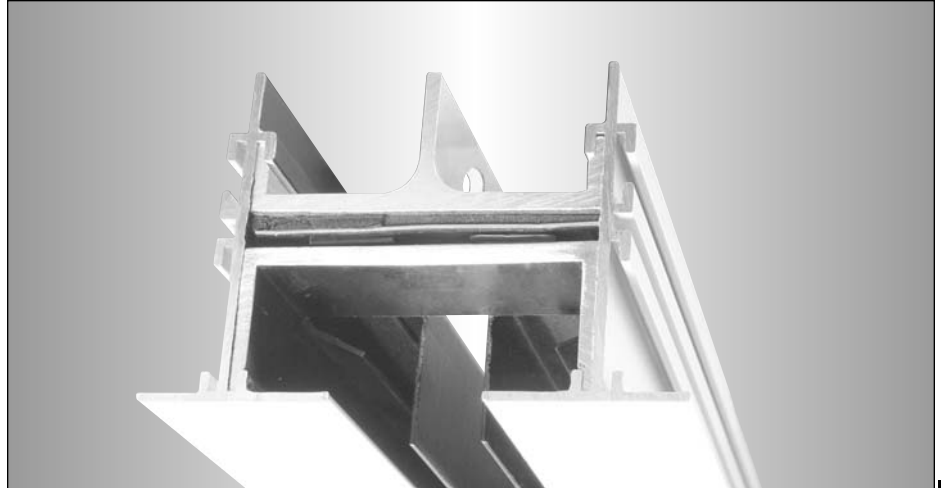


## FLV Series

- VERTICAL JET THROW PATTERN CONTROLLERS
- CONTINUOUS CUSTOM LINEAR DIFFUSER

### Models:

- FLV10 1" (25) Slot
- FLV15 1½" (38) Slot
- FLV20 2" (51) Slot
- FLV25 2½" (64) Slot
- FLV30 3" (76) Slot



The FlowLine™ FLV Series continuous slot diffuser is designed for both ceiling and high sidewall applications and provides total air pattern control flexibility. Similar in appearance to the FLH Series, the FLV Series features adjustable pattern controllers that direct the airstream perpendicular to the face, providing a strong vertical projection when installed in a ceiling and horizontally when installed in a sidewall application. The pattern controllers permit angular discharge, allowing the airstream to be directed left or right in a ceiling application and up or down in a sidewall application. The pattern controllers also provide a variable aperture capability to adjust performance to specific applications.

### STANDARD FEATURES:

- Heavy wall extruded aluminum construction with galvanized steel pattern controllers.
- Sliding pattern controller design provides easy adjustment for vertical directional control as well as a volume control capability.
- Dual blade pattern controllers are constructed on 24" (610) centers as standard for maximum flexibility.
- Five slot widths in a one or two slot configuration provide a high air volume capability.
- Single section lengths up to 12 ft. (3658) reduce the number of joints in continuous runs.
- Multiple section assemblies are divided into equal length single

sections and are provided with alignment strips.

- Mitered end borders on standard frame Type AA provide a superior architectural finish not available from several competitors.
- FlowLine™ can be custom curved in any plane - concave, convex or flat radius.

### FRAME/BORDER STYLES:

- FlowLine™ FLV Series is designed for continuous length installation in both hard drywall or acoustical suspension (T-Bar) ceiling systems. Optional mounting hardware is available to suit the installation method.
- Available in two standard and various special frame/border designs to suit any installation requirement.

- Various end border options are available to suit installation.
- Mitered corner and transition sections are available.

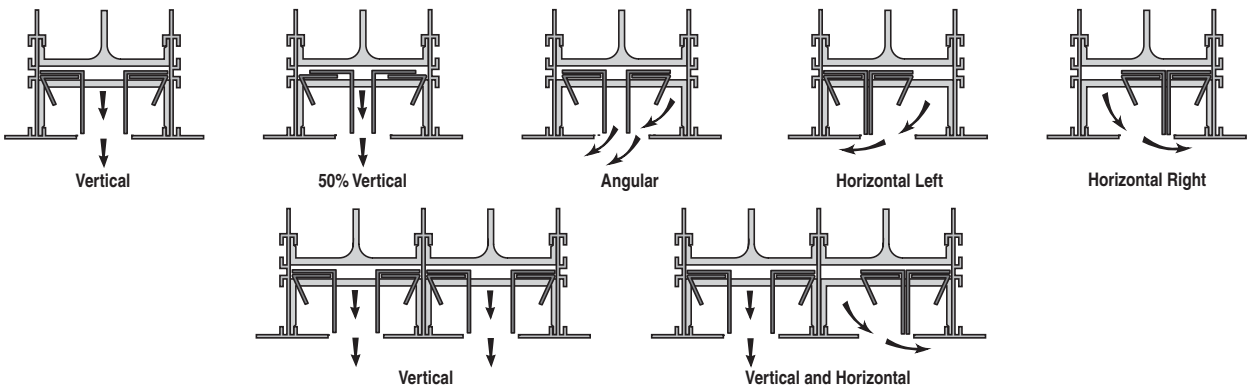
### SUPPLY AIR PLENUMS:

