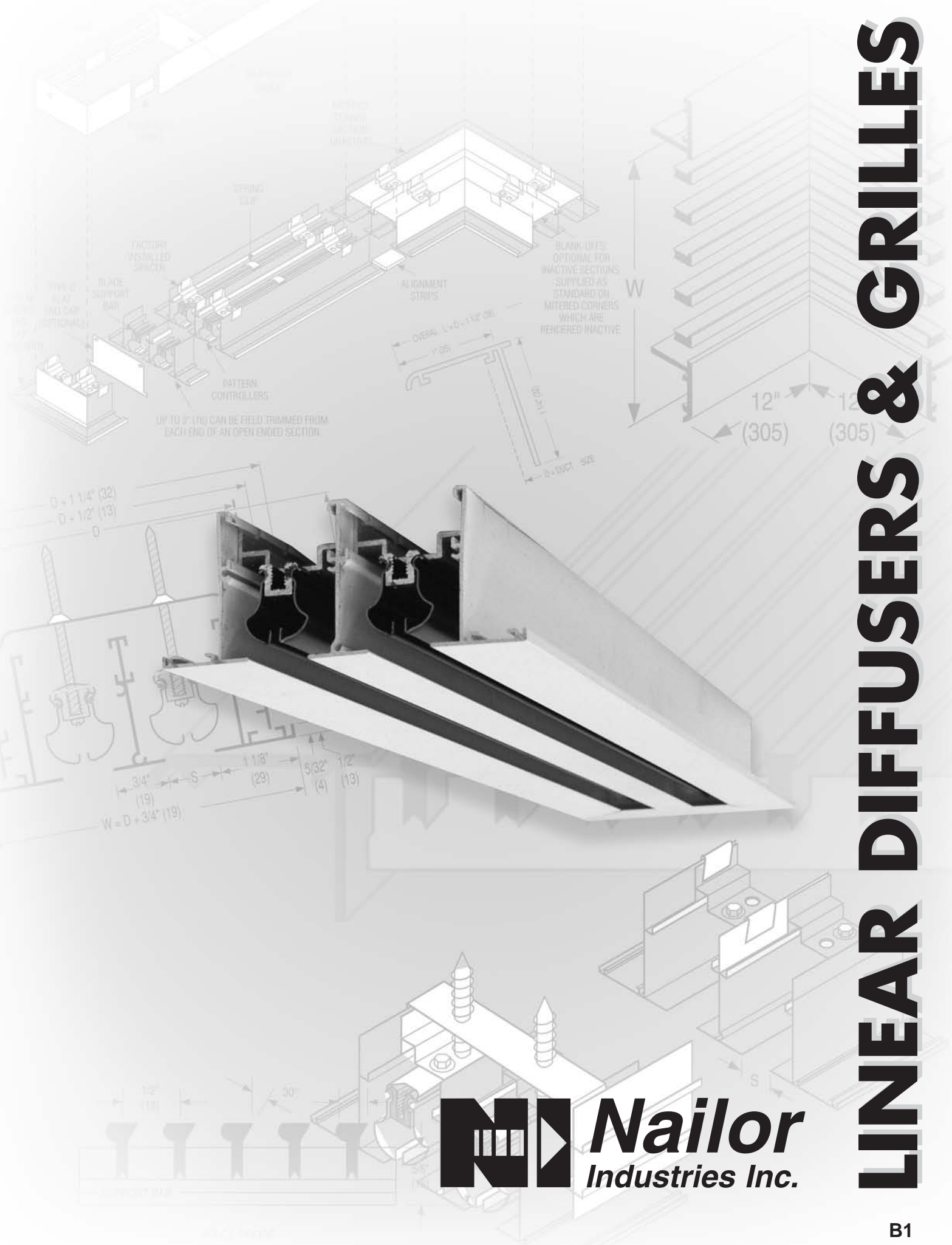


LINEAR DIFFUSERS & GRILLES



N Nailor Industries Inc.

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Linear Slot Diffusers

Model Series 5000 • 'Ice Tong' Pattern Controllers • Extruded Aluminum

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Linear Slot Diffuser Plenums

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Linear Louver Diffusers

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GENERAL PRODUCT OVERVIEW

Linear Diffusers and Bar Grilles

Linear type diffusers and grilles have been developed to satisfy architectural and engineering applications that require a continuous length appearance, aesthetically pleasing design and high engineering performance with premium quality aluminum products. Installations can be equally effective where lengths are literally continuous around the periphery of a wall, floor or ceiling space and certain sections of the unit are active with regard to airflow, satisfying mechanical and architectural requirements. Individual discreet lengths may be separately installed at reduced cost and offer the same engineering performance. The proposed application and installed location will usually dictate whether a slot, bar or louvered type product is the most suitable choice. When the ideal product type has been chosen, the airflow and performance requirements will dictate the style and sizing selections from a comprehensive range of available sizes and capacities.



Linear Slot Diffusers

The **Nailor Model Series 5000** provides architectural excellence and outstanding performance flexibility.

Available in three different slot opening widths, a range of 1 to 10 slots and a wide choice of border/frame styles that co-ordinate with ceiling and installation details. They feature 'ice tong' style individual pattern controllers in each slot that not only offer a 180° air pattern adjustment, but can also be used to dampen airflow.

Designed primarily for ceiling and high sidewall installation, they are eminently suited to, and recommended for, VAV applications. They maintain a tight and stable horizontal air pattern over a wide range of air volumes by utilizing the maximum ceiling coanda effect.

Also commonly used in overhead heating applications, the versatile pattern controllers allow vertical projection of heated air to meet almost any perimeter condition.

Supply Air – Models 5050, 5075, 5010 See page B5
Return Air – Models 5050R, 5075R, 5010R See page B5

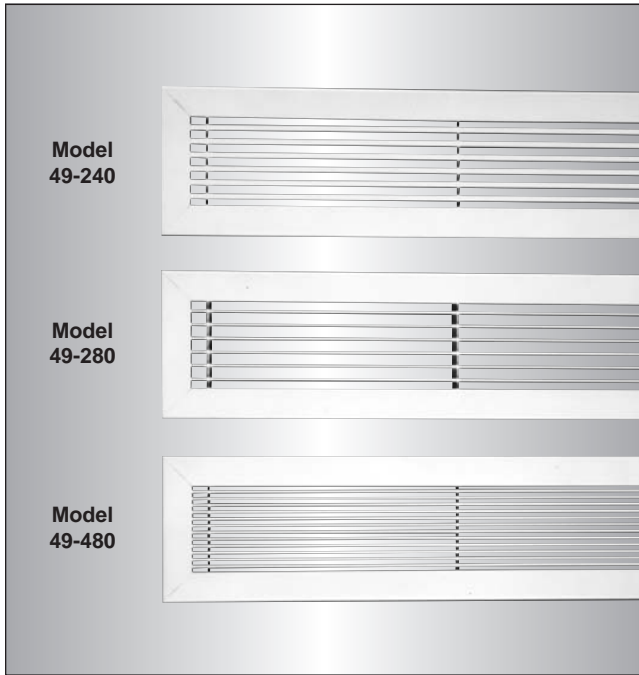


Plenums for Linear Slot Diffusers

Nailor's Model Series 5300 Plenums are designed to fit the **5000 Series Slot Diffusers**. The plenums are constructed from corrosion-resistant steel and are available in two different styles for an extensive performance range. The standard constructed plenum is suited for applications that require longer throws and shorter spreads, whereas the modified plenum increases the spread and reduces the throw. Specially designed end caps can be turned up for continuous runs. All styles are offered with internal or external insulation.

Standard Performance (non-insulated) –
Models 5350, 5375, 5310 See page B20
Standard Performance (internally insulated) –
Models 5350I, 5375I, 5310I See page B20
Modified Performance (non-insulated) –
Models 5350MP, 5375MP, 5310MP See page B20
Modified Performance (internally insulated) –
Models 5350IMP, 5375IMP, 5310IMP See page B20

B LINEAR DIFFUSERS AND BAR GRILLES

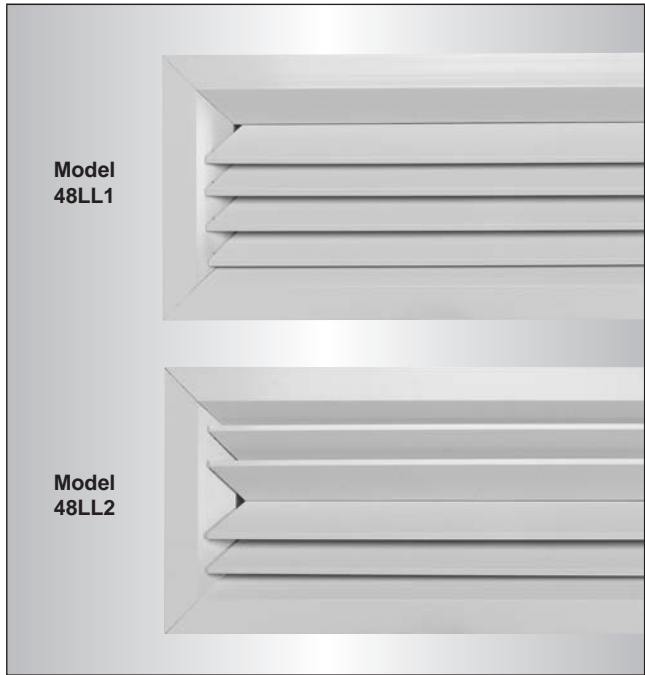


Linear Bar Grilles

The **Nailor 4900 Series** provides an extruded aluminum bar grille that offers beautiful styling and efficient performance.

Linear bar grilles offer a choice of fixed air patterns with 0°, 15° or 30° air deflection, a choice of bar widths and spacing and a wide choice of border/frame style combinations to suit most types of installation. They are available with an optional opposed blade damper for volume control. Linear bar grilles are recommended for supply air applications in floors, window sills, and high sidewall locations. They are not generally suited to ceiling mounted supply applications (other than for directional spot heating or cooling as an air curtain) as they are not designed for horizontal projection from the face.

Models 49-240, 49-241, 49-243, 49-280, 49-281, 49-480, 49-481 **See page B33**
 Suffix '-O' adds a steel OBD



Linear Louver Diffusers

The **Nailor 48LL Series Linear Louver (Vane) Diffusers** are designed to provide a high capacity, architecturally pleasing linear diffuser that can supply large volumes of air at relatively low sound levels and pressure drops.

High quality, extruded aluminum angular discharge louvers are designed to create a stable horizontal air pattern that is tight to the ceiling. Ideal for applications in VAV systems, these diffusers create a strong ceiling coanda effect at typical maximum and minimum flow rates and ensure optimal comfort conditions.

Models 48LL1, 48LL2 **See page B49**
 Suffix '-O' adds a steel OBD
 Suffix '-OA' adds an aluminum OBD

LINEAR SLOT DIFFUSERS

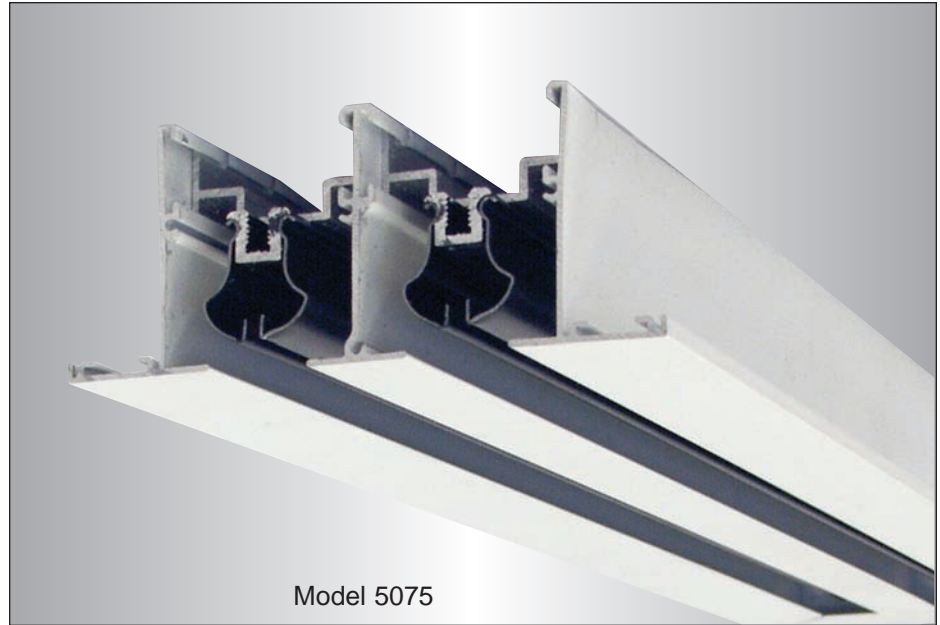
- ALUMINUM CONSTRUCTION
- 'ICE TONG' PATTERN CONTROLLERS

Supply Models:

- 5050 1/2" (13) Slot
- 5075 3/4" (19) Slot
- 5010 1" (25) Slot

Return Models:

- 5050R 1/2" (13) Slot
- 5075R 3/4" (19) Slot
- 5010R 1" (25) Slot



B

The **Series 5000 Linear Slot Ceiling Diffuser** has been specially designed to provide both the unobtrusive appearance required for architectural excellence, and the full 180° pattern controller adjustment at minimum NC levels required for high engineering performance.

The **Series 5000 Diffuser** provides stable diffusion under large amounts of air with both constant and changing load conditions. This is particularly suitable for variable air volume systems.

The **Series 5000 Diffusers** are available to suit many applications with several choices of mounting frames. Standard finish is a high quality, hard baked enamel for long life and easy cleaning.

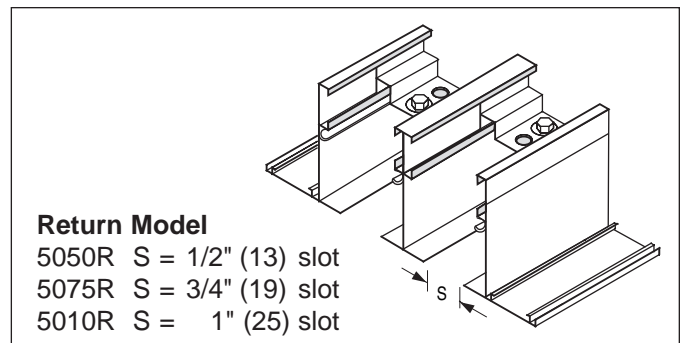
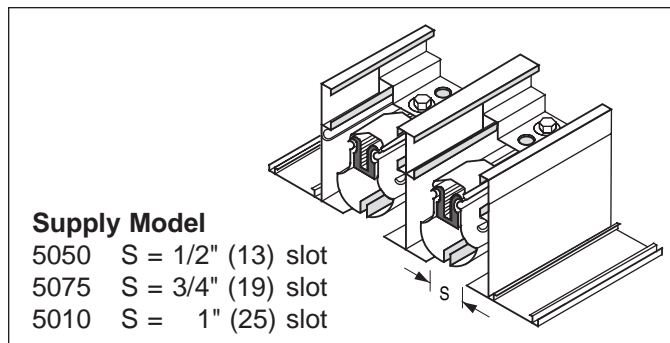
The diffusers are available with mitered corner end caps and feature die-formed components to provide consistent quality and performance.

FEATURES:

- The volume and direction of the discharge air can be adjusted by moving the pattern controllers.
- Available with 1 to 10 slots.
- Choice of three slot widths to suit capacity requirements.
- The maximum length of the pattern controller is 36" (914). Diffusers longer than 36" (914) are provided with multiple pattern controller sections.
- Selection of frames and mounting sub-frames for various types of installations.
- Diffusers are supplied in lengths of up to 6 feet (1829) in a single section.
- Ideal for continuous length applications.
- Multiple sections are provided with alignment strips on the frames and sub-frames to provide superior, positive field alignment.
- **Model 5000R** returns and the **Model 5000** supply diffusers are identical except for the omission of pattern controllers.
- Mounting sub-frames are cut to length and assembled in the field.

Material: Extruded aluminum frame with corrosion-resistant steel pattern controllers.

Finish: AW Appliance White baked enamel frame with black pattern controllers is standard. Other finishes are available.



LINEAR DIFFUSERS AND BAR GRILLES

Various types of frame and mounting sub-frame combinations for hard ceilings.

D = Duct Size

S = Slot Width

W = Overall Face Width

Standard Frames are the most commonly specified and readily available from stock.

Dimensions are in inches (mm).

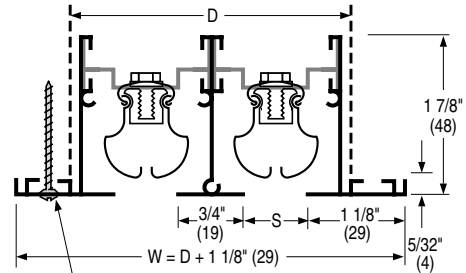
Standard Frame

Type A

- Flange Frame
- Screw Mounting

Type B

- Flange Frame
- Duct Mounting, less screw holes

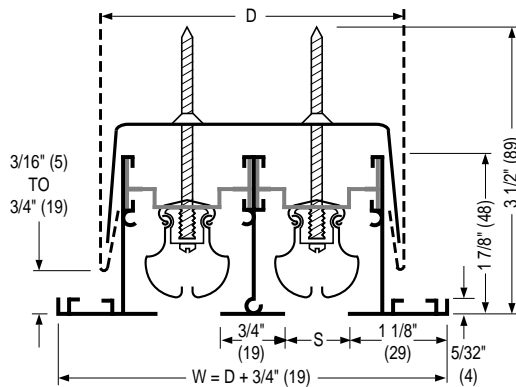


COUNTERSUNK SCREW HOLES FOR #8 SCREWS, 3/8" (10) FROM EDGE

Standard Frame

Type C

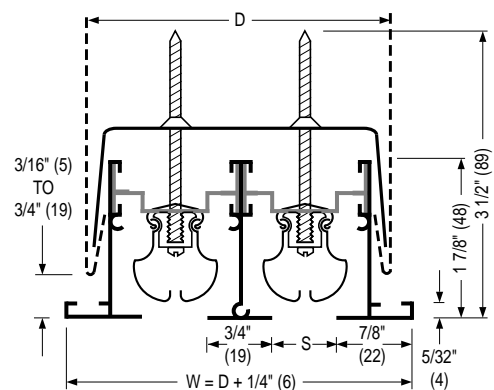
- Flange Frame
- Concealed Mounting



Standard Frame

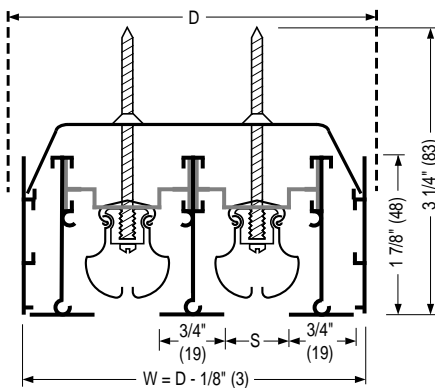
Type D

- Flange Frame, Narrow Margin
- Concealed Mounting



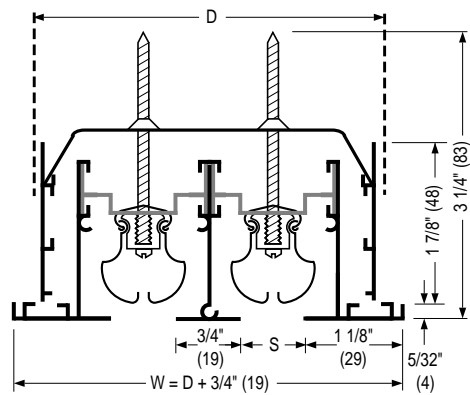
Type E

- Flush Frame and Sub-Frame
- Concealed Mounting



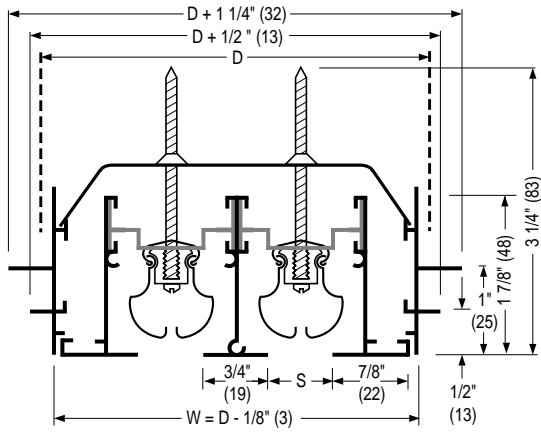
Type F

- Flange Frame and Sub-Frame
- Concealed Mounting



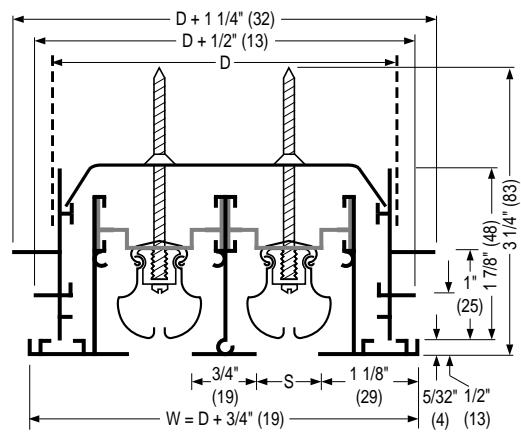
Type G

- Flush Frame with Plaster and Tile Sub-Frame
- Concealed Mounting



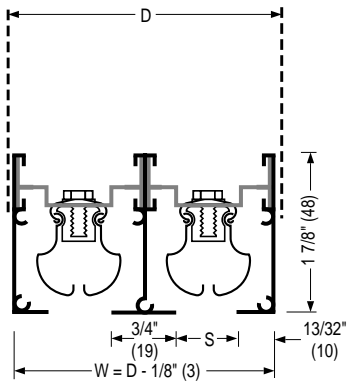
Type H

- Flange Frame with Plaster and Tile Sub-Frame
- Concealed Mounting



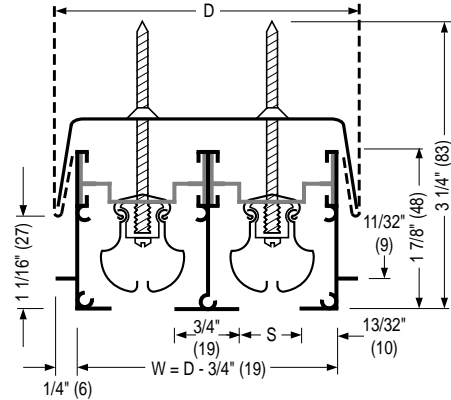
Type M

- Flush Frame
- Duct Mounting
- Flangeless Frame



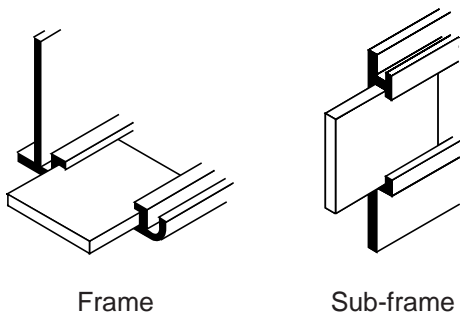
Type N

- Spline Frame Ceiling
- Concealed Mounting



Alignment Strips

Alignment strips on the frames and sub-frames provide superior, positive alignment on multiple section assemblies.



Consult page B10 for Type T Lay-in T-Bar and Type FL Finline® Frame.

For the availability of other frames and supporting methods, contact your Nailor representative for assistance.

For duct dimensions D see next page.

Dimensions are in inches (mm).