- Model Series FLP(I) factory engineered plenum boots are available, which ensure both a trouble free installation and that catalog performance is met.

### FINISH:

- Standard finish is AW Appliance White baked enamel on exposed frame surfaces. Pattern controllers and interior surfaces are black.
- Custom color baked enamel and anodized finishes are available to suit architectural requirements.

### FLV Series Pattern Controller Adjustment



## Standard Frame/Border Styles

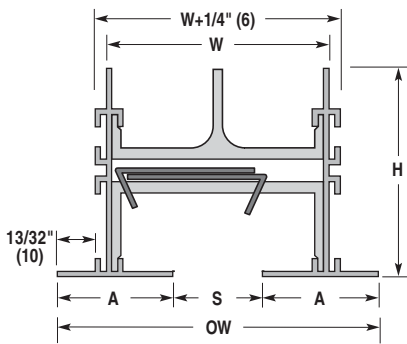
(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).

These frame/border styles require installation of the FlowLine™ diffuser prior to installation of the drywall. The ceiling opening should be framed and the diffuser attached with optional mounting clips or suspended from the building structure with hanger wire using the integral hanger brackets supplied with the diffuser.

### One Slot

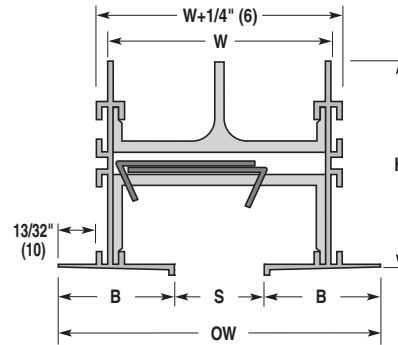
#### Type AA Exposed Flange Frame

- Drywall (ceiling, wall), T-Bar



#### Type BB Concealed Tapered Frame

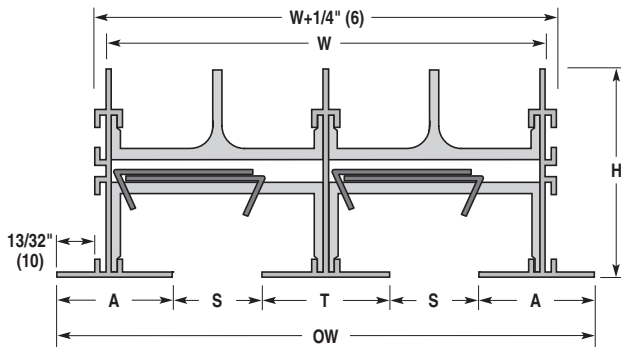
- Drywall (ceiling, wall)
- Tape and Spackle