Duct Width D Dimension for Available Frames

Imperial Units (inches)

Frame Type	No. of Slots	5050	5075	5010
		5050R S=1/2	5075R S=3/4	5010R S=1
A B	1	1 5/8	1 7/8	2 1/8
	2	2 7/8	3 3/8	3 7/8
	3	4 1/8	4 7/8	5 5/8
	4	5 3/8	6 3/8	7 3/8
	5	6 5/8	7 7/8	9 1/8
	6	7 7/8	9 3/8	10 7/8
	7	9 1/8	10 7/8	12 5/8
	8	10 3/8	12 3/8	14 3/8
	9	11 5/8	13 7/8	16 1/8
	10	12 7/8	15 3/8	17 7/8

Frame Type	No. of Slots	5050	5075	5010
		5050R S=1/2	5075R S=3/4	5010R S=1
C D	1	2	2 1/4	2 1/2
	2	3 1/4	3 3/4	4 1/4
	3	4 1/2	5 1/4	6
	4	5 3/4	6 3/4	7 3/4
	5	7	8 1/4	9 1/2
	6	8 1/4	9 3/4	11 1/4
	7	9 1/2	11 1/4	13
	8	10 3/4	12 3/4	14 3/4
	9	12	14 1/4	16 1/2
	10	13 1/4	15 3/4	18 1/4

Frame Type	No. of Slots	5050	5075	5010
		5050R S=1/2	5075R S=3/4	5010R S=1
E	1	2 1/4	2 1/2	2 3/4
	2	3 1/2	4	4 1/2
	3	4 3/4	5 1/2	6 1/4
	4	6	7	8
	5	7 1/4	8 1/2	9 3/4
	6	8 1/2	10	11 1/2
	7	9 3/4	11 1/2	13 1/4
	8	11	13	15
	9	12 1/4	14 1/2	16 3/4
	10	13 1/2	16	18 1/2

Frame Type	No. of Slots	5050	5075	5010
		5050R S=1/2	5075R S=3/4	5010R S=1
F H N	1	2	2 1/4	2 1/2
	2	3 1/4	3 3/4	4 1/4
	3	4 1/2	5 1/4	6
	4	5 3/4	6 3/4	7 3/4
	5	7	8 1/4	9 1/2
	6	8 1/4	9 3/4	11 1/4
	7	9 1/2	11 1/4	13
	8	10 3/4	12 3/4	14 3/4
	9	12	14 1/4	16 1/2
	10	13 1/4	15 3/4	18 1/4

Frame Type	No. of Slots	5050	5075	5010
		5050R S=1/2	5075R S=3/4	5010R S=1
G	1	2 1/2	2 3/4	3
	2	3 3/4	4 1/4	4 3/4
	3	5	5 3/4	6 1/2
	4	6 1/4	7 1/4	8 1/4
	5	7 1/2	8 3/4	10
	6	8 3/4	10 1/4	11 3/4
	7	10	11 3/4	13 1/2
	8	11 1/4	13 1/4	15 1/4
	9	12 1/2	14 3/4	17
	10	13 3/4	16 1/4	18 3/4

Frame Type	No. of Slots	5050	5075	5010
		5050R S=1/2	5075R S=3/4	5010R S=1
M	1	1 3/8	1 5/8	1 7/8
	2	2 5/8	3 1/8	3 5/8
	3	3 7/8	4 5/8	5 3/8
	4	5 1/8	6 1/8	7 1/8
	5	6 3/8	7 5/8	8 7/8
	6	7 5/8	9 1/8	10 5/8
	7	8 7/8	10 5/8	12 3/8
	8	10 1/8	12 1/8	14 1/8
	9	11 3/8	13 5/8	15 7/8
	10	12 5/8	15 1/8	17 5/8

Metric Units (mm)

Frame Type	No. of Slots	5050	5075	5010
		5050R S=13	5075R S=19	5010R S=25
A B	1	41	48	54
	2	73	86	98
	3	105	124	143
	4	137	162	187
	5	168	200	232
	6	200	238	276
	7	232	276	321
	8	264	314	365
	9	295	352	410
	10	327	391	454

Frame Type	No. of Slots	5050	5075	5010
		5050R S=13	5075R S=19	5010R S=25
C D	1	51	57	64
	2	83	95	108
	3	114	133	152
	4	146	171	197
	5	178	210	241
	6	210	248	286
	7	241	286	330
	8	273	324	375
	9	305	362	419
	10	337	400	464

Frame Type	No. of Slots	5050	5075	5010
		5050R S=13	5075R S=19	5010R S=25
E	1	57	64	70
	2	89	102	115
	3	121	140	159
	4	152	178	203
	5	184	216	248
	6	216	254	292
	7	248	292	337
	8	279	330	381
	9	312	368	425
	10	343	406	470

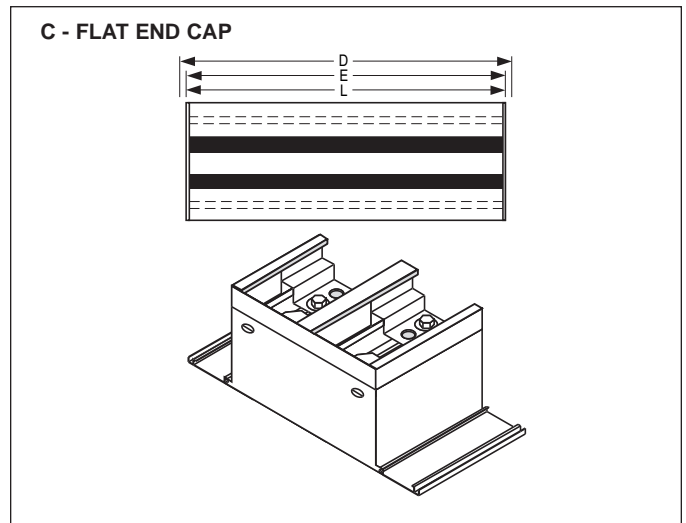
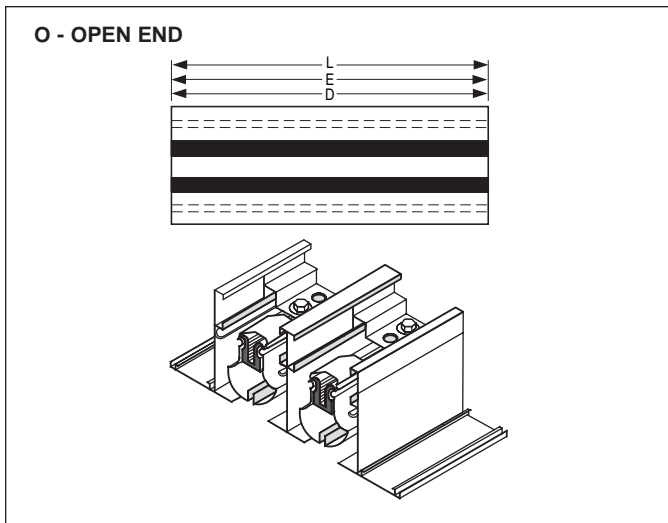
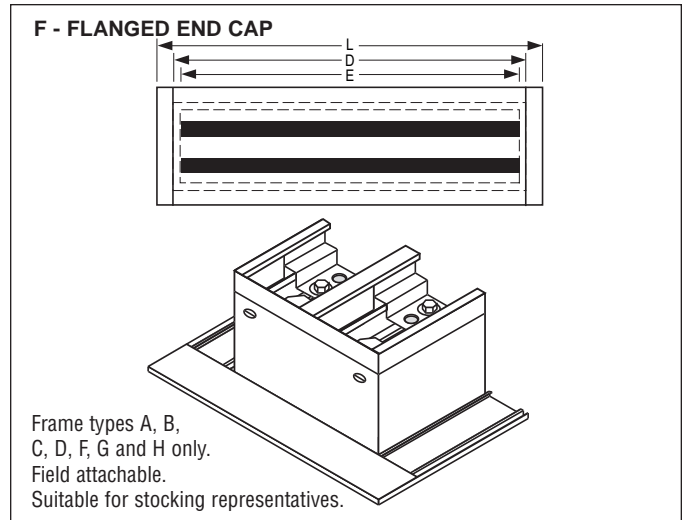
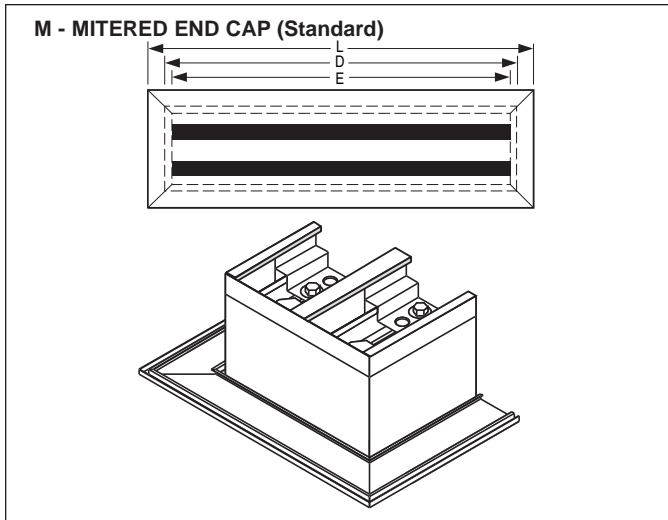
Frame Type	No. of Slots	5050	5075	5010
		5050R S=13	5075R S=19	5010R S=25
F H N	1	51	57	64
	2	83	95	108
	3	115	133	152
	4	146	171	197
	5	178	210	241
	6	210	248	286
	7	241	286	330
	8	273	324	375
	9	304	362	419
	10	337	400	464

Frame Type	No. of Slots	5050	5075	5010
		5050R S=13	5075R S=19	5010R S=25
G	1	64	70	76
	2	95	108	121
	3	127	146	165
	4	159	184	210
	5	191	222	254
	6	222	260	298
	7	254	298	343
	8	286	337	387
	9	318	375	432
	10	349	413	476

Frame Type	No. of Slots	5050	5075	5010
		5050R S=13	5075R S=19	5010R S=25
M	1	35	41	48
	2	67	79	92
	3	98	117	137
	4	130	156	181
	5	162	194	225
	6	194	232	270
	7	225	270	314
	8	257	308	359
	9	289	346	400
	10	321	384	448

B LINEAR DIFFUSERS AND BAR GRILLES

End Cap Configurations for Various Mountings



Overall Length Dimensions and End Cap Position

D = Duct Length

E = End Cap Position

L = Overall Length

Frame Type	M		F		M		M		O		O		C		C	
	E	L	E	L	E	L †	E	L †	E	L	E	L	E	L	E	L
A, B	D-1/2 (13)	D+1 (25)	D-1/2 (13)	D+1 1/2 (38)	D-1/4 (6)	D+1/2 (13)	D-3/16 (5)	D+9/16 (14)	D	D	D-1/16 (2)	D-1/16 (2)	D-1/8 (3)	D-1/8 (3)		
C	D-1/2 (13)	D+1 (25)	D-1/2 (13)	D+1 1/2 (38)	D-1/4 (6)	D+1/2 (13)	D-3/16 (5)	D+9/16 (14)	D	D	D-1/16 (2)	D-1/16 (2)	D-1/8 (3)	D-1/8 (3)		
D	D-1/2 (13)	D+1/2 (13)	D-1/2 (13)	D+1 (25)	D-1/4 (6)	D+1/4 (6)	D-3/16 (5)	D+7/16 (11)	D	D	D-1/16 (2)	D-1/16 (2)	D-1/8 (3)	D-1/8 (3)		
E	D-7/8 (22)	D	-	-	D-7/16 (11)	D	D-3/8 (10)	D+1/16 (2)	D	D	D-1/16 (2)	D-1/16 (2)	D-1/8 (3)	D-1/8 (3)		
F, H	D-3/4 (19)	D+3/4 (19)	D-3/4 (19)	D+3/4 (19)	D-3/8 (10)	D+3/8 (10)	D-5/16 (8)	D+7/16 (11)	D	D	D-1/16 (2)	D-1/16 (2)	D-1/8 (3)	D-1/8 (3)		
G	D-1/8 (3)	D	D-1/8 (3)	D	D-9/16 (14)	D	D-1/2 (13)	D+1/16 (2)	D	D	D-1/16 (2)	D-1/16 (2)	D-1/8 (3)	D-1/8 (3)		
M*, N*	D-1/16 (2)	D-1/16 (2)	-	-	D-1/32 (1)	D-1/32 (1)	D-1/16 (2)	D-1/16 (2)	D	D	D-1/16 (2)	D-1/16 (2)	D-1/8 (3)	D-1/8 (3)		

† Configurations **FO** and **FC**: Add 1/4" (6) for frame types A, B, C, D, F, G and H.
Not available on frame types E, M and N.

Dimensions are in inches (mm).

* These types have a flangeless mitered end cap which is the same extrusion profile as the frame.

Standard Lay-in T-Bar Application

Designed and fabricated specifically to integrate with standard exposed grid T-Bar Ceiling Systems.

Available in nominal lengths to suit both imperial and metric ceiling grid modules.

Imperial module lengths: 20", 24", 48" and 60".

Metric module lengths: 500, 600, 1200 and 1500 mm.

Also available in custom lengths for special applications and in multiple section assemblies for continuous paired T-Bar ceilings.

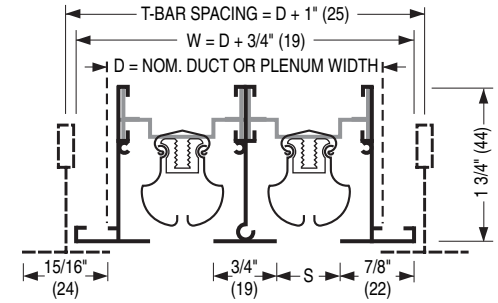
*Type CC Flat Endcaps are not recommended for use with 9/16" (14) flat face T-bar.

Duct Width D Dimension (Frames T and FL)

No. of Slots	Imperial Units (inches)			Metric Units (mm)		
	5050 (R) S = 1/2	5075 (R) S = 3/4	5010 (R) S = 1	5050 (R) S = 13	5075 (R) S = 19	5010 (R) S = 25
1	1 1/2	1 3/4	2	38	44	51
2	2 3/4	3 1/4	3 3/4	70	83	95
3	4	4 3/4	5 1/2	102	121	140
4	5 1/4	6 1/4	7 1/4	133	159	184
5	6 1/2	7 3/4	9	165	197	229
6	7 3/4	9 1/4	10 3/4	197	235	273
7	9	10 3/4	12 1/2	229	273	318
8	10 1/4	12 1/4	14 1/4	260	311	362
9	11 1/2	13 3/4	16	292	349	406
10	12 3/4	15 1/4	17 3/4	324	387	451

Type T Frame

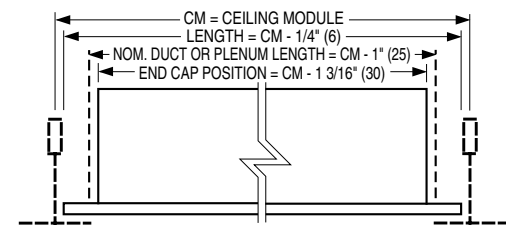
- For standard 15/16" (24) or *9/16" (14) face lay-in T-Bar



End Cap Configurations • Type T Frame

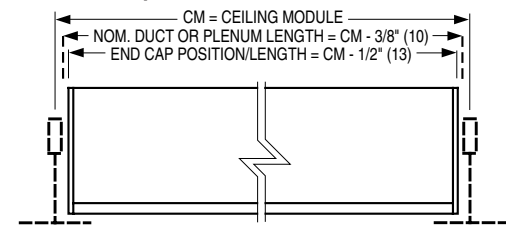
Type MM

- Mitered End Caps (standard)



*Type CC

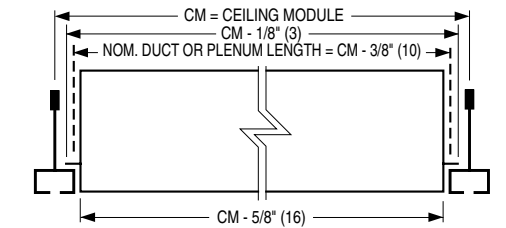
- Flat End Caps



End Cap Configuration • Type FL Frame

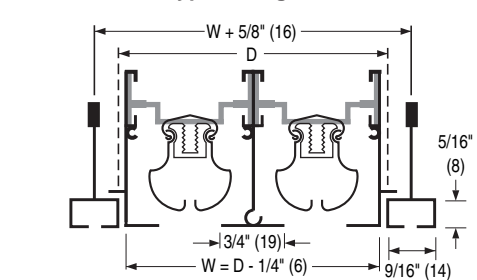
Type MM

- Mitered End Caps (standard)



Type FL Frame

- For Fineline® type ceilings



Fineline® Type Ceiling Systems

Nailor can fabricate the **5000 Series** to integrate with most available Fineline® or Regressed T-Bar type ceiling systems.

The Type FL frame is compatible with both the USG Interiors Inc. 'Donn Fineline®' and Chicago Metallic Corporation 'Ultraline®' 3500/3600 systems. For other ceiling systems, contact your Nailor representative.

Fineline® is a registered trademark of USG Interiors Inc.
Ultraline® is a registered trademark of Chicago Metallic Corporation.

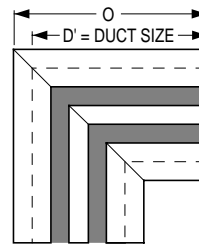
Options and Accessories

90° Mitered Corners

- 5050MC • 1/2" (13) Slot
- 5075MC • 3/4" (19) Slot
- 5010MC • 1" (25) Slot

The standard mitered corner is 90°. 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. For compound angles, contact your **Nailor** representative.



D' = Duct Size	
No. of Slots	D'
1 to 4	12 (305)
5 to 10	24 (610)

90° Mitered Corner Dimension 'O'

No. of Slots	Frame Type				
	A, B	C, F, H	D	E, G, J	M, N
1 - 4	12 9/16 (319)	12 3/8 (314)	12 1/8 (308)	11 7/8 (302)	12 (305)
5 - 10	24 9/16 (624)	24 3/8 (619)	24 1/8 (613)	23 7/8 (606)	24 (610)

Dimensions are in inches (mm).

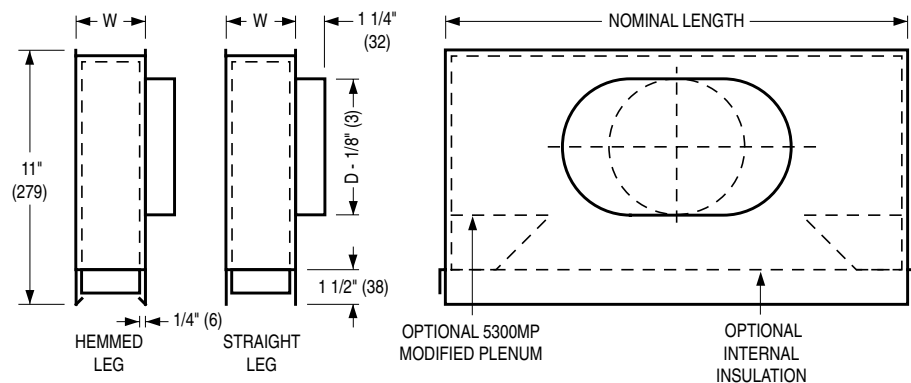
Plenums

Uninsulated Models:

- 5350 • 1/2" (13) Slot
- 5375 • 3/4" (19) Slot
- 5310 • 1" (25) Slot

Insulated Models:

- 5350I • 1/2" (13) Slot
- 5375I • 3/4" (19) Slot
- 5310I • 1" (25) Slot

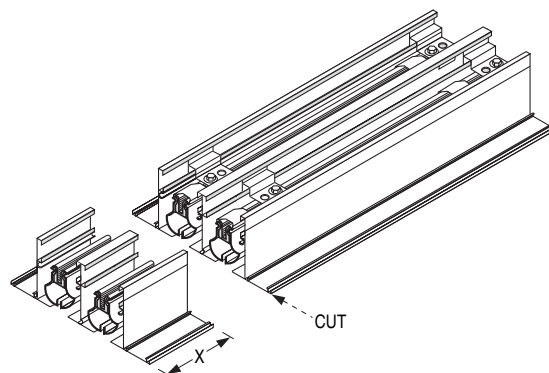


Standard Plenums have square shoulders. An optional modified plenum is available with the addition of integral baffles (add suffix MP) which provides a reduction in throw and increased spread of the air pattern.

Field Trimming of Diffusers

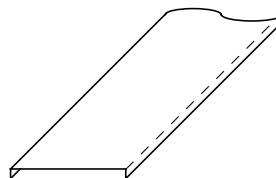
If "X" is less than 3" (76) at either end (6" (152) total), standard **Model 5000** or **5000R** can be field-cut.

- Factory-Cut Diffusers **Model 5000** or **5000R** are ordered for a specific length from the factory, but can be trimmed as much as 6" (152) in length, (3" (76) from each end) with a fine tooth, high speed carbon steel metal cutting blade.



BO Blank-Offs

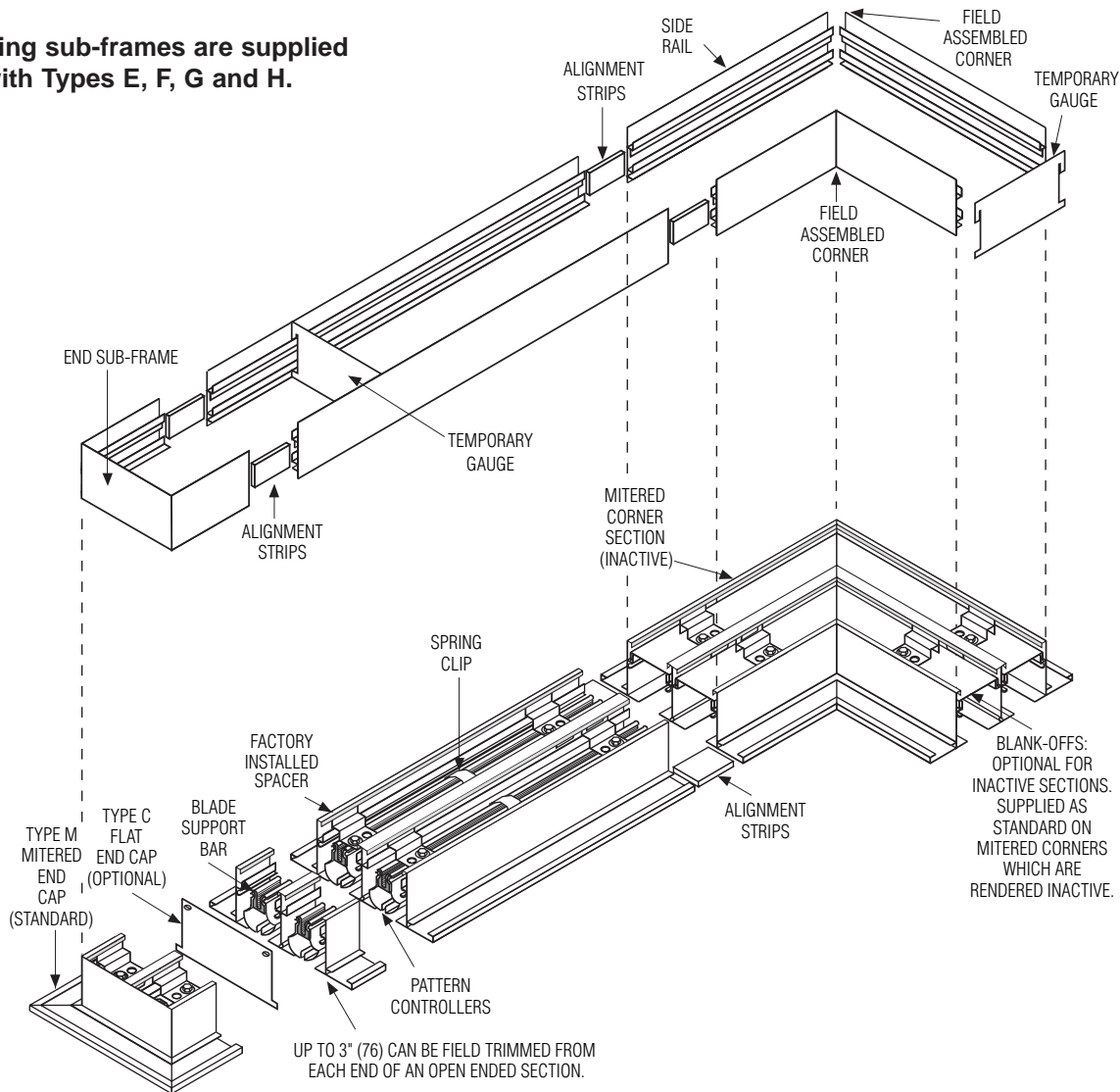
- Cold-Rolled Steel
- Fits over Neck
- Black Finish



Shipped in 6' (1829) lengths to be field-cut.

Typical Diffuser and Sub-Frame Assembly

Mounting sub-frames are supplied only with Types E, F, G and H.



B

LINEAR DIFFUSERS AND BAR GRILLES

Diffuser Assembly Features:

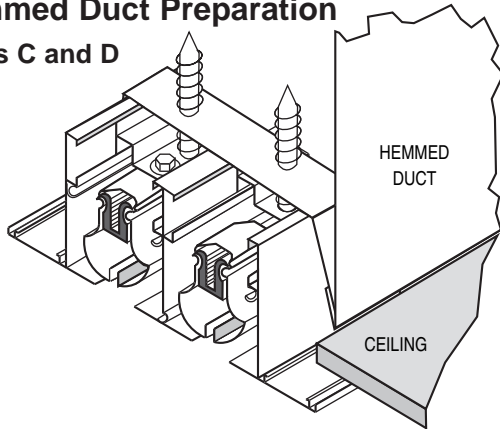
- Diffusers can be joined together end to end to form long continuous slots.
- The standard Type M end cap is mitered and offers a superior architectural finish on the visible surface.
- The optional Type F end cap can be field installed.
- The optional Type C flat end cap may be used where the diffuser ends at a wall or other stopping point.
- The standard 90° mitered corner section is factory welded and fully assembled to ensure a smooth professional finish. They are inactive.
- Alignment strips are factory supplied as standard on all multiple section frame and sub-frame assemblies and ensure close and positive alignment between sections.

Sub-Frame Features:

- Supplied with Frame Types E, F, G and H.
- Assures a clean, accurately dimensioned opening to receive the diffuser.
- Allows the diffuser to be installed at the end of the job, minimizing risk of damage or contamination from paint or plaster.
- Diffuser can be simply removed and replaced without damage to architectural ceiling finishes.
- Types E, F, G and H are ideal as a wet plaster ground. In this case they should be installed sufficiently proud to allow for the finished ceiling thickness.
- Types E and G are designed to leave a diffuser totally flush with the finished ceiling.
- Types F and H are designed to leave a surface mount diffuser appearance.
- Type E may also be used where a diffuser runs flush along a wall.

Hemmed Duct Preparation

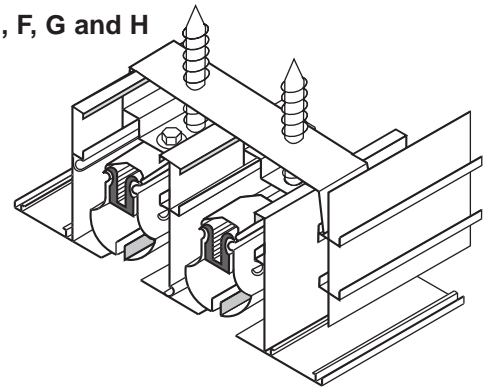
Types C and D



- Far and away the most popular type of installation. Simple and quick.
- Diffuser simply pushes up into duct until the legs of the factory supplied mounting straps locate into the hems of the duct.
- Factory supplied levelling screws then draw the diffuser up until it is tight and snug with the ceiling.
- Duct should be fabricated with a 1/2" (13) hem on both long sides and opened approximately 1/8" (3).