### Two Slot

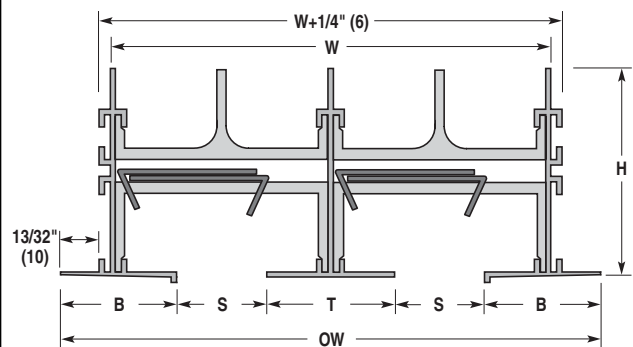
#### Type AA Exposed Flange Frame

- Drywall (ceiling, wall), T-Bar



#### Type BB Concealed Tapered Side Frame

- Drywall (ceiling, wall)
- Tape and Spackle



### Dimensional Data - Imperial (Metric) Units

Model	S Slot Width	1 Slot		2 Slot		A, B Border Width	H Height	T 2 Slot
		W	OW	W	OW			
FL(HorV)10	1 (25)	2 1/2 (64)	3 9/16 (90)	4 15/16 (125)	6 (152)	1 9/32 (33)	2 3/8 (60)	1 7/16 (37)
FL(HorV)15	1 1/2 (38)	3 1/2 (89)	4 9/16 (116)	6 15/16 (176)	8 (203)	1 17/32 (39)	2 5/8 (67)	1 15/16 (49)
FL(HorV)20	2 (51)	4 1/2 (114)	5 9/16 (141)	8 15/16 (227)	10 (254)	1 25/32 (45)	2 7/8 (73)	2 7/16 (62)
FL(HorV)25	2 1/2 (64)	5 1/2 (140)	6 9/16 (167)	10 15/16 (278)	12 (305)	2 1/32 (52)	3 1/8 (79)	2 15/16 (75)
FL(HorV)30	3 (76)	6 1/2 (165)	7 9/16 (192)	12 15/16 (329)	14 (356)	2 3/32 (58)	3 3/8 (86)	3 7/16 (87)

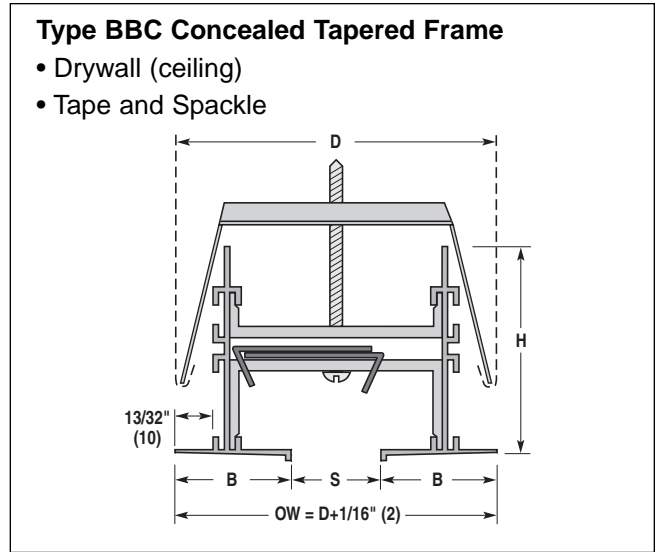
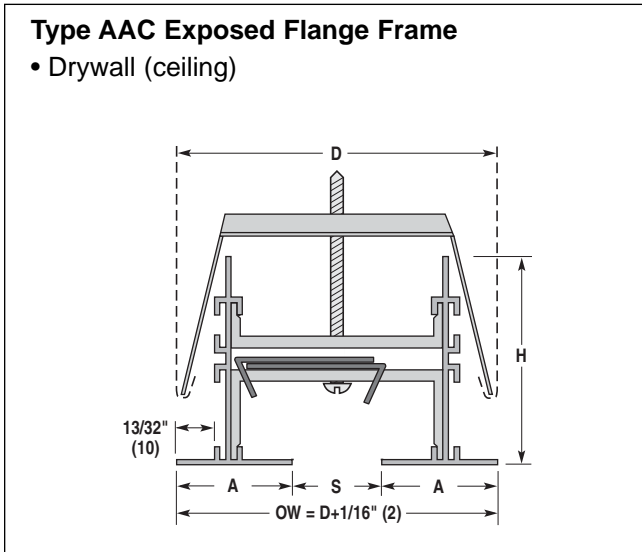
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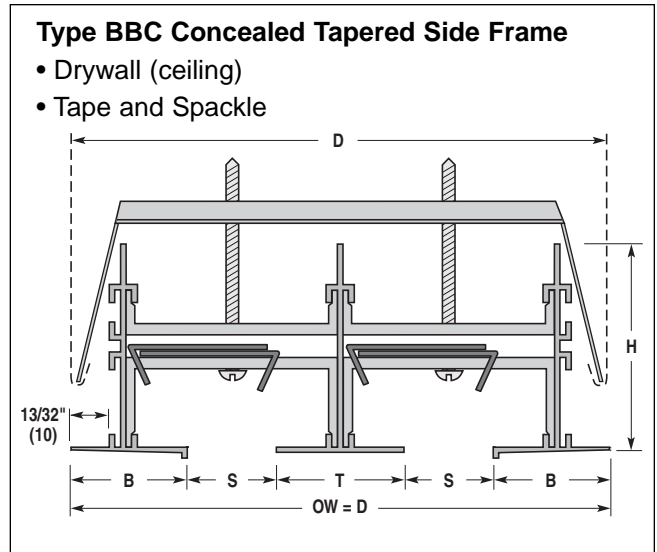
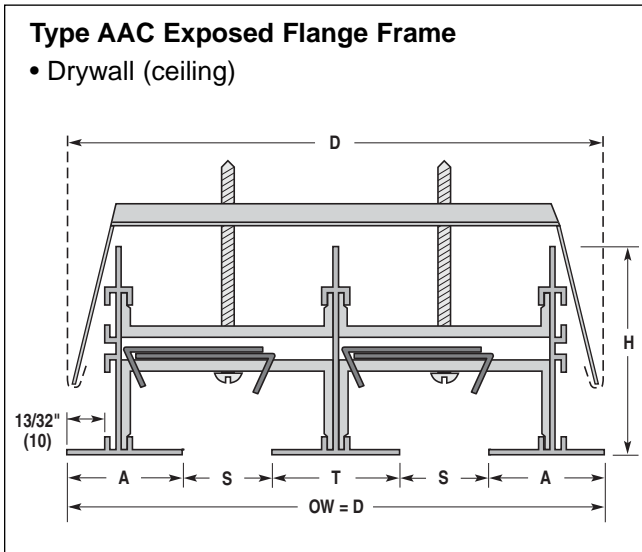
## Standard Frame/Border Styles with Concealed Mounting Bracket (Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).

The concealed mounting bracket option permits surface mounting of the FlowLine™ diffuser after the ceiling installation. Diffuser simply pushes up into the ceiling opening until the legs of the factory supplied mounting brackets locate into a hemmed duct plenum or onto the topside of the drywall. Factory supplied levelling screws then draw the diffuser up until it is tight and snug with the ceiling.

### One Slot



### Two Slot



### Dimensional Data - Imperial (Metric) Units

Model	S Slot Width	D Duct Width		A, B Border Width	H Height	T 2 Slot	Ceiling Opening Width	
		1 Slot	2 Slot				1 Slot	2 Slot
FL(H or V)10	1 (25)	3 ½ (89)	6 (152)	1 9/32 (33)	2 3/8 (60)	1 1/16 (37)	3 (76)	5 ½ (140)
FL(H or V)15	1 ½ (38)	4 ½ (114)	8 (203)	1 17/32 (39)	2 5/8 (67)	1 15/16 (49)	4 (102)	7 ½ (191)
FL(H or V)20	2 (51)	5 ½ (140)	10 (254)	1 25/32 (45)	2 7/8 (73)	2 7/16 (62)	5 (127)	9 ½ (241)
FL(H or V)25	2 ½ (64)	6 ½ (165)	12 (305)	2 1/32 (52)	3 1/8 (79)	2 15/16 (75)	6 (152)	11 ½ (292)
FL(H or V)30	3 (76)	7 ½ (191)	14 (356)	2 9/32 (58)	3 3/8 (86)	3 7/16 (87)	7 (178)	13 ½ (343)

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## Special Frame/Border Styles

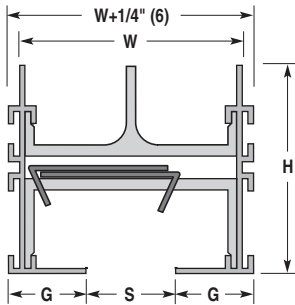
(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).

These frame/border styles require installation of the FlowLine™ diffuser prior to installation of the drywall. The ceiling opening should be framed and the diffuser attached with optional mounting clips or suspended from the building structure with hanger wire using the integral hanger brackets supplied with the diffuser.