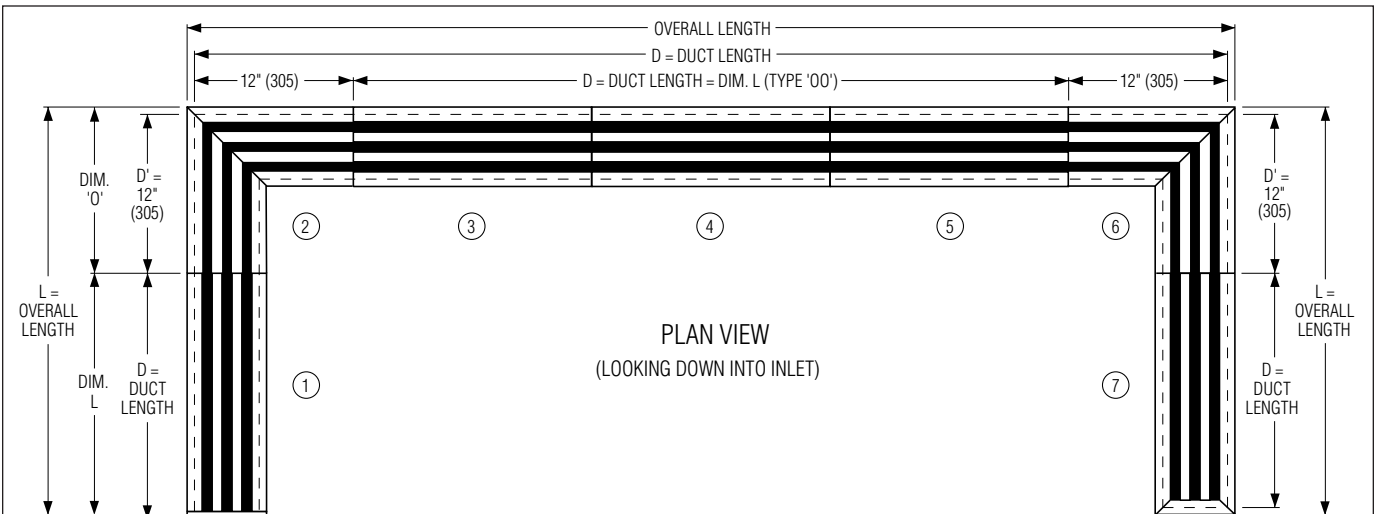
Auxiliary Sub-Frame Preparation

Types E, F, G and H



- Sub-frame should be attached to inside of duct and/or a framed ceiling opening as deemed necessary.
- Factory supplied mounting straps locate into an extrusion slot in the sub-frame. Installation of diffuser is similar to the hemmed duct method shown to the left.

Continuous Run Dimensions



The above example illustrates a typical 3 slot installation with two 90° mitered corner sections.

- ① Type 'CO' End Cap configuration.
- ② and ⑥ 'MC' Mitered Corner Section.
- ③, ④ and ⑤ Type 'OO' End Cap configuration.
- ⑦ Type 'MO' End Cap configuration.

Each straight section, regardless of total duct length may be ordered as a single section.

Example:

- ① and ⑦ Each section may be ordered as a single item, regardless of total length.
- ③, ④ and ⑤ One section may be ordered, regardless of total length.

Multiple sections are sub-divided by the factory into equal length sections at the factories' discretion.

Note: It is extremely difficult to achieve a perfect installation where compound miters are involved, such as above, when all sections are ordered from the factory fabricated to suit finished duct dimensions. This is due to field tolerance variations which may prevent proper alignment and butting together of individual sections due to insufficient material. It is recommended that section ③, ④ or ⑤ is ordered oversize by 3" (76) and field cut to suit field conditions. 'OO' configuration lengths can be trimmed by up to 6" (152). 3" (76) from each end.

HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

Extruded Aluminum Linear Slot Diffusers – Model Series 5000

5075 - 48" x 2 Slot - C - AW - MM - —

MODEL

- Linear Slot Diffuser 50

SLOT WIDTH / FABRICATION

- Supply 1/2" (13) 50
 3/4" (19) 75
 1" (25) 10

- Return 1/2" (13) 50R
 3/4" (19) 75R
 1" (25) 10R

- Mitered Corner 1/2" (13) 50MC
 3/4" (19) 75MC
 1" (25) 10MC

- Blank-offs* 1/2" (13) 50BO
 3/4" (19) 75BO
 1" (25) 10BO

NOMINAL LENGTH
 (inches or feet and inches)

NO. OF SLOTS

- 1 thru 10

ACCESSORIES

- Angle Cut One End AC1
 - Angle Cut Both Ends AC2

END CAP CONFIGURATION

- Mitered Mitered (default) MM
 - Mitered Open MO
 - Mitered Flat MC
 - Open Open OO
 - Open Flat OC
 - Flat Flat CC
 - Flanged Flanged FF
 - Flanged Open FO
 - Flanged Flat FC

FINISH

- Appliance White (default) AW
 - Aluminum AL
 - Brushed and Clear Coat Lacquer BC
 - Mill MI
 - Special SP

FRAME OR FRAME/SUB-FRAME COMBINATION

- 1 1/8" Flange Frame, Screw Holes A
 - 1 1/8" Flange Frame, No Screw Holes B
 - 1 1/8" Flange Frame, Concealed Mounting C
 - 7/8" Flange Frame, Concealed Mounting D
 - 3/4" Flush Frame/Sub-frame E
 - 1 1/8" Flange Frame/Sub-frame F
 - 7/8" Flush Frame/Plaster Sub-frame G
 - 1 1/8" Flange Frame/Plaster Sub-frame H
 - Flangeless Frame M
 - Spline Frame, Concealed Mounting N
 - T-Bar Lay-in, 7/8" Flange Frame T
 - Finline® Frame FL

B

LINEAR DIFFUSERS AND BAR GRILLES

Notes:

1. Flanged end caps (FF) may be shipped loose upon request for field attachment and are intended for use with field cut sections or for use by stocking representatives.
2. It is helpful to include a sketch for multiple sectioned units with mitered corners and angle cuts. Specify exact outside length of duct run and angles.
3. For lay-in T-Bar installations, specify nominal T-Bar opening length.
- 4.*Blank-offs are supplied in 6' (1829) lengths, therefore, 'No. of Slots' is the only required variant that needs to be specified.

SUGGESTED SPECIFICATION:

Models 5010, 5075, 5050

Furnish and install **Nailor Model** (select one) **5010** (1" (25) slot), **5075** (3/4" (19) slot), or **5050** (1/2" (13) slot) **Linear Slot Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The maximum length of a single section shall be 72" (1829) long. All sizes larger than 72" (1829) will be provided in continuous multiple sections. Alignment strips are to be provided for joining continuous diffuser sections together. The frame borders and end caps shall be extruded aluminum with extruded aluminum spacers. The linear shall be supplied in 1 – 10 slots wide as specified. Pattern deflectors shall have an aerodynamic 'ice tong' shape that can be adjusted to regulate the volume and direction of the airflow. The maximum length of the deflectors shall be 36" (914), longer sizes shall be provided in multiple sections. The pattern deflector finish shall be black. The frame/border finish is to be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the linear slot diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

Models 5010R, 5075R, 5050R

Furnish and install **Nailor Model** (select one) **5010R** (1" (25) slot), **5075R** (3/4" (19) slot), or **5050R** (1/2" (13) slot) **Linear Slot Return Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The maximum length of a single section shall be 72" (1829) long. All sizes larger than 72" (1829) will be provided in continuous multiple sections. Alignment strips are to be provided for joining continuous diffuser sections together. The frame border and end caps shall be extruded aluminum with extruded aluminum spacers. The linear shall be supplied in 1 – 10 slots wide as specified. The finish is to be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the linear slot diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

Performance Data

Supply • Continuous Pressurized Plenum.

Model 5050 • 1/2" (13) Slot

No. of Slots	Total Pressure	H V	.005 .003	.020 .014	.041 .027	.074 .051	.120 .083	.173 .116	.230 .158	.310 .215
1	CFM per Ft.		5	10	15	20	25	30	35	40
	Throw	H V	1-1-6 2	3-6-12 6	6-10-14 9	8-12-18 11	10-14-18 12	12-14-20 13	12-14-20 14	14-16-24 15
	NC		—	—	17	21	26	31	35	38
2	CFM per Ft.		10	20	30	40	50	60	70	80
	Throw	H V	1-3-9 3	4-9-16 7	6-12-20 12	10-16-22 14	14-18-24 15	16-20-28 17	18-20-30 18	18-22-32 20
	NC		—	15	20	24	28	34	38	41
3	CFM per Ft.		15	30	45	60	75	90	105	120
	Throw	H V	2-4-10 4	6-12-20 10	10-16-24 15	14-20-28 18	18-20-30 21	20-24-38 22	20-24-40 25	22-28-44 23
	NC		—	16	21	26	31	36	40	43
4	CFM per Ft.		20	40	60	80	100	120	140	160
	Throw	H V	3-5-12 6	8-12-22 11	12-18-28 16	16-22-32 20	20-24-40 22	22-28-44 24	24-30-48 26	26-32-52 29
	NC		—	17	22	27	32	37	41	44
5	CFM per Ft.		25	50	75	100	125	150	175	200
	Throw	H V	3-6-14 6	8-14-24 12	14-20-30 20	18-24-40 26	22-28-46 27	26-32-50 30	28-40-52 30	30-40-58 33
	NC		—	18	23	28	33	38	42	45
6	CFM per Ft.		30	60	90	120	150	180	210	240
	Throw	H V	4-7-16 6	10-16-28 14	14-20-38 20	20-28-44 25	24-32-50 27	28-40-54 30	30-42-58 33	32-46-64 34
	NC		—	19	24	29	34	39	43	46
7	CFM per Ft.		35	70	105	140	175	210	245	280
	Throw	H V	5-8-18 6	12-18-30 14	16-24-42 22	22-30-48 27	26-36-54 30	30-42-58 32	38-46-64 36	40-48-68 38
	NC		—	19	24	29	34	39	43	46
8	CFM per Ft.		40	80	120	160	200	240	280	320
	Throw	H V	6-10-20 7	14-20-32 15	18-30-44 24	24-36-52 29	28-40-58 33	32-46-64 36	40-48-68 39	42-52-72 40
	NC		10	20	25	30	35	40	44	47

NC Correction Factors for Various Lengths

Length (ft.)	2	4	6	8	9	10	15
Supply	-3	0	+2	+3	+4	+5	+8
Return	0	+3	+4	+6	+7	+8	+10

Throw Correction Factors for Various Lengths

Length (ft.)	2	4	6	8	10	12
Multiplier	0.70	1.0	1.25	1.40	1.55	1.70

1. Data is based upon pressurized plenum application (non ducted) with no plenum effect for pressure or sound. Plenums should be sized to achieve equal velocity along the slot length. Keep duct inlet velocities below 700 fpm in order to maintain cataloged performance.

2. All pressures are in inches w.g..

3. Horizontal throws are given at 150,100 and 50 fpm terminal velocities. Vertical throws are given at 50 fpm terminal velocity. Both under isothermal conditions.

4. Throw data are based on active

sections 4 ft. long. For other lengths, use the correction factor table above.

5. NC (Noise criteria) values are based on 10 dB room absorption, re 10⁻¹² watts, for a 4 ft. section. For other lengths, use the correction factor table above.

6. Throw values are for a 1-way air pattern. For divided airflow, deduce the airflow in each direction according to the number of slots, with the total airflow apportioned between the slots. Look up throw for the airflow in each direction according to the number of slots in that direction.

7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70-2006.

Number of Slots	Ak Factor per foot	
	Supply	Return
1	.018	.033
2	.035	.066
3	.053	.099
4	.070	.132
5	.088	.165
6	.105	.198
7	.123	.231
8	.140	.264

Performance Data

Supply • Continuous Pressurized Plenum.

Model 5075 • 3/4" (19) Slot

No. of Slots	Total Pressure	H V	.004	.017	.030	.055	.089	.123	.176	.256
			.003	.012	.026	.042	.065	.092	.125	.174
1	CFM per Ft.		5	10	20	25	30	35	40	50
	Throw	H V	1-1-5 2	2-5-14 6	5-9-16 10	7-14-21 12	12-16-23 13	14-16-23 14	16-18-25 15	16-21-28 16
	NC		—	—	16	21	26	30	33	38
2	CFM per Ft.		10	20	40	50	60	70	80	100
	Throw	H V	1-2-10 3	4-9-21 8	7-16-23 11	14-21-28 15	16-23-32 18	21-23-35 20	21-25-44 21	23-28-46 22
	NC		—	—	19	24	29	33	36	41
3	CFM per Ft.		15	30	60	75	90	105	120	150
	Throw	H V	2-4-12 6	6-12-23 10	12-18-30 15	16-23-35 19	21-28-46 20	23-30-48 24	28-32-53 25	28-35-55 27
	NC		—	—	21	26	31	35	38	43
4	CFM per Ft.		20	40	80	100	120	140	160	200
	Throw	H V	2-5-14 5	8-14-28 11	16-23-35 18	21-28-46 21	23-32-53 25	28-35-55 27	32-44-60 30	32-46-64 31
	NC		—	—	22	27	32	36	39	44
5	CFM per Ft.		25	50	100	125	150	175	200	250
	Throw	H V	3-7-16 6	9-16-32 12	16-23-46 18	23-32-53 25	28-37-58 28	32-46-62 30	35-48-67 34	44-53-74 35
	NC		—	—	23	28	33	37	40	45
6	CFM per Ft.		30	60	120	150	180	210	240	300
	Throw	H V	4-8-17 7	10-18-35 13	18-28-48 21	23-35-55 25	30-46-62 30	35-48-69 32	44-53-74 36	46-58-78 39
	NC		—	—	24	29	34	38	41	46
7	CFM per Ft.		35	70	140	175	210	245	280	350
	Throw	H V	5-9-18 8	11-21-38 16	21-30-53 22	28-44-60 29	32-48-67 33	44-53-74 35	46-58-81 40	51-60-85 42
	NC		—	—	24	29	34	38	41	46
8	CFM per Ft.		40	80	160	200	240	280	320	400
	Throw	H V	6-10-21 8	12-21-41 17	21-32-55 21	28-46-64 30	37-53-74 35	46-58-78 40	51-60-85 42	53-64-90 43
	NC		—	15	25	30	35	39	42	47

NC Correction Factors for Various Lengths

Length (ft.)	2	4	6	8	9	10	15
Supply	-3	0	+2	+3	+4	+5	+8
Return	0	+3	+4	+6	+7	+8	+10

Throw Correction Factors for Various Lengths

Length (ft.)	2	4	6	8	10	12
Multiplier	0.70	1.0	1.25	1.40	1.55	1.70

1. Data is based upon pressurized plenum application (non ducted) with no plenum effect for pressure or sound. Plenums should be sized to achieve equal velocity along the slot length. Keep duct inlet velocities below 700 fpm in order to maintain cataloged performance.

2. All pressures are in inches w.g..

3. Horizontal throws are given at 150,100 and 50 fpm terminal velocities. Vertical throws are given at 50 fpm terminal velocity. Both under isothermal conditions.

4. Throw data are based on active

sections 4 ft. long. For other lengths, use the correction factor table above.

5. NC (Noise criteria) values are based on 10 dB room absorption, re 10⁻¹² watts, for a 4 ft. section. For other lengths, use the correction factor table above.

6. Throw values are for a 1-way air pattern. For divided airflow, deduce the airflow in each direction according to the number of slots, with the total airflow apportioned between the slots. Look up throw for the airflow in each direction according to the number of slots in that direction.

7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70-2006.

Number of Slots	Ak Factor per foot	
	Supply	Return
1	.024	.039
2	.049	.078
3	.073	.117
4	.098	.156
5	.122	.195
6	.146	.234
7	.171	.273
8	.195	.312

Performance Data

Supply • Continuous Pressurized Plenum.

Model 5010 • 1" (25) Slot

No. of Slots	Total H Pressure V	.004 002	.016 .009	.036 .024	.065 .038	.098 .057	.138 .082	.192 .113	.245 .148
1	CFM per Ft.	10	15	25	30	40	50	55	65
	Throw H	1-4-10	3-6-13	8-13-18	10-16-21	13-16-23	16-18-26	18-18-26	18-21-29
	Throw V	2	8	12	13	15	16	17	18
	NC	—	—	18	22	29	34	37	41
2	CFM per Ft.	20	30	50	60	80	100	110	130
	Throw H	3-7-18	5-10-21	13-18-26	16-21-31	18-23-39	21-26-42	23-34-44	26-39-47
	Throw V	4	10	16	19	20	21	23	25
	NC	—	10	21	25	32	37	40	44
3	CFM per Ft.	30	45	75	90	120	150	165	195
	Throw H	5-9-21	8-14-26	16-21-31	18-26-42	23-29-47	26-31-49	29-34-55	31-36-57
	Throw V	6	11	18	22	25	27	30	31
	NC	—	—	23	27	34	39	42	46
4	CFM per Ft.	40	60	100	120	160	200	220	260
	Throw H	8-10-26	12-19-31	18-26-42	21-29-47	26-39-55	29-42-57	31-44-62	34-47-68
	Throw V	7	13	21	26	29	30	34	36
	NC	—	—	24	28	35	40	43	47
5	CFM per Ft.	50	75	125	150	200	250	275	325
	Throw H	10-12-29	16-21-36	20-29-47	23-34-52	31-44-60	39-47-68	42-49-73	44-52-78
	Throw V	8	15	22	27	30	36	37	40
	NC	—	—	25	29	36	41	44	48
6	CFM per Ft.	60	90	150	180	240	300	330	390
	Throw H	11-14-31	18-23-39	21-31-42	26-42-57	39-47-68	42-52-70	44-57-75	47-60-81
	Throw V	8	17	26	30	34	36	41	44
	NC	—	15	26	30	37	42	45	49
7	CFM per Ft.	70	105	175	210	280	350	385	455
	Throw H	12-16-39	20-26-44	26-39-55	29-44-60	42-52-73	47-55-78	49-60-83	52-62-88
	Throw V	9	18	28	32	37	41	43	48
	NC	—	15	26	30	37	42	45	49
8	CFM per Ft.	80	120	200	240	320	400	440	520
	Throw H	13-18-42	21-29-47	26-42-57	34-47-68	47-55-78	49-57-81	55-62-86	57-68-94
	Throw V	11	20	30	35	40	45	50	51
	NC	—	16	27	31	38	43	46	50

NC Correction Factors for Various Lengths

Length (ft.)	2	4	6	8	9	10	15
Supply	-3	0	+2	+3	+4	+5	+8
Return	0	+3	+4	+6	+7	+8	+10

Throw Correction Factors for Various Lengths

Length (ft.)	2	4	6	8	10	12
Multiplier	0.70	1.0	1.25	1.40	1.55	1.70

1. Data is based upon pressurized plenum application (non ducted) with no plenum effect for pressure or sound. Plenums should be sized to achieve equal velocity along the slot length. Keep duct inlet velocities below 700 fpm in order to maintain cataloged performance.

2. All pressures are in inches w.g..

3. Horizontal throws are given at 150,100 and 50 fpm terminal velocities. Vertical throws are given at 50 fpm terminal velocity. Both under isothermal conditions.

4. Throw data are based on active

sections 4 ft. long. For other lengths, use the correction factor table above.

5. NC (Noise criteria) values are based on 10 dB room absorption, re 10⁻¹² watts, for a 4 ft. section. For other lengths, use the correction factor table above.

6. Throw values are for a 1-way air pattern. For divided airflow, deduce the airflow in each direction according to the number of slots, with the total airflow apportioned between the slots. Look up throw for the airflow in each direction according to the number of slots in that direction.

7. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70-2006.

Number of Slots	Ak Factor per foot	
	Supply	Return
1	.030	.044
2	.060	.088
3	.090	.132
4	.121	.176
5	.151	.220
6	.181	.264
7	.211	.308
8	.241	.352

Performance Data

Plenum Return

Model 5050R • 1/2" (13) Slot

No. of Slots	SP	.011	.024	.045	.070	.108	.184	.279	.421
1	CFM per Ft.	10	15	20	25	30	40	50	60
	NC	—	—	—	20	26	34	39	45
2	CFM per Ft.	20	30	40	50	60	80	100	120
	NC	—	—	—	23	28	37	42	48
3	CFM per Ft.	30	45	60	75	90	120	150	180
	NC	—	—	—	25	31	39	44	50
4	CFM per Ft.	40	60	80	100	120	160	200	240
	NC	—	—	20	26	30	38	45	51
5	CFM per Ft.	50	75	100	125	150	200	250	300
	NC	—	—	21	27	32	40	45	53
6	CFM per Ft.	60	90	120	150	180	240	300	360
	NC	—	—	22	29	33	41	46	53
7	CFM per Ft.	70	105	140	175	210	280	350	420
	NC	—	—	23	29	34	42	47	53
8	CFM per Ft.	80	120	160	200	240	320	400	480
	NC	—	—	23	30	34	43	48	54

Model 5075R • 3/4" (19) Slot

No. of Slots	SP	.006	.028	.065	.110	.170	.250	.350	.465
1	CFM per Ft.	10	20	30	40	50	60	70	80
	NC	—	—	—	25	30	38	42	46
2	CFM per Ft.	20	40	60	80	100	120	140	160
	NC	—	—	21	29	35	40	46	49
3	CFM per Ft.	30	60	90	120	150	180	210	240
	NC	—	—	23	31	38	42	47	51
4	CFM per Ft.	40	80	120	160	200	240	280	320
	NC	—	—	24	33	38	44	47	52
5	CFM per Ft.	50	100	150	200	250	300	350	400
	NC	—	—	25	33	40	44	48	53
6	CFM per Ft.	60	120	180	240	300	360	420	480
	NC	—	—	26	34	40	45	49	54
7	CFM per Ft.	70	140	210	280	350	420	490	560
	NC	—	—	27	35	40	46	49	54
8	CFM per Ft.	80	160	240	320	400	480	560	640
	NC	—	—	28	36	41	46	49	56

Model 5010R • 1" (25) Slot

No. of Slots	SP	.020	.045	.070	.110	.165	.215	.291	.471
1	CFM per Ft.	20	30	40	50	60	70	80	100
	NC	—	—	—	25	30	34	38	45
2	CFM per Ft.	40	60	80	100	120	140	160	200
	NC	—	—	22	28	33	36	40	48
3	CFM per Ft.	60	90	120	150	180	210	240	300
	NC	—	—	24	30	35	38	43	50
4	CFM per Ft.	80	120	160	200	240	280	320	400
	NC	—	—	25	31	35	40	45	51
5	CFM per Ft.	100	150	200	250	300	350	400	500
	NC	—	—	25	32	37	41	45	51
6	CFM per Ft.	120	180	240	300	360	420	480	600
	NC	—	—	27	33	38	42	47	53
7	CFM per Ft.	140	210	280	350	420	490	560	700
	NC	—	20	28	34	40	42	48	53
8	CFM per Ft.	160	240	320	400	480	560	640	800
	NC	—	20	28	34	40	43	48	54

CFM - cubic feet per minute

SP - negative static pressure - inches w.g.

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. NC values are based on a 10 ft. active section. For other lengths, use the correction factor table below.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70-2006.

NC Correction Factors for Various Lengths

Length (ft.)	2	4	6	8	9	10	15	20	25	30
Correction	-8	-5	-4	-2	-1	0	+2	+3	+4	+5

LINEAR SLOT DIFFUSER PLENUMS

- ADAPTORS FOR MODEL SERIES 5000 LINEAR SLOT CEILING DIFFUSERS

Standard Models:

5350(I) 1/2" (13) Slot

5375(I) 3/4" (19) Slot

5310(I) 1" (25) Slot

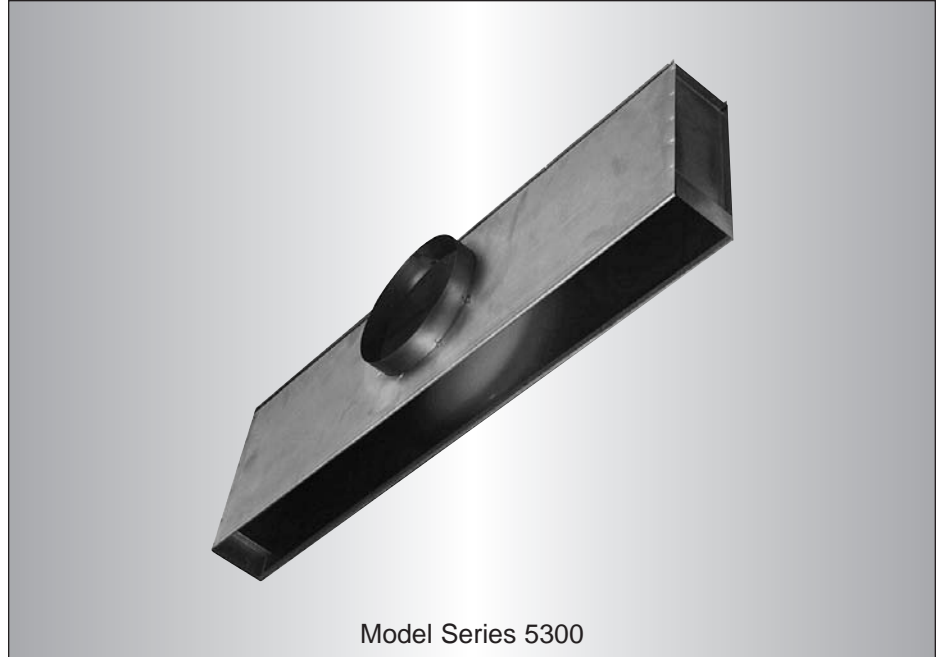
Modified Performance Models:

5350(I)MP 1/2" (13) Slot

5375(I)MP 3/4" (19) Slot

5310(I)MP 1" (25) Slot

- Suffix 'I' adds internal insulation



The **Nailor Series 5300 Diffuser Plenums** are designed specifically to fit the **Series 5000 'Ice Tong' Linear Slot Diffusers**.

They have been designed for flexible duct connection with a model to suit each of the various frame/sub-frame **5000 Series** combinations available. For drywall ceiling mounted applications the plenums are installed separately. Unless there is access to the ceiling space, the plenum is intended to be installed during the drywall installation. Most applications of this type utilize concealed mounting straps on the **5000 Series**. The plenums may be supplied with a hemmed leg into which the mounting straps snap or they locate in extrusion slots on sub-frames as the linear is drawn up to the plenum from below the ceiling.

The **Series 5300 Plenums** save on-site fabrication and field labor. When room lay-out changes occur, the plenums can be simply relocated to satisfy the re-arrangement of air distribution requirements.

The **Series 5300 Plenums** maximize the **Series 5000's** performance. The airflow discharge maintains a horizontal pattern that is close and tight to the ceiling throughout the full range of cataloged air volumes. Excellent for variable air volume applications.

The **Series 5300MP Modified Performance Plenums** are fabricated in a similar manner to the **Series 5300** with the addition of internal sloping baffles for reduced throw and increased spread of the air pattern.

FEATURES:

- Standard nominal lengths are 20", 24", 30", 36", 48" and 60" (500, 600, 750, 900, 1200 and 1500 mm).
- Widths available to fit **Model Series 5000** and **5000R** with 1, 2, 3 or 4 slots.

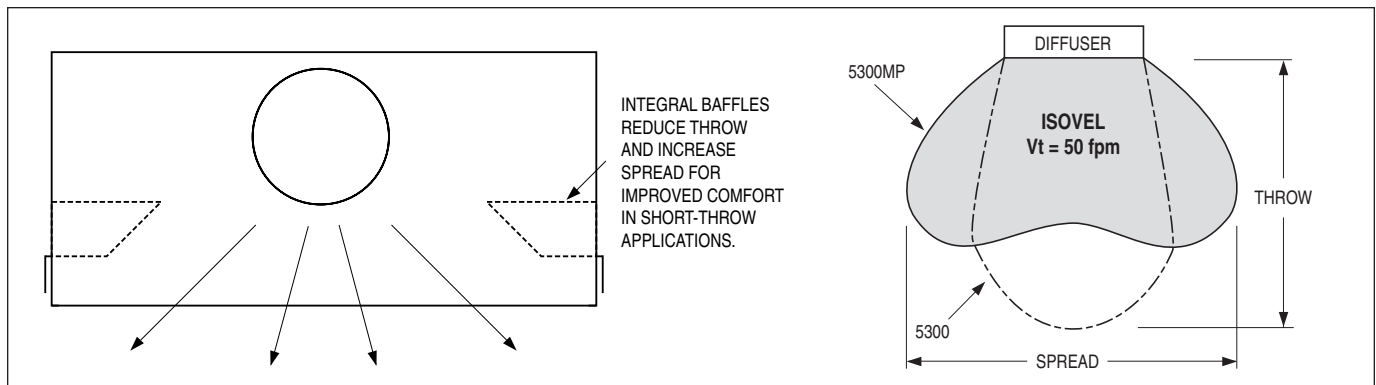
- Easily installed with flexible duct.
- End caps can be folded up to allow continuous runs with the plenums.

- ID Inlet dampers are available.
- EX External Foil Back insulation.

Material: Corrosion-resistant steel.

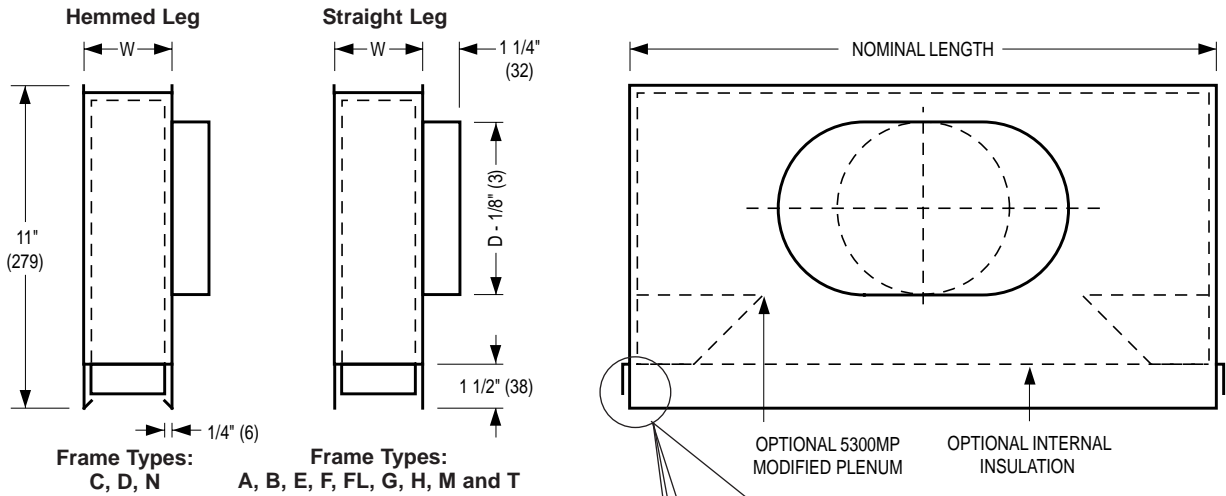
Options:

- Optional internal insulation. **Model Series 5300I** and **5300IMP**.



Dimensional Data

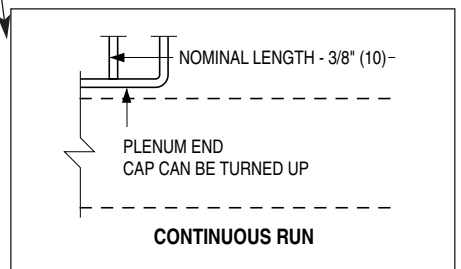
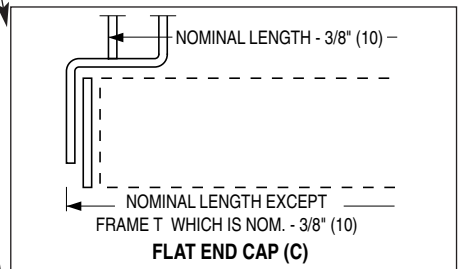
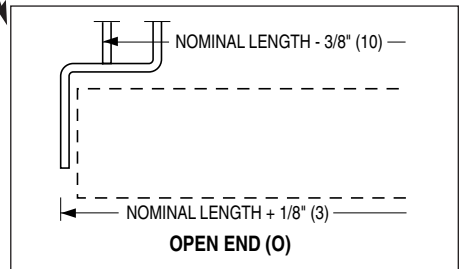
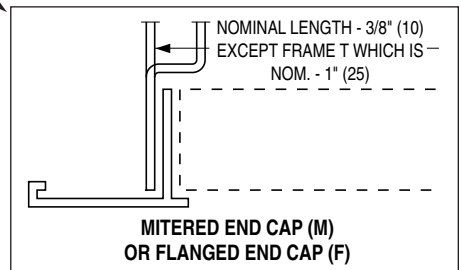
Model Series 5300 and 5300MP Plenums for Series 5000 and 5000R Linear Slot Diffusers



Nominal Length (N)		Standard Nominal Inlets (D)	
inches	mm	inches	mm
20	508	4, 5, 6, 8, 10	102, 127, 152, 203, 254
24	610		
30	762		
36	914		
48	1219	6, 8, 10, 12	152, 203, 254, 305
60	1524		

Inlets 4" thru' 8" are round and 10" thru' 12" are flat oval.

Model	No. of Slots	Plenum Width (W) For Various Frame Types									
		Imperial Units (inches)				Metric Units (mm)					
		A, B, FL, M, T	C, D, F, H, N	E	G	A, B, FL, M, T	C, D, F, H, N	E	G		
5350	1	1 1/2	2	2 1/4	2 1/2	38	51	57	64		
5375		1 3/4	2 1/4	2 1/2	2 3/4	44	57	64	70		
5310		2	2 1/2	2 3/4	3	51	64	70	76		
5350	2	2 3/4	3 1/4	3 1/2	3 3/4	70	83	89	95		
5375		3 1/4	3 3/4	4	4 1/4	83	95	102	108		
5310		3 3/4	4 1/4	4 1/2	4 3/4	95	108	114	121		
5350	3	4	4 1/2	4 3/4	5	102	114	114	127		
5375		4 3/4	5 1/4	5 1/2	5 3/4	121	133	140	146		
5310		5 1/2	6	6 1/4	6 1/2	140	152	159	165		
5350	4	5 1/4	5 3/4	6	6 1/4	133	146	152	159		
5375		6 1/4	6 3/4	7	7 1/4	159	171	178	184		
5310		7 1/4	7 3/4	8	8 1/4	184	197	203	210		



B LINEAR DIFFUSERS AND BAR GRILLES

HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

Linear Slot Diffuser Plenums – Model Series 5300

5375 - 48" x 2 Slot - 8 - C - —

MODEL SERIES

- Standard Plenum 5300
- Modified Performance Plenum 5300MP

SLOT WIDTH / OPTIONAL INSULATION

- 1/2" (13) 50
- 3/4" (19) 75
- 1" (25) 10
- 1/2" (13) Internal Insulation 50I
- 3/4" (19) Internal Insulation 75I
- 1" (25) Internal Insulation 10I

NOM. LENGTH

Imperial Sizes

- 20, 24, 30, 36, 48, 60
(508, 610, 762, 914, 1219, 1524)

Metric Sizes

- 500, 600, 750, 900, 1200, 1500

NO. OF SLOTS

- 1 thru 4

OPTIONS

- None (default) —
- Inlet Damper ID
- External Foil Back Insulation EX

LINEAR SLOT DIFFUSER 5000 SERIES FRAME OR FRAME/SUB-FRAME COMBINATION

- A, B, C, D, E, F, G, H, M, N,
T or FL

PLENUM INLET SIZE

- 4" (102) Round 4
- 5" (127) Round 5
- 6" (152) Round 6
- 7" (178) Round 7
- 8" (203) Round 8
- 10" (254) Oval 10
- 12" (305) Oval 12

Notes:

1. Plenums are shipped loose as standard for field installation.
2. Plenums for frame/sub-frame types A, B, E, F, G, H, M, T and FL are for direct attachment to diffuser neck or sub-frame.
3. Plenums for frame types (C, D and N) are hemmed for field attachment by use of concealed mounting straps.
4. End caps of plenums can be turned up for use on continuous runs.
5. For lay-in T-Bar installations, specify nominal T-Bar opening length.

SUGGESTED SPECIFICATION:

Models 5310, 5375, 5350

Furnish and install **Nailor Model** (select one) **5310/5310I** (1" (25) slot), **5375/5375I** (3/4" (19) slot), or **5350/5350I** (1/2" (13) slot) **Plenums for Linear Slot Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The plenums shall be manufactured from corrosion-resistant steel and shall include a side inlet for connection to the duct. The width shall fit a 1, 2, 3, or 4 slot linear as specified and the length shall be in standard nominal lengths of 20", 24", 30", 36", 48" and 60" (508, 610, 762, 914, 1219 and 1524 mm). When continuous sections are required, the end caps shall be folded up for uninterrupted airflow. Models 5310I, 5375I and 5350I shall have internal insulation.

The manufacturer shall provide published performance data for the linear slot diffuser plenums, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

Models 5310MP, 5375MP, 5350MP

Furnish and install **Nailor Model** (select one) **5310MP/5310MPI** (1" (25) slot), **5375MP/5375MPI** (3/4" (19) slot), or **5350MP/5350MPI** (1/2" (13) slot) **Modified Performance Plenums for Linear Slot Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The plenums shall be manufactured from corrosion-resistant steel and shall include a side inlet for connection to the duct. The width shall fit a 1, 2, 3, or 4 slot linear as specified and the length shall be in standard nominal lengths of 20", 24", 30", 36", 48" and 60" (508, 610, 762, 914, 1219 and 1524 mm). When continuous sections are required, the end caps shall be folded up for uninterrupted airflow. Models 5310MPI, 5375MPI and 5350MPI shall have internal insulation.

The manufacturer shall provide published performance data for the linear slot diffuser plenums, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

Performance Data

Model 5350(I) • 1/2" (13) Slot Width

1 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	20	30	40	50	60	70	80	90
	TP	.017	.038	.068	.107	.154	.209	.273	.346
	NC	—	17	23	29	33	37	41	43
	T	1-1-6	1-3-7	3-6-9	4-7-9	5-7-10	6-7-10	7-8-12	7-9-13

1 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	35	50	65	80	95	110	125	140
	TP	.013	.027	.045	.068	.096	.129	.167	.209
	NC	—	19	25	30	34	37	40	43
	T	1-2-7	2-3-9	2-5-10	4-8-12	6-9-13	7-10-14	7-10-15	7-11-15

8" Round Inlet	Airflow, CFM	50	65	80	95	110	125	140	155
	TP	.030	.051	.077	.109	.146	.188	.236	.290
	NC	15	21	26	30	33	36	39	42
	T	2-3-9	2-5-10	4-8-12	6-9-13	7-10-14	7-10-15	7-11-15	8-11-16

1 Slot • 60" (1524) Long

6" Round Inlet	Airflow, CFM	50	65	80	95	110	125	140	155
	TP	.025	.043	.064	.091	.122	.157	.198	.242
	NC	—	20	26	30	34	37	40	42
	T	1-3-8	1-4-9	2-4-10	3-6-11	4-8-12	6-10-13	7-10-14	8-11-16

8" Round Inlet	Airflow, CFM	50	65	80	95	110	125	140	155
	TP	.028	.048	.073	.102	.137	.177	.222	.272
	NC	—	17	22	26	30	34	37	39
	T	1-3-8	1-4-9	2-4-10	3-6-11	4-8-12	6-10-13	7-10-14	8-11-16

Performance Notes – see page B24.

B

LINEAR DIFFUSERS AND BAR GRILLES

Performance Data

Model 5350(I) • 1/2" (13) Slot Width

2 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	35	50	65	80	95	110	125	140
	TP	.021	.042	.072	.108	.153	.205	.265	.332
	NC	—	18	24	29	34	37	40	43
	T	1-3-7	2-5-8	3-7-9	5-8-11	6-8-12	7-9-13	8-10-14	8-10-15

2 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	60	80	100	120	140	160	180	200
	TP	.025	.045	.070	.101	.137	.179	.227	.280
	NC	—	19	24	28	32	36	38	41
	T	1-3-9	2-4-11	3-6-12	4-8-13	5-9-14	6-10-15	7-11-16	8-13-17

8" Round Inlet	Airflow, CFM	80	100	120	140	160	180	200	220
	TP	.029	.046	.066	.089	.117	.148	.183	.221
	NC	17	21	25	29	32	35	38	40
	T	2-4-11	3-6-12	4-8-13	5-9-14	6-10-15	7-11-16	8-13-17	9-13-19

10" Oval Inlet	Airflow, CFM	100	120	140	160	180	200	220	240
	TP	.054	.077	.105	.137	.174	.214	.259	.309
	NC	18	22	26	29	32	35	37	39
	T	3-6-12	4-8-13	5-9-14	6-10-15	7-11-16	8-13-17	9-13-19	10-14-20

2 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	120	140	160	180	200	220	240	260
	TP	.071	.097	.126	.160	.198	.239	.284	.334
	NC	21	25	28	31	34	36	38	40
	T	2-5-10	4-7-12	4-8-13	5-9-14	6-10-15	7-11-16	7-12-16	8-13-17

10" Oval Inlet	Airflow, CFM	140	160	180	200	220	240	260	280
	TP	.065	.085	.107	.133	.161	.191	.224	.260
	NC	22	25	28	31	33	35	37	39
	T	4-7-12	4-8-13	5-9-14	6-10-15	7-11-16	7-12-16	8-13-17	8-13-19

CFM - cubic feet per minute

TP - total pressure - inches w.g.

T - throw in feet

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
- Cataloged throws are for a one-way horizontal air pattern. For divided airflow, deduce the airflow in each direction according to the number of slots, with the total airflow apportioned between the slots. Look up throw for the airflow in each direction according to the number of slots in that direction.
- Performance data is based upon the standard **5300 Series** Model.
The **5300MP** Modified Performance Series reduces the tabulated throw values by approximately 25%.
Horizontal spread values are approximately 150% of the horizontal throw (T) projection values.
- Dash (—) in space indicates an NC level of less than 15.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Number of Slots	Ak Factor per foot	
	Supply	Return
1	.018	.033
2	.035	.066
3	.053	.099
4	.070	.132

Performance Data

Model 5375(I) • 3/4" (19) Slot Width

1 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	20	30	40	50	60	70	80	90
	TP	.014	.031	.055	.085	.123	.168	.219	.277
	NC	—	15	21	27	31	35	38	41
	T	1-2-4	1-3-6	2-4-7	3-6-9	5-7-10	6-7-10	7-8-11	7-9-12

8" Round Inlet	Airflow, CFM	30	40	50	60	70	80	90	100
	TP	.038	.068	.107	.154	.209	.273	.346	.427
	NC	—	19	24	28	32	34	37	40
	T	1-3-6	2-4-7	3-6-9	5-7-10	6-7-10	7-8-11	7-9-12	8-10-13

10" Oval Inlet	Airflow, CFM	40	50	60	70	80	90	100	110
	TP	.088	.137	.198	.269	.351	.444	.549	.664
	NC	—	19	24	28	31	34	37	39
	T	2-4-7	3-6-9	5-7-10	6-7-10	7-8-11	7-9-12	8-10-13	8-10-14

1 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	35	50	65	80	95	110	125	140
	TP	.012	.024	.040	.061	.086	.115	.149	.187
	NC	—	18	23	28	31	34	37	40
	T	1-2-4	2-4-7	3-5-8	4-6-11	5-7-12	6-9-13	6-10-13	7-11-14

8" Round Inlet	Airflow, CFM	50	65	80	95	110	125	140	155
	TP	.020	.034	.052	.073	.098	.127	.159	.195
	NC	—	19	24	28	31	33	36	39
	T	2-4-7	3-5-8	4-6-11	5-7-12	6-9-13	6-10-13	7-11-14	7-11-15

10" Oval Inlet	Airflow, CFM	65	80	95	110	125	140	155	170
	TP	.038	.058	.081	.109	.141	.177	.217	.261
	NC	16	21	25	29	32	34	36	39
	T	3-5-8	4-6-11	5-7-12	6-9-13	6-10-13	7-11-14	7-11-15	8-12-16

12" Oval Inlet	Airflow, CFM	80	95	110	125	140	155	170	185
	TP	.064	.091	.122	.157	.198	.242	.291	.345
	NC	17	21	24	27	30	32	35	37
	T	4-6-11	5-7-12	6-9-13	6-10-13	7-11-14	7-11-15	8-12-16	8-13-18

1 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	80	95	110	125	140	155	170	185
	TP	.039	.055	.074	.095	.119	.146	.176	.209
	NC	20	24	28	31	34	37	38	40
	T	3-5-8	4-6-10	5-7-11	5-8-12	6-9-14	7-10-15	7-11-16	8-12-17

10" Oval Inlet	Airflow, CFM	95	110	125	140	155	170	185	200
	TP	.050	.068	.087	.110	.134	.162	.191	.224
	NC	22	25	28	31	33	35	37	39
	T	4-6-10	5-7-11	5-8-12	6-9-14	7-10-15	7-11-16	8-12-17	8-13-18

12" Oval Inlet	Airflow, CFM	110	125	140	155	170	185	200	215
	TP	.077	.100	.125	.153	.184	.218	.255	.295
	NC	22	25	27	30	32	34	37	38
	T	5-7-11	5-8-12	6-9-14	7-10-15	7-11-16	8-12-17	8-13-18	9-14-19

Performance Notes – see page B28.

B

LINEAR DIFFUSERS AND BAR GRILLES

Performance Data

Model 5375(I) • 3/4" (19) Slot Width

2 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	50	65	80	95	110	125	140	155
	TP	.027	.045	.068	.096	.129	.167	.209	.257
	NC	17	22	27	31	35	38	41	44
	T	1-3-8	2-5-9	3-7-10	5-9-12	6-9-13	7-10-14	8-10-15	8-11-17

8" Round Inlet	Airflow, CFM	65	80	95	110	125	140	155	170
	TP	.036	.055	.077	.103	.134	.168	.205	.247
	NC	19	24	28	31	34	37	40	43
	T	2-5-9	3-7-10	5-9-12	6-9-13	7-10-14	8-10-15	8-11-17	9-11-19

10" Oval Inlet	Airflow, CFM	80	95	110	125	140	155	170	185
	TP	.061	.086	.115	.149	.187	.229	.275	.326
	NC	18	24	28	32	35	38	41	43
	T	3-7-10	5-9-12	6-9-13	7-10-14	8-10-15	8-11-17	9-11-19	10-12-20

2 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	60	80	100	120	140	160	180	200
	TP	.022	.039	.061	.088	.119	.156	.198	.244
	NC	—	17	22	26	30	33	36	39
	T	1-4-10	2-5-12	2-6-13	3-6-13	4-7-14	4-10-14	5-11-16	6-12-17

8" Round Inlet	Airflow, CFM	80	100	120	140	160	180	200	220
	TP	.022	.034	.049	.067	.088	.111	.137	.166
	NC	—	18	22	26	30	33	36	39
	T	2-5-12	2-6-13	3-6-13	4-7-14	4-10-14	5-11-16	6-12-17	7-13-18

10" Oval Inlet	Airflow, CFM	100	120	140	160	180	200	220	240
	TP	.025	.036	.049	.064	.082	.101	.122	.145
	NC	16	20	24	27	30	33	36	38
	T	2-6-13	3-6-13	4-7-14	4-10-14	5-11-16	6-12-17	7-13-18	8-14-20

12" Oval Inlet	Airflow, CFM	120	140	160	180	200	220	240	260
	TP	.038	.052	.068	.087	.107	.129	.154	.180
	NC	16	19	22	27	30	33	36	38
	T	3-6-13	4-7-14	4-10-14	5-11-16	6-12-17	7-13-18	8-14-20	9-15-21

2 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	140	160	180	200	220	240	260	280
	TP	.054	.070	.089	.110	.133	.158	.186	.216
	NC	23	26	29	31	34	36	38	40
	T	2-6-13	3-7-14	5-8-15	5-8-16	6-9-17	6-10-18	7-11-19	8-13-20

10" Oval Inlet	Airflow, CFM	160	180	200	220	240	260	280	300
	TP	.049	.063	.077	.093	.111	.130	.151	.174
	NC	23	26	28	31	33	35	37	39
	T	3-7-14	5-8-15	5-8-16	6-9-17	6-10-18	7-11-19	8-13-20	8-15-21

12" Oval Inlet	Airflow, CFM	180	200	220	240	260	280	300	320
	TP	.044	.055	.066	.079	.092	.107	.123	.140
	NC	22	25	27	29	31	33	35	37
	T	5-8-15	5-8-16	6-9-17	6-10-18	7-11-19	8-13-20	8-15-21	9-16-22

Performance Notes – see page B28.

B

LINEAR DIFFUSERS AND BAR GRILLES

Performance Data

Model 5375(I) • 3/4" (19) Slot Width

3 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	60	80	100	120	140	160	180	200
	TP	.026	.047	.073	.106	.144	.188	.238	.294
	NC	15	21	27	31	35	38	41	44
	T	2-5-10	3-6-11	4-7-12	5-8-13	6-9-16	7-10-18	9-12-20	10-13-21
8" Round Inlet	Airflow, CFM	80	100	120	140	160	180	200	220
	TP	.030	.047	.068	.093	.122	.154	.190	.230
	NC	17	22	27	31	34	37	39	41
	T	3-6-11	4-7-12	5-8-13	6-9-16	7-10-18	9-12-20	10-13-21	10-14-22
10" Oval Inlet	Airflow, CFM	100	120	140	160	180	200	220	240
	TP	.049	.071	.097	.126	.160	.198	.239	.284
	NC	20	24	28	31	34	36	38	40
	T	4-7-12	5-8-13	6-9-16	7-10-18	9-12-20	10-13-21	10-14-22	11-14-23

3 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	125	150	175	200	225	250	275	300
	TP	.074	.107	.145	.190	.240	.297	.359	.427
	NC	21	25	29	33	36	38	40	42
	T	2-6-14	3-7-15	5-9-16	6-10-17	6-11-18	7-12-19	7-13-20	8-14-21
8" Round Inlet	Airflow, CFM	150	175	200	225	250	275	300	325
	TP	.057	.077	.101	.128	.157	.191	.227	.266
	NC	21	25	28	31	34	36	38	40
	T	3-7-15	5-9-16	6-10-17	6-11-18	7-12-19	7-13-20	8-14-21	9-15-23
10" Oval Inlet	Airflow, CFM	175	200	225	250	275	300	325	350
	TP	.051	.067	.085	.104	.126	.150	.176	.204
	NC	23	26	28	31	33	35	37	39
	T	5-9-16	6-10-17	6-11-18	7-12-19	7-13-20	8-14-21	9-15-23	10-16-25
12" Oval Inlet	Airflow, CFM	200	225	250	275	300	325	350	375
	TP	.041	.052	.064	.077	.092	.108	.125	.143
	NC	21	24	27	29	31	33	35	39
	T	6-10-17	6-11-18	7-12-19	7-13-20	8-14-21	9-15-23	10-16-25	11-17-27

3 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	180	210	240	270	300	330	360	390
	TP	.069	.094	.123	.156	.192	.233	.277	.325
	NC	22	26	29	32	35	37	39	41
	T	3-8-15	5-10-16	6-11-18	7-12-19	7-13-20	8-14-21	8-15-22	9-16-23
10" Oval Inlet	Airflow, CFM	210	240	270	300	330	360	390	420
	TP	.064	.084	.106	.131	.159	.189	.222	.257
	NC	24	27	29	32	34	36	38	40
	T	5-10-16	6-11-18	7-12-19	7-13-20	8-14-21	8-15-22	9-16-23	9-17-24
12" Oval Inlet	Airflow, CFM	240	270	300	330	360	390	420	450
	TP	.049	.063	.077	.093	.111	.130	.151	.174
	NC	23	25	28	30	32	34	36	38
	T	6-11-18	7-12-19	7-13-20	8-14-21	8-15-22	9-16-23	9-17-24	10-17-25

Performance Notes – see page B28.