### One Slot

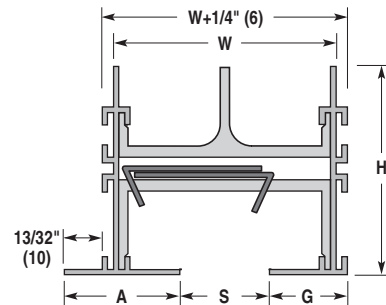
#### Type GG Flangeless Frame

- Drywall (ceiling, wall)



#### Type AG Flange / Flangeless Frame

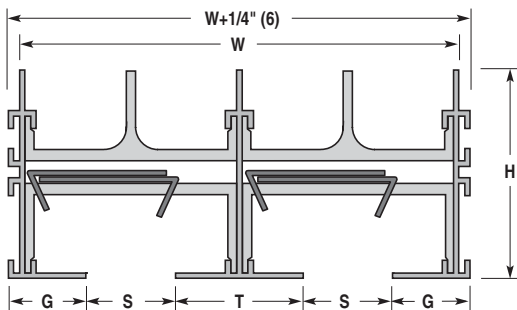
- Drywall (ceiling, wall)



### Two Slot

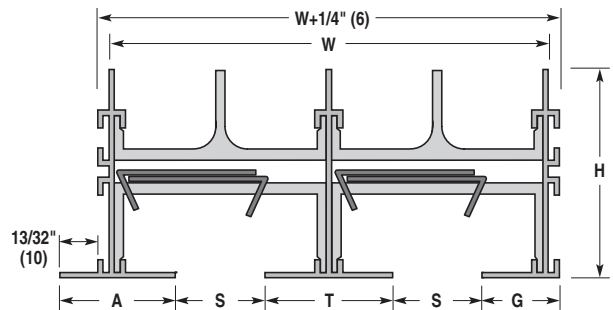
#### Type GG Flangeless Frame

- Drywall (ceiling, wall)



#### Type AG Flange / Flangeless Frame

- Drywall (ceiling, wall)



### Dimensional Data - Imperial (Metric) Units

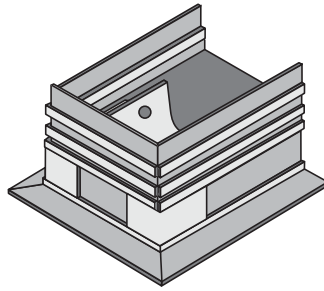
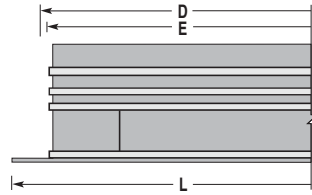
Model	S Slot Width	1 Slot W	2 Slot W	A Border Width	G Border Width	H Height	T 2 Slot
FL(HorV)10	1 (25)	2 1/2 (64)	4 15/16 (125)	1 9/32 (33)	7/8 (22)	2 3/8 (60)	1 7/16 (37)
FL(HorV)15	1 1/2 (38)	3 1/2 (89)	6 15/16 (176)	1 17/32 (39)	1 1/8 (29)	2 5/8 (67)	1 15/16 (49)
FL(HorV)20	2 (51)	4 1/2 (114)	8 15/16 (227)	1 25/32 (45)	1 3/8 (35)	2 7/8 (73)	2 7/16 (62)
FL(HorV)25	2 1/2 (64)	5 1/2 (140)	10 15/16 (278)	2 1/32 (52)	1 5/8 (41)	3 1/8 (79)	2 15/16 (75)
FL(HorV)30	3 (76)	6 1/2 (165)	12 15/16 (329)	2 3/32 (58)	1 7/8 (48)	3 3/8 (86)	3 7/16 (87)

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## End Border Configurations for Various Mountings

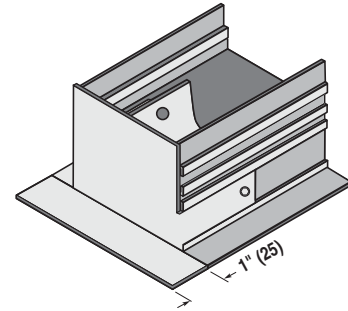
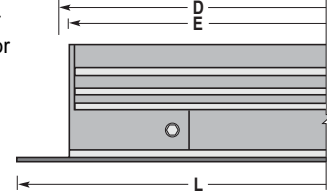
### M Mitered End Border

- Architecturally superior look for Type A Frame/Border with Exposed Flange.
- Factory mounted.