Performance Data

Model 5375(I) • 3/4" (19) Slot Width

4 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	75	100	125	150	175	200	225	250
	TP	.033	.058	.091	.131	.179	.233	.295	.365
	NC	17	22	28	32	36	39	42	45
	T	2-6-11	3-7-13	5-8-14	7-10-15	8-11-17	9-12-20	9-13-21	10-14-23

8" Round Inlet	Airflow, CFM	100	125	150	175	200	225	250	275
	TP	.031	.049	.070	.095	.124	.157	.194	.235
	NC	18	23	27	32	35	38	40	42
	T	3-7-13	5-8-14	7-10-15	8-11-17	9-12-20	9-13-21	10-14-23	11-16-24

10" Oval Inlet	Airflow, CFM	125	150	175	200	225	250	275	300
	TP	.042	.060	.082	.107	.135	.167	.202	.240
	NC	22	25	28	32	35	37	39	41
	T	5-8-14	7-10-15	8-11-17	9-12-20	9-13-21	10-14-23	11-16-24	13-19-26

4 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	160	190	220	250	280	310	340	370
	TP	.074	.159	.213	.275	.345	.422	.508	.602
	NC	23	27	30	33	35	38	40	42
	T	3-8-15	4-10-16	5-12-18	6-13-20	7-14-21	9-15-22	10-16-24	11-17-26

8" Round Inlet	Airflow, CFM	190	220	250	280	310	340	370	400
	TP	.071	.096	.124	.155	.190	.229	.271	.317
	NC	23	26	29	32	34	37	39	41
	T	4-10-16	5-12-18	6-13-20	7-14-21	9-15-22	10-16-24	11-17-26	12-17-28

10" Oval Inlet	Airflow, CFM	220	250	280	310	340	370	400	430
	TP	.064	.082	.103	.126	.152	.180	.210	.243
	NC	23	26	29	32	34	36	38	40
	T	5-12-18	6-13-20	7-14-21	9-15-22	10-16-24	11-17-26	12-17-28	12-18-29

12" Oval Inlet	Airflow, CFM	250	280	310	340	370	400	430	460
	TP	.046	.057	.070	.084	.100	.117	.135	.155
	NC	22	25	28	30	32	34	36	38
	T	6-13-20	7-14-21	9-15-22	10-16-24	11-17-26	12-17-28	12-18-29	13-19-30

4 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	220	260	300	340	380	420	460	500
	TP	.089	.124	.165	.212	.265	.324	.389	.459
	NC	23	27	30	33	36	38	40	42
	T	3-10-16	4-11-18	6-12-20	8-13-22	10-15-24	11-16-26	12-17-28	13-19-31

10" Oval Inlet	Airflow, CFM	260	300	340	380	420	460	500	540
	TP	.077	.103	.132	.165	.201	.242	.285	.333
	NC	24	27	30	33	36	38	40	42
	T	4-11-18	6-12-20	8-13-22	10-15-24	11-16-26	12-17-28	13-19-31	14-20-32

12" Oval Inlet	Airflow, CFM	300	340	380	420	460	500	540	580
	TP	.053	.068	.085	.104	.124	.147	.171	.198
	NC	23	26	29	31	34	36	38	40
	T	6-12-20	8-13-22	10-15-24	11-16-26	12-17-28	13-19-31	14-20-32	14-21-34

CFM - cubic feet per minute

TP - total pressure - inches w.g.

T - throw in feet

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
2. Cataloged throws are for a one-way horizontal air pattern. For divided

airflow, deduce the airflow in each direction according to the number of slots, with the total airflow apportioned between the slots. Look up throw for the airflow in each direction according to the number of slots in that direction.

3. Performance data is based upon the standard **5300 Series** Model. The **5300MP** Modified Performance Series reduces the tabulated throw values by approximately 25%. Horizontal spread values are approximately 150% of the horizontal throw (T) projection values.

4. Dash (—) in space indicates an NC level of less than 15.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Number of Slots	Ak Factor per foot	
	Supply	Return
1	.024	.039
2	.049	.078
3	.073	.117
4	.098	.156

Performance Data

Model 5310(I) • 1" (25) Slot Width

1 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	20	30	40	50	60	70	80	90
	TP	.008	.018	.032	.049	.071	.097	.126	.160
	NC	—	—	19	25	29	33	36	39
	T	1-2-4	2-3-5	2-4-6	3-5-7	4-6-8	4-6-9	5-6-9	5-7-10

8" Round Inlet	Airflow, CFM	30	40	50	60	70	80	90	100
	TP	.023	.041	.064	.092	.125	.163	.207	.255
	NC	—	—	19	25	29	32	34	37
	T	2-3-5	2-4-6	3-5-7	4-6-8	4-6-9	5-6-9	5-7-10	6-7-10

10" Oval Inlet	Airflow, CFM	40	50	60	70	80	90	100	110
	TP	.049	.077	.111	.151	.198	.250	.309	.373
	NC	—	17	22	26	29	31	34	37
	T	2-4-6	3-5-7	4-6-8	4-6-9	5-6-9	5-7-10	6-7-10	6-7-10

1 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	50	65	80	95	110	125	140	155
	TP	.019	.033	.049	.070	.093	.121	.151	.185
	NC	16	20	25	28	32	35	38	40
	T	1-2-5	1-3-7	1-3-9	2-4-10	2-5-10	3-5-11	3-6-12	4-7-12

8" Round Inlet	Airflow, CFM	65	80	95	110	125	140	155	170
	TP	.022	.033	.046	.062	.080	.101	.124	.149
	NC	17	21	25	28	31	34	36	39
	T	1-3-7	1-3-9	2-4-10	2-5-10	3-5-11	3-6-12	4-7-12	5-8-13

10" Oval Inlet	Airflow, CFM	80	95	110	125	140	155	170	185
	TP	.036	.050	.068	.087	.110	.134	.162	.191
	NC	18	22	26	29	32	34	36	38
	T	1-3-9	2-4-10	2-5-10	3-5-11	3-6-12	4-7-12	5-8-13	6-9-14

12" Oval Inlet	Airflow, CFM	95	110	125	140	155	170	185	200
	TP	.055	.074	.095	.119	.146	.176	.209	.244
	NC	18	21	24	27	30	33	35	37
	T	2-4-10	2-5-10	3-5-11	3-6-12	4-7-12	5-8-13	6-9-14	7-10-15

1 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	80	95	110	125	140	155	170	185
	TP	.026	.037	.049	.064	.080	.098	.118	.140
	NC	18	22	26	29	32	34	36	38
	T	1-3-7	1-3-9	2-4-9	3-5-10	3-5-11	4-6-11	5-7-12	6-8-13

10" Oval Inlet	Airflow, CFM	95	110	125	140	155	170	185	200
	TP	.031	.041	.054	.067	.082	.099	.117	.137
	NC	18	22	26	28	31	33	35	37
	T	1-3-9	2-4-9	3-5-10	3-5-11	4-6-11	5-7-12	6-8-13	6-9-14

12" Oval Inlet	Airflow, CFM	110	125	140	155	170	185	200	215
	TP	.040	.052	.065	.080	.096	.114	.133	.153
	NC	19	22	24	28	30	32	34	36
	T	2-4-9	3-5-10	3-5-11	4-6-11	5-7-12	6-8-13	6-9-14	7-10-15

Performance Notes – see page B32.

Performance Data

Model 5310(I) • 1" (25) Slot Width

2 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	50	65	80	95	110	125	140	155
	TP	.020	.034	.052	.073	.098	.127	.159	.195
	NC	—	19	25	29	33	36	39	42
	T	2-4-7	2-5-8	4-6-9	5-6-10	6-7-10	6-8-12	7-8-14	7-9-15

8" Round Inlet	Airflow, CFM	65	80	95	110	125	140	155	170
	TP	.026	.039	.055	.074	.095	.119	.146	.176
	NC	18	22	25	29	32	35	38	41
	T	2-5-8	4-6-9	5-6-10	6-7-10	6-8-12	7-8-14	7-9-15	8-10-15

10" Oval Inlet	Airflow, CFM	80	95	110	125	140	155	170	185
	TP	.043	.060	.081	.104	.131	.160	.193	.229
	NC	18	22	26	29	32	35	38	40
	T	4-6-9	5-6-10	6-7-10	6-8-12	7-8-14	7-9-15	8-10-15	8-10-16

2 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	100	120	140	160	180	200	220	240
	TP	.054	.077	.105	.137	.174	.214	.259	.309
	NC	20	24	28	31	34	37	39	41
	T	1-4-8	2-6-9	4-7-12	5-8-13	6-9-14	6-10-14	7-11-15	8-12-17

8" Round Inlet	Airflow, CFM	120	140	160	180	200	220	240	260
	TP	.041	.056	.073	.092	.113	.137	.163	.192
	NC	20	24	27	30	33	35	37	39
	T	2-6-9	4-7-12	5-8-13	6-9-14	6-10-14	7-11-15	8-12-17	8-12-17

10" Oval Inlet	Airflow, CFM	140	160	180	200	220	240	260	280
	TP	.038	.049	.063	.077	.093	.111	.130	.151
	NC	21	24	27	30	32	34	36	38
	T	4-7-12	5-8-13	6-9-14	6-10-14	7-11-15	8-12-17	8-12-17	9-13-19

12" Oval Inlet	Airflow, CFM	160	180	200	220	240	260	280	300
	TP	.032	.040	.049	.060	.071	.083	.097	.111
	NC	20	24	26	28	30	32	34	36
	T	5-8-13	6-9-14	6-10-14	7-11-15	8-12-17	8-12-17	9-13-19	9-13-21

2 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	160	180	200	220	240	260	280	300
	TP	.059	.075	.093	.112	.133	.157	.182	.209
	NC	24	27	29	31	33	35	37	39
	T	3-6-10	4-7-12	6-9-14	7-9-15	7-10-16	8-11-17	8-12-18	9-13-19

10" Oval Inlet	Airflow, CFM	180	200	220	240	260	280	300	320
	TP	.052	.064	.077	.092	.108	.125	.143	.163
	NC	24	26	28	31	33	35	37	39
	T	4-7-12	6-9-14	7-9-15	7-10-16	8-11-17	8-12-18	9-13-19	9-14-21

12" Oval Inlet	Airflow, CFM	200	220	240	260	280	300	320	340
	TP	.045	.054	.064	.076	.088	.101	.115	.129
	NC	23	26	28	30	32	34	36	38
	T	6-9-14	7-9-15	7-10-16	8-11-17	8-12-18	9-13-19	9-14-21	10-15-22

Performance Notes – see page B32.

B

LINEAR DIFFUSERS AND BAR GRILLES

Performance Data

Model 5310(I) • 1" (25) Slot Width

3 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	60	80	100	120	140	160	180	200
	TP	.024	.043	.067	.096	.131	.171	.216	.267
	NC	—	19	24	28	32	35	38	41
	T	2-4-8	3-5-9	4-6-10	5-7-11	6-8-12	7-9-14	7-10-15	8-10-16
8" Round Inlet	Airflow, CFM	80	100	120	140	160	180	200	220
	TP	.022	.034	.049	.067	.088	.111	.137	.166
	NC	15	20	25	28	31	34	37	39
	T	3-5-9	4-6-10	5-7-11	6-8-12	7-9-14	7-10-15	8-10-16	8-11-17
10" Oval Inlet	Airflow, CFM	100	120	140	160	180	200	220	240
	TP	.029	.042	.057	.075	.095	.117	.141	.168
	NC	18	22	25	28	31	34	36	38
	T	4-6-10	5-7-11	6-8-12	7-9-14	7-10-15	8-10-16	8-11-17	9-11-18

3 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	125	150	175	200	225	250	275	300
	TP	.071	.103	.140	.183	.231	.285	.345	.411
	NC	19	23	27	30	33	36	38	40
	T	2-4-10	3-6-12	5-7-14	5-8-15	6-8-16	7-9-17	7-10-18	7-11-18
8" Round Inlet	Airflow, CFM	150	175	200	225	250	275	300	325
	TP	.048	.065	.085	.108	.134	.162	.192	.226
	NC	20	23	26	29	32	34	36	38
	T	3-6-12	5-7-14	5-8-15	6-8-16	7-9-17	7-10-18	7-11-18	8-12-20
10" Oval Inlet	Airflow, CFM	175	200	225	250	275	300	325	350
	TP	.045	.058	.074	.091	.110	.131	.154	.179
	NC	20	23	26	28	30	32	34	36
	T	5-7-14	5-8-15	6-8-16	7-9-17	7-10-18	7-11-18	8-12-20	8-13-22
12" Oval Inlet	Airflow, CFM	200	225	250	275	300	325	350	375
	TP	.032	.040	.049	.060	.071	.083	.097	.111
	NC	19	22	25	27	29	31	33	35
	T	5-8-15	6-8-16	7-9-17	7-10-18	7-11-18	8-12-20	8-13-22	9-14-23

3 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	180	210	240	270	300	330	360	390
	TP	.063	.085	.111	.141	.174	.210	.250	.293
	NC	20	23	27	30	33	35	37	39
	T	3-7-13	4-8-15	6-9-17	6-10-18	7-11-19	7-12-20	8-13-22	8-14-23
10" Oval Inlet	Airflow, CFM	210	240	270	300	330	360	390	420
	TP	.054	.071	.090	.111	.134	.160	.188	.218
	NC	22	24	27	29	32	34	36	38
	T	4-8-15	6-9-17	6-10-18	7-11-19	7-12-20	8-13-22	8-14-23	9-15-24
12" Oval Inlet	Airflow, CFM	240	270	300	330	360	390	420	450
	TP	.036	.046	.057	.069	.082	.096	.111	.128
	NC	21	23	25	28	30	32	34	36
	T	6-9-17	6-10-18	7-11-19	7-12-20	8-13-22	8-14-23	9-15-24	10-16-26

Performance Notes – see page B32.

Performance Data

Model 5310(I) • 1" (25) Slot Width

4 Slot • 24" (610) Long

6" Round Inlet	Airflow, CFM	75	100	125	150	175	200	225	250
	TP	.030	.054	.084	.121	.164	.214	.271	.335
	NC	16	20	25	29	33	36	39	41
	T	3-5-10	4-7-11	6-8-12	6-8-13	7-9-15	7-10-16	8-11-18	8-11-19

8" Round Inlet	Airflow, CFM	100	125	150	175	200	225	250	275
	TP	.027	.042	.060	.082	.107	.135	.167	.202
	NC	17	21	25	29	33	35	37	40
	T	4-7-11	6-8-12	6-8-13	7-9-15	7-10-16	8-11-18	8-11-19	9-13-21

10" Oval Inlet	Airflow, CFM	125	150	175	200	225	250	275	300
	TP	.029	.041	.056	.073	.093	.115	.139	.165
	NC	19	23	26	30	32	35	37	39
	T	6-8-12	6-8-13	7-9-15	7-10-16	8-11-18	8-11-19	9-13-21	9-14-22

4 Slot • 48" (1219) Long

6" Round Inlet	Airflow, CFM	160	190	220	250	280	310	340	370
	TP	.104	.147	.198	.255	.320	.392	.472	.559
	NC	20	24	28	31	34	36	38	40
	T	3-6-14	5-7-15	6-8-16	7-10-17	7-11-18	8-12-19	8-13-20	9-14-21

8" Round Inlet	Airflow, CFM	190	220	250	280	310	340	370	400
	TP	.065	.087	.112	.140	.172	.207	.245	.287
	NC	21	24	27	30	32	34	36	38
	T	5-7-15	6-8-16	7-10-17	7-11-18	8-12-19	8-13-20	9-14-21	9-14-22

10" Oval Inlet	Airflow, CFM	220	250	280	310	340	370	400	430
	TP	.054	.070	.088	.108	.129	.153	.179	.207
	NC	21	24	27	29	31	33	35	37
	T	6-8-16	7-10-17	7-11-18	8-12-19	8-13-20	9-14-21	9-14-22	10-15-24

12" Oval Inlet	Airflow, CFM	250	280	310	340	370	400	430	460
	TP	.039	.049	.061	.073	.086	.101	.116	.133
	NC	20	23	26	28	30	32	34	36
	T	7-10-17	7-11-18	8-12-19	8-13-20	9-14-21	9-14-22	10-15-24	10-16-26

4 Slot • 60" (1524) Long

8" Round Inlet	Airflow, CFM	220	260	300	340	380	420	460	500
	TP	.085	.118	.157	.202	.253	.309	.370	.437
	NC	20	24	28	31	33	35	38	40
	T	4-6-13	6-8-15	7-10-17	8-12-19	9-13-21	9-14-22	10-15-23	10-16-24

10" Oval Inlet	Airflow, CFM	260	300	340	380	420	460	500	540
	TP	.072	.095	.122	.153	.187	.224	.265	.309
	NC	22	25	28	31	33	35	37	39
	T	6-8-15	7-10-17	8-12-19	9-13-21	9-14-22	10-15-23	10-16-24	11-18-26

12" Oval Inlet	Airflow, CFM	300	340	380	420	460	500	540	580
	TP	.043	.056	.070	.085	.102	.121	.141	.162
	NC	21	24	27	29	31	33	35	37
	T	7-10-17	8-12-19	9-13-21	9-14-22	10-15-23	10-16-24	11-18-26	12-19-28

CFM - cubic feet per minute

TP - total pressure - inches w.g.

T - throw in feet

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
2. Cataloged throws are for a one-way horizontal air pattern. For divided

airflow, deduce the airflow in each direction according to the number of slots, with the total airflow apportioned between the slots. Look up throw for the airflow in each direction according to the number of slots in that direction.

3. Performance data is based upon the standard **5300 Series** Model. The **5300MP** Modified Performance Series reduces the tabulated throw values by approximately 25%. Horizontal spread values are approximately 150% of the horizontal

throw (T) projection values.

4. Dash (—) in space indicates an NC level of less than 15.
5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Number of Slots	Ak Factor per foot	
	Supply	Return
1	.030	.051
2	.060	.104
3	.090	.155
4	.120	.206

LINEAR BAR GRILLES

- FIXED BARS
- ALUMINUM CONSTRUCTION

Models:

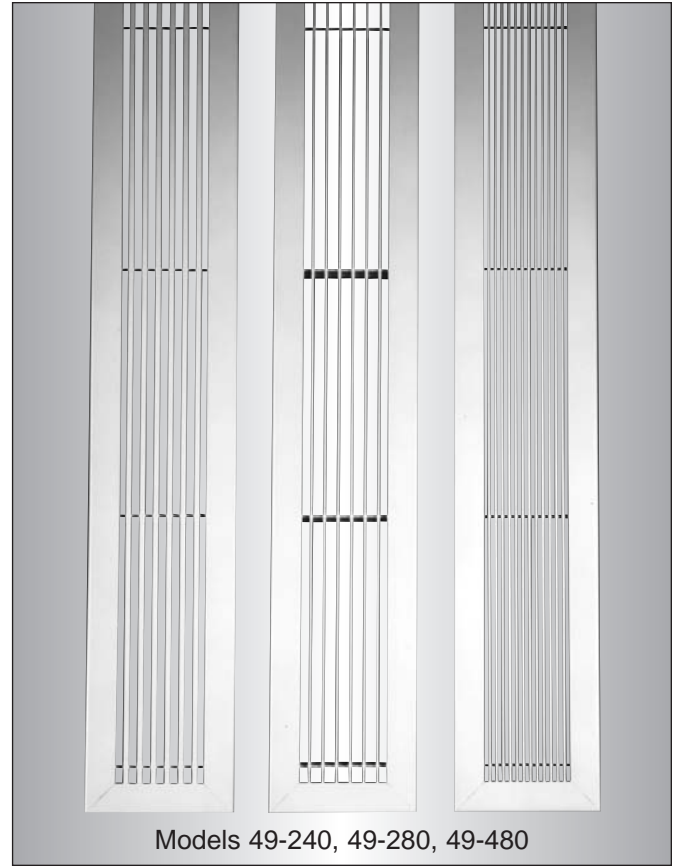
1/2" (13) Bar Spacing

- 49-240 • 1/4" (6) Bars • 0° Deflection • Pencil-Proof
- 49-241 • 1/4" (6) Bars • 15° Deflection • Pencil-Proof
- 49-243 • 1/4" (6) Bars • 30° Deflection • Pencil-Proof
- 49-280 • 1/8" (3) Bars • 0° Deflection
- 49-281 • 1/8" (3) Bars • 15° Deflection

1/4" (6) Bar Spacing

- 49-480 • 1/8" (3) Bars • 0° Deflection
- 49-481 • 1/8" (3) Bars • 15° Deflection

- Suffix '-O' adds a steel damper



B

LINEAR DIFFUSERS AND BAR GRILLES

The **Model Series 4900 Linear Bar Grilles** have been specially designed to provide the precision quality appearance required for architectural excellence with crisply sculptured styling, careful workmanship and effective air distribution. The **Series 4900 Linear Bar Grilles** are designed for heating and cooling applications, supply and return. The grilles are manufactured with precision mitered corners to maximize quality.

FEATURES:

- Deflection bars are fixed and are parallel to the long dimension.
- Available in 7 core styles and a variety of frame and sub-frame options.
- Diffusers are supplied in lengths of up to 6 ft. (1829) in a single section.
- Standard incremental units of length are 1, 2, 3, 4, 5 and 6 ft. (305, 610, 914, 1219, 1524 and 1829 mm). However, the 4900 Series is available in any nominal length to suit engineering and architectural requirements.
- Ideal for continuous length applications.
- Multiple sections are provided with alignment strips on the frame and sub-frame to provide superior, positive field alignment.
- End caps are staked and mitered for a superior quality appearance.
- Standard duty models are available for ceiling, wall or sill installations. Heavy duty models are designed specifically for use in floor installations.

Options:

- Heavy gauge steel opposed blade damper (add suffix '-O').
- DV Rear directional control vanes.
- MC Mitered Corner Sections.
- AD Access Doors.
- BO Blank-offs.

Material: Extruded Aluminum.

Finish: Standard finish is AW Appliance White baked enamel.

Optional finish is AL Aluminum baked enamel.

Premium finishes are SA Satin (clear) Anodized or BC Brushed and Clear Coat lacquer.

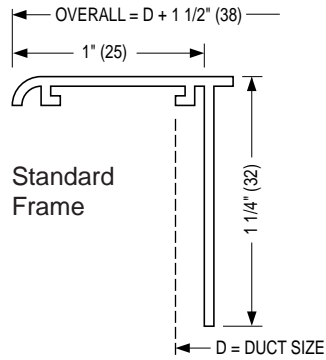
Other finishes are available.

Dimensional Data

Standard Duty Frame Types

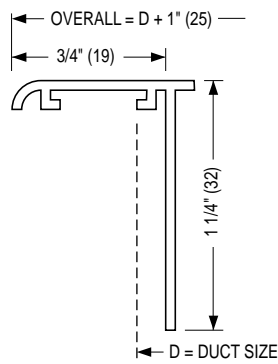
Type A

- 1" (25) Border



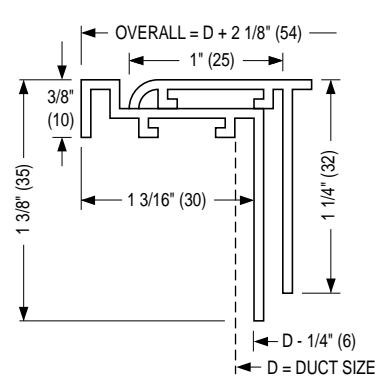
Type B

- 3/4" (19) Reduced Border



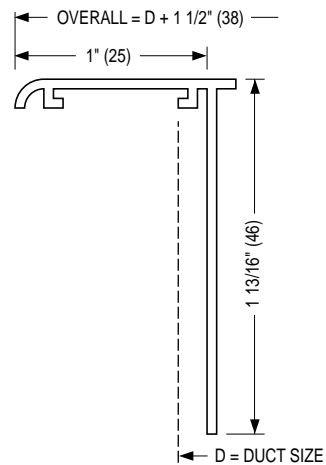
Type C

- 1" (25) Border and Sub-Frame



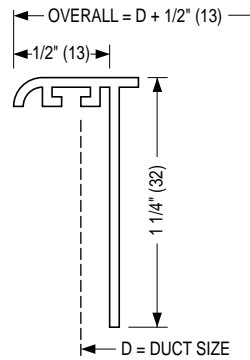
Type D

- 1" (25) Border
- Deep Stack (permits DV option)



Type E

- 1/2" (13) Narrow Border



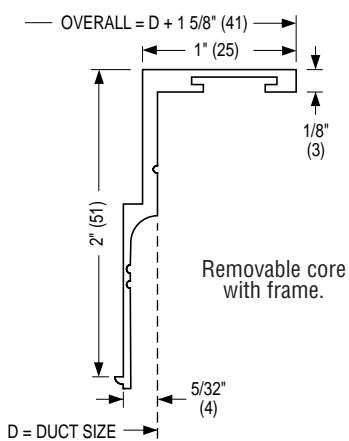
B

LINEAR DIFFUSERS AND BAR GRILLES

Heavy Duty Mounting Frames for Floor Installations

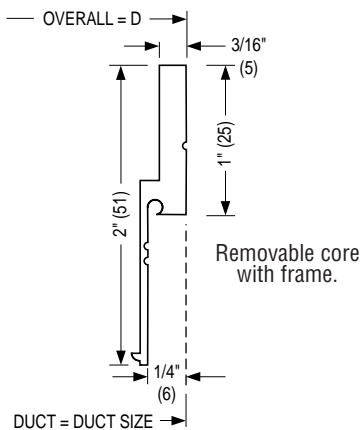
Type F

- 1" (25) Border Flange



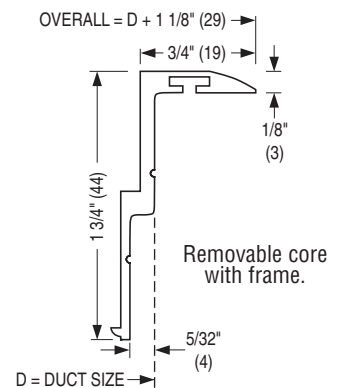
Type G

- No Flange
- Flush Mounting



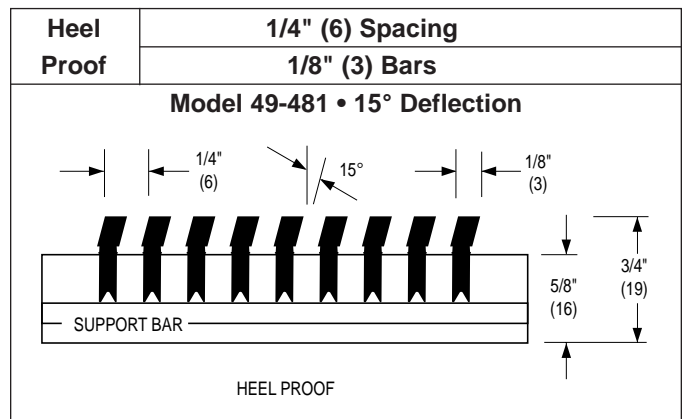
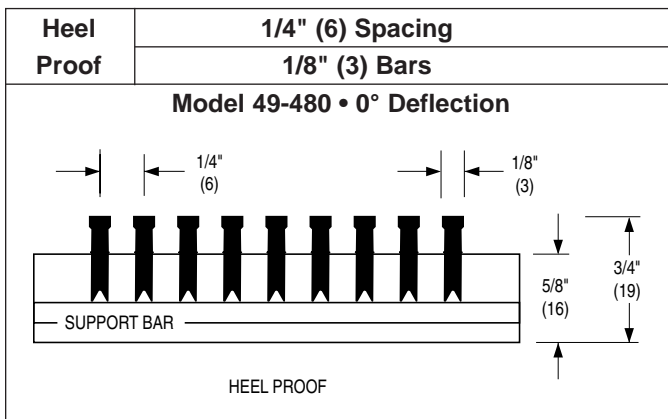
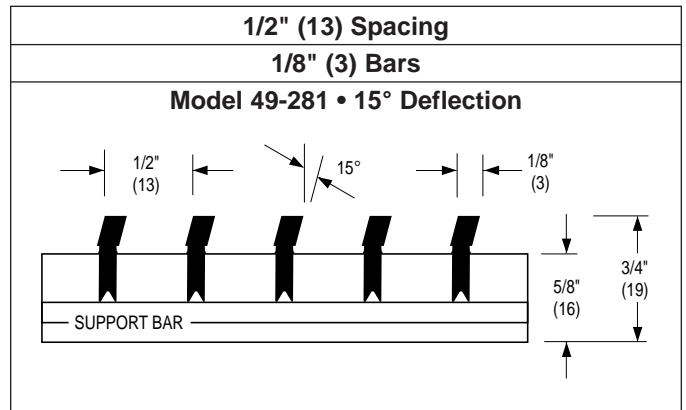
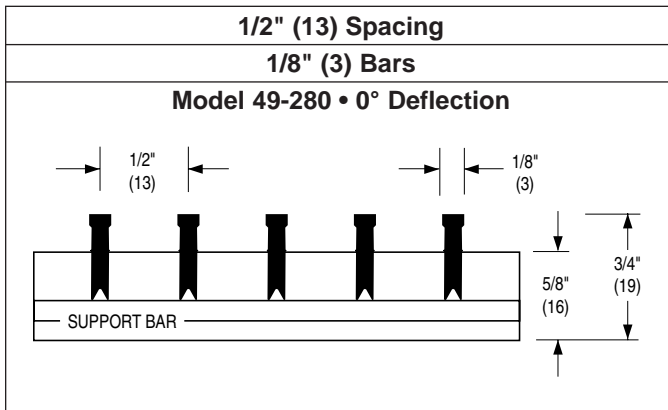
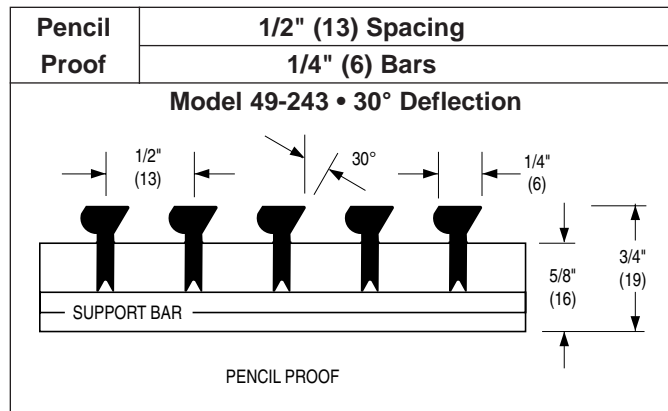
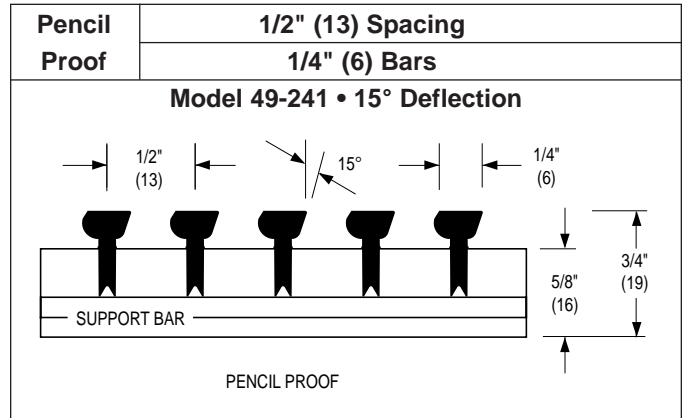
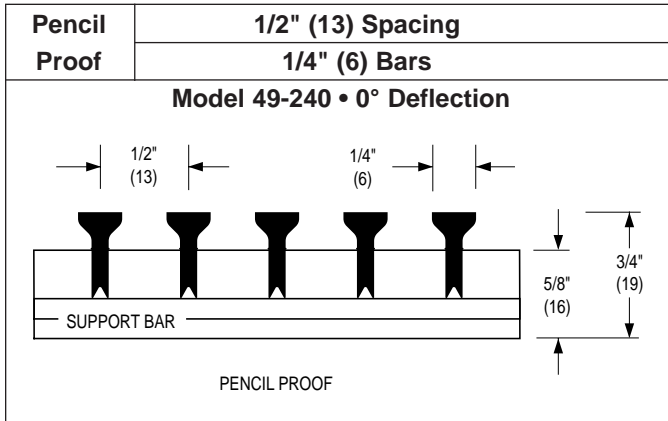
Type H

- 3/4" (19) Beveled Border



Dimensional Data

Available Core Styles

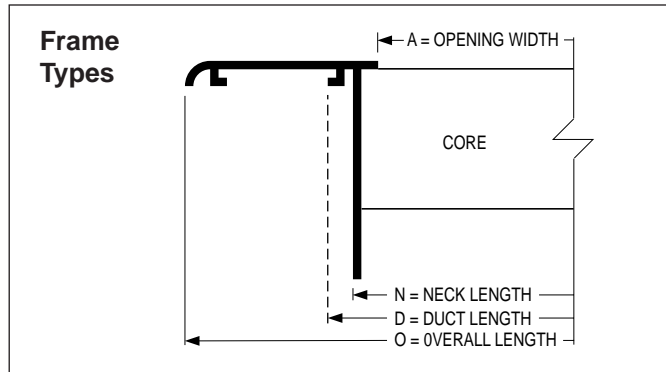


B

LINEAR DIFFUSERS AND BAR GRILLES

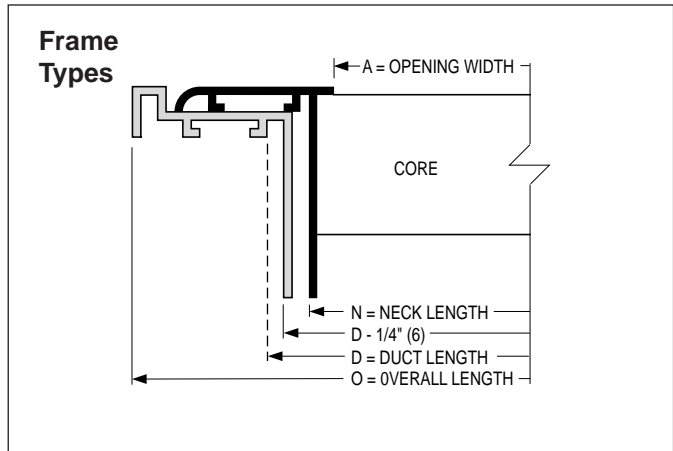
Dimensional Data

Overall Length and Width



Type	N	O
A	D - 1/2" (13)	D + 1 1/2" (38)
B	D - 1/2" (13)	D + 1" (25)
D	D - 1/2" (13)	D + 1 1/2" (38)
E	D - 1/2" (13)	D + 1/2" (13)
F	D	D + 1 5/8" (41)
G	D	D
H	D	D + 1 1/8" (29)

Dimensions are for length or width.



Type	N	O
C	D - 1/2" (13)	D + 2 1/8" (54)

Dimensions are for length or width.

Standard Widths and Core

Duct Width D	1/4" (6) Spacing	
	Opening Width A	Number of Bars
1 1/2 (38)	3/4 (19)	2
2 (51)	1 1/4 (32)	4
2 1/2 (64)	1 3/4 (44)	6
3 (76)	2 1/4 (57)	8
3 1/2 (89)	2 3/4 (70)	10
4 (102)	3 1/4 (83)	12
5 (127)	4 1/4 (108)	16
6 (152)	5 1/4 (133)	20

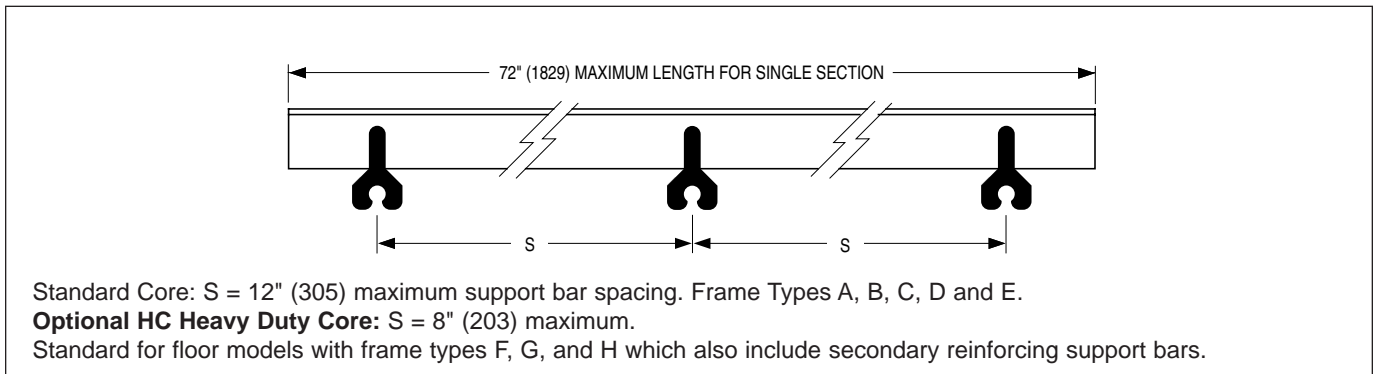
For frames types F, G & H increase the number of bars by two.

Dimensions are in inches (mm).

Duct Width D	1/2" (13) Spacing	
	Opening Width A	Number of Bars
1 1/2 (38)	3/4 (19)	1
2 (51)	1 1/4 (32)	2
2 1/2 (64)	1 3/4 (44)	3
3 (76)	2 1/4 (57)	4
3 1/2 (89)	2 3/4 (70)	5
4 (102)	3 1/4 (83)	6
5 (127)	4 1/4 (108)	8
6 (152)	5 1/4 (133)	10

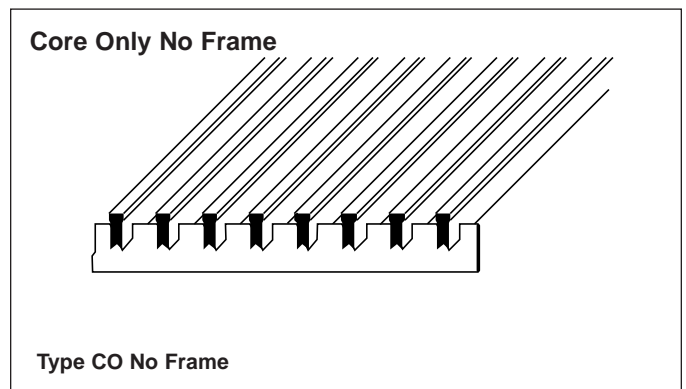
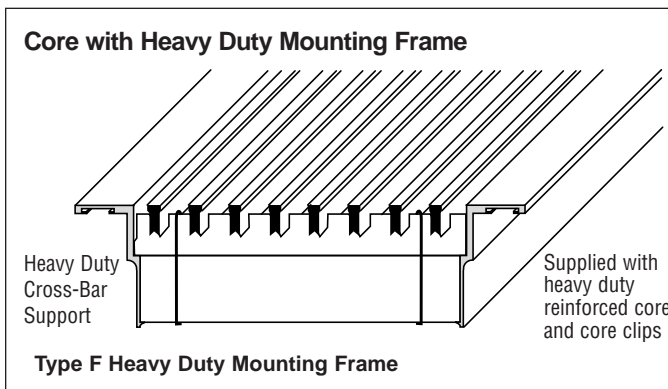
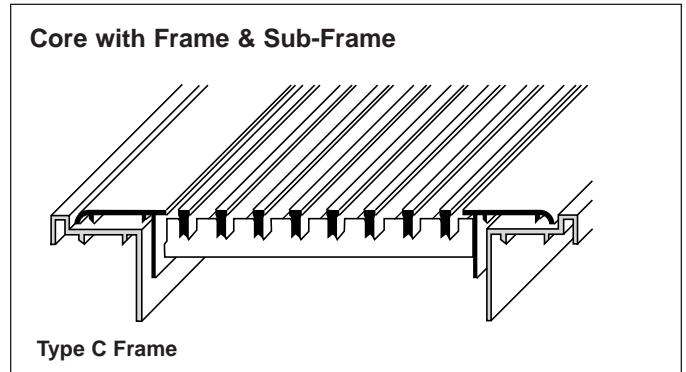
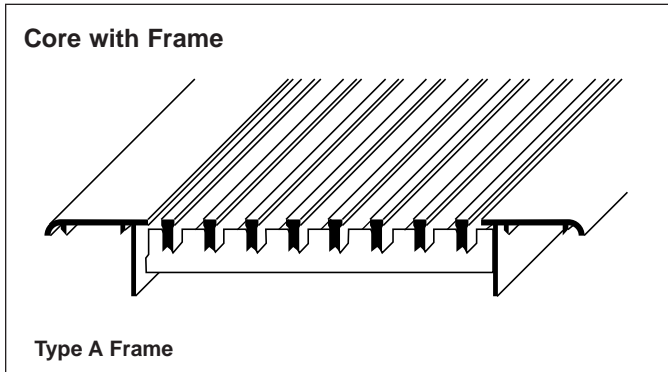
For frames types F, G & H increase the numbers of bars by one.

Cross-Bar Spacing

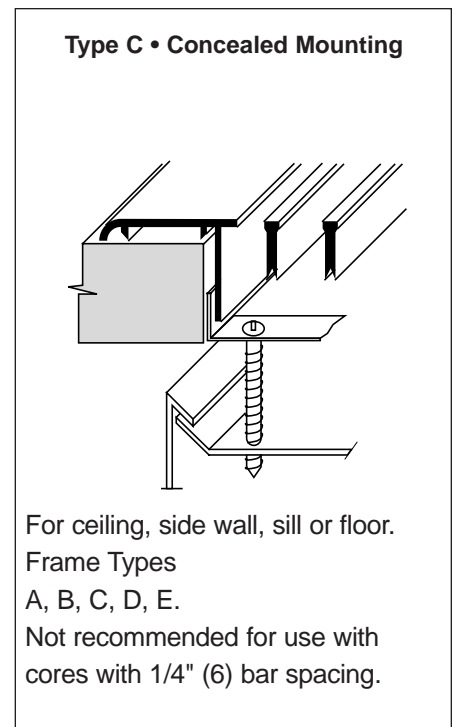
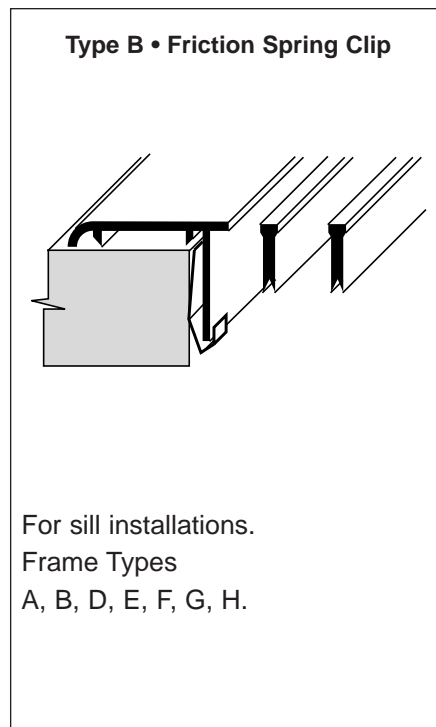
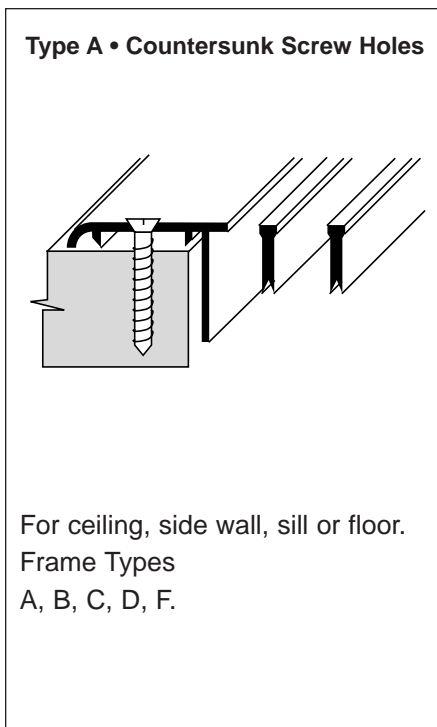


Dimensional Data

Typical Frame/Core Assemblies



Fastenings



Dimensional Data

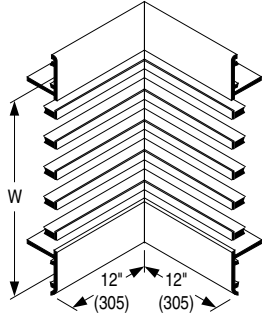
Mitered Corner Sections

49-240MC
49-241MC
49-243MC
49-280MC

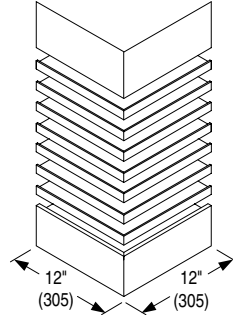
49-281MC
49-480MC
49-481MC

Factory welded with precision to match and align with the associated straight leg. Standard mitered corner section for floor, ceiling or wall is 90°. Other angles are available.

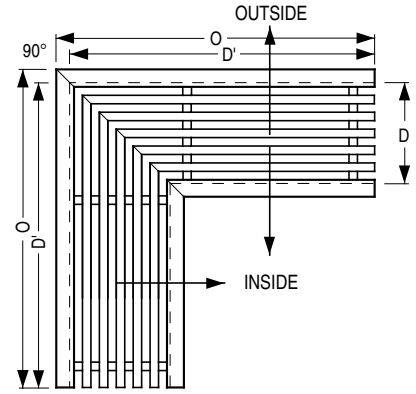
Application Pattern



Type WC – Sidewall, inside



Type WD – Sidewall, outside



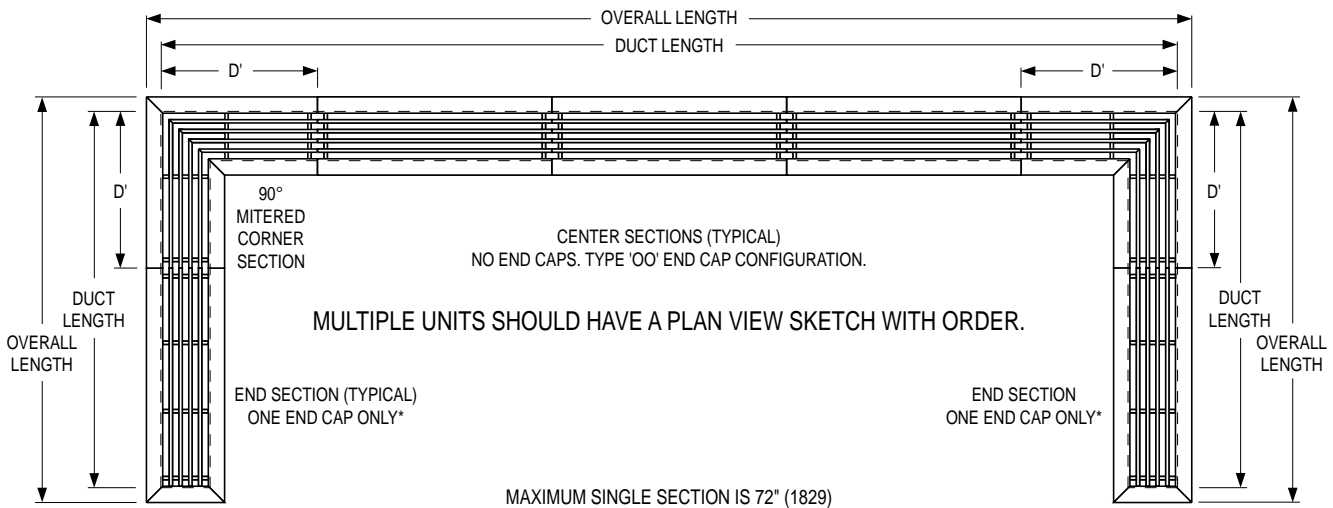
Floor, Ceiling or Sill

- Type FO • 0° deflection
- Type FA • Deflection inside
- Type FB • Deflection outside

90° Mitered Corner Dimension 'O'

Duct Width D	Duct Length D'	Frame Type						
		A, D	B	C	E	F	G	H
1 1/2" – 4"	12"	12 3/4" (324)	12 1/2" (318)	13 1/16" (332)	12 1/4" (311)	12 13/16" (325)	12" (305)	12 9/16" (320)
4 1/2" – 12"	18"	18 3/4" (476)	18 1/2" (470)	19 1/16" (613)	18 1/4" (606)	18 13/16" (610)	18" (457)	18 9/16" (471)

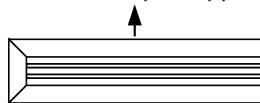
Continuous Run Dimensions



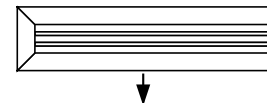
*End sections with single end caps and deflecting cores must be specified and ordered with the desired core deflection direction. End cap configurations (mitered end cap one end and open opposite end):

Type 'MO' = 0° deflection

Type 'MU' =
15° or 30°



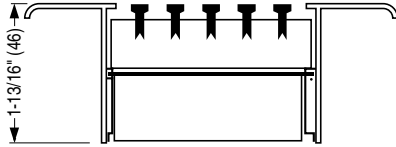
Type 'MD' =
15° or 30°



Options and Accessories

Type DV Directional Vanes

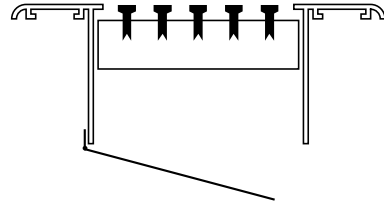
For all available widths.
Fully adjustable extruded aluminum blades on 3/4" (19) centers perpendicular to length.



Requires Frame Type D (deep stack), F, G or H

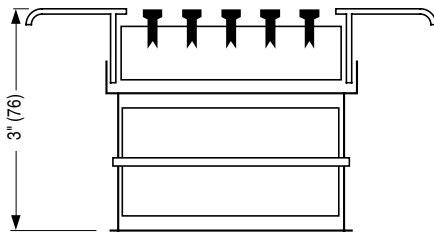
Single Blade Damper

Friction hinge on 1 1/2" (38) and 2" (51) widths.

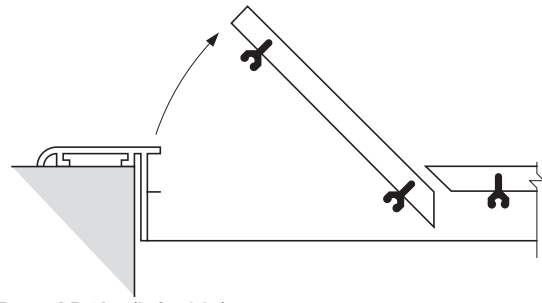


Opposed Blade Damper

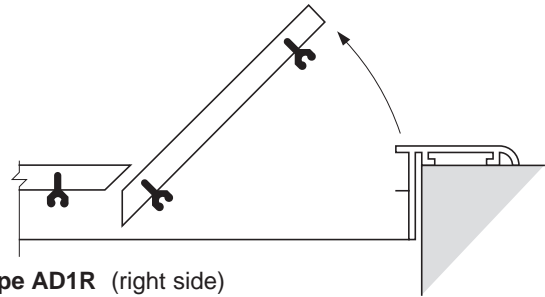
For linear bar grilles with a nominal duct width of 2 1/2" (64) and wider.



Access Doors



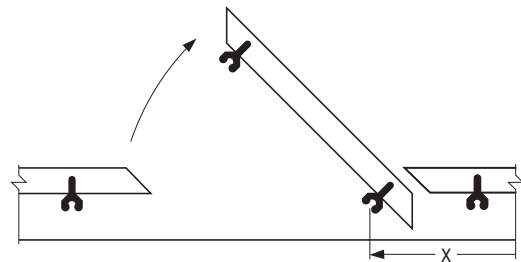
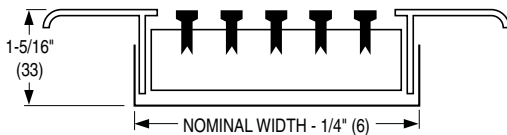
Type AD1L (left side)



Type AD1R (right side)

Type BO Steel Blank-Off

For all available widths. Supplied in 6' (1829) lengths for field cutting. Steel, painted black.