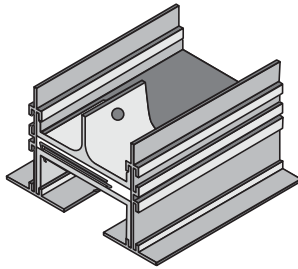
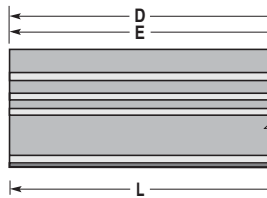


### F Flanged End Cap

- Removable for field end trim or stocking.

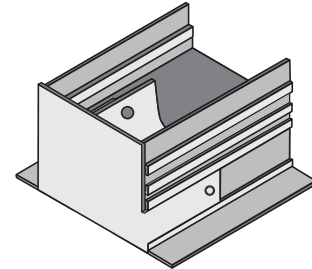
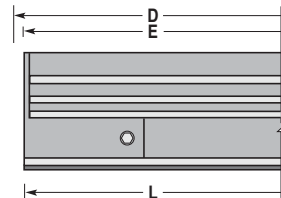


### O Open End



### C Flat End Cap

- Removable for field end trim or stocking.



### Overall Length Dimensions and End Cap Position

D = Duct Length

E = End Cap Position

L = Overall Length

Frame Type	M M		M O		M C		O O		O C	
	E	L	E	L	E	L	E	L	E	L
AA, AAC	$D - \frac{1}{4}$ (6)	$D + \frac{9}{16}$ (14)	$D - \frac{1}{8}$ (3)	$D + \frac{9}{32}$ (7)	$D - \frac{1}{16}$ (2)	$D + \frac{11}{32}$ (9)	D	D	$D - \frac{1}{16}$ (2)	$D - \frac{1}{16}$ (2)
BB, BBC	$D - \frac{1}{4}$ (6)	$D + \frac{9}{16}$ (14)	$D - \frac{1}{8}$ (3)	$D + \frac{9}{32}$ (7)	$D - \frac{1}{16}$ (2)	$D + \frac{11}{32}$ (9)	D	D	$D - \frac{1}{16}$ (2)	$D - \frac{1}{16}$ (2)
GG, AG	N/A	N/A	N/A	N/A	N/A	N/A	D	D	$D - \frac{1}{16}$ (2)	$D - \frac{1}{16}$ (2)

Frame Type	C C		F F		F O		F C	
	E	L	E	L	E	L	E	L
AA, AAC	$D - \frac{1}{8}$ (3)	$D - \frac{1}{8}$ (3)	$D - \frac{1}{4}$ (6)	$D + 1 \frac{5}{8}$ (41)	$D - \frac{1}{8}$ (3)	$D + \frac{13}{16}$ (21)	$D - \frac{1}{16}$ (2)	$D + \frac{7}{8}$ (22)
BB, BBC	$D - \frac{1}{8}$ (3)	$D - \frac{1}{8}$ (3)	N/A	N/A	N/A	N/A	N/A	N/A
GG, AG	$D - \frac{1}{8}$ (3)	$D - \frac{1}{8}$ (3)	$D - \frac{1}{4}$ (6)	$D + 1 \frac{5}{8}$ (41)	$D - \frac{1}{8}$ (3)	$D + \frac{13}{16}$ (21)	$D - \frac{1}{16}$ (2)	$D + \frac{7}{8}$ (22)

## Options and Accessories

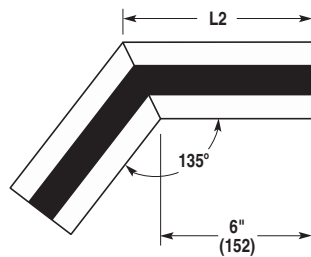
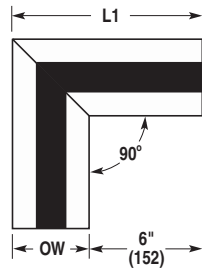
### Mitered Corners

- FLMC10 • 1" (25) Slot
- FLMC15 • 1½" (38) Slot
- FLMC20 • 2" (51) Slot
- FLMC25 • 2½" (64) Slot
- FLMC30 • 3" (76) Slot

The standard mitered corners are 90° and 135°. Units are factory welded with precision to match and align with the associated straight leg.

Units are supplied with factory installed blank-offs in the slot (painted black) and are inactive. Other angles are available.

For compound angles, contact your Nailor Representative.



No. of Slots	Slot Width	Border AA, BB		Border GG	
		L1	L2	L1	L2
1	1 (25)	9 9/16 (243)	7 15/32 (190)	8 11/16 (221)	7 1/8 (181)
	1½ (38)	10 9/16 (268)	7 7/8 (200)	9 11/16 (246)	7 17/32 (191)
	2 (51)	11 9/16 (294)	8 5/16 (211)	10 11/16 (272)	7 15/16 (202)
	2½ (64)	12 9/16 (319)	8 23/32 (221)	11 11/16 (297)	8 11/32 (212)
	3 (76)	13 9/16 (344)	9 1/8 (232)	12 11/16 (322)	3 3/4 (222)
2	1 (25)	11 31/32 (304)	8 15/32 (215)	11 3/32 (282)	8 3/32 (206)
	1½ (38)	13 31/32 (355)	9 5/16 (237)	13 3/32 (333)	8 29/32 (226)
	2 (51)	15 31/32 (406)	10 1/8 (257)	15 3/32 (383)	9 3/4 (248)
	2½ (64)	17 31/32 (456)	10 31/32 (279)	17 3/32 (434)	10 9/16 (268)
	3 (76)	19 31/32 (507)	11 25/32 (299)	19 3/32 (485)	11 13/32 (290)

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### Transitions

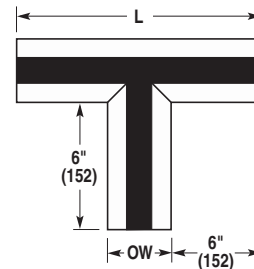
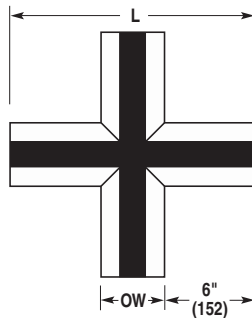
#### Type C Cross

- FLC10 • 1" (25) Slot
- FLC15 • 1½" (38) Slot
- FLC20 • 2" (51) Slot
- FLC25 • 2½" (64) Slot
- FLC30 • 3" (76) Slot

#### Type T Tee

- FLT10 • 1" (25) Slot
- FLT15 • 1½" (38) Slot
- FLT20 • 2" (51) Slot
- FLT25 • 2½" (64) Slot
- FLT30 • 3" (76) Slot

Transitions are inactive. Blank-offs installed at factory. Not available in 2 slot version.

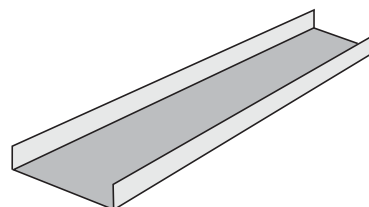


No. of Slots	Slot Width	Border AA, BB		Border GG	
		OW	L	OW	L
1	1 (25)	3 9/16 (90)	15 9/16 (395)	2 3/4 (70)	14 11/16 (373)
	1½ (38)	4 9/16 (116)	16 9/16 (421)	2 3/4 (95)	15 11/16 (398)
	2 (51)	5 9/16 (141)	17 9/16 (446)	4 3/4 (121)	16 11/16 (424)
	2½ (64)	6 9/16 (167)	18 9/16 (471)	5 3/4 (146)	17 11/16 (449)
	3 (76)	7 9/16 (192)	19 9/16 (497)	6 3/4 (171)	18 11/16 (475)

### Blank-Offs

- FLBO10 • 1" (25) Slot
- FLBO15 • 1½" (38) Slot
- FLBO20 • 2" (51) Slot
- FLBO25 • 2½" (64) Slot
- FLBO30 • 3" (76) Slot

Corrosion resistant steel, painted flat black. Fit in neck of diffuser. Provided in 48" (1219) lengths. Field cut to length.



## Options and Accessories

### Return Hood/Sight Shield

#### Uninsulated:

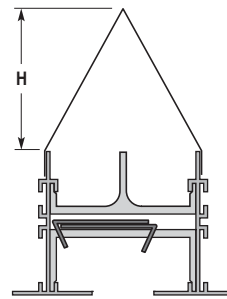
- FLR10 • 1" (25) Slot
- FLR15 • 1½" (38) Slot
- FLR20 • 2" (51) Slot
- FLR25 • 2½" (64) Slot
- FLR30 • 3" (76) Slot

51% free area perforated corrosion resistant steel, painted flat black. Provided in 4 ft. (1219) lengths. Field cut to length.