CENTER SECTION:

Type AD3L

Type AD3R (not shown)

Specify 'X' dim. (distance from end of grille frame)

Access door is a 6" (152) core section hinged on one side.

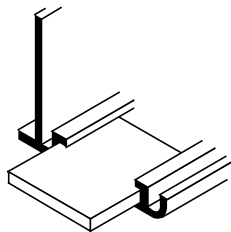
When selected with a deflected core, specify deflection:

Sill/Floor - To the front Wall - Up

- To the rear - Down

Alignment Strips

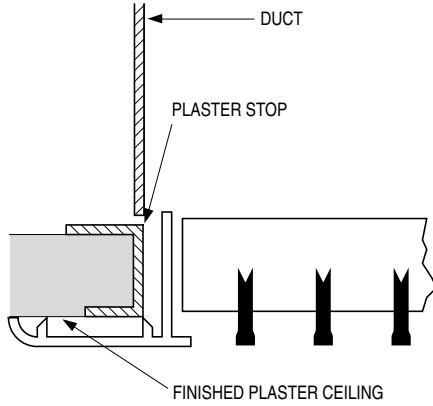
Supplied as standard on multiple section assemblies to provide positive and accurate field alignment, except frame G which uses alignment pins.



Typical Opening Preparations

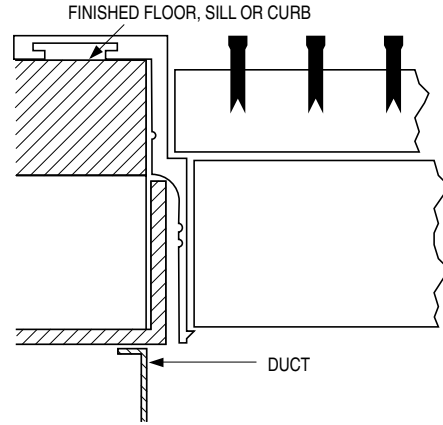
Ceiling 1

Frame Types A, B, D, or E



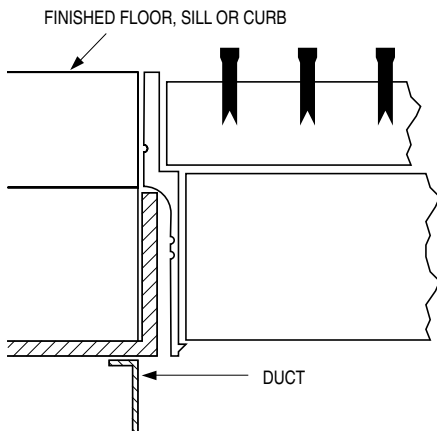
Floor or Sill 1

Frame Types F or H



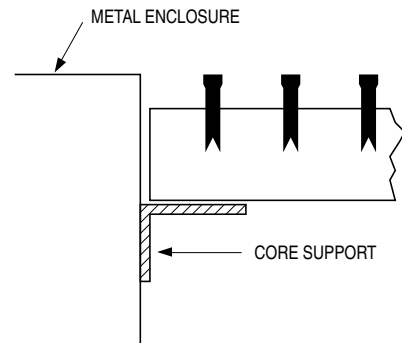
Floor or Sill 2

Frame Type G



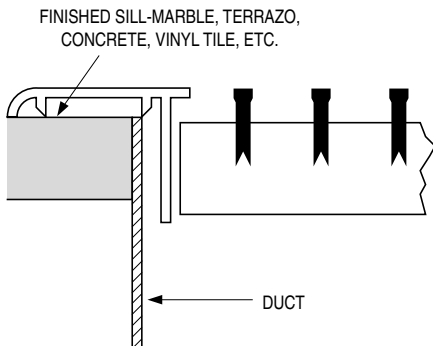
Raised Sill 1

Core Only



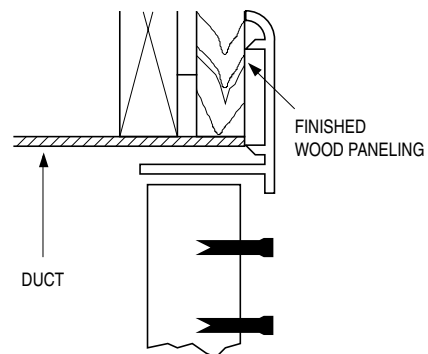
Raised Sill 2

Frame Types A, B, D, or E



Side Wall 1

Frame Types A, B, D, or E


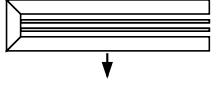


HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

Extruded Aluminum Linear Bar Grilles – Model Series 4900

49 - 2 4 0 - O - 60" x 4" - B - AW - C - MM - —

<p>MODEL _____</p> <p>- Linear Bar Grille</p> <p>BAR SPACING _____</p> <p>- 1/2" (13) 2</p> <p>- 1/4" (6) 4</p> <p>BAR WIDTH _____</p> <p>- 1/4" (6) 4</p> <p>- 1/8" (3) 8</p> <p>BAR DEFLECTION _____</p> <p>- 0° 0</p> <p>- 15° 1</p> <p>- 30° 3</p> <p>DAMPER _____</p> <p>- No Damper (default) —</p> <p>- With Damper O</p> <p>LENGTH x WIDTH (inches or mm) _____</p> <p>FRAME OR FRAME/SUB-FRAME COMBINATION _____</p> <p>- 1" (25) A</p> <p>- 3/4" (19) B</p> <p>- 1" (25) and Sub-Frame C</p> <p>- 1" (25) with Deep Neck D</p> <p>- 1/2" (13) E</p> <p>- 1" (25) Heavy Duty F</p> <p>- No Flange Heavy Duty G</p> <p>- 3/4" (19) Heavy Duty H</p> <p>- No Frame Core Only CO</p>	<p>ACCESSORIES</p> <p>- None (default) —</p> <p>- Blank-Offs BO</p> <p>- Access Door AD</p> <p>- Heavy Duty Core HC</p> <p>- Deflector Vanes DV</p> <p>END CAP CONFIGURATION</p> <p>- Mitered Mitered (default) MM</p> <p>- Open Open OO</p> <p>- Mitered Open 0° MO</p> <p>- Mitered Open 15°, 30° MU</p> <p style="text-align: center;">  </p> <p>- Mitered Open 15°, 30° MD</p> <p style="text-align: center;">  </p> <p>FASTENING</p> <p>- None (default) N</p> <p>- Screw Holes A</p> <p>- Spring Clips B</p> <p>- Concealed Mounting C</p> <p>FINISH</p> <p>- Appliance White (default) AW</p> <p>- Aluminum AL</p> <p>- Mill Finish MI</p> <p>- Brushed and Clear Coat Lacquer BC</p> <p>- Satin Anodized SA</p> <p>- Special SP</p>
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B LINEAR DIFFUSERS AND BAR GRILLES

Notes:

1. To use more than one "Accessory", list the items in order and specify description.
2. It is helpful to include a sketch for multiple units with mitered corners.

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **49-240** (1/2" (13) spacing, 1/4" (6) bar, 0° deflection); **49-241** (1/2" (13) spacing, 1/4" (6) bar, 15° deflection); **49-243** (1/2" (13) spacing, 1/4" (6) bar, 30° deflection); **49-280** (1/2" (13) spacing, 1/8" (3) bar, 0° deflection); **49-281** (1/2" (13) spacing, 1/8" (3) bar, 15° deflection); **49-480** (1/4" (6) spacing, 1/8" (3) bar, 0° deflection); **49-481** (1/4" (6) spacing, 1/8" (3) bar, 15° deflection) **Linear Bar Grilles** of the sizes and capacities as shown on the plans and air distribution schedules. The maximum length of a single section shall be 72" (1829) long. All sizes larger than 72" (1829) shall be provided in continuous multiple sections. Alignment strips are to be provided for joining continuous grille sections together. All frame types shall be extruded aluminum and include fastening as specified. A grille with a frame selection of A, B, C, D or E shall have a non-removable core that has fixed extruded aluminum bars and extruded aluminum cross bars that are spaced on a maximum of 12" (305) centers. A grille with a heavy duty floor frame selection of F, G or H shall have a removable core that attaches with core clips. The core shall have fixed extruded aluminum bars and extruded aluminum cross bars that are spaced on a maximum of 8" (203) centers. The finish is to be AW Appliance White baked enamel (optional finishes are available).

(Optional) A damper, constructed of heavy gauge corrosion-resistant steel and operable from the face of the grille, shall be provided on all units.

The manufacturer shall provide published performance data for the linear bar grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

Performance Data

Model 49-240 • 1/2" Spacing • 1/4" Bars • 0° Deflection

Free Area Square Feet Per Lineal Foot	Nominal Duct Width (Inches)	TP	.010	.022	.039	.062	.087	.119	.156	.198	.245
.026	1-1/2	CFM per Foot	10	16	21	26	31	36	42	47	52
		NC	—	—	13	19	24	30	34	37	40
		T Sill or Floor Side Wall	1-1-1 2-4-6	2-2-2 4-7-10	4-4-4 5-9-13	7-7-7 7-12-17	8-9-10 8-13-19	10-11-12 10-16-22	11-12-14 11-17-24	12-14-16 12-19-26	14-16-18 14-21-29
.045	2	CFM per Foot	18	27	36	45	54	63	72	81	90
		NC	—	—	12	18	23	29	33	36	39
		T Sill or Floor Side Wall	1-1-1 3-5-7	4-4-4 5-9-12	7-7-7 7-11-16	9-9-10 9-14-20	10-11-13 11-17-23	13-14-16 13-19-26	14-16-18 14-21-28	15-17-20 15-22-30	17-19-21 17-25-33
.066	2-1/2	CFM per Foot	26	40	53	66	79	92	106	119	132
		NC	—	—	14	20	26	31	35	38	41
		T Sill or Floor Side Wall	2-2-2 4-6-9	6-6-6 6-9-12	8-8-9 8-12-17	11-12-13 11-16-22	13-14-16 13-19-25	15-17-19 15-21-28	18-20-22 18-25-32	21-22-23 21-28-36	22-23-24 22-30-39
.088	3	CFM per Foot	35	53	70	88	106	123	141	158	176
		NC	—	—	15	21	27	32	36	39	42
		T Sill or Floor Side Wall	2-2-2 5-7-10	7-7-7 7-11-15	10-10-11 10-14-19	12-13-15 12-17-23	15-16-18 15-21-27	18-19-21 18-24-31	20-22-24 20-27-34	24-24-25 24-31-39	26-26-27 26-34-41
.110	3-1/2	CFM per Foot	44	66	88	110	132	154	176	198	220
		NC	—	—	16	22	28	33	37	40	43
		T Sill or Floor Side Wall	3-3-3 5-7-10	8-8-8 9-12-16	12-12-12 12-16-20	15-15-16 15-20-25	18-19-20 18-23-28	20-21-22 20-26-32	23-24-25 23-29-36	25-26-27 25-32-39	29-29-29 29-36-43
.133	4	CFM per Foot	53	80	106	133	160	186	213	239	266
		NC	—	—	17	23	29	34	38	41	44
		T Sill or Floor Side Wall	3-3-3 6-8-11	9-9-9 10-13-17	13-13-13 13-17-21	16-16-17 16-21-26	20-20-21 20-25-30	22-23-24 22-28-34	24-25-26 24-30-37	28-28-28 28-35-41	31-31-31 31-38-45
.177	5	CFM per Foot	71	106	142	177	212	248	283	318	354
		NC	—	10	18	24	30	35	39	42	45
		T Sill or Floor Side Wall	4-4-4 8-10-13	10-10-10 11-14-18	15-15-15 15-19-23	18-18-18 18-22-27	22-22-23 22-27-32	25-25-25 25-31-37	27-27-28 27-33-39	30-30-30 30-37-43	34-34-34 34-41-47
.222	6	CFM per Foot	89	133	178	222	266	310	355	400	444
		NC	—	11	20	25	31	36	40	43	46
		T Sill or Floor Side Wall	5-5-5 9-11-14	10-10-10 13-16-20	15-15-15 16-20-24	19-19-19 20-24-29	23-23-23 24-29-34	25-25-25 28-33-39	29-29-29 30-35-40	31-31-31 34-40-45	36-36-36 38-44-49

CFM - cubic feet per minute.

FPM - feet per minute velocity.

TP - total pressure - inches w.g.

T - throw in feet.

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities.
- Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C). For other lengths, use the correction factor table above.
- NC values are based on a 10 foot active section. For other lengths, use the correction factor table above.

NC Correction for Length

Active Length, Ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

- Return Air Applications:
NC value is increased by + 4.
Neg. SP = 0.8 x TP.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.035	.030
2"	.054	.046
2 1/2"	.075	.064
3"	.098	.083
3 1/2"	.120	.102
4"	.143	.121
5"	.187	.159
6"	.233	.198

Performance Data

Model 49-241 • 1/2" Spacing • 1/4" Bars • 15° Deflection

Free Area Square Feet Per Lineal Foot	Nominal Duct Width (Inches)	TP	.012	.025	.047	.074	.105	.142	.187	.237	.294
.031	1-1/2	CFM per Foot	12	19	25	31	37	43	50	56	62
		NC	—	16	24	32	37	42	46	49	52
		T Sill or Floor Side Wall	1-1-1 2-4-6	3-3-3 4-7-10	5-5-5 6-10-14	7-7-7 7-12-17	9-9-10 9-14-20	10-11-12 10-16-23	12-13-15 12-18-25	13-15-17 13-20-27	14-16-18 14-22-30
.048	2	CFM per Foot	19	29	38	48	58	67	77	86	96
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	1-1-1 3-5-7	4-4-4 5-8-12	7-7-7 7-11-16	9-9-10 9-14-20	11-12-13 11-17-24	13-14-15 13-19-26	15-16-18 15-22-29	16-18-20 16-23-31	17-19-22 17-25-34
.067	2-1/2	CFM per Foot	27	40	54	67	80	94	107	120	134
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	1-1-1 4-6-8	5-5-5 6-9-13	9-9-9 9-13-17	11-11-12 11-16-21	13-14-15 14-19-25	15-16-18 15-21-27	17-19-21 17-24-31	20-21-22 20-27-35	22-22-23 22-29-38
.086	3	CFM per Foot	34	52	69	86	103	120	138	155	172
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	2-2-2 4-6-9	6-6-6 8-11-15	10-10-11 10-14-19	12-13-14 13-18-23	15-16-18 16-21-27	18-19-20 18-24-31	20-21-23 21-28-35	23-24-25 23-30-38	25-25-25 26-34-41
.105	3-1/2	CFM per Foot	42	63	84	105	126	147	168	189	210
		NC	—	12	20	28	33	38	42	45	48
		T Sill or Floor Side Wall	2-2-2 6-8-11	8-8-8 9-12-16	11-11-12 12-16-21	15-15-15 14-19-24	17-18-19 18-23-29	21-21-22 21-27-33	22-23-25 23-29-36	25-25-26 25-32-39	28-28-29 28-36-43
.127	4	CFM per Foot	51	76	102	127	152	178	203	228	254
		NC	—	13	21	29	34	39	43	46	49
		T Sill or Floor Side Wall	3-3-3 6-9-12	9-9-9 10-13-17	13-13-13 13-17-22	16-16-17 15-20-25	19-20-21 19-24-30	22-22-23 22-28-34	24-25-26 25-31-38	27-27-27 28-36-41	30-30-30 30-37-44
.167	5	CFM per Foot	67	100	134	167	200	234	267	301	334
		NC	—	13	21	29	34	39	43	46	49
		T Sill or Floor Side Wall	4-4-4 8-11-14	10-10-10 11-15-19	14-14-14 15-19-24	18-18-18 19-23-28	21-21-22 21-26-32	24-24-25 24-30-36	26-27-28 26-32-39	30-30-30 29-36-42	32-32-32 33-39-46
.210	6	CFM per Foot	84	126	168	210	252	294	336	378	420
		NC	—	15	23	31	36	41	45	48	51
		T Sill or Floor Side Wall	5-5-5 9-12-15	10-10-10 14-17-21	15-15-15 17-21-25	19-19-19 20-24-29	23-23-23 24-29-34	25-25-25 27-32-38	28-28-29 29-35-40	31-31-31 32-38-43	35-35-35 36-42-47

CFM - cubic feet per minute.

FPM - feet per minute velocity.

TP - total pressure - inches w.g.

T - throw in feet.

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities.
- Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C). For other lengths, use the correction factor table above.
- NC values are based on a 10 foot active section. For other lengths, use the correction factor table above.

NC Correction for Length

Active Length, Ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

- Return Air Applications:
NC value is increased by + 4.
Neg. SP = 0.8 x TP.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.041	.037
2"	.058	.051
2 1/2"	.076	.066
3"	.095	.080
3 1/2"	.115	.098
4"	.137	.113
5"	.177	.148
6"	.230	.189

B LINEAR DIFFUSERS AND BAR GRILLES

Performance Data

Model 49-243 • 1/2" Spacing • 1/4" Bars • 30° Deflection

Free Area Square Feet Per Lineal Foot	Nominal Duct Width (Inches)	TP	.012	.025	.047	.074	.105	.142	.187	.237	.294
.031	1-1/2	CFM per Foot	12	19	25	31	37	43	50	56	62
		NC	—	16	24	32	37	42	46	49	52
		T Sill or Floor Side Wall	1-1-1 2-4-6	3-3-3 4-7-10	5-5-5 6-10-14	7-7-7 7-12-17	9-9-10 9-14-20	10-11-12 10-16-23	12-13-15 12-18-25	13-15-17 13-20-27	14-16-18 14-22-30
.048	2	CFM per Foot	19	29	38	48	58	67	77	86	96
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	1-1-1 3-5-7	4-4-4 5-8-12	7-7-7 7-11-16	9-9-10 9-14-20	11-12-13 11-17-24	13-14-15 13-19-26	15-16-18 15-22-29	16-18-20 16-23-31	17-19-22 17-25-34
.067	2-1/2	CFM per Foot	27	40	54	67	80	94	107	120	134
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	1-1-1 4-6-8	5-5-5 6-9-13	9-9-9 9-13-17	11-11-12 11-16-21	13-14-15 14-19-25	15-16-18 15-21-27	17-19-21 17-24-31	20-21-22 20-27-35	22-22-23 22-29-38
.086	3	CFM per Foot	34	52	69	86	103	120	138	155	172
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	2-2-2 4-6-9	6-6-6 8-11-15	10-10-11 10-14-19	12-13-14 13-18-23	15-16-18 16-21-27	18-19-20 18-24-31	20-21-23 21-28-35	23-24-25 23-30-38	25-25-25 26-34-41
.105	3-1/2	CFM per Foot	42	63	84	105	126	147	168	189	210
		NC	—	12	20	28	33	38	42	45	48
		T Sill or Floor Side Wall	2-2-2 6-8-11	8-8-8 9-12-16	11-11-12 12-16-21	15-15-15 14-19-24	17-18-19 18-23-29	21-21-22 21-27-33	22-23-25 23-29-36	25-25-26 25-32-39	28-28-29 28-36-43
.127	4	CFM per Foot	51	76	102	127	152	178	203	228	254
		NC	—	13	21	29	34	39	43	46	49
		T Sill or Floor Side Wall	3-3-3 6-9-12	9-9-9 10-13-17	13-13-13 13-17-22	16-16-17 15-20-25	19-20-21 19-24-30	22-22-23 22-28-34	24-25-26 25-31-38	27-27-27 28-36-41	30-30-30 30-37-44
.167	5	CFM per Foot	67	100	134	167	200	234	267	301	334
		NC	—	13	21	29	34	39	43	46	49
		T Sill or Floor Side Wall	4-4-4 8-11-14	10-10-10 11-15-19	14-14-14 15-19-24	18-18-18 19-23-28	21-21-22 21-26-32	24-24-25 24-30-36	26-27-28 26-32-39	30-30-30 29-36-42	32-32-32 33-39-46
.210	6	CFM per Foot	84	126	168	210	252	294	336	378	420
		NC	—	15	23	31	36	41	45	48	51
		T Sill or Floor Side Wall	5-5-5 9-12-15	10-10-10 14-17-21	15-15-15 17-21-25	19-19-19 20-24-29	23-23-23 24-29-34	25-25-25 27-32-38	28-28-29 29-35-40	31-31-31 32-38-43	35-35-35 36-42-47

CFM - cubic feet per minute.

FPM - feet per minute velocity.

TP - total pressure - inches w.g.

T - throw in feet.

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities.
- Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C). For other lengths, use the correction factor table above.
- NC values are based on a 10 foot active section. For other lengths, use the correction factor table above.

NC Correction for Length

Active Length, Ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

- Return Air Applications:
NC value is increased by + 4.
Neg. SP = 0.8 x TP.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.041	.037
2"	.058	.051
2 1/2"	.076	.066
3"	.095	.080
3 1/2"	.115	.098
4"	.137	.113
5"	.177	.148
6"	.230	.189

Performance Data

Model 49-280 • 1/2" Spacing • 1/8" Bars • 0° Deflection

Free Area Square Feet Per Lineal Foot	Nominal Duct Width (Inches)	TP	.009	.020	.035	.056	.078	.107	.140	.178	.220
.035	1-1/2	CFM per Foot	14	21	28	35	42	49	56	63	70
		NC	—	—	16	22	28	32	36	39	42
		T Sill or Floor Side Wall	1-1-1 2-4-6	2-2-2 4-7-10	4-4-4 6-7-13	7-7-7 7-12-17	8-9-10 8-13-19	10-11-12 10-16-22	11-12-14 11-17-24	12-14-17 12-19-26	13-15-18 13-21-29
.055	2	CFM per Foot	22	33	44	55	66	77	88	99	110
		NC	—	—	12	18	23	28	32	35	38
		T Sill or Floor Side Wall	1-1-1 3-5-7	4-4-4 5-8-12	7-7-7 7-11-16	9-9-10 9-14-20	11-11-12 11-17-23	13-14-16 13-19-26	14-16-18 14-21-28	15-17-20 15-22-30	17-19-21 17-25-33
.074	2-1/2	CFM per Foot	30	44	59	74	89	104	118	133	148
		NC	—	—	11	17	22	27	31	34	37
		T Sill or Floor Side Wall	1-1-1 4-6-8	5-5-5 6-9-13	9-9-9 9-13-17	11-11-12 11-16-21	13-14-15 13-18-24	15-16-17 15-21-28	18-19-20 17-24-31	20-21-23 20-27-35	23-24-25 23-31-39
.096	3	CFM per Foot	38	58	77	96	115	134	154	173	192
		NC	—	—	11	17	22	27	31	34	37
		T Sill or Floor Side Wall	2-2-2 5-7-10	7-7-7 7-10-14	10-10-11 10-14-19	12-13-14 12-17-23	15-16-17 15-20-26	18-19-20 18-24-30	20-21-23 20-27-34	23-24-25 23-30-38	25-25-26 25-33-41
.116	3-1/2	CFM per Foot	46	69	93	116	139	162	186	209	232
		NC	—	—	11	17	22	27	31	34	37
		T Sill or Floor Side Wall	3-3-3 5-7-10	8-8-8 9-12-16	12-12-12 12-16-20	15-15-16 15-20-25	18-19-20 18-23-28	20-21-23 20-26-32	23-24-25 23-29-36	25-26-27 25-32-39	29-29-29 29-36-43
.139	4	CFM per Foot	56	83	111	139	167	195	222	250	278
		NC	—	—	12	18	23	28	32	35	38
		T Sill or Floor Side Wall	3-3-3 6-8-11	9-9-9 10-13-17	13-13-13 13-17-21	16-16-17 16-20-25	20-20-21 20-25-30	23-23-24 22-28-34	24-25-26 24-30-37	27-27-27 28-35-41	30-30-30 31-38-44
.179	5	CFM per Foot	72	107	143	179	215	250	286	322	358
		NC	—	—	12	18	23	28	32	35	38
		T Sill or Floor Side Wall	4-4-4 8-10-13	10-10-10 11-14-18	14-14-14 15-19-23	18-18-18 18-22-27	22-22-23 22-27-32	24-24-24 24-30-36	27-27-28 27-33-39	30-30-31 30-37-43	32-32-32 34-41-47
.221	6	CFM per Foot	88	133	177	221	265	310	354	398	442
		NC	—	—	14	20	24	29	33	36	39
		T Sill or Floor Side Wall	5-5-5 9-12-15	10-10-10 13-16-20	15-15-15 16-20-24	18-18-18 20-24-29	23-23-23 24-29-34	25-25-25 28-33-39	28-28-28 30-35-40	31-31-31 34-40-45	32-32-32 38-44-49

B LINEAR DIFFUSERS AND BAR GRILLES

CFM - cubic feet per minute.
FPM - feet per minute velocity.
TP - total pressure - inches w.g.
T - throw in feet.
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Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities.
- Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C). For other lengths, use the correction factor table above.
- NC values are based on a 10 foot active section. For other lengths, use the correction factor table above.

NC Correction for Length

Active Length, Ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

- Return Air Applications:
 NC value is increased by + 4.
 Neg. SP = 0.8 x TP.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.047	.040
2"	.066	.055
2 1/2"	.084	.073
3"	.107	.089
3 1/2"	.127	.113
4"	.150	.127
5"	.190	.163
6"	.232	.197

Performance Data

Model 49-281 • 1/2" Spacing • 1/8" Bars • 15° Deflection

Free Area Square Feet Per Lineal Foot	Nominal Duct Width (Inches)	TP	.009	.020	.035	.056	.078	.107	.140	.178	.220
.039	1-1/2	CFM per Foot	16	23	31	39	47	55	62	70	78
		NC	—	18	27	33	38	43	47	50	53
		T Sill or Floor Side Wall	1-1-1 2-4-6	3-3-3 4-7-10	5-5-5 6-10-14	8-8-8 8-13-18	9-9-10 9-14-20	10-11-13 10-16-23	12-13-15 12-18-25	13-15-17 13-20-27	14-16-18 14-22-30
.056	2	CFM per Foot	22	34	45	56	67	78	90	101	112
		NC	—	12	20	26	31	36	40	44	47
		T Sill or Floor Side Wall	1-1-1 3-5-7	4-4-4 5-8-12	7-7-7 7-11-16	9-9-10 9-14-20	11-12-13 11-17-23	12-14-16 12-18-25	14-16-18 14-20-27	15-17-20 15-22-30	18-19-21 18-26-34
.075	2-1/2	CFM per Foot	30	45	60	75	90	105	120	135	150
		NC	—	10	18	24	30	35	39	43	46
		T Sill or Floor Side Wall	1-1-1 4-6-8	5-5-5 6-9-13	8-8-9 8-12-17	11-11-12 11-16-21	13-14-15 13-19-25	15-16-18 15-21-27	17-19-21 17-24-31	20-21-22 20-27-35	22-22-23 22-30-38
.093	3	CFM per Foot	37	56	74	93	112	130	149	167	186
		NC	—	—	17	23	29	34	38	42	45
		T Sill or Floor Side Wall	2-2-2 4-6-9	6-6-6 7-10-14	10-10-10 10-13-18	12-12-13 12-17-22	15-16-17 15-20-26	18-19-20 18-24-30	20-21-23 20-26-33	23-23-24 23-30-37	25-25-25 25-32-39
.113	3-1/2	CFM per Foot	45	68	90	113	136	158	181	203	226
		NC	—	—	17	23	29	34	38	42	45
		T Sill or Floor Side Wall	2-2-2 5-7-10	7-7-7 8-11-15	12-12-12 12-16-20	14-14-15 14-18-23	17-18-19 17-22-27	20-21-22 20-25-31	22-23-24 22-28-35	25-25-26 25-32-39	27-27-27 27-34-41
.133	4	CFM per Foot	53	80	106	133	160	186	212	239	266
		NC	—	10	18	24	30	35	39	43	46
		T Sill or Floor Side Wall	3-3-3 6-8-11	8-8-9 9-12-16	13-13-13 13-17-21	15-15-16 15-19-24	19-19-20 19-24-29	22-22-23 22-27-33	24-24-25 24-30-36	26-26-27 26-33-39	30-30-30 30-37-43
.173	5	CFM per Foot	69	104	138	173	208	242	277	312	346
		NC	—	10	18	24	30	35	39	43	46
		T Sill or Floor Side Wall	4-4-4 8-10-13	9-9-9 11-14-18	14-14-14 15-19-23	17-17-17 17-21-26	20-21-22 20-25-31	24-24-24 24-29-35	26-26-27 26-33-38	29-29-29 29-35-41	32-32-32 32-39-45
.212	6	CFM per Foot	85	127	170	212	254	296	339	382	424
		NC	—	10	18	24	30	35	39	43	46
		T Sill or Floor Side Wall	5-5-5 9-11-14	10-10-10 13-16-20	15-15-15 16-20-24	18-18-18 20-24-28	23-23-23 23-27-32	25-25-25 25-30-36	28-28-28 28-33-39	30-30-30 31-37-42	34-34-34 35-41-46

CFM - cubic feet per minute.

FPM - feet per minute velocity.

TP - total pressure - inches w.g.

T - throw in feet.

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities.
- Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C). For other lengths, use the correction factor table above.
- NC values are based on a 10 foot active section. For other lengths, use the correction factor table above.

NC Correction for Length

Active Length, Ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

- Return Air Applications:
NC value is increased by + 4.
Neg. SP = 0.8 x TP.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.052	.047
2"	.067	.060
2 1/2"	.086	.075
3"	.103	.091
3 1/2"	.123	.103
4"	.143	.126
5"	.183	.157
6"	.222	.188

Performance Data

Model 49-480 • 1/4" Spacing • 1/8" Bars • 0° Deflection

Free Area Square Feet Per Lineal Foot	Nominal Duct Width (Inches)	TP	.011	.024	.043	.068	.096	.130	.171	.218	.269
.031	1-1/2	CFM per Foot	12	19	25	31	37	43	50	56	62
		NC	—	—	14	20	24	29	33	36	39
		T Sill or Floor Side Wall	1-1-1 2-4-6	2-2-2 4-7-10	4-4-4 6-9-13	6-6-6 7-11-16	8-8-9 8-13-19	9-10-11 9-15-21	10-11-13 10-16-23	12-13-15 12-18-25	13-15-18 13-20-28
.047	2	CFM per Foot	19	28	37	47	56	66	75	84	94
		NC	—	—	12	18	23	29	32	36	39
		T Sill or Floor Side Wall	1-1-1 3-5-7	4-4-4 5-8-11	6-6-6 7-11-15	9-9-9 9-14-19	11-11-12 11-16-22	12-13-15 12-18-25	14-15-17 14-20-27	15-17-19 15-22-29	16-18-20 16-24-32
.065	2-1/2	CFM per Foot	26	39	52	65	78	91	104	117	130
		NC	—	—	14	20	24	30	34	37	40
		T Sill or Floor Side Wall	1-1-1 4-6-8	5-5-5 6-9-12	8-8-8 8-12-16	10-10-11 10-15-20	13-14-15 13-18-24	15-16-17 15-21-27	16-18-20 16-22-30	20-20-21 20-27-34	22-22-22 22-30-38
.083	3	CFM per Foot	33	50	66	83	100	116	133	149	166
		NC	—	—	14	20	26	31	35	38	41
		T Sill or Floor Side Wall	2-2-2 4-6-9	6-6-6 7-10-14	9-9-10 9-13-18	12-12-13 12-17-22	15-16-17 15-20-25	18-19-20 18-23-29	20-21-22 20-26-33	23-23-23 23-30-37	25-25-25 25-32-39
.102	3-1/2	CFM per Foot	41	61	82	102	122	143	163	184	204
		NC	—	—	15	21	27	32	36	39	42
		T Sill or Floor Side Wall	2-2-2 5-7-10	7-7-7 8-11-15	10-10-11 10-15-20	15-15-15 15-19-24	17-18-19 17-22-27	20-21-22 20-25-31	22-23-24 22-28-35	25-25-26 25-32-39	27-27-27 27-34-41
.122	4	CFM per Foot	49	73	98	122	146	171	195	220	244
		NC	—	—	16	22	29	33	37	40	43
		T Sill or Floor Side Wall	3-3-3 6-8-11	8-8-8 9-12-16	12-12-13 12-16-20	15-15-16 15-20-25	19-19-20 19-24-29	21-21-23 21-26-32	24-24-25 24-30-36	26-26-27 26-33-39	29-29-30 30-37-46
.157	5	CFM per Foot	63	94	125	157	188	220	251	282	314
		NC	—	—	16	22	28	33	37	40	43
		T Sill or Floor Side Wall	4-4-4 7-9-12	9-9-9 11-14-18	14-14-14 14-18-22	17-17-17 17-21-26	21-21-22 21-26-31	24-24-24 24-29-35	27-27-27 27-33-39	29-29-29 30-36-42	32-32-32 33-40-46
.194	6	CFM per Foot	78	116	155	194	233	272	310	349	388
		NC	—	10	18	24	30	35	38	42	43
		T Sill or Floor Side Wall	5-5-5 8-10-13	10-10-10 12-15-19	15-15-15 15-19-23	18-18-18 20-24-28	23-23-23 23-27-32	25-25-25 26-31-37	28-28-29 29-34-39	31-31-31 33-39-44	34-34-34 37-43-48

CFM - cubic feet per minute.

FPM - feet per minute velocity.

TP - total pressure - inches w.g.

T - throw in feet.

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

NC Correction for Length

Active Length, Ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities.
- Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C). For other lengths, use the correction factor table above.
- NC values are based on a 10 foot active section. For other lengths, use the correction factor table above.

4. Return Air Applications:

- NC value is increased by + 4.
- Neg. SP = 0.8 x TP.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.041	.034
2"	.056	.048
2 1/2"	.074	.064
3"	.092	.078
3 1/2"	.111	.098
4"	.131	.111
5"	.166	.143
6"	.203	.173

Performance Data

Model 49-481 • 1/4" Spacing • 1/8" Bars • 15° Deflection

Free Area Square Feet Per Lineal Foot	Nominal Duct Width (Inches)	TP	.012	.026	.049	.077	.109	.148	.195	.247	.304
.034	1-1/2	CFM per Foot	14	20	27	34	41	48	54	61	68
		NC	—	14	22	30	35	39	43	46	49
		T Sill or Floor Side Wall	1-1-1 2-4-6	3-3-3 4-7-10	4-4-4 6-10-14	7-7-7 7-12-17	9-9-10 9-14-20	10-11-12 10-16-22	12-13-15 12-18-25	13-14-16 13-20-27	14-16-18 14-22-30
.049	2	CFM per Foot	20	29	39	49	59	69	78	88	98
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	1-1-1 3-5-7	4-4-4 5-8-11	6-6-6 7-11-15	9-9-9 9-14-19	11-11-12 11-16-22	12-13-15 12-18-25	14-16-18 14-20-27	15-17-19 15-22-29	16-18-20 16-24-32
.065	2-1/2	CFM per Foot	26	39	52	65	78	91	104	117	130
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	1-1-1 4-6-8	5-5-5 6-9-12	8-8-8 8-12-16	10-10-11 10-15-20	13-14-15 13-19-24	14-15-17 14-20-26	17-18-20 17-23-30	19-20-21 19-26-33	21-21-22 21-28-36
.082	3	CFM per Foot	33	49	66	82	98	115	131	148	164
		NC	—	12	20	27	32	37	41	44	47
		T Sill or Floor Side Wall	2-2-2 4-6-9	6-6-6 7-10-13	9-9-9 9-13-17	12-12-13 12-16-21	15-15-16 15-20-25	17-18-19 17-22-28	20-21-22 20-26-32	21-22-23 21-28-35	23-23-24 23-31-39
.099	3-1/2	CFM per Foot	40	59	79	99	119	138	158	178	198
		NC	—	12	20	28	33	37	41	44	47
		T Sill or Floor Side Wall	2-2-2 5-7-9	8-8-8 8-11-14	11-11-11 11-15-19	13-13-14 13-17-22	16-17-18 16-21-26	19-20-21 19-24-30	22-22-23 22-28-34	23-24-25 23-30-37	26-26-26 26-33-40
.117	4	CFM per Foot	47	70	94	117	140	164	187	220	234
		NC	—	13	21	28	34	38	42	45	48
		T Sill or Floor Side Wall	3-3-3 5-7-10	9-9-9 9-12-15	12-12-12 12-16-20	15-15-15 15-19-24	18-19-20 18-23-28	21-21-22 21-26-32	23-24-25 23-29-35	25-25-26 25-32-39	28-28-28 29-36-42
.152	5	CFM per Foot	61	91	121	152	182	212	243	274	304
		NC	—	14	22	29	34	39	43	46	49
		T Sill or Floor Side Wall	3-3-3 7-9-12	9-9-9 10-13-17	13-13-13 14-18-22	16-16-17 16-21-26	20-20-21 20-25-30	23-23-24 23-28-34	25-25-26 25-31-37	28-28-28 28-34-40	31-31-31 31-38-44
.186	6	CFM per Foot	74	111	149	186	223	260	298	335	372
		NC	—	14	22	30	35	40	43	47	50
		T Sill or Floor Side Wall	4-4-4 8-10-13	10-10-10 11-14-18	14-14-14 15-19-23	18-18-18 19-23-27	22-22-22 23-27-31	25-25-25 25-30-35	28-28-28 28-33-39	30-30-30 31-37-42	33-32-32 34-40-45

CFM - cubic feet per minute.

FPM - feet per minute velocity.

TP - total pressure - inches w.g.

T - throw in feet.

NC - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities.

2. Throw values are based on a 4 foot section with a cooling ΔT of 20°F (11°C).

For other lengths, use the correction factor table above.

3. NC values are based on a 10 foot active section. For other lengths, use the correction factor table above.

NC Correction for Length

Active Length, Ft.	1	2	4	8	10	15	20
Correction Factor	-10	-7	-4	-1	0	+2	+3

Throw Correction for Length

Active Length	Terminal Velocity		
	150 fpm	100 fpm	50 fpm
1 ft.	0.5	0.6	0.7
10 ft. +	1.6	1.4	1.2

4. Return Air Applications:

NC value is increased by + 4.

Neg. SP = 0.8 x TP.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Nominal Width	Ak Factor per foot	
	Supply	Return
1 1/2"	.045	.041
2"	.059	.053
2 1/2"	.074	.065
3"	.091	.080
3 1/2"	.108	.091
4"	.126	.108
5"	.161	.138
6"	.195	.166

LINEAR LOUVER DIFFUSERS

- EXTRUDED ALUMINUM
- ARCHITECTURAL
- HIGH CAPACITY
- SQUARE OR RECTANGULAR NECKS

Models:

48LL1 One-way Pattern

48LL2 Two-way Pattern

- Suffix '-O' adds a steel OBD
- Suffix '-OA' adds an aluminum OBD



The **Nailor 48LL Series Linear Louver (Vane) Diffusers** feature architectural linear styling for high capacity supply and return air applications in hard ceilings or sidewalls. They are designed for duct mounted installation. Standard finish is a high quality, baked enamel for long life and easy cleaning. Designed for use in discrete lengths, the fixed louvers provide a tight horizontal discharge pattern over a wide range of airflow rates and are an excellent choice for VAV systems.

FEATURES:

- Spring loaded core. Removable without the use of tools.
- Secure core attachment.
- Installation is with concealed screws through the neck of the outer frame, providing an aesthetically clean visual appearance (Type N).

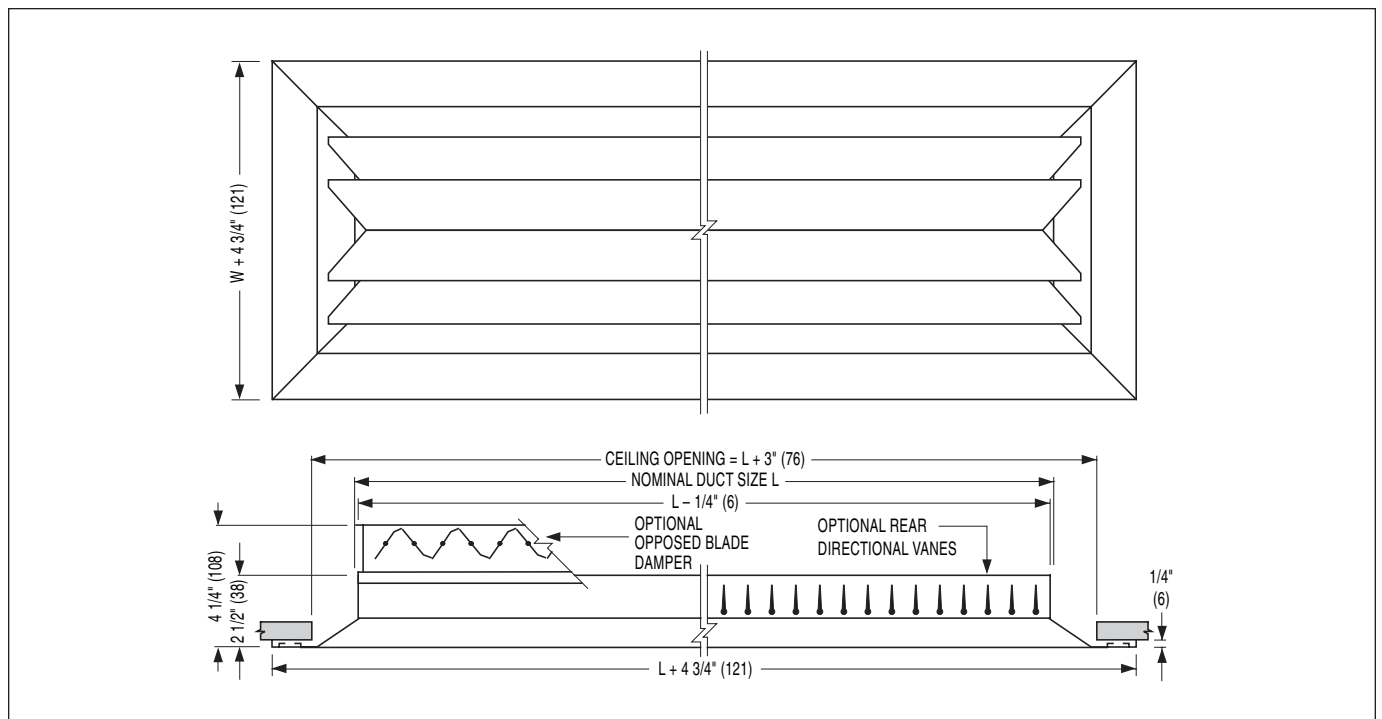
Options:

- Steel opposed blade damper (factory mounted) – Model 48LL1-O or 48LL2-O.
- Aluminum opposed blade damper (factory mounted) – Model 48LL1-OA or 48LL2-OA.
- DV Directional vanes.

- Type A screw fastening (face).

Material: Aluminum extrusions.

Finish: AW Appliance White baked enamel finish is standard. Other finishes are available.



Dimensional Data

Linear Louver Diffusers

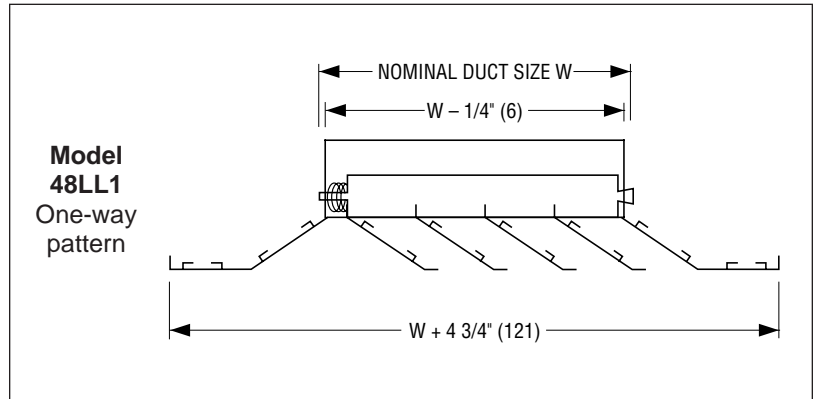
AVAILABLE SIZES:

Unit Size is determined by duct width W .
Diffuser necks are undersized.

Model 48LL1:

Available widths are 3", 4 1/2", 6", 7 1/2", 9", 10 1/2", 12" (76, 114, 152, 191, 229, 267, 305).

Standard lengths are 24", 36", 48", 60" and 72" (600, 900, 1200, 1500 and 1800).



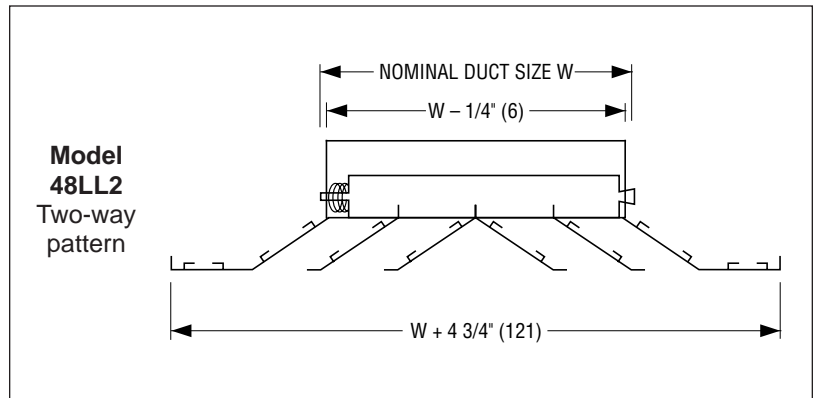
Available Widths

Nominal Duct Width W	inches	3	4 1/2	6	7 1/2	9	10 1/2	12
	mm	76	114	152	191	229	267	305

Model 48LL2:

Available widths are 3", 6", 9", 12" (76, 152, 229, 305).

Standard lengths are 24", 36", 48", 60" and 72" (600, 900, 1200, 1500 and 1800).



Available Widths

Nominal Duct Width W	inches	3	6	9	12
	mm	76	152	229	305

HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

Extruded Aluminum Linear Louver (Vane) Diffusers – Model Series 48LL

48LL2 - O - 48" x 6" - AW - N - MM - —

MODEL

- One-Way Pattern 48LL1
- Two-Way Pattern 48LL2

DAMPER

- No Damper (default) —
- Steel Damper O
- Aluminum Damper OA

LENGTH (inches)

WIDTH

Model 48LL1

(inches)

- 3", 4 1/2", 6", 7 1/2", 9", 10 1/2", 12"

(mm)

- 76, 114, 152, 191, 229, 267, 305

Model 48LL2

(inches)

- 3", 6", 9", 12"

(mm)

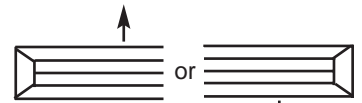
- 76, 152, 229, 305

ACCESSORIES

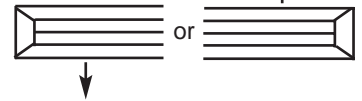
- None (default) —
- Directional Vanes DV

END CAP CONFIGURATION

- Mitered Mitered (default) MM
- Open Open OO
- Mitered Open MO (for 48LL2)
- Mitered Open MU (for 48LL1)



- Mitered Open MD (for 48LL1)



FASTENING

- None (default) N
- Screw Holes A

FINISH

- Appliance White (default) AW
- Aluminum AL
- Mill Finish MI
- Special SP

Notes:

1. Currently only available in discrete lengths of up to 72" (1829).
2. Contact factory regarding availability of continuous lengths.
3. Consult Dimensional Data page for available length dimensions.

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **48LL1** (one-way pattern) or **48LL2** (two-way pattern) **Linear Louver (Vane) Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from extruded aluminum and incorporate fixed pattern discharge louvers for a horizontal throw pattern. The entire core assembly shall be removable without the use of tools. The length shall be available in standard nominal lengths of 24", 36", 48", 60" and 72" (600, 900, 1200, 1500 and 1800 mm). The rectangular duct connection collar shall be an integral part of the frame assembly and be not less than 1 1/2" (38) high. The finish is to be AW Appliance White baked enamel (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel (aluminum is optional) and operable from the face of the diffuser, shall be provided on all units.

The manufacturer shall provide published performance data for the linear louver diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

Performance Data

Model: 48LL-1 • One-Way Pattern

Nominal Duct Width, inches	Neck Velocity Velocity Pressure Total Pressure	300 .006 .037	400 .010 .064	500 .016 .101	600 .022 .145	700 .031 .197	800 .040 .258	900 .050 .326
3"	CFM per ft.	75	100	125	150	175	200	225
	NC	—	—	20	24	28	32	35
	Throw	14-17-24	16-20-28	16-22-31	20-24-34	21-26-38	20-28-39	24-30-42
4 1/2"	CFM per ft.	113	150	188	225	263	300	338
	NC	—	16	22	26	30	34	37
	Throw	18-22-32	21-26-37	23-29-41	28-32-44	28-34-48	30-37-51	32-39-55
6"	CFM per ft.	150	200	250	300	350	400	450
	NC	—	17	23	27	31	35	38
	Throw	21-25-36	24-29-31	27-33-46	29-36-51	32-39-55	34-41-59	36-44-63
7 1/2"	CFM per ft.	187	150	312	375	437	500	563
	NC	—	17	23	27	31	35	38
	Throw	23-29-41	27-33-47	29-37-52	33-41-56	36-43-61	38-47-65	41-49-70
9"	CFM per ft.	225	300	375	450	525	600	675
	NC	—	18	24	28	32	36	39
	Throw	25-31-44	30-36-52	33-40-58	35-45-63	39-48-67	42-52-73	45-56-77
10 1/2"	CFM per ft.	263	350	438	525	613	700	788
	NC	—	18	25	28	33	37	40
	Throw	27-34-48	32-39-60	34-43-61	39-48-66	42-50-72	48-55-76	48-58-82
12"	CFM per ft.	300	400	500	600	700	800	900
	NC	—	19	25	29	33	37	40
	Throw	29-36-51	34-42-59	37-46-65	42-51-71	45-54-77	48-59-82	51-62-88

Model 48LL-2 • Two-Way Pattern

Nominal Duct Width, inches	Neck Velocity Velocity Pressure Total Pressure	300 .006 .037	400 .010 .064	500 .016 .101	600 .022 .145	700 .031 .197	800 .040 .258	900 .050 .326
3"	CFM per ft.	75	100	125	150	175	200	225
	NC	—	13	18	23	27	30	34
	Throw	8-12-22	11-16-25	13-20-28	16-22-30	19-23-33	20-25-35	21-26-37
6"	CFM per ft.	150	200	250	300	350	400	450
	NC	—	16	21	26	30	33	37
	Throw	11-17-30	16-23-34	19-27-39	23-30-42	27-33-45	28-34-49	30-36-52
9"	CFM per ft.	225	300	375	450	525	600	675
	NC	—	18	24	28	32	36	39
	Throw	14-21-37	19-28-43	24-34-48	28-37-52	32-39-55	35-43-60	37-45-64
12"	CFM per ft.	300	400	500	600	700	800	900
	NC	—	19	25	29	33	37	40
	Throw	16-24-42	21-32-48	26-38-54	32-42-59	37-45-64	39-48-68	41-51-72

Throw Correction Factors for Various Lengths

Length (ft.)	2	3	4	5	6	8	10	12
Throw Correction	.70	.86	1.0	1.1	1.25	1.4	1.55	1.7

NC Correction Factors for Various Lengths

Length (ft.)	2	3	4	5	6	8	10
NC Correction	-3	-1	0	+1	+2	+3	+5

Performance Notes:

1. All pressures are in inches w.g.
2. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Throw values are based on a 4 ft. section. For other lengths, use the correction factor table above.
4. NC values are based on a 4 ft. section and a room

absorption of 10 dB, re 10⁻¹² watts. For other lengths, use the correction factor table. Dash (—) in space denotes an NC value less than 15.

5. When used as a return intake, the NC value is increased by 4 and the negative static pressure is TP x 0.8.
6. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.