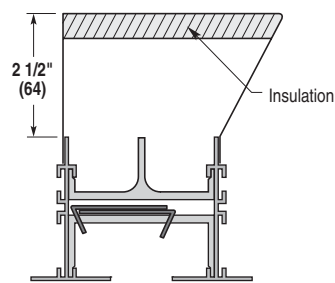
#### Insulated:

- FLRI10 • 1" (25) Slot
- FLRI15 • 1½" (38) Slot
- FLRI20 • 2" (51) Slot
- FLRI25 • 2½" (64) Slot
- FLRI30 • 3" (76) Slot

#### Uninsulated

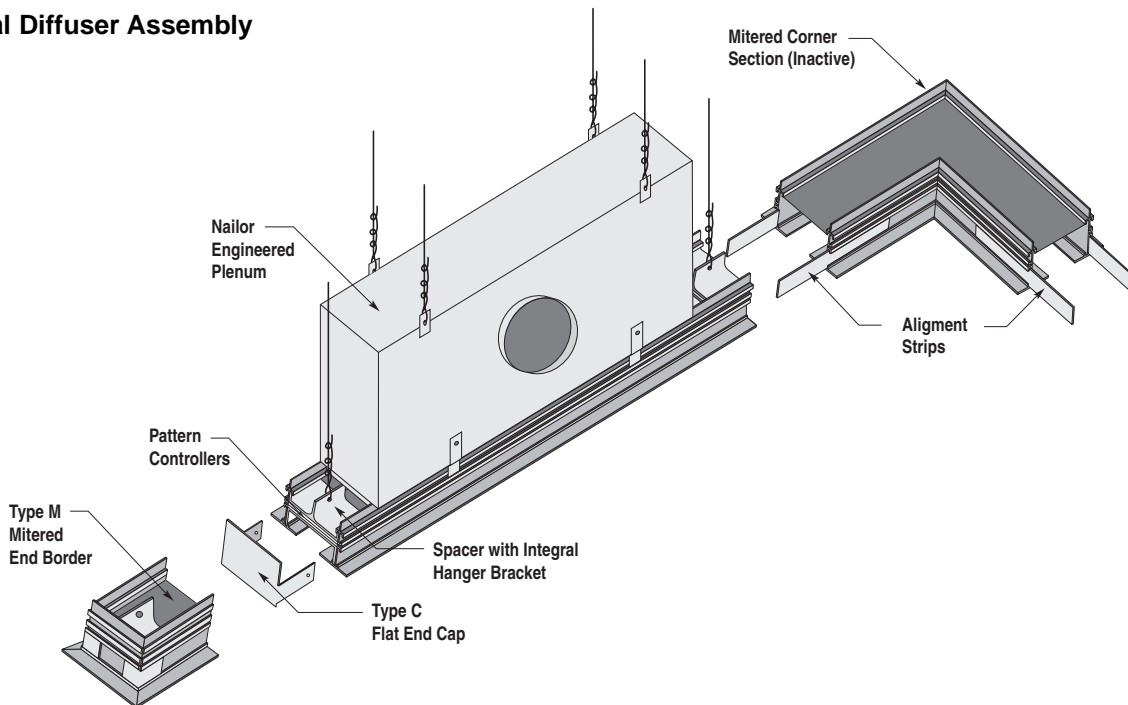


#### Insulated



No. of Slots	Slot Width	H (Height)
1	1 (25)	3 ¾ (86)
	1½ (38)	3 ¾ (86)
	2 (51)	3 ¾ (86)
	2½ (64)	3 ¾ (86)
	3 (76)	3 ¾ (86)
2	1 (25)	2 ½ (54)
	1½ (38)	3 ½ (79)
	2 (51)	4 ½ (105)
	2½ (64)	5 ½ (130)
	3 (76)	6 ½ (156)

### Typical Diffuser Assembly



- Diffuser sections can be joined end to end for long continuous runs.
- Type M Mitered End Borders provide a superior architectural finish. Type C End Caps close off the ends of the diffuser when terminating at a wall or other stop. Type C may be field installed.
- Alignment strips are factory supplied as standard on all multiple section assemblies to ensure close and positive alignment between sections.
- Nailor's optional engineered plenums ensure catalog performance and a trouble free sure fit installation.
- Unique integral hanger brackets provide independent hanging points and eliminate the need for field add-on hanger clips.

A

FLOWLINE™ LINEAR DIFFUSERS